

The **TRIUMPH** Service Sheets and other Technical Data Collection

This is maybe the most complete collection of Triumph Service data available to the public in one place. I especially owe a debt of gratitude to Phil Pilgrim of Union Jack Motorcycles (Melbourne, Australia) and Trevor Gleadall of JR Technical Publications (UK) for lending me their extensive private collections.

Phil, especially, had vast archives that he "inherited" from Frank Mussett, a long-time Triumph Dealer in Australia who threw nothing away. Most of the documents here are quite legible, some less so. I'm sorry about that, but a lot of papers were those old waxy photocopies that fade badly, others were fuzzy carbon copies dating back before there were photocopiers. I've included everything that was still useable.

You will see, however, that more could be added. There are gaps in what I have, still more sheets I was unable to locate. If you have anything that ought to be within this collection, please consider sending me good copies of what you have, or lend me the originals to scan. Contact me first, let me know what you have.

This way, we can build a collection that preserve all these old musty, moldering, and decomposing documents in a form which will be available for Triumph enthusiasts for as long as there are Triumph motorcycles to ride.



LIST No 1

Service 1 Contents List

No	Description	Range	Date
---	Lucas AC Ignition Set Warning Notice	Speed Twins	April 1953
---	Lucas Service Bulletin, RM12 Alternator Conversion	5 TAC	May 1953
	Lucas RM12 Alternator Set	Twins	April 1954
Letters	Emergency Starts, T100 & T110 Oil Tank faults, Terrier problems	various	12 July 1954
	Lucas AC Cycle equipment for Terrier 5T and 6T (259/54)	5T, 6T	Dec 1954
1	Low Oil Pressure (Revised 1956)	B	Feb.1956
67	Conversion from rigid to spring wheel	--	
125	Charging rate MM13 Set fitted to Terrier & Tiger Cub	Terrier, Cub	Jan 1954
128	Sidecars and Crash Bars	B	July 1954
131	Crankpin Modification	T15, T20	Dec 1954
132	Lube System Mod, Terrier & Tiger Cubs	see left	Feb 1955
----	Earls Court Press Release, 1956 Model Year	All	Nov 1955
137	Vibration Free Petrol Tank mod for 1956 machines	500cc, 650cc	Dec 1955
138	Tiger T110 Alloy Head	T110	Dec 1955
139	Terrier & Tiger Cub Side Inner Cover Removal Tool	see left	Dec 1955
141	Wheel balancing	all	Jan 1956
142	"O" Ring seal mod for Amal Monobloc Carburettors, 5T, T100, T110	& TR5, TR6	Jan 1956
143	Thin Wall Big End Bearings, Fitting	All Twins	Jan 1956
144	Converting Cork Clutches to Neolangtite Friction Material	All twins	Jan 1956
145	Rebuilding terrier & Tiger Cub wheels using butted spokes	see left	Jan 1956
146	Multi Grade Oils, Sparking Plug Recommendations	various	Jan 1956
147	Pistons for Alloy Head Tiger 110	T110	Feb 1956
148	Terrier & Tiger Cub Oil Pump Modifications	see left	Feb 1956
149	Cylinder Bores, finish and running in	All	Feb 1956
150	Sidecar Machine Jacking Kit	All	Feb 1956
153	Reduction in Cylinder block-to-head spigot height	All	April 1956
154	Frame Lubrication Points	Twins	April 1956
154A	Piston Sizes and Compression Ratios, 500 and 650 cc machines	See left	April 1956
155	Big End Bearing Shells	Twins	April 1956
156	Clutch Maintenance & Adjustment	All	April 1956
165	Gearbox Lubrication	Twins	Dec 1956
166	Tiger Cub Tele Forks	TC	Dec 1956
167	Sprockets and Sprocket Ratios, terrier & Tiger Cub	See left	Dec 1956
168	Girling Suspension Units, Guarantees	All	Dec 1956
169	Girling Suspension Units & Sidecars	All	Dec 1956
170	Twin Carb Head Conversion for T100	T100	Dec 1956
173	Technical data for T100 with splayed port cylinder head	B	July 1957
175	Fitting Home Office Radio (BCC) to Triumph Motorcycles	B	Sap. 1957
176	Revised Terminal markings on Ignition Coils	All?	Sept 1957
177	Chaincase to Crankcase Joint Washer, 500 & 650 Twins	See left	Sept 1957
178	Terrier & Tiger Cub Carb Adjustment	See left	Sept 1957
179	Tiger Cub Fork Oil Seals	See left	Sept 1957
183	Uncrating and setting up new Triumph Models	All	Nov. 1957
188	Preparing a New Machine for Delivery	All	Feb 1958
189	Multigrade Oils	All	Feb 1958
190	Clutch Lever Nipple. Twins fitted with Slickshift Gearchange	See left	Feb 1958
193	Faulty 1958 Front Mudguards, 5T, 6T, T100, T110.	See left	April 1958
194	Service Tools List	All	July 1958
195	Model 21 Battery Carrier Modification	Mod 21	July 1958
198	Differences between T20S & T20C	T20	-----
201	Service Notes, T20, Bonneville 120, 5TA Speed twin	various	Jan 1959
203	New Pattern Silencers, T20, "21" 5TA, T100A, 6T, T110	various	-----
205	Service Notes, Oil Pipes 3TA, 5TA. Petrol Tank Fixing 650cc models	various	Oct 1959
206	Zenith carburettor - Series MX, MXZ	A	?
207	Supply of sidecar conversion parts	B	April 1960
207a	3TA,5TA and 6T high 0/P alternators-max. charge rate switch	B & C	Jan. 1960
208	Fitting of sidecars to 1960 6T and T110 machines	B	Apr. 1960
209	T110,TR6 and T1 20 electrical equipment	B	may 1960
210	Service notes - Energy transfer ignition and T100A valve timing	C	May 1960
211	Wheel building dimensions	A, B&C	May 1960
212	Service notes-T20S cyl head, tele forks & alternator grommet	A,B&C	
213	500 and 650 crankshaft replacement scheme	B	Jan 1961
214	6T and T110 camshaft and tappet clearances	B	Jan. 1961
218	Tiger Cub oil pump and right main bearing	A	Mar. 1961
219	T100A electrical and ignition system (revised)	C	May 1961
220	Triumph motorcycles fitted with transistor radios in petrol tanks	A,B&C	Apr. 1961
221	High speed equipment for Bonneville 120 (1960-62 models)	B	Feb.. 1962
222	Home only-Numbering of replacement frames	A,B&C	Sap. 1961
223	Tiger Cub push rod cover	A	Sap. 1961
225	New Parts introduced for 1962 "B" Range	B	Nov 1961
226	New Parts introduced for 1962 "A" Range	A	Nov 1961
227	1962 model T100SIC (ET Ign) Replacement rotor H25503 - 2559	C	1961

229	Ignition timing on Energy Transfer equipped motorcycles	A&C	Aug. 1964
230	Amal type 32 carburettor	A	Feb. 1962
232	Police Users. Clutch cables, clutches and H/duty centre stands	B	Feb. 1962
233	65Occ Twin crankshaft assembly	B	Mar. 1962
234	Service notes-Contact brkrs, cam pinions, switch cover & etc.		
235	Original colours of Triumph motorcycles-touch up paints	All	Apr. 1962
237	Lucas rectifiers	All	Sep. 1962
238	T20 SH charging rate	A	Sap. 1962
240	Parts required when preparing 3TA machines for high performance	C	July 1965
241	Tiger Cub crankshaft	A	Feb. 1963
242	External air filter for 3TA and 5TA	C	Apr. 1963
243	Speedometer drive 1963 65Occ Twins	B	Mar. 1963
244	Workshop tools for servicing unit construction 65Occ machines	B	Apr. 1963
245	Ignition timing figures for 1964/5 contact breaker assy. (revised)	A,B&C	Feb. 1965
246	Triumph Loctite sealant - part no. D524	All	May 1963
247	Police machines with high output electrical equipment	B&C	July 1963
248	Decoke gasket sets	A,B&C	Sap. 1963
249	Defective gear engagement - T20 Tiger Cub	A	Sap. 1963
250	Pre-sized swinging arm bushes	B	Oct. 1963
251	'C' Range gears- needle and non-needle roller combinations	C	Nov 1966
253	Service tools (revised 1969)	All	Oct. 1969
254	Tina Scooter - Service arrangements	Tina	Feb. 1964
257	Owners Handbooks in Spanish and French	All	Oct. 1964
258	Guarantee claims - proprietary components.	All	Oct. 1964
260	Rear wheel bearings - 65Occ models	B	Mar. 1965
262	Stroboscope Kit - CP207 (re-issue)	All	Apr. 1965
263	T10 Scooter - revised sparking plug	T10	Nov. 1965
265	Exhaust camshaft oiling - fitting instructions	B	Dec. 1965
266	Tiger Cub push rod assembly	A	Feb. 1966
267	Tiger Cub Owners Handbook	A	Feb. 1966
268	Spares procedure and Guarantee arrangements	All	Mar. 1966
269	Crankshaft oil feed seal - 65Occ models	B	Mar. 1966
270	Tiger Cub cylinder head	A	Mar. 1966
271	T10 Transmission belt	T10	Mar. 1966
272	Polychromatic and flamboyant colours - supersession's	All	Apr. 1966
273	Service Literature - (amdt to re-issue of June 1968)	All	Nov. 1969
274	Exhaust pipe adaptors - 650c models	B	Oct. 1966
275	T20 Sports alternator communisation	A	Dec. 1966
276	Diodes and Auto-advance cams - 12 volt twins	B&C	Dec. 1966
277	T10 Scooter petrol tap	T10	Feb. 1967
278	T20B Super Cub electrical system - Wipac alternators	A	Apr. 1967
279	Battery vent and drain tube	All	Apr. 1967
280	Oil tank modification -'B'&'C'Range	B&C	April 1967
281	Modified 'B' range timing cover bush	B	May 1967
282	Bantam/Super Cub - Additional part numbers	A	May 1967
283	Pressure lubrication of exhaust cam followers-65Occ	B	Mar. 1968
284	Conversion of Tina scooter drive to T10 condition	Tina	Sep. 1967
285	65Occ machines - Plug specification change to N3	B	Nov. 1967
286	Tina to T10 drive conversion kit	Tina	Nov. 1967
287	Lucas 6 A contact breaker - conversion from 4CA	B&C	Dec. 1967
288	Utilisation of 1968 finned heat sink on pre-68 twins	B&C	Dec. 1967
289	Service replacement unit scheme	All	Mar. 1968
290	Return to the factory of motorcycles for warranty attention	All	Mar. 1968
292	Stroboscopic timing plate - part no. D2014	B&C	Feb. 1968
293	Crankcase oilway plugs - allowing interchangeability	B	Feb. 1968
294	1968 crankcase flywheel location - 65Occ models	B	Feb. 1968
295	Workshop and Service Exchange unit charges	All	Mar. 1968
296	Cylinder head bolt torque	B&C	Jun. 1968
297	Dealer access to Repair Service	All	May 1968
298	Cable run on twin leading shoe front brake	B&C	Jun. 1968
299	Conversion of 'Z' tools (9valve seat cutters) to new numbers	All	July 1968
300	1969 Tachometer drive gearbox	All	July 1968
301	Approved lubricants	All	July 1968
302	Tool box panel retention on 1968'B' &'C' Range machines	B&C	Sep. 1968
303	Use of rust inhibiting oil in 1969'B'&'C' Range machines	B&C	Sap. 1968
304	UNF and UNC threaded components	B&C	Sap. 1968
305	Increased sump capacity on 65OCC unit construction machines	B	Nov. 1968
306	Flexible handlebar mountings on 65Occ machines	B	Nov. 1968
307	T150 Air control cable guide bracket	T150	Dec. 1968
308	TR25W Cylinder liner retention	TR25W	Jan. 1969
309	Lubrication of Lucas Auto-advance and retard mechanisms	All	Jan. 1969
310	Camshafts -Identification, type and usage - (updated and revised)	All	Feb. 1971
-----	Important - Correct completion of Warranty Claim Forms	All	Jan. 1969
311	Trident shock absorber	T150	Feb. 1969
312	Improved fork action -'B' &'C' Range	B&C	Mar. 1969

313	TR25W Crankshaft conversion	TR25W	Feb. 1969
314	Trident oil pump intermediate drive gear spindle & G/box s/fork	T150	May 1969
315	Renewing tappet guide blocks on Trident (T150)	T150	Aug. 1969
316	Service exchange scheme	All	Aug. 1969
317	Connecting rod big end nuts -'B' Range	B	July 1969
318	TR25W Valve gear - (valve spring top collar collet angles)	TR25W	Aug. 1969
319	Clutch cable routing - Trident	T150	July 1969
320	Trident (T150) Valve timing	T150	Jan. 1970
321	Trident (T150) Chaincase dowels	T150	Nov. 1969
322	Front mudguards - rationalisation	All	Oct. 1969
323	Piston ring gaps - 65Occ models	B	Oct. 1969
324	'B' &'C' Range push rod cover tube oil seating (1 969170 models)	B&C	Nov. 1969
325	Lucas automatic advance and retard unit springs	TR25W	Oct. 1969
326	USA Rear number plate support brackets - (not issued)		
327	Trident (T150) Rocker adjuster pins	T150	Nov. 1969
328	TR25W Valve timing markings	TR25W	Jan. 1970
329	65Occ - Gearbox 3rd - ratios and selector forks	B	Nov. 1969
330	Camshaft for Trophy 25Occ (TR25W)	TR25W	Dec. 1969
331	Trident earth (ground) connection	T150	Dec. 1969
332	Rear wheel interchangeability -'B' &'C' Range	B&C	Jan. 1970
333	Trident T150 Cylinder head gaskets	T150	Jan. 1970
334	Spokes - nipples, finish, gauge and head angles	All	Jan. 1970
335	Improved gearbox camplate - 350150Occ models		c Jan. 1970
336	Silencers for 350150Occ models - supersession's		c Jan. 1970
337	1970 Carburettor settings	B&C	Feb. 1970
338	T150 Trident gearbox mainshaft oil leakage	T150	Feb. 1970
339	Service exchange replacement units - revised prices	All	Feb. 1970
340	Carburettor jet sizes - personal export machines	All	Feb. 1970
341	Trident (T150) Vibration problems	T150	Feb. 1970
342	'B'Range swinging arm assembly	B	Feb. 1970
343	Exhaust pipes - TR6R (pommels now UNC, not CEI)	B	Mar. 1970
344	Revised designation on Amal Concentric carburettors	All	Mar. 1970
345	Oil pump priming procedure - TR25W	TR25W	Mar. 1970
346	Contact breaker locking screws - all models	All	Mar. 1970
347	Twin horn mounting brackets - T120, T12OR	B	Mar. 1970
348	Battery vent pipe -'B' &'C' Range machines	B&C	Mar. 1970
349	U.K. Personal Export Scheme -'Warranty Passport' (Europe Dirs)	All	May 1970
350	U.K. Personal Export Scheme -'Warranty Passport' (Home Dirs)	All	May 1970
351	Gearbox inner cover and bearing circlip -'B' &'C' Range	B&C	April 1970
352	Primary chain alignment - T150 Trident	T150	May 1970
353	Gearbox selector forks and camplate -'B' Range machines	B	June 1970
354	To all Police Forces - Speedometer Calibration	B	June 1970
355	Triumph Loctite Plastic Gasket	All	June 1970
356	Front brake cable guide - TR25W	TR25W	July 1970
358	Sparking plugs -'B' Range and T150	B&T150	Aug. 1970
359	Trident T150 Shock absorber sprocket tooth alignment	T150	Aug. 1970
360	Rear brake drum- T150,'B' &'C' Range	All	Aug. 1970
-----	Full width wheel hub rationalisation	All	Aug. 1970
361	T150 Trident shock absorber assembly - (Export)	T1 50	Sept. 1970
361 a	T150 Trident shock absorber assembly - (Home)	T1 50	Sept. 1970
362	Replacement front fork bottom members - rationalisation	All	Dec. 1970
363	1971 'C' Range Electrical equipment		c Dec. 1970
364	1970 Police TR6P Machines - (Alternator)	B	Jan. 1971
365	'B' Range and T1 50 Horns	B&T150	Feb. 1971
366	1971 Twin leading shoe front brake	All	Feb. 1971
367	Fuel feed problems - Twins and Triples	B,C,T150	Mar. 1970
368	Oil pipe retention - T25SS Blazer, T25T Trial Blazer	T25	Mar. 1971
369	1971 Replacement Parts Catalogue Binders	All	Mar. 1971
370	Service Exchange Scheme	All	Mar. 1971
371	T1 50 Gears and shafts - changes to 3rd gear ratio	T150	Apr. 1971
372	Service Literature - (supersedes issue no. 273 Nov 1969)	All	Apr. 1971
373	1971 Rear brake efficiency - T150,'B' Range and T25	T150, B&T25	Apr. 1971
374	Personal Export Scheme 1971 -Warranty Passport-(U. K. Dealers,'	All	May 1971
375	Personal Export Scheme 1971 -Warranty Passport-(Euro Dealers	All	May 1971
376	Divisional Part Number Pre-fixing	All	May 1971
377	Replacement silencers E4157 and E4158 -'C' Range		c May 1971
378	Front brake cable stop switch - all models	All	June 1971
379	Service replacement engine units - Home Dealers	All	June 1971
380	Guarantee replacement engine units ~ Export Dealers	All	June 1971
381	Replacement Oil Pump - 25Occ machines	T25&TR25W	Aug. 1971
382	Oil reservoir filter -1 971 'B' Range	B	Aug. 1971
383	Gearbox high gear bearing - five speed - 750 & 650cc	B	Aug. 1971
384	Gearbox camplate supersession -'B' Range	B	Oct. 1971
385	Push-in exhaust pipes - 65Occ	B	Oct. 1971
386	Wallchart - 1971 Telescopic Fork	T150, B&C	Nov. 1971

387	Gearbox quadrant location tool - five speed gearbox only	T150 & B	Nov. 1971
388	Replacement front frame	B	Dec. 1971
389	Price List - Triumph Service Replacement Units	All	Dec. 1971
390	Replacement bushes - All 5 speed gearboxes	T150 & B	Dec. 1971
391	QD Rear hub -'B'Range - models up to 1970	B	Dec. 1971
392	Wall chart - 1972 5 speed gearboxes	T150 & B	Jan. 1972
393	Lucas PUZSA Batteries - battery vent outlet	All	Jan. 1972
395	Rear chain adjustment - 250 single cylinder models	T25	Feb. 1972
398	Rear frame -Revised components resulting from lowered frame	B	Apr. 1972
399	Rear brake cam - 65Occ models only	B	Apr. 1972
400	Front mudguard stays - B Range models (65Occ twins)	B	Apr. 1972
401	Rear chainguard -'B' Range models only (65Occ twins)	B	May 1972
402	Cylinder Head and carb adaptors - T120 models only	B	May 1972
403	Replacement front frame - 65Occ models only	B	May 1972
406	Telescopic front forks - Oil Capacity - 3 Cyl.T150 Trident models	T150	June 1972
407	Oversize Valve Guides - T150 75OCC Trident models only	T150	June 1972
408	Oversize Valve Guides - T25 25OCC models only	T25	June 1972
411	Frame - Petrol tank mounting -'B' Range 65Occ models only	B	June 1972
414	Gearbox - 5 speed - all models (parts list supersession's)	T150 & B	Oct.. 1972
415	Frame -'B' Range (65Occ models) -part number supersession's	B	
416	Connecting rods - All 'C' Range models - part number supersession's		c Sep. 1972
418	Connecting rods - 250 model only	T25	Oct. 1972
418A	Amendment to Bulletin 418 Conn Rods - 25Occ models only	T25	Feb. 1973
419	Gearbox sprocket nut spanner - 5 speed models	T150 & B	Oct. 1972
420	Alternator - All 75Occ T150 3 Cylinder models	T150	Nov. 1972
421	Crankcase assemblies - all 75Occ 3 Cylinder Trident models	T150	Nov. 1972
422	Rear brake drum -'B' &'C' Range (500 & 65Occ models)	B&C	Dec. 1972
423	Piston Assemblies - All 75Occ Twin Cy]. models (75 & 76mm bore	B	Jan. 1973
424	Timing gears - All 75Occ Twins -'B' Range	B	Jan. 1973
425	Carburettor induction tube - 1972 TR5T Trophy Trail models only		c Jan. 1973
426	New exhaust system requirements for all 1973 models-Jan 1 st '7:	All	Jan. 1973
427	Rear brake operating arm -all 1973 T150 machines	T150	Jan.1973
428	Currently available Service Literature	All	Feb. 1973
429	Crankshaft - All 75Occ Three Cylinder models	T150	Feb. 1973
430	Hydraulicfrontbrake-T14OVITR7RVandT15O	T150 & B	Mar. 1973
430A	Hydraulic front brake - Illustration and listing of components	T150 & B	Jun. 1973
431	Cap washer for hydraulic reservoir - all disc brake models	T150 & B	Mar. 1973
432	Cylinder block and piston grading -all 76mm 75Occ twins	B	Mar. 1973
433	Pressure release valve - All Models	All	Apr. 1973
434	Warranty Credit Claims - V.A.T.	All	Apr. 1973
435	Cylinder block -All 76mm bore 75Occ models	B	Apr. 1973
436	Price List ~ Service Replacement Units	All	Apr. 1973
437	Sump filter plug -'B' models	B	May 1973
438	Front mudguard stay support bracket - T14OV only	B	May 1973
439	5 Speed Gearboxes - T14OfTR7 RV only	B	Aug. 1973
440	Cylinder Block - 75Occ Twins (supersession)	B	July 1973
441	Trident TI 50 Three Cylinder Replacement Parts Catalogues	T150	Aug. 1973
442	Wiring Harness - 50Occ Trophy Trail TR5T - 1974 Models only		c Aug. 1973
----	Correct Installation of Zener Diode	----	1975
NTE7	Contact Breaker T150V	T150V	Aug 1974
NTE12	Cylinder Head Exhaust Port modification	T150	Nov 1974
NTE13	Correction to Trident Wiring Diagram	1973/74	Nov 1974
NTE19	Warranty Arrangements 1975	all	Dec 1974
NTE22	Fuel Economy Kit	T150, T160	
NTE29	Gearbox Crossover shaft to engine	T160V	Mar 1975
NTE30	Cylinder Head Gasket	T160V	Mar 1975
NTE31	Five Speed Gearbox Assembly Tool	T150V, T160	Mar 1975
-----	Dealer Instructions for Reassembly of 750 Twins	750 twins	April 1976
4-77	Rear Rim Replacements	76-77 Twins	Dec 1977
5-78	Sulphated batteries	Twins	1978
7-78	Installation of Muffler Brackets	Twins	1978
11-78	Oil Leakage at Sump Plug	Twins	1978
17-78	Primary Chain Adjustment	Twins	1978
18-78	Improving the Air Filter	Twins	1978
T1	Valve Timing	750 twins	June 1978
T2	Battery Installation	750 twins	1978?
1-79	Negative Ground warning for new 1979 Models	1979 models	Oct 1978
2-79	Conversion to "Lights on always" Condition	1979 models	Oct 1978
----	1979 750cc Models Tech Bulletin re new ignition system. HUGE!	750 twins	late 1978?
3-79	Pre-Delivery Servicing Instructions for 1979 Models	all	Oct 1978
4-79	500 Mile Servicing Instructions	all	Oct 1978
6-79	Battery Installation	750 twins	Nov 1978

7-79	Bleeding the Hydraulic System	750 twins	Nov 1978
8-79	Electronic Ignition Wiring Diagram	T140E	Jan 1979
9-79	Cylinder Head Gasket	T140	Jan 1979
10-79	T140E Carburetion	T140E	Jan 1979
11-79	T140E Plug Specification from eng no HA 11001	T140E	Jan 1979
12-79	1979 Electrical Parts Identification	T140	Jan 1979
-----	“Dealers-Only” Price List and secret commissions for 1982 Models	all	Oct 1981
-----	“Press Release” from Triumph listing features for all 1982 Models	1982	Oct 1981
-----	Colour Chart for 1982 Models	1982	May 1981
5-81	Electric Start Gear Drive	750 Twin?	June 1984
84-2	Camshaft Bushes T120 & T140 Bonneville	see left	Sept 1984
84-3	Oil Tank Sump Filter 1973-1983 T120 – T140 Bonneville	see left	Sept 1984
84-4	New 4 and 3 Gallon Petrol tanks, 1971 to 1983 Bonneville	Bonneville	Sept 1984
84-8	Cylinder Head Nut Washer Modification, 750 twins	750 Twins	Oct 1984
86-13	Silencer Brackets mod, 1976/79 Bonneville	Bonneville	Jan 1986
86-14	Drive Side Main Bearings, T140, T120, TR7, TR6	see left	Mar 1986
86-15	Timing Side Main Bearing, T140, TR7	see left	April 1986
87-2	T140 Aluminium Cylinder Block Kit	Bonneville	July 1987
88-18	Suspension Units, Paioli – Bonneville, Tiger	see left	Jan 1988
-----	Correction to Parts List	-----	Oct 1990

IMPORTANT NOTICE FOR USERS OF LUCAS A.C. IGNITION SETS

as fitted to the **TRIUMPH** 'Speed Twin'

As the result of experience of many users of this new principle of ignition and lighting, known as the A.C. Set, certain troubles have come to light, most of which could have been avoided had owners been in possession of the following information:—

Always take care that the switch is in the 'OFF' position when the engine is not running.

Always start up on 'IGN', only using 'EMG' when the battery is temporarily flat.

If you must start with the switch in the 'EMG' position, due to a flat battery, switch over to 'IGN' as soon as the engine is running.

If the rider has left the switch 'on' inadvertently and run the battery flat, he will of course switch over, after starting, to 'IGN' and the battery will immediately commence to re-charge. But if the battery has been in a flat condition for a long period, say 48 hours or more, it is better to remove the battery for re-charging from external sources, taking care when replacing it that the leads are connected to their proper terminals. This is most important because a reverse polarity or earthing of the negative lead to the battery (i.e. touching the frame) will cause the rectifier to burn out.

In the event of an ignition failure on the road, it will most likely be due to a broken connection somewhere in the wiring.

A second cause of possible trouble is a burnt-out rectifier which can be caused by any of the above-mentioned incorrect operations.

A new rectifier can be obtained from the nearest Lucas Depot.

TRIUMPH

TRIUMPH ENGINEERING CO. LTD. MERIDEN WORKS ALLESLEY COVENTRY

14th APRIL, 1953

Joseph Lucas (Sales & Service) Ltd.

Service Bulletin Department.
May 1953.FITTING INSTRUCTIONSRM12 ALTERNATOR - CONVERSION KIT FOR TRIUMPH "5 TAC" MOTORCYCLES

As a direct result of service experience with the new "six lead" RM12 alternator it now seems desirable that provision should be made for continuous operation in the "EMG" switch position. A revision to the equipment has therefore been made.

This permits the continuous use of the machine in the "EMG" switch position with full engine performance. Previously it was not possible to do this because the high speed output from the alternator was too great. This latest improvement protects the electrical circuits from accidental misuse of the "EMG" switch and also helps where riders wish to use the machine temporarily without a battery for "trials" or other sporting events. It should be pointed out that the battery cannot be charged in the "EMG" switch position and, without a battery, it is not possible to use the lighting or horn.

N.B. Where the equipment is run temporarily without a battery ALWAYS connect the brown battery lead in the harness to earth.

This instruction is included with the complete modification kit (Part No. 047504) so that the alterations to the Triumph motorcycle can be carried out with the minimum of delay.

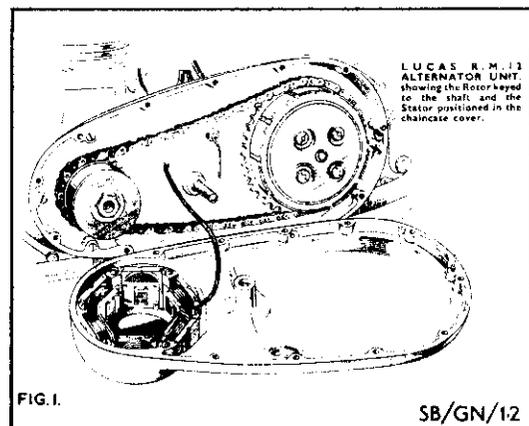
FITTING INSTRUCTIONS

There are four stages in the procedure:-

- 1) Fit new rotor
- 2) Fit new resistor and bracket and resistor leads.
- 3) Modify the alternator feed cables.
- 4) Fit new switches and switch harness.

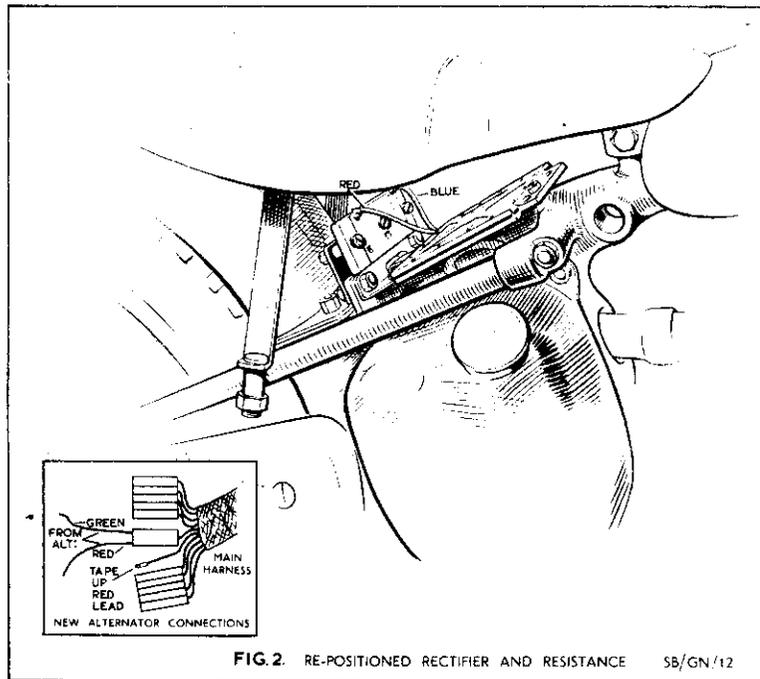
1) FITTING NEW ROTOR

- a) Remove exhaust pipe from L/H side of motorcycle (Alternator side)
- b) Remove foot rest.
- c) Remove foot brake pedal - by removing brake pedal retaining nut and sliding the brake pedal off the pivot.



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- d) Take off the chain case - remove screws around case and gently ease off the cover, taking care not to damage paper gasket. (If gasket is damaged a new one must be fitted.)
- e) Remove rotor fixing bolt - engage top gear and hold back wheel while unscrewing bolt - this prevents the engine shaft turning.
- f) Remove rotor - this is a tight fit on the shaft, and must be gently eased off with a large sprocket drawer or two suitable levers.
- g) Fit new rotor.
Reverse above procedure for re-assembly - remember to bank up the locking washer tag against rotor fixing bolt.
- h) Replace chain case cover - tighten screws evenly and refill with $\frac{1}{2}$ pint of SAE 20 engine oil.
- i) Finally replace the foot rest and brake pedal.



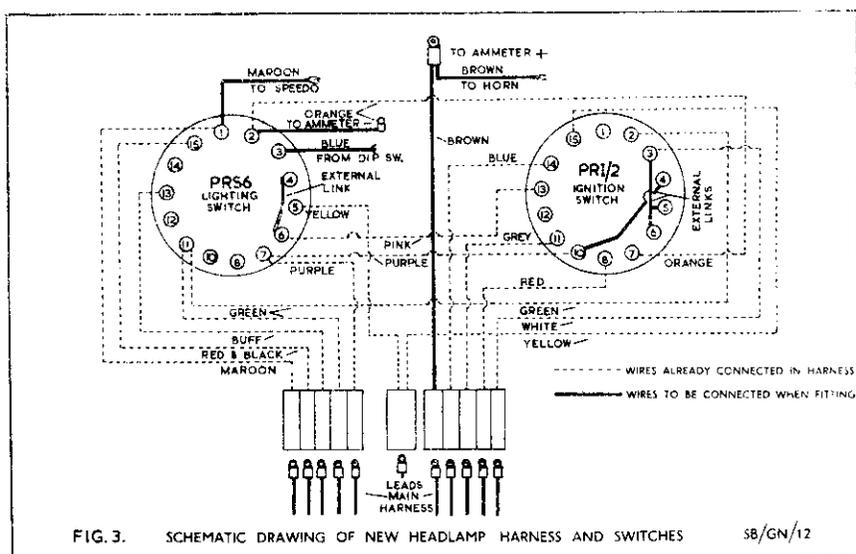
2) FITTING NEW RESISTOR

- a) Run the sleeved resistor cables from the nacelle over the top of the main harness to the resistor mounting bracket under the saddle.
- b) Unbolt the rectifier mounting bracket and turn it over (See illustration) take care not to lose the distance piece under the front fixing bolt.
- c) Connect red and blue leads to resistor and fit in position shown.
- d) Make sure resistor has a good earth by removing any enamel under the fixing bolts.

3) RECONNECTING ALTERNATOR LEADS

- a) Remove both green and both red leads from the connector block under the saddle. Using the double snap connector provided, connect the green and the red lead from the alternator to the green lead in the main harness. Tape up the red lead in the main harness which is no longer required. (See inset illustration Fig. 2.)

3



4) FITTING NEW SWITCHES AND SWITCH HARNESS

- a) Disconnect negative battery lead.
- b) Remove light unit.
- c) Disconnect speedometer drive cable and bulb holder then remove speedometer from the nacelle.
- d) Remove the clip holding the cable harness to left side fork leg.
- e) Remove the existing switches from nacelle - unscrew lock nuts and pull switches forward, clear of the nacelle.
- f) Disconnect the main harness leads from the two 5-way connectors.
- g) Disconnect blue lead from lighting switch (terminal 3)
- h) Disconnect orange lead from ammeter.
- i) Disconnect brown leads from horn and ammeter.
- j) Cut off black lead going to lighting switch close to the earthing-eyelet which fastens under the speedometer securing bolt.
- k) The two switches can now be completely removed.
- l) Connect new switch harness to main harness - (colour to colour) (x tape up red lead in main harness - no longer required)
- m) Connect blue lead from dip switch to terminal (3) on lighting switch.
- n) Connect maroon lead from terminal (1) on lighting switch to speedometer illumination bulb holder (remove holder from the old switch harness).
- o) Connect brown leads eyelet to ammeter left hand terminal looking into the nacelle.
- p) Connect loose end of brown lead to horn.
- q) Connect orange lead to other ammeter terminal.
- r) Connect resistor red and blue leads to the appropriate terminals on the snap connector block.
- s) Fit new switches in nacelle.
- t) Clip harness to left hand fork.
- u) Refit speedometer in nacelle, and connect up speedometer-drive, make sure that the black earth lead eyelet is clamped in position under the fixing bolt.)

- v) Replace speedometer bulb holder in its housing.
- w) Make sure that no switch wires or terminals are touching the speedometer or fixing bracket.
- x) Replace light unit.
- y) Reconnect the battery lead and test the circuit in each switch position.

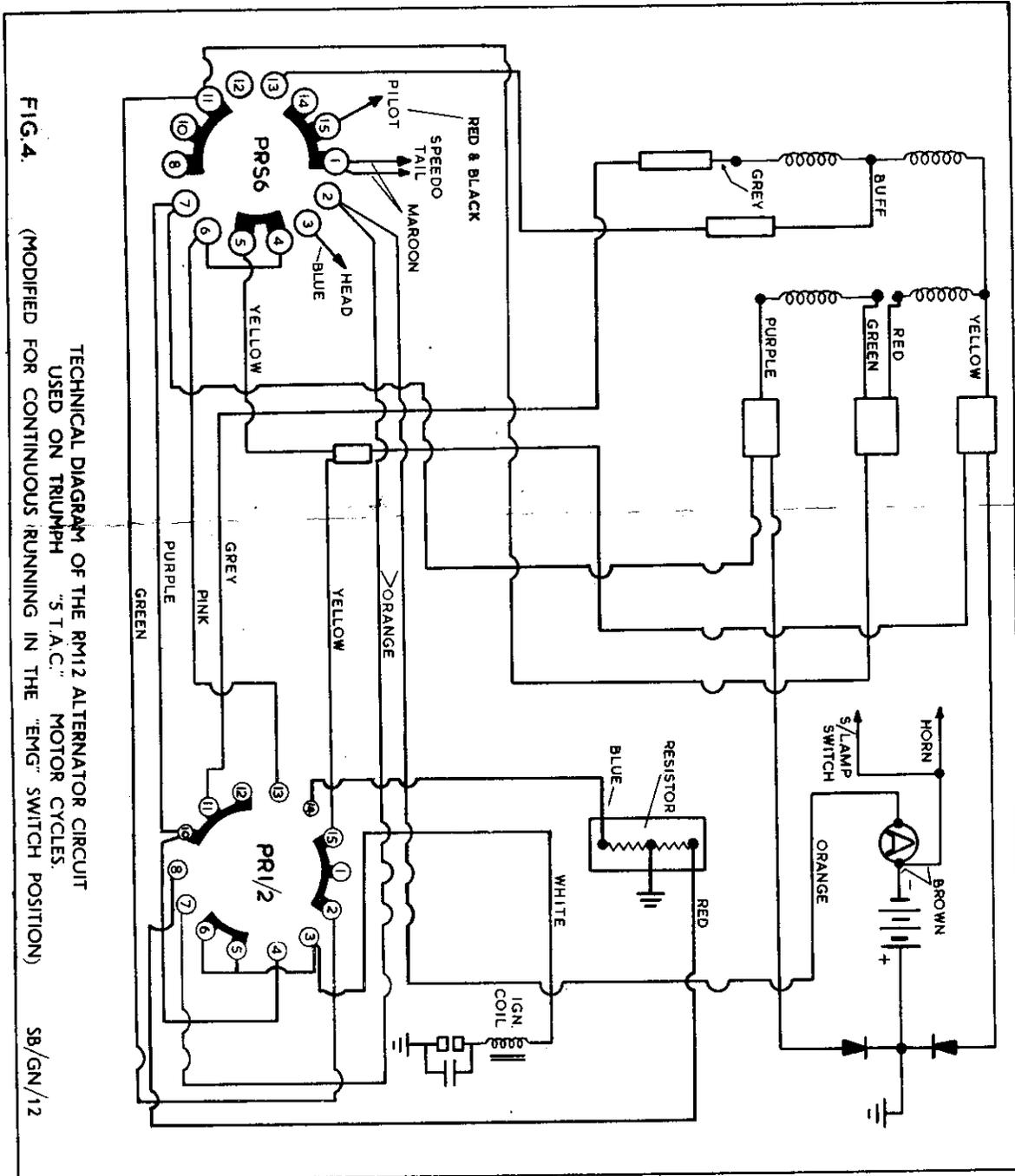


FIG.4.

(MODIFIED FOR CONTINUOUS RUNNING IN THE "EMG" SWITCH POSITION)

TECHNICAL DIAGRAM OF THE RM12 ALTERNATOR CIRCUIT
 USED ON TRIUMPH "STAC" MOTOR CYCLES.

SB/GN/12

JOSEPH LUCAS (AUST.) PTY. LTD.

REGISTERED OFFICE: 81 BOUVERIE ST.



CARLTON, N.3, VICTORIA

WPLR/GG.

G.P.O. Box 1628, MELBOURNE

9th April, 1954.

LUCAS
"KING OF THE ROAD"
ELECTRICAL EQUIPMENT
FOR CARS, MOTOR
CYCLES AND CYCLES

LUCAS BATTERIES

LUCAS ACCESSORIES

C. A. V.
ELECTRICAL EQUIPMENT
FOR GOODS AND
PASSENGER VEHICLES

C. A. V. BATTERIES

C. A. V. DIESEL FUEL
INJECTION EQUIPMENT
FOR VEHICLES AND
AGRICULTURAL AND
MARINE ENGINES

GIRLING BRAKES
CHASSIS EQUIPMENT
AND DAMPERS

Mr. Fiddock,
C/o Messrs. W. T. Cottman,
Elizabeth Street,
MELBOURNE C.1.

Dear Mr. Fiddock,

As promised I enclose herewith for your information, a copy of our Circular Letter 195/54 giving full test data and parts listing of our RM12 Alternator Set as fitted to the 1953 Triumph Twin cylinder motor cycles.

The undersigned is at the moment working on similar circulars on the new RM13 Alternator Sets as fitted to the Triumph 'Terrier' and also to the RM14 as fitted to the 1954 Triumph Twin motor cycles. As soon as these are ready they will be forwarded to you.

Yours sincerely,

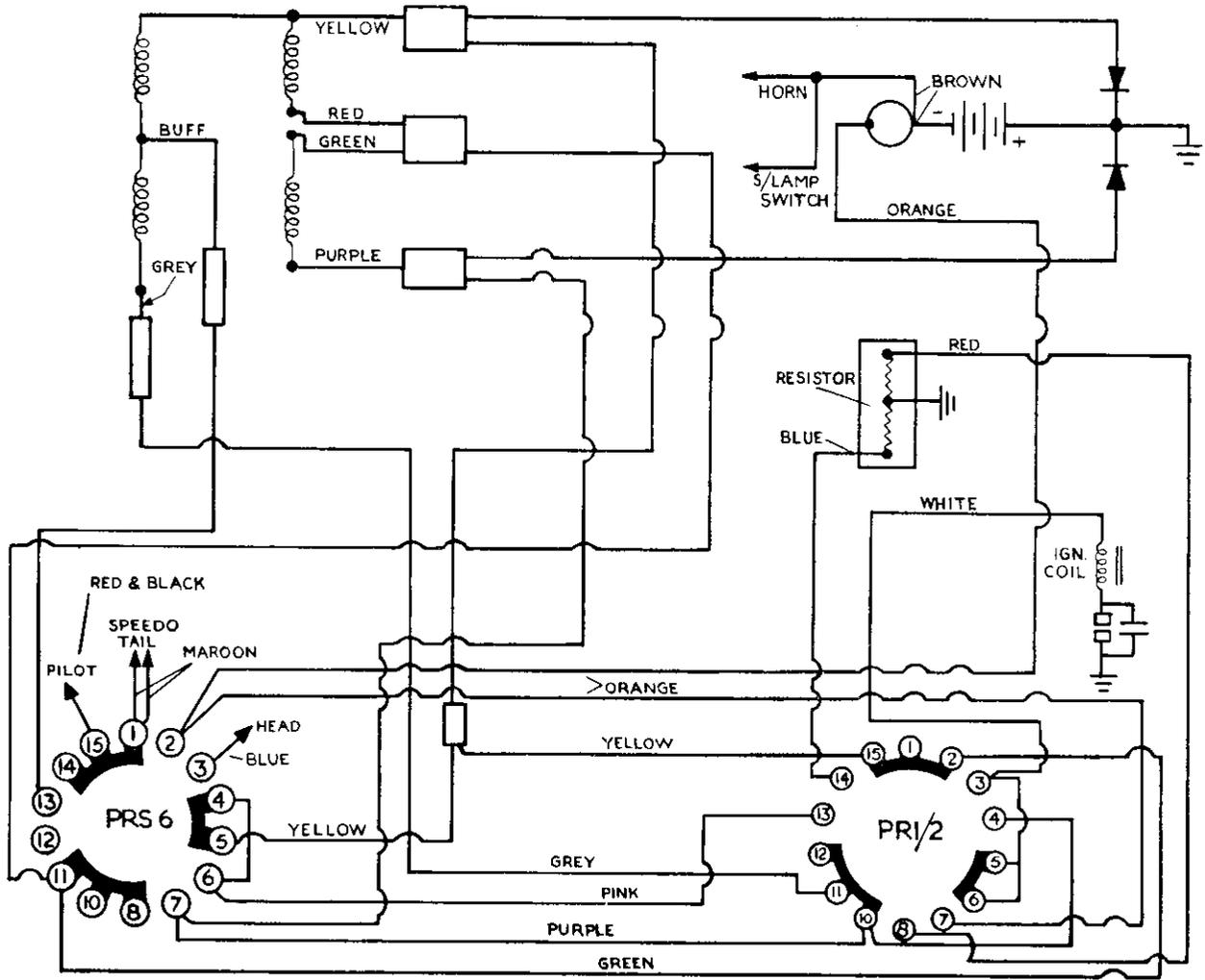
W.P.L. Rowland

Enc:

GIRLING

CAV

SPEED TWIN - TECHNICAL DIAGRAM OF THE RM12 ALTERNATOR CIRCUIT (SERIES "C")





JOSEPH LUCAS (AUST.) PTY. LTD.

Registered Office:

81-85 Bouverie Street, Melbourne, N.3.



WPLR/GG

1ST APRIL, 1954

TECH. ELEC. 195/54
SS 118

LUCAS MOTOR CYCLE RM-12 ALTERNATOR EQUIPMENT.

The 1953 Triumph 5 TAC Motor Cycle is fitted with the new Lucas RM-12 Alternator equipment. The advantages of the new alternator equipment over the previous Magdyno and separate dynamo Lighting Equipment are as follows.

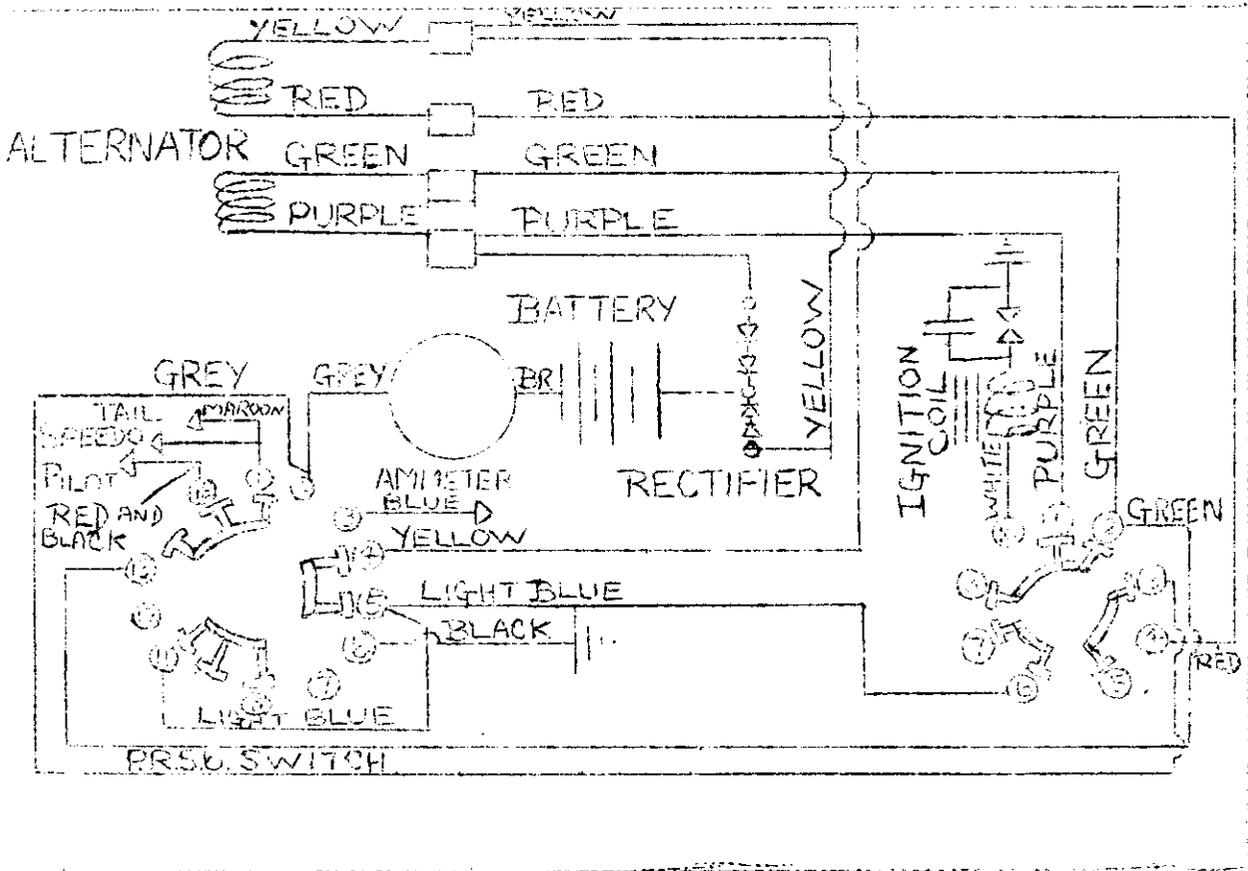
- 1) Bearings. As the rotating magnet unit is fitted to an extension of the crankshaft, large main crankshaft bearings are used for the rotor thus eliminating any trouble due to small bearings run constantly at high speed.
- 2) The windings are all incorporated in the stator - no electrical windings are subjected to centrifugal force with this system.
- 3) As alternating current is generated no brush gear is required with its maintenance.
- 4) As the battery charging rate is controlled by switching on additional stator windings no voltate regulator with its attendant point maintenance is involved.
- 5) Due to the use of a selenium rectifier the normal cut-out unit is eliminated.

Since the introduction of the RM-12 Alternator various modifications have taken place to improve the performance. The engine numbers of the Triumph 5 TAC Motor Cycles fitted with the different alternators and test procedure are included in these notes.

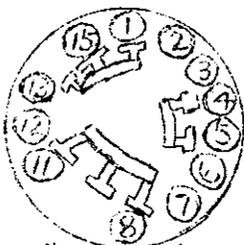
LUCAS RM-12 ALTERNATOR PHASE 1.

Prior Engine No. 35334. This equipment consisted of a single wound alternator 47090D having 4 leads and a double banked rectifier 47094. These are classified as Series 'A'.

For service purposes no more single wound alternator stators will be supplied and only double wound stators 465698 will be supplied. This can be used with the existing rotor and rectifier.



PRS6 LIGHTING SWITCH.



"OFF"

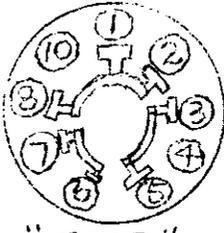


"LOW"

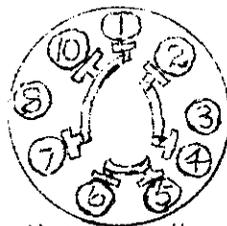


"HIGH"

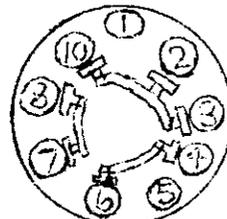
PRI. IGNITION SWITCH.



"OFF"



"EMG"



"IGN"

Alternator RM-12 Four leads 47090D	(Stator 465656 (Rotor 465674
Rectifier DSR1 Double Bank	47094
Lighting Switch PRS6	34087
Ignition Switch PR1/1	34088

The disadvantage of this equipment was that when in the "EMG" (emergency) position, the maximum speed of the cycle could not be obtained due to the spark energy diminishing with engine speed.

PHASE II ENGINE NOS.35334 - 38988.

These are known as Series B. To provide current to give adequate battery charging under widely varying conditions a Double Wound Alternator 47096 having six leads and a single bank rectifier 47097 was fitted to engines 35334-38989. Unfortunately, we experienced rectifier failure if the operator omitted to revert to the "IGN" position after starting on the "EMG" position and all machines having this equipment are converted to Phase III which incorporates a resistance in the EMG circuit.

PHASE III SUBSEQUENT ENGINE NO.38989.

These are known as Series C. These have a Double Wound Alternator 47095 having six leads and a single bank rectifier 47097 and a resistance to provide for continuous running in the "EMG" position.

This enables riders to use the machine temporarily without a battery for 'trials' and other sporting events. It should be pointed out that the battery cannot be charged in the "EMG" switch position and without a battery it is not possible to use lighting or the horn.

WHERE THE EQUIPMENT IS RUN TEMPORARY WITHOUT A BATTERY ALWAYS
CONNECT THE BROWN BATTERY LEAD IN THE HARNESS TO EARTH.

Alternator RM-12 Six leads 47095	(Stator 465698
Despatch No.047501	(Rotor 465683
Rectifier DSR1	47097
Lighting Switch PRS6	34087A
Ignition Switch PR1/2	34091A
Resistance	47106A

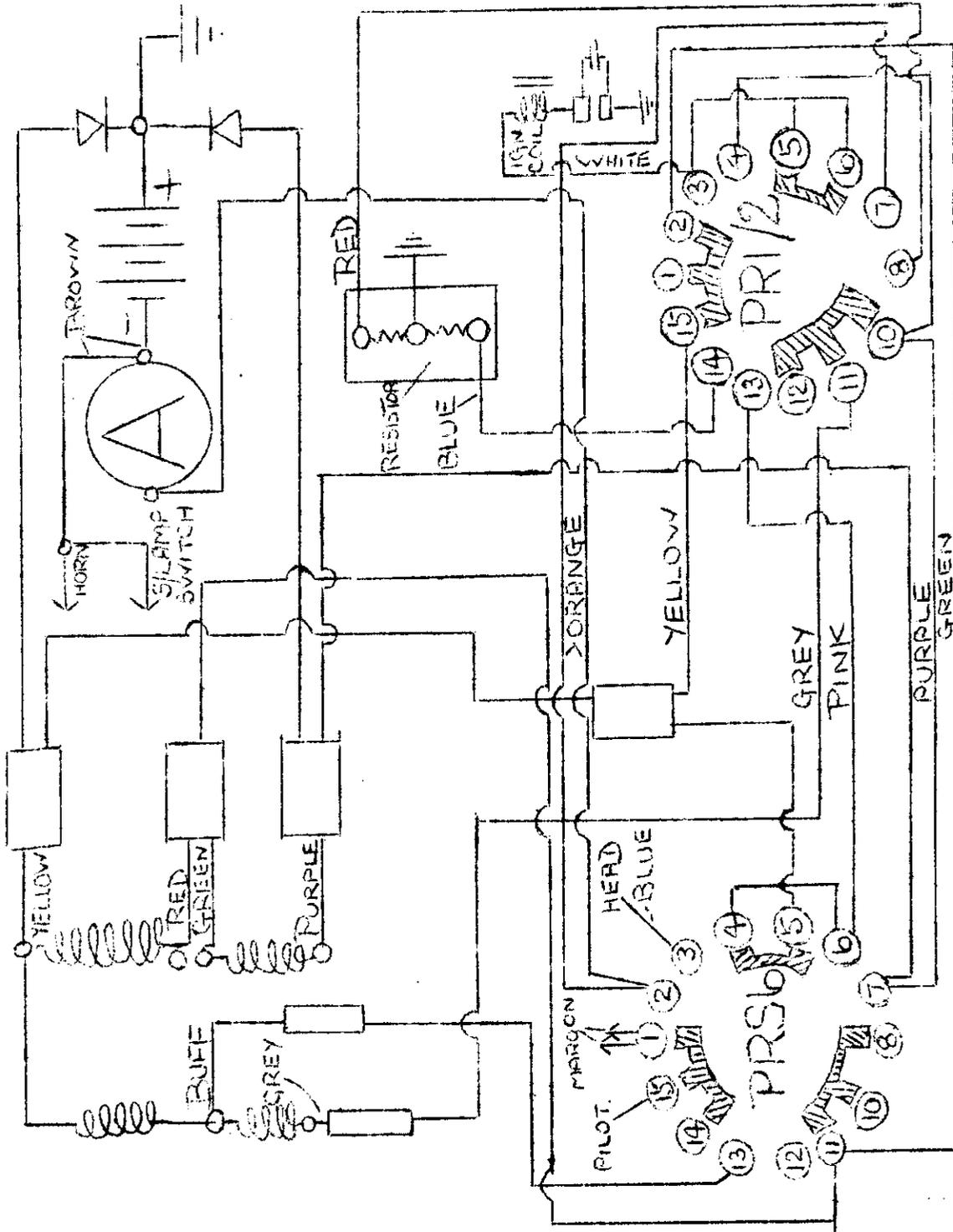
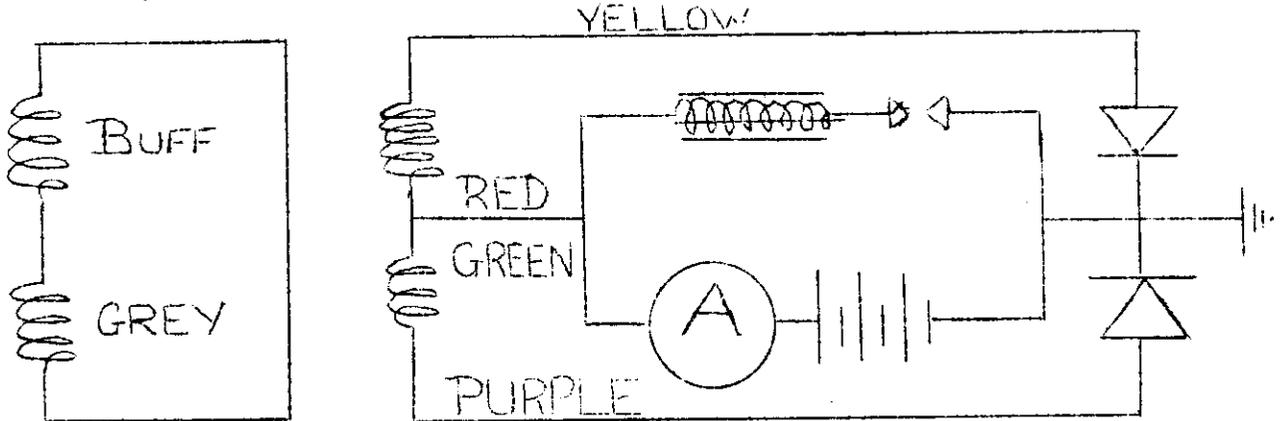


DIAGRAM OF THE RM12 ALTERNATOR CIRCUIT
 USED ON TRIUMPH 5T.A.C. MOTOR CYCLES.
 (MODIFIED FOR CONTINUOUS RUNNING IN THE EMG SW. POSITION)

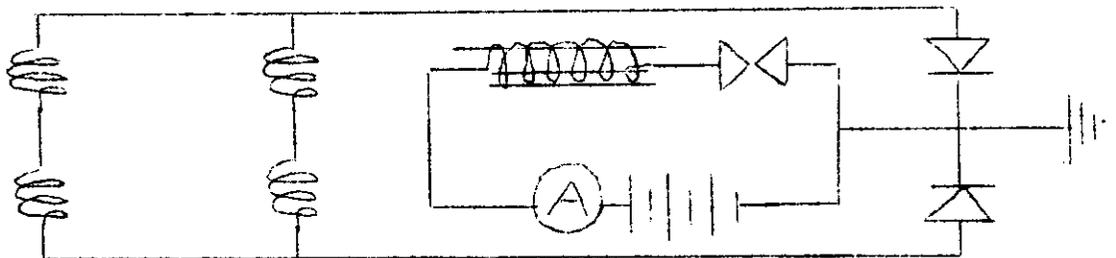
OUTPUT CONTROL.

The maximum output of the double wound alternator is similar to the single wound unit but is more closely controlled. This is obtained by shorting out sections of the stator coils and reducing the effective size of the coil in use.

A) Lighting switch in 'OFF' and 'LOW' position, ignition 'ON' - output taken from Yellow and Purple (red and green connected). All other coils shorted out.

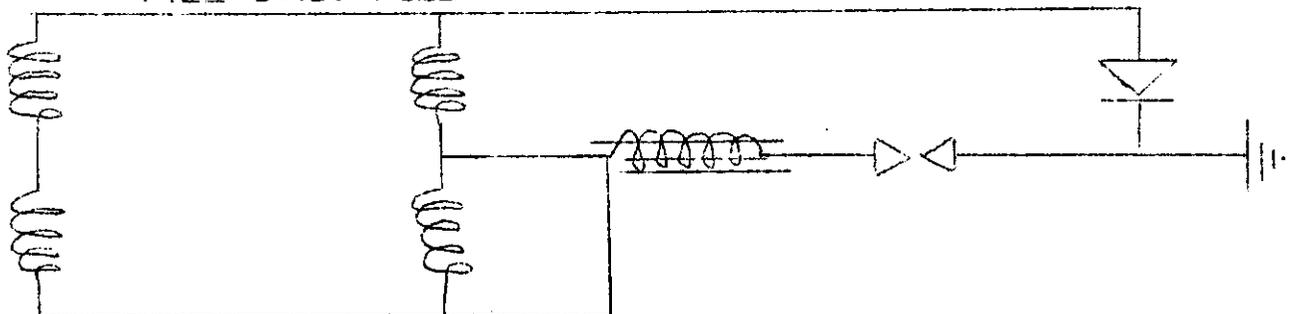


B) Lighting switch high ignition 'ON' all coils are used. The connections are similar to B with Buff connected to red and grey to purple. Maximum output 10 amps at 5,000 R.P.M.



C EMERGENCY POSITION

ALL COILS FEEDING IGNITION COIL



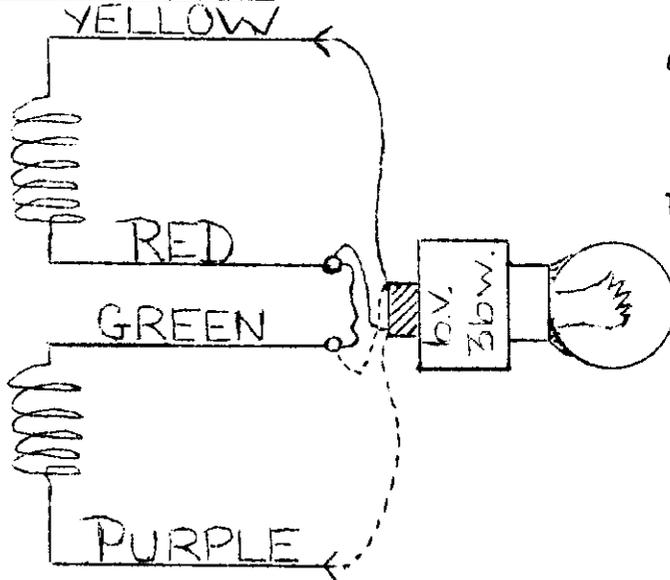
TEST EQUIPMENT REQUIRED.

- a) A.C. Voltmeter scale 0 - 15 volts.
- b) D.C. Voltmeter scale 0 - 15 volts.
- c) 1 ohm road resistance capable of carrying 8 amps.

A suitable resistance can be made from 4 yards of 18 S.W.G. (.048" dia.) Nichrome wire wound on a 2" dia. asbestos former and two flexible leads with crocodile clips.

EMERGENCY TEST.

USING A 6VOLT 36WATT BULB



- a) Join Red & Green together connect bulb across Red & Yellow.
- b) Join Red & Green together and connect across Green & Purple

Run engine at 1,000 R.P.M. or a fast idle. Bulb should light with equal brilliance with test 'a' and 'b'.

TEST 1A D.C. OUTPUT.

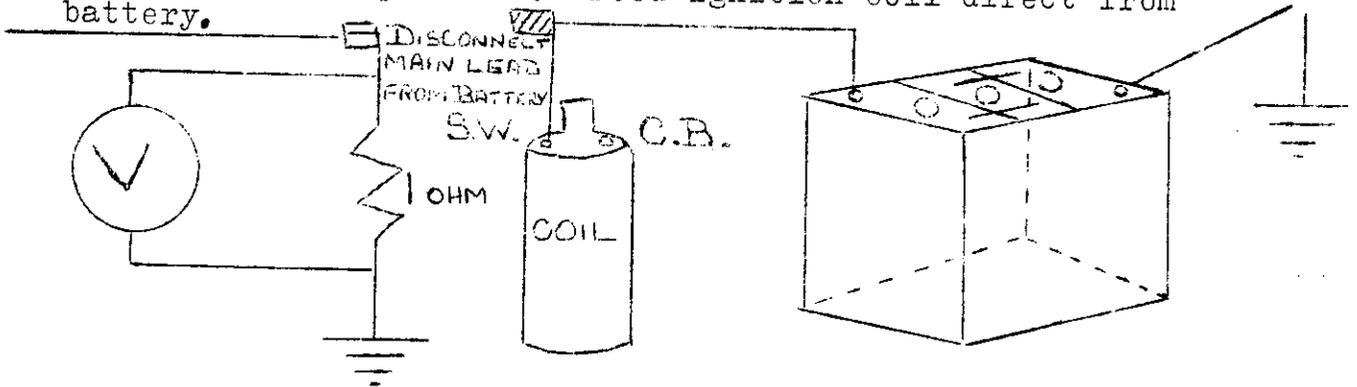
Connect ammeter in series with battery and run engine at approx. 4,000 R.P.M. move lighting switch alternatively in "OFF", "LOW" and "HIGH" positions.

<u>Switch Position</u>	<u>Output</u>	
	<u>4 Lead Alt.</u>	<u>6 Lead Alt.</u>
OFF	½ - 1½ amps	2½ - 4 amps.
LOW	2½ - 3½ "	2½ - 3½ "
HIGH	3½ - 4½ "	3½ - 4½ "

If battery is in poor condition or low state of charge test as follows.

TEST IB D.C. OUTPUT.

Connect 1 ohm resistance in place of battery Ignition Switch in "IGN" position. Feed ignition coil direct from battery.



Switch Position,

Voltmeter Readings.

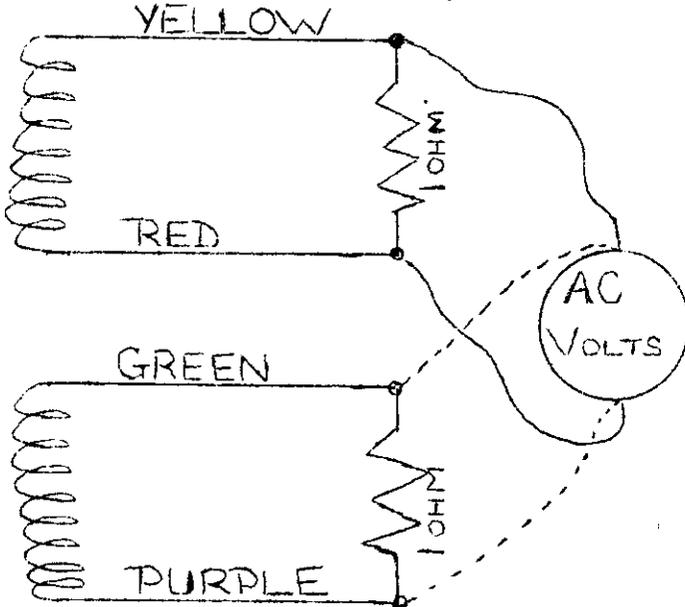
	4 Lead Alt.	6 Lead Alt.
OFF	3 - 4½ Volts	2 - 4 Volts
LOW	3¾ - 4¾ "	3 - 3½ "
HIGH	4¾ - 5¾ "	3½ - 4½ "

Engine at approx. 4,000 R.P.M.

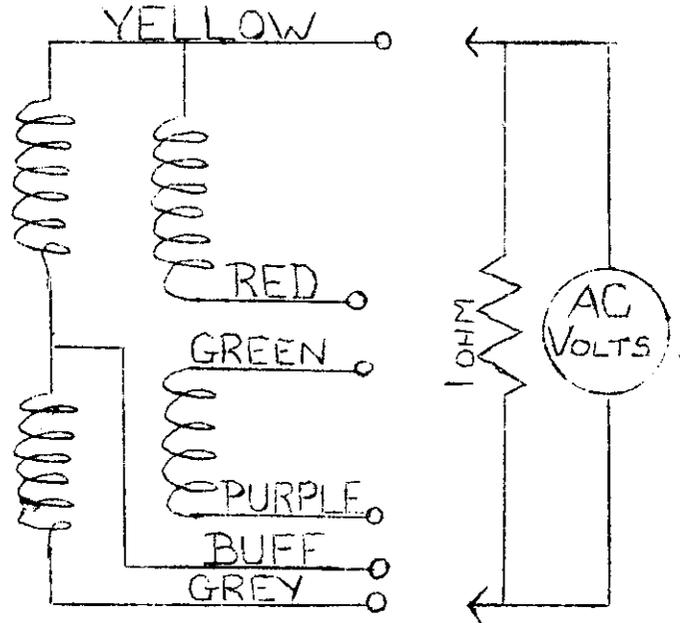
Meter connections	Meter Reading	Action
Test 1A or B	Voltage or current values as stated above.	Charging circuit O.K
	No reading. Low Output.	Proceed with Test 2 to check alternator.
	Low readings in some switch positions only.	Check lighting switch & all connections.

TEST 2 ALTERNATOR OUTPUT CHECK.

Run engine at 4,000 R.P.M.



Voltmeter connections.

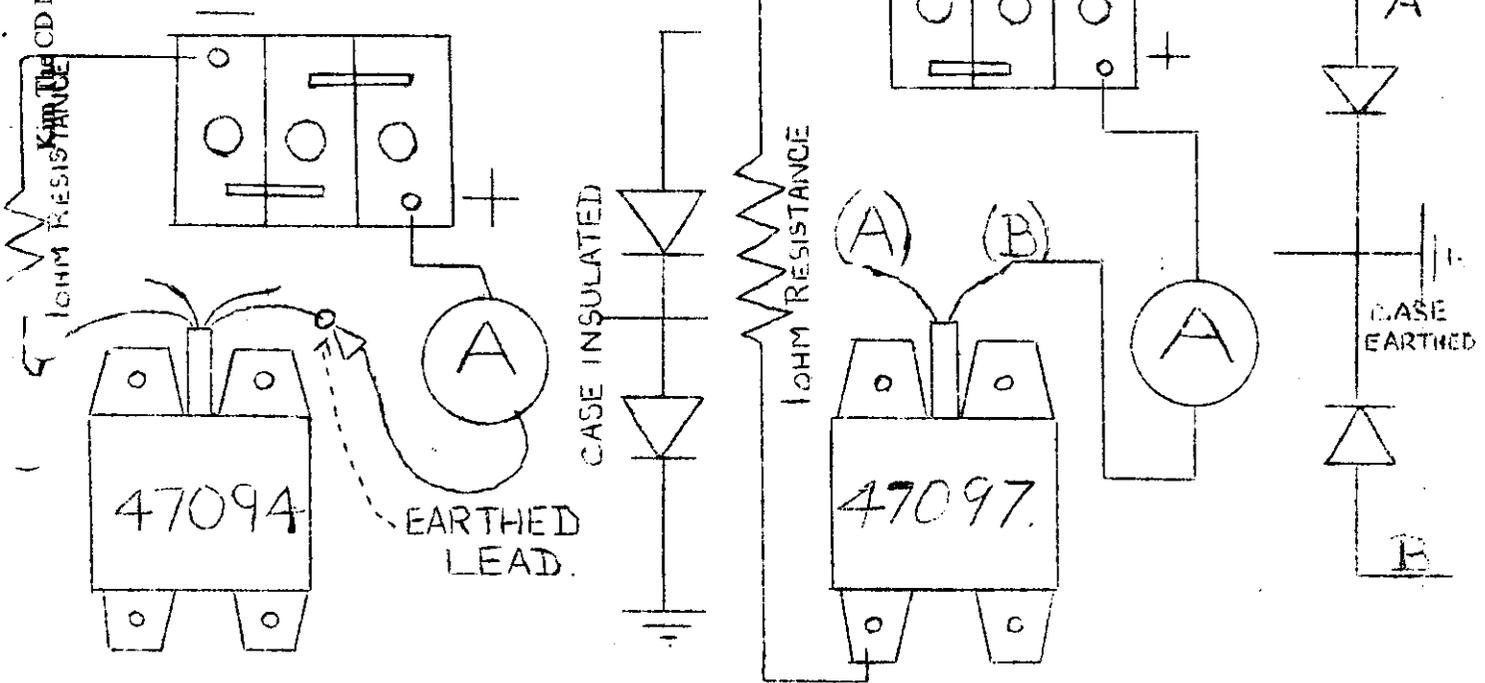


Voltmeter Readings.

Yellow & Red	8 - 9 volts	Yellow & Red	} 7¼-8¼ volts.	
Green & Purple	8 - 9 "	Yellow & Buff		
Yellow & Purple	} 6 - 7 "	Grey & Buff		
Green & Red joined		} 5½ - 6½ "		Green & Purple
Purple & Green				
Red & Yellow joined				

Check output across each coil.	Voltage & current as above.	Fault may be in rectifier.
	All readings low or zero.	Suspect demagnetised rotor check rectifier before replacing rotor
	Readings low on certain coils.	Faulty coils; Fit new stator.

TEST 3 RECTIFIER CHECK



Connect + Battery to Earth lead and Battery - to 1 Ohm resistance to free lead current should be 6 amps. Reverse battery connections current less than 100 milliamps. Repeat for other rectifier.

Test between lead A and rectifier case. Repeat for lead B. Rectifier should pass 4½-5 amps. Reverse battery connections current less than 100 milliamps.

Rectifier Test with 6 volt battery and 1 Ohm resistance.

Readings correct

Fault must be in switches or wiring

Readings incorrect

Replace rectifier.

IMPORTANT NOTES.

1. Demagnetised Rotors.

If a current from the battery passes through the alternator windings when the engine is running the rotor can become partly demagnetised. This may happen if the rectifier breaks down or if the battery connections are reversed - always make sure that the Battery Positive terminal is connected to the frame of the motor cycle.

2. Emergency Starting (this paragraph does not apply to the six lead alternator).

This is only for use when starting with a discharge battery. Do not run the machine continuously with the Ignition Switch in the "EMG" position since the output, which only goes to the coil, will be large and can result in overheating.

COMMON FAULTS AND CUSTOMERS COMPLAINTS.

This will obviously depend on the customers complaints. We have listed the most important faults and related these where necessary, to the Test Procedure.

1. BATTERY - NO CHARGE.

Check Battery Condition and test the alternator - Test 1B onwards.

2. BATTERY - INSUFFICIENT CHARGING.

(a) Test battery condition, if battery O.K. check alternator output Test 1 and 2.

3. ROUGH RUNNING.

Check ignition timing, if O.K. can be caused by faulty earth connection from battery or high resistance connection in the battery feed through the headlamp switches to the coil. Check all these points.

4. WILL NOT RUN IN "EMG" START POSITION.

Check the rectifier Test 3, replace if faulty. If rectifier is O.K. examine leads and connections from ignition switch to coil and from coil to distributor. Check condition of contacts, condenser, etc. If machine still refuses to start check alternator Test 1.

5. "LIGHT LIFT" OR BLOWN FUSES.

Either of these can be due to faulty high resistance battery or switch connections which allow high voltages to build up in the circuit.

RM12 (SIX LEAD) ALTERNATOR.

With the six lead alternator, which incorporates the swamping resistor, the machine can be run continuously in the "EMG" position with full engine performance.

Previously it was not possible to do this because the output from the alternator was too great.

This is an advantage where riders wish to use the machine temporarily for "Trails" or other sporting events. It should be pointed out that the battery cannot be charged in the "EMG" switch position and, without a battery, it is not possible to use the lighting or horn.

N.B. Where the equipment is run temporarily without a battery ALWAYS connect the brown battery lead in the harness to earth (frame of machine).

PARTS LIST FOR TRIUMPH SPEED TWIN 1953
PHASES 1 and 11 FITTED WITH ALTERNATING
EQUIPMENT.

<u>Phase I</u>	RM12 No.47090D	(1st 600 machines) single wound 4 leads.
	Rotor Assembly	465674
	Starter	465656
	Insulating Pad	465662
	Cable Clip	465717
	Screw for clip	186092
	Washer	128034
	Locking Nut	465669
<u>Phase II</u>	RM12 No.47096A	(from 601 onwards) Double wound 6 leads.
	Rotor Assembly	465674
	Stator	465698
<u>Phase 1</u>	Rectifier 47094 _{DSR1}	(1st 600 machines only) Double bank.
	No parts required.	
<u>Phase II</u>	Rectifier 47097	(from 601 onwards) Single bank.
	No parts required.	
	Distributor DKX2A	40352
	Cap	400136
	Cap clip	410591
	Cap Brush & spring	404435
	Rotor	400052
	Contact Set	400415
	Condenser	400308
	Cam	415283
	Auto Advance springs	416171/S
	Auto Advance weights	415730
	Auto Advance toggles	407131
	Shaft & Action plate	420408
	Bearing top	420406
	Bearing bottom	420406
	Sundry parts set	400843
	Coil Q6	45016

Lighting Switch PRS6	34087
Ignition switch PR1	34088
Headlamp (Home & Export) MCF.700	50943
Pilot lamp model 517	52184
Rim	516556
Glass	516386
Bead (Glass Joint)	516395
Bead	516553
Interior parts set	553780
Stop/Tail Lamp model 525	53269
Glass	573819
Bead (Glass Joint)	573814
Screw (Glass Fixing)	572072
Interior parts set	860428
Ammeter CZU.27	36168
Dipper switch GAC	31405
Horn Push HP26	76200
Horn HF 1441	70048
Stop/Tail Switch 54C	31281
Stop/Tail Switch 22B	31383*

* Will be fitted later, but interchangeable.

Stop/Tail Switch Spring	315738
Battery	PUW7E-4

PHASE III SUBSEQUENT ENGINE NO. 38989 (Despatch No. 047501)

RM12 No. 47095	
Rotor Assembly	465683
Coils	465698
Cable clip	465717
Screw for clip	186092
Washer	128034
Locking nut	465669
Rectifier DSR1	47097
No parts required	
Distributor DKX2A	40352
Cap	400136
Cap clip	410591
Cap brush & spring	404435
Rotor	400052
Contact set	400415
Condenser	400308
Cam	415283

13. T.E.195/54 - S.S.118.

Auto Advance springs	416171/S
Auto Advance weights	415730
Auto Advance toggles	407131
Shaft & action plate	420408
Bearing top	420406
Bearing bottom	420406
Sundry parts set	400843
Coil Q6	45016
Lighting Switch PRS6	34087
Ignition Switch PR1/2	34091
Resistance Unit	47106
Headlamp (Home & Export)	
MCF.700	50943
Pilot lamp model 517	52184
Rim	516556
Glass	516386
Bead (Glass Joint)	516395
Bead	516553
Interior parts set	553780
Stop/Tail Lamp model 525	53269
Glass	573819
Bead (Glass Joint)	573814
Screw (Glass Fixing)	572072
Interior parts set	860428
Ammeter CZU.27	36168
Dipper switch GAC	31405
Horn Push HP26	76200
Horn HF1441	70048
Stop/Tail Switch 54C	31281
Stop/Tail Switch 22B	31383*

* Will be fitted later, but interchangeable.

Stop/Tail Switch Spring	315738
Battery	PUW7E-4

Yours faithfully,
JOSEPH LUCAS (AUST) PTY. LTD.

W.P.L. Ronaldson
W. P. L. RONALDSON.
 SERVICE MANAGER.

J. K. JOHNSTON AND SON

J. K. JOHNSTON
E. ROSS JOHNSTON

304 PITT STREET, SYDNEY

ADDRESS ALL CORRESPONDENCE TO
BOX 4632 G.P.O., SYDNEY

CABLE ADDRESS: PAKEHA
TELEPHONE: MA 2872

ERJ:DN

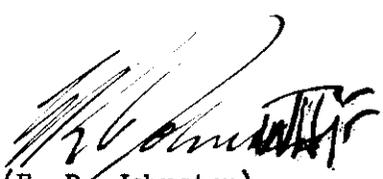
12th July, 1954.

Messrs. Hazell & Moore Industries Pty. Ltd.,
Cottman & Co. Pty. Ltd.,
Lenroc Limited,
Westralian Motorcycles,
H. C. Heathorn & Co. Ltd.

Dear Sirs:

We attach hereto copies of three letters addressed to Morgan & Wacker Pty. Ltd. by the Triumph Engineering Company, in the belief that the contents of these may be of interest to you.

Yours faithfully,
J. K. JOHNSTON AND SON


(E. R. Johnston)

H.F.

~~16/7~~ 16/7

J. K. JOHNSTON AND SON

J. K. JOHNSTON
E. ROSS JOHNSTON

ADDRESS ALL CORRESPONDENCE TO
BOX 4632 G.P.O., SYDNEY

CABLE ADDRESS: PAKEHA
TELEPHONE: MA 2872

304 PITT STREET, SYDNEY

ERJ:DN

2nd September, 1954.

Messrs. Hazell & Moore Industries Pty. Ltd.,
Cottman & Co. Pty. Ltd.,
Morgan & Wacker Pty. Ltd.,
Westralian Motorcycles,
H. C. Heathorn & Co. Limited.

Ref.	Date	File
WH	6/9	7/17
HF		

Dear Sirs:

We quote hereunder extracts from a letter which Triumph Engineering Company Limited have written to Lenroc Limited of Adelaide, as we believe the information contained will be of assistance to you.

"All our machines during road test are started on the emergency switch and it is difficult to say why they will not start under these conditions when they reach you. We would point out, however, that with a fully charged battery the machine is usually difficult to start on the emergency position due to the counter resistance set up. We frequently find when testing a machine in the Repair Shop that it starts quite well on the emergency when the negative cable to the battery is earthed but it will not start, without the expenditure of a great deal of energy, when the fully charged battery is connected in the circuit. The emergency position is not meant for use with a charged battery, of course.

"We do not hold stocks of Lucas literature regarding the A.C. set but the normal user information is contained in the current instruction book and as requested we are sending you 20 of these from our stores. The new instruction book we have just written is at present being delivered by the printers and a copy of this book together with the replacement parts list which is also just coming in will be forwarded to you by 2nd class Air Mail very shortly.

"We have not previously had any complaints regarding the damage to oil tanks on the T100 and T110 and we should be very much obliged if you would kindly let us know why you think this is occurring. An examination of the packing

.. 2 ..

does not give any clue as the tanks seem to be well clear. We are enclosing herewith a dozen oil tank leveltransfers as requested.

"We are aware that the centre stand on the Terrier has not been giving good service. This is a difficult point and has occurred on most lightweights. If the stand is strong enough it is very heavy but an interim design was introduced some time ago which is giving better service and a completely new design of stand is to be introduced shortly.

"Is it the layshaft blanking disc which you have had to replace in the Terrier? There has been some little trouble with this disc coming adrift but we are at present experimenting with a disc of another type. We have not found it necessary to drill a 1/16" hole in the gearbox filler plug of the Terrier as a breather. We have just commenced fitting a more robust felt washer on the drive end of the gearbox mainshaft and this has eliminated the oil leakage which sometimes occurred from that position.

"The packing of the Terrier has just been modified so that the machine is permanently held in position in the case as it would appear that some of these cases have been tipped upside down and the machine has moved. A bracket is being fitted to prevent this."

Yours faithfully,
J. K. JOHNSTON AND SON

(E. R. Johnston)

JOSEPH LUCAS (AUST.) PTY. LTD.

REGISTERED OFFICE: 81 BOUVERIE ST.

CARLTON, N.S. VICTORIA



WPLR/GG.

G.P.O. Box 1628, MELBOURNE

22nd December, 1954.

24 DEC 1954

Ans'd

Messrs. W. T. Cottman & Co,
291 Elizabeth Street,
MELBOURNE C.1.

ATTENTION - MR. FITTOCK.

LUCAS
"KING OF THE ROAD"
ELECTRICAL EQUIPMENT
FOR CARS, MOTOR
CYCLES AND CYCLES

LUCAS BATTERIES

CAS ACCESSORIES

C. A. V.
ELECTRICAL EQUIPMENT
FOR GOODS AND
PASSENGER VEHICLES

A. V. BATTERIES

C. A. V. DIESEL FUEL
INJECTION EQUIPMENT
FOR VEHICLES AND
AGRICULTURAL AND
MARINE ENGINES

GIRLING BRAKES
CHASSIS EQUIPMENT
AND DAMPERS

Dear Sirs,

The undersigned has just issued a Circular Letter 259/54 dealing with rectifiers and switch gear on your Triumph Motor Cycles.

We are attaching hereto two copies which we trust you will find of interest.

Yours faithfully,
JOSEPH LUCAS (AUST) PTY. LTD.

W.P.L. Ronaldson
W. P. L. RONALDSON.
SERVICE MANAGER.

Enc:

Ref.	Date	Resp.
NF.		<i>[Signature]</i>

DO NOT HOLD THESE TO YOUR NAME, SIGN AND PASS ON.



King The QD Man © 2002



JOSEPH LUCAS (AUST.) PTY. LTD.

Registered Office:
81-85 Bouverie Street, Melbourne, N.3.



WPLR/GG.

14th DECEMBER, 1954 TECH. ELEC. 259/54.
SS 173

A.C. MOTOR CYCLE EQUIPMENT.

RECTIFIERS: The new Triumph 'Terrier' 5T and 6T motor cycles now arriving in Australia are fitted with a new disc type rectifier slightly smaller in diameter than the previous unit.

Two types are being imported Part No. 47111 having a grey finish and Part No. 47112 having a maroon finish. Both are exactly similar except for colour. For the RM-13 and RM-14 sets four rectifiers have been fitted.

- 47103 Large disc pattern grey finish
- 47108 Similar to the above only maroon finish
- 47111 New small disc pattern grey finish
- 47112 New small disc pattern maroon finish.

For Service we will only import one unit, the latest 47111 and this will be supplied as soon as stocks are available against Agents orders for all the above types.

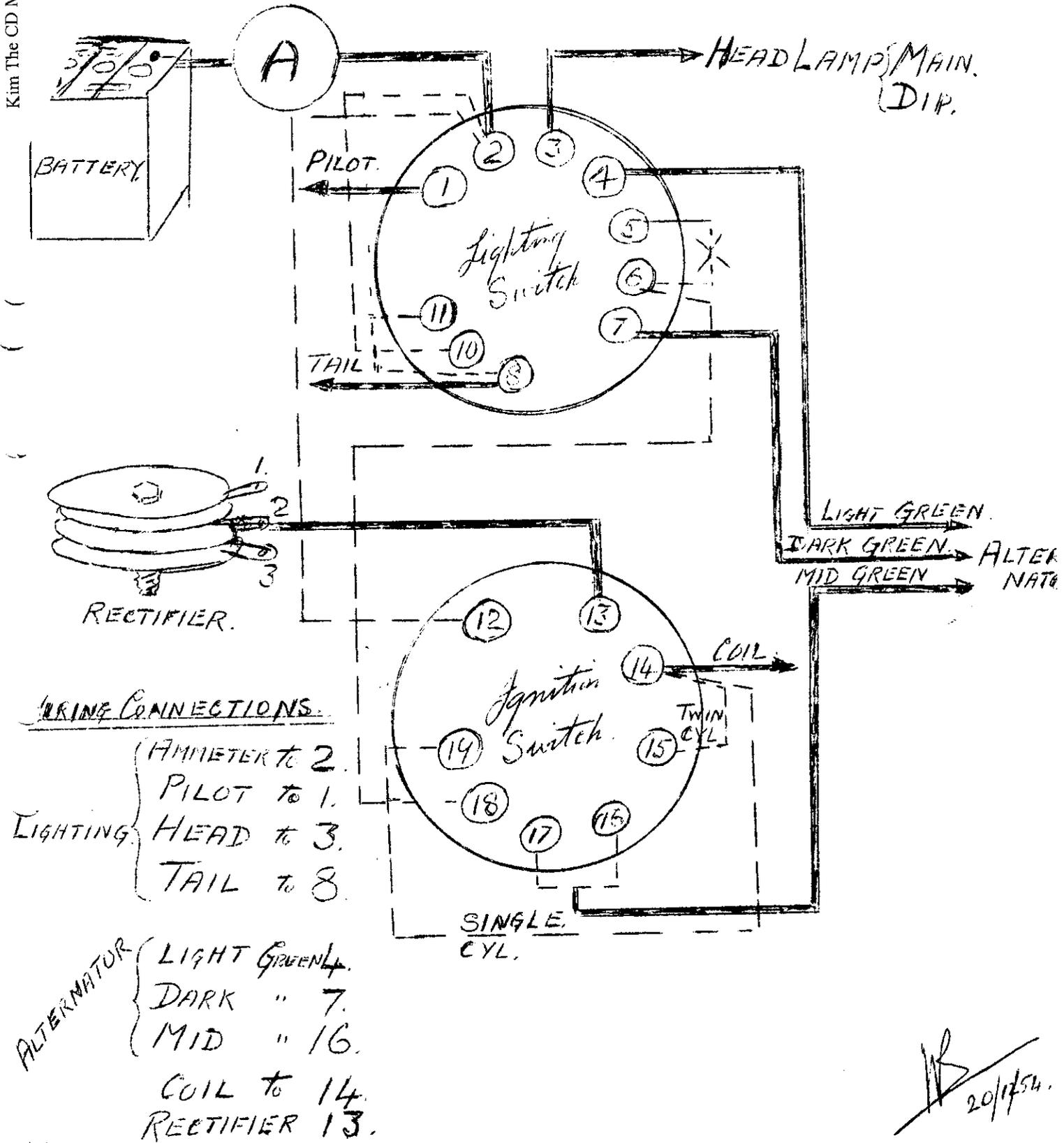
SWITCHGEAR: We have received comment that the switching and switch connectors on our A.C. Equipment is most complicated. This is not so involved as would appear on first sight if these leads are split into their various groups.

Switch interconnecting leads (black in colour)

- 5 to 6
- 2 to 12
- 16 to 17
- 6 to 18
- 8 to 11
- 2 to 10
- 14 to 15 (For twin cylinder motor cycles)
- 14 to 19 (For single cylinder motor cycles)

NOTE - All switches will be arranged with the long lead for single cylinder cycles as this can readily be cut down for twins.

AC SWITCH BOX CONNECTIONS RM. 13 & 14.



[Signature]
20/17/54.



SERVICE BULLETIN

Service Bulletin No.1. (Revised).

LOW OIL PRESSURE.

INDICATION.

Two methods have been employed to indicate oil pressure on Triumph Twin machines. Previous to 1949 an oil pressure gauge was fitted, later models are provided with an oil indicator fitted to the oil pressure release valve plunger. Where an oil gauge is installed, the minimum pressure should not be less than 20 lbs. with the oil hot and the machine running in top gear at 30 m.p.h. With the other type, the indicator should start to protrude under the same conditions; at lower speeds it may not protrude.

FAULTY OIL PUMP.

The pressure will be low if the oil pump is working inefficiently. If the pump is suspected it should be removed from the engine and serviced. After dismantling, the oil pump body should first be inspected. Worn plunger bores are very rare unless the machine has covered a very considerable mileage. The ball valve seatings should be examined with a magnifying glass and (if defective) recut with a 90° inc. cutter. The balls should also be carefully inspected for ridges and replaced if necessary. When reassembling give each ball a sharp tap onto the seating. If the hole in the oil pump block has worn oval or the faces of the block are worn, a replacement part should be fitted. When installing the pump a new joint washer is essential.

WORN BIG ENDS.

After considerable service the big ends, and perhaps the crankpins also, will become worn and this will cause low oil pressure as the oil will be more freely released. On 1938, 1939 and 1940 models, if the pressure RISES when the throttle is snapped shut from 40 m.p.h., the big ends are worn. The only remedy is to have the crankshaft assembly serviced.

WORN TIMING SIDE MAIN BEARING (3T).

The timing side main bearing on the 3T engine is a white metal lined bush and after a considerable mileage this may wear and release the oil too freely thus creating a low pressure. The only remedy is to have the crankcase assembly serviced. This bush must be accurately reamed in line and a special tool is essential.

WORN TIMING COVER BUSH (NOT 3T).

There is a bronze bush in the timing cover which fits over the end of the timing side crankshaft. This bush will wear in time due to ordinary wear and tear but will become unserviceable very rapidly if the timing side main bearing is worn as it will then be called upon to carry the crankshaft. Wear on this bush will cause low oil pressure. The remedy is to replace it and also the main bearing if necessary.

New crankshaft end diameter 0.622 - 0.623 inches.
New bush internal diameter 0.6235 - 0.624 inches.
Reground crankshaft end diameter 0.600 - 0.601 inches.
Bush internal diameter. 0.6015 - 0.6020 inches.

FAULTY OIL PRESSURE RELEASE VALVE.

The post-war piston type of release valve is very reliable but the pre-war ball type can cause trouble due to the ball not seating correctly. The remedy is to clean all parts of the valve and before assembly to give the ball a gentle tap onto its seating.

OIL VISCOSITY TOO LOW.

The oil can be too "thin" because the grade employed is incorrect or because it has become diluted with petrol which often occurs when a machine is used for a succession of short runs. The remedy is obvious.

If the viscosity of the oil is too low the pressure will be very low at all engine speeds. With the other reasons for low pressure listed above the pressure will rise and fall with the engine speed. As the oil is thicker when cold it will often be found that the pressure is satisfactory until the engine warms up. Oil gauges rarely give faulty reading. They may show no reading at all or fail to return to zero when the engine is stopped. Oil gauges cannot be repaired and a replacement is the only remedy. Before concluding that an oil gauge is faulty, the oil pipe should be examined to see that it is not obstructed.

COPY

Kim The CD Man © 2002

TRIUMPH

SERVICE BULLETIN

No. 67

CONVERSION FROM RIGID TO SPRING WHEEL

The fitting of a spring wheel to a machine originally equipped with the rigid type entails the following modifications:-

Open out the rear wheel spindle slots in the frame to accommodate the larger diameter of the spring wheel spindle. In most cases, it is also necessary to shorten the offside stand pivot bolt, as if this is left in its original state, fouling of the dust excluder cover will occur. (W.849 on Mk.I wheels and W.879 on Mk.II).

A new gearbox sprocket (Part No. T.471A) with machined boss to accommodate the speedometer driving gear will be required, (applicable only to machines with frame number preceding TF.13146). The external drive type speedometer gearbox (Part No. T.810) and a shorter speedometer cable (Part No. D.176B) is also necessary for use with this layout. Ascertain whether the gearbox shell is drilled and tapped to accommodate the speedometer drive mechanism. It may be found that the lugs are on the gearbox but are not drilled and tapped. The correct size for these holes is $\frac{1}{8}$ " Whitworth. On the other hand, it may be found that the gearbox on some machines (with frame number preceding TF.13146) provides no such lugs, in which case the new gearbox shell is required.

A check should be made on the length of the brake anchor plate and brake anchorage link (located on the frame) as these components vary in length, the brake anchor plate on the 3T's being shorter and the anchorage link being longer than those fitted to the 500cc and 650cc models.

TRIUMPH

#126

SERVICE No. ~~135~~ BULLETIN

CHARGING RATE. WTB SET ADJUSTED TO NUMBER AND NUMBER SIZE

When a machine is continually ridden at low speeds, the rate of charge, with the lights "off", may be insufficient to keep the battery fully charged. In such cases the charge rate can be increased by removing the wire on the switch connecting terminals No 5 and 6. No. 6 is also connected to No. 18 but this wire should not be interfered with. The numbers 5 and 6 are scratched on the bakelite.

If it is desirable to give the battery a boost charge for a period with the lights "off", the light green and mid-green wires in the rubber connector under the saddle should be changed over. These wires should be examined carefully as the mid-green and dark green are similar in shade. Shortly, Lucas are to introduce a yellow tracer into the mid-green wire to make it more easily recognised.

Note that if the increased charge rate is continued after the battery is fully charged, the electrolyte may "boil up" and overflow and the battery may be damaged. This is particularly the case if a "boost" charge is employed.

JANUARY 1954.

TRIUMPH MOTOR CYCLES



SERVICE BULLETIN

128

SIDECARS AND CRASH BARS.

A number of serious accidents have recently occurred with various makes of motorcycle due to the incorrect installation of crash bars and sidecar fittings on the front down tube.

On Triumph machines, when anything is fitted on the front down tube, it must be clear of the front stand and mudguard when the fork is fully compressed. Under certain severe conditions, such as when braking hard with a loaded combination when travelling down a very steep hill, the forks may become fully compressed irrespective of the strength of the fork springs and if the fittings on the frame then interfere with the mudguard or stand, it will be impossible to steer the machine.

After fitting a sidecar or crash bar, the fitter should lean over the handlebar and grip the front stand on each side of the wheel. It will then be possible fully to compress the fork by pulling upwards and in this position the wheel should be turned left and right to make certain there is no interference.

If a dealer installs a fitting on the frame of a machine which makes it dangerous to drive, he may be liable to prosecution in the case of an accident; special attention to this bulletin is therefore recommended.

2nd June, 1954.



SERVICE BULLETIN

No. 131

CRANKPIN - T15 AND T20.

From engine number 7379, a modification has been made to the crankpin (E3414) fitted to the Terrier and Cub models whereby the fillet at the base of the shoulder is increased from .025"/.015" radius to .055"/.045" radius.

The corresponding flywheels, E3336, E3360, E3419 and E3424 have been modified to suit by increasing the chamfer at the crankpin hole from 45° x .040"/.030" to 45° x .060"/.050".

Should a new crankpin be fitted to a pair of flywheels produced previous to this modification, it will be necessary for the chamfer on the flywheel holes to be increased. Failure to increase the chamfer will make it impossible correctly to line-up the assembly.

December 1954.

TRIUMPH MOTORCYCLES

TRIUMPH

SERVICE BULLETIN

No. 132

MODIFICATION TO LUBRICATING SYSTEM ON
TERRIER AND TIGER CUB MODELS
FROM ENGINE NO. 10197.

Two auxiliary ball valves have been introduced into the lubrication system of the Terrier and Cub models in order to reduce the possibility of scavenge failure if foreign matter is allowed to enter the system. The valves are situated in the two holes in the crankcase into which the oil pump delivers, with the balls seating on the oil pump body.

It is possible to convert earlier engines by making the following alterations:-

1. Counterbore No.9 drill (.196" dia.) X .295"-.285" deep the two delivery holes at oil pump mounting face.
2. Countersink the corresponding holes in the oil pump body 13/64" dia. X 90° included angle to provide seating for the balls.

Parts Needed:-

- | | | |
|---|-------|------------------------------------------------------------------------------|
| 2 | E3191 | Springs |
| 2 | F1124 | Balls |
| 1 | E3188 | Joint washer (new pattern with holes enlarged from 3/16" dia. to 7/32" dia.) |

Assembly is carried out as follows; the balls are given a sharp tap onto their seatings with a metal drift and then a slight smear of Vaseline placed underneath them to retain them in position. The paper joint washer is oiled and placed in position and the springs inserted in the holes. The oil pump complete with balls is then carefully mounted on the eccentric driving peg, offered up to the mounting face so that the balls are in the correct position on top of the Springs and the two retaining bolts and washers inserted and tightened.

February, 1955.

CYCLE & MOTOR CYCLE SHOW

Earl's Court, London,
November 12-19, 1955.

The Triumph Engineering Co. Ltd.,
Meriden Works,
Allesley, Coventry.

NEW 'CUB' IS EXPORT TRIUMPH

Lightweight star in 8-model range from Meriden

A lightweight British motor cycle which has already delivered a heavyweight's punch in the export market will make its first official appearance in Britain when the London Cycle & Motor Cycle Show opens at Earl's Court on November 12. It is a new version of the Triumph 200 c.c. Tiger Cub, and during recent weeks it has been sharpening its claws in Denmark, where advance shipments were sent to meet a mounting threat from Continental lightweight machines in what has been a sound post-war market for British motor cycles.

"This was something of a 'Commando operation' for our new Cub", said a spokesman for the manufacturers, the Triumph Engineering Co. Ltd., of Meriden, Coventry. "Originally it was intended that it should make its debut at the London Show, but plans were speeded up so that first production models could go 'into battle' in Denmark. It was an immediate success, and record sales have resulted against really tough opposition".

The new Cub, already termed "Chubby" because it has smaller wheels, fatter tyres and a larger petrol tank, now emerges as a separate model in its own right. It is a trim and clean little mount, with wheels which are now 16" in diameter, carrying 3.25" tyres and so giving additional riding comfort, with a lower and safer riding position. The tank is now more shapely and has a capacity of 3 gallons, blending well with the lines of the new model. The ignition coil and metal rectifier are hidden away beneath the Twinsent and enclosed in a p.v.c. cover, which can be quickly detached for maintenance purposes. Engine changes include the use of heavier flywheels and a stiffened big-end assembly, while the oil pump has an increased capacity. The general cleaning up process is aided by the fitting of a new type of wiring harness, enclosed in a single p.v.c. tube. Despite the de luxe appearance and specification the price of this, and all other 1956 models, remains at the 1955 level.

The 150 c.c. Terrier is substantially unchanged, but in this model too, the oil pump output has been increased. As with all 1956 Triumphs a completely new type of clutch plate is fitted, in which Neolengite segments are bonded to solid metal plates, replacing the older type of pierced clutch plate with cork inserts.

All machines in the twin-cylinder range share numerous improvements, in addition to the Neolengite clutch linings. A chrome-plated styling flash now covers the upper seam of the petrol tank, and a redesigned rear mounting relieves the tank of stress. The pilot light is now incorporated within the headlamp reflector, the position previously occupied by this light being taken by a small chrome-plated grille behind which is mounted the electric horn. A standardised intake manifold and air cleaner layout is employed for all twins, and high duty replaceable "thin wall" bearing shells are fitted to the big-end bearings. Frame and steering improvements include a heavier type of steering head which uses the same size of head race at top and bottom, and provision is now made for adjustable steering lock stops. Internal modifications to the telescopic forks provided for a new type of "bump stop", preventing the forks from "bottoming" under heavy braking.

Changes in the design of the cylinder base flange on the 500 c.c. Speed Twin allow for a common crankcase to be used by this model and the larger 650 c.c. Thunderbird. The Speed Twin is, of course, in service with police forces throughout the world and a police model specially equipped with a new type of two-way radio will be exhibited at Earl's Court.

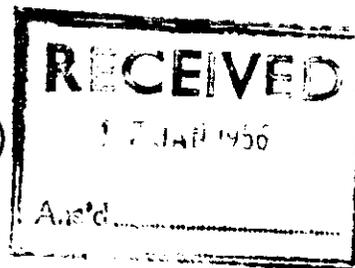
The high-performance 500 c.c. Tiger 100 goes forward for a further season with all the improvements previously mentioned, and in addition the wheel rims and spokes are now bright chrome-plated, this finish also featuring on the 650 c.c. Tiger 110, and the 500 c.c. and 650 c.c. Trophy models. The finish of all Tiger and Trophy models, as before, is shell-blue sheen.

Changes in the 500 c.c. Trophy allow for a greater degree of steering lock, a new design of narrow petrol tank being fitted. The headlamp, as for the new 650 c.c. Trophy, is quickly detachable and is completely chrome-plated. The 500 c.c. Trophy is becoming increasingly popular in scramble-type competitions, and it will now be fitted as standard with A.C.U. regulation-pattern ball-ended clutch and brake levers. A trials version of the machine will be available, with lower (6:1) compression ratio, wide ratio gearbox and Speed Twin cams.

A completely new high gloss Crystal Grey colour scheme characterises the 1956 version of the 650 c.c. Thunderbird, the engine and frame improvements for which will be as for the Speed Twin. For the high-performance Tiger 110 there is a completely new light-alloy cylinder head; external oil drains are eliminated and shorter push rod cover tubes mate directly with the cylinder head, revised rocker boxes being employed.

A newcomer to the Triumph range is the 650 c.c. Trophy, identical to the smaller 500 c.c. Trophy in respect of cycle parts, but fitted with the new Tiger 110 power unit, with 8.5:1 compression ratio and super-sports cams. The model has been introduced in response to American demands for larger capacity sports machines primarily for use in the long-distance cross-country endurance events popular in the United States, and is already proving itself to be a real dollar earner.

TRIUMPH



SERVICE BULLETIN

No.137

VIBRATION-FREE PETROL TANK MOUNTING.

A vibration-free petrol tank mounting is being fitted to the 1956 machines, and a special carton pack number CP.154 is available to convert any earlier 500 or 650 c.c. twin cylinder machines. The kit consists of a special rear mounting bracket which is rubber mounted to the frame, in addition to the petrol tank being rubber mounted to the bracket. The parts included in the carton pack are as follows:-

- | | | |
|--------|--------|----------------------|
| 1. off | F.4031 | Rear support. |
| 4. off | F.3814 | Cup, for rubbers |
| 2. off | F.567 | Washer, top rubber |
| 2. off | F.3815 | Washer, lower rubber |
| 2. off | F.3816 | Bolt. |

SPECIAL ASSEMBLY PROCEDURE.

- 1) Fit the petrol tank to the machine and place the front rubber mounting pads in position, insert the bolts, tighten and secure with wire.
- 2) On swinging arm machines tighten the engine torque stays securing nut and bolt.
- 3) Fit the rear bracket to the frame with the spigotted rubbers in the lower cups and the plain rubbers in the upper cups and tighten the bolts until the bracket to tank mounting rubbers will just slide under each side of the tank. It is NOT necessary to tighten the bolts until they are fully home.
- 4) Fit the rubber pads between the bracket and the tank and insert the bracket to tank bolts and tighten.
- 5) Secure all four bolts with wire.

DECEMBER 1955.

TRIUMPH MOTORCYCLES

TRIUMPH

SERVICE BULLETIN

No. 138.

1956 TIGER 110 ALLOY CYLINDER HEAD.

The alloy cylinder head fitted to the 1956 model Tiger 110 is not a direct replacement for the earlier cast iron cylinder head. In order to fit the alloy cylinder head to an earlier machine it is necessary to use the following parts:-

- | | | |
|----|--------|-----------------------------------------|
| 1. | E.3608 | Cylinder head. |
| 1. | E.3614 | Cylinder head gasket. |
| 2. | E.3583 | Exhaust pipe adaptors. |
| 1. | E.3550 | Inlet rocker box. |
| 1. | E.3551 | Exhaust rocker box. |
| 2. | E.3552 | Rocker box gaskets. |
| 2. | E.3554 | Push rod cover tube. |
| 2. | CP.157 | Piston packs (8.5:1 compression ratio). |
| 4. | E.2973 | Studs, manifold to head. |
| 6. | E.2980 | Studs, rocker box to head. |
| 6. | E.3302 | Washers. |
| 6. | F.879 | Nuts. |
| 4. | E.2620 | Push rods. |
| 2. | E.3547 | Washers. |
| 2. | E.1496 | Washers. |
| 1. | E.2968 | Insulating block. |
| 2. | NA.43A | Joint washers. |
| 2. | | Sparking plugs. (See below). |
| 2. | E.2962 | Carb. fixing studs. |
| 8. | F.2184 | Head bolt washers. |
| 2. | E.3334 | Manifold joint washers. |
| 2. | E.3253 | Sealing ring, rocker spindle. |

The total cost of these parts is approximately £20, but an exact quotation will be forwarded from the Triumph Spare Parts Department on application.

The cylinder head differs from the earlier cast iron head, in that the oil is not returned from the rocker box by separate drain pipes but through the push rod cover tubes. When fitting the head, the push rod tubes are placed in position with the notch on the lower end of each tube facing away from the engine crankshaft, and the head tightened down on to the barrel in the normal manner. The push rods are fitted afterwards, being located by the discs in the top of the push rod cover tubes. Finally fit the rocker boxes, making sure that the ball ends of the rockers engage with the push rods.

It should be noted that long reach sparking plugs are fitted, Champion NA.10, Lodge HLN, or KLG FE.100 (3 point) being the standard grade. If the air filter is removed and a larger main jet fitted or the machine is used exclusively for long fast runs, NA.12 should be fitted in the case of Champion plugs; the other grades remain unchanged. The tappet clearance; .002" inlet and .004" exhaust as previously.

TRIUMPH

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SERVICE BULLETIN

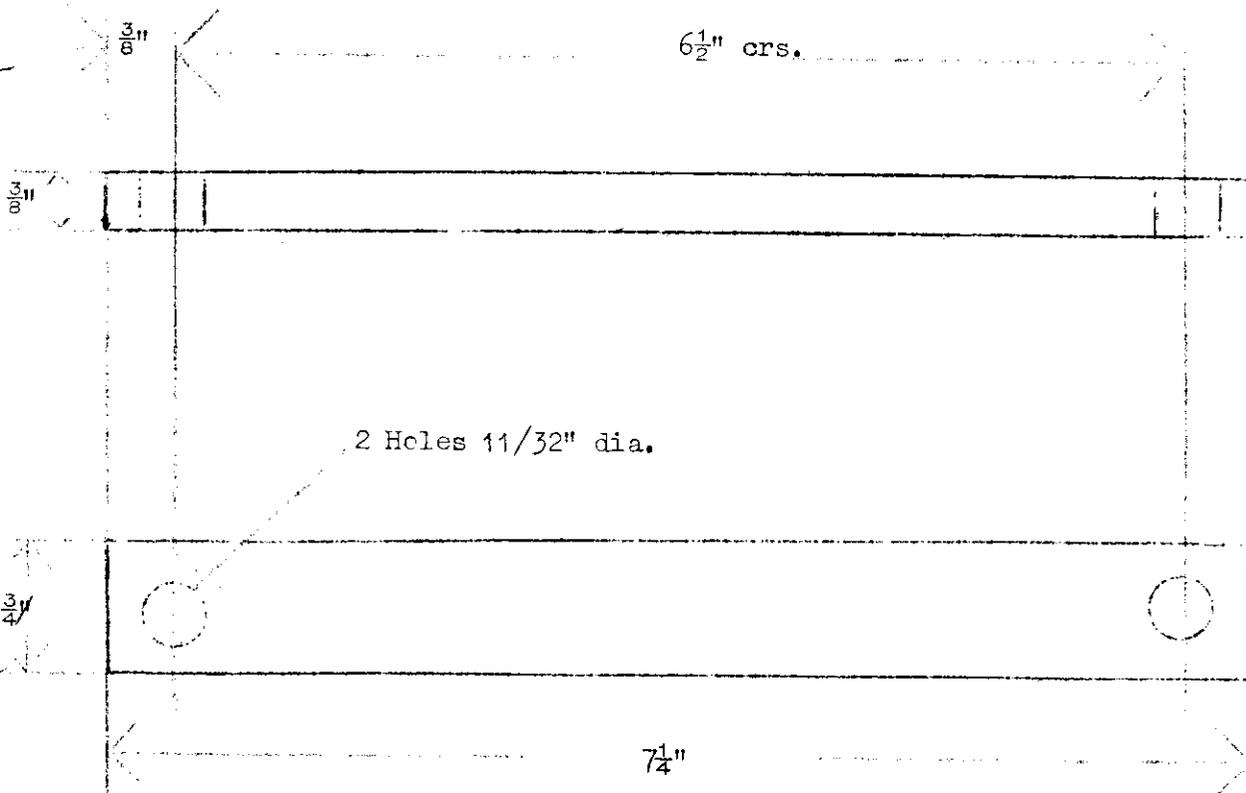
No. 139

TERRIER AND TIGER CUB DRIVE

SIDE INNER COVER REMOVAL TOOL.

To assist in removing the Terrier and Cub drive side inner cover, two of the screw holes at 6 o'clock and 12 o'clock relative to the engine mainshaft have been drilled and tapped 5/16 ins. x 22 BSF. An extractor bar part number D342 is available from the Triumph Spare Parts Department or may be made locally from the drawing below. (NOT TO SCALE).

Remove sharp corners.



This bar is used with two bolts part number GS.482 (5/16 ins. x 22 BSF x 2.7/8 ins. under head).

To use the removal tool, take off the drive side outer cover and remove the two hexagon headed screws securing the inner cover to the crankcase. Remove the alternator rotor nut and the alternator rotor and then replace the nut. Place the extractor bar in position and screw in the two bolts down to the bottom of the holes. Unscrew the alternator rotor nut, when the inner cover will be drawn away from the crankcase.

TRIUMPH

SERVICE BULLETIN

No. 141.

WHEEL BALANCING.

A number of complaints of poor steering have been traced to cut-of-balance wheels. The front wheel of any high performance motor cycle, such as the Tiger 110, should always be balanced if the best possible steering is to be obtained. It may also be beneficial to balance the rear wheel, but this is not always essential. Place the machine on the stand and spin the front wheel, or motor the rear wheel and check that the tyre tread is running perfectly true. If the tyre tread is not running true and the fitting line, on the cover just above the rim, is parallel to the rim all round the wheel, replace the cover.

To balance either wheel, place the machine on the stand and make sure that the wheel is perfectly free to revolve (always remove the rear chain from the rear wheel). Spin the wheel slowly and allow it to find its own resting place. Mark the top of the cover and the nearest spoke nipple with chalk. Deflate the tyre and move the cover approximately 12 inches round the rim. Again spin the wheel slowly and estimate whether moving the tyre has made the required improvement. Repeat the procedure if necessary, but if it is not possible to balance the wheel completely by moving the cover round the rim it will be necessary to fit wheel balance weights.

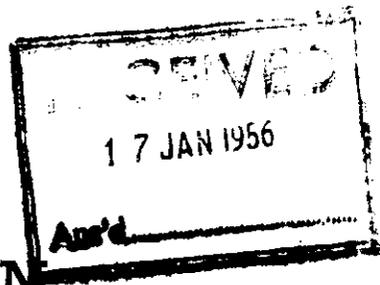
Wheel balance weights are now available under the following part numbers:-

W.1197/9	Balance Weight	3/4" long.
W.1198/9	Balance Weight	1" long.

Place a balance weight over the spoke nipple nearest the lightest point and secure with a grub screw. Spin the wheel again and find the new lightest point and rectify by adding weights until finally, when the wheel is spun it will come to rest in any position, at the same time being perfectly free to revolve. It should not be necessary to use more than the minimum number of weights to balance the wheel, and if more than two or three are required, the cover should be discarded. If at any time the cover is removed from the rim the complete wheel should be re-balanced after the cover has been replaced. Obviously the wheel should also be re-balanced whenever a new cover is fitted.

JANUARY. 1956.

TRIUMPH



SERVICE BULLETIN

No. 142.

"O" RING SEAL PART NUMBER 244/765

FITTED TO AMAL MONOBLOC CARBURETTERS.

An "O" ring seal has recently been introduced at the inlet manifold on the Amal Monobloc carburetters fitted to all Triumph machines. This seal supersedes one NA43 or NA43A paper joint washer, but on machines fitted with alloy cylinder heads and insulating blocks, a paper joint washer will still be needed between the insulating block and the inlet manifold.

A new seal should always be used when replacing the carburetter and, therefore, all dealers are advised to obtain a supply of these seals at the earliest possible moment.

These seals are obtainable from the Triumph Spare Parts Department or from the carburetter manufacturers, Messrs. Amal Limited, Holdford Road, Witton, Birmingham 6, under their part number 244/765.

The seal was introduced from the following engine numbers on the various machines:

5T	Engine Number 73971
T100 & TR5	Engine Number 74706
T110 & TR6	Engine Number 73760.

JANUARY 1956.

TRIUMPH MOTORCYCLES

TRIUMPH

SERVICE BULLETIN

No. 143

THIN WALL BIG-END BEARINGS

ON TWIN CYLINDER MACHINES

All twin cylinder machines from engine number 75103 have been fitted with thin wall big-end bearings. When big end replacement is called for with this type of bearing, it is simply a matter of renewing the bearing shells, instead of the complete connecting rod as previously. The bearings are also available in .010" and .020" undersizes. This type of rod can be fitted as a replacement to T.100, T.110, TR 5 and 6I models from engine number 44135 and to 5T model from engine number 58174.

The following instructions must always be followed when fitting these bearings:-

- (1) These bearings are completely prefinished bearings, and under no circumstances whatsoever must the bearing surface be touched by a scraper or similar instrument.
- (2) No attempt must be made to increase the fit of the bearing by filing down the connecting rod and connecting rod cap joint faces.
- (3) The connecting rod cap bolts must be tightened to the correct figure, which is a torque loading of 250 lb. inches, or an extension of .004 to .005" on each connecting rod bolt. Bolts fitted to connecting rods as original equipment are punch marked, and when the marks are in line the loading on the bolt is correct.
- (4) On fitting this type of connecting rod to engines which have previously been fitted with the earlier pattern 1.5/8" diameter big-end Triumph rod with the white metal lined cap, it is important that the cut-outs for spanner clearance in the end webs of the crankshaft have all the sharp edges removed, in order to prevent any scoring of the big-end side cheeks.
- (5) The MINIMUM oil pressure with the oil warm should cause the indicator button to start to come out at an engine speed equivalent to 30 m.p.h. in top gear, i.e. the button may not come out with the engine idling.

JANUARY, 1956.

T R I U M P H

SERVICE

BULLETIN

NO. 144

CONVERTING CORK CLUTCHES TO NEOLANGITE FRICTION MATERIAL ON
TWIN CYLINDER MACHINES

Neolangite friction material is now being used in all clutches on Triumph twin-cylinder machines. Although corked plates are still being supplied as replacements the properties of the new material make it desirable that cork clutches should be converted whenever convenient.

Neolangite is not affected by oil, petrol or paraffin and its useful life is much longer than cork used under the same conditions. The thickness of a new plate is 1/8 inch, the lining thickness being 1/32 inch. If, on examination, the linings are securely attached and are not charred, the plates are fit for further use. However they must not be degreased in a "trike" vat as boiling trichlorethylene attacks the bonding. Clean the plates in petrol or paraffin.

Price comparisons as follows:-

To Recork:	4. T414 Corked plates (Service) @ 5/-	25/-
	—————	
To Convert:	5. T1362 Neolangite plates @ 8/3d.	42/3d.
	—————	
To Reline:	5. T1362 Neolangite plates (service) @ 3/6d.	17/6d.
	—————	

JANUARY, 1956.

T R I U M P H

NO. 145

SERVICE BULLETINTO REBUILD TERRIER AND TIGER CUBREAR WHEELS USING BUTTED SPOKES.

Butted spokes (10/12 gauge) are now being fitted to the drive side only of the Terrier and Tiger Cub, 19 inch rear wheels and Tiger Cub, 16 inch rear wheels. To convert earlier machines it is necessary to modify the hub. The rebuilding should, of course, only be undertaken by a competent wheel-builder.

New parts required:-

10	W.1205	Spoke, short D.S. inner)	
10	W.1206	Spoke, short D.S. outer)	19 inch
20	W.963	Spoke, long T.S. inner & outer.)	wheel

or

10	W.1213	Spoke, short D.S. inner)	16 inch
10	W.1214	Spoke, short D.S. outer)	wheel
20	W.1174	Spoke, long T.S. inner & outer.)	

Proceed as follows:-

1. Remove the final drive sprocket.
2. It can now be seen that 4 of the outside spokes run close to the sprocket bosses (2 pairs of bosses diametrically opposite). Mark where these spokes lie, remove all spokes from the wheel and (preferably) rotary file (or file or grind) sufficient clearance for the larger spokes.
3. Drill all the D.S. spoke holes $5/32$ inches diameter and counter sink each side $1/4$ inch diameter x 90° inc.
4. Rebuild with the inner spokes on the brake drum side taking the braking strain (as for all Triumph wheels).
5. Replace final drive sprocket.

JANUARY 1956.

T R I U M P H

SERVICE BULLETIN

- - - -

NO. 146

MULTI-GRADE OILS

The following multi-grade oil is at present approved for use, from new, in the engine primary chaincase and front forks of Triumph Motorcycles.

B.P. ENERGOL VISCO-STATIC

This oil has detergent properties and its use in an engine previously lubricated with a normal oil would result in any accumulated desposits being displaced and circulated through the engine.

This approval does NOT apply to use in the gearbox and the gearbox MUST be lubricated with an S.A.E. 30 grade oil, as recommended in the instruction manual.

JANUARY. 1956.

TRIUMPHSPARKING PLUG RECOMMENDATIONS

<u>MODEL</u>	<u>CHAMPION</u>	<u>LODGE</u>	<u>K.L.G.</u>
T.15	L.10.S	H.14	F.80
T.20	L.10.S	H.14	F.80
5.T	L.10.S	H.14	F.80
6.T	L.10.S	H.14	F.80
T.100 (Cast Iron Engine)	L.10.S	H.14	F.80
T.110 (Cast Iron Head)	L.10.S	H.14	F.80
T.110 (Cast Iron Head, less Air Filter)	L.11 S	H.14	F.100
TR.5 Trials	NA.8	H.L.N.	FE.80
TR.5 Scrambler	NA.10	H.L.N.	FE.100(3 point)
T.100 (Alloy Engine)	NA.10.	H.L.N.	FE.100(3 point)
T.110 (Alloy Head)	NA.10	H.L.N.	FE.100(3 point)
T.110 (Alloy Head, less Air Filter)	NA.12	H.L.N.	FE.100(3 point)
TR.6	NA.10	H.L.N.	FE.100(3 point)
TR.6 (Less Air Filter)	NA.12	H.L.N.	FE.100(3 point)

JANUARY, 1956

HF

TRIUMPH
SERVICE BULLETIN

NO. 147.

PISTONS FOR TIGER 110 WITH
ALUMINIUM CYLINDER HEAD

Due to a difference in the shape of the combustion chamber, the 1956 Tiger 110 with the Aluminium Cylinder Head requires different pistons.

The new pistons are quite suitable for the old condition, but the old pistons **MUST NOT** be used with the aluminium head.

Part numbers of pistons for use with the aluminium head as follows:-

- CP.158 Piston, complete 6.3:1 Compression ratio.
- CP.159 Piston, complete 7.5:1 Compression ratio replaces CP.147
- CP.157 Piston, complete 8.5:1 Compression ratio (Standard equipment) replaces CP.136.
- CP.160 Piston, complete 12:1 Compression ratio (ALCOHOL FUEL ONLY)

SPECIAL NOTE:

CP.98 Piston, complete 7:1 Compression Ratio remains in production for Thunderbird, model 6T, but **MUST NOT** be fitted to the 1956 Tiger 110 with the aluminium Cylinder Head.

FEBRUARY, 1956.

TRIUMPH

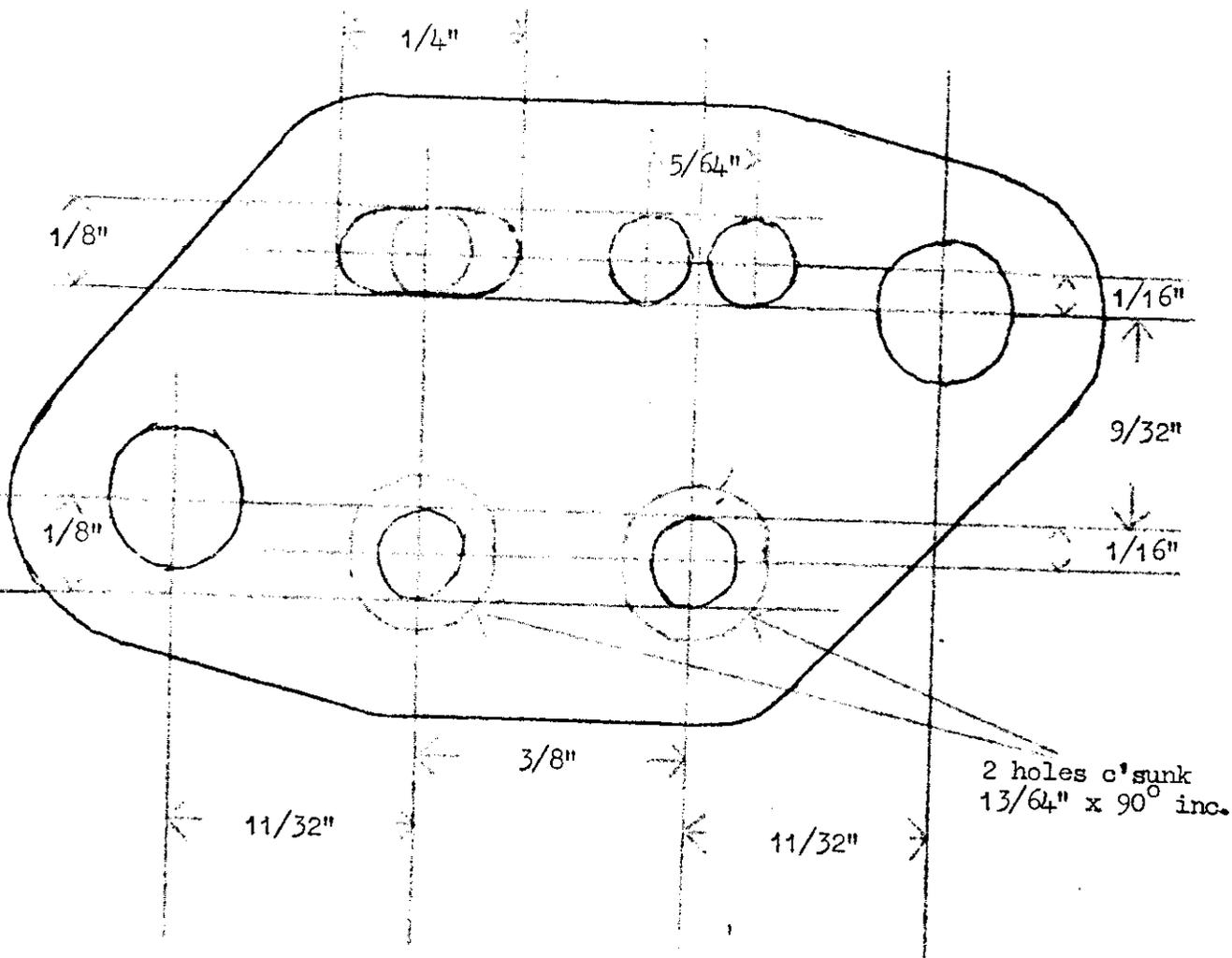
SERVICE BULLETIN

No. 148.

MODIFICATION TO TERRIER AND TIGER CUB OIL PUMP.

The 1/8 in. diameter inlet hole to the oil feed plunger, of the Terrier and Cub oil pump, has been enlarged to a slot 1/8 in. deep x 1/4 in. long.

It is very desirable that this modification is made, whenever an earlier machine is being overhauled, by drilling a 1/8 in. diameter hole on each side of the existing hole. A drawing of the oil pump face is shown below to assist the construction of a simple drill jig or guide plate. (The fixing holes are .1935 in. diameter No. 10 drill).



FEBRUARY 1956.

TRIUMPH

SERVICE BULLETIN

No. 149

CYLINDER BORES.

In recent years a considerable amount of research has been carried out in cylinder bore finish. It has been proved that the so called "mirror finish" has many disadvantages and, in fact, a very high finish on the bore is detrimental.

If a cylinder bore has a very smooth unbroken surface, the engine must be run for a very considerable mileage before the piston rings bed-down and conform to the shape and surface of the bore, effectively controlling blow-by and the passage of oil to the combustion chamber.

We have now discontinued the very smooth finish previously employed for Triumph cylinder bores, and are machining to a condition that may appear relatively rough to the uninitiated. This new finish is very carefully controlled and provides the best possible lubrication for the pistons, and a fully bedded-in piston ring condition at the conclusion of the 1,000 miles running in period. The bore will then be in prime condition and the rate of wear on all parts will be at a minimum.

FEBRUARY 1956.

TRIUMPH MOTORCYCLES

No. 150.

SIDECAR MACHINE JACKING KIT.

When a machine with swinging fork rear suspension is fitted with a sidecar, the lower rear fixing bracket often inteferes withe the use of the centre stand, and in fact with some designs of fixing bracket, it is necessary to remove the centre stand.

To provide a means of raising the rear of the machine for removal of the rear wheel (and of raising the sidecar for removal of the sidecar wheel if a suitable bracket is fitted to the sidecar chassis), a light jack is now available from the Triumph Spare Parts Department under carton pack No. 153 at a price of £1.7.6d

The contents are as follows:-

- 1. F. 4028 Bracket.
- 1. F. 2605 Bolt
- 1. F. 4029. Jack.

The bracket is fixed at the right hand pillion footrest bracket lug (the bolt part No. F.2605 replacing the existing bolt).

When it is required to remove the rear wheel, insert the square projecting arm of the jack through both sides of the bracket and turn the hexagon at the top of the jack, clockwise with a spanner.

February - 1956.

TRIUMPH
SERVICE BULLETIN

NO. 153.

Commencing engine number 70930, the cylinder block-to-head spigot on the above models has been reduced in height, from 3/16 in. to 1/8 in. The corresponding counterbore in the cylinder head has also been reduced. The new cylinder block may be used to replace the earlier pattern but the new head cannot be used with the earlier pattern block.

The part numbers are as follows:-

Early Pattern.	E. 2958.	Cylinder block.
	E. 3005	Cylinder head c/w valve guides.
Current Pattern	E. 3591	Cylinder block.
	E. 3593	Cylinder head c/w valve guides.

The part numbers given above were included in the advance Replacement Parts List issued November 1955, but are re-issued here to bring them to the attention of all distributors and dealers.

APRIL 1956.

TRIUMPH
SERVICE BULLETIN

NO. 15.

FRAME LUBRICATION POINTS

The grease nipple, which was formerly fitted at the steering head, has been deleted from Triumph twin cylinder motorcycles. The head bearings should be dismantled and replaced with grease every 10,000 miles (15,000 kiloms).

The form of the grease nipple at the swinging fork pivot lug has been altered to permit the use of a more powerful car-type gun, as there is insufficient pressure from a small motorcycle type grease gun. Most garages have high-pressure lubrication systems and will lubricate this point for a nominal charge. It is essential to lubricate the fork pivot every 1,500 miles (2,500 kiloms), until grease is forced from each end of the pivot bearing.

As a result of the above changes, the motorcycle grease gun part number NA.12 is not now required and has been deleted from the toolkit supplied with the machine.

APRIL 1956.

T R I U M P H
SERVICE BULLETIN

NO. 154 A.

PISTONS

Pistons are available giving the following alternative compression ratios for Triumph 500 cc. and 650 cc. twin-cylinder motorcycles. No alternative compression ratio pistons are available for the Terrier and Tiger Cub models.

The carton pack numbers below refer to 1 piston complete with piston rings, gudgeon pin and circlips.

500 cc. MODELS

<u>Compression Ratio.</u>	<u>Part No.</u>	<u>Oversizes available.</u>	
5 : 1	CP.109	.020 in.	TR5 Trials.
6 : 1	CP.37	.010, .020 in.	TR5 Trials.
7 : 1	CP.29	.010, .020, .030, .040 in.	5T Standard.
7.6 : 1	CP.131	.010, .020 in.	T100 Cast Iron engine.
8 : 1	CP.135	.010, .020 in.	T100 and TR5.
8.5 : 1	CP.135	.010, .020 in.	Road Racing.
9 : 1	CP.161	.020 in.	American M.A. Limit.
9.5 : 1	CP.134	None	Road Racing.
12 : 1	CP.132	None	Alcohol fuel only.

The aluminium alloy cylinder block fitted to T100 and TR5 machines cannot be rebored more than .020 in. oversize.

cc
650/MODELS

6.3 : 1	CP.158	None	6T Low octane fuel.
7 : 1	CP.98	.010, .020 in.	6T standard. Must NOT be fitted to alloy head T110 or TR.6.
7.5 : 1	CP.159	.010, .020 in.	T110 for low octane fuel.
8.5 : 1	CP.157	.010, .020 in.	T110 Standard.
12 : 1	CP.160	None	Alcohol fuel only

The 650 c.c. cylinder block cannot be rebored more than 0.020 in. oversize.

APRIL, 1956.

TRIUMPH
SERVICE BULLETIN

NO. 155

BIG-END BEARING SHELLS

The big-end bearing shells part number E.3586 fitted to twin cylinder machines, are very liable to damage in transit or in storage and are now being packed in pairs in cardboard boxes. They should not be removed from the boxes until they are required for fitting in the machine.

It is essential when fitting replacement bearings to keep the connecting rod and end cap scrupulously clean. The smallest particle of dirt underneath the bearing could cause it to bind on the journal. The correct torque loading of the big end nuts is 250 lbs/ins, (equivalent to an extension of .044 - .005 ins.) (.10 - .125 m.m. on each bolt,) and must not be varied. The bearings are available also in .010 and .020 in. undersizes.

APRIL. 1956.

TRIUMPH

SERVICE BULLETIN

NO. 156

CLUTCH MAINTENANCE AND ADJUSTMENT

The Neo-Langite bonded clutch plates fitted to all current Triumph motorcycles are not affected by oil or paraffin. If it is necessary to clean the Neo-Langite plates; they should be washed in paraffin and dried off with rag.

THEY MUST NOT BE LIQUID OR VAPOUR DECREASED IN SOLVENTS, SUCH AS TRICHLOROETHYLENE, CARBON TETRACHLORIDE, BENZENE OR PETROL CONTAINING BENZOLE, WHICH ATTACK THE BOND BETWEEN THE NEO-LANGITE AND THE PLATES.

When assembling the clutch, dip each plate in thin oil (S.A.E.20 grade) before fitting it to the machine. Screw on the clutch spring nuts until they are flush with the end of the pins, operate the clutch handlebar lever and spin the pressure plate by operating the kickstarter. Look at the pressure plate from above and check that it spins truly; if it "wobbles", tighten down the spring nut nearest to the high point and check again.

To adjust the clutch operating mechanism on the Terrier and Tiger Cub machines, disconnect the clutch operating cable at the handlebar lever. Screw in the adjuster in the centre of the pressure plate until the operating lever on the right side of the machine is felt to touch the inside of the cover; now turn the adjuster back one complete turn and secure with the locknut. Refit the cable at the handlebar lever and adjust at the handle-bar abutment to give $1/8$ in. (3 m.m.) free movement in the cable.

To adjust the clutch operating mechanism on the twin cylinder machines, remove the gearbox filler cap and adjust the peg in the operating arm, so that the top of the outside lever leans out about $1/4$ in. (6 m.m.) from the vertical. Tighten the locknut and then adjust the cable at the abutment above the gearbox to give $1/8$ in. (3 m.m.) free movement.

N.B. Do not allow the spanner jaw to lever up the adjuster, as if it does so, it may fracture the adjuster lug on the gearbox.

APRIL, 1956.

**TRIUMPH
SERVICE BULLETIN**

No. 163

GEARBOX LUBRICATION

The recommended lubricant for the gearboxes of all Triumph Twin-cylinder machines is now S.A.E. 90 grade oil, which helps to give a cleaner gearchange and facilitates the engagement of bottom gear from neutral.

The following brands have been tested and approved: Castrol Grand Prix, Shell X-100 90, Mobiloil B, Essochrome 90 and B.P. Essochrome S.A.E. 90. Multi-grade oil must NOT be used in the gearbox.

The correct quantity is 1/2 pint (280 cc), for all gearboxes up to Serial Number 81715 and 1 pint (560 cc) for all gearboxes after this number.

DECEMBER, 1956.

T R I U M P H
SERVICE BULLETIN

No. 166

TIGER CUB OIL BAKED TELESCOPIC FORKS

The telescopic forks fitted to current Tiger Cub models from engine number 26276 are similar in external appearance to previous models, but the movement is now lubricated and damped by 1/8 pint (75 cc.) of S.A.E. 30 grade oil in each leg, instead of grease.

The fork stanchions N.1095 are .010 in. smaller in diameter than previous stanchions N.843, due to the finely ground finish now used for the oil seal. To accommodate these stanchions the middle lug N.1093 is .010 in. smaller in the stanchion holes than the corresponding lug N.825. The stanchions and middle lugs are not interchangeable. The top lug N.837 is unaltered, as the variation in diameter is accommodated by the taper in the stanchion holes.

NOVEMBER, 1956.

T R I U M P H

SERVICE BULLETIN

No. 167

ALTERNATIVE SPROCKETS AND SPROCKET RATIOS FOR TERRIER AND
TIGER CUB MODELS

<u>PRIMARY DRIVE</u>	<u>Part No.</u>
19 teeth $\frac{3}{8}$ in. pitch. Engine sprocket	E.3201
48 teeth $\frac{3}{8}$ in. pitch. Clutch sprocket (Cork type).	T.1123
or 48 teeth $\frac{3}{8}$ in. pitch. Clutch sprocket and housing.	T.1310
used with $\frac{3}{8}$ in. x $\frac{7}{32}$ in. x 62 links chain	D.276

The above are interchangeable only as an assembly with the following:-

18 teeth $\frac{1}{2}$ in. pitch. Engine sprocket.	E.3581
36 teeth $\frac{1}{2}$ in. pitch. Clutch sprocket and housing.	T.1343
used with $\frac{1}{2}$ in. x $\frac{3}{16}$ in. x 48 links chain	D.338

FINAL DRIVE

Gearbox sprockets. (all for $\frac{1}{2}$ in. x $\frac{3}{16}$ in. chain).

16 teeth.	T.1369
17 teeth.	T.1081
18 teeth	T.1204

Rear wheel sprockets. (all for $\frac{1}{2}$ in. x $\frac{3}{16}$ in. chain)

48 teeth.	W.984
50 teeth.	W.1074
52 teeth.	W.1075
54 teeth.	W.1076
58 teeth.	W.1078

OVERALL SPROCKET RATIOS USED WITH VARIOUS TYRE SIZES

3.25 x 16.	892 revs per mile.	Normal Cub top gear.	6.3
3.00 x 19.	821 revs per mile.	Equivalent top gear.	6.9
3.50 x 18.	807 revs per mile.	Equivalent top gear.	7.0

OVERALL SPROCKET RATIOS

Kim The CD Man © 2002

<u>(1) 19 : 48 (3/8 in. pitch) Primary drive and 18 tooth gearbox sprocket.</u>					
Rear wheel sprocket.	Top.	3rd.	2nd.	Bottom.	Originally fitted to:
48	6.7	8.8	13.8	20.1	Cub with 3.00 x 19 tyre.
50	7.0	9.2	14.3	20.9	
52	7.3	9.60	14.8	21.8	
54	7.6	10.0	15.4	22.7	
58	8.1	10.7	16.5	24.3	
<u>(2) 19 : 48 (3/8 in. pitch) Primary drive and 17 tooth gearbox sprocket.</u>					
48	7.1	9.4	14.8	21.4	Ferrier with 2.75 x 19 tyre
50	7.4	9.8	15.4	22.3	
52	7.7	10.2	16.0	23.2	
54	8.0	10.6	16.6	24.1	
58	8.6	11.4	17.9	25.9	
<u>(3) 19 : 48 (3/8 in. pitch) Primary drive and 16 tooth gearbox sprocket.</u>					
48	7.6	10.0	15.6	22.7	
50	7.9	10.4	16.3	23.6	
52	8.2	10.8	16.9	24.6	
54	8.5	11.2	17.6	25.5	
58	9.2	12.1	18.9	27.4	
<u>(4) 18 : 36 (1/2 in. pitch) Primary drive and 17 tooth gearbox sprocket.</u>					
48	5.6	7.4	11.6	16.9	
50	5.9	7.7	12.2	17.7	
52	6.1	8.0	12.6	18.3	
54	6.3	8.3	13.1	19.0	Cub with 3.25 x 16 tyre
58	6.8	9.0	14.1	20.4	
<u>(5) 18 : 36 (1/2 in. pitch) Primary drive and 16 tooth gearbox sprocket.</u>					
48	5.9	7.7	12.2	17.7	
50	6.2	8.2	12.8	18.6	
52	6.4	8.5	13.3	19.4	
54	6.7	8.8	13.8	20.1	Cub with 3.50 x 18 tyre
58	7.2	9.5	14.8	21.6	

T R I U M P H

SERVICE BULLETIN

NO. 166

GIRLING SUSPENSION UNITSGUARANTEE CLAIMS.

Though we do not normally deal with guarantee claims on ancillary equipment, we are arranging to do so from 1st. January, 1957 with Girling units.

If any units are claimed to be defective within the six month guarantee period, a report should be sent to us giving the following information:

1. Model and year
2. Engine number in full
3. Date machine sold
4. Mileage
5. Solo or sidecar
6. Nature of complaint.

The necessary unit or units will then be forwarded and, on receipt of the originals, the matter of guarantee replacement will be taken up with Messrs. Girling Ltd.

DECEMBER, 1956.

COPY

TRIUMPH
SERVICE BULLETIN

No. 169

GIRLING SUSPENSION UNITS

SIDECAR CONVERSION

It will be seen from the 'Replacement Parts Advance Information' booklet recently forwarded that the type of unit has been changed for 1957. The new dampers are an improvement on the previous type and have a much longer life.

In order to convert a damper for sidecar purposes, the solo spring (100 lbs.) should be removed and a sidecar spring (150 lbs.) fitted. No other modification is necessary. Please note that we are unable to change solo springs for sidecar type after the machine has left the dealer's showroom.

Solo spring (100 lbs.) Part No. 9054/280

Sidecar spring (150 lbs.) Part No. SA193/57

DECEMBER 1956.

TRIUMPH

SERVICE BULLETIN

No. 170

TWIN CARBURETTOR SPLAYED PORT CYLINDER HEAD

The following parts are necessary to convert any T100 motor cycle from Engine number 70930 to the twin carburettor splayed port cylinder head condition. The assembly may be fitted to any earlier T100 with the aluminium cylinder block if the barrel to head spigots are reduced in height from 3/16 in. to 1/8 in.

To obtain the best results 1.5/16 in. diameter exhaust pipes are necessary, and the pipes as supplied may be used as follows:-

- (1) With normal production silencers, if the spoon baffle at the forward end of the silencer is knocked aside to admit the pipe extension.
- (2) With special straight through silencers (U.S. Export only) part number E.3816 and E.3817, when cut off behind the silencer adaptor sleeve.
- (3) With megaphones part number E.3782 and E.3783 when cut to 31.1/2 in. length measured along the outside of the band.

Part No.	Description	No. Off	Price Each					
			£.	s.	d.	£.	s.	d.
CP.161	Piston, 9:1 compression ratio (already standard T.100 U.S.A.)	2	2.	0.	3.	4.	0.	6.
E.3134	Camshaft	2	1.	13.	0.	3.	6.	0.
E.3059R	Tappet, racing	4		7.	8.	1.	10.	8.
E.3663	Cylinder head c/w guides	1	13.	13.	0.	13.	13.	0.
E.3844	Adaptor, carburettor	2		7.	3.		14.	6.
E.3847	Locknut, adaptor	2		3.	6.		7.	0.
E.3827	Valve guide, inlet (for reference)	2		6.	9.			
E.3828	Valve guide, exhaust (for reference)	2		6.	9.			
E.3766	Valve, inlet	2		12.	3.	1.	4.	6.
3001	Valve spring, inner	4		2.	2.		8.	8.
E.3002	Valve spring, outer	4		3.	0.		12.	0.
E.3550	Rocker box, inlet	1	1.	2.	6.	1.	2.	6.
E.3551	Rocker box, exhaust	1	1.	2.	6.	1.	2.	6.
E.3552	Gasket, rocker box	2			4.			8.
3253	'O' ring, rocker spindle	2			1.			2.
E.2980	Stud, rocker box to head	6			4.		2.	0.
1302	Washer, stud	6			1.			6.
F.879	Nut, stud	6			2.		1.	0.
E.1596	Bolt, cylinder head	2		3.	4.		6.	8.
E.1484	Bolt, cylinder head	2		3.	4.		6.	8.
E.327	Bolt, cylinder head	4		1.	11.		7.	8.
E.3646	Cover Tube, push rod	2		7.	2.		14.	4.
E.3547	Washer, silicone	2			8.		1.	4.
E.1496	Washer, rubber	2			2.			4.
F.2603	Bolt, carburettor	4			6.		2.	0.
S25-3	Washer, plain	4			3.		1.	0.
S26-3	Washer, spring	4			1.			4.
81-51	Nut, carburettor	4			3.		1.	0.
376/77	Carburettor, 1 in. bore (complete with 244/765 'O' ring)	2	4.	10.	0.	9.	0.	0.

continued....

Part No.	Description	No. Off	Price Each			£. s. d.		
			£.	s.	d.	£.	s.	d.
F.2593	Adaptor and gauze	2	2.	2.		4.	4.	
F.1511	Washer, fibre	5		1.			5.	
F4286	Pipe, tank to T - piece	2	2.	0.		4.	0.	
F.4285	T - piece	1	7.	6.		7.	6.	
F.4303	Tap, petrol	1	11.	0.		11.	0.	
F.4291	Pipe, tap to carburetter	1	19.	9.		19.	9.	
E.3778	Exhaust pipe L.H.	1	2.	7.	6.	2.	7.	6.
E.3780	Exhaust pipe R.H.	1	2.	7.	6.	2.	7.	6.
						<hr/>		
						46. 9. 6.		
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The following parts are necessary to complete the assembly, but can be removed from the original engine if desired.

E.1956	Valve, exhaust	2	15.	5.		1.	10.	10.
E.1544	Collar, valve bottom	4		7.			2.	4.
E.1543	Collar, valve top	4		10.			3.	4.
WE259A	Cotter, split	8		6.			4.	0.
E.2961	Adaptor, exhaust port	2	3.	0.			6.	0.
E.1512	Spindle, rocker	2	5.	6.			11.	0.
E.1457	Lever, rocker R.H.	2	9.	6.			19.	0.
E.1458	Lever, rocker L.H.	2	9.	6.			19.	0.
E.1483	Ball pin	4		9.			3.	0.
E.1513	Adjuster pin	4	2.	2.			8.	8.
E.470	Locknut adjuster	4		3.			1.	0.
E.1574	Washer, Thackeray	4		2.				8.
E.1575	Washer, thrust 1/2 in.	6		1.				6.
E.1330	Washer, thrust 3/8 in.	2		1.				2.
E.1564	Cap, inspection	4	1.	11.			7.	8.
E.1577	Washer, Joint	4		2.				8.
E.1545	Bolt, rocker box	4	10.				3.	4.
825-13	Washer, plain	4		1.				4.
F.2184	Washer, head bolts	8		1.				8.
						<hr/>		
						6. 2. 2.		
						Brought forward..... 46. 9. 6.		
						<hr/>		
						52. 11. 8.		
						<hr/>		

Straight through silencers E.3816 and E.3817 (U.S. Export only) 2. 3. 6. each.

Megaphones E.3782 and E.3783 1. 13. 0. each.



SERVICE BULLETIN

NO. 173

DIFFERENCES IN TECHNICAL DATA FOR T100 WITH SPLAYED PORT CYLINDER HEAD

Valve Clearance (Cold)	Inlet	0.002in. (0.05 m.m.)
	Exhaust	0.004in. (0.10 m.m.)

Compression Ratio: 9 : 1

Valve Timing with 0.020in (0.5 m.m.) clearance for checking purposes

Inlet valve opens	B.T.C.	34°
Inlet valve closes	A.B.C.	55°
Exhaust valve opens	B.B.C.	55°
Exhaust valve closes	A.T.C.	34°

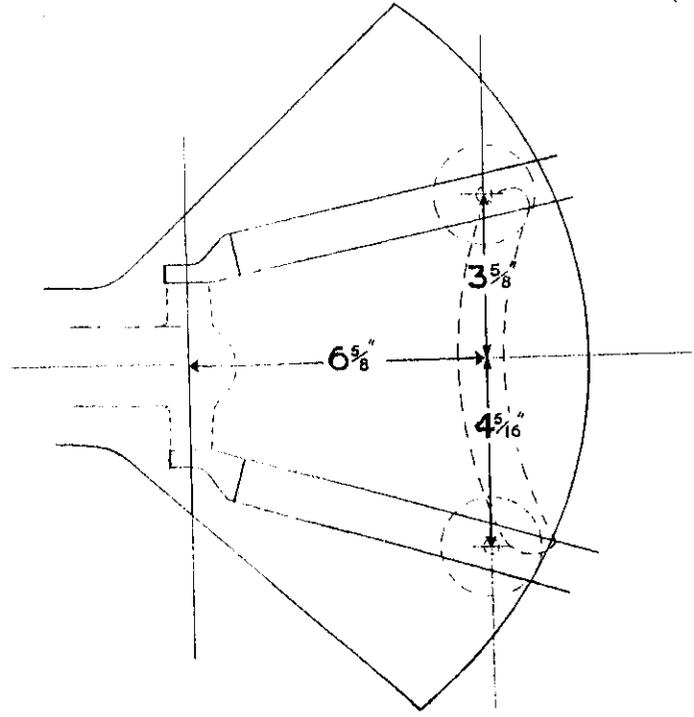
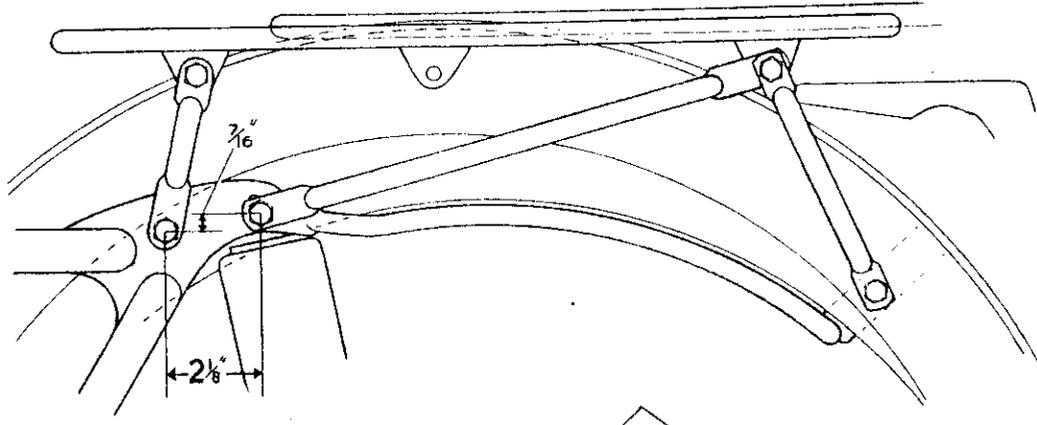
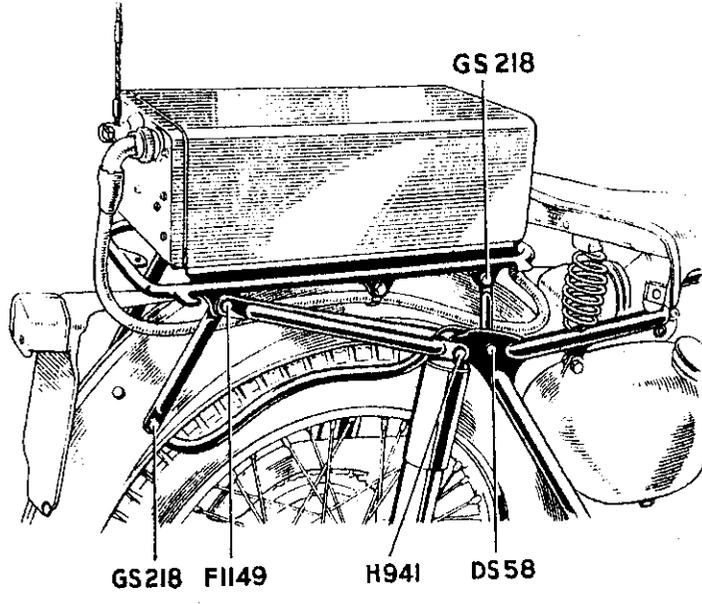
Sparking Plugs (for racing) Champion N.A. 14, K.L.G. FE220 or Lodge RL47

Ignition Timing	41°	B.T.C.
	15/32in.	(12 m.m.) B.T.C.

Carburettors (2)	Type	Anal Monobloc 376
	Choke size	1in.
	Main Jet	20C
	Slide	376/3 $\frac{1}{2}$
	Needle position	3rd groove
	Pilot Jet	25
	Needle Jet	.106

July 1957

TRIUMPH MOTORCYCLES



TRIUMPH

SERVICE BULLETIN

No: 175.

FITTING OF HOME OFFICE (B.C.C.) RADIO TO TRIUMPH MOTOR CYCLES

FITTINGS.

The fittings that have previously been provided with the set were satisfactory on spring wheel and rigid models equipped with a saddle. Experience has shown that special fittings, obtainable from the Triumph Spares Department, are essential when the set is installed on a swinging arm model. These include the stays to enable the radio to be firmly mounted and the saddle to take the place of the Twin Seat. This arrangement brings the set $4\frac{1}{2}$ ins. further forward than was the case with the half twin seat. It is necessary to drill three holes in each side of the machine to accommodate the saddle spring bolts and the fixing stays. The saddle nose bolt must be tight and it should be checked at frequent intervals. The rubber mounting between the tray and the case should be changed if in poor condition otherwise the set will sway when the machine is being ridden.

All Police Radio machines supplied already fitted with a saddle have the holes for the stay bolts already drilled.

DAMPERS.

The GIRTING DAMPERS should be fitted with 130 lb. springs PART NO. 9054/63 and the dampers adjusted in the lowest position. It is not a good plan to retain the standard springs and adjust the damper to the top position.

FRONT FORKS.

FORK SPRINGS PART NO. H505 stronger than standard should be employed and SAE 40 oil in place of SAE 30 put in the forks.

TYRE PRESSURES.

Tyre pressures depend to a certain extent on the weight of the rider but with a 13 stone rider, pressures of 24 lbs. rear and 22 lbs. front should be used for a basis for experiment. The tyres must be in good condition and if the rear tyre tread has worn flat it should be changed.

SWINGING ARM.

The bushes have a long life if they are well lubricated. It is desirable to use a garage high pressure greasing plant to make certain that the grease penetrates to all parts of the bush. In common with all bearings that do not rotate, the grease is not carried round and must be distributed by pressure.

EXTRA FITTINGS.

There are some types of fittings such as certain windscreen and pannier sets which have been found adversely to affect the handling of the machines at speed. It is suggested that this point is carefully considered before attaching any accessories not fitted as standard.

GENERAL.

Before fitting the radio set the motor cycle should be checked over to make certain that all adjustments are correct. Particular attention should be paid to the wheel alignment and the steering head adjustment.

TRIUMPH MOTORCYCLES

SEPTEMBER, 1957.

FITTING INSTRUCTIONS.

B.C.C. RADIO EQUIPMENT TO TRIUMPH MOTOR CYCLES (SWINGING ARM)
(Machines supplied before saddle type equipment standardised)

Triumph motor cycles may have been supplied with full length or shortened Twinseats and in order to fit the latest radio carrier, it is necessary to remove these and fit an ordinary sprung saddle.

The conversion kit consists of the following items:-

1	F3710	Saddle.
2	F2596	Bolt, saddle to frame (1.7/8 in. U.H.)
2	S25-3	Washer plain.
2	W1058	Nut, 'Nyloc'
2	F4375	Stay, front (3½ in. between centres)
4	F4376	Stay, centre (11¾ in. between centres)
2	F4377	Stay, rear (5¾ in. between centres)
2	H941	Bolt, top suspension unit (2¼ in. U.H.)
2	S26-1	Washer, spring
2	P0172A	Nut
2	DS58	Bolt, front stay to frame (27/32 in. U.H.)
2	S26-3	Washer, spring
2	S1-51	Nut
2	F1149	Bolt, centre stay to carrier (15/16 in. U.H.)
4	GS218	Bolt, stay to carrier and mudguard (9/16 in. U.H.)
6	E1612	Washer, shakeproof.
6	F879	Nut.

1. Remove the twinseat and drill two 21/64 in. diam. holes in the top frame tubes as detailed in the diagram, and fit the saddle.
2. Drill two 5/16 in. diam. holes in the top rear suspension unit brackets as detailed in the diagram.
3. Replace the top suspension unit bolts with the longer bolts, fitting one stay outside and one stay inside each bracket.
4. Fit the short stays at the front position and place the carrier frame in position with the rear stays hanging free.
5. Position the carrier horizontally and tighten the bolts just sufficiently to hold it in this position. Mark where the holes in the rear stays meet the mudguard and drill two ¼ in. diam. holes at these points. Ideally, the holes should pass through the bracket on the lifting handle, but this is not always possible whilst keeping the carrier horizontal.
6. Insert the two remaining nuts and bolts and securely tighten all the nuts and bolts including the saddle fixing bolts.

COPY

T R I U M P H

SERVICE BULLETIN

No. 176

REVISED TERMINAL MARKINGS ON IGNITION COILS.

Copy of Lucas Service Bulletin SB/IG/60, June, 1957

Up to now the LT terminals on Lucas Ignition Coils have been marked SW (switch) and CB (Contact breaker). In future these markings will be replaced by the positive sign + and the negative sign - .

On positive earth circuits, the LT lead from the distributor must be connected to the + (positive) terminal of the coil, and the lead from the ignition switch to the - (negative) terminal.

September 1957.

TRIUMPH MOTORCYCLES.

COPY

TRIUMPH

SERVICE BULLETIN

No. 177

CHAINCASE TO CRANKCASE JOINT WASHER

500cc and 650cc Twins

A joint washer part No. T1477 is available for the joint between the inner primary chaincase and crankcase on all 500 cc and 650 cc twin cylinder machines from 1945.

This washer is now being fitted to current production machines and produces a better seal than the jointing compound formerly used. Should oil leakage be experienced from the chaincase at this point on older machines, we suggest the fitting of the above washer. Attention is also drawn to Service Bulletin 161 dealing with the extended gearbox high gear bush, which may also be fitted to older machines.

September 1957.

TRIUMPH MOTORCYCLES

COPY

TRIUMPH

SERVICE BULLETIN

No. 178

TERRIER AND TIGER CUB CARBURETTOR ADJUSTMENT

If a Terrier or Tiger Cub machine runs rich at tickover and fails to respond to adjustment of the pilot air screw, the following action should be taken.

Remove the pilot jet and check that the conical seating at the top is clean and making a good joint with the carburettor body. Replace the jet and screw it fully home so that no by-passing of the jet can occur. Make the normal adjustment of the air screw when the engine is warm. If this shows no improvement, proceed to the following paragraph.

Remove the standard 20 c.c. pilot jet and replace by a 15 c.c. jet part no. 376/076. Some early machines are fitted with a jet closed by a plug screw, and on these it will be necessary to fit a new washer part no. 116/162 and cover nut part no. 332/026. Adjust the air screw with the engine warm.

September 1957.

TRIUMPH MOTORCYCLES

T R I U M P H

SERVICE BULLETIN

179

TIGER CUB FORK OIL SEALS

The Tiger Cub model from Engine No. 26276 has been fitted with oil damped telescopic forks incorporating rubber oil seals.

Two alterations have been made since their introduction to increase the efficiency of the seals.

To avoid pressure build-up one $\frac{3}{32}$ in. (2.38 m.m.) diam. hole has been drilled in the stanchion $\frac{3}{32}$ in. (2.38 m.m.) clear of the bottom bush. This is incorporated from Engine No. 33340.

To increase the pressure on the seals the housing diameter has been reduced in diam. from Engine No. 34214. To convert earlier machines a .010 in. (0.25 m.m.) thick shim may be placed in the housing before the seal. The shim is available under part no. H1221 or may be cut from shim steel to .145 - .140 ins. (3.68 - 3.56 m.m.) wide and 3.955 - 3.945 ins. (10.045 - 10.021 cms.) long and rolled to shape.

September, 1957.

TRIUMPH MOTORCYCLES.



SERVICE BULLETIN

No: 183

UNCRATING & SETTING UP NEW TRIUMPH MOTORCYCLES.

The attached Service Bulletin has been prepared mainly for new distributors who are not conversant with our machines, but you may find some information in it that will be of assistance to you.

In future a copy of this Bulletin in Spanish will be forwarded with each new machine invoiced where appropriate.

NOVEMBER, 1957.

TRIUMPH MOTORCYCLES

TRIUMPH

SERVICE BULLETIN

No. 183

UNCRATING AND SETTING UP NEW TRIUMPH MOTORCYCLES

Before attempting to set up a new machine prepare a good clear space, where work can be carried out unhampered and parts laid out for cleaning and inspection, and proceed to remove the side panels of the crate identified by the large lettering "Triumph". Remove all panels and nails completely and remove the headlamp, front wheel, mudguard and all loose parts in the crate. On 500 and 650 c.c. machines and lightweight machines withdraw the cross bar which is between the crate centre up-rights by undoing the saddle nose bolts which secure the special clips to the wooden crate cross member, then remove the vertical strut which held this cross bar in position. Similarly with the Model 21 remove the vertical strut and then the cross bar. Cut all the cords securing the loose parts of the machine in the crate and remove any further loose components until the crate is empty apart from the machine itself.

Removal of the machine is then effected by pulling the rear out first, and then lifting the front out next, the machine coming out of the crate backwards. Care must be taken not to damage the paintwork on any of the protruding parts of the crate. Where the machine has been supplied singly and only one side of the crate has been removed, it may be advantageous to roll the now empty crate onto its back and use it for standing the machine on for assembly, so as to bring the job up to a more convenient height to work on.

Set the machine up on its centre stand and support the frame under the engine with wooden blocks. Clean the bottom and top head races in the frame and commence the operating of assembling the forks.

REFITTING THE FRONT FORKS

500 and 650 c.c. machines and Model '21'

Since the introduction of the shouldered adjusting sleeve nut on the top race cone on the steering stem it has become advisable to strip the front fork assembly and re-assemble in stages on the machine, rather than assemble the front fork complete to the frame. Otherwise difficulty will be encountered when supporting the forks in position while the top lug is placed over the stem onto the stanchion tapers, and the shouldered nut run down the stem, until the cones are adjusted.

The recommended method is to slacken both pinch bolts on the fork middle lug and remove the fork stanchion and outer member assembly which automatically allows the nacelle pressing to be freed from the middle lug before attempting

TRIUMPH MOTORCYCLES

to re-assemble on the frame. Repeat this for both stanchion assemblies. Smear the cone on the middle lug and the top frame cup with grease and place the correct number of balls on each (20 $\frac{1}{4}$ in balls for 500 and 650 c.c. machines 24 $\frac{3}{16}$ in balls for Model '21'). The middle lug and stem assembly can then be offered into the frame head lug taking great care that the balls in the race are not disturbed and that the whole assembly mates correctly. Difficulty may be encountered due to one of the balls dropping out of position and not running in the ground track. This will throw the bottom race over and would result in severe damage if the machine went onto the road in this condition. When the bottom race has been assembled correctly, support it fully in position over the stem and run the shouldered sleeve nut lightly down the stem until it is fully home. Adjust this sleeve nut until no play can be felt in the head races, being careful at the same time not to over tighten.

When stripping the front forks after removal from the crate it will be found advisable to remove the two large nuts on the top of the fork lug and the small flanged bolts located in the counter bore at the bottom of the bottom outer members. With-drawing the top nuts will then remove the pressure tube rod and spring assembly as complete units, and this will considerably assist the subsequent assembly of the completed fork.

When the top and middle lug assembly have been adjusted correctly, assemble one of the outer covers to the middle lug and replace one of the stanchion/outer member assemblies tapping it fully home until the taper on the stanchion mates with the taper in the top lug. Repeat for the other outer cover and fork stanchion assembly.

Raising each bottom outer member in turn, insert the pressure tube and spring assembly into the stanchion from the top, and rotate until the slot in the bottom of the pressure tube assembly engages with the spigot on the drain plug in the base of the outer member. Insert the flanged bolt through the counterbore in the base of the outer member engaging the base of the pressure tube and lock up. Repeat for the other stanchion. Before fitting the fork top nuts put into each fork leg 100 c.c. ($\frac{1}{6}$ pint) of oil. Now the large nuts can be tightened home into the top of the stanchions which pull the stanchions into the taper in the top lug. Refit the fork pinch bolts and also the top lug pinch bolt.

With the Model '21' it will be found that when removing the forks from the crate it is unnecessary to remove the flanged bolts in the counterbore in the bottom of the outer members, as on removal of the large nuts in the top lug the springs can be removed separately and the remainder of the oil dampening mechanism remains in the fork stanchion bottom outer member assembly. Consequently on re-assembly after the stanchions and nacelle outer covers have been completely replaced the final operations are simply to insert the springs inside the stanchions and replace the top nuts, inserting the telescopic tubes into the corresponding tubes in the fork itself. Before tightening down these top nuts 150c.c. ($\frac{1}{2}$ pint of oil) should be poured in each leg.

Lightweights

The lightweight forks are not removed from the machine when crated and all that is necessary after fitting the front wheel and guards, but before replacing the nacelle top cover, is to replace the recommended quantity of oil (75c.c. or $\frac{1}{3}$ of a pint) in each leg by either slackening off the top nuts and pouring the oil down past the springs or removing the plugs inside the nacelle on the stanchions and squirting the correct amount in, using a pressure feed oil can, or similar.

ELECTRICAL CONNECTIONS

All Machines.

All Triumph AC equipped machines when stripped for Export have the switch detached from the nacelle top cover leaving the wiring complete and intact and

it is a simple matter of offering the switch back into the 'D' shaped piercing in the nacelle top cover and locking up with the single nut on the stem of the switch. All DC dynamo-equipped machines retain the switch assembly in the nacelle top cover and reconnection is made by joining matching coloured wires in a five way rubber block snap connector provided on the harness.

REFITTING THE NACELLE TOP COVER AND ASSOCIATED EQUIPMENT

Secure the steering damper friction plate to the frame where necessary and attach the speedo cable clip to the same bolt. Loosen off the handlebar 'U' bolts, place the handlebar in position and lightly re-tighten the nuts on the underside of the 'U' bolts. Do not lock up yet but connect up the wire from the horn button to the open terminal on the horn. Replace the lighting/ignition switch where applicable or connect up the snap connectors into the junction block and offer up the speedometer cable to the back of the instrument and tighten up the union nut.

Fit the top panel with the chrome side flashes with small counter sunk headed screws at the front, the large domed screws in the middle and small round headed at the rear. These parts are located in a small envelope with the front number plate. To assist in lining up the holes in the nacelle a small pointed punch or a similar tool may be inserted through the top and bottom nacelle covers and also through the tapped hole in the fork top lug.

Make sure all the cables etc. go through the appropriate aperture provided in the top panel. The right side has the throttle wires and the left has the horn and dipper switch (ignition control T100, T110 and TR5). The clutch cable and front brake cable are fed through grommets in the top panel immediately in front of the handlebar cutaway. If the handlebars have been left fairly loose it may assist in the fitting of the rubber grommets slightly to move the bars to give more clearance. Once these grommets are in position the handlebars can be locked up in their final required position.

Insert the steering damper rod together with the thin steel damper washer (also found in the small envelope together with all the other screws used on the nacelle), between the damper knob and the adjusting sleeve nut. Screw the damper down a little way so as to prevent the forks moving while further work is done on the fitting of the mudguard and wheel, but complete the wiring and the assembly of the nacelle before fitting the front wheel and mudguard.

Fit the retaining ring of the lamp onto the front of the nacelle with the large chrome screw at the top, and using the two small round headed screws with the flat plate nuts at the bottom. Next connect the two blue wires from the dipper switch to the head light bulb connector and the earthing wire to the earth or ground terminal provided on the rear of the bulb holder. Assemble the lamp unit to the ring and secure the top screw.

REFITTING FRONT WHEEL AND GUARD ETC.

Fit the front number plate to the mudguard. Remove the bolts from the fork leg and place the mudguard in position and bolt up. Assemble the front stand and tighten up.

Position the front wheel in the forks and lightly tighten up the spindle clamp. Connect up the front brake cable assembly and bounce the machine on its front wheel, making sure that the fork is free in action. Lock up the bottom clamps. If the mudguard is not central, slacken the bolt and centralise the guard before tightening them.

Finally fit footrests, gear change pedal and kickstart crank where these have been removed. The taper pin used on the kickstart crank should be driven home, threaded end forward, with sharp blows with a hammer and the washer and nut locked up. Next fit the propstand, exhaust pipes and silencers and adjust the rear brake pedal and fit the stop tail light. Connect up the wires at the snap connectors, matching the colours.

Fit the seat or saddle in position.

There are a few items to check over before the machine is ready to run. Check sparking plugs and petrol pipes for tightness. It may be advisable to remove the contact breaker assembly from the magneto, and carefully clean the contact points with petrol and clean cloth.

Fill the dry charged battery according to the instructions issued with every batter. These instructions must be followed closely otherwise battery functioning and life will be seriously impaired. **NOTE - POSITIVE EARTH.**

Tyre pressures and tappet clearance should be checked according to the specifications in the instruction manual.

Replenish the chaincase, gearbox and engine with the recommended oils as specified in the instruction manual and the machine is now ready to start.

NOVEMBER 1957

PREPARING A NEW MACHINE FOR DELIVERY

1. Charge battery and fit (Positive earth).
Note that the plastic overflow device in the battery cells has been discontinued. Follow carefully the instruction on the label.
2. Put oil in oil tank to correct level.
3. Put oil in chain case to correct level.
4. Put oil in gearbox to correct level.
5. By testing fork action, check that oil has been put in fork legs during assembly.
6. Check tappet clearance.
7. Remove magneto end cover on magneto models and check for condensation and free movement of the cam ring.
8. Inflate tyres to correct pressure.
9. Take off float chamber or float chamber cover and remove any moisture or foreign matter. Lubricate S.U. carburettor piston.
10. Check security of all nuts, bolts & screws.
11. Test lights in all switch positions and stop light. Test horn.
12. Start engine, check oil pressure and oil return to oil tank.
13. With engine idling, partially obstruct the hole in the oil return pipe in the oil tank with the finger in order to feed a liberal supply of oil to the rocker gear.
14. Road test the machine, paying particular attention to the clutch operation, gear changing, brakes and the charging rate in all switch positions.
15. Check tools and instructional literature.

NOTE When a machine has been in transit for a considerable time and has passed through the tropics, it may be advisable to lubricate the operating cables.

FEBRUARY, 1958.

TRIUMPH
SERVICE TELESTIN

No. 189.

MULTI GRADE OILS

The following multi-grade oils have been fully tested and are approved for use in the engine, primary chaincase and front forks of Triumph Motorcycles in mechanically good condition. The oil consumption may increase in a worn engine due to the lower viscosity.

B.P. ENERCOOL VISCO-STATIC MOBIL-OIL SPECIAL
SHELL X 100. 10W/30. and 20W/40.

When changing to multi-grade oil, completely drain the system after 250 miles (400 kms). Thereafter change the oil at the normal recommended intervals.

This approval does NOT apply to use in the gearbox and the gearbox MUST be lubricated with S.A.E. 50. oil, which is now recommended in the instruction manual.

FEBRUARY. 1958.

TRIUMPH MOTORCYCLES

COPY

TRIUMPH
SERVICE BULLETIN

No. 190.

**Clutch Lever Nipple.
Twins fitted with Slickshift Gearchange**

The slotted barrel nipple in the handlebar clutch lever must be fitted with the slot towards the front of the machine.

The reason for this is as follows:-

When the gearchange pedal is operated the inner cable is pushed towards the handlebar lever and if the slot faces to the rear the nipple may become disengaged and fall out.

FEBRUARY, 1958.

TRIUMPH MOTORCYCLES

COPY

TRIUMPH
SERVICE BULLETIN

No. 193.

1958 FRONT MUDGUARDS. 5T, 6T, T100
T110.

A fault has been found in some of the front mudguards fitted recently to the above models. The lower end of the guard has been slightly cracked during manufacture where it is turned over. This crack may develop in service until the guard splits alongside the centre beading.

Will you please examine any 1958 machines, of the models affected, despatched to you prior to the date of this Bulletin. The front stand should be released and the two edges of the guard at the bottom pressed inwards. If there is a crack in the turned over portion of the bottom edge, it will then be easily detected.

The remedy is to put a spot of weld on the crack and to touch up, which can be done with a brush. If the welding is carried out carefully only a very small area of the finish is affected.

Immediately the trouble was located, our stocks were examined and mudguards affected returned to the suppliers. We have tested some mudguards we have reworked in the method described over a considerable mileage on rough going and they have proved to be extremely satisfactory.

29th APRIL, 1958.

TRIUMPH MOTORCYCLES.

COPY

TRIUMPH
SERVICE BULLETIN

No. 193.

1958 FRONT MUDGUARDS. 5T. 6T. T100
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29th APRIL, 1958.

TRIUMPH MOTORCYCLES.

TRIUMPH

SERVICE BULLETIN

NO. 124.

SERVICE TOOLS.

Enclosed is a list of the service tools we supply for workshop use and a list of the minimum essential tools which every dealer should have available. Without these tools it is not possible efficiently and economically to repair Triumph machines.

Will you please make certain that your workshop has these tools and let the Spares Department have your order for any that are short.

JULY, 1958.

TRIUMPH MOTORCYCLES

TRIUMPH ENGINEERING COMPANY LIMITED.SERVICE TOOLS.MINIMUM NECESSARY TO SERVICE TRIUMPH MACHINES.

Part No.	Description.	Purpose.	Price.
Z.13	Locking plate	For clutch assembly (Twins)	12 - 6
Z.19	Threaded plug	For extracting fork stanchions (Twins)	18 - 6
Z.21	Collar	For piston rings (500 Twins)	7 - 6
Z.22	Collar	For piston rings (650 Twins)	7 - 6
Z.23	Punch	For fitting tappet block (Twins)	1 - 17 - 6
Z.45	Reamer	For timing cover bush (Twins)	1 - 17 - 6
Z.51	Valve seat cutter	For Lightweights & 350 Twins	2 - 7 - 6
Z.52	Valve seat cutter	For 500 Twins	2 - 7 - 6
Z.53	Valve seat cutter	For 650 Twins	2 - 7 - 6
Z.54	Arbor, pilot	For cutters Z.51, Z52, & Z53.	1 - 7 - 6
Z.85	Alignment jig	For front forks (Twins)	3 - 5 - 0
Z.98	Reamer	For R.H. main bearings (Lightweights)	1 - 15 - 0
Z.99	Pilot bar	For Z.98	2 - 15 - 0
Z.103	Alignment jig	For front forks (Lightweights)	4 - 17 - 6
Z.104	Spanner	For telescopic forks (Lightweights)	3 - 6
Z.110	Compressor	For rocker spindle washer (Lightweights)	2 - 6
Z.111	Compressor	For rocker spindle washer (500 & 650) Twins	2 - 9
Z.112	Screwdriver	For Phillips head screws (Stanley 401)	4 - 0
Z.113	Screwdriver	For Phillips head screws (Stanley 402)	5 - 0
Z.114	Screwdriver	For Phillips head screws (Stanley 403)	5 - 6
Z.121	Extractor	For crankshaft pinion (Twins)	1 - 0 - 0
Z.127	Extractor	For fork stanchion (Twentyone)	1 - 2 - 6
Z.129	Extractor	For L.H. inner cover (Lightweights) 2 req. NOT AVAILABLE.	
Z.130	Collar	For piston rings (Twentyone)	7 - 6
			28 - 16 - 9
TOTAL NETT.			
DA.50-1	Extractor	Clutch & magneto pinion (Twins)	3 - 0
D.220	Spanner	For telescopic forks (Twins)	6 - 0
D.398	Extractor	For timing pinion (Lightweights)	3 - 0
D.400	Extractor	For clutch (Lightweights)	3 - 0

CRANKSHAFT BALANCE WEIGHTS (500 & 650 c.c. TWINS.)

Z.78	501 gramms. each.	For 1. 7/16" Connecting rods.
Z.109	540 gramms. each.	For 1. 5/8" Connecting rods.
Z.120	595 gramms. each.	For 1. 5/8" Insert bearing connecting rods.

TRIUMPH ENGINEERING COMPANY LIMITED.
Workshop Tools.

Part No.	Description.	Purpose	Model.
Z. 12	Compensating Bush	For balancing crankshaft assemblies (with Z. 78)	As required.
Z. 13	Locking plate	To facilitate clutch assembly	All Twins.
Z. 14	Punch	To drive out crankshaft main bearings.	500 & 650 Twins
Z. 15	Punch	To drive out gearbox bearings	500 & 650 Twins
Z. 16	Punch	To drive out and replace valve guides	All Models
Z. 17	Assembly tool	For fitting crankshaft distance tube	3P.
Z. 18	Drilling jig	For use when drilling out broken crankcase filter studs or screws	500 & 650 Twins
Z. 19	Plug	Threaded plug for extracting fork stanchions from head lug	All Twins
Z. 20	Collar	Collar for compressing piston rings to facilitate fitting	3P
Z. 21	Collar	Collar for compressing piston rings to facilitate fitting	500 Twins
Z. 22	Collar	Collar for compressing piston rings to facilitate fitting	650 Twins
Z. 23	Punch	For assembling tappet guide block	All Twins
Z. 24	Punch	To fit bottom steering race cone to fork crown stem	500 & 650 Twins
Z. 25	Punch	To fit bottom steering race to fork crown stem	3P
Z. 26	Tap, Whitworth $\frac{1}{4}$ " x 20	For thread cutting and repairs	All
Z. 27	Tap, Whitworth $\frac{5}{16}$ " x 18	For thread cutting and repairs	All
Z. 28	Tap, Whitworth $\frac{3}{8}$ " x 16	For thread cutting and repairs	All
Z. 29	Tap, C.E.I. $\frac{1}{4}$ " x 26.	For thread cutting and repairs	All
Z. 30	Tap. C.E.I. $\frac{5}{16}$ " x 26	For thread cutting and repairs	All
Z. 31	Tap, C.E.I. $\frac{3}{8}$ " x 26	For thread cutting and repairs	All
Z. 32	Tap, C.E.I. $\frac{7}{16}$ " x 26	For thread cutting and repairs	All
Z. 33	Tap, C.E.I. $\frac{1}{2}$ " x 20	For thread cutting and repairs	All
Z. 34	Prong Die C.E.I. $\frac{1}{4}$ " x 26	For thread cutting and repairs	All
Z. 35	Prong Die C.E.I. $\frac{5}{16}$ " x 26	For thread cutting and repairs	All

TRIUMPH ENGINEERING COMPANY LIMITED
Workshop Tools

Part No.	Description.	Purpose.	Model.
Z.36	Prong Die O.E.I. 3/8" x 26.	For thread cutting and repairs	All.
Z.37	Prong Die O.E.I. 7/16" x 26.	For thread cutting and repairs	All.
Z.38	Prong Die O.E.I. 1/2" x 20	For thread cutting and repairs	All.
Z.39	Prong Die Whitworth 1/4" x 20	For thread cutting and repairs	All.
Z.40	Prong Die Whitworth 5/16 x18	For thread cutting and repairs	All.
Z.41	Prong Die Whitworth 3/8" x 16	For thread cutting and repairs	All.
Z.42	Reamer	For bush intermediate timing gear	All Twins.
Z.43	Reamer	For small end bush in connecting rod	Lightweights & 350 T
Z.44	Reamer	For small end bush in connecting rod	500 & 650 Twins.
Z.45	Reamer	For timing cover bush	500 & 650 Twins.
Z.46	Reamer	For mainshaft high gear bush.	3T, 500 & 650 Twins.
Z.47	Reamer	For camshaft bush (right side)	3T, 500 & 650 Twins
Z.48	Blending outtor	For blending valve seats to prevent pecking.	350 Twins.
Z.49	Blending outtor	For blending valve seats to prevent pecking	500 Twins.
Z.50	Blending outtor	For blending valve seats to prevent pecking.	650 Twins.
Z.51	Valve seat outtor	Reconditioning tool for valve seats	Lightweights 350 Tw
Z.52	Valve seat outtor	Reconditioning tool for valve seats	500 Twins.
Z.53	Valve seat outtor	Reconditioning tool for valve seats	650 Twins.
Z.54	Arbor, pilot	For use with valve seat and blending outtors	All
Z.55	Reamer	For camshaft bush (left side)	All Twins.
Z.56	Arbor	For Z 55. reamer	3T.

TRIUMPH ENGINE RING COMPANY LIMITED.

Workshop tools.

Part No.	Description.	Purpose.	Model.
Z. 57	Line reamer.	For crankshaft main bearing bush	3T.
Z. 58	Arbor	For Z. 57 reamer	3T
Z. 59	Fuller Tool	Rear stand spring assembly tool	Rigid frame Twin
Z. 61	Spanner	Engine shaft S/A and clutch nut.	All Twins.
Z. 62	Spanner	Fits gearbox pivot bolt nut.	Rigid frame Twin
Z. 63	Spanner	Fit gearbox sprocket nut.	3T, 500 & 650 T
Z. 64	Flywheel jig	For clocking flywheel assembly	500 & 650
Z. 65	Compressor	For dismantling valve spring assembly	500 & 650 Twins
Z. 66	Extractor	For removing spring wheel end plate (Mk.2)	-
Z. 69	Prong die holder	For holding prong dies Z. 34-41.	-
Z. 70	Extractor	For removing gudgeon pin from piston	3T.
Z. 71	Extractor	For removing gudgeon pin from piston	Tiger-Cub 500 T
Z. 72	Extractor	For removing gudgeon pin from piston	650 Twins
Z. 73	Tap 14mm x 1.15mm.	Sparking plug hole in cylinder head	All.
Z. 75	Pressing tool	For inserting bearing in Mk.2. spring wheel	-
Z. 76	Spanner	For front wheel bearing lock disc.	All Twins.
Z. 77	Jig	Dismantling jig for spring wheel box.	-
Z. 78	Balance weights	Balance weights 50M grams. each. For balancing crankshaft.	See Note.
Z. 79	Punch	Timing pinion	All Twins.
Z. 80.	Timing stick.	To ascertain piston position for ignition timing	All Models
Z. 81	Tap.	For Mk.1 spring wheel anchor plate.	-

PRINCE ENGINE KING COMPANY LIMITED.
Workshop Tools.

Part No.	Description.	Purpose.	Models.
Z. 82	Pressing tool	To press on inner race of Mk.1. spring wheel.	-
Z. 83.	Stud Puller	For spring wheel back plate studs	-
Z. 85	Alignment jig	For aligning front fork legs	All Twins
Z. 86	Gauge	For Mk.2. spring wheel hub assembly.	-
Z. 87	Gauge	For Mk.2. spring wheel hub assembly	-
Z. 89	Extractor and replacer	Tool for extracting and replacing camshafts & 350 timing pinion.	All Twins.
Z. 90	Adaptor	Adaptor sleeve for driveshaft. For assembling and dismantling Clutch shock absorber.	500 & 650 Twins. All Twins.
Z. 91	Reamer.	For cylinder barrel tappet block hole.	All Twins.
Z. 91/+ .005	Reamer.	For +.005 oversize tappet blocks.	Lightweights.
Z. 92	Blending cutter.	For blending valve seats to prevent pocketing.	Lightweights.
Z. 93	Assembly tool	Fixture for valve assembly.	Lightweights.
Z. 94 (D. 398)	Extractor	To extract timing pinion	Lightweights.
Z. 95 (D. 400)	Extractor	To extract clutch spider	Lightweights.
Z. 96	Extractor	To extract gudgeon pin from piston	T. 15.
Z. 97	Jig	For checking truth of flywheel assembly.	Lightweights.
Z. 98	Reamer	For crankshaft main bearing	Lightweights.
Z. 99	Pilot bar	For reamer Z. 98	Lightweights.
Z. 100	Compressor.	To compress springs in rear suspension assembly.	plunger spring jig
Z. 101	Dismantler	For stripping and assembling flywheel assembly	Lightweights.
Z. 102	Locking spanner	For gearbox sprocket (for use with Z. 105)	Lightweights.
Z. 103	Alignment jig	For aligning front fork legs.	Lightweights.

TRIUMPH ENGINEERING COMPANY LIMITED.

Workshop tools.

Part No.	Description.	Purpose.	Models.
Z.104	Combination spanner	For telescopic fork	Lightweights.
Z.105	Spanner	Fit gearbox sprocket locknut	Lightweights
Z.107	Spring	For retaining balance weights Z78, Z109, Z120	All Twins
Z.109	Balance weights	Balance weights 540 grams each. For balancing crankshaft	See Note
Z.110	Compressor	For assembling rocker spindle washer	Lightweights
Z.111	Compressor	For assembling rocker spindle washer	500 & 650 Twins.
Z.112	Screwdriver	For Phillips head screws (Stanley No.401)	Lightweights
Z.113	Screwdriver	For Phillips head screws (Stanley No.402)	Lightweights &
Z.114	Screwdriver	For Phillips head screws (Stanley No.403)	All Twins
Z.115	Extractor	For engine sprocket	Lightweights
Z.116	Holder	For grinding in valves	All Models
Z.117	Valve seat cutter	Reconditioning tool for valve seats	F.110 & Oversize
Z.118	Blending cutter	For blending valve seats to prevent pocketing	500 c.c. models
Z.120	Balance weights	595 grams. each	See Note
Z.121	Extractor	For engine sprocket	500 & 650 Twins
Z.122	Balance weights	490 grams. each For balancing crankshaft.	Twentytone
Z.123	Compensating sleeve	For L.H. shaft when balancing crankshaft	Twentytone
Z.124	Line reamer	For swinging fork bushes	500 & 650 Twins
Z.125	Peg spanner	Wheel bearing locking disc.	Lightweight
Z.126.	Line reamer	For swinging fork bushes	Lightweight &
Z.127	Extractor	Fork stanchions	Twentytone
Z.128	Line reamer	For crankshaft main bearing	Twentytone
Z.129	Extractor	For L.H. inner cover (2 off required)	Lightweights
Z.130	Collar	For compressing new piston rings	Twentytone
D.220	Spanner	For fork cap and sleeve nuts	All-Twins

TRIUMPH SERVICE BULLETIN
NO. 195.

Model "21" Battery Carrier

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The method of securing the battery on the Model "21" consisted originally of a sponge rubber pad on the underside of the twinseat, which held the battery in a steel carrier.

An improved method of securing the battery is now employed, in which a rod passes through the central carrier fixing holes. This bears on the central rubber vent plug and prevents any movement of the battery.

Machines previous to Engine Number H.2768 may be converted by removing the central carrier bolts and enlarging the holes in the frame brackets and carrier to 5/16 ins. dia. The rod part number F.4485 is then passed from the rear forwards and secured with one of the existing nuts part number F.879. The centre portion of the rod is slightly cranked and it may be turned if necessary to adjust the pressure on the battery.

JULY, 1958.

SERVICE BULLETIN

Differences Between T20S AND T20C

	EXPORT.	HOME.
R.P.M.	14.5 at 6,500	12 at 6,500
COMPRESSION RATIO	9 : 1	7 : 1
TAPPET CLEARANCE (COLD)	Inlet 0.002in (0.05m.m.) Exhaust 0.004in (0.10m.m.)	
DISTRIBUTOR RANGE	6° (12° crankshaft)	
IGNITION TIMING (STATIC)	16°	
Crankshaft position	16° I.D.C.	
Piston position	1/16 in. (1.59m.m.) I.T.D.C.	
CARBURETTOR	Amal type 376.	
	Main jet 140	
	Needle jet. 106	
	Throttle valve 376/3	
	Needle position 3rd groove	
	Pilot jet 20	
	Choke size 15/16 in.	
GEAR RATIOS.	Internal	Overall
4th - Top	1 : 1	7.58
3rd - Third	1.2 : 1	9.1
2nd - Second	1.88 : 1	14.2
1st - Bottom	2.72 : 1	20.6
SPROCKETS.		
Engine	19 teeth	
Clutch	48 "	
Gearbox	16 "	
Rear wheel	48 "	
CHAINS.		
Rear	1/2 in x 3/16 in x 113 links	
PACITIES		
Telescopic forks (each leg)	1/4 pin (150 c.c.)	
BULBS		
Headlamps	Prefocus 6 volt 24/24 watt	
Tail lamp	6 volts 6 watt	

The above is a brief summary of the differences between the T20S and the normal T20C. A more comprehensive leaflet is being prepared and will be forwarded as soon as available. Particular note should be taken of the ignition timing as the circuit used requires absolute accuracy of timing for correct functioning. For competition use a harder sparking plug such as Champion L111 or LA14 Lodge HN3 or R49 or K.L.G. FE100 or FE220.

From The CD Master © 2002

SERVICE BULLETIN

Differences Between T208 and T20C

Kia The CD Man © 2002

	DIFF. T.	NORM.
Max. P. S.P.N.	14.9 at 6,500	12 at 6,500
COMPRESSION RATIO	9 : 1	7 : 1
INTAKE CLEARANCE (COLE)	Inlet 0.002in (0.05m.m.) Exhaust 0.004in (0.10m.m.)	
IGNITION RANGE	6° (12° crankshaft)	
IGNITION TIMING (ST. TIC)	16°C. 1/16 in. (1.59m.m.)C.	
CRANKSHAFT POSITION		
CARBURETTOR	Amal type 376.	
	Main jet 140 Needle jet. 106 Throttle valve 376/3 Needle position 3rd groove Pilot jet 20 Choke size 15/16 in.	
GEAR RATIOS.	Internal	Overall
4th - Top	1 : 1	7.58
3rd - Third	1. 2 : 1	9.1
2nd - Second	1.88 : 1	14.2
1st - Bottom	2.72 : 1	20.6
SPROCKETS.		
Engine		19 teeth
Clutch		48 "
Rearbox		16 "
Rear wheel		48 "
CHAINS.		
Rear		1/2 in x 3/16 in x 113 links
CAPACITIES		
Telescopic forks (each leg)		1/4 pin (150 c.c.)
BULBS		
Headlamps		Prefocus 6 volt 24/24 watt
Tail lamp		6 volts 6 watt

The above is a brief summary of the differences between the T208 and the normal T20C. A more comprehensive leaflet is being prepared and will be forwarded as soon as available. Particular note should be taken of the ignition timing as the circuit used requires absolute accuracy of timing for correct functioning. For competition use a harder sparking plug such as Champion LA11 or LA14 Lodge HW3 or R49 or K.L.G. FE100 or FE220.

T20S.

With reference to Service Bulletin number 198, the T20S machines for the home market have been fitted with 7:1 Compression Ratio pistons and consequently the power output is 12 B.H.P. @ 6,500 r.p.m.

BONNEVILLE 120.

The twin carburettors fitted to the Bonneville 120 may require synchronisation and a simple method is as follows - First adjust the cables from the junction box so that they have the minimum of free play. Now start the motor and take off one plug lead and then adjust the pilot air screw and throttle stop screw in the OPPOSITE carburetter until the motor runs regularly. Replace the plug lead and repeat the process similarly for the other carburetter. With both plug leads replaced the tickover will be too fast and the stop screws should be lowered simultaneously until correct.

CLUTCH SPROCKET AND HOUSING.

The clutch sprocket and housing T1549 with the spot welded strengthening band is now being supplied as a replacement for the earlier pattern T985. The band is fitted to prevent any possibility of spreading under heavy loads and not as an oil shroud. Cork or Neolomite clutch shoes may be used without harmful effects.

FRONT MUDGUARDS. (H1211).

If the front stand (H412) is insufficiently cranked at the bottom mudguard fixing, this may place tension on the guard. When fitting a mudguard the stand should be set if necessary with a hide mallet or similar tool so that it is a close fit to the mudguard before the spigotted nut is tightened.

SERVICE TOOLS 5TA.

All service tools for the Speed-Twin 5TA are the same as those used for the Twentyone with the exception of piston ring clips. These are available under part number Z132.

BONDED CLUTCH PLATES.

New or replacement bonded clutch plates may be supplied treated with oil for storage purposes. When fitting these to the clutch it is best to wipe them clean with petrol or paraffin and assemble them completely dry. Sufficient oil will enter the clutch from the chaincase during use. Cork inserted plates are best dipped in thin (S.A.E. 20 grade) oil before assembly.

ZENITH CARBURETTER.

T20 and T20C. If outer ends of the studs which secure the adaptor to head contact the carburetter body, air leaks may result through insufficient pressure on the 'O' ring. The remedy is to remove the adaptor and shorten the studs the necessary amount.

JANUARY, 1959.

C O - Y

TRIUMPH SAVIC BULLETIN

Silencers

No. 203

ALL MODELS EXCEPT TH6 AND T120 ARE NOT EQUIPPED WITH SILENCERS WHICH HAVE DEVICES FITTED INTO THE TAIL PIPE. ON SOME OF THE EARLIER CARS THE MUFFLE HAS COME ADRIFT THROUGH THIS TROUBLE HAS NOW BEEN CORRECTED. A NEW SILENCER IS NOT REQUIRED IN THESE CASES BUT ONLY A REPLACEMENT MUFFLE.

THE MUFFLE PROVIDES A VERY AGREEABLE EXHAUST NOTE AND WILL NOT CAUSE ANY LOSS OF PERFORMANCE.

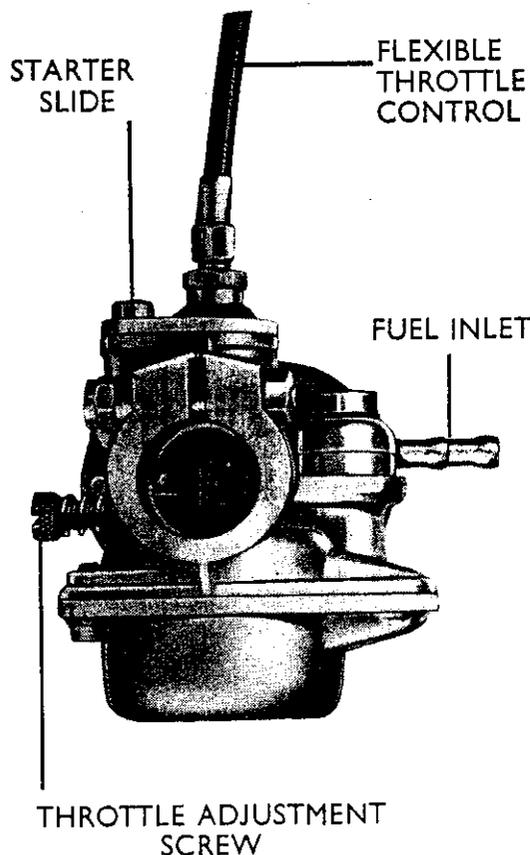
PART NUMBER

T20	E.4076
"21" 5TA, T100A	E.4155
6T, T110	E.4107

ZENITH CARBURETTORS

SERVICE BULLETIN

SERIES **MX, MXZ**



The MX and MXZ carburettors are simple, compact and highly efficient dustproof instruments, specially designed for small single and twin cylinder 2 or 4 stroke engines in applications where the engine is not governed, e.g., motor cycles, scooters, motor mowers, motor-assisted cycles, etc. They are made in various sizes, which are indicated by the diameter of the bore at the air intake measured in millimetres—thus the 11 MX has an internal diameter of 11 m.m. Contrary to normal Zenith practice, each has a sliding instead of a butterfly throttle, and this is operated by a cable control wire in place of the more usual throttle lever.

A feature of the carburettor design is that the flooding angle is very steep, and consequently no trouble should be experienced when the engine is working on rough or sloping ground.

The carburettor is composed of two principal diecastings. The upper portion (or carburettor body) 4 combines the air and petrol inlets, the throttle, jets and needle valve, and the clamp for the attachment of the carburettor to the inlet stub on the engine. (In some models a tickler 13 is also fitted, to depress the float for starting.) The lower portion is the floatchamber (or bowl) 19, which contains the special moulded float.

Operation

Reference to the diagram overleaf will illustrate the method of operation. Petrol enters the bowl by the elbow 7 and passes through the gauze filter 6 to the combined needle and seating 14. The latter is not removable.

A constant petrol level is ensured by a flexible tongue on the nylon float 17. As petrol enters, it rises and the tongue pushes the needle against the seating, thus preventing the admission of further fuel. Conversely, as the level drops because of the requirements of the engine, the float descends and permits the needle to open the seating once more. It is not intended that the petrol level should be altered. Air to the floatchamber is supplied via the hole 9 in the body.

Starting

Extending below the surface of the petrol in the floatchamber, from the underside of the carburettor body, is the slow-running jet 16. With the throttle in the slow-running position and the slide 3 pushed right down, as at "A", petrol is lifted through the jet 16 and mixes with air from the small fixed air-bleed 5. It thus provides a suitable mixture through the hole 2, to ensure easy starting from cold without the use of a strangler.

Idle operation

When the throttle 8 opens, the slide 3 is automatically raised to the normal slow-running position, as shown at "B," in the carburettors sizes 9, 11 and 13, but in the larger 15 and 17 models there is an intermediate position for the starter slide, and it is not until the throttle is opened to its fullest extent that the normal idle mixture is provided. A smaller restriction 1, of a size to supply the correct volume for idling, is consequently introduced into the circuit, and this meters the mixture (which has been emulsified by air from the air-bleed 5) supplied to the engine.

The idling speed is adjusted by the throttle adjustment screw 20. When turned clockwise, it will open the throttle wider and the engine revolutions will increase; when unscrewed, the speed will diminish.

Slides with various combinations of cross-holes are available, those with larger holes naturally providing richer mixtures. However, the sizes of the slow-running jet and the holes in the slide to give the best results for any particular engine have been determined by the manufacturers only after extensive tests; we therefore recommend that they are not changed in normal circumstances.

TRIUMPH SERVICE BULLETIN

SERVICE NOTES.

205

3TA AND 5TA OIL PIPES.

The recent 3TA and 5TA models with the extended oil tank filter union have the oil feed pipe passing inside the swinging fork. In isolated cases the pipe may contact the mudguard and eventually become punctured. When carrying out the 500 mile service or at any other opportunity, this point should be checked and if necessary the mudguard should be moved back $\frac{1}{4}$ inch, a suitable distance piece being available under part number H.1015.

RECOMMENDED LUBRICANTS.

We now include in our recommended lubricants the products of the regent oil company ltd., under the brand names Havoline, Marfak and Caltex. The grades are detailed in the instruction Manual. All brands of lubricants which we recommend have been extensively tested and may be relied on for complete satisfaction.

SCOOTER SERVICE.

We must again point out that all scooter service is conducted from the following address:-

Triumph Engineering Co. Ltd.,
Scooter Division,
Waverley works,
Birmingham. 10. Victoria 3712.

PETROL TANK FIXINGS

The latest 650 c.c. models are fitted with a petrol tank secured by a rubber-lined steel strap. The strap retains the tank on 3 rubber buffers and it must not be tightened so that all movement is prevented. When the tension is correct it should be possible to rock the tank slightly on the buffers.

OCTOBER, 1959.



SERVICE BULLETIN SERVICE BULLETIN

NO.207.

SUPPLY OF SIDECAR FORK CONVERSION PARTS.

WHEN A MACHINE IS CONVERTED FOR SIDECAR USE, THE ENGINE SPROCKET, FORK SPRINGS AND SUSPENSION UNIT SPRINGS WILL BE CHANGED OVER FROM THE DEALERS STOCK AS PREVIOUSLY.

THE TWO SIDECAR TYPE BOTTOM MEMBERS, TWO PACKING PIECES AND THE STUDS (SEE SERVICE BULLETIN 208) WILL BE SUPPLIED FROM THE SERVICE STORES UNDER PART NUMBER CP.183W (BLACK) OR CP.183 C.G.(CHARCOAL GREY), ON A PACKING NOTE WHICH WILL ACCOMPANY THE PARTS IN DUPLICATE. THE SOLO TYPE BOTTOM MEMBERS WILL BE ACCEPTED IN STRAIGHT EXCHANGE PROVIDING THEY ARE RETURNED WITHIN 14 DAYS OF RECEIPT OF THE SIDECAR PARTS ACCOMPANIED BY THE DUPLICATE PACKING NOTE.

THE PARTS CANNOT BE ACCEPTED IF:

1. THE TIME LIMIT OF 14 DAYS HAS BEEN EXCEEDED.
 2. THE PACKING NOTE IS NOT RETURNED WITH THE PARTS.
 3. THE PARTS ARE NOT IN NEW CONDITION. PARTS FROM USED MACHINES CANNOT BE ACCEPTED IN EXCHANGE.
- WE ARE PREPARED TO GIVE SPECIAL CONSIDERATION TO OWNERS WHO HAD HEAVY SIDECARS FITTED BEFORE THESE PARTS WERE AVAILABLE.

BOTH CP.183W AND CP.183 C.G. CAN BE PURCHASED FROM OUR SPARES DEPARTMENT FOR STOCK IF REQUIRED.

APRIL 1960.

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

No. 207. H.

3TA, 5TA and 6T MOTORCYCLES WITH HIGH OUTPUT ALTERNATORS.

MAXIMUM CHARGE RATE SWITCH

These machines are fitted with a pull-push switch which, when pulled, allows the alternator to develop its maximum output. It is important that the switch is operated in this way whenever any additional electrical equipment, such as two-way radio, is in use.

The alternator is specially wound to meet all normal lighting load requirements and, at the same time, it has ample capacity to keep the battery in a good state of charge. Under normal conditions of service, the charge rate is controlled by the lighting switch and is varied automatically to meet the lamp load - the highest output being obtained in the "HEADLAMP" position. It is this latter output that can be obtained at will by operating the maximum charge rate switch.

The MLZ 7E and similar batteries with the translucent casing must not be filled above the level mark etched into the case. Overfilling and/or injudicious use of the maximum charge rate switch could result in overcharging and subsequent damage. Keep a close watch on the battery and ammeter where the aim should be to keep the needle central whenever possible.

HIGH OUTPUT

Replaces STANDARD.

54021007	Alternator (serviced as rotor and stator)	
47146	Stator complete	468973
423506	Rotor	Standard
4084120	Battery SCZ 7E	FUZ 7E -11
47142	Rectifier	47132
031218	Charge switch P.S. 7	Additional
36219	Ammeter 20-0-20	36189
54094118	Wiring harness	794931
F.4563	Battery carrier	F.4219

JANUARY 1960.



SERVICE BULLETIN

No.208.

FITTING OF SIDECARS TO 1960 6T AND T110 MACHINES.

SIDECAR FITTINGS. BECAUSE SOME UNSUITABLE SIDECAR FITTINGS HAVE BEEN SUPPLIED FOR 1960 MACHINES, DUE TO A SIDECAR MANUFACTURER TRYING TO "MAKE DO" WITH EXISTING PARTS, SOME CONFUSION HAS BEEN CREATED.

IT MUST BE APPRECIATED THAT WITH A SIDECAR FITTED, THE FRONT FORK WILL ALWAYS BE LIABLE TO BOTTOM UNDER CERTAIN ADVERSE CONDITIONS E.G. WHERE THE FRONT BRAKE MUST BE SUDDENLY APPLIED WHEN DESCENDING A STEEP HILL, FULLY LADEN. IF THE FORK SPRINGS WERE STRONG ENOUGH TO PREVENT THIS, THE RIDER AND PASSENGERS WOULD NORMALLY HAVE A MOST UNCOMFORTABLE RIDE.

AFTER A SIDECAR HAS BEEN INSTALLED, THE FITTER SHOULD LEAN OVER THE HANDLEBAR AND BY PULLING UP ON THE FRONT STAY, FULLY COMPRESS THE FORK. IN THIS POSITION THE MUDGUARD MUST BE QUITE CLEAR OF ALL FITTINGS. IF THIS IS NOT THE CASE, A MOST SERIOUS ACCIDENT MAY OCCUR FOR WHICH THE FITTER, AND THE FIRM WHO EMPLOY HIM, MAY BE HELD RESPONSIBLE.

IT IS THE RESPONSIBILITY OF THE SIDECAR MANUFACTURER TO SUPPLY A SUITABLE FITTING AND OF THE FITTER TO SEE THAT IT IS CORRECTLY AND SAFELY INSTALLED.

MACHINE POSITION. IT HAS BEEN FOUND THAT WITH A HEAVY OR DOUBLE ADULT SIDECAR FITTED, THE MACHINE IS LIABLE TO RIDE RATHER LOW IN FRONT THUS PUTTING TOO MUCH WEIGHT ON THE FORKS. IN ORDER TO RECTIFY THIS, LONGER FORK BOTTOM MEMBER ASSEMBLIES HAVE BEEN MADE AVAILABLE. THE MODIFICATION CAN BE MADE WITH THE FOLLOWING PARTS:-

- | | | |
|---|-------|--------------------|
| 1 | HI322 | BOTTOM MEMBER L/H. |
| 1 | HI323 | BOTTOM MEMBER R/H. |
| 2 | HI325 | PACKING PIECE. |
| 2 | HI326 | STUDS. |

THE DUST EXCLUDER SLEEVE NOW HAS A HOLE DRILLED IN IT SO THAT IT CAN BE REMOVED WITH A "C" SPANNER, THUS ENABLING THE MODIFICATION TO BE MADE WITHOUT DISMANTLING THE TOP PORTION OF THE FORK.

-2-

TO PREPARE A MACHINE FOR SIDECAR PURPOSES IT WILL BE NECESSARY TO TAKE THE FOLLOWING ACTION.

1. FIT SIDECAR ENGINE SPROCKET.
2. FIT SIDECAR STRENGTH FORK SPRINGS.
3. MODIFY THE FRONT FORK.
4. FIT SIDECAR STRENGTH SUSPENSION UNIT SPRINGS.

ALL MACHINES ORDERED IN SIDECAR CONDITION WILL BE FULLY MODIFIED FOR THIS PURPOSE AT THE WORKS. THOUGH THIS MODIFICATION HAS BEEN INTRODUCED WITH THE HEAVY SIDECAR IN VIEW, IT IS AN ADVANTAGEOUS REFINEMENT FOR ALL SIDECAR MACHINES.

TO INSTALL SIDECAR (LONG) BOTTOM MEMBERS.

REMOVE THE FRONT WHEEL AND MUDGUARD. UNSCREW THE FLANGED BOLT IN THE BOTTOM OF EACH LEG WHICH RETAINS THE RESTRICTOR ROD ASSEMBLY. WITH A SUITABLE "C" SPANNER UNSCREW THE DUST EXCLUDER NUT FROM THE TOP OF EACH BOTTOM MEMBER AND WITHDRAW THE BOTTOM MEMBERS.

FIT A STUD AT THE LARGER DIAMETER END OF ONE OF THE DISTANCE PIECES AND SCREW IT FIRMLY TO THE BOTTOM OF THE RESTRICTOR ROD. ENTER THE RESTRICTOR ROD ASSEMBLY INTO THE BOTTOM MEMBER AND SECURE IT WITH THE FLANGED BOLT. RAISE THE BOTTOM MEMBER AND SECURE IT WITH THE DUST EXCLUDER NUT. ASSEMBLE THE OTHER BOTTOM MEMBER, REFIT THE MUDGUARD AND WHEEL AND REPLENISH THE FORK WITH $\frac{1}{4}$ PINT (150 C.C.) OF THE CORRECT GRADE OF OIL.

APRIL 1960.



SERVICE BULLETIN NO. 209

T110, TR6 AND T120 ELECTRICAL EQUIPMENT.

IF ANY OF THE ABOVE MODELS ARE CONTINUOUSLY USED AT HIGH SPEED IN DAYLIGHT THE GENERATOR OUTPUT MAY BE SUFFICIENT TO CAUSE OVERCHARGING OF THE BATTERY. TO REDUCE THE OUTPUT WITH THE LIGHTING SWITCH IN THE "OFF" POSITION A GREEN/WHITE CABLE WILL BE FITTED FROM THE GREEN/WHITE TERMINAL AT THE RECTIFIER TO THE NO. 7 TERMINAL AT THE SWITCH, FROM ENGINE NUMBER D.4736.

IF OVERCHARGING HAS BEEN EXPERIENCED, PARTIALLY DISCHARGE THE BATTERY BY SWITCHING ON THE HEADLAMP AND FIT AN EXTRA CABLE AS ABOVE. IF THERE IS INSUFFICIENT OUTPUT ON A MACHINE WITH THE CABLE FITTED, DUE TO SHORT JOURNEYS OR EXTRA ELECTRICAL EQUIPMENT, THEN THE CABLE MAY BE REMOVED OR TEMPORARILY TAPED UP IN ORDER TO INCREASE THE OUTPUT.

THE ABOVE ALTERATION IS EFFECTIVE ONLY WITH THE LIGHTING SWITCH "OFF". IF THE AMMETER INDICATES A HIGH OUTPUT IN THE "HEADLAMP" POSITION, ADVANTAGE CAN BE TAKEN OF THIS BY FITTING A MORE POWERFUL HEADLAMP BULB.

SUITABLE BULBS ARE; LUCAS NO. 403 35/35W.
LUCAS NO. 378 45/40W.

BLOWN BULBS ARE MOST FREQUENTLY CAUSED BY FAULTY CONNECTIONS. POOR CONTACT AT CABLE OR EARTH CONNECTIONS IN A CIRCUIT FED BY AN A.C. GENERATOR CAUSES THE GENERATOR VOLTAGE TO RISE IN AN EFFORT TO OVERCOME THE RESISTANCE. THE INCREASED VOLTAGE CAN GREATLY REDUCE BULB LIFE AND BEFORE REPLACING A BLOWN BULB ALWAYS CHECK THE ASSOCIATED WIRING.

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

NO. 210.

SERVICE NOTES.

ENERGY TRANSFER IGNITION.

ENERGY TRANSFER IGNITION IS COMPARATIVELY NEW AND, LIKE MOST UNFAMILIAR THINGS, GETS BLAMED FOR ALL KINDS OF FAULTS THAT ARE NOT REMOTELY CONNECTED WITH IT.

THERE IS ONE QUICK AND CERTAIN TEST WHICH WILL DECIDE WHETHER A FAULT IS IN THE E.T. EQUIPMENT OR NOT. THE ENGINE SHOULD BE RUN TEMPORARILY ON A STANDARD COIL AND BATTERY WHICH IS VERY EASY TO FIX UP. IF THE RUNNING IS SATISFACTORY, THEN THE E.T. SYSTEM IS AT FAULT. IF THE FAULT IS STILL THERE THEN THE E.T. SYSTEM CAN BE EXONERATED.

BEFORE STARTING ANY WORK ON AN E.T. SYSTEM THIS COIL TEST SHOULD BE MADE. IT WILL SAVE MUCH TIME AND UNECESSARY WORK. ANY SERVICING REQUIRED ON E.T. SHOULD BE CARRIED OUT BY A LUCAS DEPOT WHEREVER THIS IS POSSIBLE. THE VARIOUS LUCAS DEPOTS HAVE VERY COMPREHENSIVE INFORMATION ON THIS SYSTEM AND ARE MORE CONVERSANT WITH IT THAN THE NORMAL LUCAS AGENT WHO NO DOUBT WILL ACQUIRE THE KNOWLEDGE IN TIME. ACTUALLY THE SYSTEM HAS PROVED TO BE VERY RELIABLE ON BOTH THE T20S AND THE T100A. SERVICE TROUBLES REPORTED ARE NO MORE THAN ONE WOULD NORMALLY EXPECT FROM ELECTRICAL EQUIPMENT.

T100A VALVE TIMING.

THE INFORMATION GIVEN ON PAGE 60 OF THE NO. 3 INSTRUCTION MANUAL IS INCORRECT. THE T100A VALVE TIMING WILL BE CORRECT WHEN THE GEARS ARE ASSEMBLED ON THE SAME MARKING AS THE 3TA AND 5TA.

MAY 1960.

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

NO. 211.

WHEEL BUILDING DIMENSIONS.

THE FOLLOWING LOCATING DIMENSIONS SHOULD BE USED WHEN RESPOKING TRIUMPH WHEELS. IN EACH CASE IT IS THE DISTANCE FROM THE OUTSIDE EDGE OF THE BRAKE DRUM, HUB OR SPROCKET TO THE EDGE OF THE RIM ON THAT SIDE.

"A" RANGE. T20, T20C., T20S.

WHEEL	RIM SIZE	LOCATION	DIMENSION
FRONT	W.M.1	DRUM	5/8 IN.
FRONT	W.M.2	DRUM	3/8 IN.
REAR	W.M.1.-19	DRUM	1 7/32 IN.
REAR	W.M.2.-16	DRUM	1 3/16 IN.
REAR	W.M.2.-18	DRUM	1 7/32 IN.
REAR (1960)	W.M.2-17 AND 18	DRUM	1 5/16 IN.

"B" RANGE. 5T, T100, 6T, TR5, T110, TR6, T120.

FRONT 7IN. BRAKE	W.M.1	DRUM	1 IN.
FRONT 7IN. BRAKE	W.M.2	DRUM	7/8 IN.
FRONT 7IN. FULL WIDTH HUB	W.M.2	DRUM	3/16 IN.
FRONT 8IN. BRAKE	W.M.2	DRUM	1/2 IN.
FRONT 8IN. FULL WIDTH HUB	W.M.2	DRUM	MINUS 1/64 IN.
REAR STANDARD *	W.M.2	SPROCKET	1 7/8 IN.
REAR STANDARD *	W.M.3	SPROCKET	1 3/4 IN.
REAR QUICKLY DETACHABLE	W.M.2	HUB	1 1/16 IN.
REAR QUICKLY DETACHABLE	W.M.3	HUB	7/8 IN.

"C" RANGE. 3TA, 5TA, T100A.

FRONT 7IN. FULL WIDTH HUB	W.M.2	DRUM	3/16 IN.
REAR STANDARD	W.M.2	SPROCKET	1 27/32 IN.
REAR QUICKLY DETACHABLE	W.M.2	HUB	1 1/32 IN.

* INCLUDING SPRING WHEEL.

MAY 1960.

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

NO. 212.

SERVICE NOTES.

T20S CYLINDER HEADS.

THE 1960 HEAD DIFFERS IN TWO RESPECTS FROM THE EARLIER HEAD: THE HOLDING-DOWN NUT COUNTERBORE DEPTH AND POSITION OF EXHAUST ADAPTOR (TO GIVE CLEARANCE AT THE DOWN TUBE). THE 1959 HEAD CANNOT BE USED ON A 1960 MACHINE ALTHOUGH THE 1960 HEAD TOGETHER WITH 4 F.1335 DISTANCE PIECES CAN BE USED ON EARLIER MACHINES.

PRIOR TO ENGINE NO. 56360. E4049

SUBSEQUENT TO ENGINE NO. 56360 E4049A

IN CASE OF DOUBT THE HEADS ARE IDENTIFIABLE BY THE CAST-ON NUMBERS E3662 (E4049) AND E4102 (E4049A).

TELESCOPIC FRONT FORKS.

THE FRONT FORKS OF ALL 1960 TRIUMPH MACHINES, EXCEPT THE T20, HAVE SIMILAR DAMPING MECHANISMS. THE CORRECT QUANTITY OF OIL IS $\frac{1}{4}$ PINT (150 C.C.) IN EACH LEG, BUT FOR BEST RESULTS IT IS VERY IMPORTANT TO CHANGE TO SUMMER (SAE.30) AND WINTER (S.E.20) GRADES AT THE SAME TIME AS THE ENGINE OIL.

CHAINCASE OIL RETENTION ON EARLIER 3TA AND 5TA MACHINES.

IF LEAKAGE OCCURS ALONG THE ALTERNATOR OUTPUT CABLE, THE CURRENT GROMMET (E4144) MAY BE FITTED TO THE CABLE OVER THE GLAND NUT INSIDE THE CASE.



SERVICE BULLETIN

No. 213.

500 and 650 c.c. CRANKSHAFT REPLACEMENT SCHEME.

Machines up to 1954 were fitted with a two-piece crankshaft and connecting rods having 1.7/16 inch diameter integral big-end bearings. Supplies of these crankshafts are now difficult and costly to provide.

In future where these crankshafts require repair or overhaul the complete assembly must be returned to our factory or if overseas, to the distributor. We will then supply a replacement made from the current one-piece crankshaft complete with connecting rods having 1.5/8 inch diameter insert (renewable) big end bearings. The price of this replacement assembly is £11. 15. 0d retail (subject to trade discount).

This price is actually below the previous average cost of overhauling these older assemblies and we request your co-operation in explaining this to the customer. The crankshaft halves affected by this scheme will become obsolete when present stocks are exhausted and a note should be made in your records to avoid re-ordering and instead return the crankshaft assembly for replacement.

Part Numbers affected are: E.2901, E.2902, E.3112, E.2914 & E.2915

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January, 1961.

TRIUMPH

SERVICE BULLETIN

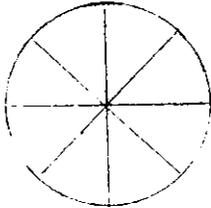
NO. 214

6T & T110 CAMSHAFTS AND TAPPET CLEARANCES.

New camshafts with quietening ramps are fitted to all 6T and T110 models from engine number D.11193. New valve springs are fitted also and the parts are not interchangeable separately:-

E.4220	Camshaft, inlet and exhaust	2 off.
E.4221	Inner valve spring (Red spot)	4 off.
E.4222	Outer valve spring (Red spot)	4 off.

These camshafts require a tappet clearance of 0.010 ins. (0.25 m.m.) inlet and exhaust, set with the engine cold.



In common with other models previously using ramp camshafts they have a "wheel" mark adjacent to the engine number.

On both models the inlet camshaft pinion is meshed with the "dot" mark on the intermediate pinion.

VALVE TIMING (with 0.020 in. '0.50 mm' tappet clearance for checking):

Inlet opens	35°	B.T.C.	}	-	0°
Inlet closes	85°	A.B.C.			+
Exhaust opens	73°	B.B.C.	}		
Exhaust closes	50°	A.T.C.			

Adjustment is required to the carburation, the new settings being main jet 220, and throttle slide 376/4.

NOTE. 6T Models from engine number D.7727 to D.11192 have been fitted with T110 camshafts part number E.3325 and must have the inlet camshaft pinion meshed with the "dash" mark on the intermediate pinion. The tappet clearance with these camshafts is 0.002 ins. (9.05 mm.) inlet and 0.004 ins. (0.10 mm.) exhaust, set with the engine cold.

January, 1961.

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

No. 210.

TIGER CUB OIL PUMP AND RIGHT MAIN BEARING.

Some confusion has arisen over the introduction from engine number 69157 a larger capacity oil pump and main bearing with an oil bleed to ensure positive lubrication of the skew gears on the oil pump drive shaft.

	<u>Old part No.</u>	<u>New Part No.</u>
Oil pump	E3393 (Small pump)	E4208 (Large pump)
Main bearing	E3655 (Without bleed)	E3655A (With bleed)

The table below shows the interchangeability and it will be seen that the only condition where trouble could arise is the use of a small capacity pump with a main bearing having the oil bleed when the pressure can fall too low.

<u>Pump</u>	<u>Main bearing</u>	<u>Flywheel journal</u>	<u>Remarks.</u>
Small	Without bleed	New or worn	Satisfactory.
Small	With bleed	New or worn	Not satisfactory.
Large	Without bleed	New	See Footnote *
Large	Without bleed	Worn	Satisfactory.
Large	With bleed	New	Standard 1961 Condition.

* If a new flywheel is fitted the correct bearing with bleed should be installed at the same time.

MARCH 1961.

TRIUMPH MOTORCYCLES

TRIUMPH

SERVICE BULLETIN

NO.219 (Revised)

T100A ELECTRICAL AND IGNITION SYSTEM.

With effect from engine number H.22430 the complete electrical and ignition system on the T100A model has been changed to that already used on the 5TA model. The previous energy transfer ignition system requires extreme accuracy of setting although this can be achieved by following the instructions in our Technical Information Bulletin No.10.

Where there is a need to convert an existing machine, Messrs. Lucas are making available an ignition conversion kit part number 54006033 through their normal trade channels. This consists of a standard MA6 coil, on-off switch and associated wiring with full instructions and will retail at a nominal charge against the return of the displaced 2 E.T. coil. The static ignition timing remains at 17 degrees or 1/16 inch. (1.6 mm). before T.D.C. The fitting time for this kit is between 40 and 60 minutes.

The following part numbers should be added to your T100A parts list for the new condition of original equipment:-

	E.T.Condition Prior to H.22430		Coil Condition From H.22430
Rotor	was 54211595	is now	54211595
Stator	was 47149	is now	468973
Distributor	was 40710	is now	40646
Coil	was 45112	is now	45077
Switch	was 31784	is now	31443
Wiring Harness	was 54094161	is now	794981

IMPORTANT: When the distributor 40646 is fitted the static ignition timing must be retarded to 7 degrees or 1/64 ins. (0.3 mm) before T.D.C.



SERVICE BULLETIN

NO. 220.

TO ALL POLICE USERS.

TRIUMPH MOTORCYCLES FITTED WITH
TRANSISTOR RADIOS IN RECESSED PETROL TANKS.

The original type of transistor radio set for mounting in the recessed petrol tank had a flat base which distributed the load over the largest possible area. However, we have recently seen some sets which have four swellings or feet on the base which cause the load to be concentrated on a much smaller area. Over a long period this can cause star-shaped cracks in the tank at these points.

All machines with tank mounted radio sets should be inspected as soon as possible. Any with the swelling on the base plate should have a sheet of sponge rubber approximately 1/4 in. thick inserted between the radio set and the tank.

APRIL, 1961.

TR 162

TRIUMPH MOTORCYCLES

TRIUMPH

SERVICE BULLETIN

NO. 221 (REVISED)

HIGH SPEED EQUIPMENT FOR BONNEVILLE 120 1960-62 MODELS

<u>Part No.</u>	<u>Description</u>	<u>Price</u>	<u>Remarks.</u>
E.3134 (E.4819)	Exhaust camshaft	£1. 10. 0d.)	Not advisable for road use.
E.3059R	Cam follower	8. 0d.)	
T.1228	Gearchange lever	12. 0d.)	
T.1647	Kickstarter lever	£1. 2. 0d.	
F.5002	Right footrest assembly	£1. 12. 6d.	
F.5033	Bolt	4. 0d.)	For footrest
S25-6	Spring washer	1d.)	
DS.48	Nut	6d.)	
F.5003	Footrest and brake lever	£2. 7. 6d.	
SCZ.45	Spring washer	1d.)	As standard
DS.48	Nut	6d.)	
JP.95	Close ratio gear set	£10. 5. 0d.	For 1960 machines
JP.193	Close ratio gear set	£11. 0. 0d.	For 1961-2 machines
-	Carburettors with remote float chamber app.	£16. 0. 0d.	All parts listed and illustrated in No.16 Spares list
E.4174	Left silencer	£3. 10. 0d.	Straight-through
E.4175	Right silencer	£3. 10. 0d.	Straight-through
CP.181	Tachometer kit	£13. 0. 0d.	
Z.50235	Speedometer head	-	Smiths supply For use with close ratio G/box and standard drive gears.

Items are made in small batches and may be temporarily out of stock. Definite orders placed through Triumph dealers will be filled as soon as possible.



SERVICE BULLETIN HOME ONLY.

No.222

NUMBERING OF REPLACEMENT FRAMES.

Our current practice is to supply new or repaired frames, without serial numbers to accredited Triumph dealers. This assists the dealer to keep a "slave" frame in stock.

We do not supply frames less serial numbers to any other individuals or dealers.

If difficulties are to be avoided with the Police and Ministry of Transport all dealers must ensure that no new or repaired frames leave their premises without having the serial number stamped into the steering head lug.

At present this system is working well but constant vigilance is needed to ensure that frames without serial numbers are not released to unauthorised persons. Any alternative system would involve all parties concerned in considerably more clerical work with risk of possible delays.

SEPTEMBER 1961.

TK 164

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

No.223

TIGER CUB PUSH ROD COVER TUBE.

To assist the replacement of the push rods to their respective rockers a guide plate has been fitted at the top of the push rod cover tube. However, if the tube is fitted with a slight twist, it is possible for the plate to damage the push rods or even cut through them.

To avoid this possibility the fitting of the plate will now be discontinued. Use a smear of grease in the top of the cover tube to align the push rods when replacing the cylinder head. The cover tube will continue to be supplied under the existing part number E.3537 and your spares counter staff should be notified of this difference.

SEPTEMBER 1961.

TRIUMPH MOTORCYCLES

TRIUMPH

SERVICE BULLETIN

No. 225

NEW PARTS INTRODUCED ON 1962 "B" RANGE MOTORCYCLES.

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Part No.	Description.	Comments.	6T	TR6SS	T120
T408/9	Gearchange quadrant	Stock	1	1	1
T1601	Outer chaincase	Stock	1	-	-
E3440	Screw (1.11/16 in.U.H.)	Stock	4	-	-
E4409	Left Exhaust pipe	New	1	1	-
E4410	Right exhaust pipe	New	1	1	-
E2271	Clip	Stock	1	1	-
TE.164D	"D" Washer	Stock	1	1	-
TE164E	Bolt (1.3/16 in.U.H.)	Stock	1	1	-
TE164C	"D" Nut	Stock	1	1	-
E4413	Silencer	New	1	-	-
E4174	Left Silencer	Stock	-	-	1
E4175	Right Silencer	Stock	-	1	1
E4107	Mute	Stock	-	1	2
H689	Screw	Stock	-	1	2
H691	Nut	Stock	-	1	2
70163	Horn 8H	New	1	1	1
H1420	Horn Bracket	New	1	-	-
F4771	Bolt (1/2 in.U.H.)	Stock	2	2	2
GS299	Serrated washer	Stock	2	2	2
F3799	Nut	Stock	2	2	2
54094328	Wiring Harness	replaces 54094162	1	-	-
F4971	Petrol Tap	replaces F3057	1	1	1
F4972	Petrol tap with reserve tube	replaces F3116	1	1	1
F5067	Oil Tank	New	-	1	-
F5066	Oil Tank	New	-	-	1
F4985	FILLER CAP	replaces F3658	-	1	1
F5051	Stud	New	-	1	1
F5049	Bracket	New	-	1	1
F2335	Bolt	Stock	-	2	2
S26-3	Spring Washer	Stock	-	3	3
S1-51	Nut	Stock	-	2	2

continued

Part No.	Description	Comments	6T	TR6SS	T120
F4110	Cup	Stock	-	2	2
F967	Rubber	Stock	-	1	1
F3815	Spigoted Rubber	Stock	-	1	1
F4111	Bclt	New	-	1	1
--	Locking Wire	Stock		as required.	
F5050	Stud	New	-	1	1
T224	Nut	Stock	-	1	1
F3814	Cup	Stock	-	3	3
F967	Rubber	Stock	-	2	2
F4108	Spigoted Rubber	Stock	-	2	2
W1058	Self-locking nut	Stock	-	2	2
F5039	Petrol pipe assembly	New	-	-	1
H1413	Blanking disc, for ammeter	New	-	1	1
54930000	Wiring Harness	New	-	1	1
F5020	Left Switch Bracket	Replaces - F4696	-	1	1
F5021	Right Switch Bracket	New	-	1	1
54C33190	Lighting Switch 88 SA.	New	-	1	-
E4123	Stud (1.13/32 in.O.A.), Stator	Stock	3	-	-
F5022	Footrest Rubber	Replaces NF.704	2	2	2
58878	Headlamp	Replaces 58556	-	1	1
54212006	Rotor, RM.19	New	1	1	1
47164	Stator, RM. 19	New	1	-	-
47160	Stator, RM. 19	New	-	1	1
47183	Stator, RM. 19 (Export U.S.A.)	New	-	A	A
F3220	Petrol Tank Cap	Stock	-	1	-

The illustrated Spares List is in course of preparation and will be forwarded as soon as it becomes available.

November 1961.



SERVICE BULLETIN

No. 226

NEW PARTS INTRODUCED ON 1962 "A" RANGE MOTORCYCLES.

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Part No.	Description	Comments	T20	T20SS
E4402	OIL PUMP ✕	Replaces E4208	1	1
E4403	Oil pump body ✕	Replaces E4209	1	1
E4404	Spring ✕	Replaces E3191	2	2
E4404	Auxiliary Spring ✕	Replaces E3191	2	2
F3805	Bolt (1.5/16 in U.H.) Air Filter. ✕	Stock	-	1
F5057	AIR FILTER ✕	New	-	1
4811	Filter Element ✕	Stock	-	1
F5038	Rubber Connector ✕	New	-	1
F4964	Water Deflector ✕	New	-	1
F3363	Number Plate	Stock	1	1
F1149	Bolt (7/8 in. U.H.)	Stock	2	2
F4374	Distance Piece	New	2	2
53394	STOP/TAIL LAMP Type 564	New	1	1
F4908	Petrol Tap ✕	Replaces F3506	1	1
F5100	Plastic chrome styling strip ✕	Replaces F4902	2	-
47161	Stator (RM.18) ✕	New	1	-
54212284	Rotor (RM.18) ✕	New	1	-
E4457	Grommet (Stator cable) ✕	New	1	1
E4458	Spacing Washer ✕	New	1	-
E4454	Sleeve (Rotor) ✕	New	1	-
E4455	Key, Rotor.	New	1	-

The illustrated Spares List is in course of preparation and will be forwarded as soon as it becomes available.

November 1961.

TRIUMPH

NO. 227

SERVICE BULLETIN 5503 - 25592

The 1962 Season T.100S/C model now incorporates the latest Lucas Energy Transfer Equipment, including the new RM19 Alternator Assembly.

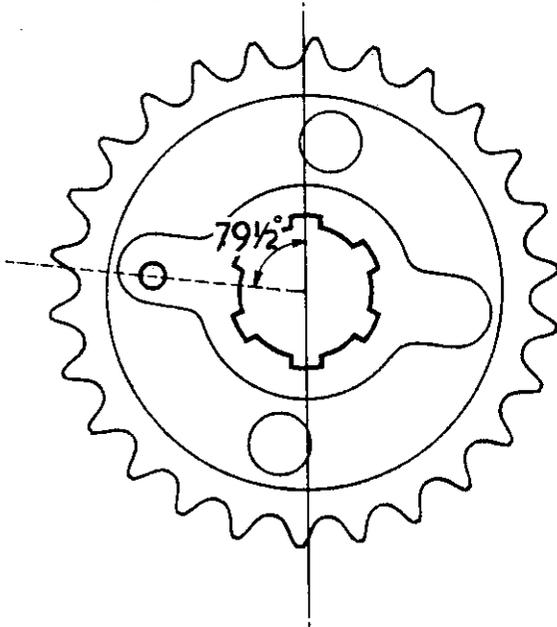
On the above quoted models, incorrect rotors were fitted on original assembly utilising the crankshaft keyway instead of the previously used peg on the engine drive sprocket and two dowel holes in the back face of the rotor marked 'S' and 'R' respectively.

In order to rectify these machines a replacement rotor is supplied herewith, complete with tab washer and dowel.

Please ensure that the following procedure is carried out on affected machines:-

- 1/ Remove primary outer cover and existing rotor and discard the key.
- 2/ Fit dowel to sprocket, ensuring sprocket relationship to piston T. D. C. by means of the crankshaft splines.

CRANKSHAFT T.D.C.



If the sprocket or rotor has been removed, the correct positions for replacement with the crankshaft at top dead centre are the peg on the sprocket just after "9 o'clock" and the "S" hole in the rotor engaged with the peg. (If the rotor is not marked the "S" hole is nearer to the keyway)

- 3/ Assemble rotor to shaft utilising hole marked 'S', (hole marked 'R' for high performance condition only, incorporating ignition timing of 42° B. T. C. fully advanced).
- 4/ Fit new tab washer, tighten rotor nut and secure.
- 5/ Re-fit primary outer cover taking care with assembly of gasket washer to obviate subsequent oil leaks. Replenish with half pint of SAE. 20 oil.

6/ Timing distributor (15° range, 10° engine) at 27° B. T. C. static
- Piston position 10.173 in. (10.164 in. B.G.C.)

TRIUMPH MOTOR CYCLES



SERVICE BULLETIN

No. 229.

IGNITION TIMING ON ENERGY TRANSFER EQUIPPED MOTORCYCLES.

MODEL	REMARKS	DISTRIBUTOR		STATIC TIMING.			IGNITION AT FULL ADVANCE.
		RANGE	PART No.	KEYWAY OR DOWEL	CRANKSHAFT POSITION	PISTON POSITION	
T20S	9:1 C.R.	12°	40700	3 o'clock	16° B.T.C.	1/16 in. B.T.C.	40°
	9:1 C.R.	10°	40846	3 o'clock	20° B.T.C.	3/32 in. B.T.C.	40°
	7:1 C.R.	12°	40700	7 o'clock	4° B.T.C.	at T.D.C.	32°
	7:1 C.R.	10°	40846	7 o'clock	12° B.T.C.	1/32 in. B.T.C.	32°
0							
T100A } TR5AR } TR5AC }	Standard	10°	40710	"S"	17° B.T.C.	1/16 in. B.T.C.	37°
T100SC	Standard	5°	40820	"S"	27° B.T.C.	11/64 in. B.T.C.	37°
0							
T100A } TR5AR } TR5AC }	With high performance equipment.	10°	40710	"R"	22° B.T.C.	1/8 in. B.T.C.	42°
T100SC	With high performance equipment.	5°	40820	"R"	32° B.T.C.	15/64 in. B.T.C.	42°

NOTES ON E.T. IGNITION TIMING.

To decide on correct ignition timing check distributor part number to ascertain the distributor range. Reference to the table above will then provide the correct static timing.

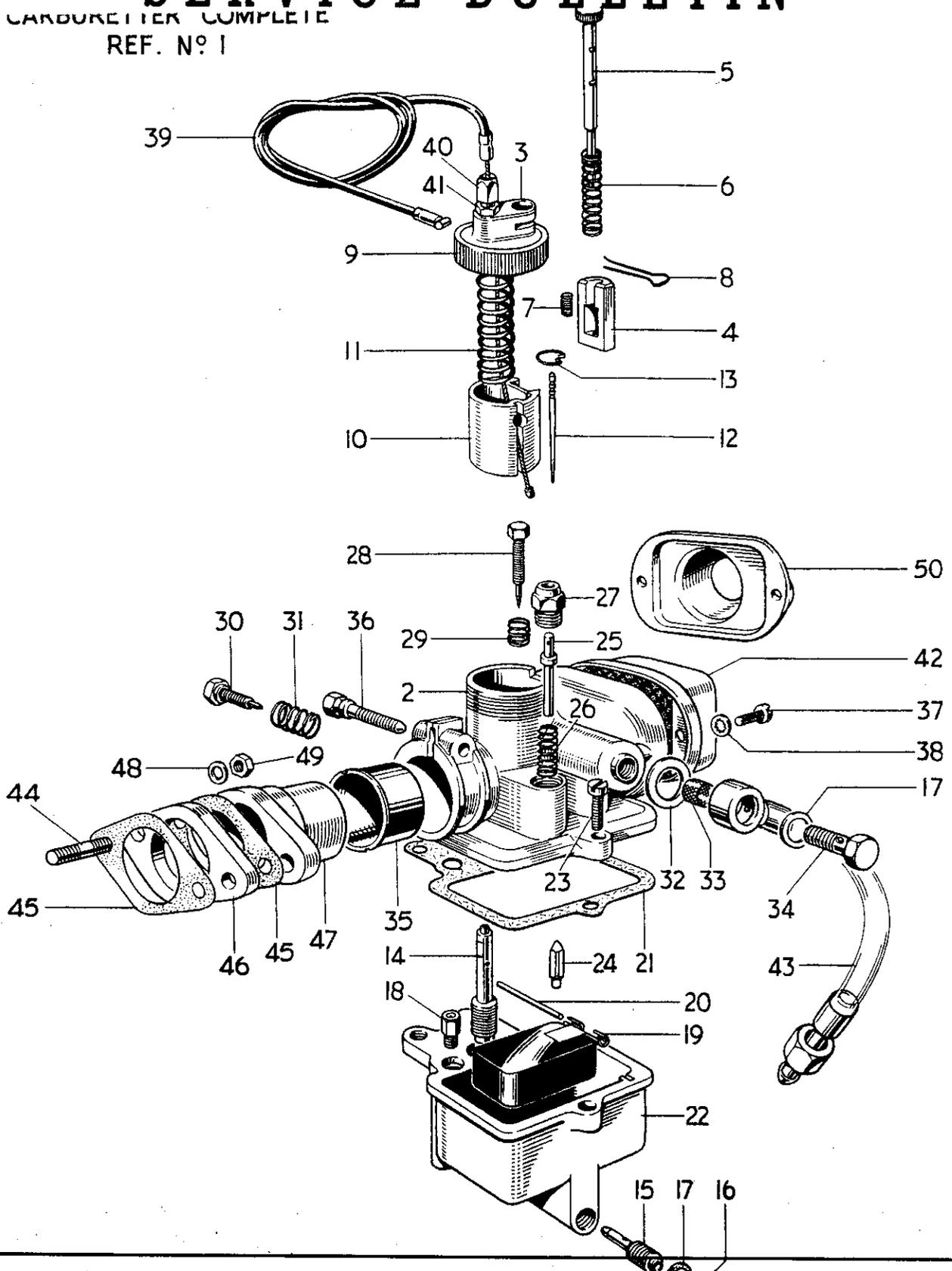
The best method of timing is with a degree disc on the crankshaft using a battery and lamp connected to the contact breaker. The piston position figures quoted above are included only as an approximation. The keyway's quoted on the T20 models are the positions viewed from the left end of the engine mainshaft with the piston at the top of the stroke. Alterations from the specified ignition timing alone cannot improve the performance.

TRIUMPH

No. 230

SERVICE BULLETIN

CARBURETTOR COMPLETE
REF. N° 1



TRIUMPH MOTORCYCLES

Carburetter 32/1 is fitted with small E3981 filter from Engine No.83192

Carburetter 32/3 is fitted with round dry felt E4060 filter from Engine No.81890

Check carburetter Part No. when ordering to ensure correct settings.

REF.No.	PART No.	DESCRIPTION	QUANTITY	
			T20	T20
1	32/1	CARBURETTER c/w THROTTLE CABLE	1	-
1	32/3	CARBURETTER c/w THROTTLE CABLE	-	1
2	32/001	Mixing chamber	1	1
3	363/094	Mixing chamber top	1	1
4	32/045	Air valve	1	1
5	32/048	Air valve rod	1	1
6	332/009	Return spring	1	1
7	332/008	Bottom spring	1	1
8	32/050	Click spring	1	1
9	332/012	Cap ring	1	1
10	32/046	Throttle valve (No.4 Cutaway)	1	-
10	32/046	Throttle valve (No.2 Cutaway)	-	1
11	332/021	Throttle return spring	1	1
12	32/028	Needle	1	1
13	363/093	Needle clip	1	1
14	32/033	Needle jet (.103)	1	1
15	32/023	Main jet (85)	1	-
15	32/023	Main jet (110)	-	1
16	335/024	Plug screw	1	1
17	116/124	Fibre washer	2	2
18	4/042	Pilot jet (15)	1	1
19	32/041	Float	1	1
20	32/032	Float spindle	1	1
21	32/021	Joint washer	1	1
22	32/020	Float chamber	1	1
23	32/038	Screw	2	2
24	376/089	Float needle	1	1
25	343/012	Tickler	1	1
26	376/087	Tickler spring	1	1
27	343/011	Tickler body	1	1
28	376/119	Pilot air screw	1	1
29	4/148	Spring	1	1
30	32/066	Throttle stop screw	1	1
31	198/012	Spring	1	1
32	391/026	Fibre washer	1	1
33	32/026	Filter gauze	1	1
34	32/027	Banjo bolt	1	1
35	32/029	Insulating sleeve	1	1
36	4/048	Clamping screw	1	1
37	32/044	Screw	2	2
38	32/043	Serrated washers	2	2
39	D453	Throttle cable	1	1
40	4/035	Cable adjuster	1	1
41	5/077	Adjuster locknut	1	1
42	E3981	Filter	1	-
43	F5089	Petrol pipe	1	1
44	E3171	Stud (1-5/32 in. O.A.)	2	2
45	E3250	Joint washer	2	2
46	E3254	Insulating block	1	1
47	E3954	Carburetter adaptor	1	1
48	S25-13	Plain washer	2	2
49	F879	Nut	2	2
50	E3955	Air intake adaptor	-	1



. 232.

SERVICE BULLETIN

CLUTCH CABLES AND CLUTCHES.

When used for police work particularly on slow-speed duty, the standard clutch springs are liable to allow clutch slip to develop. To overcome this we are now fitting to all police 6T models the clutch pressure springs formerly used only on the T120 model. To retain the light operating pressure at the handlebar lever the clutch cable is re-routed. From the handlebar lever it passes into the nacelle, down the left front down tube, along the top of the primary chaincase and then across the top of the gearbox to the clutch operating lever. Existing cables may be shortened but new cables are available under the part No.'s listed below:-

- T1559 Clutch spring. 4 plate clutch. Used on some 3TA models.
- T1560 Clutch spring. 5 plate clutch.
- D 475 Clutch cable. Standard handlebar. 6T
- D 476 Clutch cable. American handlebar. 6T

The clutch springs may be used on the 3TA or 5TA as required but in this case the clutch cable is unaltered.

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HEAVY DUTY CENTRE STANDS.

Most forces will be aware that we can supply heavy-duty centre stands for both the unit-construction and 650 c.c. twins. The stand for the 650 c.c. models can be identified by triangular strengthening plates at the cross bar but the stand for the unit-construction models is made of thicker-walled tubing and can be identified only by its greater weight.

- F4586 Centre stand. 650 c.c. and old type 500 c.c. twins.
- F4821 Centre stand. Unit-construction twins.

Please state colour when ordering.

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Replacements parts should normally be obtained through your local Triumph Spares stockists but in case of difficulty consult the Triumph Spares Department.

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Supplied in duplicate: 1 copy for Office.
1 copy for Workshop.

FEBRUARY 1962.

TRIUMPH MOTORCYCLES



No.233

SERVICE BULLETIN

Alterations have recently been made to the balance factor of the "B" range 650 c.c. twin crankshaft assembly. Full details of part number changes and introduction numbers are listed below.

Engine Number	Up to D15788	From D15789	From D17043
	All Models	All Models	All Models
Flywheel & Crankshaft	E3893	E4478	E4492
Crankshaft	E3894	E3894	E4493
Crank Webs	Straight-sided	Straight-sided	Pear shaped
Flywheel	E3906	E4479	E4479
Flywheel Width	2 $\frac{1}{4}$ ins.	2 11/32 ins.	2 11/32 ins.
Balance factor	50%	71%	85%
Balance weights (2 off)	595 grams	638 grams	689 grams
(Part numbers)	Z120	Z136	Z138

When present stocks are exhausted the following parts only will be supplied

E4492 Flywheel and crankshaft

E4493 Crankshaft

E4479 Flywheel

Assemblies and parts are directly interchangeable but can only be balanced to the figure appropriate to the part numbers concerned. Any other balance factor on these particular parts would require excessive drilling.

MARCH 1962.

TRIUMPH MOTORCYCLES

TRIUMPH

No. 234.

SERVICE BULLETIN

Service Notes.

Contact Breakers for Energy Transfer Ignition.

Further to our Service Bulletin No. 229 the 10° range contact breaker on the Sports Tiger Cub models has been first introduced under the part No. 40700B/10. Any contact breakers bearing this part No. should be timed as for the contact breaker 40846. First introduced on T20SS Engine No. 84937.

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Camshaft Pinions.

The camshaft pinion part No. E1486A for all twin-cylinder machines has only one key-way. The 3-keyway pinion part No. E1486R has now replaced it, being completely interchangeable. For correct valve timing on road-going machines use the keyway on the centre line of a tooth space identified by the punch mark.

0

Lighting Switch Cover

The Lucas lighting switch type 41SA fitted to the 1960-61 Bonneville 120 and TR6 models may be damaged by water ingress off the petrol tank and twinseat. There is now available a simple flexible plastic cover part No. E4515 price 1/6d which can be fitted in 30 mins. to completely weatherproof the switch, 1962 models with the type 88SA switch already have a snap-on rubber cover fitted as original equipment.

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Workshop Tools

A handy workshop tool is now available for removing the oil seal from the front fork dust excluder sleeve nut part No. H1194. It consists of a punch and die supplied together under part No. Z137 at 15/- net. It is needed for all current models except the standard Tiger Cub.

0

Line reamers are available for the swinging fork bushes on the 650 c.c. twins under part No. Z124 and for lightweights and 350 and 500 c.c. twins under part No. Z126. Each reamer is supplied with one large and one small pilot bush. To use; first press out both old bushes, fit one new bush and line-ream using the large pilot in the swinging fork lug. Then fit the second new bush and line-ream using the small pilot in the first bush.

0

Bonneville Throttle Cable.

The junction box in the Bonneville throttle cable is now held to the lower top frame tube by a double clip. This ensures a smoother route for the cables and better throttle control. The parts involved are F5203 Clip 2 off, E3220 Screw, GS 299 Washer and H745 Nut.



SERVICE BULLETIN

No. 235.

ORIGINAL COLOURS OF TRIUMPH MOTORCYCLES

The charts herewith list the original colours of all Triumph motorcycles from 1945 to the present date. When ordering painted parts always add the suffix colours to the part numbers, e.g. petrol tank for 1961 T20S Cub F3505 add suffix RR/V for Ruby Red and Silver. The colour finishes and code letters are listed in the colour sample booklet already supplied. Parts are supplied only in colours which have been listed as original equipment for that particular part.

Touch-up paint matching the original colours is available in 1/4 pint or 1 gallon tins. Kingfisher Blue and Burgundy must be applied over Silver Sheen to obtain the right colour. The Flame finish is applied similarly but over the Gold finish. In these cases the first coat must of course, be dry before the translucent final coat is applied.

APRIL 1962.
Sheet 1 of 3.

TRIUMPH MOTORCYCLES

	1945/49	1950	1951	1952	1953	1954	1955	1956	1957
Verrier T15	-	-	-	-	-	Amaranth Red Amaranth Red Frame	-	-	-
Viger Cub T20	-	-	-	-	-	Shell Blue Sheen	-	-	Crystal Grey
VT De Luxe	-	-	-	-	-	-	-	-	-
Speed Twin	-	-	-	-	-	-	-	-	-
Thunderbird 6T	-	Thunderbird Blue Thunderbird Blue Frame.	-	-	Thunderbird Metallic Blue Thunderbird Metallic Blue Frame	-	-	Crystal Grey Crystal Grey Frame.	Cold
Viger 100	-	Silver Sheen	-	-	-	Shell Blue Sheen	-	-	Crystal Grey +
Viger 110	-	-	-	-	-	Shell Blue Sheen	-	-	Crystal Grey +
Trophy TR5	-	Silver Sheen	-	-	-	Shell Blue Sheen	-	-	Crystal Grey
Trophy TR6	-	-	-	-	-	-	-	Shell Blue Sheen	Crystal Grey

+ Ivory and Meriden Blue Optional For Export.
All Frames Black where stated.

	1958	1959	1960	1961	1962
Tiger Cub T20 or T20C	Crystal Grey			Black and Silver Sheen	
T20 or T20C Export	Aztec Red		-	-	Flame and Silver Sheen
Tiger Cub T20S	-	Ivory and Aztec Red	Ivory and Meriden Blue	Ruby Red and Silver Sheen	Burgundy and Silver Sheen
Twentyone 3TA	Shell Blue Sheen				
Speed Twin or 5TA	Amaranth Red Amaranth Red Frame		Ruby Red Ruby Red Frame		
er 100 DA	-	-	Black and Ivory x	Black and Silver Sheen x	-
TR5A or T100SS	-	-	-	Kingfisher Blue and Silver Sheen	
T100 or T110	Crystal Grey		Black and Ivory	Kingfisher Blue and Silver Sheen	-
T100 or T110 Export	Black and Ivory	Ivory and Black	Black and Ivory	Kingfisher Blue and Silver Sheen	-
Bonneville T120	-	Pearl Grey and Tangerine	Pearl Grey and Royal Blue	Sky Blue and Silver Sheen	
T120 Export	-	Pearl Grey and Tangerine	Pearl Grey and Royal Blue	Sky Blue and Silver Sheen	Flame and Silver Sheen
hy or TR6	Crystal Grey	Ivory and Aztec Red		Ruby Red and Silver Sheen	Burgundy and Silver Sheen
TR5 or TR6 Export	Ivory and Aztec Red			Ruby Red and Silver Sheen	Burgundy and Silver Sheen
Thunderbird 6T	Gold	Charcoal Grey		Black and Silver Sheen	
Thunderbird Export	-	Aztec Red	Charcoal Grey	Black and Silver Sheen	

x Black Forks, Rear Panels and Front Mudguard
+ Mid-Season change to Pearl Grey and Royal Blue
1957 Twentyone Crystal Grey with Crystal Grey
frame up to No. H288.

All frames Black except where stated.

Two - Tone finishes have top half of tank shown first.

TRIUMPH

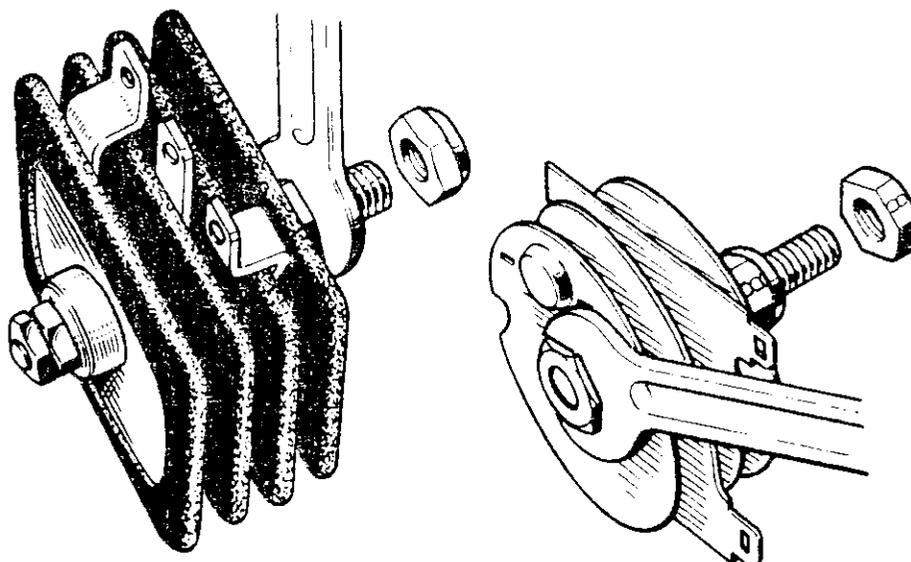
SERVICE BULLETIN

o.237

LUCAS RECTIFIERS

We have started fitting to TR6 and T120 motorcycles from engine number D18419 a new miniature Lucas rectifier. In the near future all of our rectifier-equipped models will also change to the new type.

The principal difference is in the manner of fixing. The older pattern rectifier has a central stud with the plates held by two locknuts whilst the new pattern has a central bolt with a self-locking nut next to the fixing. The illustration shows the correct method of holding each rectifier while tightening the fixing. Do not hold the plates as damage will occur if the plates turn relatively to each other.



OLD TYPE

NEW TYPE

The new rectifier has a depression in the head of the bolt so that it may have the appearance of a separate nut. The depression indicates a UNF threaded bolt and the fixing nut is marked for the same reason with interlocking circles.

	<u>OLD CONDITION</u>	<u>NEW CONDITION</u>
Rectifier	47132	49072
Fixing post	5/16in x 22 t.p.i. BSF	¼" x 28 t.p.i. UNF
Fixing nut	F3600	F5338 (Lucas 156596)
Lucas terminal	-	54942078 (3 off)
Lucas cover	-	54190042 (3 off)

Electrically the two rectifiers are interchangeable and test figures in Lucas publications apply to either type.

TRIUMPH MOTORCYCLES

TRIUMPH

No. 238.

SERVICE BULLETIN

T20 SH Charging Rate

0

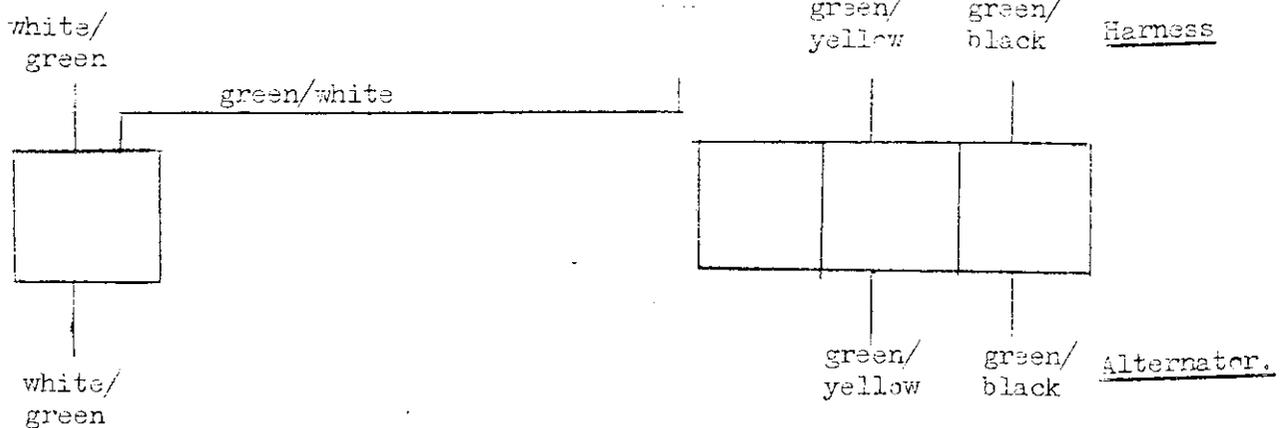
On the T20 SH model there is provision for varying the battery charging rate when the lighting switch is in the off position. The normal output for road use can be lowered for summer use or fast road work by plugging a green wire with white tracers from the main harness into a double snap connector with two white wires with green tracers at the alternator - to - wiring harness junction.

T20 SH models to date have been delivered with the wiring in this lower charge position but with winter conditions approaching it is advisable to increase the output by detaching the green wire with white tracer from the double snap connector and plugging it in the unoccupied hole of the triple snap connector.

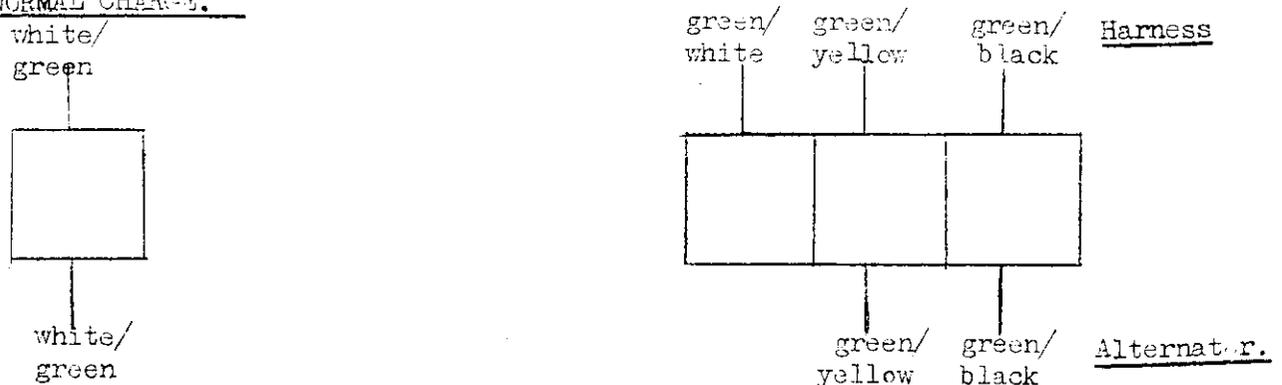
Double Snap Connector.

Triple Snap Connector.

LOW CHARGE.



NORMAL CHARGE.



TRIUMPH MOTORCYCLES

SEPTEMBER 1962.

TRIUMPH

SERVICE BULLETIN

No. 240 (Revised)

The following parts are required when preparing 3.T.A. engine units for higher performance.

	1st Condition. Semi Sports suitable for road use.	2nd Condition. Maximum Sports suitable for competition use.
Pistons (9.0-1 C:R)	CP.198	CP.198
Inlet camshaft up to engine no. H.29732	E.4038	E.4038
Exhaust camshaft up to engine no.H.29732	E.4023	E.4039
Inlet camshafts from engine no. H.29733	E.5163	E.5163
Exhaust camshafts from engine no.H.29733	E.4786	E.5044
Tappets	Original	E.4040
Valve guides (bronze) longer ones in exhaust position.		
Inlet guides	E.4481	E.4481
Exhaust guides	E.4482	E.4482
Valve springs	CP.177	CP.177
Silencer L.H.	Original	E.4157
Silencer R.H.	Original	E.4158
Rear wheel sprocket Q.D. 46T (optional)	W.1040	W.1040
Rear wheel sprocket STD. 46T (optional)	W.951	W.951
Gearbox sprockets available with 17-20 teeth.		
Valve timing (with 0.020" tappet clearances for checking)		
Inlet opens before top dead centre	34°	34°
Inlet closes after bottom dead centre	55°	55°
Exhaust opens before bottom dead centre	48°	55°
Exhaust closes after top dead centre	27°	34°
Tappet clearances for running (adjust with cold engine)		
Inlet	0.002"	0.002"
Exhaust	0.004"	0.004"
Ignition timing (fully retarded)		
Piston position. Distributor models)	T.D.C.	1/64" B.T.C.
Crank position Distributor models)	T.D.C.	8° B.T.C.
Piston position Twin C:B models	0.010" B.T.C.	0.060" B.T.C.
Crank position Twin C:B models	6° B.T.C.	16° B.T.C.
Carburetter	376/273 (original)	376/300
Choke	1"	1"
Main jet	190	180
Pilot	25	20
Needle type	'C'	'C'
Needle position	3rd Groove from the top	3rd groove from the top.
Needle jet	16	16
Throttle slide	376/3 1/2	376/3 1/2

TRIUMPH MOTORCYCLES

	1st Condition	2nd Condition.
Tachometer kit (up to engine no. H.29732)	CP.182	CP.182
Tachometer kit (from engine no. H.29733)	AS PARTS LIST	AS PARTS LIST.

H O P E S

- 1) The original inlet manifold and insulating block should be retained and blended with the carburetter and cylinder head.
- 2) When machines are prepared for maximum sports condition, it is essential to use the high performance silencers listed in conjunction with twin down-swept exhaust pipes part numbers E.3992 L.H. and E.3994 R.H.
- 3) The original valve timing dots should be used as shown on page 60 in the Instruction Manual No.4.
- 4) The tachometer kits listed contains all the parts required for fitting a tachometer to J.T.A.machines, except a mounting bracket for the tachometer owing to the fact that the machine has a nacelle. It will be essential in this case to construct a suitable bracket.
- 5) It is suggested that the original gearbox sprocket is retained and the machine tried in its new condition before making a final choice of gearing.
- 6) We are unable to supply parts or quotations direct, and they must be obtained through your local Triumph stockist or distributor.

JULY 1965.



SERVICE BULLETIN No. 241.

TIGER CUB CRANKSHAFT.

The present Tiger Cub has a crankshaft assembly which runs in two ball-journal main bearings and is comprised of the following parts:-

E4435	CRANKSHAFT ASSEMBLY
E4436	Left flywheel
E4439	Right flywheel
E4442	Crankpin
E4445	Connecting rod

To permit the use of the latest components in the previous condition assembly with the plain right main bearing, the following substitutions will apply when present stocks are exhausted:-

E3909	CRANKSHAFT ASSEMBLY	replaced by	E4776
* E3910	Left flywheel	replaced by	E4436
* E3598	Right flywheel	replaced by	E4721
-	Crankpin		E4442
-	Connecting rod		E4445

* To use new pin and rod both flywheels must be changed.

The previous crankpin E3600 and corresponding connecting rod E3624 will continue to be supplied for servicing existing assemblies.

UP TO ENGINE No. 17388.

Use E3422 Flywheel assembly (Narrow wheels)

FROM ENGINE No. 17389 UP TO 34268.

Use E4776 Flywheel assembly.

IMPORTANT. When ordering connecting rods or crankpin check the parts against the description below to ensure that the correct parts are ordered.

Recommended fast-moving stock items.

+ E3414	Crankpin	5/4 in. diam. spigots, 1 1/8 in. diam big-end.
+ E3624	Connecting rod	1 1/8 in. diam. big end
E3600	Crankpin	13/16 in. diam. spigots, 1 1/8 in. diam big-end
E4442	Crankpin	13/16 in. diam. spigots, 1.5/16 in. diam big-end
E4445	Connecting rod	1.5/16 in. diam big-end.

+ Also service Terrier 150 c.c.

FEBRUARY 1963.

TRIUMPH MOTORCYCLES

TRIUMPH

SERVICE BULLETIN . 242

EXTERNAL AIR FILTER FOR 3TA AND 5TA

In some countries the prevailing road and dust conditions make the location and capacity of the standard internal air filter equipment inadequate on the 3TA model 'Twentyone' and 5TA 'Speed Twin' which specify rear enclosure panels.

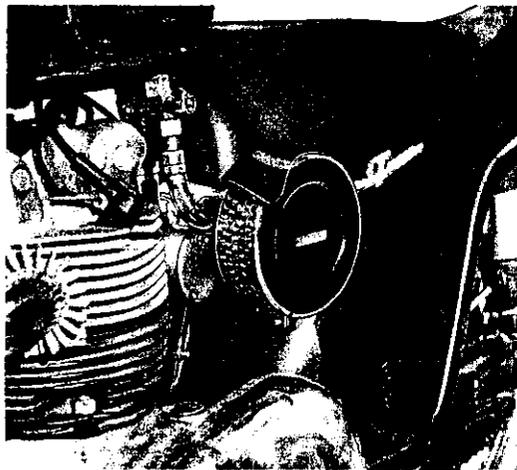
An external resin-bonded paper element air filter of larger capacity is now available, either as an optional fitment at extra cost on new machines, or as the set of parts listed below for fitment to existing machines.

The paper element should not be rinsed in petrol or paraffin (kerosene) as for similar felt construction elements. Cleaning procedure consists only of dismantling the filter assembly, and cleaning the element with a jet of compressed air to dislodge adhering dust particles.

The element is available separately, combined with the backplate, as an assembly, under part number F5694.

This type of external air filter is strongly recommended to Police Forces using these machines, as it not only gives greater filtration efficiency, but allows more regular maintenance, being more accessible, and not hidden beneath the rear enclosure panelling.

List of components involved:-



H 436	Bolt	2
E 5111	Adaptor ring	1
E 5110	Elbow	1
F 3859	Clip	1
E 5113	Screw	2
E 5112	Bracket	1
GS299	Spring washer	3
F 3799	Nut	2
T 1076	Bolt	1
F 5693	Air filter assembly	1
F 5625	Clip	1
F 4964	Water deflector	1

If you have a need or interest in this type of equipment, will you place your initial orders as soon as possible as it will enable us to manufacture the parts in larger quantities, thereby enabling earlier and more consistent delivery.



No. 243

SERVICE BULLETIN

SPEEDOMETER DRIVE 1963 650 C.C. TWINS.

The speedometer drive on the above models is taken from the right hand end of the gearbox layshaft. As overall gear ratio changes are achieved by changing gearbox drive and rear wheel sprockets, the speedometer cable drive gear combination must be corrected to preserve the cable drive speed appropriate to the speedometer head. The standard speedometer cable drive speed for 1963 models is 1,600 revolutions per minute.

The following are standard available speedometer drive gear combinations.

<u>Model</u>	<u>Rear Tyre.</u>	<u>G/Box Sprocket.</u>	<u>Speedo Drive/Driven Gears.</u>		<u>Ratio</u>
6T Solo	350 x 18	20	T1744	T1745	10/15
6T Sidecar	350 x 18	18	T1747	T1748	9/15
TR6/T120 Solo	400 x 18	19	T1744	T1745	10/15
TR6/T120 Sidecar	400 x 18	17	T1747	T1748	9/15

All the above combinations utilise a 46 tooth rear sprocket and 1,600 cable r.p.m. speedometer head, with a standard ratio gearbox.

Current available alternatives are:-

<u>Model</u>	<u>Rear Tyre</u>	<u>Gearbox</u>	<u>G/Box Sprocket.</u>	<u>Speedo Drive Gears.</u>		<u>Ratio</u>
TR6/T120 Solo	400 x 18	Wide ratio gears	19	T973	T1820	8/15
TR6/T120 Solo	400 x 18	Close ratio gears	19	T1828	T1829	10/13

For special purposes it may be necessary to calculate the correct speedometer drive gear combinations (e.g. change of sprockets, wheel and tyre specification etc.) Full details and charts are available direct from the Triumph Service Department.

Please request Technical Information Bulletin Number 11.

March 1963.

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

S.B. 244.

WORKSHOP TOOLS REQUIRED FOR SERVICING.

UNIT CONSTRUCTION 650 c.c. MACHINES.

1. Oil seal pilot. Part No. D486 This tool is a guide for contact breaker oil seal when replacing timing cover.
2. Contact breaker extractor Part No. D484.
3. Crankshaft pinion extractor. Part No. Z121. This extractor is identical to the tool used on earlier 'B' range machines but has been adapted to extract a pinion of greater depth, as fitted on present 'B' range machines. Depth of machining in extractor was $\frac{1}{2}$ " but should now be increased to $\frac{3}{4}$ ".
4. Camshaft pinion tool.

Z144	Replacer adaptor (1 off)	These adaptors to be used in conjunction
Z145	Extractor adaptor(1 off)	with existing Z89 tool.

These tools are also applied to 1963 350 c.c. and 500 c.c. machines.

TRIUMPH

SERVICE BULLETIN

No. 245
(Revised)

IGNITION TIMING FIGURES WITH 1964/5 CONTACT BREAKER ASSEMBLY

Table I

Model	Ignition Type	Advance Range		Crankshaft & Piston Position Before Top Centre			
		Contact Breaker.	Engine	Fully Advanced		Static Timing (Retarded)	
<u>"A" RANGE</u>							
T20	Coil	12°	24°	32°	0.238 in.	8°	0.016 in. (0.40 mm)
T20S/H	Coil	12°	24°	40°	0.363 in.	16°	0.060 in. (1.52 mm)
(TS)) TS20)	E.T.	10°	20°	40°	0.363 in.	20°	0.096 in. (2.44 mm)
TR20	E.T.	10°	20°	32°	0.238 in.	12°	0.032 in. (0.80 mm)
<u>"B" RANGE</u>							
6T	Coil	12°	24°	35°	0.355 in.	11°	0.038 in. (0.95 mm)
TR6) T120)	Coil	12°	24°	39°	0.435 in.	15°	0.068 in. (1.60 mm)
TR6/C) T120/C)	E.T.	5°	10°	39°	0.435 in.	29°	0.250 in. (6.35 mm)
<u>"C" RANGE</u>							
3TA) 5TA)	Coil	12°	24°	30°	0.210 in.	6°	0.010 in. (0.25 mm)
T90	Coil	12°	24°	40°	0.370 in.	16°	0.060 in. (1.52 mm)
T100S/S) T100S/R)	Coil	12°	24°	40°	0.370 in.	16°	0.060 in. (1.52 mm)
T90C) T100S/C)	E.T.	5°	10°	37°	0.320 in.	27°	0.173 in. (4.39 mm)

Contact breaker points setting 0.016 in. (0.35 - 0.40 mm) (see note overleaf)

Before attempting to retune an engine ("B" and "C" Ranges), the auto advance range, stamped on the rear of the cam unit, should be checked.

For contact breaker assemblies indicating a range differing from that given above, double the degree figure indicated on the rear of the cam unit, and subtract from that given in the "Fully Advanced" column in the chart.

This will give the "static" crankshaft setting required for that particular assembly.

TRIUMPH MOTORCYCLES Continued.....

The new "static" piston position corresponding to the crankshaft position can now be found from the chart below:-

Table II

<u>Crankshaft Degrees Before Top Centre.</u>	<u>"B" Range 650 c.c. 82 mm Stroke.</u>	<u>"C" Range 350 & 500 c.c. 65.5 mm Stroke.</u>
	<u>Piston Movement.</u>	<u>Piston Movement.</u>
8	0.020 in.	0.016 in.
10	0.030 in.	0.025 in.
12	0.045 in.	0.036 in.
14	0.060 in.	0.050 in.
16	0.077 in.	0.060 in.
18	0.095 in.	0.077 in.
20	0.120 in.	0.098 in.

EXAMPLE - T120 with 12° stamped on back of contact breaker.

Total auto-advance range = $12^\circ \times 2 = 24^\circ$

Static timing = Fully advanced (from table I) $39^\circ - 24^\circ = 15^\circ$

Piston position for static timing (from table II) = 0.068 in.

If carefully done, timing on the piston position is accurate enough for normal purposes, but for sporting events where absolute accuracy is required, it is better to use a degree disc mounted on the crankshaft.

May 1963.



SERVICE BULLETIN

No. 246.

TRIUMPH LOCTITE SEALANT, PART NO.D524.

Improved manufacturing techniques involving the use of fluid Locking Sealants are rapidly gaining popularity.

In line with other manufacturers in the Mechanical Engineering Industry, we are now using a proprietary thread sealant for specific locking purposes. One such application on current production assembly lines is the use of this sealant on the three radial bolts which secure the flywheel to the crankshaft on all our twin cylinder engines, and other applications are likely to be introduced from time to time.

The name of this Product is LOCTITE Sealant.

LOCTITE is not simply an adhesive, and we cannot condone, or accept responsibility where any substance other than LOCTITE Sealant has been used to secure the flywheel bolts.

LOCTITE Sealant is applied direct to the parts which are to be locked together after normal degreasing. The curing process of the fluid commences with the exclusion of air, and in room temperature hardens in four to twelve hours, completely curing in twentyfour hours. In addition to locking nuts and bolts, LOCTITE can be used for retaining bearings on shafts, or in housings and any metal to metal application where the gap does not exceed 0.004 in. (0.1mm).

The dismantling of components assembled with LOCTITE Sealant requires a greater applied effort to shear the seal, but no detrimental effect is suffered by the components, which can be cleaned with a wire brush, and reassembled again using LOCTITE.

We have already found numerous applications for LOCTITE in our own Repair Shop. Only a small amount of LOCTITE is needed for each application, and its use often avoids dismantling and the fitment of new parts.

Other possible applications are:-

Loose clutch hub splines.

Steering cups loose in frame.

Main bearings loose on engine Driveshaft.

Loose engine sprocket splines.

Loose carburettor bellmouths.

Stator studs and screws.

Swinging fork pivot loose in frame,

Securing gearbox sprocket nuts etc.

"TRIUMPH LOCTITE SEALANT" is available in attractively carded 3 cc tubes which retail at 4/9d each. These are supplied at your usual discount in display cartons of 12 tubes, and are of interest and possible use by EVERY MOTORCYCLE OWNER. (3 cc's gives over 100 applications).

May 1963.

TRIUMPH

No. 247
No. 364

SERVICE BULLETIN

POLICE MACHINES WITH HIGH OUTPUT ELECTRICAL EQUIPMENT. 1970 POLICE TR6P MACHINES

We have experienced a number of cases on Police machines fitted with RM20 high output alternator for radio equipment where trouble has developed with the alternator rotor (Service part No. 54213902 with keepers and equipment part No. 54210937), due to the rotor itself becoming loose on its own 'cast in' central boss.:-

These have been isolated cases subsequent to engine Nos. H25252 on 350 c.c. and 500 c.c. models, and D15789 and DU101 on 650 c.c. machines, and is always identified by an engine rumbling noise which is suggestive of main bearing or big end failure.:-

It is often difficult to diagnose, as the noise appears when the engine is cold, the increased clearances developing when the engine is hot.

RECOMMENDED ACTION: 54213902 c/w keepers = 54210937

If this problem is identified, the rotor should be replaced by a standard RM19 output rotor, as listed hereunder, which results from overall loss of output of less than 1 ampere. Changing the rotor type necessitates the fitting of an alternative type of rotor nut.

		Rotor Nut	
From Eng. No.	High Output Rotor	Standard Rotor	
3TA 250 c.c.) 5TA 500 c.c.)	H25252	E4434	E3735
6T 650 c.c.	D15789) DU 101)	E4196	January, 1971 E3977

IDENTIFICATION.

RM20 High Output Rotor	Service part No.	54213902
	No. stamped on rotor	54210937
RM19 Standard Rotor	Service part No.	54213901 or 54214272
	No. stamped on rotor	54212076 Stator 47167
		2006

July 1963.



SERVICE BULLETIN

No. 248

DE-COKE GASKET SETS.

Experience over the previous number of years has indicated that the currently available gasket sets for our three main model ranges include more individual items than are actually required, particularly in the case where "top end" overhaul is contemplated, where the general demand is for a smaller "de-coke" type gasket set.

We are therefore introducing a total of 5 entirely new "de-coke" gasket sets as detailed hereunder, suiting all post war models, which will retail at 3/6d. each for Twin cylinder models, and 2/6d. each for Tiger Cub models (subject to normal trading discount).

De-Coke Gasket Set.

- D/GS 1 Unit construction 650 c.c. models. (1963 onwards).
- D/GS 2 Iron cylinder head 500 and 650 c.c. Twins and T100 model. (1947-1959).
- D/GS 3 T15 and T20 models. (1953 onwards).
- D/GS 4 Alloy cylinder head 650 c.c. Twins. (1956/62).
- D/GS 5 Unit construction 350 and 500 c.c. models. (1957 onwards).

The current range of gasket sets (GS/T series) will be continued for the present and all joint washers will continue to be available separately.

For your guidance and information, attached to this Bulletin are lists of all large and small joint washers, and a list of all circular joint washers supplied by this Company.

We feel that by the introduction of this new series of "de-coke" gasket sets, an additional need will be met and save the unnecessary continued purchase of the larger GS/T series engine overhaul gasket sets.

September 1963.

TRIUMPH MOTORCYCLES

SMALL JOINT WASHERS

Part No.	Description	Model & years	No. off.
E487	Crankcase filter	Twins 1946-62	2
E1529	Oil pipes block	" " "	1
E1537	Oil pump	" " "	1
E1552	Inlet manifold	5T 1946-1959	2
E1676	Inlet manifold	T100 1946-1950	2 Use E3334
E1650	Rocker box	Twins 1946-1960	4
E2226	Dynamo	Twins 1946-1959	1
E2249	Cylinder base	5T T100 1946-1959	1
E2967	Inlet manifold	T100 1951 "C" Range 1957 onward.	2
E 74	Cylinder base	650 c.c. 1950 onwards	1
E3075	S.U. Carburetter	6T 1951-1956	1
E3334	Inlet manifold	650 c.c. 1954 onwards	2
E3226	Rocker cover	All Cubs	2
E3188	Oil pump	All Cubs	1
E3216	Cylinder base	T15	1
E3368	Cylinder base	T20	1 Use E4037
E4037	Cylinder base	All Cubs	1
E3217	Head gasket	All T15 and T20	1
E3250	Carburetter	Standard Cub	1 or 2
E4051	Carburetter adaptor to head	Sports Cubs	1
NA43	Carburetter (15/16" bore)	Various	1 or 2
NA43A	Carburetter (1.1/16" bore)	Various	1 or 2
E 74	Oil pipe block	T20	1
E3552	Rocker box	650 cc. 1956-62.	2
T1148	Gearbox camplate cover	All Cubs	1
E3730	Oil pump	"C" & 1963 "B" Range	1
E3763	Oil pipes block	"C" & 1963 "B" Range	1
E5049	Contact breaker cover	All '63 "A, B & C"	1
E3743	Rocker box	"C" Range	2
E3832	Gearbox sprocket cover	"C" & '63 "B" Range	1
E4549	Rocker box	'63 "B" Range	2
E3798	Cylinder base	All "C" Range	1
T1477	Chaincase to crankcase	"B" Range 1946-62	1
T1541	Gearbox adjuster cover plate	1957-62	1

CIRCULAR WASHERS

The Crane Man © 2002

<u>Part No.</u>	<u>Material</u>	<u>Nom. Bore (ins)</u>	<u>Application</u>	<u>No. per Machine</u>	
97	Fibre	1/2	Petrol tap	1	Use F1511
E1335	Copper	3/8	Oil pipes	12	
E1465	Fibre	5/8	T20 Gearbox	1	
E1577	Fibre	1.1/2	Rocker caps	4	
E2441	Copper	1/4	Rocker cover etc.	3	
F1880	Copper	5/16	Oil pipes	4	Use E3249
E3249	Copper	5/16	Cub rocker spindle	2	
E1496	Rubber	15/16	Push rod tube (bottom)	2	
E1670	Fibre	27/32	Release valve	1	
E2425	Rubber	1	T15 Push rod cover	1	
E2570	Fibre	11/16	Cub crankcase filter	1	
E4593	Fibre	1.1/8	Distributor hole	1	
751	Fibre	1.1/4	Rocker caps	4	
GS439	Fibre	5/16	Crankcase oilway	1	
GS471	Fibre	3/4	Crankcase filter	1	
T714	Fibre	5/8	Gearbox blank plug	1	Use T1921
F1713	Fibre	7/8	Oil tank filter	1	
F1511	Fibre	1/2	Petrol tap	1	
GS254	Fibre	23/32	Release valve	1	
NE507	Fibre	31/32	Filler plugs	3	
PT 104B	Fibre	3/8	Drain Plug	2	
WE 170	Fibre	1/4	Level Plugs	6	
T1257	Fibre	15/32	Level Plug	2	
GS761	Fibre	3/8	Chain adjuster plug	1	Use T1738
T1738	Fibre	3/8	Chain adjuster plug	1	
3253	Rubber	9/32	"O" ring, rocker spindle	2	
E3309	Rubber	9/16	"O" ring	2	
E3391	Rubber	Sleeve	Push rod bottom T20	1	
E3540	Silicone rubber	1.3/16	Push rod top, T20	1	
E3547	Silicone rubber	7/8	Push rod top, Twins	2	
E3377	Fibre	3/4	Chaincase filler T15 1954-5.	1	Use GS471
E3758	Rubber	Sleeve	Push rod bottom, "C" Range	2	
E4193	Rubber	1/8	"O" ring, pressure release	1	
E2793	Rubber	Sleeve	Pressure release	1	
E3723	Cork	9/32	"C" Range crankcase filter	1	
H1062	Alumium	5/16	Fork bottom	2	
H430	Fibre	3/16	Fork drain & filler plug	4	
T1512	Rubber	Sleeve	Starter spindle	1	
E4803	Rubber	1/4	"O" ring, tachometer drive	1	
T1921	Fibre	5/8	Gearbox blanking plug	1	

LARGE JOINT WASHERS.

<u>Part No.</u>	<u>Description</u>	<u>Model & Year</u>	<u>No.</u>	<u>Off.</u>
E3345	Right outer cover	Cubs up to 88346	1	
E4872	Right outer cover	Cubs 88347 onwards	1	
E3344	Left outer cover	Cub up to 17388	1	
U3579	Left outer cover	Cub 17389-57616	1	
E4100	Left outer cover	57616-88346	1	Use E4871
E4871	Left outer cover	88347 onwards	1	
E3769	Head gasket	All 350 cc. 1957-62	1	
E4015	Head gasket	All 500 c.c. 1959-62	1	
E4674	Head gasket	All 350 c.c. 1963	1	
E4675	Head gasket	All 500 c.c. 1963	1	
E4156	Chaincase	All "C" Range	1	
E2248	Head gasket	Iron 500 cc. 1946-1958	1	
E2905	Head gasket	Alloy 500 c.c. 1951-59	1	
E3614	Head gasket	650 c.c. 1951-62	1	
E4547	Head gasket	650 c.c. 1963	1	
T503	Chaincase	3T & TR5 to 1954	1	
T504	Chaincase	1946-53 All models	1	
T1057	Chaincase	'53 5T & '54 5T & 6T	1	
T1189	Chaincase	1954-59 No. alternator	1	
T1226	Chaincase	1955-62 Alternator	1	
T1770	Chaincase	1963 "B" Range	1	



SERVICE BULLETIN

No. 249

DEFECTIVE GEAR ENGAGEMENT - T20 TIGER CUB MODEL.

There have been a number of reported incidents during the 1963 Season where Tiger Cubs have suffered from poor gear engagement in early delivery mileages.

This has invariably been traced to the fact that the radius on the underside of the keeper plate (T1675) in the gearchange quadrant (T1673) has been inadequate, restricting the plungers (T1184) from coming out of the quadrant to their full extent and making proper engagement in the gearchange camplate.

To remedy this defect, it is simply necessary to remove the gearchange quadrant, take off the keeper plate, slightly increase the radius of the underside and replace the keeper plate, ensuring that the screw is retained fully home by centre popping in position after tightening.

September 1963.

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TRIUMPH MOTORCYCLES



SERVICE BULLETIN

No. 250.

1967/4. UNIT CONSTRUCTION 650 C.C. TWIN

PRE-SIZED REPLACEMENT SWINGING ARM BUSHES F6042.

Replacement swinging arm pivot bushes, part No. F5310 (Page 18, item 2 in the No. 1 (Antonia) Replacement Parts Catalogue) fitted to 1967/4 650 c.c. machines have previously required boring or reaming in position after pressing in as a final sizing operation.

These bushes are now replaced by a new swinging arm pivot bush part No. F6042 which is supplied already "pre-sized" ready for immediate pressing into the swinging fork assembly, and requires no final reaming or sizing operation after fitting.

The revised components F6042 are now available and for your records, the new retail price is £7/- each.

October 1968.

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

No. 251

"50" RANGE GEARS

The unit construction 350 and 500 c.c. Twins ("50" Range) have been fitted with various gears. The accompanying sheets list the part numbers, number of teeth on each gear and the gearbox ratios.

NOTES

- A. "Non-needle roller" means used with the sintered bronze layshaft bush.
- B. "Needle roller" refers to the layshaft bearing in the gearbox housing. To convert an earlier machine from the sintered bronze bush fit T1606 bearing and use the flange off a T1367 bush as a thrust washer.
- C. "Double needle roller" means a needle roller layshaft bearing also in the kickstart spindle. To convert use T1327 kickstart spindle and T1897 bearing.
- D. When converting to different ratios check that the sliding gears clear the cutaway on the sides of the selector forks. Early selector forks may be converted by grinding.
- E. First condition close ratio and wide ratio gears have been superseded by second condition. When replacements are required, the mainshaft high gear and layshaft cluster must be replaced as a pair by the second condition.
- F. A gear cannot be replaced singly except by one having the correct part number and, of course, correct number of teeth. The groups listed overleaf are the only possible combinations.

NOVEMBER 1963.
REPRINTED JULY 1966.

TRIUMPH MOTORCYCLES

"Q" RANGES GEARS WITH NUMBERS OF TEETH AND RATIOS

	Close ratio Needle roller First condition	Close ratio Needle roller Second condition	Close ratio Double needle roller Third condition	Close ratio Double needle roller Fourth condition	Wide ratio Needle roller First condition	Wide ratio Needle roller Second condition
Layshaft high	T1625+ 24	T1621 20	T1821 20	T1821 20	T1618+ 27	T1684 23
Mainshaft cluster	T1635 20/26	T1635 20/26	T1971 16/22	T1971 16/22	T1624 18/28	T1624 13/22
Mainshaft second	T1628 24	T1628 24	T1932 20	T1932 20	T1410 23	T1410 23
Layshaft cluster	T1636+ 20/27	T1823 17/27	T1893 17/27	T1972 17/23	T1616+ 17/28	T1686 14/28
Layshaft third	T1631 24	T1631 24	T1842 21	T1842 21	T1413 23	T1413 23
Layshaft low	T1633 31	T1633 31	T1950 27	T1950 27	T1622 33	T1622 33

RATIOS

Top	1	1	1	1	1	1
Third	1.11	1.09	1.12	1.30	1.35	1.35
Second	1.35	1.32	1.35	1.94	2.0	2.0
Bottom	1.86	1.83	1.89	2.88	3.01	3.01
Fitted as original equipment to:	Optional alternative	Optional alternative	Optional alternative	TR54C from H18612 to H25251	Optional alternative from H25252 to H32465	Optional alternative from H25252 to H32465

+ SEE NOTE E...



SERVICE BULLETIN

No. 253
(Revised)

SERVICE TOOLS

ALL MODELS

The attached list is designed to assist Dealer, customer and Distributor in obtaining the correct workshop tool for the correct operation.

Immediately noticeable will be the introduction of a considerable amount of new numbers and indeed many alterations with regard to the well known "Z" numbers.

The new numbers are mainly due to the introduction of two new models namely the 250 c.c. TR25W and the 750 c.c. Trident. Many of the new tools listed under "61-" and "D" numbers have been designed so that although they are mainly required for newer models, they are still usable on the older type machines. Where this applies, you will see on the list under the heading "Number Superseded", the old "Z" number from which the new number has taken over.

Model designations in column headed "Models" are explained below for convenience:-

- A T20 199 c.c. Tiger Cub. All models.
- B All 500/650 c.c. Pre-unit construction 1947/1962 and all 650 c.c. after engine No. DU101.
- C All 350/500 c.c. Unit construction after engine No. H101.
- TR25W 250c.c. 1968 onwards.
- T150 750 c.c. Trident. 1969 onwards.

TRIUMPH MOTORCYCLES

<u>Part No.</u>	<u>Description of Tool</u>	<u>Number Superseded</u>	<u>Model</u>
Z13	Clutch locking plate		B C
Z16	Use D2219		
Z19	Stanchion extractor plug CEI		A B C
Z22	Piston ring assy. collar 71 mm.		B
Z23	Use 61-6008		
Z24	Use D2218		
Z46	Use 61-6010		
Z55	Reamer (camshaft)		B
Z56	Arbor (for above)		B
Z63	Gearbox nut spanner		B
Z72	Gudgeon pin remover & replacer		B
Z73	14 mm Plug tap		B
Z76	Use 61-3694		T150 A B C TR25
Z79	Timing pinion punch		B C
Z89	Use D2213		
Z101	Use D541		
Z103	Use 61-6025		
Z104	Fork combination spanner		A
Z110	Rocker spindle oil seal compressor		A
Z111	Use D2221		
Z120	Balance weights 595 grms.		B
Z121	Use 61-6019		
Z122	Balance weights 490 grams.		C
Z125	Bearing locking ring spanner		A
Z127	Fork stanchion extractor		B C
Z128	Line reamer arbor		C
Z130	Piston ring assy. collar 350 c.c.		C
Z132	Piston ring assy. collar 500 c.c.		C
Z133	Compensating sleeve		C
Z134	Reamer & collars		C
Z135	Distributor gear extractor		A
Z137	Oil seal extractor		B C
Z138	Balance weight 689 grms.		B
Z139	Crankshaft pinion extractor		A
Z144	Now part of assembly No. D2213		
Z145	Now part of assembly No. D2213		
Z151	Use 61-6046		
Z161	Fork assy. tool CEI		A B C
Z162	Bearing outer Race removal tool		B
Z164	Use 61-6050		
Z165	Use 61-6045		
Z166	Use 61-6046		
Z167	Crankcase assy. tool		TR25
Z168	Contact breaker oil seal spreader		TR25

<u>Part No.</u>	<u>Description</u>	<u>Number Superseded</u>	<u>Model</u>
Z169	Use 61-3824		
D220	Fork combination spanner		A B C
DA50	Use D662		
DA51	Use D663		
D398	Timing pinion extractor		A
D400	Clutch extractor		A
D484	C.B. extractor up to DU66246	Z141	B C
D485	C.B. extractor 4CA	Z142	A
D486	Oil seal spreader	Z143	A B C
D496	Primary chain tensioner tool		B
D526	Extractor	Z146	A
D527	Fork sleeve nut spanner		B C
D539	Replacement bolt	Z148	A
D540	Replacement bolt	Z149	A
D541	Crankpin extractor & replacer	Z101	A
D605	Timing disc		A B C TR25
D606	Timing disc shaft		A B C TR25
D607	Inner clamping washer		A B C TR25
D608	Outer clamping washer		A B C TR25
D653	T.D.C. tool body after H49833		C
D654	T.D.C. plunger after H49833		C
D662	Clutch extractor body CEI	DA50	B C TR25
D663	Clutch extractor bolt	DA51	B C
D779	Fork spanner after DU68362		T150 B C
D782	C.B. cam extractor 6CA	61-6030	T150 B C
D1810	Camshaft oil seal spreader		T150
D1861	Use D1862		
D1812	Use D1862		
D1814	Use 61-6061		
D1815	Use 61-6062		
D1832	Valve seat cutter 45° Ex.		T150 A B C TR25
D1833	Valve seat cutter 45° In.		T150 C B
D1834	Blending cutter		A B C
D1835	Blending cutter		T150 C B TR25
D1836	Blending cutter		T150 C B
D1858	T.D.C. Locator assy.	D1808, D1809	T150
D1859	T.D.C. Locator assy. UNF		B C
D1860	Clutch extractor assy. UNF	D780, D781	T150
D1861	Clutch extractor assy. UNF		B C
D1862	Shock absorber hub extractor	D1811, D1812	T150
D1863	Arbor pilot assy.		T150 A B C TR25
D1865	Carb. slide assy. tool		T150
D2014	Timing plate		B C
D2135	Oil pressure release valve spanner		T150

<u>Part No.</u>	<u>Description of Tool</u>	<u>Number Superseded</u>	<u>Model</u>
D2211	Crankcase baffle (front)		T150
D2212	Crankcase baffle (rear)		T150
D2213	Camshaft pinion extractor assy	Z89, Z144, Z145	T150 B C
D2218	Steering cone fitting tool	Z24	T150 A B C TR25
D2221	Oil seal compressor	Z111	T150 B C
61-3005	Fork oil seal holder removal tool		TR25
61-3006	Fork oil seal extractor		TR25
61-3007	Fork oil seal extractor		TR25
61-3063	Steering head cup extractor		TR25
61-3350	Fork leg assy. & removal tool		TR25
61-3382	Valve guide punch		TR25
61-3583	Clutch sleeve extractor		TR25
61-3682	Piston ring clamp		TR25
61-3694	Bearing locking ring spanner	Z76	T150, A B C TR25
61-3765	Fork damper recovery tool		TR25
61-3774	Clutch locking tool		TR25
61-3805	Pinion extractor set		TR25
61-3809	Crankshaft balance weight		TR25
61-3816	Contact breaker cam extractor		TR25
61-3819	Crankshaft pinion cap		TR25
61-3824	Fork leg remover and replacer	Z169	T150 B C TR25
61-6002	Engine lifting attachment		T150
61-6008	Tappet guide block punch	Z23	T150 B C
61-6010	High gear bush reamer	Z46	T150 B C
61-6013	Cam pinion replacer adaptor UNF		T150 B C
61-6016	Tappet block punch adaptor		T150
61-6017	Fork sleeve nut spanner	Z174	T150 A B C TR25
61-6019	Crankshaft pinion extractor	Z121	T150 B C
61-6020	Outer bearing drift T.S.	Z178	T150
61-6021	Bearing drift D.S.	Z179	T150 B
61-6024	Crankshaft pinion replacement guide and drift	Z182	T150
61-6025	Fork alignment jig	Z103	T150 A B C TR25
61-6026	Gearbox high gear bearing drift	Z184	T150 B
61-6030	Use D782		
61-6042	Clutch alignment jig		T150
61-6045	Crankcase parting tool	Z165	TR25
61-6046	Engine & gearbox sprocket extractor	Z151	T150 B C TR25
61-6050	Swinging arm bush punch	Z164	T150 TR25
61-6051	Oil seal protector (shock absorber)		T150
61-6052	Piston ring clamp		T150
61-6059	Tappet block drill rig		T150
61-6061	Gearbox sprocket nut spanner	D1814	T150
61-6062	Front brake plate nut box spanner	D1815	T150 B C
61-6063	Valve guide extractor & replacer	Z16	T150 A B C TR25
61-6070	Clutch hub locking tool	D1846	T150



SERVICE BULLETIN No.254

TRIUMPH TINA SCOOTER - SPARES AND SERVICE ARRANGEMENTS

With effect from the 1st March 1964, servicing arrangements and spare parts supply for the Tina Scooter will be transferred to and operative from the Triumph factory at Meriden.

Spare Parts. Spare part orders for Tina Scooters should be placed direct on the Triumph Spares Department, Meriden, on a separate order form from motorcycle spares.

The existing Tina part number series will continue for ordering, despatching and invoicing, although the spares for the scooter will be accounted for on a separate series of invoices from the motorcycles.

Accessories. All Tina accessories will continue to be supplied direct from Motoplas Ltd., and will NOT under any circumstances be supplied through the Triumph Tina Service and Spares organisation. Requirements must be placed on direct order with ~~Messrs. Motoplas Co. Ltd., Waterley Works, Coventry Road, Birmingham 10.~~

Repairs and Workshop Appointments. Tina guarantee and service repairs will be undertaken at Meriden, and all enquiries regarding matters of guarantee, repairs, reconditioning etc., should be addressed to the TINA CONTROLLER, Triumph Service Department, Meriden. Complete scooters cannot be accepted into the Repair Shop without prior appointment.

Guarantee. All matters concerning guarantee claims and submission of components for examination under warranty should be addressed to the Tina Controller, Triumph Service Department, Meriden, and clearly marked "TINA SCOOTER - Guarantee Claims Department" giving full details of the history of the claim, scooter engine number, date of purchase and mileage.

Correspondence. All correspondence concerning general Tina service matters should be addressed to the Triumph Service Department, Meriden, and marked for the attention of the "Tina Controller".

Telephone Calls. Incoming telephone calls should be made to the Triumph Service Department, "Tina Service Division", Tel. No. Meriden 331, in order to minimise delay within the organisation.

February 1964

~~Messrs. Motoplas Co. Ltd., Waterley Works, Coventry Road, Birmingham 10.~~

TRIUMPH MOTORCYCLES

TRIUMPH

SERVICE BULLETIN

No. 257

ALL OVERSEAS DEALERS

We are now in a position to supply Owner's Handbooks for our current range of motorcycles, printed in Spanish or French languages, for the following series of models.

"A" Range (200 c.c.) T20 Tiger Cub.

"B" Range (650 c.c.) 6T Thunderbird, TR6 Trophy and T120 Bonneville.

"C" Range (350/500 c.c.) 3TA Twentyone, 5TA Speed Twin and T100S/S Tiger 100.

The literature supplied with each new machine can now be arranged to include the above series of Manuals. The request for supply with the machine should be clearly stated on the order.

The Handbooks are also now available for direct supply through the Spares Department @ 5/- each against normal spares orders.

October 1964.

RIUMPH MOTORCYCLES



SERVICE BULLETIN No. 258

GUARANTEE CLAIMS

May we remind our dealers that all guarantee claims for proprietary components should be made direct to the manufacturer concerned.

We continue to receive proprietary components with requests for replacement under guarantee. Since we do not manufacture the parts concerned, we are unable to do so. We are thus involved in the cost of further postage and packing from these works, and more important to the customer, the time lost in handling the parts. A full list of proprietary manufacturers is contained in both the Instruction and Replacement Parts Manuals for the machine in question, and we would request that all claims involving components of a proprietary nature are in future directed to, and dealt with by the manufacturer concerned or his local agent or representative in your area.

Please ensure your workshop and spares staffs are fully aware of these requirements.

October 1964.



260

SERVICE BULLETIN

REAR WHEEL BEARINGS - 650 C.C. TWIN CYLINDER MODELS.

This bulletin applies to both standard and quickly-detachable rear wheels.

It has been brought to our notice that premature wheel bearing failure has occurred on 650 c.c. models commencing engine No. DU13375, subsequent to the incorporation of an additional steel shim washer and felt seal in the right hand side of the rear wheel bearing assembly.

Early machines in this series were assembled with the felt in a dry condition, allowing water and dirt ingress, destroying the grease in the pre-packed bearing.

As from 650 c.c. engine No. DU17840 the felt seal has been soaked in SAE 30 grade oil, prior to assembly, to overcome this problem.

Machines falling within the engine numbers given above, should be checked, and the felt seal removed and soaked in oil. Any replacement bearings fitted should be packed in grease and assembled in conjunction with a new oil soaked felt.

March 1965.

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TRIUMPH MOTORCYCLES

TRIUMPH

No. 262
Reissued

SERVICE BULLETIN

TRIUMPH ENGINEERING Co. Ltd. · MERIDEN WORKS · ALLESLEY · COVENTRY Tel. Meriden 331

THE ASSEMBLY AND USE OF THE STROBOSCOPE KIT CP 207 WITH TRIUMPH MACHINES

CONTENTS OF THE KIT

Qty	Part No	Description
1	D.617	Stroboscope timing light
1	D.605	Timing Disc (graduated in crankshaft degrees)
1	D.606	Adaptor
1	D.607	Inner clamping washer (for locking C:B in fully advanced position if required) (11/16" O.Dia.)
1	D.608	Outer clamping washer (1 1/2" O.Dia.)
1	S1-51	Nut 5/16" x 26 C.E.I.
1	D.571	T.D.C. tool body (C.E.I.)
1	D.572	T.D.C. tool plunger
1	D.484	Contact breaker extractor ("B and C" range)
1	D.485	Contact breaker extractor ("A" range)
1	D.1858	T.D.C. locator assembly (T150)
1	D.1859	T.D.C. locator assembly ("B and C" range UNF)

GUARANTEE

The kit is guaranteed by The Triumph Engineering Co. Ltd., for twelve months from the date of purchase against faulty workmanship or material. This guarantee covers both material and labour.

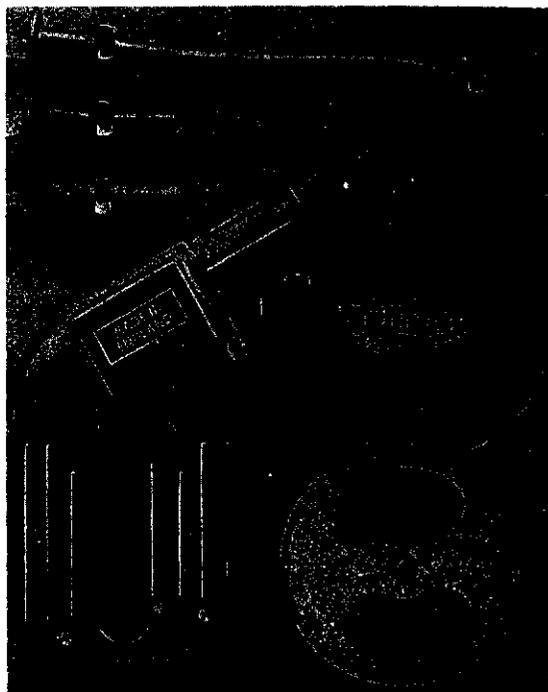
REPAIRS

If after the guarantee period has expired trouble is experienced with the stroboscope unit, we are able to provide a replacement against the return of the UNDAMAGED original unit for the concessional price of £5. 5. 0d.

NOTE: For machines without the rotor timing marks.

- (1) The dished clamping washer D.607 (11/16" outside diameter) should normally be assembled with the flat side towards the auto advance cam. If it is required to lock up the auto advance mechanism in the fully advanced position the clamping washer should be reversed so that the dish, or counterbore, is facing the auto advance mechanism.
- (2) It should be noted that the timing disc D.605 is calibrated in crankshaft degrees and not camshaft degrees.

The stroboscope is designed to be powered by a 6 volt battery external power source. Do not use the machine's own battery equipment. (A.C. pulses in the low tension machine wiring can trigger the stroboscope and give false readings). Observe battery and stroboscope wiring polarity. Timing the engine stroboscopically with a timing disc ensures that both plugs are firing at exactly similar angular crank rotation (i.e. piston movement), at fully advanced ignition, i.e. at full power, thereby ensuring the smoothest, most vibration free engine running condition and ensuring maximum engine power output.



IGNITION TIMING USING A STROBOSCOPIC LIGHT

(MODELS BEFORE DU66246 and H57083)

- (1) From engine number DU.13375 - 650 c.c. models and H.35987 - 350/500 c.c. models a location hole is provided in the crankcase behind the cylinder block with a corresponding notch in the flywheel to enable top dead centre to be established and located quickly and easily by inserting in the T.D.C. tools D.571 and D.572 (CEI) or D.1859 (UNF)
- (2) On earlier machines engage top gear, and use a timing stick with a suitable mark which aligns along the top of the cylinder head fins at about 1 in of piston movement. (for greater accuracy use a Dial Test Indicator through the spark plug hole).
- (4) Connect the stroboscope blue lead to the right hand spark plug lead, and start the engine. Read the strobolight on the disc, revving the engine up until the auto advance range is fully achieved. Check against the correct specification and adjust the C.B. back plate on its slots until the correct advanced timing is accurately set.
- (5) Repeat (4) above for L.H. plug and adjust the accuracy of the spark on the C.B. points adjustment.

NOTE:

Rotate the engine either side of T.D.C. by rocking the rear wheel, to exactly the same measured point of movement on the stick (or D.T.I.) setting the pointer so that it reads an equal number of degrees either side of the T.D.C. on the degree disc.

To advance the spark, open the points approximately 0.001 in. for each engine degree required, and to retard, close the points setting similarly. Minor adjustments to the left cylinder C.B. points gap setting, to ensure accurate ignition timing, are permissible.

- (3) Fit the timing disc adaptor shaft and timing disc into the camshaft auto advance unit, and set the pointer, fixed to a convenient bolt on the engine to read T.D.C.
- (6) Check back on the stroboscope reading at slow tickover for range of advance on both cylinders, for efficient action of the auto advance unit, remembering the most important final setting is at fully advanced, both cylinders.

IGNITION TIMING USING A STROBOSCOPE LIGHT

(Models from DU 66246 and H 570837)

On "B" (650 c.c.) from DU 66246 and "C" (350,500 c.c.) from H 57083 range models there is a marking on the outer face of the rotor which coincides with a fixed pointer to indicate the 38° fully advanced position.

On "B" and "C" range models a built in pointer is revealed at the bottom of the inspection hole as the cover is removed. Early 1968 models were issued without the pointer and for these particular machines a service tool D2014 is inserted after removal of the cover. This is marked "B" for "B" Range models and "C" for "C" Range models, the relative marking aligning with the rotor to indicate the fully advanced position.

Connect the stroboscope blue lead to the right hand spark plug lead and start the engine. Read the strobo light on the disc, revving the engine up until the fully advanced position is reached at which stage the pointer and line should coincide. If they do not, adjustment should be carried out on the Black/White C.B. back plate until the correct advanced timing is accurately set.

Repeat the procedure for the left hand plug and adjust the Black/Yellow C.B. point.

In the case of the three cylinder Trident there are three scribed lines on the rotor at 120° intervals. Access is gained to the rotor through the triangular patent plate on the timing cover. The lower plate screw doubles as the pointer.

Remove the contact breaker cover plate and gasket and ensure that the contact point gaps are correct. Connect the stroboscope to the right hand plug lead. Start the motor and direct the stroboscope beam at the pointer and rotor mark. The engine should be turning over at not less than 2000 r.p.m. when the pointer and line should coincide. If they do not, adjustment should be carried out on the Black/White contact point by adjusting the C.B. back plate on its slots until the correct advanced timing is accurately set. Reconnect the stroboscope to the central spark plug, restart the motor and again direct the beam at the rotor mark. This time, any adjustment will be on the Red/Black contact point. Repeat the procedure on the Yellow/Black contact point.

"A" RANGE

MODEL	IGNITION	FULLY ADVANCED (CRANKSHAFT DEGREES)
T20) TR20)	Coil or E.T.	32°
T20S/H) T20S/S) TS20)	Coil or E.T.	40°

"B" RANGE

6T	Coil	38°
TR6, T120	Coil)	38°
TR6C, T120C	E.T.)	

"C" RANGE

3TA, 5TA	Coil	38°
T90, T100S/S)	Coil	38°
T100S/R)	Coil	38°
T100C	Coil	38°

TRIDENT

T150	Coil	38°
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SERVICE BULLETIN

No. 263

TO ALL TRIUMPH SCOOTER DEALERS

TRIUMPH T10 SCOOTER

Extensive tests have shown that improved running is obtained with a Champion N5 sparking plug. The recommended gap setting remains at 0.030 in. (0.75 mm). This supersedes the earlier N4 recommendation.

Please note that the T10 model required the above long-reach sparking plug. The earlier T1NA model requires a standard-reach plug for which the recommendation remains Champion L7.

REMEMBER : T10 Fit Champion N5
T1NA Fit Champion L7

Scooter Service Department,
Meriden Works, Allesley,
COVENTRY.

November, 1965.

TF 164

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

No.265

EXHAUST CAMSHAFT OILING SYSTEM - FITTING INSTRUCTIONS 650 c.c. MACHINES PRIOR TO ENGINE NUMBER DU. 24075

It will be assumed that the following items are in the owner's possession and that he has both the experience and necessary workshop facilities :-

2	E6490	Tappets	Triumph Instruction Manual
1	E6674	Tappet block	for Twin cylinder models.
	E6675	Oil Feed screws	appropriate for the year of the machines manufacture.
1	E6270	Oil feed pipe	
5	E1335	Copper washers	Tappet guide block punch Part No. Z.23
1	E3249	Copper washer	Piston ring clips part No.Z.22
1	E1272	Timing cover adaptor	

Remove the cylinder head and cylinder block as detailed in your Workshop Instruction Manual. Before removing the cylinder block completely, put a suitable piece of cloth into the crankcase mouth to prevent any debris (broken piston rings) falling into the crankcase. Make sure that the connecting rods are suitably protected and not allowed to knock against the stubs or sharp edges of the crankcase, otherwise they will be damaged.

Remove the old tappet guide block and fit a new one. Ensure that the locating hole in the guide block is in line with the hole in the cylinder block. Refit the old locating screw to ascertain this fact, as the new oil feed screw is drilled through the centre and any undue stress on this screw could crush it and close the oilway.

Now fit the two tappets E6490 to the tappet block making sure that the lats on the tappets face towards the outside of the tappet block allowing the feed from the outside of the block inwards and down through the drilled tappets to the camshaft.

Before refitting the cylinder block to the crankcase, pump oil through the tappet block to check oil comes out through the tappet drill holes.

Re-assemble the engine and connect the oil feed from the tappet block down to the front of the timing chest, using the banjo bolts and washers.



No. 266

SERVICE BULLETIN

TIGER CUB PUSH ROD ASSEMBLY.

Since the deletion of the push rod location "spectacle" in the T20 push rod cover tubes, some dealers have been experiencing difficulty in locating the push rods during the assembly of the cylinder head onto the engine unit.

A very simple forked tool is now available under part number B618 which retails at 2/9d., and is subject to your usual discount.

If you handle Tiger Cubs at any time we seriously suggest that you obtain at least one or two of these tools for workshop use and make them readily available to Tiger Cub owners.

February 1966.

TE 164

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

o. 267

1966 TIGER CUB OWNERS' HAND BOOK.

The Owners' Hand Book for the 1966 Tiger Cub is in course of preparation but is not yet available for distribution or supply with new machines.

Consequently, all new Tiger Cubs are at present being despatched from the works with the existing Hand Book, the later Hand Book will be substituted immediately it becomes available.

In the case of machines already despatched with the earlier publication, the new edition will be forwarded free of charge on demand.

February 1966.

TE 164

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

This Bulletin is issued for the guidance of dealers having a current sales agreement with this Company.

Dealers selling Triumph motorcycles or scooters either direct to the public or through another dealer are required by this agreement to be responsible for the stipulated PRE DELIVERY check to be carried out to each motorcycle or scooter. The franchised dealer is responsible for ensuring that the PRE DELIVERY check card attached to each Guarantee Card supplied with the machine is duly completed, signed and forwarded to the Triumph Service Department. The franchised dealer is also required to ensure that the 500 mile FREE SERVICE check is completed to the customer's satisfaction and the second portion of the Guarantee Card similarly forwarded to the Triumph Service Department.

Unless these two cards have been received and registered at Triumph the dealer is not entitled to qualify for labour reimbursement under the Guarantee Labour Reimbursement Scheme. (See attached details).

REPLACEMENT SPARES SUPPLY.

1. Parts Under Guarantee. Guarantee replacement parts may be obtained direct on the Service Department, Triumph Engineering Co. Ltd., Meriden Works, Allesley, Coventry, for Triumph motorcycles or scooters under guarantee by letter or telephone.

If a claim for labour is being made this should be noted at the same time, when the appropriate reimbursement claim form will be issued. Labour reimbursement does not apply to damage in transit claims.

The appropriate replacement parts will be supplied on a charges pending basis direct from the factory, against the return of the displaced parts.

2. Normal Routine Spares Supply. (Motorcycle or scooter dealer not having a Spares Agreement). The above claim and supply procedure under guarantee applies to all sales franchised dealers whether or not they hold a Spares Agreement with this Company.

Normal spares supply against orders from dealers not holding a Spares Agreement with this Company cannot be undertaken direct. Any requirements must be obtained through a recognised Triumph Service and Spares Specialist, a list of whom is available direct from the Service Department. Orders for spares received from dealers not holding a Spares Agreement will be returned to the dealer concerned requesting submission through a Service and Spares Specialist.

Full details of the method of operation of the Guarantee Labour Reimbursement Scheme are forwarded with this Bulletin together with a wall chart for use in your workshop, giving a schedule of operations to be carried out during the pre-delivery and 500 mile service together with other accompanying literature. Would you please bring this information to the notice of your Workshop and Spares Departments and ensure they operate within the arrangements laid down.

TRIUMPH

SERVICE BULLETIN

No. 289

CRANKSHAFT OIL FEED SEAL, 650c.c.(40 CUB.IN.) TWINS

The oil feed to the crankshaft big end bearings on the 650c.c. (40 cub.in.) twins is through the timing cover and the right side of the shaft. Oil-tightness is maintained by a garter type spring-loaded oil seal part number E.4568.

Whenever a worn crankshaft has the big-end journals reground, the oil feed spigot is also reground. The factory reground size is 0.020 in.(0.50 m.m.) undersize both on the journals and the spigot.

Whenever a reground crankshaft is fitted an undersize oil seal must be fitted. This seal is available now under part number E.6387.

NOTE: This seal is not suitable for use with a standard size shaft and does not replace E.4568, which is used also at the contact breaker.

New spigot diameter	=	0.622	-	0.623	in.
	=	1.580	-	1.532	cms.
Reground spigot diameter		0.600	-	0.601	in.
	=	1.524	-	1.527	cms.

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

TIGER CUB CYLINDER HEAD.

All current Tiger Cub models have a square finned cylinder barrel and head. The barrel is directly interchangeable with the previous condition.

On the cylinder head the distance has been changed between the studs for the carburetter adaptor. As stocks become exhausted no previous condition of head can be supplied. As two different carburetter adaptors are involved the dealer must order the additional parts to suit.

Heads affected are: - E3661
E4049A
E4101

In the case of E3661 a current pattern inlet valve E3963 is required.

	E6093A	CYLINDER HEAD C/W GUIDES	1
	E5897	Nut	4
With Amal type	(E5901	Joint washer	2
32 or Zenith	(E5898	Insulating block	1
carburetter	(E5899	Carburetter adaptor	1
	or		
with Amal type	(E5902	Joint washer	1
375 or 376	(E5900	Carburetter adaptor	1
carburetter.			



SERVICE BULLETIN

NO. 271.

TRIUMPH T10 SCOOTER TRANSMISSION BELT.

Reliability and long service life of the transmission belt is a proven feature of the T10 Scooter.

Premature wear may be caused if the engine is allowed to rev with the machine held stationary by application of the brakes, or if the machine is held stationary on an incline, by allowing the engine to rev.

Dealers should advise purchasers of the Tina that whenever the machine is stationary, the throttle should be closed so that the engine can operate at normal tick-over speed. This allows the belt to run freely on its pulleys without side pressure being applied by the automatic clutch arrangement.



SERVICE BULLETIN

No. 272

POLYCHROMATIC AND FLAMBOYANT COLOUR FINISHES.

ORIGINAL

superseded by

CURRENT

Kingfisher Blue "K"

Pacific Blue "PB"

Gold "G"

Burnished Gold "BG"

Burgundy "B"

Hi-Fi Scarlet "HFS"

Factory reconditioned components are now supplied in the current "equivalent" colours listed above. At present the Spares Department have some stocks of new components in the original finish, but when existing stocks have been cleared the same supersessions will apply.

Until then dealers and customers should bear in mind the slight dissimilarities between these equivalent colours. When ordering a combination of new and reconditioned components from the factory for a particular motorcycle, order the NEW components coded in the same colour scheme that will be supplied on RECONDITIONED items.

Tru-Spray aerosol touch-up spray paints will continue to be offered in the full range as previously advertised.

April 1966.



SERVICE BULLETIN

No. 273

(Amendment to re-
issue of June 1968)

SERVICE LITERATURE

This Bulletin contains details of all currently available literature. This literature is only obtainable through Spares Stockists with the exception of Technical Information Bulletins which are available free of charge from the Service Department or a Spares Stockist.

The prices quoted are recommended retail and are subject to dealers proprietary discount.

This Company reserves the right to change any specification, description or part number in any publication without giving notice prior to the alteration.

November, 1969.

TRIUMPH MOTORCYCLES

LITERATURE AVAILABLE

<u>Part No.</u>	<u>Description</u>	<u>Engine Numbers</u>	<u>Price (P)</u>
<u>"A" RANGE</u>			
99-0811	Parts Catalogue No. 8.	From 81890	7. 6d.
99-0812	Parts Catalogue No. 9.	From 94600	7. 6d.
99-0813	Parts Catalogue No. 10.	From 99720	7. 6d.
99-0814	Parts Catalogue No. 1.	From 101	7. 6d.
99-0815	Parts Catalogue	All T20B & T20 Super Cub	7. 6d.
99-0833	Workshop Manual No. 8.	All T20 up to 1964	7. 6d.
99-0834	Owners Handbook	T20, T20SS, T20SH from 88347	3. 6d.
99-0835	Owners Handbook	T20B, T20M, T20SH from 101	3. 6d.
99-0908	Owners Handbook	FRENCH	5. 0d.
<u>"B" RANGE</u>			
99-0819	Parts Catalogue No. 16.	From 029364	7. 6d.
99-0821	Parts Catalogue No. 2.	From DU5825	10. 0d.
99-0822	Parts Catalogue No. 3.	From DU13375	10. 0d.
99-0823	Parts Catalogue No. 4.	From DU24875	10. 0d.
99-0824	Parts Catalogue No. 5.	From DU44394	10. 0d.
99-0825	Parts Catalogue No. 6.	DU66246 UK & General Export	10. 0d.
99-0880	Parts Catalogue No. 6.	DU66246 U.S.A. only	10. 0d.
99-0881	Parts Catalogue No. 7.	DU85904 UK & General Export	10. 0d.
99-0882	Parts Catalogue No. 7.	DU85904 U.S.A. only	10. 0d.
99-0901	Parts Catalogue	1970 UK & General Export	12. 0d.
99-0836	Workshop Manual No. 11.	1946-55	10. 0d.
99-0837	Workshop Manual No. 17.	1956-62	10. 0d.
99-0883	Workshop Manual	Up to 1968	£2. 2. 0d.
99-0889	Workshop Manual	1969	£2. 2. 0d.
99-0884	Owner Handbook	From DU101 UK & Gen. Export	3. 6d.
99-0839	Owner Handbook	From 43394 UK & Gen. Export	3. 6d.
99-0840	Owner Handbook	From 43394 U.S.A.	3. 6d.
99-0878	Owner Handbook	From DU66246 UK & Gen. Export	3. 6d.
99-0879	Owner Handbook	From DU66246 U.S.A.	3. 6d.
99-0877	Owner Handbook	From DU85904 UK & Gen. Export	3. 6d.
99-0876	Owner Handbook	1969 U.S.A.	3. 6d.
99-0888	Owner Handbook	FRENCH	3. 6d.
99-0891	Owner Handbook	1970 U.S.A.	3. 6d.
99-0892	Owner Handbook	1970 UK & General Export	3. 6d.
<u>"C" RANGE</u>			
99-0826	Parts Catalogue No. 3.	From H11512	7. 6d.
99-0827	Parts Catalogue No. 4.	From H18612	7. 6d.
99-0828	Parts Catalogue No. 5.	From H32465	7. 6d.
99-0829	Parts Catalogue No. 6.	From H35987	7. 6d.
99-0830	Parts Catalogue No. 7.	From H40528	7. 6d.
99-0831	Parts Catalogue No. 8.	From H49833	7. 6d.
99-0832	Parts Catalogue No. 9.	From H57083	10. 0d.
99-0885	Parts Catalogue No. 10.	From H65573	10. 0d.

<u>Part No.</u>	<u>Description</u>	<u>Engine Numbers</u>	<u>Price</u>
99-0902	Parts Catalogue	1970 UK & General Export	12. 0d.
99-0842	Instruction Manual No. 4.		10. 0d.
99-0886	User Handbook	From 32465	3. 6d.
99-0873	User Handbook	From 49883	3. 6d.
99-0875	User Handbook	From 57083 UK & General Export	3. 6d.
99-0874	User Handbook	From 65773 UK & General Export	3. 6d.
99-0872	User Handbook	From 65773 U.S.A.	3. 6d.
99-0893	User Handbook	1970 U.S.A.	3. 6d.
99-0894	User Handbook	1970 UK & Gen. Export	3. 6d.
99-0907	User Handbook	FRENCH	5. 0d.
99-0843	Workshop Manual	1968 and previous	£2. 2. 0d.
<u>SCOOTER</u>			
99-0850	Tina Parts List		5. 6d.
99-0848	Tina Owner Handbook		3. 6d.
99-0852	No. 20 Wall Chart		1. 6d.
99-0853	No. 21 Wall Chart		1. 6d.
99-0854	No. 22 Wall Chart		1. 6d.
99-0855	No. 23 Wall Chart		1. 6d.
99-0851	T10 Parts List		7. 6d.
99-0847	T10 Owners Handbook		3. 6d.
99-0849	T10 Workshop Manual		10. 6d.
99-0856	Wall Chart T101		1. 6d.
99-0857	Wall Chart T102		1. 6d.
<u>TR25W</u>			
99-0870	Spares List 1968		10. 0d.
99-0871	Spares List 1969		10. 0d.
99-0906	Spares List 1970		10. 0d.
99-0868	User Handbook	1969 UK & General Export	3. 6d.
99-0869	User Handbook	1969 U.S.A.	3. 6d.
99-0895	User Handbook	1970 U.S.A.	3. 6d.
99-0896	User Handbook	1970 UK & General Export	3. 6d.
99-0858	Workshop Manual		£2. 2. 0d.
<u>TRIDENT</u>			
99-0866	Parts List 1969		10. 0d.
99-0904	Parts List 1970		12. 0d.
99-0867	Owners Handbook 1969		3. 6d.
99-0890	Owners Handbook 1970		3. 6d.
99-0865	Maintenance Notes		7. 6d.
99-0887	Workshop Manual		£2. 2. 0d.

Cont.....

<u>Part No.</u>	<u>Description</u>	<u>Engine Numbers</u>	<u>Price</u>
<u>ADDITIONAL LITERATURE</u>			
99-0846	Master Price List	ALL MODELS	7. 6d.
99-0897	Parts Managers Index	1967 ALL MODELS	5. 0d.
99-0898	Parts Managers Index	1968 ALL MODELS	5. 0d.
99-0899	Parts Managers Index	1969 ALL MODELS	5. 0d.
99-0919	Parts Managers Index	1970 ALL MODELS	5. 0d.
99-0910	Multi Model Handbook	SPANISH	12. 6d.
99-0900	Multi Model Handbook	FRENCH	12. 6d.
99-0909	Multi Model Handbook	GERMAN	12. 6d.
99-0903	"B" & "C" Range Parts List	1970 U.S.A.	£1. 10. 0d.
99-0911	Wall Chart Engine Unit	"B" Range	3. 6d.
99-0912	Wall Chart Engine Unit	"C" Range	3. 6d.
99-0913	Wall Chart Engine Unit	TR25W	3. 6d.
99-0914	Wall Chart Engine Unit	T150	3. 6d.
99-0915	Wall Chart Forks	"B"/"C"	3. 6d.
99-0916	Wall Chart Carburetter	All Models	3. 6d.
99-0917	Wall Chart Gearbox	"B" Range	3. 6d.
99-0918	Wall Chart Gearbox	"C" Range	3. 6d.
T.I.B. 4	Technical Information Bulletin "A" Range		-
T.I.B. 2	Technical Information Bulletin Pre-unit construction 500/650 c.c. "B" Range.		-
T.I.B. 14	Technical Information Bulletin Unit construction 650 c.c. "B" Range		-
T.I.B. 13	Technical Information Bulletin "C" Range		-



No. 274

SERVICE BULLETIN

EXHAUST PIPE ADAPTORS.

650 c.c. Models.

650 c.c. Models between engine No. DU22682 and DU39464 were fitted with aluminium alloy exhaust pipe adaptors in the cylinder head. These have been found to work loose in service, and if allowed to continue, can ruin the threads in the cylinder head.

The first opportunity should be taken to replace the alloy adaptors with E3583 steel adaptors and at the same time, refit the exhaust system with two small stays E6857 attaching the pipes to the front of the crankcase in lieu of the single front connecting stay E6052.

The following parts are required:-

2	E3583	Exhaust pipe adaptors
2	E6857	Exhaust pipe stays
1	E5963	Crankcase stud
2	S26-3	Spring washers
2	S1-51	Nuts

Cylinder heads which have deteriorated in the adaptor thread, preventing satisfactory replacement of the steel adaptor E3583, can be returned to the FACTORY SERVICE DEPARTMENT for reclamation using a special Helicoil steel wire threaded insert, at nominal charge.

October 1966

TB 163

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

No.275

T20 SPORTS ALTERNATOR STATOR COMMONISATION

Current T20 Sports models including T20SM Mountain Cub are fitted with A.C. magneto ignition.

The 4 lead stator Lucas part No.47173 has now been superseded by the 5 lead stator Lucas part No.47188 as used on twin-cylinder models. No harness change is involved but the stator Black/Yellow lead must be joined to the harness Red lead with a double snap connector.

<u>STATOR</u>	<u>HARNESS</u>
Black/White	Black/White
Black/Yellow)Red
Red)	
Brown	Brown
Brown/Blue	Brown/Blue

After existing stocks of 47173 stator have been used 47188 will replace it completely.

DECEMBER 1966

TRIUMPH

SERVICE BULLETIN SERVICE BULLETIN

No. 276

DIODES AND AUTO ADVANCE CAMS

(12 Volt Twins)

Symptoms of Diode Failure.

- a) Shorted diode - engine cuts out - ammeter needle shows full discharge when the ignition is switched on and the fuse will then blow out. Machines will not continue to run unless the top (white) diode lead is disconnected and the fuse replaced, but the battery will then overcharge.
- b) Open circuit diode - the engine runs, but may misfire at higher speeds - an excessive charge (up to 6 amps) will be shown on the ammeter and into the battery (will result in battery boiling).

Zener Diode 49345. The Zener diode is connected in parallel with the battery when the ignition is switched "on". Its function is to "skim off" all excess charging current and prevent battery overcharging.

The current so diverted is converted into heat by the diode, and it is essential that this heat is conducted into the "heat sink" plate to which the diode is attached, to prevent a heat rise in the diode, which can finally destroy its ability to function.

The diode should therefore be attached squarely to the plate giving firm metal to metal contact. Some early 12 volt production "B" and "C" Range twins were assembled with the wiring harness earthing tag (red lead) interposed between the diode and the heat sink, which allows poor heat conduction, if the tag is not absolutely flat. The first opportunity should be taken to reposition the earthing tag at the rear of the "heat sink" plate and the diode fixing nut, and to replace the "curled" plate with the thicker 'L' shaped plate part number F7237.

NOTE:- The diode body and fixing stud is of copper, and the maximum tightening torque specified is 24lbs. ins. (2lbs.ft.)

All machines were assembled correctly from DU30600 and H43716.

Symptoms of "Auto Advance" Initiated Pre-Ignition.

Disconnect the centre rectifier terminal lead (brown/white) at the rectifier. If the sluggish, pre-ignition or seizure symptoms disappear, and the engine note and performance immediately becomes "crisp", then this indicates that the auto advance unit should be changed to 54.04.1118. If no improvement is immediately apparent, the problem lies elsewhere.

TRIUMPH MOTORCYCLES

4419254
ADVANCE

Auto Advance Cam Unit - 54415750 (Coil Ignition Twins). Symptoms of pre-ignition on a small number of 350 c.c. sports machines has been traced to a "random spark" occurring at the instant the contact breaker points close.

To overcome this problem and restore performance the auto advance cam profile has been amended to provide a 160° dwell period.

This new auto advance unit part number 54041118 has now been commonised on all current production twins as from engine number DU51771 and H51616. The original cam unit 54415750 may continue to be used for 6 volt machines for replacement purposes.

December 1966.



No.277

SERVICE BULLETIN

TRIUMPH T10 SCOOTER PETROL TAP

A change incorporated into the current T10 scooter carburetter 32/18, with integral float bowl and petrol tap, has in some cases resulted in restricted fuel flow and petrol starvation.

The changed part is the tap rubber washer part number 19/026, which originally incorporated one round hole piercing and two "kidney" shaped piercings. (See pages 38 & 39, T10 Replacement Parts Catalogue ref. 988/66.)

The new washer has three round holes, and as a result not only can be accidentally fitted upside down, but also located incorrectly relative to the hole spacing.

We have experienced a number of instances of poor performance engine drying out, (and starting again mysteriously after a short wait) and repeating the symptoms at regular intervals.

The "kidney shaped" washer has therefore been reintroduced.

This Bulletin is to alert Dealers and their service Staff to the existence of this problem and to ask them to place their request on us for replacement washers part number 19/026 of the correct "kidney form" quoting this Service Bulletin reference number on the order, thereby ensuring F.O.C. supply.

FEBRUARY 1967.



SERVICE BULLETIN

No. 278

T20B AND SUPER CUB ELECTRICAL SYSTEM

The above models are now being equipped with Wipac alternators and other electrical equipment as listed below. On such machines where the Lucas wiring harness is retained and the correct electrical connections from the alternator should be as follows :

Lucas green and black to Wipac yellow

Lucas white and green to Wipac green

Lucas green and yellow to Wipac orange.

Only with these connections will electrical in-put to the battery be correct.

NEW PARTS:

Alternator unit 75-630

Ignition coil 75-9625

Ducon horn and dip switch 90-9604

Rectifier 90-9605

Stop and Tail Lamp 90-9606

APRIL 1967

TRIUMPH MOTORCYCLES

TRIUMPH

No. 279

SERVICE BULLETIN

BATTERY VENT AND DRAIN TUBE

We have experienced an unnecessary number of instances of customer complaints of acid corrosion on brand new motorcycles recently.

This is due to two basic causes, both of which are the responsibility of the dealer putting the machine into service.

FILLING AND PUTTING THE BATTERY INTO SERVICE.

Fill each cell level with the top of the separators with 1.260 specific gravity sulphuric acid.

ALLOW TO STAND FOR AT LEAST HALF AN HOUR - This allows all the air between the cell plates to escape and the plates to become "wetted".

Give the battery a 1 amp refresher charge for 1 hour, and then allow to stand until all the bubbles have disappeared.

'Top up' to the top of the separators again if necessary, prior to installation into motorcycle battery carrier.

REPLACING THE BATTERY ONTO THE MOTORCYCLE.

It is advisable to smear the battery case with silicone jelly or apply talcum to the battery case rubber to assist in subsequent battery removal.

Ensure the plastic vent pipe is properly located without any kinks (which would build up internal battery pressure) and that the lower end is clear of the motorcycle frame, wheel and chromed exhaust pipe and silencer parts.

WE DO NOT ACCEPT CLAIMS FOR BATTERY ACID DAMAGE.

1. Do not fill a battery in position on the motorcycle.
2. Do not place a battery into service before it has fully de-aerated after filling with acid.
3. Do not replace battery without first ensuring the vent and drain tube is located correctly (i.e. in the same position as the factory initially installed it on the machine).
4. Ensure the vent and drain pipe is free from kinks and clear of the machine at the lower end.

April 1967.

TRIUMPH MOTORCYCLES



SERVICE BULLETIN No.280

OIL TANK MODIFICATIONS - 'B' & 'C' RANGE

With effect from Engine Numbers DU53772 (650cc) and H51726 (350/500cc) the take-off for the rocker oil feed assembly has been located in the scavenge return pipe beneath the oil tank. Previously, the oil was fed to the rockers from a junction pipe located at the oil tank neck.

The Replacement Parts Catalogues should therefore be amended to show the new part numbers as listed below :-

	<u>'B' RANGE</u>		<u>'C' RANGE</u>	
	Early Part No.	New No.	Early Part No.	New No.
Oil tank	F6877	F7836	F6877	F7836
Rocker oil feed pipe assy.	E6349	E7574	E6351	E7576

It is not necessary to fit new oil tanks to those models already having the earlier type of tank providing that the existing rocker feed take-off is blocked and a 'T' piece part number E8726 is inserted into the scavenge return pipe. An 1 1/4 in. rubber connector pipe 17 ins. long is available for this conversion under part number E6604.

APRIL 1967

TE 164



No. 281

SERVICE BULLETIN

MODIFIED "B" TIMING GEAR COVER BUSH

The current "B" Range four piece crankshaft forging has a longer thread than those used previously to accommodate a wide timing gear pinion and wider nut. In consequence, when using the current crankshaft in a pre 1965 engine, the timing cover bronze bush should be shortened from $\frac{1}{2}$ in. to $\frac{3}{8}$ in. (NB. obtainable under the existing part number E378 std; E3586 - 0.020 in.) It is essential that the modified timing cover bush should be fitted $\frac{1}{8}$ in. below the timing cover face to ensure sufficient clearance for the additional crankshaft thread.

Unit construction engines incorporating an oil seal in place of the bronze bush remain unaffected.

NB: It is important to fit only the thin timing gear pinion E1472 to all pre-unit construction engines, irrespective of crankshaft modifications.



No. 282

SERVICE BULLETIN

BANTAM/SUPER CUB - ADDITIONAL PART NUMBERS

<u>Page</u>	<u>Item</u>	<u>Part No.</u>	<u>Description</u>
27	1	90-5331 (Bantam Cub)	Fork assembly
27	1	90-5335 (Super Cub)	Fork assembly
29	1	90-5723	Front wheel complete
29	2	90-5691	Front wheel, rim, spokes and hub assembly.
31	1	90-5725	Flywheel complete
31	2	90-5726	Flywheel, rim, spokes & hub assy.
33	1	90-6253	Rear wheel complete
33	2	90-6270	Rear wheel, rim, spokes and hub assy.
35	1	90-6255	Rear wheel complete
35	2	90-6256	Rear wheel, spokes, hub assy. (bare)

May 1967.

TRIUMPH MOTORCYCLES

TRIUMPH

SERVICE BULLETIN

No. 283

Revised March '68.

"B" RANGE 650 c.c.(40cu.in.) MOTOR CYCLES

PRESSURE LUBRICATION OF EXHAUST CAM FOLLOWERS.

From engine number DU24875, oil has been fed through drillways in the crankcase, timing cover, cylinder barrel and tappet block to the rubbing faces of the cam followers.

To prevent loss of oil pressure, several conditions and variations on the original theme have been employed.

Initially a metering plug was inserted into the crankcase at the front timing cover dowel and used in conjunction with cam followers with a flat of 9/32 in. in length on the stem. Part No. E6490.

An alteration to this condition was made at engine number DU44394, in as much that a floating pin was inserted into the metering screw, to combat blockage caused by particles in the lubrication system. Both metering jet and dowel can be obtained under part Nos. E6800 and E6803 respectively, but these items must be used with cam followers, part No. E6490.

From engine number DU63043 however, this assembly was removed, replaced with a plain dowel, part number T989 and cam followers used with a flat on the stem reduced in length to 3/32 in., part No. E8801.

If the newer pattern cam follower is to be used in an engine previous to DU63043, the metering plug must be removed from the crankcase. To facilitate this, simply screw in a timing cover screw and withdraw the assembly.

Do not remove the metering assembly if the old type cam followers, part number E6490 are to be used.

Do not attempt to use in the engine, one of the old pattern cam followers in conjunction with one of the new type.

ENG. NO.	TYPE	TIMING COVER DOWEL	CAMFOLLOWER EXHAUST	CAMFOLLOWER INLET	TAPPET BLOCK
To.Eng.No. DU24875	Non Lubricated	Blind Dowel None	E3059	E3059	E1477
From DU24875 To DU44394	Lubricated	Dowel E6348	E6529 6T/TR6 E6490 T120	E3059 6T/TR6 E3059R T120	E5861
From DU44394 To DU63043	Lubricated	Dowel & Pin E6803/6800	E6490 T120/TR6	E3059R	E5861
From DU63043 To DU66246	Lubricated	Dowel T989	E8801	E3059R	E5861

Cont.....

TRIUMPH MOTORCYCLES

If conversion to the latest exhaust cam followers is desired on machines from engine number DU24875 up to DU63043, then the following procedure must be carried out.

Remove the E6348 metering jet in the manner prescribed above and replace with hollow dowel, part number T989. Replace exhaust cam followers with the equivalent shown in the scale below.

EXHAUST CAM FOLLOWERS

E6329 6T/TR6	USE	E8895 6T/TR6
E6490 T120	"	E8801 T120

March 1968.



No. 284.

SERVICE BULLETIN

CONVERSION OF TINA SCOOTER AUTOMOTIVE DRIVE
AND KICKSTARTER MECHANISM TO T10 CONDITION.

CPT 3 is now discontinued, and replaced with CPT 4 sold at a recommended retail price of £2. 17. 6d.

CP3 contained:-

1	54-0243	Inner Pulley
1	54-0269	Dust Cover
1	54-0293	Outer Pulley
3	54-0284	Weights
1	54-0298	Reaction Plate
1	54-0140	Spring Washer
1	54-0287	Nut
3	35-0705	Split Pin
1	54-0206	Steady Bracket
1	54-0276	K/S Pinion
1	54-0368	Spring Retainer
1	54-0259	Governor Bracket
1	54-0372	Contact Arm
1	54-0153	Washer

CPT 4 contains the same items but:-

1	54-0384	Inner Pulley, substitutes for 54-0243
1	54-0380	Ratchet Pinion, substitutes for 54-0276
2	54-383	Split Collars
1	54-0151	Spring
1	54-3020	Kickstart shaft and quadrant

) Additional

THE INNER PULLEY, PART NO. 54-0243, THE RATCHET PINION PART NO. 54-0276 AND KICKSTART QUADRANT 54-3011 WILL NO LONGER BE SUPPLIED AS INDIVIDUAL ITEMS. IT WILL BE NECESSARY TO OBTAIN CPT 4.

This enables Tina machines to be brought completely up to date with current T.10 components. The pack was listed as the CPT. 3, selling at a recommended retail price of £2. 0. 0d.

The original reaction plate and the outer pulley must be returned, together with an order to obtain the CPT 4 at the concessional price.

Applications for this concessional assembly should be made through our Spares Stockist network.

September, 1967.

TRIUMPH MOTORCYCLES



SERVICE BULLETIN No. 285

650c.c. Machines - Plug Specification Change

We are requested by our Development Department to notify an alteration in the grade of sparking plugs used on all 1967 and 1968 650c.c. machines fitted with 9:1 compression ratio pistons as from engine number DU.44394.

These machines should be fitted with Champion N.3 plugs or equivalent grade, replacing the N.4 plugs previously specified.

It is also recommended the jet size should be increased by a nominal 10 c.c. in conjunction with the above plug specification change.

NOVEMBER, 1967

TE 164

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

YOUR REF.

No. 286.

T.10 CPT 4 CONVERSION KIT.

Bulletin No. 284 of September 1967 states that the above pack is available against the return of an original Tina reaction plate, part number 54-176, and the original outer pulley, part number 54-262.

It is now becoming evident that dealers are returning T.10 reaction plates, part number 54-298 and outer pulleys, part number 54-293.

This is not acceptable and they will be returned.

In the event of a late type Tina, not T.10, which was originally fitted with a wedge drive, requiring a replacement kick-start mechanism, the inner pulley, part number 54-384, kick-start ratchet pinion, part number 54-380, pinion return spring, part number 54-151, and quadrant, part number 54-3020, can be supplied ex-stock at listed prices.

These items replace the original inner pulley, part number 54-243, the kick-start ratchet pinion, part number 54-276, and the quadrant, part number 54-3005, and will suitably modify the original parts.

C.A.S. 23/11/67

TRIUMPH MOTORCYCLES



SERVICE BULLETIN No. 287

LUCAS 6CA CONTACT BREAKER

Conversion of Machines Previously Incorporating 4CA Type

In order that customers and dealers may take advantage of the improved Lucas 6CA contact breaker assembly on machines previously fitted with the 4CA type contact breaker, the listed items below should be used to convert 1967 and earlier 500 and 650c.c. machines to this latest condition.

Lucas Parts Required to Convert

1	54419340	Auto advance unit
1	54419097	Contact breaker plate assembly
2	54410128	Condensers (c/w nut & washer)
1	54418526	Condenser base plate
1	54418528	Moulded rubber cover

Triumph Parts Required to Convert - supplied as a kit under part No. CP209

1	E8976	Packing ring (not required on 550/500c.c. models)
1	E8328	Centre Bolt
2	E7680	Pillar Bolt
2	E6559	Washer (for pillar bolt)
1	E8757	Contact breaker cover
1	E7354	Cover screws

Please note:-

- 1) Additional link wires connecting contact breaker (or coils) to external condensers not supplied.
 - 2) Condenser pack location and mounting should be as close to the ignition coils as possible, on suitably fabricated brackets.
 - 3) Do Not fit the new 6CA contact breaker plate assembly in conjunction with the original 4CA auto advance cam unit. The associated 6CA auto advance unit is different dimensionally, and has a close tolerance surface finish to match the location and requirements of the contact set plastic heel.
- Lubrication - the action of the 6CA auto advance unit has been treated with molybdenum disulphide dry lubricant. The contact set plastic 'heels' incorporate a projection in the moulding and on either side of this on the cam should be applied a small portion of Retinex A grease every 3,000 miles.

TRIUMPH MOTORCYCLES

TRIUMPH

SERVICE BULLETIN

CP 210

No. 288

UTILISATION OF THE 1968 PATTERN FINNED HEAT SINK ON PRE 1968 TWIN MACHINES.

It is now possible to convert the position of the heat sink and Zener Diode on machines of pre 1968 manufacture to current production specification.

The heat sink is now mounted on the fork crown below the headlamp, and to position this item, together with the Diode on pre 1968 machines, various parts shown below are involved :-

- | | | |
|---|-------------|------------------------------|
| 1 | F2317 | Mounting bracket - heat sink |
| 1 | H2237 | Heat sink |
| 1 | H2275 | Blanking plug |
| 1 | 5495441 | Conversion lead |
| 1 | 14-6102/001 | Bolt (heat sink to bracket) |
| 1 | S26-2 | Washer (" " " ") |

All the items listed above are available as a carton pack number CP210

FITTING

Remove the existing heat sink and Zener Diode

Disconnect earth lead and feed terminal. Retain Diode and dispose of heat sink.

It is necessary to tape up the disconnected leads for insulation purposes.

Undo the fork pinch bolts and remove, fit the mounting bracket against the fork by means of these bolts and tighten. Fit the Diode to the heat sink and push in the polythene plug. Connect the earth lead and the feed side of the diode to the two wires supplied and offer these wires through the grommet in the headlamp. The earth wire goes to the earth on the bulbholder (triple snap connectors) and the feed wire goes to the battery connection of the ammeter.

The Diode is then mounted on the bracket by means of the bolt and washer, part numbers 14/6102/001 and S26-2

TRIUMPH MOTORCYCLES



No. 289

SERVICE BULLETIN

SERVICE REPLACEMENT UNIT SCHEME

The Service Counter at this factory will be closed for the casual delivery and collection of Service Exchange Units as from 1st April, 1968.

It will then be necessary to place orders for the above items with any of our Spares Specialists.

In order to assist our Spares Specialists to fulfil these obligations we have made arrangements to supply material stocks of reconditioned parts for stocking purposes.

Our intention is to continue the supply of replacement units against items returned, wherever possible, but only through our Spares Specialist network.

March 1968.

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

No. 290

RETURN OF MOTORCYCLES TO THE FACTORY FOR RECONDITIONING, OVERHAUL & WARRANTY ATTENTION.

With effect from the 1st April, 1968 all motor cycles accepted into the factory Service Department for reconditioning, overhaul and attention under warranty will be by appointment made in conjunction with the dealer.

When a customer requests the return of his machine to the works, arrangements will be made for it to be received at the factory only through the dealer. On completion the machine will be returned to that dealer.

The machine may continue to be brought to the factory by the owner on the appointed day by mutual agreement and may be collected by the owner on completion, on the understanding that any costs incurred as a result of work carried out, will be invoiced to the dealer.

By this means we will ensure that all customer business and/or problems are resolved and conducted through the dealer network. We are not attempting to curtail the customers access to the factory Service Department, we are simply ensuring that both the customers problems and subsequent business, are re-directed through our dealer network.

TRIUMPH MOTORCYCLES

TRIUMPH

SERVICE BULLETIN No. 292

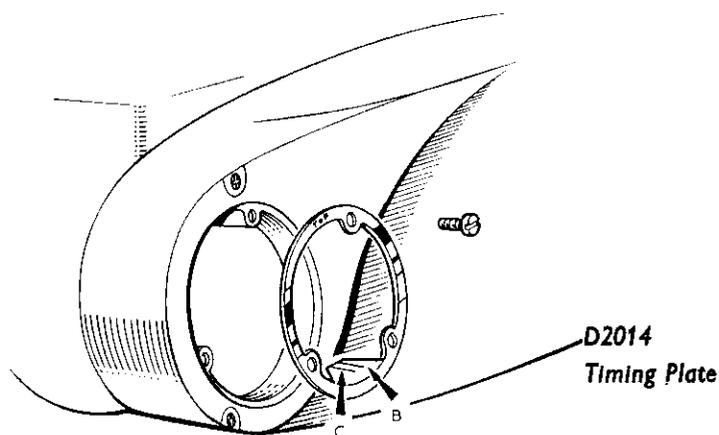
STROBOSCOPE TIMING PLATE PART NO. D2014

As from engine No. DU66246 in the "B" Range (650 c.c.) and H57083 in the "C" Range (500 and 350 c.c.), a considerable number of machines have been produced incorporating the primary chaincase inspection cover, but without a timing peg to align with the rotor marking, this preventing stroboscopic timing being carried out directly on these models.

A timing plate, Service part No. D2014 is now available to provide this facility and should be mounted as shown below.

Note the two markings stamped on the plate flange to suit full ignition advance on both "B" and "C" Range machines.

When using the stroboscope, the alignment of the marked line on the rotor with the relevant mark on the plate will indicate the fully advanced ignition timing position for either "B" or "C" Range machines. The accurate alignment of the two marks on the rotor and timing plate is achieved by fine adjustment of the position of the contact breaker points. Check the ignition setting on both sparking plugs and both sets of contact breaker points.



February 1968

TRIUMPH MOTORCYCLES

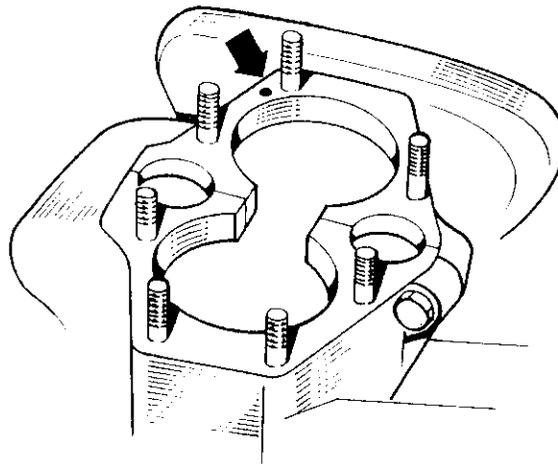
TRIUMPH

SERVICE BULLETIN No. 293

THE NECESSITY TO PLUG OILWAYS ON SERVICE CRANKCASE ASSEMBLY PART NO. E10055 FOR USE ON 650 C.C. (40 CU. IN.) ENGINE UNITS PRIOR TO DU24875

Crankcases on machines manufactured before engine No. DU24875 did not utilise the current type of exhaust cam and tappet lubrication fed from the timing cover through crankcase drillways, and therefore the oil hole drilled in the timing side of the crankcase cylinder base flange should be plugged when using this later crankcase assembly for these models, otherwise serious cylinder base oil leaks will occur.

Service crankcase assembly part No. E10055 (comprising E10056 timing side and E5781 drive side) has the dowel already fitted, and it will be necessary to remove this dowel before the alloy plug E7038 (.251/.252 in. dia.) is driven into position.



*Oil feed dowel which
must be removed
and plugged with Alloy
Plug E7038 when this
crankcase assembly is
used on engines
prior to DU24875*

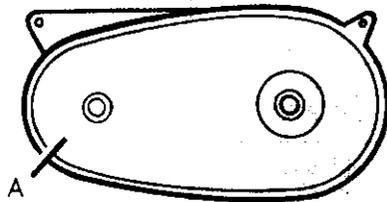
February 1968

TRIUMPH MOTORCYCLES

TRIUMPH

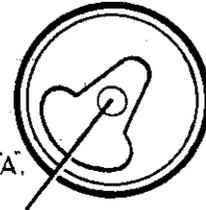
SERVICE BULLETIN No. 294

1968 CRANKCASE FLYWHEEL LOCATION (650 'B' RANGE) (FROM ENG. DU66246)



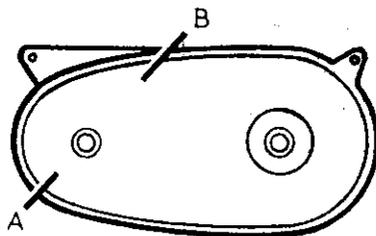
E5871/ E7330 CRANKCASE
1968 MK I.

LOCATING 38° BTDC FROM HOLE 'A'.



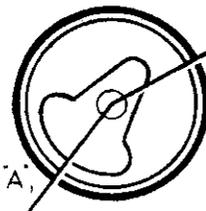
E7331
FLYWHEEL
ASSY.

1968 MK I.

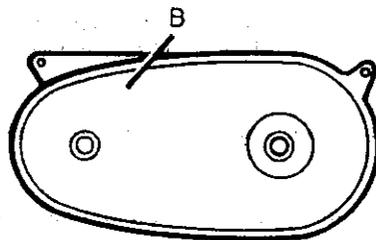


1968 MK II.

LOCATING 38° BTDC FROM HOLE 'A',
AND TDC FROM HOLE 'B'.

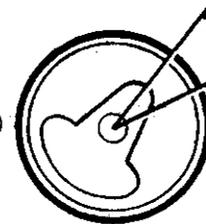


1968 MK II



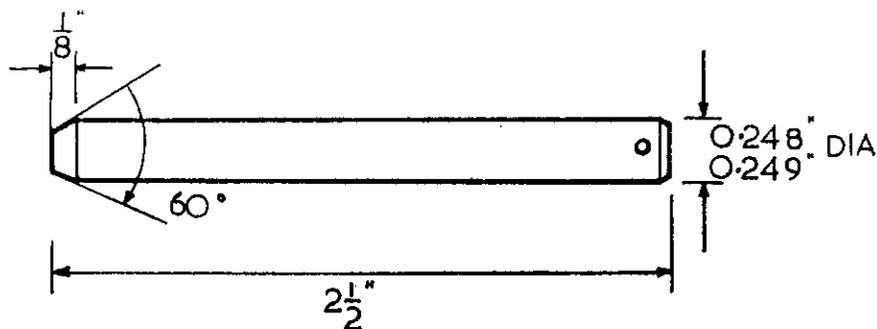
1968 MK III. (DU74052 ONWARDS)

LOCATING 38° BTDC AND TDC
FROM HOLE 'B'



1968 MK III

Provision is made on all 1968 650 c.c. engine units to locate the crankshaft in the crankcase at 38° BTC (full ignition advance) or both 38° BTC and TDC, providing the correct Mark flywheel is used in the appropriate crankcase—and the locating plunger of tool D571/2 is modified as per attached sketch.



P.T.O.

TRIUMPH MOTORCYCLES

Interchangeability

C/Case	Flywheel	Timing Location	Facility
Mk. I	Mk. I Mk. II	Front Front	38° BTC 38° BTC
Mk. II	Mk. I Mk. II Mk. III	Front Front Top Top	38° BTC 38° BTC TDC TDC and 38° BTC
Mk. III	Mk. II Mk. III	Top Top	TDC TDC and 38° BTC

A Mk. II Service condition crankcase is available, incorporating in addition, a gearbox filler plug which will accommodate ALL flywheel and crankcase requirements for 1968 and earlier, under part No. E10055 Mk. III flywheel assemblies ONLY are available as spares replacements.

When using replacement crankcases E10055 for engines prior to DU24875 the tappet lubrication oil feed drillway should be plugged using alloy plug E7038 (See Service Bulletin No. 293).

All 1968 650 c.c. engines incorporate T2439 primary drive chaincase cover providing direct stroboscopic timing facilities in conjunction with the marked rotor and service tool D2014 fitting direct into the rotor cover aperture (see Service Bulletin No. 292).

February 1968.

TRIUMPH

No. 295

SERVICE BULLETIN

UNIT CHARGES

	T20	TR25W	350/500 & 650 c.c.
<u>ENGINE</u>			
Engine and gearbox unit c/w generator	£30. 0. 0d.	£45. 0. 0.	£60. 0. 0.
Reground crankshaft c/w new big end and main bearings	-	£4. 0. 0.	350/500cc. £7. 0. 0. 650cc. £6. 4. 0.
nd. big end assembly (plain B/E type)	£2.12. 0.	-	-
nd. flywheel assembly (roller B/E type)	£6. 0. 0.	-	-
Recond. flywheel assembly (plain B/E type)	£5. 5. 0.	-	-
Rebore cylinder with new pistons	£3. 0. 0.	£3. 5. 0.	£7.10. 0.
Recond. clutch plates (each)	4. 0.	5. 0.	5. 0.
<u>FRAME</u>			
Recond. frame complete	£12.12.0.	£12.12. 0.	*£22. 0. 0.
Recond. front frame	£7.10. 0.	-	£14. 0. 0.
Recond. rear frame	£5. 2. 0.	-	£8. 0. 0.
Recond. swinging arm fork	£3.12. 6.	£3.12. 6.	350/500cc+£3.12. 6.
Repair and enamel petrol tank	£5. 0. 0.	£5.10. 0.	£6. 0. 0.
Repair, re-chrome and enamel petrol tank	£7.10. 0.	-	-
Reline brake shoes 5 ins. (per pair)	12. 6.	-	-
e brake shoes 7 ins. (per pair)	-	£1. 2. 0.	£1. 2. 0.
e brake shoes 8 ins. (per pair)	-	-	£1. 7. 0.
forks	*£13. 7. 6.	£21.10. 0.	£21.10. 0.

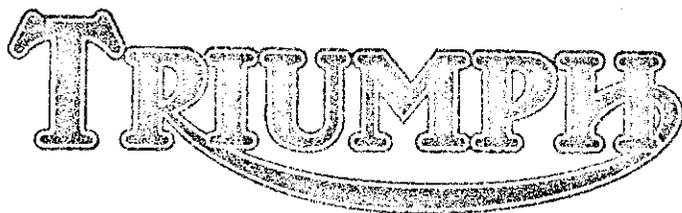
* Recond. frame complete on 350/500 & 650 c.c. is comprised of front and rear.

+ 650 c.c. recond. swinging arm £4. 0. 0d.

x T20 Sports Cub forks as 350/500 & 650 c.c.

The Service Department reserve the right to reject acceptance of components and assemblies submitted under this scheme which are beyond economical repair.

Additional charges may be made, where hidden damage is revealed on subsequent stripping and examination for overhaul, which renders a component unserviceable and beyond economical repair.



SERVICE BULLETIN

No. 296

CYLINDER HEAD BOLT TORQUE

650 c.c. "B" Range Machines.
350/500 c.c. "C" Range Machines.

As a result of prolonged experience, it has been found that in order to obtain absolute evenness, surface contact and heat transference between cylinder head and barrel, the torque figures given below, should be used on both "B" and "C" Range machines with aluminium cylinder heads. This not only applies to current machines, but to all types and past models within the aforementioned ranges which used aluminium cylinder heads.

The figures, founded on heating and cooling cycles, prevent cylinder head/rocker-box compression and also maintains torque on bolts which are subjected to constant heating and cooling procedure.

All 8 cylinder head bolts $\frac{3}{8}$ in. dia. on "B" & "C" Range	18 ft. lbs.
Single central bolt $\frac{5}{16}$ in. dia on "B"(1963 onwards)	15 ft. lbs.

These revised figures will appear in all future publications.

1967 REPLACEMENT PARTS CATALOGUE
FOR BANTAM & SUPER CUB. REF.10/67.

Incorrect part No. for high gear pinion.

Important

Please note that in the above publication the part No. for the high gear pinion is given as T1565. This is not correct and refers to the close ratio high gear pinion.

The correct part No. for the standard high gear pinion is T1514.

Please amend your Parts Catalogues accordingly.

TRIUMPH MOTORCYCLES June 1968.



SERVICE BULLETIN

No. 297

DEALER ACCESS TO FACTORY REPAIR SERVICE

It is becoming increasingly evident that a considerable number of dealers are resistant to carrying out service and repair work on Triumph machines owned by the private individual and for numbers of machines operated by Municipal Authorities.

We view this situation with extreme concern, and have no doubt that if this condition is allowed to continue, the detrimental affect on sales of Triumph machines on the Home market will be damaging to our mutual interests.

After considerable re-organisation we are prepared to assist dealers who do not have accommodation or staff to carry out extensive commitments of service and repair work, by accepting this type of work in our Service Repair Department.

This work will be chargeable and will be available via any of our Spares and Service Specialists, to whom the charges will be invoiced.

It is therefore simply a matter of any dealer who is not of the above category, but who has a sales ledger account, contacting one of our Specialists and by mutual agreement, forwarding the machine to this factory.

We trust that this offer will be of immediate use to our retail network and assure you that we will endeavour to give first class service to all concerned.

TRIUMPH MOTORCYCLES

TRIUMPH

SERVICE BULLETIN No. 298

CABLE RUN ON TWIN LEADING SHOE FRONT BRAKE

It is becoming apparent that owners of machines which are fitted with the current type of twin leading shoe front brake are rerouting the operating cable to avoid contact between the cable and front mudguard.

We would point out that this is extremely dangerous as it causes the cable to lodge beneath the front mudguard stay on full downward travel of the front fork. As the fork extends the cable is stretched, and consequently the front brake could be applied.

The correct cable route is through the plastic guide on the mudguard and between the mudguard and mudguard stay (as in Fig. 1). The cable should not be fitted outside the mudguard stay (as in Fig. 2).

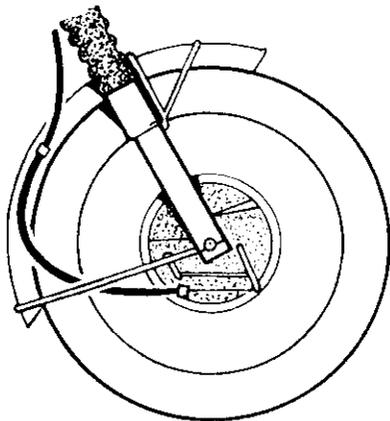


Fig. 1 Correct cable route

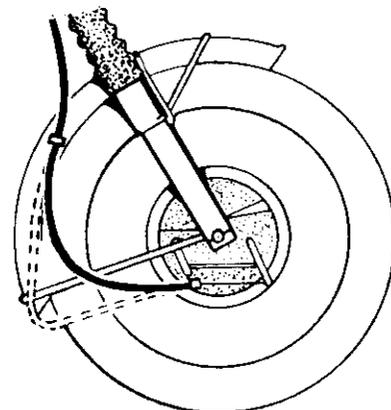


Fig. 2 Incorrect cable route
Broken line shows cable lodged beneath mudguard stay after fork compression

June 1968

TE 163

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

No. 299

CONVERSION OF "Z" TOOL 45° AND BLENDING CUTTERS TO NEW NUMBERS.

Model	Old type 45° cutter.		Old type blender		New type 45° cutter		New type blender	
	In.	Ex.	In.	Ex.	In.	Ex.	In.	Ex.
T20	Z51	Z51	Z48	Z48	D1832	D1832	D1834	D1834
3TA	Z51	Z51	Z48	Z48	D1832	D1832	D1834	D1834
T90	Z53	Z51	Z50	Z50	D1833	D1832	D1835	D1835
5TA	Z53	Z51	Z50	Z50	D1833	D1832	D1835	D1835
COOSS	Z53	Z51	Z50	Z50	D1833	D1832	D1835	D1835
T100T	Z52	Z53	Z49	Z50	D1833	D1832	D1836	D1835
6T C.I.	Z53	Z53	Z50	Z50	D1832	D1832	D1835	D1835
5T C.I.	Z53	Z53	Z50	Z50	D1832	D1832	D1835	D1835
T100 L.S.A.	Z53	Z53	Z50	Z50	D1832	D1832	D1835	D1835
6T A	Z53	Z51	Z50	Z50	D1832	D1832	D1835	D1835
T110 A.I.	Z53	Z53	Z50	Z50	D1832	D1832	D1835	D1835
T110 A	Z53	Z51	Z50	Z50	D1832	D1832	D1835	D1835
TRW	Z51	Z51	Z48	Z48	D1832	D1832	D1834	D1834
TR6 (1)	Z53	Z51	Z50	Z50	D1832	D1832	D1835	D1835
TR6 (2)	Z52	Z53	Z49	Z50	D1833	D1832	D1836	D1835
T120 (3)	Z53	Z51	Z50	Z50	D1832	D1832	D1835	D1835
T120 (4)	Z52	Z53	Z49	Z50	D1833	D1832	D1836	D1835
50	-	-	-	-	D1833	D1832	D1836	D1835
TR25W	-	-	-	-	D1832	D1832	D1835	D1835

C.I. = Cast iron.

L.S.A. = Long stroke alloy.

A = Alloy

(1) 8 and 9 stud up to 1966

(2) As above but from 1966 onwards.

(3) 8 and 9 stud up to 1963

(4) As above but from 1963 onwards.

TOOL NUMBERING

45° cutters. Z51 and Z53 use No. D1832.

Z52 and Z117 use No. D1833

Blenders Z48 and Z92 use No. D1834.

Z50 use No. D1835

Z49, Z118, Z163 use No. D1836

Holder, seat cutters D1837

Pilot, seat cutters D1838

Tommy bar D1839

Tommy bar-cutter pilot D1840

Note: New type cutters and blenders are not useable with "Z" type pilot and arbor, or vice versa.



SERVICE BULLETIN No. 300

1969 TACHOMETER DRIVE BOX

All 1969 models now incorporate a left hand thread for the tachometer drive box securing screw.

The blanking plug is identified by a stamping (LH) on the head.

July 1968.

TE 164

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

No. 301

APPROVED LUBRICANTS

The following lubricants have been fully tested and are approved for use in our motorcycle engines. These are top forecourt grades as opposed to the normal recommended grades appearing in all service literature.

MOBIL	MOBIL OIL SUPER
CASTROL	CASTROL GTX
ESSO	ESSO EXTRA 10W/30 AND 20W/50
B.P.	B.P. SUPER VISCO-STATIC 10W/40 AND 20W/50
SHELL	SHELL SUPER 100
DUCKHAMS	Q20/50

July 1968.

TE 164

TRIUMPH MOTORCYCLES

TRIUMPH

SERVICE BULLETIN No. 302

TOOL BOX/LEFT PANEL RETENTION ON ALL 1968 "B" AND "C" RANGE MACHINES

Components are available to convert the toolbox retaining mechanism on machines after "B" Range DU66246 and "C" Range H57083 to eliminate any possibility of the plastic toolbox screw vibrating loose.

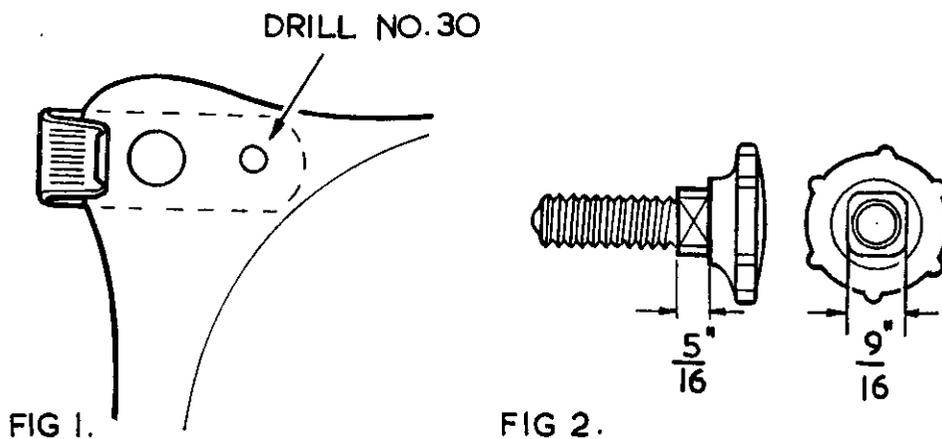
The components required are:—

1 off	F11348	Spring clip
1 off	F11379	Pop rivet
1 off	F11377	Retaining washer

Remove the toolbox from the machine and position the spring clip as shown below in Figure 1. Using a No. 30 (.1285 in. dia.) drill, drill through the toolbox at the point shown. The clip should be fitted at the back of the toolbox and secured with the pop rivet which should also be fitted from behind.

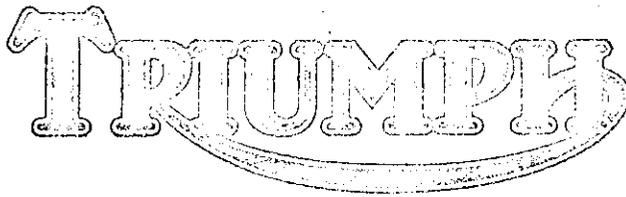
The plastic screw must be modified by filing four flats to the dimensions shown in Figure 2. Alternatively, an already modified screw can be purchased under part number F11357.

When refitting the toolbox, the rubber washer should be fitted between the toolbox and frame.



September 1968

TRIUMPH MOTORCYCLES



SERVICE BULLETIN No. 303

THE USE OF RUST INHIBITING OIL IN 1969 "B" AND "C" RANGE MACHINES.

Home market machines now leave the factory with "Infilrex" rust inhibiting oil in the engine, gearbox, primary chaincase and front fork. This is a precautionary measure in case of long storage.

In the case of export machines, the oil is drained before despatch, but the inhibiting effect remains.

It is advisable for a Dealer to drain and flush all new machines during the pre-delivery check, and refill with the correct grade of lubricant as shown below:

United Kingdom

Engine -- Summer	SAE 30
- Winter	SAE 20
Gearbox	EP 90
Primary chaincase	SAE 20
Telescopic fork	SAE 20

Overseas

Engine -- above 90° F.	SAE 40
- 32° - 90° F.	SAE 30
- Below 32° F.	SAE 20
Gearbox	EP 90
Primary chaincase	SAE 20
Telescopic fork - Above 90° F.	SAE 30
- 60° - 90° F.	SAE 20

For correct quantities and recommended manufacturers, refer to the appropriate Owners Handbook or Workshop Manual.

September, 1968.

TELEPHONES
COVENTRY 20221
MERIDEN 331

MOTOR
CYCLES



TELEGRAMS
'TRUSTY' COVENTRY

MERIDEN WORKS
ALCESLEY
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TRIUMPH ENGINEERING

OUR REF

COMPANY LIMITED

YOUR REF.



THE QUEEN AWARD
TO INDUSTRY

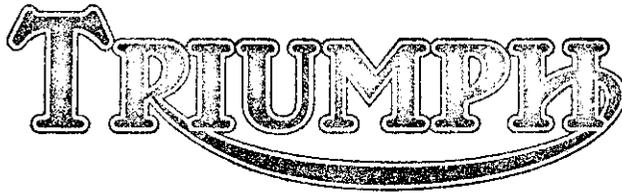
INFILREX INHIBITING OIL

Our Bulletin No. 303 stated that on receipt of a new machine, the oil quoted above should be drained and the units involved should be flushed out and filled with the correct type of lubricant used in service.

Since the issue of Bulletin No. 303 we have contacted the manufacturers of Infilrex and we are assured that the draining and flushing exercise is not necessary until the 500 miles free service check is undertaken.

It is obvious therefore, that this will clear any anomaly which has arisen on this subject.

November, 1968.



SERVICE BULLETIN No. 304

UNF AND UNC THREADED COMPONENTS

We have introduced Unified threaded components progressively during the last two seasons. The 1969 Unified threaded components are listed below with part numbers, together with their 1968 Whitworth or C.E.I. threaded equivalents.

We recommend this Bulletin being displayed in your Repair Department as a ready reference to prevent against the possibility of cross threading. Note that the components are divided into "B" Range (650 cc) and "C" Range (500 cc).

"B" RANGE - UNIFIED THREADS

<u>1968 Part No.</u>	<u>Part Number</u>	<u>Description</u>
E8797	E9246	Timing gear cover
T2439	E9244-5	Outer primary cover
T3628	T3753	Gearbox outer cover
E5871	E9481	Crankcase D.S.
E7330	E9247	Crankcase T.S.
T2112	T3766	Inner gearbox cover assy.
E5727 (T120)	E9418	Cylinder head assy.
E7031 (TR6)	E9362	Cylinder head assy.
T2540	E8992	Abutment for clutch cable
E732	T2166	Filler plug - D.S. c/case
E2304	E6596	Cap for oil pressure release valve
E6347	T2259	Plug-access to primary chain tensioner
E5350	E9551	Carburettor adaptor assy. T.S.
E5349	E9550	Carburettor adaptor assy. D.S.
E5914	E9516	Adaptor - exhaust pipe
E5756	E9331 L.H.	Tacho drive box assy.
E5312	E9336	Crankcase filter assy.
T361	T3630	Gearbox drain level plug
T3628	T3760	Gearbox outer cover
E4541	S1859	Bolt - top c/case front
E6929	S1870	Bolt - crankcase
E2490A	S0549	Con rod bolt
E3905	E9330	Plug - oil way - crankshaft
E4706	S1871	Plug - tacho hole D.S. c/case
E4706	S1872	Plug - timing hole
E4537	S1867	Alternator stud - short
E4536	S1866	Alternator stud - long
14-0206	E9557	Carburettor adaptor bolt
T2525	S1879	Countersunk screw (clutch thrust to outer
T1778	S1907	Bolt - gearbox inner cover cover)
E3717	S1863	Stud - oil pipes junction block
E4542	14-1427	Stud - T.S. gearbox inner/outer cover
DS57	14-0101	Bolt - chain oiler clip
E4540	14-6220	Bolt - top rear
E4093	S1870	Bolt - rear
E6929	14-6242	Bolt - crankcase halves inner

<u>1968 Part No.</u>	<u>Part Number</u>	<u>Description</u>
E5963	14-1445	Stud - rear 4 $\frac{1}{2}$ "
E5232	S1873	Screw - inner top
P0172A	14-0303	Nut - stud rear
E3668	14-6609	Screw - long, timing cover
E3204	14-6608	Screw - short, timing cover
E3805	14-0218	Bolt - torque stay
51-51	14-0302	Nut - torque stay bolt
E4608	14-1301	Nut - carburetter adaptor
E3204	14-6608	Screw - inner cover
T1779	14-7023	Screw - inner cover 1 $\frac{3}{4}$ "
T454	S0547	Stud - gear control plate
H1531	S0544	Domed nut - cover stud top
51-51	14-0302	Nut - cover bolt
T2525	S1878	Screw - outer cover
E3802	14-6609	Screw - long
E3668	14-6608	Screw - short
E3204	14-0702	Nut - alternator
E4806	14-6620	Screw - short outer chain cover
E3204	14-6608	Screw - long outer chain cover
E3718	S1864	Stud - oil pump body
E672)		
E3523)	S1865	Cylinder base stud
T361	S0543	Gearbox level plug
E4608	S1932	Locknut - carburetter adaptor
W103	S1877	Nut - manifold
E3732	S1906	Nut - oil pump body stud
S25-13	S1875	Bolt - rocker box to head

"C" RANGE - UNIFIED THREADS

E732	T2166	Filler plug - primary case outer
E2304	E6596	Cap - pressure release valve
E6611	E9495	Alternator stud
E732	E9501	Plug - chaincase filler
E2961	E9510	Adaptor - exhaust pipe
T1644	T3784	Abutment - clutch cable
E4154	T2259	Plug - access to primary chain tensioner
E3711	E9492	Plug - T.S. crankshaft oil tube
E3759	E9248/9	Outer primary cover
T1870	T3755	Gearbox outer cover
E6699	E9506	Cylinder head assy. T90
E6966	E9507	Cylinder head assy. T100
E4645	E9035	T.S. c/case
E5868	E9485	D.S. c/case
E3713	S1913	Bolt - flywheel to crankshaft
E3717	S1863	Stud - T.S. crankcase oil junction block
E3718	S1864	Stud - T.S. oil pump
E3719	S1921	Stud - cylinder base
E3820	S1922	Stud - at dowels - cylinder base
E3859	S1926	Screw - top inner
T1399	S1927	Stud - T.S.c/case gearbox outer cover
E3799	S1919	Bolt - top rear
E3803	S1925	Stud - rear
E1645	S1920	Screw - oil return pipe clip
51-51	S1908	Nut - stud rear
E3728	S1929	Screw - retaining plate
E4565	S1914	Nut - timing pinion
Was same plug (E4706	S1872	Plug - TDC hole
(E4706	S1871	Plug - L.H. thread tacho hole
E3732	S1906	Nut - oil pump stud
E3801	S1916	Screw - long - timing cover
E3735	S1915	Nut - rotor to crankshaft D.S.

<u>1968 Part No.</u>	<u>Part Number</u>	<u>Description</u>
S582	S1923	Stud - long - inlet manifold
E3880	S1924	Stud - short - inlet manifold
W103	S1877	Nut - cylinder head stud - manifold
DS57	S0543	Gearbox level plug
T1944	S1928	Stud - outer cover to housing
51-51	S1877	Nut - outer cover stud
T1402	S1917	Screw - long - outer cover
T1401	S1918	Screw - short - outer cover
E3802	S1878	Screw - long - outer chaincase cover
E3794	14-6609	Bolt - rocker box to cylinder head
E5324	14-0702	Nut - stator stud
S1-51	14-0302	Nut - crankcase stud gearbox outer cover
E3204	14-6608	Screw - inner cover 1".
E4165	14-0220	Bolt - torque stay to frame
S1-51	14-0302	Nut - torque stay
E3800	14-6607	Screw - short timing cover $\frac{7}{8}$ "
E3717	14-6102	Bolt - oil pipe adaptor.
T1875	14-6505	Screw - housing to cover $\frac{7}{8}$ "

TRIUMPH

SERVICE BULLETIN No. 305

INCREASED SUMP CAPACITY ON UNIT CONSTRUCTION 650 c.c. (40 cu.in.) MACHINES

Commencing engine number DU88714, all 650 c.c. (40 cu.in.) engines have been fitted with a $\frac{5}{8}$ in. shorter crankcase oil scavenge tube. This has the effect of raising the crankcase oil level.

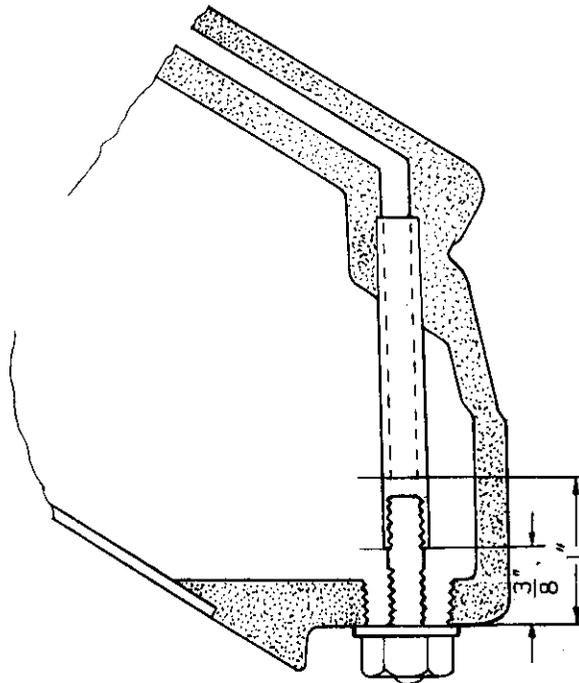
This modification enables the pistons, cylinder barrel and connecting rods to operate at a lower temperature, and the additional oil obviates excessive wear on the camshafts and cylinder bores.

It is recommended that this modification be carried out on any unit construction 650 c.c. (40 cu.in.) machine between engine numbers DU44394 when an increased scavenge capacity oil pump was incorporated, and DU88714.

The existing scavenge tube can be shortened to the dimension shown in the diagram if a spot facing cutter is available. Alternatively the tube must be drawn out and replaced with the shortened tube which is $1\frac{3}{8}$ in. long and listed under the same part number as the previous tube, E4538.

Extreme care must be taken when withdrawing the tube as the crankcase can easily be cracked. It is suggested that a screw thread is cut inside the tube and a stud screwed into this. If a large washer is placed over this so that it locates against the crankcase, a nut can be screwed along the stud and used to withdraw the tube (see diagram).

To fit the new tube, a narrow shouldered drift should be used. Care must be taken to ensure that the tube is entered squarely into the crankcase.



November 1968

TRIUMPH MOTORCYCLES

TRIUMPH

SERVICE BULLETIN No. 306 (revised)

FLEXIBLE HANDLEBAR MOUNTINGS ON 650 c.c.
HOME MARKET AND GENERAL EXPORT MACHINES

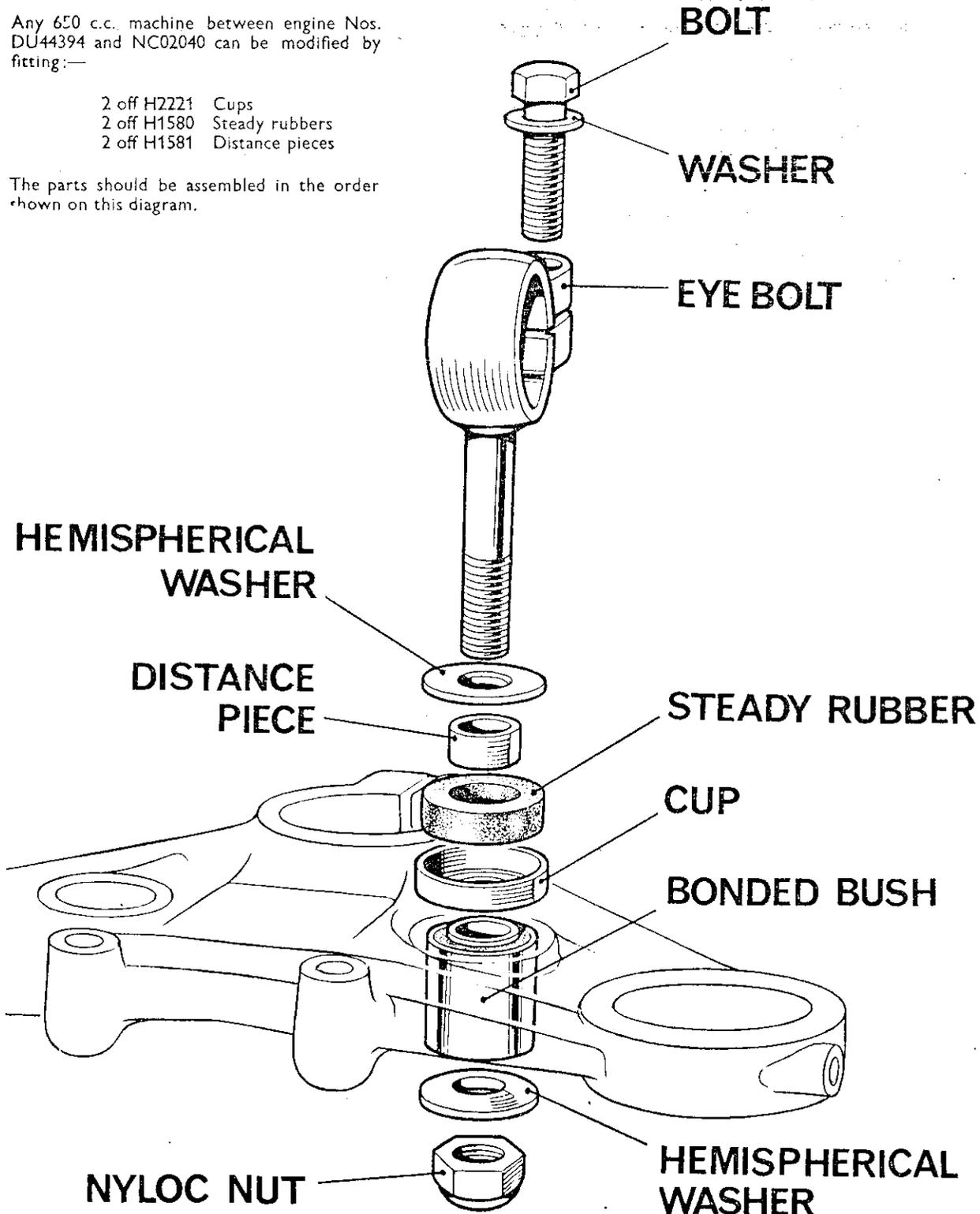
The introduction of a steering lock to the front fork top lug has created a condition whereby the handlebar can be moved sufficiently in the flexible mountings to cause contact between the eye bolt and frame head lug.

A modification has been introduced at engine No. NC02040 to eliminate any possibility of this condition occurring.

Any 650 c.c. machine between engine Nos. DU44394 and NC02040 can be modified by fitting:—

- 2 off H2221 Cups
- 2 off H1580 Steady rubbers
- 2 off H1581 Distance pieces

The parts should be assembled in the order shown on this diagram.



TRIUMPH

SERVICE BULLETIN No. 307

T150 AIR CONTROL CABLE GUIDE BRACKET

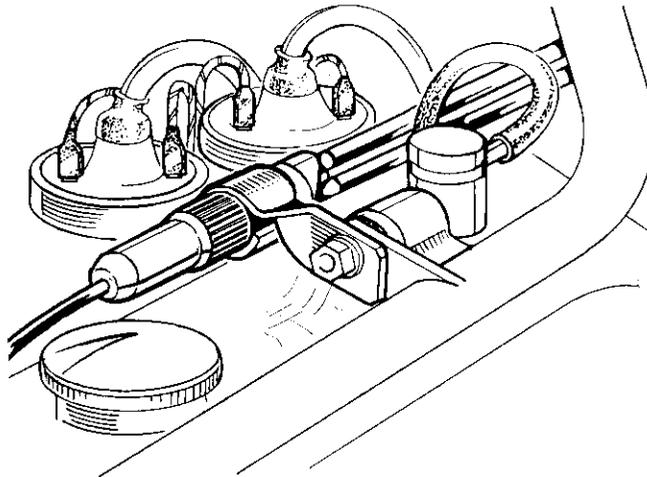
After being in service for a period of time, the air control cable loop beneath the twinseat may gradually creep towards the carburettors. This causes a certain amount of "slack" to appear in the cables between the carburetters and cable junction box.

It is now apparent that this excess of free cable could become trapped between the carburetters and throttle lifting mechanism, thereby preventing the throttle from closing.

A bracket is now being fitted to prevent the junction box from moving forwards. It is attached to the front upper oil tank mounting lug, and over the front of the junction box against the shoulder, as shown in the diagram.

IT IS MOST IMPORTANT THAT MACHINES NOT ALREADY FITTED WITH THIS BRACKET (THAT IS MACHINES DESPATCHED ON OR BEFORE DECEMBER 16th 1968) SHOULD HAVE ONE FITTED AS SOON AS POSSIBLE.

This bracket can be obtained under Part No. F11549.



December 1968

TRIUMPH MOTORCYCLES



SERVICE BULLETIN No. 308

TR25W CYLINDER LINER RETENTION

The following condition occurs on certain early TR25W machines, prior to engine number 4137. Fortunately this condition does not cause damage if promptly rectified.

Symptom: When the engine is hot, a knock, similar to a badly worn piston is audible, especially at low engine speeds.

Cause: When the aluminium alloy cylinder barrel expands, the cast iron cylinder liner moves up and down. There is a gap of approximately 0.015 ins. between the top of the liner and the surface of the cylinder head at the base of the head recess.

Remedy: By fitting a corrugated spacer ring between the top of the liner and the cylinder head, movement of the liner is prevented.

Listed below are three corrugated rings, which are of different thicknesses and designed to compress approximately 0.010 ins.

Instructions for Fitting Corrugated Ring.

1. Remove the cylinder head and remove any carbon from the top of the liner and recess in the head.
2. Select the middle thickness ring E7959 and position it on top of the liner. Ensure that a standard copper head gasket (0.048 ins. thick) is fitted, and hold the head against the barrel with one hand. Measure the gap between the cylinder head and head gasket with a feeler gauge.

If the gap is between 0.005 and 0.010 ins., the selected ring will be satisfactory. If the gap is above 0.010 ins., use the thinner ring E7958, and if the gap is below 0.005 ins., use the thicker ring E7960.

The rings can be obtained under the following part numbers:-

<u>Part No.</u>	<u>Description</u>	<u>Total Thickness</u>	<u>Metal Thickness</u>
E7958	Corrugated sealing ring	.024 ins.	.009 ins.
E7959	" " "	.027 ins.	.012 ins.
E7960	" " "	.030 ins.	.015 ins.
E7958/9/0	Set of above three rings.		

January, 1969.



SERVICE BULLETIN No. 309

LUBRICATION OF AUTOMATIC ADVANCE AND RETARD MECHANISM ON ALL CURRENT MACHINES.

All machines produced after:-

TR25W	Commencement of 1969 Season.
"C" Range	H65573 Commencement of 1969 Season
"B" Range	DU85904 Commencement of 1969 Season
T150	T101 (All machines produced)

are fitted with an automatic advance and retard mechanism that employs a pre-lubricated spindle.

The process involved consists of treating the spindle with a preparation of molybdenum disulphide and an epoxy resin.

IF A LIQUID LUBRICANT IS INTRODUCED ONTO THE SPINDLE, A GLUTINOUS PASTE IS FORMED, WHICH CAN VIRTUALLY SEIZE THE SPINDLE AND BEARING.

However, it is still necessary to lubricate the remaining four points as directed in the Workshop Manual.

It is most important that only one drop of clean engine oil is applied to each lubrication point when the contact breaker plate is removed, or at approximately 6,000 mile, (9,600 Km) intervals, AND THAT ANY SURPLUS OIL IS WIPED OFF.

January, 1969.



SERVICE BULLETIN

No. 310
(Revised)

CAMSHAFTS

The information listed below is designed to help with the identification, interchangeability and fitting of camshafts to various models in their respective ranges.

The camshafts are listed in four groups depending upon their camform, as an example, all numbers in the first group are E3134 form, or high performance camshafts. There are two lists of numbers in each group, the left hand column being the service part number, the right hand column being the casting or identification number.

All camshafts are interchangeable within their respective ranges, provided the valve springs and the type of camshaft, (i.e. contact breaker, tachometer drive), are adhered to. This applies to all groups.

Twin Cylinder Models

Group 1 - E3134 Camform (High Performance)

E3134	E3134	
E4819x	E3134	
E5047*+ C.P.	E5048	
E5162x C.P.	E4602	Valve timing: Inlet opens 34 degrees
E10040x N.	E10040	Inlet closes 55 "
E10041*+ N	E10041	Exhaust opens 55 "
E4038 S.G.	E3838	Exhaust closes 34 "
E4039	E3838	
E4678	E4679	
E5044*+ C.P.	E5045	Running valve clearance: Inlet 0.002 in.
E5163 C.P.	E4679	Exhaust 0.004 in.
E6965*+	E6642	
E10043 N	E10043	
E10047*+ N	E10050	
E11063 N.	71-0040	
E11064 N	71-0043	
E9983*+ N	70-9986	
E9984*+ N	70-9987	
E9989*+ N	70-9990	

Triple Cylinder Model

E8765* N.	70-8765	Valve timing taken in inches lift at T.D.C. with
E8764 N	70-8765	nil clearance:
		Inlet 0.152 in. (3.86 mm)
		Exhaust 0.146 in. (3.71 mm)
		Running valve clearance: Inlet 0.006 in.
		Exhaust 0.008 in.

Group II - E3325 Camform (High Speed Touring)

Twin Cylinder Models

E3325	E3325	Valve timing: Inlet opens	27 degrees
E4818x	E4997	Inlet closes	48 "
E4848*	E4560	Exhaust opens	48 "
E4855*+	E4561	Exhaust closes	27 "
E4022 S.G.	E3838		
E4023	E4679	Running valve clearance: Inlet	0.002 in.
E4786*+	E4679	Exhaust	0.004 in.
E10046*+ N	E10049		

Group III - Ramp Camform (Standard)

Twin Cylinder Models

E3275	E3275	Valve timing: Inlet opens	26 $\frac{1}{2}$ degrees
E3838 S.G.	E3838	Inlet closes	69 $\frac{1}{2}$ "
E3839	E3838	Exhaust opens	61 $\frac{1}{2}$ "
E5341*	E5342	Exhaust closes	35 $\frac{1}{2}$ "
		Running valve clearance: Inlet	0.010 in.
		Exhaust	0.010 in.

Group IV - Modified Ramp Camform (Racing)

E4220	E4220	Valve timing taken in inches lift at T.D.C. with	
E6267	E4220	nil clearance:	
E6147*+	E6146	Inlet 0.195/0.175 in. Exhaust 0.160/0.180 in.	
		Running valve clearance: In. 0.008 in. Ex. 0.010 in.	

E6267 and E6147 camshafts must be used in conjunction with large 3 in. radius cam followers, not E3059 or E3059R.

Group V - Modified Ramp Camform (Racing)

E6988*+	E6989	Valve timing taken in inches lift at T.D.C. with	
E6987	E6986	nil clearance:	
		Inlet: 0.200/0.180 in. Exhaust: 0.185/0.170 in.	
		Running valve clearance: In. 0.008 in. Ex. 0.010 in.	

The above camshafts must be used in conjunction with large 3 in. radius cam followers, not E3059 or E3059R.

All valve timing figures are established with a gap of 0.020 in. for checking purposes except where otherwise stated.

Single Cylinder Models (200 c.c.)

Group I (Standard)

E3183+		Valve timing: Inlet opens	50 degrees
E4869*		Inlet closes	50 "
E6606*		Exhaust opens	55 "
		Exhaust closes	25 "
		Running valve clearance: In. 0.010 in. Ex. 0.010 in.	

Group II (Sports)

E3962+		Valve timing: Inlet opens	39 degrees
E4870*		Inlet closes	61 "
E6608*		Exhaust opens	65 "
		Exhaust closes	35 "
		Running valve clearance: In. 0.002 in. Ex. 0.004 in.	

Single Cylinder Models (250 c.c.)

E8059*	Valve timing: Inlet opens	51 degrees
E11124*	Inlet closes	68 "
E11276*	Exhaust opens	78 "
	Exhaust closes	37 "

Running valve clearance: In. 0.008 in. Ex. 0.010 in.

N.B. If on a TR25W machine, prior to engine number JD.00388, the camshaft requires changing, please refer to Service Bulletin No. 328.

- * Contact breaker
- + Tachometer drive
- x Breather tube
- N Nitrided
- S.G. Skew gear
- C.P. Copper plated

February, 1971.



SERVICE BULLETIN

No. 310
(Revised)

CAMSHAFTS

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All camshafts are interchangeable within their respective ranges, provided the valve springs and the type of camshaft, (i.e. contact breaker, tachometer drive), are adhered to. This applies to all groups.

Twin Cylinder Models

Group 1 - E3134 Camform (High Performance)

E3134	E3134		
E4819x	E3134		
E5047*+ C.P.	E5048		
E5162x C.P.	E4602	Valve timing: Inlet opens	34 degrees
E10040x N.	E10040	Inlet closes	55 "
E10041*+ N	E10041	Exhaust opens	55 "
E4038 S.G.	E3838	Exhaust closes	34 "
E4039	E3838		
E4678	E4679	Running valve clearance: Inlet	0.002 in.
E5044*+ C.P.	E5045	Exhaust	0.004 in.
E5163 C.P.	E4679		
E6965*+	E6642		
E10043 N	E10043		
E10047*+ N	E10050		
E11063 N.	71-0040		
E11064 N	71-0043		
E9983*+ N	70-9986		
E9984*+ N	70-9987		
E9989*+ N	70-9990		

Triple Cylinder Model

E8765* N.	70-8765	Valve timing taken in inches lift at T.D.C. with	
E8764 N	70-8765	nil clearance:	
		Inlet	0.152 in. (3.86 mm)
		Exhaust	0.146 in. (3.71 mm)
		Running valve clearance: Inlet	0.006 in.
		Exhaust	0.008 in.

Cont.....

Group II - E3325 Camform (High Speed Touring)

Twin Cylinder Models

E3325	E3325	Valve timing: Inlet opens	27 degrees
E4818x	E4997	Inlet closes	48 "
E4848*	E4560	Exhaust opens	48 "
E4855*+	E4561	Exhaust closes	27 "
E4022 S.G.	E3838		
E4023	E4679	Running valve clearance: Inlet	0.002 in.
E4786*+	E4679		Exhaust 0.004 in.
E1004.6*+ N	E10049		

Group III - Ramp Camform (Standard)

Twin Cylinder Models

E3275	E3275	Valve timing: Inlet opens	26 $\frac{1}{2}$ degrees
E3838 S.G.	E3838	Inlet closes	69 $\frac{1}{2}$ "
E3839	E3838	Exhaust opens	61 $\frac{1}{2}$ "
E5341*	E5342	Exhaust closes	35 $\frac{1}{2}$ "
		Running valve clearance: Inlet	0.010 in.
			Exhaust 0.010 in.

Group IV - Modified Ramp Camform (Racing)

E4220	E4220	Valve timing taken in inches lift at T.D.C. with	
E6267	E4220	nil clearance:	
E6147*+	E6146	Inlet 0.195/0.175 in. Exhaust 0.160/0.180 in.	
		Running valve clearance: In. 0.008 in. Ex. 0.010 in.	

E6267 and E6147 camshafts must be used in conjunction with large 3 in. radius cam followers, not E3059 or E3059R.

Group V - Modified Ramp Camform (Racing)

E6988*+	E6989	Valve timing taken in inches lift at T.D.C. with	
E6987	E6986	nil clearance:	
		Inlet: 0.200/0.180 in. Exhaust: 0.185/0.170 in.	
		Running valve clearance: In. 0.008 in. Ex. 0.010 in.	

The above camshafts must be used in conjunction with large 3 in. radius cam followers, not E3059 or E3059R.

All valve timing figures are established with a gap of 0.020 in. for checking purposes except where otherwise stated.

Single Cylinder Models (200 c.c.)

Group I (Standard)

E3183+		Valve timing: Inlet opens	30 degrees
E4869*		Inlet closes	50 "
E6606*		Exhaust opens	55 "
		Exhaust closes	25 "
		Running valve clearance: In. 0.010 in. Ex. 0.010 in.	

Group II (Sports)

E3962+		Valve timing: Inlet opens	39 degrees
E4870*		Inlet closes	61 "
E6608*		Exhaust opens	65 "
		Exhaust closes	35 "
		Running valve clearance: In. 0.002 in. Ex. 0.004 in.	

Single Cylinder Models (250 c.c.)

E8059*	Valve timing: Inlet opens	51 degrees
E11124*	Inlet closes	68 "
E11276*	Exhaust opens	73 "
	Exhaust closes	37 "

Running valve clearance: In. 0.008 in. Ex. 0.010 in.

N.B. If on a TR25W machine, prior to engine number JD.00388, the camshaft requires changing, please refer to Service Bulletin No. 328.

- * Contact breaker
- + Tachometer drive
- x Breather tube
- N Nitrided
- S.G. Skew gear
- C.P. Copper plated

February, 1971.



SERVICE BULLETIN No. 311

TRIDENT SHOCK ABSORBER

Section 1. Retaining Plate Securing Screws

Owing to slackening in service, the current countersunk shock absorber retaining plate securing screws are being replaced by hexagon headed bolts and locking plates.

It is suggested that when a Trident is present in a dealers workshop, this modification is carried out.

Parts cancelled—T1150 Screw
T2255 Retaining plate

New parts—T3940 Bolt
T4004 Retaining plate
T3941 Locking plate

On assembly, T1150 screws are retained with grade "AA" Loctite, which breaks down above 250° C. If a screw is tight in the retaining plate, it is advisable to heat it to above 250° C. before applying any great amount of force, as there is a danger of breaking off the screw head.

* To avoid replacing the existing T2255 retaining plate to accommodate the hexagonal heads, it is permissible to reverse it, thereby fitting the countersinking to the inside.

Only three locking plates are required as the bolts are tablocked in pairs.

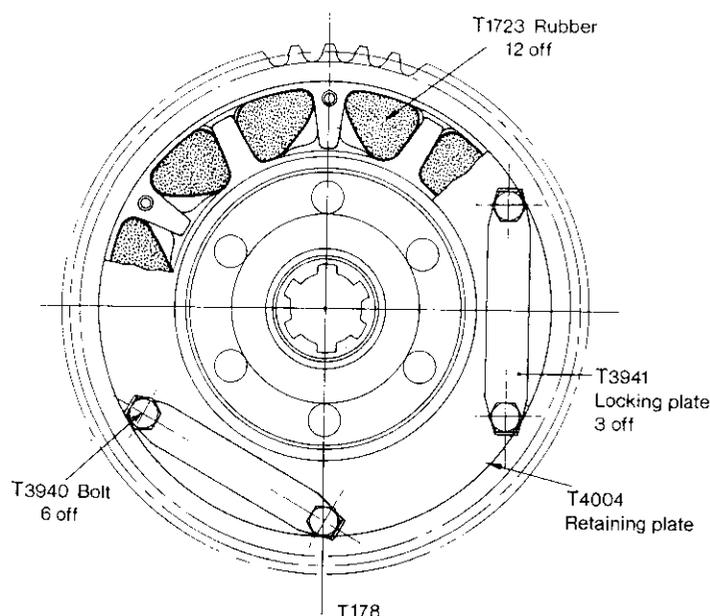
* **Note:** Before replacing the retaining plate, refer to Section 2 of this Bulletin.

Section 2.

Cush Drive Rubbers

A production modification is being carried out whereby "B" Range cush drive rubbers replace those at present specified for the Trident.

It is suggested that when the transmission is dismantled in order to carry out the modification described in Section 1, or for any other reason, twelve T1723 rubbers are fitted in the positions shown.



February 1969

TRIUMPH

SERVICE BULLETIN No. 312

SECTION 1. IMPROVED FORK ACTION—"B" RANGE, "C" RANGE, T150

Machines produced after engine number:—

"B" Range } AC10464
 "C" Range }

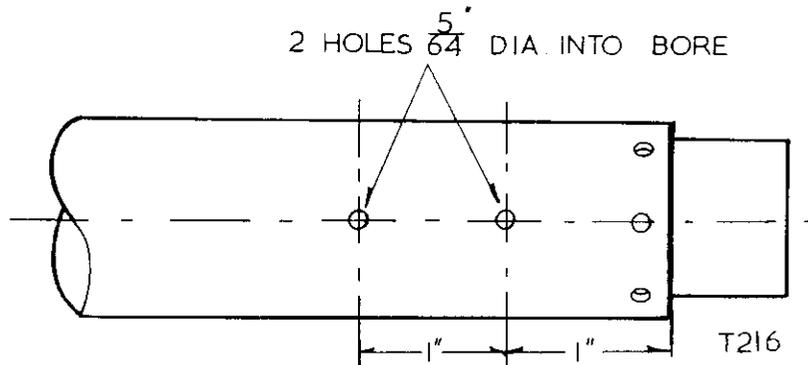
T150 All machines produced

are fitted with modified front fork stanchions H3878, which replace H2092. This modification, which is designed to improve the front fork action, consists of drilling two $\frac{5}{64}$ in. diameter holes through to the bore of each stanchion, as shown in the diagram.

It is essential that the new stanchions are fitted in pairs, or alternatively if one is replaced, that the other is modified by drilling.

The correct quantity and grade of oil remains at 200 c.c. of SAE 20.

THIS MODIFICATION APPLIES ONLY TO MACHINES WHICH INCORPORATE THE SHUTTLE VALVE TYPE OF DAMPING.



SECTION 2. FRONT BRAKE PLATE ANCHOR PEG—"B" RANGE, "C" RANGE

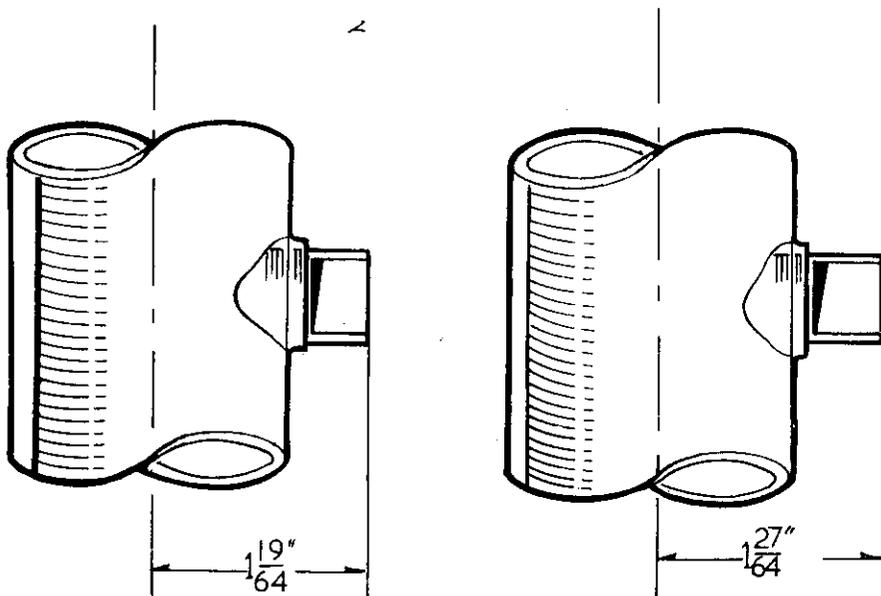
All 1969 season machines produced, that is after engine number:—

"B" Range—DU85904
 "C" Range—H65573

incorporate a front fork assembly having $6\frac{3}{4}$ in. centres, replacing the previous $6\frac{1}{2}$ in. centres.

To suit this condition the front brake anchor peg has been extended to ensure adequate engagement.

IF THE RIGHT SIDE FORK BOTTOM MEMBER IS REPLACED FOR ANY REASON, IT IS ESSENTIAL THAT THE CORRECT COMPONENT, PART NUMBER H2295 IS USED.



Using the bottom member designed for $6\frac{1}{2}$ in. centres would drastically reduce the peg engagement, and would be potentially dangerous.

Similarly it is not permissible to fit a wheel spindle designed for $6\frac{1}{2}$ in. centres into a 1969 front fork, as the spindle engagement would prove unsatisfactory.

PRE 1969 CONDITION

CURRENT CONDITION

March, 1969



SERVICE BULLETIN No. 313

TR25W CRANKSHAFT CONVERSION

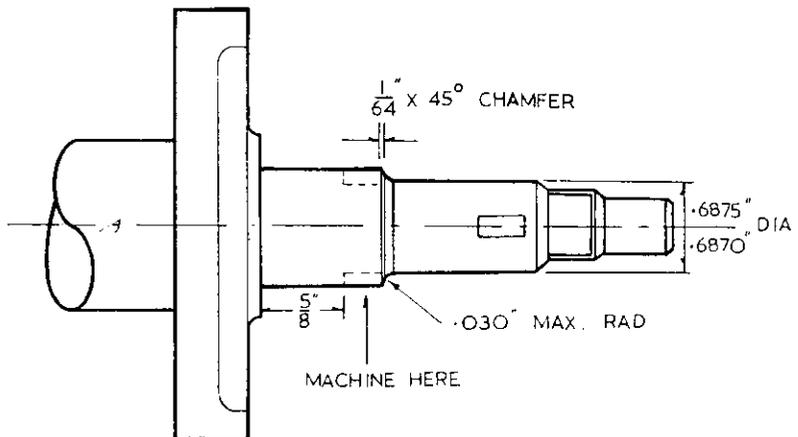
(Incorporated on machines produced after Engine No. TR25W 12468)

TR25W machines now incorporate a roller main bearing in the drive side crankcase. To suit this condition, a new crankshaft assembly E9849 (flywheel assembly E9848) is used.

This assembly will replace the previous assembly, providing that a spacer, E11031, is fitted to the timing side crankshaft.

If a replacement is required for a crankcase which already incorporates a drive side roller bearing, the spacer is not required, but it must be ascertained that a thrust washer, E9975 is fitted to the timing side shaft.

The previous flywheel assembly, E8027 (crankshaft assembly E8028) can be converted for use with a drive side roller bearing by machining the timing side shaft as shown in the diagram.



February, 1969.

TRIUMPH MOTORCYCLES



SERVICE BULLETIN No. 314

TRIDENT (T150) OIL PUMP INTERMEDIATE DRIVE GEAR SPINDLE AND GEARBOX SELECTOR FORK ROD

SECTION 1

Oil Pump Intermediate Drive Gear Spindle

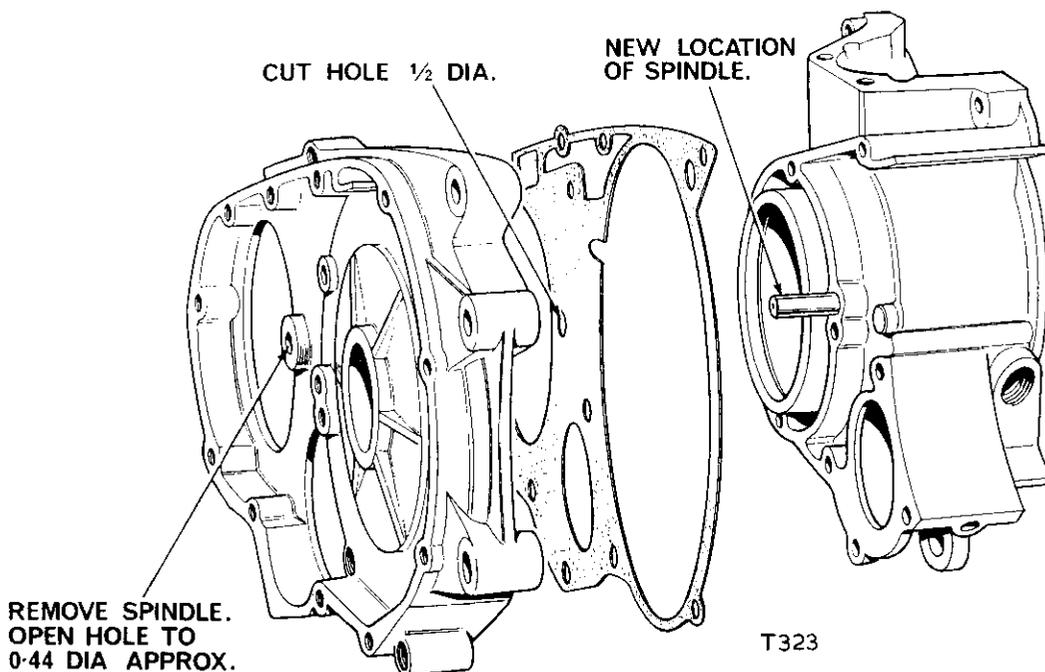
A modification has been incorporated on machines produced after engine number CC02650 to avoid any possibility of the oil pump drive gears meshing incorrectly.

This modification comprises a new left side crankcase section, inner chaincase, and intermediate gear spindle.

Old Part No.		Replaced by Part No.
E9002	Crankcase assy.	E11008
T2460	Inner chaincase	T4010
E6881	Intermediate gear spindle	E11051

Description

Prior to this modification the spindle (E6881) was pressed into an interference fit counterbored hole in the inner chaincase. On modified machines, the new spindle is located in the left side crankcase, and the hole in the inner chaincase is opened to allow the spindle to pass through freely. Because of this, no positive location is required for the inner chaincase, therefore one crankcase to chaincase dowel is omitted from the front of the chaincase. The dowel between the inner and outer chaincase must be retained.



Spare Parts Supply and Interchangeability

It is neither practicable nor necessary to carry out this modification on early machines, unless serious trouble is experienced with the oil pump gear train. Both the old and new condition inner chaincase will be supplied. The Triumph Service Department will continue to supply both condition crankcase assemblies until the E9002 condition is exhausted; thereafter, only E11008 will be supplied.

In order to retain the old condition inner chaincase when using the modified crankcase, the spindle must be removed from the chaincase, and the interference fit hole opened to approximately 0.44 ins. to allow the longer spindle to pass through freely. It is also necessary to remove the chaincase to crankcase dowel from the front of the chaincase, and to cut a hole in the old type inner chaincase gasket to allow the spindle to pass through it. If possible a modified gasket should be used. This is obtained under the same part number T2558.

SECTION 2

Gearbox Selector Fork Rod

A further crankcase modification has been introduced after engine number CC02650, coinciding with the previous modification.

This modification is designed to avoid any possibility of oil leakage from the gearbox selector fork rod. It comprises a new centre crankcase and selector fork rod.

Old Part No.	Replaced by Part No.
E9002 Crankcase assy.	E11008
T291 Selector fork rod	T3989

Description

Before the modification, the location hole for the selector fork rod was machined through the centre crankcase section, and there was a possibility of oil leakage at this point.

The location hole in the modified condition crankcase is machined blind (i.e. it does not break through the crankcase wall) and therefore there is no possibility of an oil leak developing.

The selector fork rod is shortened to suit this condition.

Spare Parts Supply and Interchangeability

The modified selector fork rod is supplied with the latest condition crankcase assembly, but the previous rod will still be available. Neither rod is interchangeable.

Summary

If a replacement crankcase is required for any reason, E9002 or E11008 will be supplied until stocks of E9002 are exhausted, subsequent to which only E11008 will be available. This latter crankcase assembly is supplied with the selector fork rod T3989 and intermediate gear spindle E11051.

- Procedure: (where E11008 is used in place of E9002)
1. Discard old selector fork rod.
 2. Enlarge hole for intermediate gear spindle.
 3. Cut hole in inner chaincase to crankcase gasket.
 4. Discard dowel between inner chaincase and crankcase.
 5. Before engine number AC 01629 the oil warning light switch employed a tapered thread, but after this number it became parallel. The new crankcase has a parallel thread, but if the engine number is earlier than stated, a new parallel switch must be fitted.
 6. Early engines were produced without loose steel sleeves at either end of the oil filter housing in the centre crankcase section. These are fitted in late engines to retain the 'O' ring seals more effectively. They are not supplied with E11008 crankcase assembly, but can be obtained under part number E9586 (2 off).

May, 1969.

TRIUMPH

SERVICE BULLETIN No. 315

RENEWING THE TAPPET GUIDE BLOCKS ON TRIDENT (T150)

Both inlet and exhaust tappet guide blocks are assembled using rubber "O" ring seals, and are located by means of interference fit alloy dowels.

It should not be necessary to remove a guide block until a major overhaul is required, and then only if the amount of wear is excessive or an oil leak has developed. The correct dimensions and tolerances are given in the general data section of the Workshop Manual.

This work should only be carried out if the necessary equipment is available.

Equipment Required

Drilling machine or electric drill.

Means of heating cylinder barrel to approximately 100° C.

Service tools: 61-6008
61-6016
61-6059

Procedure

Remove the cylinder barrel as described in Section B17 of the Workshop Manual.

Remove the tappets and note from which position they were taken if the original guide blocks are to be refitted, i.e. if only the "O" ring seals are to be renewed.

Attach the drill jig (part of 61-6059) to the cylinder base flange so that the drill bushes align with the dowels (See Fig. 1).

Using a 3.9 mm. or No. 23 (0.154 in.) drill, drill each of the dowels to be removed to a depth of 0.375 in. (9.525 mm.).

Remove the jig, and using a 2BA tap, cut a screw thread in each dowel.

To remove the dowels, use the extractor portion of service tool 61-6059 referring to Fig. 2. Screw in the central bolt and tighten the extractor collar until the dowel is drawn into the distance sleeve. Repeat this operation for each dowel.

To remove the guide blocks the barrel should be heated to approximately 100° C., the left side blocks removed using the drift and adaptor and the right side blocks removed using the drift. It is preferable to use a press, but if a suitable press is not available drifting out will suffice.

Guide blocks are removed from underneath the base flange, and replaced from above the base flange.

When replacing the guide blocks, the "O" ring should be fitted before drifting into position and both the cylinder block and tappet guide block must be liberally coated with oil. If an original block is refitted it should be positioned in exactly the same manner as it was originally fitted.

Ensure that each dowel hole is accurately lined up, and fit new dowels using a soft metal or hard wood drift and hammer.

Reassembly of the engine is described in Section B17 of the Workshop Manual.

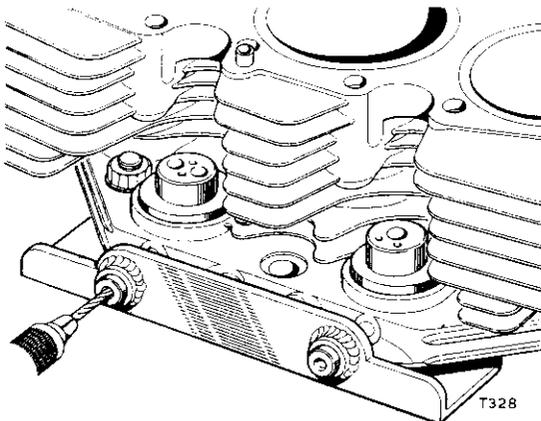


Figure 1

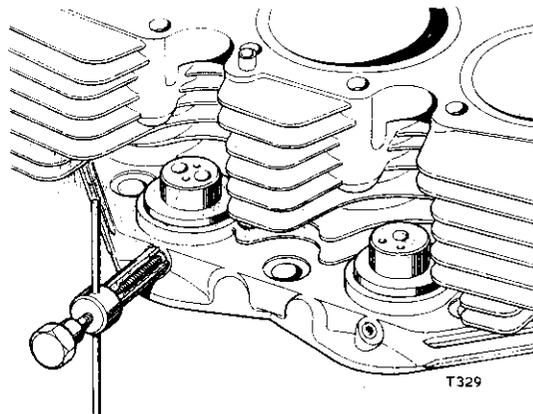
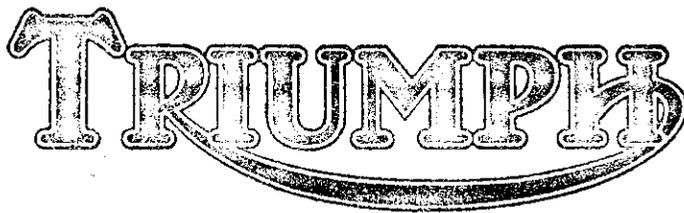


Figure 2

August 1969.



SERVICE BULLETIN No. 316.

SERVICE EXCHANGE SCHEME

It has recently become apparent that Dealers are not taking advantage of the Service Exchange Scheme which is operated by this Company.

This we feel may be caused by the recent announcement by B.S.A. Motorcycles that their scheme has ceased to operate.

This Company has no intention of withdrawing this service, either at the present time, or in the foreseeable future.

Full details are available from the Service Department on request.

August, 1969.

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TRIUMPH MOTORCYCLES



SERVICE BULLETIN No. 317

CONNECTING ROD BIG END NUTS

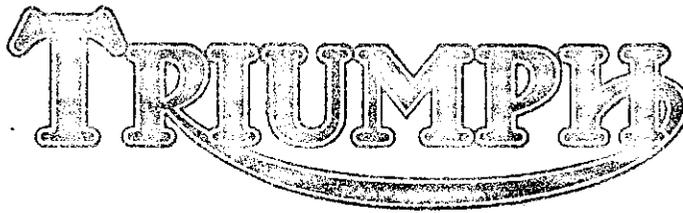
"B" Range Motorcycles (T120, T120R, TR6, TR6R, TR6C) from engine number GC23016 are fitted with new self locking nuts at the connecting rod big end bolts.

The new type nuts (S2016) are bonderised for identification purposes (this gives the nuts a dull grey finish). These new nuts require a revised torque loading of only 22 ft. lbs. as opposed to the figure of 28 ft. lbs. for the earlier nuts S549 which are in an as-machined finish.

When connecting rod bolts and nuts are being replaced, the new type nuts S2016 should be used in preference to S549, and the torque setting adjusted accordingly.

July, 1969.

TRIUMPH MOTORCYCLES



SERVICE BULLETIN No. 318

TR25W VALVE GEAR

An improved valve spring top collar and split collet with a 20° inclusive angle is now fitted on assembly. This replaces the previous components of 15°.

New parts:	E11165	Collar
	E11166 (2 off)	Split collet
Superseding:	E1543	Collar
	WE259A (2 off)	Split collet

20° angle components may be used to replace 15° components, but must only be interchanged as a set.

UNDER NO CIRCUMSTANCES MUST A 20° COLLAR BE USED WITH 15° OR VICE-VERSA.

August 1969.

TRIUMPH

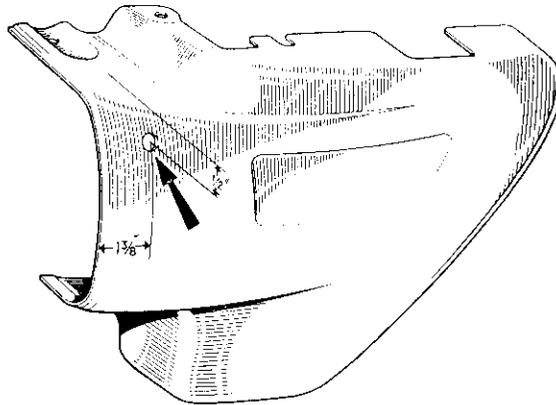
SERVICE BULLETIN No. 319

CLUTCH CABLE ROUTING—TRIDENT

To locate the clutch cable more positively, thus preventing paint damage and improving clutch operation, a new feature has been introduced on the Trident.

A plastic loop similar to that used to locate the front brake cable is fitted to the left side panel. This is a sufficiently useful feature that it can be fitted, to advantage, to all machines already in service.

To revise the cable route, drill a $\frac{23}{64}$ " diameter hole at the point shown in the illustration below.



Insert the cable loop D2487 and secure it to the panel with the push fix. It is recommended that the new nylon lined clutch cable D2445 is fitted whilst carrying out this operation. Re-route the clutch cable to the left side of the frame top tube. Pass the clutch cable through the loop and reconnect at the chaincase end.

July, 1969.

TRIUMPH MOTORCYCLES

TRIUMPH

SERVICE BULLETIN No. 320

TRIDENT (T150) VALVE TIMING

Identical camshaft pinions are now fitted to both the inlet and exhaust camshafts.

The camwheels should be assembled on the keyway opposite the appropriate timing mark, either "IN" or "EX."

In the case of the inlet camwheel with the drive-side piston at T.D.C. the dot should be aligned with the dash on the intermediate wheel, and in the case of the exhaust camwheel two dots should be aligned, as shown below.

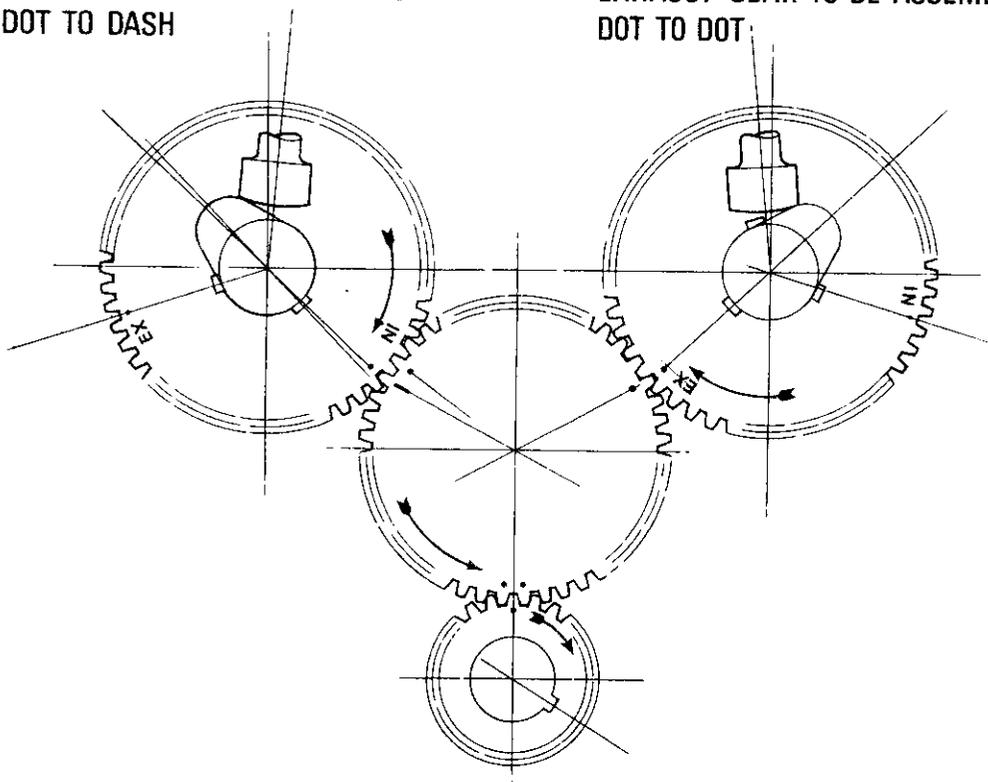
The tappet clearances remain at:—

Inlet	0.006 in.
Exhaust	0.008 in.

with the engine cold.

INLET GEAR TO BE ASSEMBLED
DOT TO DASH

EXHAUST GEAR TO BE ASSEMBLED
DOT TO DOT



DRAWN WITH DRIVE SIDE PISTON AT T.D.C.

T331

TRIUMPH MOTORCYCLES

January 1970



SERVICE BULLETIN

No. 321

TRIDENT CHAINCASE DOWELS

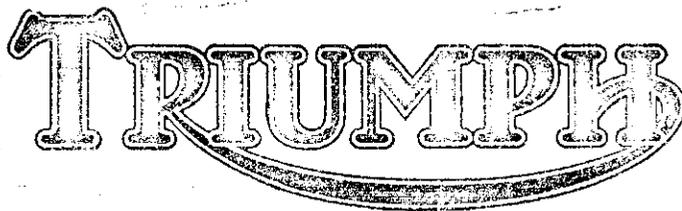
All machines manufactured between engine numbers T150T 101 - 235 and CC 02650 - 4202 have two dowels omitted from the chaincase. These dowels should be positioned at either end of the chaincase, between the inner and outer covers.

It is suggested that two dowels, part number T989, are fitted to any machine between the aforementioned engine numbers, as there is insufficient outer cover support.

November, 1969.

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SERVICE BULLETIN

No. 322

FRONT MUDGUARDS

H3677, H1675, H1677 AND H3882.

When existing stocks become exhausted it will be necessary to rationalise on mudguard H3882 which will in future be supplied by the Spares Department against orders for H3677 or H1677. This later front mudguard differs from earlier conditions only in the number and positions of drillings for mudguard bottom stays and number plates.

If the later mudguard is fitted, it will necessitate fitting also the bottom stay part number H3885 which has double tags for the guard fixing bolts. The stay H3885 should be ordered as a normal spares requirement and will be chargeable.

October, 1969.

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No. 323

SERVICE BULLETIN

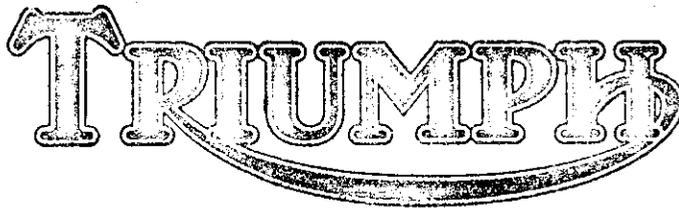
PISTON RING GAPS

Since the fitting of proprietary made pistons complete with rings, to our machines from engine number DU44934 on 650 c.c. models and engine number H49837 on 500 c.c. models, the piston ring gap recommendation has been changed from the original figure of 0.010 to 0.014" to the revised figure of 0.015 - 0.020".

Reference to this figure is made in Workshop Manuals both in "General Data" and in the "Engine" section "Removing and Replacing the Piston Rings", and these references should be corrected forthwith.

October, 1969.

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

No. 325

AUTOMATIC ADVANCE AND RETARD UNIT SPRINGS

The automatic advance and retard unit springs currently fitted to the TR25W machine will shortly be specified for the Trident. These are available under part number 99-1011 (Lucas part number 54417992).

These springs are stronger than those at present fitted to the Trident, and do not allow the ignition to advance at such a low speed. This overcomes an erratic tick-over and irregular low speed running.

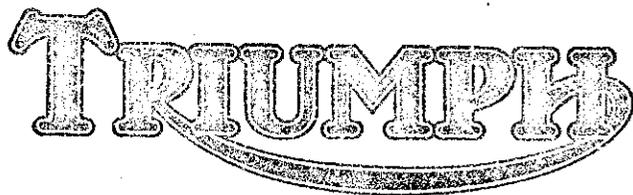
These springs can also be fitted to "B" Range machines with advantage in areas where only low octane fuel is available and pinking occurs.

To replace the springs on either Trident or "B" Range, refer to the appropriate Workshop Manual.

October, 1969.

TE 164

TRIUMPH MOTORCYCLES



SERVICE BULLETIN No. 326

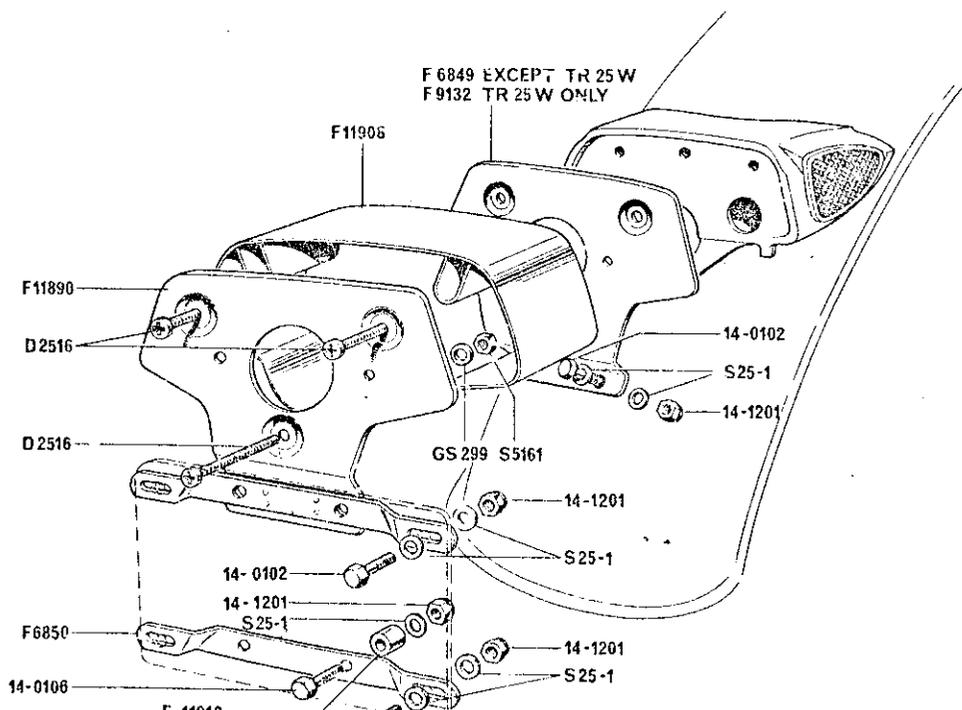
U.S.A. REAR NUMBER PLATE SUPPORT AND LICENSE PLATE BRACKETS – ALL MODELS

To meet Federal requirements it will be necessary forthwith to modify the tail lamp mountings on all new machines offered for sale, thus altering the license plate to tail lamp relationship for improved illumination.

The following new parts are required and should be claimed in the normal way through the main distributor.

F11908	Tail lamp support and plate spacer assembly	1 off
F11890	Rear number plate support assembly	1 off
D2516	Screw	3 off
S5161	Nut	3 off
14-0102	Bolt for license plate	4 off
S25-1	Washer	10 off
14-1201	Self-lock nut	4 off
14-0106	Bolt, bracket to fender	2 off
F11918	Spacer	2 off

The tail lamp support should be reassembled with the new parts as shown on the accompanying diagram.





SERVICE BULLETIN

No. 327

TRIDENT (T150) ROCKER ADJUSTING PINS

The length of E8783 rocker adjusting pin has been increased from $\frac{7}{8}$ in. to $\frac{15}{16}$ in. (22.23 m.m. to 23.81 m.m.), to ensure that the correct valve clearances can be maintained.

The modified pin is available under the same part number, but can easily be identified by a cross milled on the squared end.

This part can be fitted to all Trident machines with advantage.

November, 1969.

TE 164

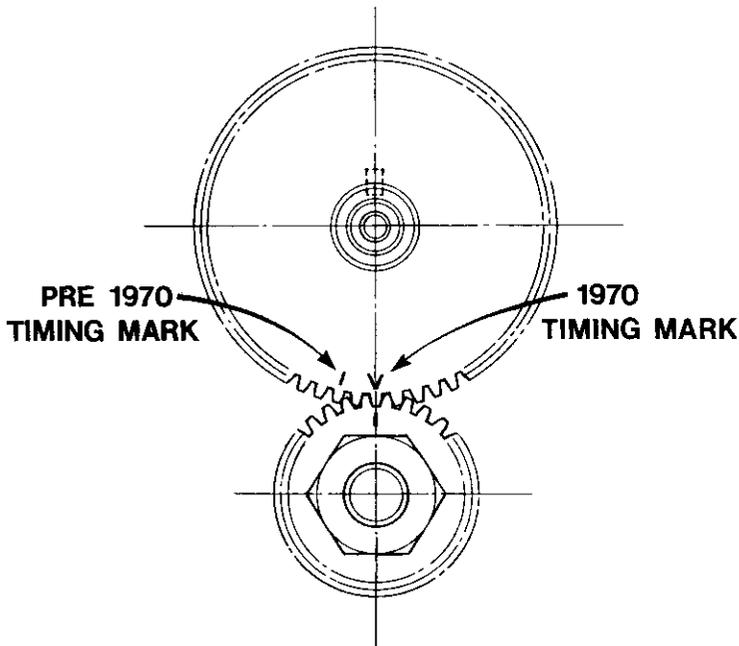
TRIUMPH MOTORCYCLES

TRIUMPH

SERVICE BULLETIN No. 328

TR25W VALVE TIMING MARKINGS

All 1970 engines (from engine number JD00388) use the camshaft c/w gear, part number E11276. The camshaft is modified from the 1969 condition to improve crankcase breathing and the keyway location repositioned to suit. This has resulted in the need for new timing markings as shown below.



Cam and gear assembly E11276.

Note that the "V" marking applies only to 1970 models and the "I" to earlier models. Severe damage will be caused by contact between the inlet valve and piston crown if, for example, a 1970 engine is assembled to the "I" marking since the valve timing will be incorrect.

This is an interim condition which will shortly be superseded on standard production by retaining the inverted "V" location only.



SERVICE BULLETIN No. 329

650 c.c. GEARBOX THIRD GEAR — RATIOS AND SELECTOR FORKS

Commencing with 1969 on the 650 c.c. and 1970 on the 750 c.c. the third gear ratio of the gearbox was changed to a slightly lower ratio than previous years. The third gear ratio was lowered from 1.19 : 1 to 1.24 : 1. The gears and part numbers associated with these changes are listed below.

650 c.c.					
1968	(Layshaft	T930	22T)		1.19 : 1 ratio
(and before)	(Mainshaft	T917	24T)		
1969	(Layshaft	T3890	22T)		1.24 : 1 ratio
(onwards)	(Mainshaft	T3889	23T)		
750 c.c.					
1969	(Layshaft	T3860	22T)		1.19 : 1 ratio
	(Mainshaft	T3858	24T)		
1970	(Layshaft	T3890	22T)		1.24 : 1 ratio
	(Mainshaft	T3809	23T)		

It is most important that when replacing third gear assemblies that the 22-tooth layshaft gear be assembled with its proper mainshaft gear. The old and new 22-tooth layshaft gears are **not** interchangeable.

Shown below are the specifications for the outer diameter of the three layshaft gears, *i.e.*, the diameter across the gear teeth. Although each gear is usually marked with its correct part number, dealers can double check with 22-tooth gear they have by using a micrometer to measure the outside gear diameter.

	Old Gear	Diameter (in.)		New Gear	Diameter (in.)
L/S	T930	2.000 in.	L/S	T3890	2.039 in.
L/S	T3860	2.000 in.			

Selector Forks

During 1969 the pin location on the layshaft shift selector fork T913 was changed. We would recommend to all dealers when doing gearbox work to install the latest precision pressed cam-plate and latest condition layshaft selector fork while the gearbox is apart for repairs. The two possible layshaft selector forks can be identified by the following method: stand the layshaft selector fork on its tubular end on a table, *i.e.*, with the selector fork itself on top. Then with a depth gauge measure the distance between the top of the selector pin and the table.

For the **old** T913 layshaft selector fork the distance should be .859 in., *i.e.*, 55/64 in. For the **new** selector fork this distance should be .828 in., *i.e.*, 53/64 in. As a convenient measurement the T260 mainshaft selector fork distance should be .703 in., *i.e.*, 45/64 in.

The best possible way to identify the selector forks is that the mainshaft fork has a longer tubular body, *i.e.*, 1 3/4 in. as opposed to the layshaft forks tubular body length of 1 5/8 in. Again, it is recommended when doing any gearbox work that the latest condition layshaft selector fork and cam-plate be installed for better more accurate selection. In addition be sure to use the proper layshaft third gear for its corresponding mainshaft gear.

November 1969



No. 330

SERVICE BULLETIN

CAMSHAFTS FOR TROPHY 250 (TR25W)

Improvements in crankcase breathing characteristics due to a change of porting in the shaft, and hence a reduction in oil leaks on the TR25W, and latterly, a change to Unified thread on the contact breaker bolt have resulted in three separate conditions of TR25W camshaft assembly. Each retain the identical cam form, and are listed below:

- E8058 Camshaft assembly c/w pinion.
- E11124 As above but with improved breathing facility.
- E11276 Camshaft as E11124 except with Unified thread at contact breaker bolt.

When either E8058 or E11124 are ordered, automatically we shall supply part No. E11276. The Unified contact breaker bolt 14-0208 should then be ordered in the normal way as a chargeable spare to complete the assembly. Note that 1970 models are already equipped with the latest camshaft part No. E11276.

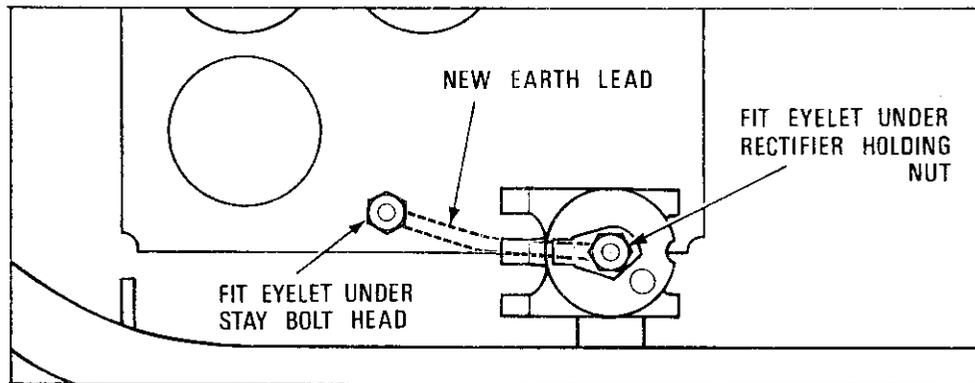
December, 1969.



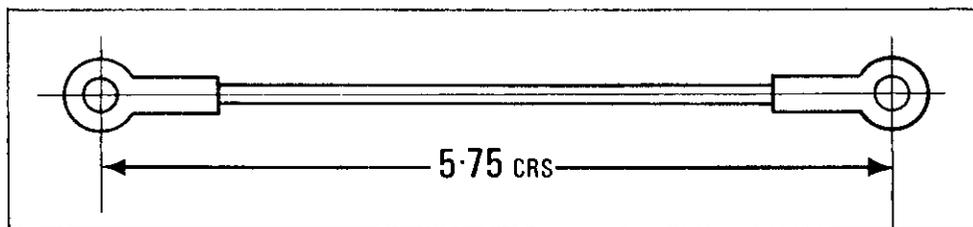
SERVICE BULLETIN No. 331

TRIDENT EARTH (GROUND) CONNECTION

As a result of service experience we consider it essential that an earth (ground) lead should be fitted from the rectifier centre bolt to the coil platform as below:



The new earth (ground) lead should be made up from red covered copper wire 40/.0075 in. and 2 off ¼ in. eyelets (Lucas 850401) as below:



December 1969

TRIUMPH MOTORCYCLES



SERVICE BULLETIN No. 332

REAR WHEEL INTERCHANGEABILITY

Due to problems in renewing production tooling, it is becoming increasingly difficult to obtain rear wheels with C.E.I. threaded components. For this reason, as soon as existing stocks of spares are exhausted we shall supply Unified threaded wheels as listed on the accompanying pages, in lieu of C.E.I. threaded types. The parts shown under the heading "Additional Parts Required" will need to be fitted at the same time to complete the assembly. These additional items should be ordered through the Spares Department in the normal way as chargeable items. "Unified" condition wheels will be identifiable from the part number on the covering invoice and in most cases, by the part number on the attached label.

January 1970

INTERCHANGEABILITY OF REAR WHEELS (C.E.I. TO UNF.)

T120, TR6, TR6P

		THREAD TYPE		ADDITIONAL PARTS REQUIRED		
		Unified	C.E.I.			
STANDARD WHEEL	COMPLETE WHEEL WM2-18	W3603	W2101 W1741	S585 14-0304	SPINDLE NUT ... TORQUE STAY NUT ...	2 off 1 off
STANDARD WHEEL	RIM, SPOKES AND HUB ASSEMBLY WM2-18	W3609	W1470	W3587 W3588	BEARING RETAINING RING... SPEEDOMETER ADAPTOR ...	1 off 1 off
Q.D. WHEEL	COMPLETE WHEEL WM2-18	W3671	W2106 W1813	14-0304	TORQUE STAY NUT ...	1 off
Q.D. WHEEL	RIM, SPOKES AND HUB ASSEMBLY WM2-18	W3674	W1747	W3597	SPEEDOMETER ADAPTOR ...	1 off

T120R, TR6R, TR6C

STANDARD WHEEL	COMPLETE WHEEL WM3-18	W3604	W2102 W1742	S585 14-0304	SPINDLE NUT ... TORQUE STAY NUT ...	2 off 1 off
STANDARD WHEEL	RIM, SPOKES AND HUB ASSEMBLY WM3-18	W3610	W1486	W3587 W3588	BEARING RETAINING RING... SPEEDOMETER ADAPTOR ...	1 off 1 off
Q.D. WHEEL	COMPLETE WHEEL WM3-18	W3672	W2107 W1814	14-0304	TORQUE STAY NUT ...	1 off
Q.D. WHEEL	RIM, SPOKES AND HUB ASSEMBLY WM3-18	W3674	W1603	W3597	SPEEDOMETER ADAPTOR ...	1 off

T100P, T100S, T100T

STANDARD WHEEL	COMPLETE WHEEL WM2-18	W3606	W2103 W1741	S585 14-0304	SPINDLE NUT ... TORQUE STAY NUT ...	2 off 1 off
STANDARD WHEEL	RIM, SPOKES AND HUB ASSEMBLY WM2-18	W3609	W1470	W3587 W3588	BEARING RETAINING RING... SPEEDOMETER ADAPTOR ...	1 off 1 off
Q.D. WHEEL	COMPLETE WHEEL WM3-18	Use W3673	W2108 W1746	14-0304	TORQUE STAY NUT ...	1 off
Q.D. WHEEL	RIM, SPOKES AND HUB ASSEMBLY WM3-18	Use W3675	W1747	W3597	SPEEDOMETER ADAPTOR ...	1 off

T100R, T100C

STANDARD WHEEL	COMPLETE WHEEL WM3-18	W3607	W2104 W1742	S585 14-0304	SPINDLE NUT ... TORQUE STAY NUT ...	2 off 1 off
STANDARD WHEEL	RIM, SPOKES AND HUB ASSEMBLY WM3-18	W3610	W1486	W3587 W3588	BEARING RETAINING RING... SPEEDOMETER ADAPTOR ...	1 off 1 off
Q.D. WHEEL	COMPLETE WHEEL WM3-18	W3673	W2109 W1745	14-0304	TORQUE STAY NUT ...	1 off
Q.D. WHEEL	RIM, SPOKES AND HUB ASSEMBLY	W3674	W1603	W3597	SPEEDOMETER ADAPTOR ...	1 off



SERVICE BULLETIN

No. 333

TRIDENT CYLINDER HEAD GASKETS.

Against spares orders for Trident cylinder head gaskets E7327 and E9972 we have supplied recently a copper cylinder head gasket E11176. To use this gasket it would be necessary in addition to fit packing washers E11190 at the push rod cover tubes and also to fit the latest extended condition tappet adjusters E9783. Due to difficulties in implementing this changeover, we have now introduced one cylinder head gasket which will supersede all previous conditions without complications. This is the gasket E11733 in Klingerite 1000 material which has been tested extensively and found preferable to previous types.

IMPORTANT

Would Distributors and Dealers please return any stocks of copper gasket E11176 to the factory Spares Department for full credit, and order in lieu the new gasket E11733.

January, 1970.



No. 334

SERVICE BULLETIN

The following list shows spokes fitted to all models manufactured during the period 1946 - 1970. This gives all relevant information and will assist in identification.

IMPORTANT NOTE: This list is not intended to indicate availability. In fact, many of the earlier part numbers are obsolete but the information given will assist in replacement from other sources for any spoke of which the part number is known.

Part No.	Length (ins)	Gauge	Nipple	Finish	Angle of head (deg)
				(R = Rustless) (CH = Chrome)	
NW125	8 $\frac{3}{4}$	9	TW5	R & CH	76
NW125X	8 $\frac{3}{4}$	9	TW5	R & CH	100
TW4	9 1/16	9	TW5	R	80
TW4X	9 1/16	9	TW5	R	97
W106	9	9	TW5	R	76
W106X	9	9	TW5	R	100
W107	8 $\frac{7}{8}$	9	TW5	R & CH	100
W107X	8 $\frac{7}{8}$	9	TW5	R & CH	110
W108	9 $\frac{3}{8}$	9	TW5	R	80
W108X	9 $\frac{3}{8}$	9	TW5	R	97
W253	7 $\frac{1}{2}$	10	S79-2	R	78
W253X	7 $\frac{1}{2}$	10	S79-2	R	99
W354	9 $\frac{3}{8}$	10	S79-2	R & CH	78
W354X	9 $\frac{3}{8}$	10	S79-2	R & CH	99
W644	5 5/16	10/8	S79-2	R	Straight
W660	8 11/32	10	S79-2	R & CH	88
W661	8 11/32	10	S79-2	R & CH	90
W662	6 13/32	10	S79-2	R	83
W663	6 13/32	10	S79-2	R	94
W933	6 $\frac{3}{8}$	10	S79-2	R & CH	83
W934	6 $\frac{3}{8}$	10	S79-2	R & CH	94
W942	7 15/16	10	S79-2	R & CH	81
W943	7 15/16	10	S79-2	R & CH	96
W963	8 $\frac{1}{2}$	12	W965	R	90
W964	6 $\frac{7}{8}$	12	W965	R	90

<u>Part No.</u>	<u>Length (ins)</u>	<u>Gauge</u>	<u>Nipple</u>	<u>Finish</u>	<u>Angle of Head (deg)</u>
W1008	8 5/16	9	TW5	R	79
W1009	8 5/16	9	TW5	R	98
W1010	8 7/16	9	TW5	R	79
W1011	8 7/16	9	TW5	R	98
W1060	6	10	S79-2	R	80
W1104	8	10/8	S79-2	R & CH	90
W1106	8 3/8	10/8	S79-2	R & CH	90
W1107	7 9/16	10/8	S79-2	R & CH	90
W1108	7 7/8	10/8	S79-2	R & CH	90
W1126	7 9/16	9	TW5	R & CH	90
W1127	7 7/8	9	TW5	R & CH	100
W1166	6	10/8	S79-2	R & CH	80
W1167	6	10/8	S79-2	R & CH	95
W1174	6 29/32	12	W965	R & CH	90
W1175	5 11/32	12	W965	R & CH	90
W1205	6 7/8	12/10	W965	R & CH	100
W1206	6 7/8	12/10	W965	R & CH	80
W1213	5 15/32	12/10	W965	R & CH	100
W1214	5 15/32	12/10	W965	R & CH	80
W1236	6	10/8	S79-2	CH	Straight
W1259	6 15/16	12/10	W965	CH	90
W1270	7 1/8	8/10	S79-2	R	110
W1271	7 1/8	8/10	S79-2	R	90
W1275	5 1/16	8/10	S79-2	R	Straight
W1289	8 1/2	12/10	W965	CH	90
W1293	8	12/10	W965	CH	90
W1294	6 3/8	12/10	W965	CH	100
W1295	6 3/8	12/10	W965	CH	80
W1328	5 5/8	8/10	S79-2	R	Straight
W1377	7 3/8	8/10	S79-2	R	90
W1381	7 7/8	10/12	W965	R	90
W1382	5 7/8	10/12	W965	R	100
W1383	5 7/8	10/12	W965	R	80
W1453	6 7/8	10	S79-2	R	90
W1465	7 13/16	10	S79-2	R	90
W1497	5 5/8	8/10	S79-2	R	Straight
W1708	4 25/32	8/10	S79-2	R	78
W1709	4 7/8	8/10	S79-2	R	100
W1730	4 3/16	8/10	S79-2	R	78
W1731	4 3/16	8/10	S79-2	R	100
W1783	5 7/8	10	S79-2	R	90
W1784	7 15/16	10	S79-2	R	90

<u>Part No.</u>	<u>Length (ins)</u>	<u>Gauge</u>	<u>Nipple</u>	<u>Finish</u>	<u>Angle of Head (deg)</u>
W2137	6	8	W2136	R	Straight
W2138	5 3/16	8	W2136	R	76
W2139	5 7/32	8	W2136	R	100
W2292	7 3/8	10	W2294	R	Straight
W2293	7 7/16	10	W2294	R	Straight
W3329	5 3/16	8/10	S79-2	R	76
W3330	5 7/32	8/10	S79-2	R	100
W3402	7 9/16	8/10	S79-2	R	110
W3575	8	8/10	S79-2	R	100
90-5693	8 1/16	12	W965	R	90
90-5695	6 7/16	12	W965	R	100
90-5696	6 1/2	12	W965	R	80
90-5727	6 21/32	12	W965	R	86
90-6272	7 15/16	10	27-6810	R	90
90-6274	6 1/2	10	27-6810	R	100
90-6273	6 1/2	10	27-6810	R	80

January, 1970.



SERVICE BULLETIN

No. 335

IMPROVED GEARBOX CAMPLATE

350 c.c./500 c.c. MODELS

A new camplate T4218 has been produced which will replace camplate T4768. The new camplate is a precision pressing which is stronger and will thus provide longer life with accurate gear engagement than the previous type.

Distributors and Dealers are asked to ensure when fitting the camplate T4218 to early models, that the camplate is able to move through its complete arc before the gearbox inner cover and gear cluster are finally assembled. There is a possibility due to the thicker section of the new camplate that in isolated instances there will be contact between the edge of the camplate and the index plunger spring boss on the earlier gearbox casing. Where contact occurs, the boss must be relieved slightly.



SERVICE BULLETIN

No. 336

SILENCERS FOR 350 c.c./500 c.c. MODELS

Due to supply difficulties we are unable to meet any future orders for E3935 and E3936 silencers. However, the silencer E4157 and E4158 are still readily available. We must therefore cancel any outstanding orders on E3935/E3936. To prevent a possible over-order situation we do not intend to supply E4157/E4158 in lieu and we therefore request that you re-order on part numbers E4157 and E4158 if these are required.

In appearance the early and late type silencers are identical, the later units however are of a more sporting type and provide a slightly louder exhaust note. The customer should therefore be advised that if at all possible it is desirable to fit a pair of these silencers.

If for any reason a particularly subdued exhaust note is required, the silencer mates E4155 can be fitted securely to each silencer tail pipe with the open end flush to the end of the tail pipe. The mates must be secured with a suitable screw and nut.

January, 1970.

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

No. 337

1970 CARBURETTOR SETTINGS

As a result of changes in the air filter make up, it has been necessary for us to re-establish optimum carburettor settings. The revised settings are given below:-

Models -	<u>T100S/T100C</u>	<u>T100T/T100R</u>	<u>TR6/TR6R/TR6C</u>	<u>T120/T120R</u>
Carburettor No.	626/25	626/26/27	R930/45	R930/43/44
Main jet	170	150	230	190
Needle jet	.106	.106	.106	.106
Throttle valve	4	3	3½	3
Needle position	2	1	2	2

It should be noted that these are the optimum settings only for current machines with latest air filters. The air filter part numbers are given below:-

T100S/T100C
T100T/T100R

F11609

TR6C/TR6R

F11537

T120/T120R

F11536

February, 1970.

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TRIUMPH

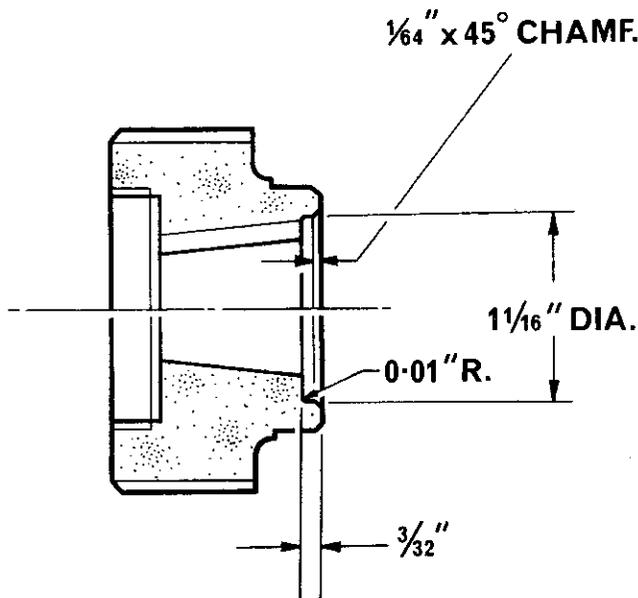
SERVICE BULLETIN No. 338

TRIDENT GEARBOX MAINSHAFT OIL LEAKAGE

In cases where machines develop an oil leak from between the gearbox mainshaft and high gear pinion sleeve, it is recommended that a modified gearbox sprocket locknut assembly and clutch hub are fitted. The locknut, part number T4051 incorporates an "O" ring seal, and the clutch hub, part number unchanged, has a recess to accommodate the new nut. The existing hub can be modified by machining to the dimensions shown in the diagram.

PROCEDURE

Remove the primary transmission, clutch hub and clutch housing as described in the Workshop Manual. Unscrew the gearbox sprocket locknut, and replace it with the new part complete with "O" ring seal. Tighten to 80 ft/lbs. and turn the tab washer. Replace the clutch housing and modified clutch hub, and the remainder of the primary transmission.



February 1970



SERVICE BULLETIN

339 (Revised)

SERVICE EXCHANGE REPLACEMENT UNITS

REVISED PRICES FROM 1.3.71.

Due to recent heavy increases in costs, it has been found necessary to review the prices of service exchange items.

Regrettably it is no longer possible for us to supply exchange 650 c.c. and 500 c.c. engine units at the comparatively low price of £65.00 and therefore, with effect from Monday 1st March 1971, the recommended retail price of these items will be increased to £75.00.

As will be seen from the enclosed revised price list, several other items have also been increased in price, but we are pleased to announce that we are maintaining the existing prices that have already been held since 1968 on many items and price reductions on others, including barrels, pistons and frames.

We have been able to achieve these reductions due to Service Department reorganisation, which will enable us to provide a more speedy and efficient service exchange scheme. It is fully intended to operate this scheme on a "by return" basis, particularly as far as engine units are concerned, in the very near future.

Also, the Exchange Engine Scheme will be widened to include new units (these being available for new machine guarantee replacements only), which will be of great advantage to both customer and dealer alike.

Dealers will of course be notified as and when the improved Scheme comes into operation, and we hope that full advantage will be taken of the new Dealer/Factory arrangements.

	<u>"B" Range</u>	<u>"C" Range</u>	<u>TR25W</u>	<u>T20</u>
Reconditioned engine units	£75.00	£75.00	£45.00	-
Overhaul C/Shaft Assy.	6.20	7.00	4.50	£6.00
Rebored Cyl.Block c/w Pistons	7.25	7.25	3.40	3.40
Reconditioned Clutch Plates	45p	45p	New	40p
Reconditioned Frame Complete	25.70	25.70	17.85	18.00
Reconditioned Frame Front	12.50	12.50	-	7.50
Reconditioned Frame Rear	8.00	8.00	-	5.10
Reconditioned Swiving Arm	4.00	4.00	4.00	4.00
Reconditioned Fork Assy.	19.60	19.60	19.60	13.40
Reconditioned Petrol Tanks	7.75	7.75	7.75	6.10
Reconditioned Brake Shoes 8" W1996	1.00	-	-	45p
Reconditioned Brake Shoes 7" W14067	80p	80p	-	-
Heli-coil Cyl.head, ex. stubs	3.75	3.75	-	1.85
" " " " S/Plug	3.00	3.00	1.85	1.50

c 10 209



SERVICE BULLETIN

No. 340

CARBURETTER JET SIZES - PERSONAL EXPORT MACHINES

It is recommended that the carburetter jet sizes of all machines sold on the "Personal Export" scheme are raised by 20.

This is to prevent carburation problems arising when the machine is run on low grade fuel.

The purchaser should be informed of this modification at the time of delivery.

February, 1970

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TRIUMPH MOTORCYCLES

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SERVICE BULLETIN No. 341

TRIDENT (T150) VIBRATION PROBLEMS

The information given in this bulletin should be carried out in conjunction with Service Bulletins No. 352 "Primary Chain Alignment", No. 311 "Shock Absorber Rubber Modification" and No. 338 "Gear-box Mainshaft Oil Leakage".

In the event of a customer complaining of "vibration" we suggest the following course of investigation, and recommend that the necessary modifications are carried out. These are a result of experience gained during our own production and development programmes. **The undermentioned modifications refer solely to vertical cylinder engine units.**

Two conditions of crankshaft have been used, each requiring a different approach. To ascertain which crankshaft is fitted, remove the crankcase sump plate and inspect the centre web.

- (I) Early condition—turned webs.
- (II) Late current condition—milled webs with step (as shown in Fig. 1).

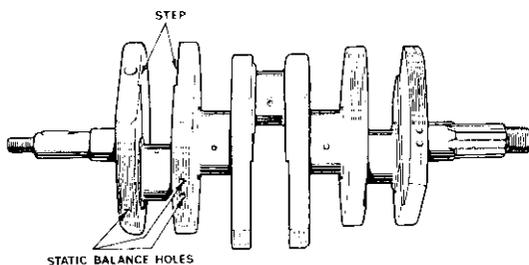


Fig. 1. Current crankshaft

If the early condition is fitted, carry out the transmission modifications only as described in Service Bulletin No. 352, as it is unlikely that any vibration is caused by the crankshaft. If the later condition crankshaft is fitted both the transmission and crankshaft modifications must be carried out.

- (a) Remove the crankshaft and check the number of static balance holes (See Fig. 1). If there are more than four holes in any pair of webs, the crankshaft must be replaced and returned to the Service Department for salvage.
- (b) Drill the crankshaft to obtain a 40% balance factor, as described below.
- (c) Check the static balance of the crankshaft by plac-

To Obtain a 40% Balance Factor

Fabricate a template (as shown in Fig. 2) and position it on an end web (as shown in Fig. 3).

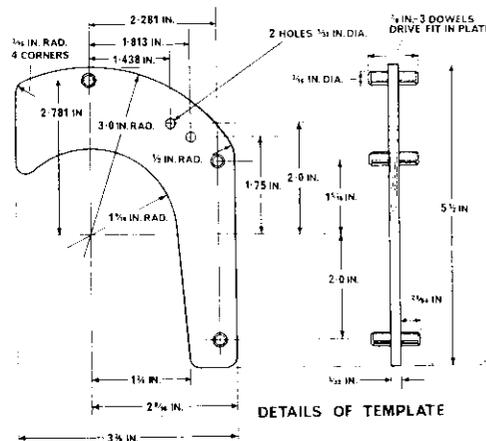
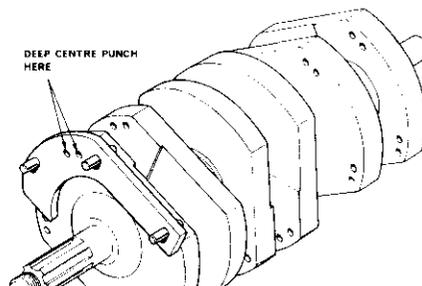


Fig. 2. Template

Centre punch one side face of the web through each of the $\frac{3}{16}$ in. holes and turn the template over to repeat the operation on the other side of the web. Repeat this procedure for the two remaining webs. **In each case the end of the web nearest to the big-end journal only should be punched.** Drill four $\frac{3}{16}$ in. dia. holes in each web utilising a 4 in. traverse pillar drilling machine and a 10 in. x $\frac{3}{16}$ in. dia. twist drill, ensuring that the crankshaft is securely located in a vertical position.

To ensure maximum clutch truth it is suggested that during engine reassembly the clutch is assembled to the shock absorber assembly using the primary inner and outer covers detached from the crankcase. The clutch can be fitted to provide a minimum "run out" condition by selective assembly in the shock absorber splines. Mark the appropriate splines so that the identical spline position can be used during final assembly.





SERVICE BULLETIN

No. 342

"B" RANGE (F7845/10045) SWINGING ARM ASSEMBLY

In future we shall service orders for swinging arm F7845 with part number F10045. The later swinging arm is similar in appearance, but is manufactured from heavier gauge material and can be identified by a letter "X" stamped to the right of the grease nipple hole.

When offering the later swinging arm to the front frame, ensure that there is clearance at the fork yoke casting on the frame, but if not it may be necessary to fettle the casting to provide this.

February, 1970.

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SERVICE BULLETIN

No. 343

EXHAUST PIPES - TR6C

The upswept left hand exhaust system as fitted to the TR6C is now equipped with unified threaded pommels. This type replaces the previous C.E.I. threaded type. The new exhaust pipes can easily be identified by a counterbore in each threaded pommel, and it is adviseable to check this before fitting replacements.

E10024 exhaust pipe D.S. lower (C.E.I.) is replaced by E11900 and 1 off 14-0113 bolt.

T10022 exhaust pipe T.S. upper (C.E.I.) is replaced by E11901 and 1 off 14-0113 bolt.

March, 1970.

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TRIUMPH MOTORCYCLES



SERVICE BULLETIN

No. 344

REVISED DESIGNATIONS ON AMAL CONCENTRIC CARBURETTORS.

A design change has been made on Amal concentric float carburetors whereby the gauze strainer over the main jet has been replaced by a cast-in weir and drain plug in the float bowl. New part numbers have been allocated by Amal for each instrument so modified. The Triumph part numbers remain unchanged for the respective models but the following list will assist in re-ordering the correct instruments through Amal spares channels.

<u>Old Amal</u>	<u>New Amal</u>
R930/9	R930/43
L930/10	L930/44
R626/25	R626/32
R626/26	R626/33
L626/27	L626/34
R930/23	R930/45
R928/4	R928/9
R626/14	R626/28
L626/15	L626/29
R626/16	R626/30

Amal stress that it is not intended for the main jet to be accessible through the drain plug hole on these modified instruments. Inevitably the jet holder would be displaced also in any removal attempt and in these circumstances the float chamber would have to be removed altogether to refit the holder.

March, 1970.



SERVICE BULLETIN

No. 345

OIL PUMP PRIMING PROCEDURE - TR25W ONLY

All TR25W machines incorporate a positive pressure pump feed system and it is necessary that the oil pump is correctly primed before initial starting of the engine takes place, especially after a long storage period.

It will be found that turning the engine over manually is much simplified by removal of the sparking plug.

The oil supply hose running from the oil tank to the pump must be disconnected at the tank union and primed with a pressure oil can until all the air has been expelled. If the oil pressure relief valve is now removed, oil should be observed flowing from the relief valve orifice whilst the engine is being turned over on the kickstart.

When this operation is complete, refit the relief valve and turn the engine over several times to ensure that the passage to the big-end is additionally primed.

The sparking plug can now be refitted and the engine started using the normal procedure. Finally, to ensure full oil circulation, note that the oil is returning to the tank. This is simply achieved by removing the filler cap and observing oil returning within the tank. If oil does not appear very shortly after the engine has started up, stop the engine immediately and repeat the priming process. If this again proves unsuccessful refer to the lubrication section in the Workshop Manual for possible causes.

March, 1970.



SERVICE BULLETIN

No. 346

CONTACT BREAKER LOCKING SCREWS - ALL MODELS

A certain amount of difficulty has been experienced when adjusting contact breakers which are equipped with serrated under head locking screws.

Machines produced after engine number AD 37741 have reverted to cheese headed locking screws and spring washers.

It is suggested that a plain washer, of approximately ^{9/32}~~19/16~~ in. outside diameter and 5/32 in. inside diameter is fitted beneath the head of all serrated screws to overcome any problems of adjustment. This washer should be obtained from any hardware supplier.

March, 1970.

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SERVICE BULLETIN No. 347

TWIN HORN MOUNTING BRACKETS—T120, T120R

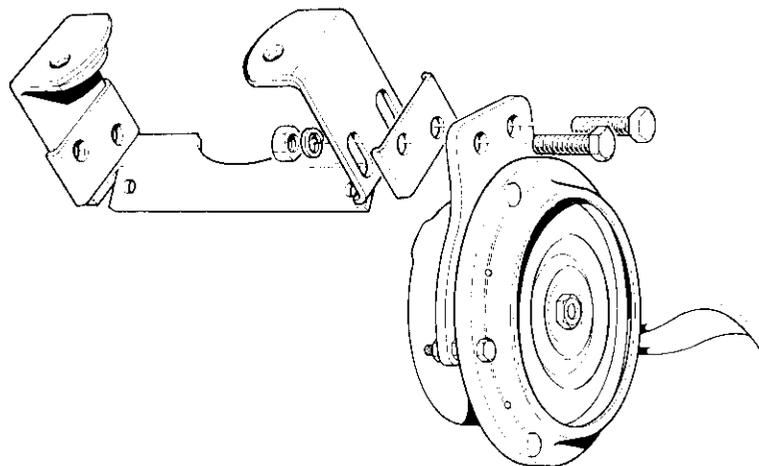
After engine number ED44339 two additional brackets are fitted to machines equipped with twin horns (T120, T120R).

The mounting holes in the present capacitor/horn carrier are slotted and allow the horns a certain amount of movement. The additional brackets serve the purpose of reducing these slots to circular holes, thereby ensuring that the horns do not alter position and interfere with the front fork action.

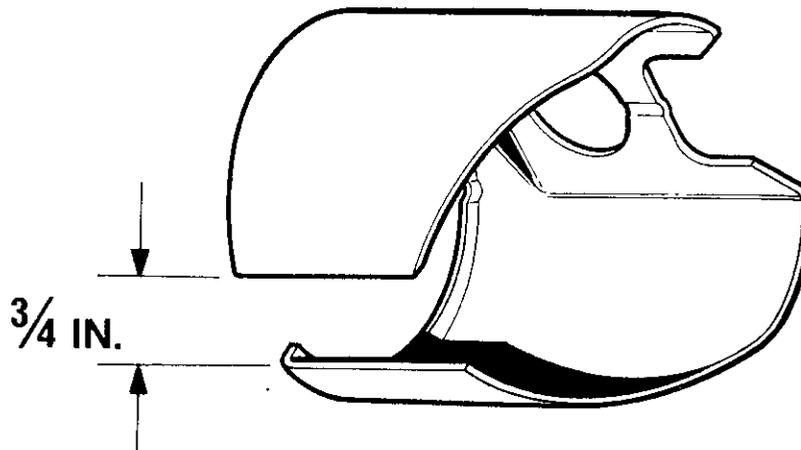
The additional brackets, available under part number F12714 (2 off) should be fitted as shown (see Fig. 1) that is:—

Timing side (right side) fit the bracket outside the capacitor/horn carrier.

Drive side (left side) fit the bracket inside the capacitor/horn carrier.



Due to the thickness of the additional brackets some difficulty may arise when tightening the horn securing bolts, caused by the reflector bracket fouling. Therefore it is suggested that a small amount of the reflector bracket is removed (see Fig. 2).



March, 1970.

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SERVICE BULLETIN

No. 348

BATTERY VENT PIPE - "B" AND "C" RANGE

As from engine number CD 43485 (approx.), "B" and "C" Range machines no longer have the battery vent pipe connected before being despatched. The vent hole in the battery is blanked off by means of a small rubber cap, and the vent pipe is stored beneath the battery retaining strap. The battery is fitted to the machine as sealed by the manufacturers, and this ensures that no damage is caused by the ingress of moisture, causing internal sulphation and subsequent generation of corrosive fumes during transit.

Prior to filling the battery, the vent pipe must be connected and affixed to the battery as follows:-

Remove the rubber blanking plug from the outlet at the side of the battery. Attach the vent pipe (which is stored beneath the battery strap) to the battery, securing it with a suitable adhesive, e.g. clear Bostick number 1765.

Fill the battery in accordance with the manufacturers instructions and apply an initial charge as instructed. After allowing the battery to de-aerate following the initial charge, refit to the motorcycle.

Once the battery is fitted to the machine, route the vent pipe behind the battery front mounting bracket between the battery and the oil tank, along the right hand side of the frame rear down tube, in front of the swinging fork pivot and behind the centre stand to clear the machine. The vent pipe may be clipped to the down tube if required, but care must be taken to ensure that it is not pinched.

WE DO NOT ACCEPT WARRANTY CLAIMS FOR ACCIDENTAL DAMAGE TO SILENCERS, EXHAUST PIPES ETC., DUE TO ACID SPILLAGE FROM BATTERY EQUIPMENT.

This condition applies for an interim period only. After engine number CD 44185 all machines have the vent pipe attached but plugged at the outlet beneath the frame. The small rubber cap used for this purpose must be removed before the battery is filled. A label is attached to the top of the battery stating this.

March, 1970



SERVICE BULLETIN No. 349

U.K. PERSONAL EXPORT SCHEME

"WARRANTY PASSPORT"

To all Triumph European Distributors.

There has been a marked increase in recent years of machines sold to American and Canadian visitors to this country, under the Personal Export Scheme. There is every indication that 1970 will be an extremely busy season.

The majority of customers who buy their machines under the Personal Export Scheme do so for the purpose of enjoying a vacation on the Continent of Europe and we want to be assured that such customers are provided with a form of security in the event of a mechanical breakdown, due to a factory defect whilst in Europe. Such rectification would normally be the responsibility of the original supplying dealer.

We have developed a scheme whereby this security is available for purchase by the Personal Export customer in the form of a "Warranty Passport". In exchange for the sum of US\$20.00, a Personal Export customer is provided with a "Warranty Passport", a specimen copy of which is enclosed herewith for your reference.

A study of the "Passport" will be self explanatory. It is effective for a period of 90 days or 4,000 miles from the date of issue, whichever occurs the sooner. It contains warranty certificates on which authority the dealer obtains reimbursement from the factory for labour expended on the repair in accordance with the laid down schedules, and emergency warranty parts order forms ensuring factory priority in the replacement of parts.

Before commencing or authorising any repairs on behalf of the Company, the European Dealer or Distributor should satisfy himself completely on the following points:

1. That the "Warranty Passport" is valid. Viz:-
2. That the machine is in fact within the specified warranty period.
3. That the entries have been properly completed as follows:-
 - Page 1 - Name and address of owner, motorcycle engine number, registration number, date of purchase, place of purchase.
 - Page 2 - Certifying that the pre-delivery check has been carried out by the supplying dealer.
 - Page 7 - Certifying that the 500 mile free service scheme has been carried out by the supplying dealer.

Having accepted the motorcycle and completed the repair under warranty, reimbursement is obtained by the export dealer in the following manner:

1. Detach and complete an Emergency Warranty Parts Order Form from the customer's "Warranty Passport", listing the parts used by description, part number and quantity (if replacement parts are required).
2. Detach a Warranty Certificate from the customer's "Warranty Passport".
3. Describe the nature of the fault and work done to rectify it on your own bill heading listing labour cost according to the warranty labour allowance schedule booklet.
4. The completed Warranty Parts Order Claim Form, Warranty Certificate and your invoice is then sent direct to your Distributor for settlement.
5. The Distributor claims the labour reimbursement from the factory and replaces the parts used to your stock. Parts claimed by the Dealer are replaced with priority to the Distributor by the factory.

Note: Parts required for such repairs should be taken from the Distributor's shelf stock but in the event of local non-availability, please cable, Telex or telephone the factory Service Department for immediate action.

Telephone: 0203-20221
Telex: 31305 Trusty
Cable: Trusty Coventry

THE EMERGENCY WARRANTY ORDER FORM WILL ENSURE FACTORY PRIORITY IN THE SUPPLY OF REPLACEMENT PARTS TO THE DISTRIBUTOR.

Claim for settlement will be on the following basis:

- (a) Credit for parts at invoice value, or
- (b) Replacement of parts to the Distributor direct, under the Emergency Warranty Parts Order, as requested by Distributor.
- (c) Labour will be reimbursed by credit at the equivalent of £1. 0. Od. per hour against the time schedules given in the enclosed booklet.

The personal export customer has purchased the "Warranty Passport" from us in order to obtain security whilst travelling within the Continent of Europe and it is in our mutual interest to ensure that he receives every assistance in the event of a mechanical failure provided it can be established as being a factory responsibility.

The "Warranty Passport" does not apply to breakdowns resulting from accidental damage, wear and tear, abuse or neglect.

Please ensure that all your dealers are fully aware and conversant with the operation of this "Warranty Passport" Emergency Repair Scheme.

Further copies of this Bulletin and specimen copies of the Labour Allowance Schedule booklet and Warranty Passport will be supplied immediately on demand for their perusal and information.



SERVICE BULLETIN

No. 350

PERSONAL EXPORT SCHEME

"WARRANTY PASSPORT"

To Triumph U.K. Personal Export Dealers.

It is clear from our records that there has been a marked increase of recent years in the number of machines sold under the Personal Export Scheme. We anticipate that this upward trend will continue and that we can look forward to a busy season this coming year.

Normally, a customer who buys a machine under the Personal Export Scheme does so for holiday use on the Continent of Europe. It should be clearly explained to him that the normal Warranty Scheme applicable to all motorcycles purchased within the boundaries of the United Kingdom, DOES NOT extend to the Continent of Europe.

Further, it should be explained that the 500 mile free service check is a facility which is only valid in the United Kingdom.

We expect that each Personal Export Dealer, in addition to carrying out a thorough pre-delivery service check prior to handing the machine over to his customer, will do his utmost to ensure that the machine receives its subsequent 500 mile service check before the customer leaves the country.

No matter how well a machine is turned out, mechanical trouble may occur. Repair costs on the Continent are extremely high and bearing in mind the fact that the United Kingdom Warranty does NOT apply abroad, an owner unfortunate enough to encounter mechanical problems, may incur fairly substantial repair bills.

In recognition of these possibilities, we have developed a scheme which aims at the protection of the Personal Export customer in the event of a failure under warranty whilst the machine is on the Continent of Europe and outside the protection of the normal United Kingdom warranty.

This scheme takes the form of a "Warranty Passport" which provides the Personal Export customer with full warranty protection whilst he is travelling on the Continent of Europe, for a period of 90 days or 4,000 miles, whichever occurs first. This additional security costs the equivalent of US\$20.00 (£8. 6. 8d).

The benefits of the scheme will be readily apparent and all Personal Export customers should be advised to invest in it.

The Service Department will issue sufficient numbers of "Warranty Passports" to dealers on demand to cover each motorcycle ordered under the Personal Export Scheme. The "Passport" will be invoiced out at 10% discount.

If surplus documents remain at the end of the season they must

By way of introduction, we enclose a specimen copy of a "Warranty Passport". It is printed where appropriate in several different languages to facilitate interpretation abroad.

The requirements of the scheme are detailed in the "Passport" and will be self explanatory.

Salient features are as follows:-

1. The owner is protected for a period of 90 days or 4,000 miles in that the factory will bear the cost, both in respect of parts and labour for the rectification of any faults occurring as a result of defective workmanship or material whilst on the Continent of Europe.
2. This facility costs US\$20.00, (£8. 6. 8d).
3. Pre-delivery and 500 mile free service checks MUST be completed by the United Kingdom dealer before the machine is taken to the Continent of Europe, and both certificates in the "Warranty Passport" endorsed clearly to this effect.
4. The "Warranty Passport" is valid for the Continent of Europe only.
5. It is not valid within the United Kingdom, U.S.A. or Canadian markets.

The selling Dealer is responsible for the following:-

1. Completing the entries on the first page of the "Warranty Passport" at the time of sale.
2. Completing the factory registration card and returning it to the factory.
3. Completing the pre-delivery check and, having done so, to stamp and date the page indicating that it has been satisfactorily done. This page remains in and validates the "Warranty Passport".
4. Completing the 500 mile free service and afterwards to stamp and date the page pertaining to the free service scheme. This page too, remains in and validates the "Warranty Passport".

NOTE:- WITHOUT THESE ENTRIES THE "PASSPORT" IS INVALID.

A personal letter and sample "Warranty Passport" have been sent to each of our European Distributors to acquaint them with the scheme and we can rely upon their complete support.

The Personal Export Dealer is reminded that any alteration to the basic specification of the machine received from the factory (i.e. removal of silencers and replacement by non-standard, or non-proprietary equipment etc), not only invalidates the terms of warranty, but may well affect the machine's reliability, and any such action is undertaken at the sole risk of the customer.

Furthermore in cases of ultimate return of the machine to the U.S.A., the Federal Safety Regulation certificate of compliance could also be invalidated, with subsequent legal complications for the owner. These risks are brought to your notice as Selling Dealer.

Finally, it should be realised that this scheme does not extend to failures arising as a result of wear and tear, abuse or accidental damage. Neither does protection extend to recovery or transportation costs.



SERVICE BULLETIN

No. 351

GEARBOX INNER COVER AND BEARING CIRCLIP

"B" AND "C" RANGE

All "B" Range machines produced after engine number AD 37473, and all future "C" Range machines will be fitted with an improved mainshaft bearing circlip. The machined circlip groove in the gearbox inner cover is also modified to suit the new circlip dimensions.

The modified "B" Range inner cover, available under part number T4119 with the addition of T4113 circlip, will replace the previous cover T3766. The modified "C" Range inner cover T4301, with the addition of T4113 circlip will replace the previous cover T3754.

April, 1970.

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SERVICE BULLETIN No. 352

PRIMARY CHAIN ALIGNMENT—TRIDENT

THE INSTRUCTIONS GIVEN IN THIS BULLETIN SHOULD BE CARRIED OUT IN CONJUNCTION WITH SERVICE BULLETIN NO. 314 "VIBRATION PROBLEMS", SERVICE BULLETIN NO. 311 "SHOCK ABSORBER RUBBER MODIFICATION" AND SERVICE BULLETIN NO. 338 "GEARBOX MAINSHAFT OIL LEAKAGE".

INTRODUCTION

It is essential that the primary chain misalignment on three cylinder machines does not exceed 0.010 in.

Owing to the design of the primary transmission, the engine and shock absorber sprockets cannot be accurately aligned with the customary use of a straight edge.

Normal manufacturing tolerances which apply to the inner and outer primary covers and all other components from which the shock absorber is constructed create a variation in the amount of shock absorber end float. Since the normal operating position of the shock absorber assembly is against the thrust race in the outer cover, the end float present in each particular engine unit must be determined.

If either of the primary covers or any component part of the shock absorber is changed for any reason, the amount of end float will almost certainly alter. It is also necessary to account for variations in the thickness of the primary cover gasket.

When the primary outer cover is removed, the shock absorber outrigger support bearing is also removed and the shock absorber moves from its normal running position. This again must be taken into account.

SHOCK ABSORBER MODIFICATIONS

It is necessary to remove the shock absorber, detach the end plate and withdraw the spider and rubbers to determine whether certain early faults are present.

- (1) Ensure that no casting marks or numbers are standing proud in the shock absorber which could restrict the paddle movement.
- (2) Measure the depth of the spider location (see Fig. 1). Later shock absorbers have a dimension of 0.7560/0.7535 in. This depth need not be modified. If the shock absorber is not within these dimensions, it is an early type and must be modified by removing 0.0095 in. from the shoulder (see Fig. 1). This ensures that the spider end float is controlled to within a 0.001/0.0054 in. tolerance.

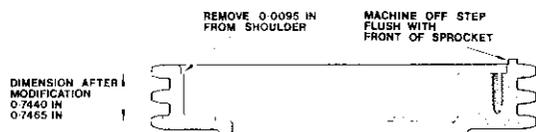


Fig. 1. Shock Absorber Modifications.

- (3) Several early shock absorbers have a lip on the front face (see Fig. 1). This serves no useful purpose and does not allow the use of service tool 61-6105 to check sprocket alignment without necessitating certain compensations. It is either necessary to

MEASURING SHOCK ABSORBER END FLOAT

Remove the primary outer cover and detach the clutch operating mechanism. Push the shock absorber inwards until it bears on its thrust washer in the primary inner cover. Replace the outer cover less clutch operating mechanism, ensuring that the joint gasket to be used during final assembly is fitted. Replace every second screw to retain the cover.

Screw service tool 61-6104 onto the clutch pull rod until the clutch becomes disengaged (see Fig. 2). Allow the tool to remain in this position.

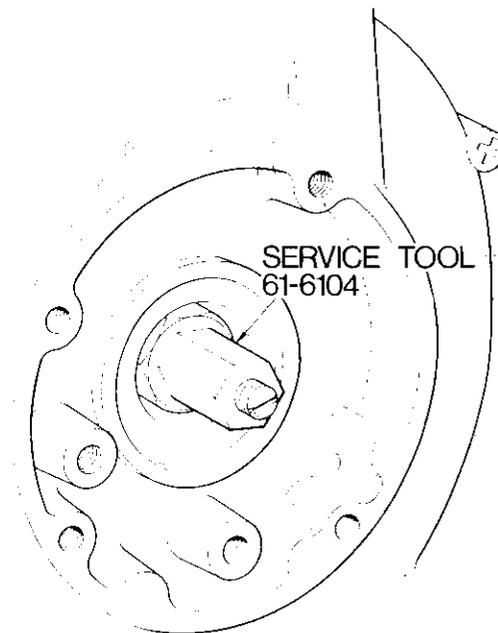
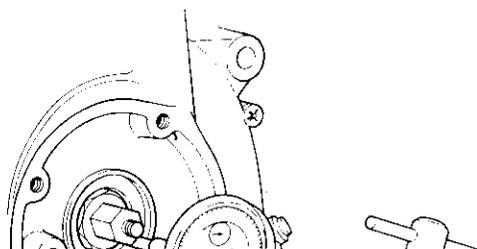


Fig. 2. Location of Service Tool 61-6104.

Attach a dial indicator to the crankcase and position it such that the plunger is in contact with and perpendicular to the front face of the shock absorber nut (see Fig. 3). Zero the gauge.



Pull the clutch pull rod outwards to bring the shock absorber assembly against the outer thrust race and note the reading on the gauge. This is the amount of end float on this particular engine. If it is necessary to re-check this figure, the shock absorber may be pushed back against the inner thrust race by inserting a thin screwdriver alongside the pull rod and nut.

Usually a reading of between 0.010 in. and 0.025 in. is achieved.

After having established the amount of end float, remove the dial indicator and the primary outer cover.

SETTING THE SHOCK ABSORBER TO THE NORMAL RUNNING POSITION

Select a feeler gauge or gauges of the same thickness as the measured end float and insert it behind the shock absorber so that it is trapped between this and the inner thrust race (see Fig. 4).

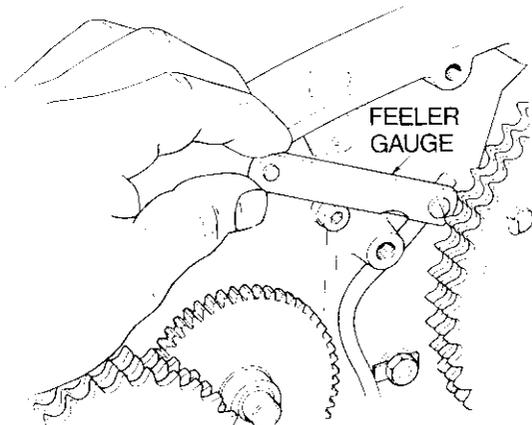


Fig. 4. Location of Feeler Gauge behind Shock Absorber.

Assemble service tool 61-6103 to the primary inner cover, passing the central boss over the clutch pull rod. Secure the tool with three outer cover screws (see Fig. 5). At this stage the shock absorber is in its normal running position.

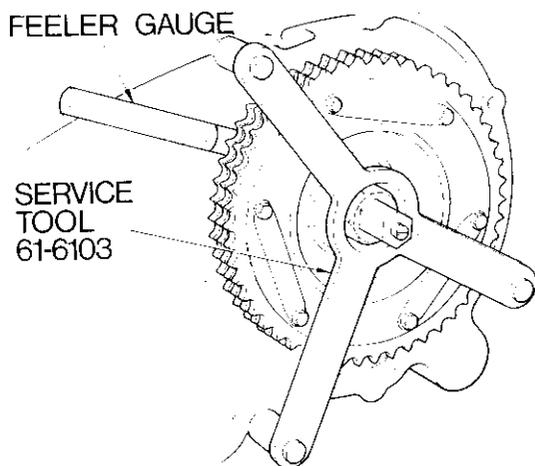


Fig. 5. Location of Service Tool 61-6103.

CHECKING AND CORRECTING ALIGNMENT

Two types of shock absorber body have been used. The early type has a shoulder on the front face, whereas the later type does not (see Fig. 1). When checking alignment with service tool 61-6105 on the shouldered sprocket the additional thickness of the lip must be taken into consideration either by machining as described in "Shock Absorber Modification" or by measuring the shoulder

adding the appropriate quantity of shims behind the engine sprocket or adding feeler gauges of the correct thickness between the ground face of the engine sprocket and the service tool.

Position service tool 61-6105 against the faces of the shock absorber and engine sprockets (see Fig. 6). If the sprockets are in line each of the four legs of the tool will touch the front and rear of each sprocket.

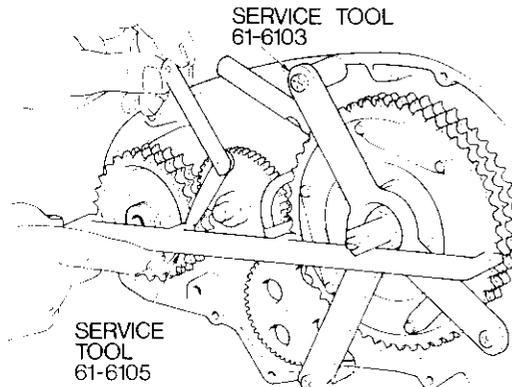


Fig. 6. Location of Service Tool 61-6105. Measuring clearance between engine sprocket and gauge.

Mis-alignment may be caused by either of the following:—

- (1) Engine sprocket positioned inboard of the shock absorber.
- (2) Engine sprocket positioned outboard of the shock absorber.

Shims must be added or removed accordingly from behind the engine sprocket. They are available in 0.010 in. and 0.015 in. thickness under part numbers E9634 and E8039 respectively.

CONDITION I

This is indicated by clearance between the legs of the service tool and the ground face of the engine sprocket. Measure the amount of clearance present with feeler gauges and add the same quantity of shims behind the engine sprocket (see Fig. 6).

CONDITION II

This is indicated by clearance between the legs of the service tool and the face of the shock absorber sprocket. Again measure the amount of clearance present and subtract this quantity of shims from behind the engine sprocket (see Fig. 7).

At this stage the primary chain is aligned within the manufacturers tolerance, and the primary transmissic should be re-assembled. Ensure that the feeler gauges are removed from behind the shock absorber sprocket.

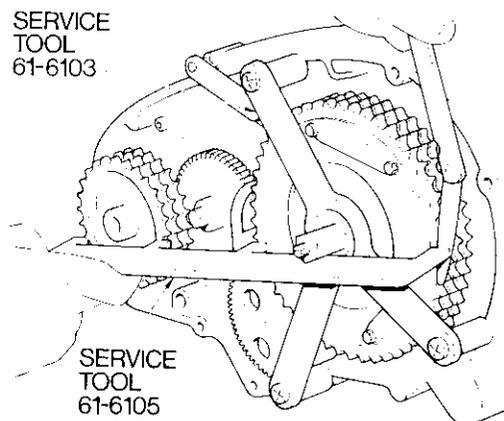


Fig. 7. Location of Service Tool 61-6105. Measuring clearance between shock absorber sprocket and gauge.



SERVICE BULLETIN No. 353

GEARBOX SELECTOR FORKS AND CAMPLATE

"B" RANGE MACHINES

All 650 c.c. machines produced after engine number ED.51080 are equipped with aluminium-bronze selector forks in place of the earlier steel components. The new forks are supplied as an assembly comprising a fork and fixed roller, and will replace the steel components on earlier machines. The roller will still be available from spares stocks.

The new parts can be obtained under part numbers:-

1 off	T4308	Mainshaft selector fork assembly
1 off	T4307	Layshaft selector fork assembly
2 off	T2595	Roller (for use with steel selector forks)

All 650 c.c. machines produced after engine number ED.52044 are fitted with precision pressed camplates, and leaf type index springs. This arrangement ensures a smoother, lighter and more positive gear selection.

Replacement Parts Catalogues for 1970 list the camplate as part number T4055, but this should read T3650. Under no circumstances can the precision pressed part T4055 be used in conjunction with the standard index plunger, housing and spring, which appear in the 1970 and earlier Parts Catalogues. The Spares Department will continue to supply T3650 until such time as stocks become exhausted, in approximately four months. A further Bulletin will be issued when this occurs, and dealers must then amend Parts Catalogues to show part numbers for the precision pressed camplate, modified index plunger, spring and two conditions of housing; and order on these numbers:-

1 off	Camplate	T4055
1 off	Plunger	T4226
1 off	Spring	T4059
1 off	Housing (C.E.I. thread)	T4310
	or (Unified thread)	T4227

Machines produced before engine number ED.52044 can be converted to the leaf spring arrangement by replacing the camplate and gearbox inner cover. The original plunger housing hole in the timing side crankcase must be plugged, and the boss inside the gearbox relieved to provide sufficient clearance for the leaf spring. Alternatively a modified timing side crankcase (U.N.F. threaded condition only) is available:-

1 off	Gearbox inner cover assy	T4311 (complete with leaf spring)
1 off	Timing side crankcase	E12274



SERVICE BULLETIN

Additional
to 353

THIS BULLETIN SHOULD BE ATTACHED TO SERVICE BULLETIN 353.

It has been decided that the gearbox inner cover assembly, part No. T4311, will not be stocked.

When carrying out the modifications detailed in Service Bulletin 353, the parts required to enable the fitting of the leaf type index spring are:-

1	off	Gearbox inner cover	T4293
1	off	Leaf spring	T4288
1	off	Leaf spring support	T4289
1	off	Leaf spring top plate	T4290
1	off	Tabwasher	T4291
2	off	Screws	F4771

Camplate Timing.

When using a precision pressed camplate and leaf type index spring it is necessary to employ a different procedure for assembling the inner cover, using the fourth gear position.

To locate the fourth gear notch on the camplate, view the camplate from the front (i.e. the side opposite the gear and spindle) with the apex of the selector fork track uppermost. Four large notches and one small notch are apparent around the edge of the lower half of the camplate. These are the four gear positions and the smaller one the neutral position between first and second gears. The notch to the extreme left, or the last notch during the camplates anti-clockwise rotation is the fourth gear position. Protruding ears above both the first gear notch and fourth gear notch act as stops for the index spring.

With the camplate in position in the gearbox, rotate it anti-clockwise until the protruding ear at the fourth gear notch is pointing towards the bottom of the gearbox.

When assembling the inner cover into the gearbox, press the outer portion of the gearchange quadrant downwards and then allow it to return approximately 1/16 in. This will then engage on the correct teeth on the camplate gear.

When the inner cover is securely attached to the gearbox, move the quadrant through its normal travel and ensure that five positive positions are available.

TRIUMPH MOTORCYCLES

August, 1970.



No. 354

SERVICE BULLETIN

SPEEDOMETER CALIBRATION.

In future all TR6P machines will be equipped with Dunlop 4.10 x 18 in. K81 rear tyres. These tyres are now readily available, and it is recommended that machines already in service which are equipped with Dunlop K70 rear tyres are fitted with the K81 type when replacement becomes necessary.

18 in. Rear Wheels.

The K81 tyre has a slightly different rolling radius and gives 836 revolutions per mile as against 816 from the K70. This causes a discrepancy in the speedometer which is unacceptable to Police Forces, and we have therefore arranged with the manufacturers to re-calibrate and re-certify the instruments affected. The new speedometer code number is:-
SC.5301/48 (MPH)
Continental use SC.5301/47 (KPH)

19 in. Rear Wheels.

Trident Police machines already in service which are equipped with a 4.10 x 19 in. K81 rear tyre should also have a re-calibrated and re-certified instrument. The new code number required is:-

SC.5301/44 (MPH)

Continental use SC.5301/46 (KPH)

These modifications will be undertaken by Smiths Industries Ltd., Trade Sales and Service, Oxgate Lane, London, N.W.2., under their Factory Replacement Unit Scheme.

Each instrument must be returned to them, stating in each case that re-calibration and re-certification is required to suit the altered tyre size, stating the tyre make and size.

June, 1970



SERVICE BULLETIN

No. 355

TRIUMPH LOCTITE PLASTIC GASKET

In line with many other manufacturers we are now using on production an entirely new and highly successful compound for sealing a number of joints where oil tightness has previously been a problem with traditional jointing compounds. The product in question is PLASTIC GASKET by Loctite. Previous users of Loctite sealants will immediately realise that the reliability of this product is to the same standard.

Application is simple. It is necessary merely to clean and dry the mating surfaces. Plastic gasket is supplied in a pliable applicator bottle and the compound when applied extremely sparingly cures in normal workshop temperatures within 12 - 24 hours, curing being accelerated by higher temperatures. It is however effective only up to 150° C. and is not therefore suitable for use at the cylinder head.

When cured, PLASTIC GASKET not only seals assembled joints, it also prevents movement between the parts. Despite this, joints made with PLASTIC GASKET are easily separated providing the solution is not allowed to contact studs, screws etc., where locking could occur.

Advantages of PLASTIC GASKET are that, due to the thinnest possible gasket applied, the joint requires no further "tighten down" after initial service, it is resistant to solvents and lubricants and is unaffected by shock, vibration or temperature change. It can be applied direct to vertical surfaces and withstands high pressure better than traditional compounds.

To re-use items to which PLASTIC GASKET has previously been applied, merely scrape away the flaked gasket material and apply a new coating (the old material remaining will be re-activated by the new).

"Triumph Loctite Plastic Gasket" is available in an attractive sales counter form of packaging in packs of ten 10 c.c. bottles. These can be obtained under part number D3135 at a cost of 125/- less a discount of 33 $\frac{1}{3}$ %. The recommended retail price of each bottle is 12/6d.



SERVICE BULLETIN No. 356

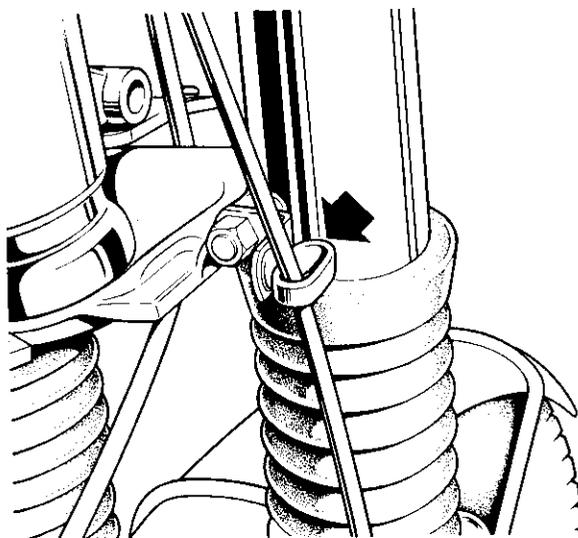
FRONT BRAKE CABLE GUIDE—TR25W MACHINES ONLY

A modification is to be introduced on TR25W machines with effect from engine number HD13355, to obviate the risk of the front brake cable becoming trapped on the front mudguard bridge stay lug bolt.

It is essential that the wire guide clip at the rear of the middle lug on all machines in service is replaced by a plastic guide and bracket as shown in the illustration. This ensures that the cable bend formed on fork compression does not come into contact with the bridge stay lug bolt.

The new parts required are as currently used on "B" and "C" Range machines, and comprise:—

- 1 off H3682 Bracket
- 1 off H2270 Guide
- 1 off F8245 Starlock washers



July, 1970.

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

No. 358

SPARKING PLUGS - "B" RANGE AND T150

Modified Champion N.3. sparking plugs are now fitted to all "B" Range and T150 machines. The new plug has an increased heat range and is proving more efficient in service.

Although the modified plug still retains the N.3. designation, it is identifiable by an annular groove machined into the metal body.

This plug will successfully replace the previous N.3. on earlier machines, but on no account must the two different plugs be used together.

August, 1970.

TRIUMPH

SERVICE BULLETIN No. 359

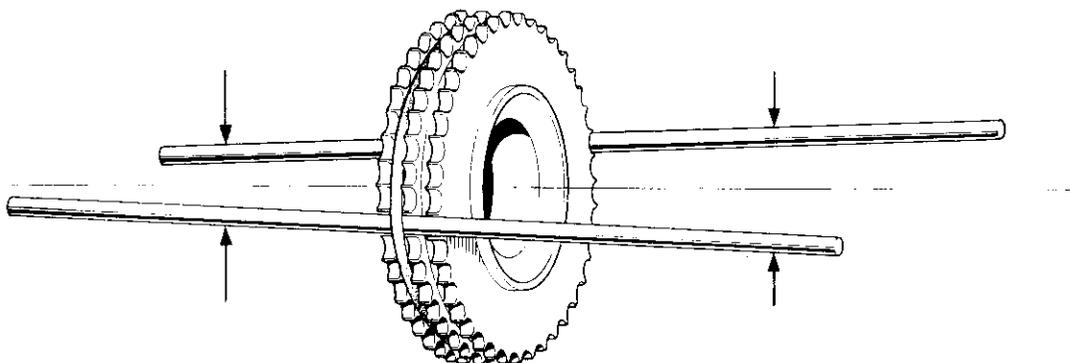
TRIDENT SHOCK ABSORBER SPROCKET TOOTH ALIGNMENT

The shock absorber sprocket fitted to any machine after engine number 3000 must be inspected to ensure that the teeth are parallel to the axial centre line of the sprocket. Any sprocket that is in error could result in premature primary chain failure.

A simple but accurate method of checking this is by utilising two $\frac{1}{4}$ in. diameter silver steel rods of approximately twelve inches length, and one substantial elastic band. Arrange these as shown in the diagram below.

Position the rods diametrically opposite each other, and view them with the intention of causing both rods to coincide. A discrepancy of up to 0.005 ins. per 1 in. is within the acceptable limit. If the misalignment is greater than this, the sprocket must be replaced.

CHECK FOR PARALLELISM



August, 1970

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

No. 360

REAR BRAKE DRUM - T150, "B" AND "C" RANGE

The C.E.I. threaded condition rear brake drum as used on T150, "B" and "C" Range machines produced before 1970 and equipped with standard rear wheels, is no longer supplied.

It is now necessary to order the U.N.F. threaded type and eight U.N.F. bolts as currently used on production.

Old Part No.

W1498 C.E.I. threaded brake drum

New Part Nos.

1 off W3585 U.N.F. threaded brake drum
8 off S2010 U.N.F. threaded bolt.

August, 1970.



SERVICE BULLETIN

No. 361

T150 TRIDENT SHOCK ABSORBER ASSEMBLY

Statistical evidence indicates an increase in the normally anticipated failure rate of Triumph primary chain failures on machines manufactured within the 3,000 to 4,000 engine number series.

In order to eliminate a continuation of this trend, we are requesting Distributors and Dealers to arrange for an examination of the machines held in stock or sold by him between the affected engine numbers.

Each machine in the series should be examined for the following:-

1. Installation of primary chaincase dowels T989 to be undertaken as per Service Bulletin number 321.
2. Replacement shock absorber assembly fitted (as supplied by the factory, incorporating a revised shock absorber drive and rebound rubbers, and a modified hub diameter).
3. Primary chain alignment in accordance with the instructions contained in Service Bulletin 352.

A replacement shock absorber assembly and primary chain will be supplied on a chargeable basis for each Trident sold by a Distributor or Dealer, reimbursement being made for the parts cost and covering transportation costs for each shock absorber unit and chain returned to the factory. Labour allowance of 2 hours will be made for each machine completed.

A chain alignment service tool set will be provided on a chargeable basis to each Distributor, to be retained by the Distributor as his own service equipment.

Primary chains do not require replacement on machines that have not been sold to a customer or are not yet subject to any obvious damage.

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

No. 361A

T150 TRIDENT SHOCK ABSORBER ASSEMBLY

Statistical evidence indicates an increase in the normally anticipated failure rate of Triumph Trident primary chain failures on machines manufactured within the 3,000 to 4,000 engine number series.

In order to eliminate a continuation of this trend, we are requesting Distributors and Dealers to arrange for an examination of the machines held in stock or sold by him between the affected engine numbers unless already checked and rectified at the factory Repair Shop.

Each machine in the series should be examined for the following:-

1. Installation of primary chaincase dowels T989 to be undertaken as per Service Bulletin number 321.
2. Replacement shock absorber assembly fitted (as supplied by the factory, incorporating a revised shock absorber drive and rebound rubbers, and a modified hub diameter).
3. Primary chain alignment in accordance with the instructions contained in Service Bulletin 352.

A replacement shock absorber assembly and primary chain will be supplied on a chargeable basis for each Trident sold by a Distributor or Dealer, reimbursement being made for the parts cost and covering transportation costs for each shock absorber unit and chain returned to the factory. Labour allowance of 2 hours will be made for each machine completed.

A chain alignment service tool set will be supplied on a chargeable basis to each Distributor, to be retained by the Distributor as his own service equipment.

Primary chains do not require replacement on machines that have not been sold to a customer or are not yet subject to any obvious damage.

If you have any affected machines under your control please contact the Service Department for the necessary tools and material.

September, 1970.



This Bulletin supercedes the previous issue under the same number

SERVICE BULLETIN

No. 362

REPLACEMENT FRONT FORK BOTTOM MEMBERS

Variations of the 1970 type of fork bottom members using welded lugs will in future be supplied to service earlier "B" and "C" Range conditions. This will reduce the effective quantity of stock items and allow earlier machines to benefit from current design techniques.

The new members will be supplied complete with mudguard attachment details, wheel spindle caps, studs, washers and nuts.

When ordering replacement members refer to the list below:-

Original Equipment

1965-68	H1842 L/H - H1843 R/H
1969	H2294 L/H - H2295 R/H
1970	H3921 L/H - H3922 R/H

Description of Service Parts

H4170 L/H = H3921 + 1	H3926 Square nut) Mudguard attachment details
	1 D2025 Plain washer	
	1 H4071 Tab washer	
	1 14-0113 Bolt	

H4171 R/H = Modified version of H3922 (shorter anchor plate peg for 6½ ins. centre forks. Identified by machined groove along anchor plate peg, + mudguard attachment details as above.

H4220 R/H = H3922 (for 6¾ in. centre forks) + above details.

Replacement Part Numbers

H1842 L/H	use	H4170) To reduce dealers stock items.
H1843 R/H		H4171	
H2294 L/H	use	H4170	
H2295 R/H		H4220	
H3921 L/H	use	H4170	
H3922 R/H		H4220	



SERVICE BULLETIN

No. 363

1971 "C" RANGE ELECTRICAL EQUIPMENT

To prevent unnecessary confusion regarding the unfamiliar electrical arrangements on 1971 "C" Range machines, this preliminary instruction regarding the practical layout will prove useful with respect to warranty repairs and maintenance until such time as the 1971 Workshop Manual becomes available.

The headlamp may be removed by disconnecting the internal connections as with previous models, but as an alternative it will be found far easier to disconnect at the electrical junction situated beneath the fuel tank (access being gained after removing the fuel tank). These are all "colour to colour" connections. Do not forget to disconnect the Zener Diode before detaching the headlamp from the machine.

By removing the headlamp lens, the front direction indicators can be isolated by detaching the appropriate internal connections and consequently removed from the machine by withdrawing the wire through the mounting stalk. Alternatively, the indicator lens, bulb and bulb holder can first be removed thereby allowing the wire to be pulled through an amount sufficient to detach the "Tufnol" retaining disc from the end of the wire. Removal of the rear indicators will require the latter method as access cannot be gained to the internal connections without removing the complete rear tail light assembly. If an indicator body is removed from the mounting stalk, care must be taken on reassembly to ensure that the nut is tightened to a torque between 35 and 45 lbs. in. Overtightening will cause the body to fracture.

Replacement of the tail unit will require the removal of the tail light complete with mounting bracket from the rear mudguard to allow access to the snap connectors. This is achieved by removing the three bolts situated underneath the rear mudguard.

It is not possible to dismantle the internals of the handlebar switches and in case of failure the offending switch half must be replaced. The switches are handed and therefore not interchangeable. The handlebar switches are connected into the main harness below the fuel tank and therefore the tank must be removed to allow access.

The remainder of the equipment is similar to previous models.



SERVICE BULLETIN

No. 364.

1970 POLICE TR6P MACHINES

If replacement parts are required for alternator equipment use:-

Stator RM.21 Lucas part No. 47205
Triumph Part No. 99-1006

Rotor RM.20 Lucas part No. 54213902*
Triumph part No. 99-1012

Nut (crankshaft E11812

* NOTE: 54213902 c/w keepers = 54210937

54213902 Rotor (RM.20) is easily distinguishable from 54213901 (RM.19 rotor) owing to its increased thickness.

January, 1971.

TE 164

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

No. 365

'B' RANGE & T150 HORNS.

Horns on both 'B' range 650 cc and T150 750 cc machines are now replaced by units under part numbers D.2623 and D.2624.

As the original units are no longer available from the Factory Spares Department, it is recommended that upon the failure of either of the original units, it is replaced with the appropriate unit numbered above.

The old and new units are not visibly identical, but they are entirely compatible and are already wired for ease of fitment.

The units are of high and low frequency as were the old type, D.2623 being the low note instrument and D.2624 being the high note instrument.

No modifications or extra mounting brackets are required, the units fitting directly onto the original mounting points.

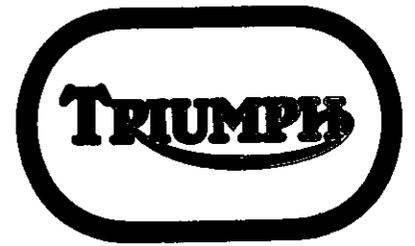
Will Dealers please note that in view of the above, the Factory Service Department are cancelling all outstanding orders for the following previous horns:-

<u>LOW NOTE.</u>	<u>HIGH NOTE.</u>	<u>TYPE.</u>
L.H. D1901	R.H. D1900	WINDTONE (SMALL)
L.H. D2257	R.H. D2256	WINDTONE (LARGE)
REPLACE WITH		
L.H. D2623	R.H. D2624	DIAPHRAGM.

Please re-order in accordance with the replacement numbers quoted above.

Feb. 1971

SERVICE BULLETIN NO 366



1971 TWIN LEADING SHOE FRONT BRAKE

To ensure efficient operation, dealers are strongly advised to modify all 1971 twin leading shoe front brakes before machines are released to customers. The modification is described below. If any machines affected have already been released, the dealers concerned should contact the customers and arrange for the machines to be returned to their workshops as soon as possible.

Machines affected are:-

T25 SS	Blazer SS (U.K. and Gen. Exp.)
T12OR	Bonneville
TR6C	Trophy 650
TR6R	Tiger 650

No other machines have been despatched from the factory.

Modification

Slacken the front brake cable adjustment at the handlebar lever. Push the cable inner through the cable nipple bush in the front brake lever at the wheel, withdraw the bush outwards and collect a plain washer. Slide the cable inner out of the slot in the bush and remove the bush, collecting a second plain washer. Withdraw the rubber gaiter from the cable and replace it by a spring, part number W4014, as shown in Fig. 1. Reassemble the cable, nipple bush and two washers in the reverse order to the removal procedure.

Ensure that the cable ferrule is correctly seated in the cable abutment bush at the rear brake lever on the wheel as shown in Fig. 2. If the bush is incorrectly seated as shown in Fig. 3., adjustment will be lost during braking, and braking efficiency will be impaired.

Finally adjust the cable length at the handlebar lever.

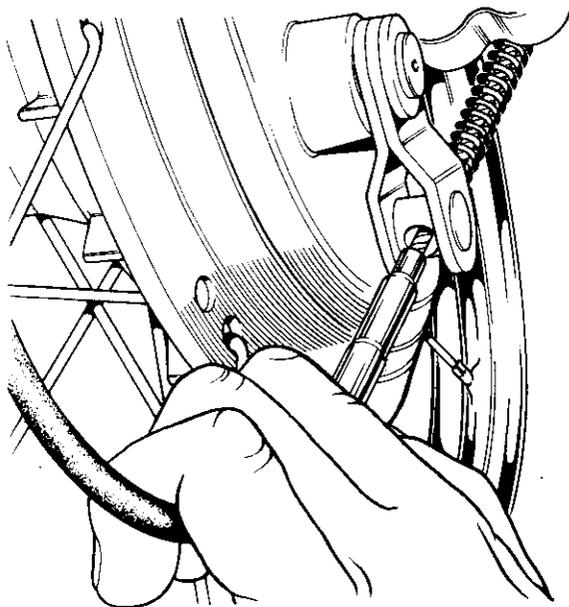


FIG 1

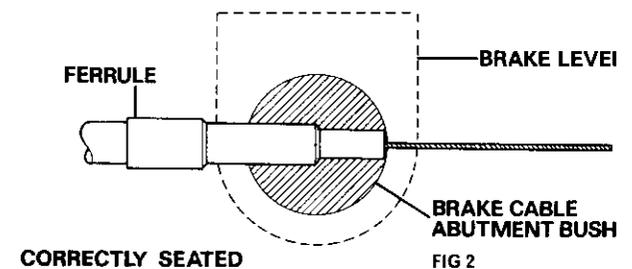


FIG 2

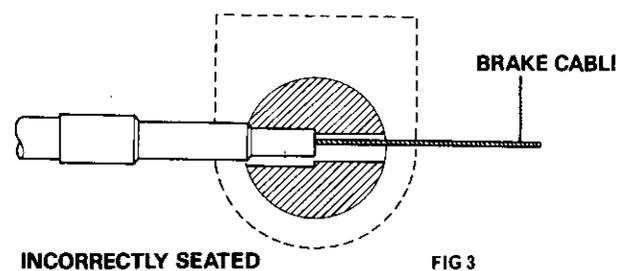


FIG 3

February 1971.



SERVICE BULLETIN

No. 367

FUEL FEED PROBLEMS

TWIN AND TRIPLE CARBURETTOR MODELS

Following extensive high speed track testing, it has become apparent that a shortage of fuel may occur on Twin or Triple carburettor models if only one fuel tap is in use under continual full throttle conditions.

It is recommended that at any time when maximum fuel flow is required, i.e. sustained high speed or during maximum acceleration, both fuel taps are turned on.

Modifications to fuel flow lines are under consideration and all future editions of Owners Handbooks will include this information.

March, 1971.



SERVICE BULLETIN

No. 368

OIL PIPE RETENTION

T25SS BLAZER, T25T TRIAL BLAZER

When carrying out the pre-delivery check on a T25SS or T25T, attention must be given to the oil return pipe between the engine and oil filter.

Ensure that the rubber pipe is pushed as far as possible onto the metal pipe at the engine and that the securing clip is fitted with the screen uppermost and as far forward as possible.

Future machines will be fitted with a one inch longer oil pipe.

March, 1971.

TE 164

TRIUMPH MOTORCYCLES



SERVICE BULLETIN

No. 369

1971 REPLACEMENT PARTS CATALOGUE BINDERS

We now have plastic binders available, similar to the type used for Workshop Manuals, to contain all 1971 Season Replacement Parts Catalogues. All 1971 Catalogues have four holes drilled to suit these binders.

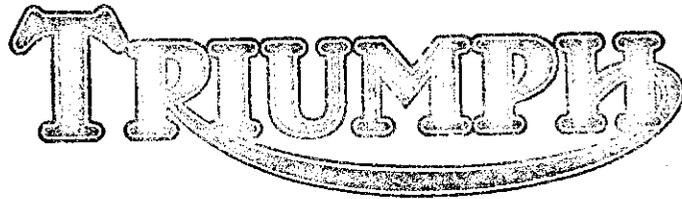
The purpose of the binders is to ensure quick and easy reference, and to extend the life of the Dealer's reference Catalogues.

The binders, which should be ordered as a normal spares item, are available under part No. 99-0944 at a price of 75p each, less a discount of 25% (P. part).

March, 1971.

TE 164

TRIUMPH MOTORCYCLES



SERVICE BULLETIN No. 370

SERVICE EXCHANGE SCHEME

Will all Dealers please note that the Service Department is no longer able to offer an exchange service on the pre-1964 650 c.c. "eight stud" cylinder barrel, part number E3332.

The service however continues on the current "nine stud" cylinder barrel E6304, complete with pistons, at the new price of £7.25.

March, 1971.



SERVICE BULLETIN

No. 371

T150 GEARS AND SHAFTS

Since the introduction of the T150 Trident model, two changes to the gearbox components have been made.

The first in mid 1969 was the introduction of "shaved" gears. These gears are under new part numbers and are fully interchangeable. Apart from the mainshaft assembly, they are identical with all Triumph 650 c.c. models up to 1969.

Additionally, the 650 c.c. model 3rd gear ratio was changed from a 22/24 combination to 22/23 in mid 1969, and this same change was then instituted on the 1970 750 c.c. Trident models. These gears should be used in pairs only.

Below is listed the effective supersessions:-

Mainshaft assy.	for T3982	use T4175
Mainshaft 2nd.	for T916	use T3857
Layshaft assy.	for T3864	use T4155
Layshaft 3rd.	for T930	use T3860

1970 T150 models onwards had a lower ratio 3rd gear pair.

	<u>Pre 1970</u>	<u>1970 onwards</u>
Layshaft 3rd	T3860 (22T)	T3890 (22T)
Mainshaft 3rd	T3858 (24T)	T3889 (23T)

Under no circumstances should T3860 (22T) be substituted for T3890 (22T) or vice versa, unless paired with the associate gear.

Please note that to aid internal factory organisation, gears are stamped with the Divisional series part numbering sequence where 57- is the equivalent of the Triumph part number letter "T", (e.g. 57-3862 is T3862).



SERVICE BULLETIN

No. 372

Note: This Bulletin supersedes the previous issue No. 273 of November, 1969.

SERVICE LITERATURE

This Bulletin contains details of all currently available literature. This literature is only obtainable through Triumph Spares Stockists with the exception of Technical Information Bulletins which are available free of charge from the Service Department or a Spares Stockist.

The prices quoted are recommended retail and are subject to a Dealer's proprietary discount of 25%.

This Company reserves the right to change any specification, description or part number in any publication without giving prior notice.

April, 1971.

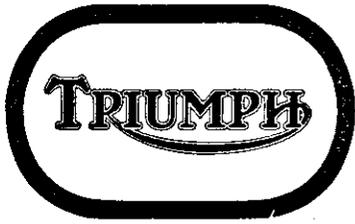
<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>ENGINE NUMBERS OR MODEL YEAR</u>	<u>PRICE (P)</u>
<u>"A" RANGE (199 c.c.)</u>			£ p
99-0811	Parts Catalogue No.8	From 81890	1.00
99-0812	Parts Catalogue No.9	From 94600	1.00
99-0813	Parts Catalogue No.10	From 99720	1.00
99-0814	Parts Catalogue No.1	From 101	1.00
99-0815	Parts Catalogue	All T20B & T20 Super Cub	1.00
99-0833	Workshop Manual No.8	All T20 up to 1964	1.00
99-0834	Owners Handbook	T20, T20SS, T20SH from 88347	0.45
99-0835	Owners Hanbook	T20B, T20M, T20SH from 101	0.45
<u>"B" RANGE (650 c.c. - 40 cu.in.)</u>			
99-0819	Parts Catalogue No.16	From 029364	1.00
99-0821	Parts Catalogue No.2	From DU5825	1.00
99-0822	Parts Catalogue No.3	From DU13375	1.00
99-0823	Parts Catalogue No.4	From DU24875	1.00
99-0824	Parts Catalogue No.5	From DU44394	1.00
99-0825	Parts Catalogue No.6	DU66246 UK & General Export	1.00
99-0880	Parts Catalogue No.6	DU66246 U.S.A. only	1.00
99-0881	Parts Catalogue No.7	DU85904 UK & General Export	1.00
99-0882	Parts Catalogue No.7	DU85904 U.S.A. only	1.00
99-0901	Parts Catalogue	1970 UK & General Export	1.00
99-0903	Parts Catalogue	1970 U.S.A. (Combined with "C" Range)	2.75
99-0932	Parts Catalogue	1971 U.S.A.	1.00
--	Supplement Parts Catalogue 1971 UK & General Export		--
99-0836	Workshop Manual No. 11	1946-55	1.00
99-0837	Workshop Manual No. 17	1956-62	1.00
99-0883	Workshop Manual	Up to 1968	2.75
99-0889	Workshop Manual	1969	2.75
99-0834	Owner Handbook	From DU101 UK & General Export	0.45
99-0839	Owner Handbook	From 43394 UK & General Export	0.45
99-0840	Owner Handbook	From 43394 U.S.A.	0.45
99-0878	Owner Handbook	From DU66246 UK & General Export	0.45
99-0879	Owner Handbook	From DU66246 U.S.A.	0.45
99-0877	Owner Handbook	From DU85904 UK & General Export	0.45
99-0876	Owner Handbook	1969 U.S.A.	0.45
99-0891	Owner Handbook	1970 U.S.A.	0.45
99-0892	Owner Handbook	1970 UK & General Export	0.45
99-0930	Owner Handbook	1971 U.S.A.	0.45
99-0931	Owner Handbook	1971 UK & General Export	0.45

ENGINE NUMBERS
OR MODEL YEAR

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>ENGINE NUMBERS</u> <u>OR MODEL YEAR</u>	<u>PRICE (P)</u>
<u>"C" RANGE (500 c.c. - 30 cu.in.)</u>			£ p
99-0826	Parts Catalogue No. 3	From H11512	1.00
99-0827	Parts Catalogue No. 4	From H18612	1.00
99-0828	Parts Catalogue No. 5	From H32465	1.00
99-0829	Parts Catalogue No. 6	From H35987	1.00
99-0830	Parts Catalogue No. 7	From H40528	1.00
99-0831	Parts Catalogue No. 8	From H49833	1.00
99-0832	Parts Catalogue No. 9	From H57083	1.00
99-0885	Parts Catalogue No.10	From H65573	1.00
99-0902	Parts Catalogue	1970 UK & General Export	1.00
99-0903	Parts Catalogue	1970 U.S.A. (Combined with "B" Range)	2.75
99-0934	Parts Catalogue	1971 U.S.A.	1.00
--	Supplement Parts Catalogue	1971 UK & General Export	--
99-0842	Instruction Manual No. 4		1.00
99-0886	Owner Handbook	From 32465	0.45
99-0873	Owner Handbook	From 49883	0.45
99-0875	Owner Handbook	From 57083 UK & General Export	0.45
99-0874	Owner Handbook	From 65573 UK & General Export	0.45
99-0872	Owner Handbook	From 65573 U.S.A.	0.45
99-0893	Owner Handbook	1970 U.S.A.	0.45
99-0894	Owner Handbook	1970 UK & General Export	0.45
99-0907	Owner Handbook	FRENCH	0.45
99-0925	Owner Handbook	1971 U.S.A.	0.45
99-0926	Owner Handbook	1971 UK & General Export	0.45
99-0843	Workshop Manual	1970 and previous	2.75
<u>TRIDENT T150 (750 c.c. - 45 cu.in.)</u>			
99-0866	Parts Catalogue	1969	1.00
99-0904	Parts Catalogue	1970	1.00
99-0943	Parts Catalogue	1971	1.00
---	Supplement Parts Catalogue	1971 UK & General Export	---
99-0867	Owners Handbook	1969	0.45
99-0890	Owner Handbook	1970	0.45
99-0937	Owner Handbook	1971 UK & General Export	0.45
99-0938	Owner Handbook	1971 U.S.A.	0.45
99-0887	Workshop Manual	1970 and previous	2.75
<u>T25 (TR25W Prior to 1971) (250 c.c. - 15 cu.in.)</u>			
99-0870	Parts Catalogue	1968	1.00
99-0871	Parts Catalogue	1969	1.00
99-0906	Parts Catalogue	1970	1.00

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>ENGINE NUMBERS OR MODEL YEARS</u>	<u>PRICE (P)</u>
<u>TR25 (TR25W Prior to 1971) (250 c.c. - 15 cu.in.)</u>			
99-0869	Owner Handbook	1969 U.S.A.	0.45
99-0895	Owner Handbook	1970 U.S.A.	0.45
99-0896	Owner Handbook	1970 UK & General Export	0.45
99-0927	Owner Handbook	1971 U.S.A.	0.45
99-0928	Owner Handbook	1971 UK & General Export	0.45
99-0921	Workshop Manual	1970 and previous	2.75
<u>SCOOTER</u>			
99-0850	Tina Parts List		0.30
99-0848	Tina Owner Handbook		0.25
99-0852	No. 20 Wall Chart		0.15
99-0853	No. 21 Wall Chart		0.15
99-0854	No. 22 Wall Chart		0.15
99-0855	No. 23 Wall Chart		0.15
99-0851	T10 Parts List		0.40
99-0847	T10 Owners Handbook		0.25
99-0849	T10 Workshop Manual		0.70
<u>ADDITIONAL LITERATURE</u>			
99-0846	Master Price List	ALL MODELS	0.75
99-0897	Parts Managers Index	1967 ALL MODELS	0.30
99-0898	Parts Managers Index	1968 ALL MODELS	0.30
99-0899	Parts Managers Index	1969 ALL MODELS	0.30
99-0919	Parts Managers Index	1970 ALL MODELS	0.30
99-0910	Multi Model Handbook	SPANISH	0.90
99-0900	Multi model Handbook	FRENCH	0.90
99-0909	Multi Model Handbook	GERMAN	0.90
99-0911	Wall Chart Engine Unit	"B" Range	0.25
99-0912	Wall Chart Engine Unit	"C" Range	0.25
99-0913	Wall Chart Engine Unit	TR25W	0.25
99-0914	Wall Chart Engine Unit	T150	0.25
99-0915	Wall Chart Forks (exploded)	"B"/"C" Ranges	0.25
99-0916	Wall Chart Carburetter	All Models	0.25
99-0917	Wall Chart Gearbox	"B" Range	0.25
99-0918	Wall Chart Gearbox	"C" Range	0.25
99-0920	Wall Chart Firing Diagram	T150	0.25
99-0922	Wall Chart Gearbox Summary	"B" Range	0.25
99-0923	Wall Chart Service	All Models	0.25
99-0924	Wall Chart Forks (How they work)	1969/70	0.25

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>ENGINE NUMBERS OR MODEL YEARS</u>	<u>PRICE (P)</u>
<u>ADDITIONAL LITERATURE</u>			£ p
99-0940	Warranty Operations Manual Italian	All Models	0.50
99-0941	Warranty Operations Manual German	All Models	0.50
99-0942	Warranty Operations Manual French	All Models	0.50
99-0944	Parts Catalogue Binder	All 1971	0.75
T.I.B. 4	Technical Information Bulletin "A" Range		---
T.I.B. 2	Technical Information Bulletin Pre-unit construction 500/650 c.c. "B" Range		---
T.I.B. 14	Technical Information Bulletin Unit construction 650 c.c. "B" Range		---
T.I.B. 13	Technical Information Bulletin "C" Range		---



SERVICE BULLETIN NO.373

1971 REAR BRAKE EFFICIENCY T150, 'B' RANGE, T25

If a customer complains of poor rear brake performance on a 1971 T25, T150 or 'B' range machine, it is recommended that the following lining modification is carried out.

Cut the back off each lining rivet and chisel the linings away from the shoes, taking care not to damage the alloy casting. Reline the shoes with thicker linings, part number 99-0043 (formerly NW243/AM2) using sixteen rivets, part number W129.

To ensure that the correct drum match and maximum lining area contact are obtained the linings must be ground to the given outside diameter.

Set the shoes up on two fixed pegs, as shown in fig. 1, ensuring that the fulcrum end of the shoes are located on the bottom face of the slots. The fulcrum pads should not be fitted during this operation. Grind the linings to the dimension given in fig. 1.

To obtain the correct clearance between the assembled shoes and the brake drum, modified thicker fulcrum pads, part number W4037, must be fitted. Alternatively the original pads may be modified by spot welding a packing plate, the dimensions of which are shown in fig. 2, on the inside of each pad.

It is also recommended that a new cam lever, part number W4034, and new return spring W4049, are fitted to increase the leverage. The new lever should be fitted upwards (previously fitted downwards) to clear the wheel spindle.

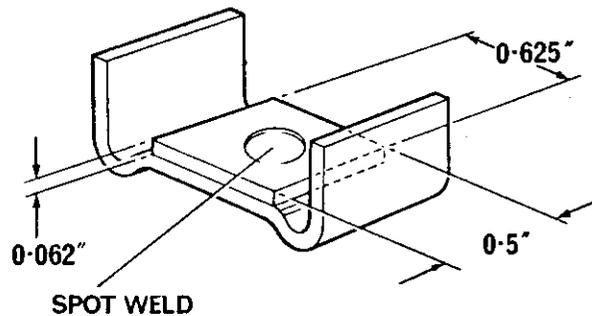
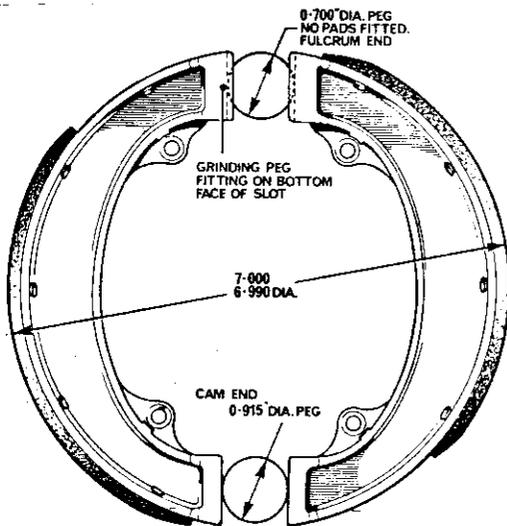


FIG.1 SET-UP FOR GRINDING LININGS.

FIG.2 DIMENSIONS OF ADDITIONAL PACKING



SERVICE BULLETIN No. 374

To all Triumph U.K. Dealers.

PERSONAL EXPORT SCHEME 1971

"WARRANTY PASSPORT"

The Personal Export "Warranty Passport" introduced for the 1970 season has proved to be of benefit to the majority of purchasers, and therefore it has been retained for the 1971 season.

In order to overcome certain difficulties experienced by customers and dealers alike the 1971 "Warranty Passport" has been slightly revised, but the format remains unchanged.

One significant factor emerged as a result of our experiences last year, which was that we insisted that the 500 mile free service check should be carried out in the U.K. We found that a considerable number of people arrived on the Continent before the 500 mile service check was due and this of course presented some problems. We have therefore included in the Passport a 500 mile check voucher valued at \$10.00 (U.S.) which means that any Continental dealer carrying out a 500 mile free service on a Personal Export machine will be reimbursed by the Distributor on our behalf with the equivalent of \$10.00 for his services. This also applies to all Home Market dealers.

Also included in the 1971 "Passport" is a \$20.00 domestic set-up and free service voucher, which can be redeemed by the customer's local dealer in exchange for completing the set-up and free service as laid down. This operation should be carried out after the machine has arrived at its ultimate destination, and before it is re-commissioned.

With the exception of the above factors, the "Passport" is identical to that of last year, and we set out below a brief resume of the salient features.

1. The owner is protected for a period of 180 days or 6,000 miles, in that the factory will bear the cost, both in respect of parts and labour for the rectification of any faults occurring as a result of defective workmanship or material whilst on the Continent of Europe.
2. This facility is now inclusive in the cost of the machine.
3. The pre-delivery service check must be completed by the United Kingdom dealer before the machine is taken to the Continent of Europe, and the certificate in the "Warranty Passport" should be clearly endorsed to this effect.
4. The "Warranty Passport" is valid for the Continent of Europe only.

5. Any Home Market dealer, including the original selling dealer, who completes a 500 mile service check on a Personal Export machine is entitled to claim the £10.00 allowance, and must complete the service scheme certificate contained in the Passport, and endorse it with his stamp and date.

The selling dealer is responsible for the following:-

1. Completing the entries on the first page of the "Warranty Passport" at the time of sale.
2. Completing the factory registration card and returning it to the factory.
3. Completing the pre-delivery service check as mentioned above.

NOTE:- WITHOUT THESE ENTRIES THE "PASSPORT" IS INVALID.

All Personal Export Dealers will already have been advised by Mr. J.W. Harrison, U.K. Divisional Sales Manager of arrangements made for distribution of "Warranty Passports".



SERVICE BULLETIN

No. 375

To all Triumph European Distributors.

Last year you were advised of the introduction of the "Warranty Passport" scheme which is applicable to those machines purchased in the United Kingdom by overseas visitors under the Triumph U.K. Personal Export Scheme. The majority of people using this scheme are from the United States on vacation in Europe for a comparatively brief period.

In the main, the scheme worked very well last year and we have found it unnecessary to make any substantial changes to the original arrangement.

However, one significant factor emerged as a result of our experiences last year which has caused us to revise the Passport slightly.

Last year we insisted that the 500 mile free service check should be carried out in the U.K. but we found that a considerable number of people arrived on the Continent before their 500 mile service check was due. This presented some problems.

We have therefore included in the Passport a 500 mile check voucher valued at \$10.00 (U.S.) which means that any Continental dealer carrying out a 500 mile free service on a Personal Export machine will be reimbursed by the Distributor on our behalf with the equivalent of \$10.00 (U.S.) for his services.

The \$10.00 voucher will subsequently be returned to the Triumph Factory Service Department by the Distributor, who in turn, will be reimbursed with a similar amount.

A copy of the revised Passport is enclosed herewith for guidance.

Will you please notify your dealer network of these facts and inform them that we will honour the free service voucher and warranty certificates, if they are returned to us via yourselves.

TRIUMPH

SERVICE BULLETIN

No. 376

DIVISIONAL PART NUMBER PREFIXING

Dealers holding a current franchise for both Triumph and B.S.A. machines will be aware that new Divisional part number prefixes were introduced in 1967, and that gradually the Triumph alphabetical prefixing system is being replaced by the Divisional two digit numerical system where appropriate.

The chart below shows the Triumph letter prefix against the equivalent Divisional prefix, and this can be used to determine a Triumph part number where the Divisional number may be quoted on invoices, correspondence, etc. The two systems run parallel with each other, and therefore this Bulletin should be retained for future reference to avoid any confusion which may arise during the transitional period.

Although it can be safely assumed that a Divisional part number (e.g. 70- prefix) bears the same Triumph part number equivalent (e.g. E-) the converse is not necessarily true, i.e. no Triumph number has a Divisional equivalent in the series below, prior to 1967 models.

Also note that Divisional numbers are four numeric only, for computer purposes. The Triumph equivalents are as under:-

70-6206	=	E6206	
71-6206	=	E16206	
72-6206	=	E26206	etc.

CONVERSION CHART

<u>DIVISIONAL PREFIX</u>	<u>TRIUMPH PREFIX</u>
60-	D
70- 71 & 72-	E
82- 83 & 84-	F
97 & 98-	H
21-	S
57 & 58	T
37-	W
14-	--



SERVICE BULLETIN

377

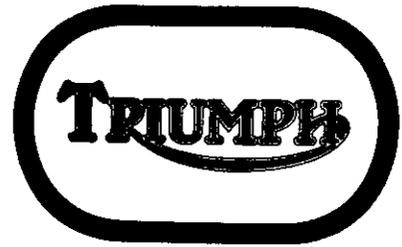
REPLACEMENT SILENCERS E4157 AND E4158 - "C" RANGE

Further to Service Bulletin No. 336, in future we do not intend to supply silencers under part number E4157 L/H and E4158 R/H, but can in their place supply E12017 L/H and E12018 R/H. These silencers directly replace E4157/8, and also the previously cancelled silencers, part numbers E3935 L/H and E3936 R/H.

To avoid any confusion over duplicate ordering, E12017 will be supplied where outstanding orders exist on E4157 and E12018 will be supplied on E4158.

May, 1971.

SERVICE BULLETIN NO 378



FRONT BRAKE STOP SWITCH - ALL MODELS

Due to the increase in size of the front brake cable diameter currently being used in 1971 models it has been required to modify the position of the Lucar blades on the switch body. This will prevent "chaffing" of the insulation material and consequent "shorting" of the electrical circuit.

Future models will have a redesigned switch, but existing conditions can be easily modified by bending the blades outwards and then parallel to the cable.

This operation should be carried out as detailed in the sketches below. First bend the 'Lucar' blades towards the cable in conjunction with a former comprising of a piece of material $\frac{3}{32}$ in. thick. See Fig. 1.

For the second bend, a tool as suggested in Fig. 2 should be manufactured with a slot to clear the thickness of the 'Lucar' blade. By pushing this tool onto the blade and pulling it away from the cable it will be possible to arrive at the condition shown in Fig. 3.

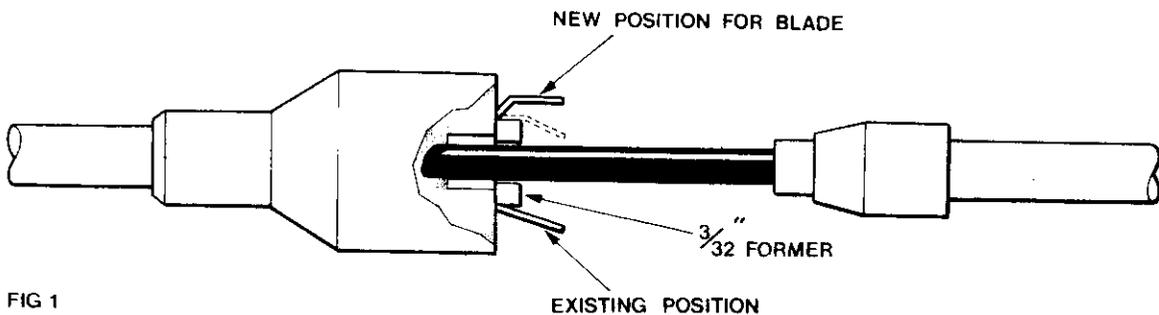


FIG 1

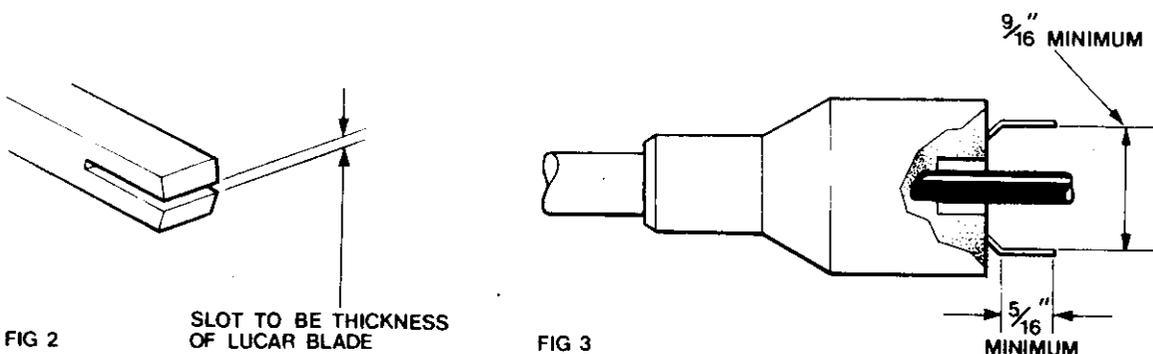


FIG 2

FIG 3



SERVICE BULLETIN

379

To all Home Dealers

SERVICE REPLACEMENT ENGINE UNITS

As from Monday the 14th June, 1971 the following revised arrangements will apply to ALL Exchange Engine Units supplied from this factory.

1. No units will be released until the unit to be replaced has been received and examined by our Repair Department personnel. It is no longer possible to obtain a Service Exchange Unit by merely quoting the original engine number on an order, pending the subsequent return of that unit.

2. Under certain circumstances the personnel of this Department may from time to time, authorise the supply of a Guarantee Exchange unit if available. There is no exception to the above ruling, and therefore even in these circumstances either the dealer or the customer will be required to bring the original unit to the factory, before the replacement is released.

3. In the interests of both ourselves and our dealers, it has been decided that we will no longer accept engines for exchange, in a fully or partly dismantled condition. All engines returned for exchange must be complete, and if they have been dismantled by the dealer or customer, they should be rebuilt in a loosely assembled condition.

It is regretted that it has become necessary to introduce these measures, but this has been forced upon us due to a certain amount of abuse of the previous system, which has become worse in recent months and was in danger of becoming "out of hand". However, as we are confident both the public and the Dealer network wish to retain the Factory Service Exchange engine unit system, we have been obliged to amend the method of operation as above.



SERVICE BULLETIN

380

To all Export Distributors:

GUARANTEE REPLACEMENT ENGINE UNITS

As from Monday the 14th June, 1971 the following revised arrangements will apply to ALL Guarantee Exchange Engine Units supplied from this factory.

1. If it is decided by this Department that an Exchange Engine should be supplied under Guarantee, the unit will be despatched and invoiced at full price to the Distributor. Upon receipt of the old unit a credit note will be raised by this Department to cancel out the invoice for the engine. This credit will not be raised in any circumstances until such time as the original unit has been received in our Repair Department.
2. If the unit in question has been partly dismantled by the Distributor it **MUST** be rebuilt in a loosely assembled condition before being returned to these Works, and the engine must be complete. If an engine is received in a dismantled condition considerable delay in raising the necessary credit note will occur whilst the engine is waiting to be checked by our Repair Department personnel. We must retain the right to make additional charges where hidden damage is subsequently revealed on examination.

Service Department.

SERVICE BULLETIN NO 381



REPLACEMENT OIL PUMP

250 c.c. (15 cu. ins.) Single Cylinder Machines

All 1971 T25SS and T25P machines are fitted with a modified oil pump part No. E12227. The pump is easily identified by a third mounting boss on the drive housing. This additional mounting point eliminates pump distortion during operation.

The new oil pump will replace earlier pumps E8090 and D1133, and will be supplied on order for E1133 and E8090 when stocks become exhausted, although the additional mounting boss cannot be utilised on earlier machines.

Where the later pump is used it is necessary to relieve the stiffening web on the inner timing cover adjacent to the oil pump. 1969/70 machines already have a $\frac{1}{8}$ in. recess at this point but this may have to be increased. Use modelling clay to check the clearance. Remove only sufficient material to achieve a clearance otherwise the function of the web will be impaired.

Would Dealers please amend their records accordingly and order only E12227 in future.

August, 1971.



SERVICE BULLETIN NO. 382

OIL RESERVOIR FILTER

1971 'B' RANGE (650 c.c./40 cu.in.)

An improved oil reservoir filter has been incorporated on late 1971 'B' Range machines. The new filter has a fixed location plate and a separate sump plate to ease assembly and provide better oil sealing.

No Longer Supplied

1 off F12826 Oil filter
c/w sump plate.

Replaced By

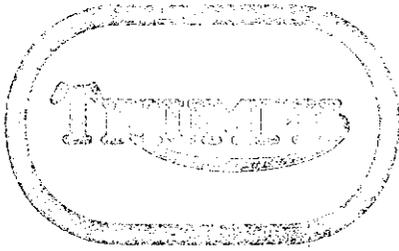
1 off F13642 Oil Filter Assy.
1 off F13645 Sump Plate

Note: 2 off F12829 gaskets are required with the later parts.

F12826 oil filter c/w sump plate is no longer supplied and all outstanding orders have been cancelled. Dealers are requested to re-order under the latest part numbers.

Would Dealers amend their 1971 650 c.c. (40 cu. in.) Replacement Parts Catalogues to show only the later parts which appear at the bottom of Page 43.

August, 1971.



SERVICE BULLETIN NO. 383

GEARBOX HIGH GEAR AND BEARING - FIVE SPEED

750 c.c. (4.5 cu. in.) & 650 c.c. (4.0 cu.in.)

It is essential that when a new bearing or high gear is fitted, the total assembly supplied under part number T4536 is fitted. The reason is that the high gear itself forms part of the roller bearing inner track assembly, and at no time should separate replacement components be fitted independently.

T4536	High gear and main bearing assy.	
D3511	Needle rollers	} Continue to be serviced separately.
D3500	Oil seal	

For T4372 high gear previously listed, the new part (number T4536) will be supplied complete with main bearing, needle rollers and oil seal.

For D3493 main bearing previously listed, the new high gear and main bearing assembly part number T4536 will be supplied.

August, 1971.



SERVICE BULLETIN NO. 384

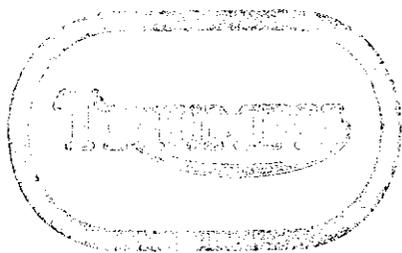
GEARBOX CAMPLATE

'B' RANGE (650 c.c./40 cu.in.)

Would dealers please note that the gearbox camplate part number T3650 is no longer supplied. It is now replaced by the precision pressed camplate part number T4055, and must be used in conjunction with index plunger spring T4059 and sealing washer T3978.

In future would all dealers order on the later part numbers.

October, 1971.



SERVICE BULLETIN NO. 385

"PUSH IN" EXHAUST PIPES - 650 c.c. (40 cu.in.)

The "push in" exhaust pipes which appear in the 1972 "B" Range Replacement Parts Catalogue are not yet fitted on production.

For replacement purposes would dealers refer to the 1971 "B" Range Replacement Parts Catalogue.

Parts Affected

1972 Catalogue lists:

Use:

E12806	Cylinder head	E12354	(TR6R, TR6C)
E12807	Cylinder head	E12356	(T12OR)
E12636	Exhaust pipe L.H.	E12753	(TR6R, T12OR)
E12637	Exhaust pipe R.H.	E12756	(TR6R, T12OR)
E12334	Exhaust pipe lower	E11900	(TR6C)
E12632	Exhaust pipe upper	E11901	(TR6C)
E12465	Pinned clip	E10216	
E8978	Washer	E8860	
E8977	Bolt	E6744	

October, 1971.



SERVICE BULLETIN NO. 386

WALLCHART - 1971 TELESCOPIC FORK

There is now available a further wallchart in the "How it Works" series. This wallchart is concerned with the 1971 internal spring telescopic front fork, and explains, with the aid of detailed sectioned illustrations, the sequence of movement and the corresponding spring and damping action.

The wallchart, which is reproduced in colour, is available for immediate despatch through normal spares channels under part number 99-0946 at a recommended retail price of 25p less normal dealer discount.

November, 1971.



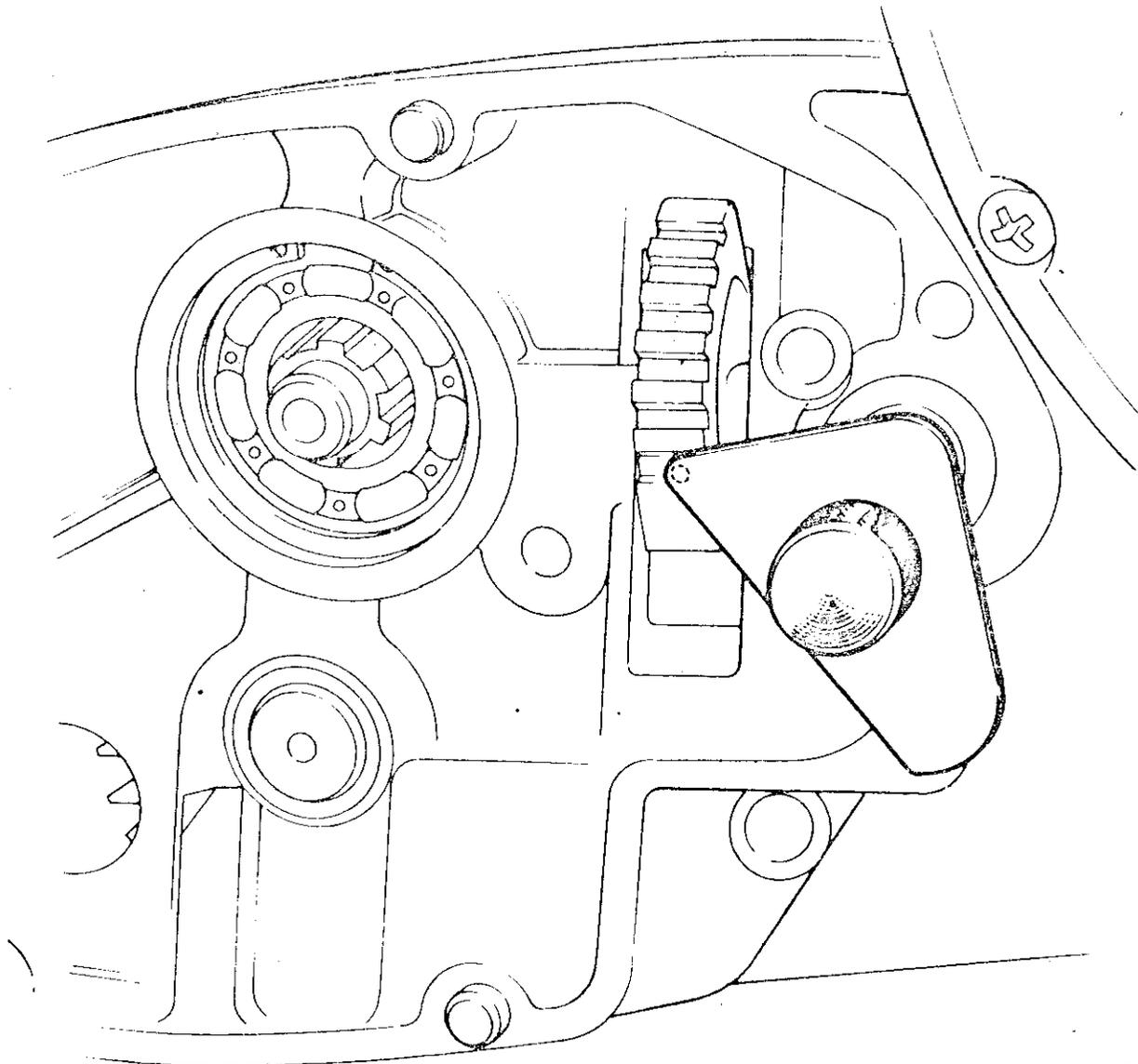
SERVICE BULLETIN

NO. 387

Gearbox Quadrant Location Tool - five speed gearboxes only

Due to the tolerances involved in aligning the quadrant when fitting the gearbox inner cover to the crankcase, Tool No. 61-6128 is available to assist with this operation. The large diameter location boss on the tool fits into the foot change spindle housing situated forward of the quadrant. The remaining positioning dowel fits into the screw hole immediately beneath the spindle housing. Position the quadrant so to enable the locating point on the tool to engage the lowest groove on the quadrant periphery (i.e. the first gear position).

Push the tool firmly into position. The cover can now be fitted.



November 1971.



SERVICE BULLETIN NO.

388

REPLACEMENT FRONT FRAME

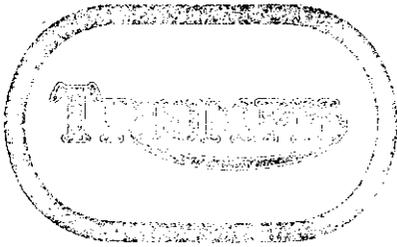
It is regretted that the front frame part No. F7843 is no longer available.

This frame has been replaced by F11354 together with the following chargeable items:-

2	off	F11356	Plates
2	off	14-0252	Bolt
2	off	14-1204	Nut
2	off	S25-1	Washer

When ordering therefore, all the above items should be included.

December 1971.



200
287

PRICE LIST

TRIUMPH SERVICE REPLACEMENT UNITS

	<u>"B" Range</u> (650 c.c.)	<u>"C" Range</u> (350 c.c.)	<u>T25</u> (All 250 c.c.)	<u>T20</u> (200 c.c.)
Reconditioned engine	75.00	75.00	45.00	N/A
Reconditioned C/Shaft Assy.	10.77	10.77	8.25	10.50
Rebored barrel c/w Piston(s)	8.75	8.75	5.25	5.05
Reconditioned clutch plates	N/A	N/A	N/A	N/A
*Reconditioned frame complete	25.70	25.70	N/A	18.00
*Reconditioned front frame	12.50	12.50	N/A	7.50
*Reconditioned rear frame	8.00	8.00	N/A	5.10
Reconditioned swinging arm	4.00	4.00	4.00	4.00
Reconditioned fork assy.	19.60	19.60	19.60	13.40
Reconditioned petrol tank	7.75	7.75	7.75	6.10
Heli-coil cyl. head exhaust stubs	3.75	3.75	N/A	1.85
Heli-coil cyl. head S/plug	3.00	3.00	1.85	1.50

* Not applicable to oil container frame

Please note that the following item is no longer available through the Service Exchange Scheme:-

Reconditioned frame complete - 250 c.c.

The following items can no longer be supplied by the Service Dept., but are available from the Spares Dept. as previous:-

1. Reconditioned brake shoes - All models
2. Reconditioned clutch plates - All models

SERVICE BULLETIN NO 390



REPLACEMENT BUSHES - ALL 5 - SPEED GEARBOXES.

1st, 2nd, 3rd and 4th gear bushes previously supplied only as an assembly are to become available in a pre-sized condition for direct replacement in all the relevant gears.

The pre-sized bushes are numbered as follows:-

Bush, mainshaft 3rd gear	Part No.	T4575
" layshaft 4th gear	" "	T4576
" layshaft 2nd gear	" "	T4577
" layshaft 1st gear	" "	T4578

NOTE:-

The layshaft high gear will have to be removed to gain access to the 4th gear. The high gear must be pressed off using suitable equipment because of the high interference fit. Damage will almost certainly occur if other means are used.

Also note: - When the layshaft is reassembled (also using a press) the same high gear must be replaced, ie. do not put a new high gear onto the existing layshaft. The gears and shafts are graded at the production stage for the correct interference fit. If a new gear is required a new layshaft assembly will have to be purchased.

December 1971.



SERVICE
BULLETIN
NO. 391

QUICKLY DETACHABLE REAR HUB - "B" RANGE
MODELS UP TO AND INCLUDING 1970

The quickly detachable rear hub part number W1593 which has a C.E.I. thread for the speedometer drive ring is no longer available.

Instead it can be replaced using rear hub part number W3595 (Unified thread) in conjunction with the speedometer drive ring part number W3597.

NOTE: All outstanding orders for W1593 have been cancelled and Dealers are requested to re-order under the latest part numbers.

December 1971.



SERVICE BULLETIN

NO. No. 392

Wallchart - 1972 Five Speed Gearboxes

There is now available a further wallchart in the Gearbox series showing the sequence of gearchanging in each gear position from first to fifth.

The chart explains the operations carried out in the gearbox for all the gear selections with the corresponding camplate and selector positions.

The wallchart which is reproduced in colour, is available for immediate despatch through normal spares channels under part number 99-0962 at a recommended retail price of 25p less normal dealer discount.

January 1972.



SERVICE BULLETIN NO. 393

BATTERY VENT OUTLET - PUZ5A BATTERIES

It has been discovered that the vent hole contained in the top of each battery can occasionally be blocked with a thin plastic film that has remained from the moulding process.

If the hole is not checked, pressure will build up within the battery cells and could well result in fracture of the outer casing with resultant damage to the machine due to acid corrosion.

Therefore it becomes essential that the vent hole is checked before the rubber vent pipe is attached. Simply push a piece of wire through the aperture to ensure that the hole is clear.

January 1972.



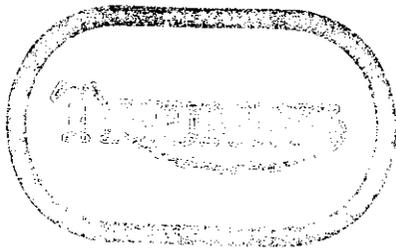
SERVICE
BULLETIN
NO. 395

REAR CHAIN ADJUSTMENT - 250 cc SINGLE CYLINDER MODELS
1971/72

Due to recent tests carried out with the 250 cc model it has been discovered that when additional weight is being carried (i.e. pillion passenger) the rear chain can become taught using the 1" free play as published.

A revised figure of 1½" free play at the centre of the chain run is now advised to cover all situations.

February 1972



SERVICE BULLETIN

NO. 398

REAR FRAME - ALL 650 c.c. (30 cu.in.) TWIN CYLINDER MODELS.

From engine number CG 50414 the rear frame on all 650 c.c. models has been lowered to accommodate a lower seating position. As a result the alteration of certain components has been necessary and are detailed as follows:-

E13446 ✓	Cylinder head assy.	Replaces E12807	1 off
E13294 ✓	Inlet valve guide	" E3827	2 off
E13295 ✓	Exhaust valve guide	" E3828	2 off
E13302 ✓	Carburettor adaptor	" E12811/2	2 off
E13313 ✓	Connector	" E6916	2 off
E13306 ✓	Balance pipe	" E4792	1 off
S582 ✓	Stud	" E12813	4 off
S1908 ✓	Nut	" 14-1301	4 off
E9555 ✓	Cup	Deleted	4 off
D2331	Washer	Replaces E9554	4 off
F14578 ✓	Frame	" F14283	1 off
F14615 ✓	Centre stand	" F12627	1 off
64052564 (D3957) ✓	- Suspension unit	" 64052341	2 off
6405263 ✓	Damper unit	" 64052090	Ref only
64543708 ✓	Spring (100 lb) (99-1048)	" 64544754	2 off
F14667 ✓	Centre fixing bolt	" S1823	1 off
F14599 ✓	Twinseat	" F14288	1 off
F13061 ✓	Catch assembly	Deleted	1 off
F12597 ✓	Spring catch assembly	"	1 off
1-40604 ✓	Screw) Twinseat catch	"	1 off
14-1301 ✓	Nut) fixing	"	1 off
S25-3 ✓	Washer - side panel	Added	2 off
F7560 ✓	Seat catch plunger	"	1 off
F4228 ✓	Spring	"	1 off
-	Split pin (3/32" x 1/2")	"	Ref only
E1719A ✓	Washer	"	1 off
F14606 ✓	Body - L.H.) Twin carb	Replaces F12749	1 off
F14607 ✓	Body - R.H.) T120R	" F12750	1 off
F14608 ✓	Body - L.H.) Single carb.	" F12798	1 off
F14609 ✓	Body - R.H.) TR6R, TR6C	" F12797	1 off

continued

F14614	Connector pipe TR6R, TR6C	Replaces	F12625	1 off
F14673	Side panel - L.H.	"	F13859	1 off
F14675	Side panel - R.H.	"	F13860	1 off
14-0102	Bolt - Side panel to air cleaner	"	14-0201	4 off
D2329	Washer) Side panel to	Deleted		4 off
14-1301	Nut) air cleaner	"		4 off
F14595	Rear fender - TR6R, T120R	Replaces	F13566	1 off
F14594	Rear fender - TR6C	"	F13565	1 off
F14600	Bridge - rear mudguard	Added		1 off
14-0102	Bolt)	"		2 off
D2329	Washer) Bridge to mudguard	"		4 off
14-1301	Nut)	"		2 off
F13292	Tool tray	Deleted		1 off
F14601	Mounting platform, coil end			
	tool tray	Replaces	F12571	1 off
14-0102	Bolt) Platform to	"	14-0102	2 off
D2329	Washer) mudguard	"	D2329	2 off
47638	Capacitor pack - 2 CP	Deleted		Ref only
54418528	Cover (99-0767)	"		1 off
54418526	Base plate (99-1160)	"		1 off
B2391	Washer - capacitor bracket	Added		1 off
F14520	Mounting bracket - capacitor	"		1 off
D2427	Washer) Mounting platform	"		2 off
14-0301	Nut) - front fairing	"		2 off
F14677	Rubber strip - tool tray	"		1 off
F6784	Grommet - coil tray	"		2 off
F14610	Battery carrier	Replaces	F12512	1 off
F9355	Buckle	"	F13849	1 off
F7380	Protective strip	"	F13295	4 off
F8255	Protective strip	Deleted		2 off

April, 1972.



SERVICE
BULLETIN
NO. 399

REAR BRAKE CAM - 40 cu.in. (650 cc) MODELS ONLY

Rear brake cam part No. W1083 (C.E.I. condition) will no longer be supplied. This cam will be replaced with the later version part No. W3592 (U.N.F. condition) which will be supplied with the appropriate nut (U.N.F.) part No. 14-0403.

No Longer Supplied

W1083 Rear Brake Cam

Replaced By

W3592 Rear Brake Cam
14-0403 Nut

Dealers are requested to re-order using the latest part numbers.

April, 1972.



SERVICE BULLETIN NO. 400

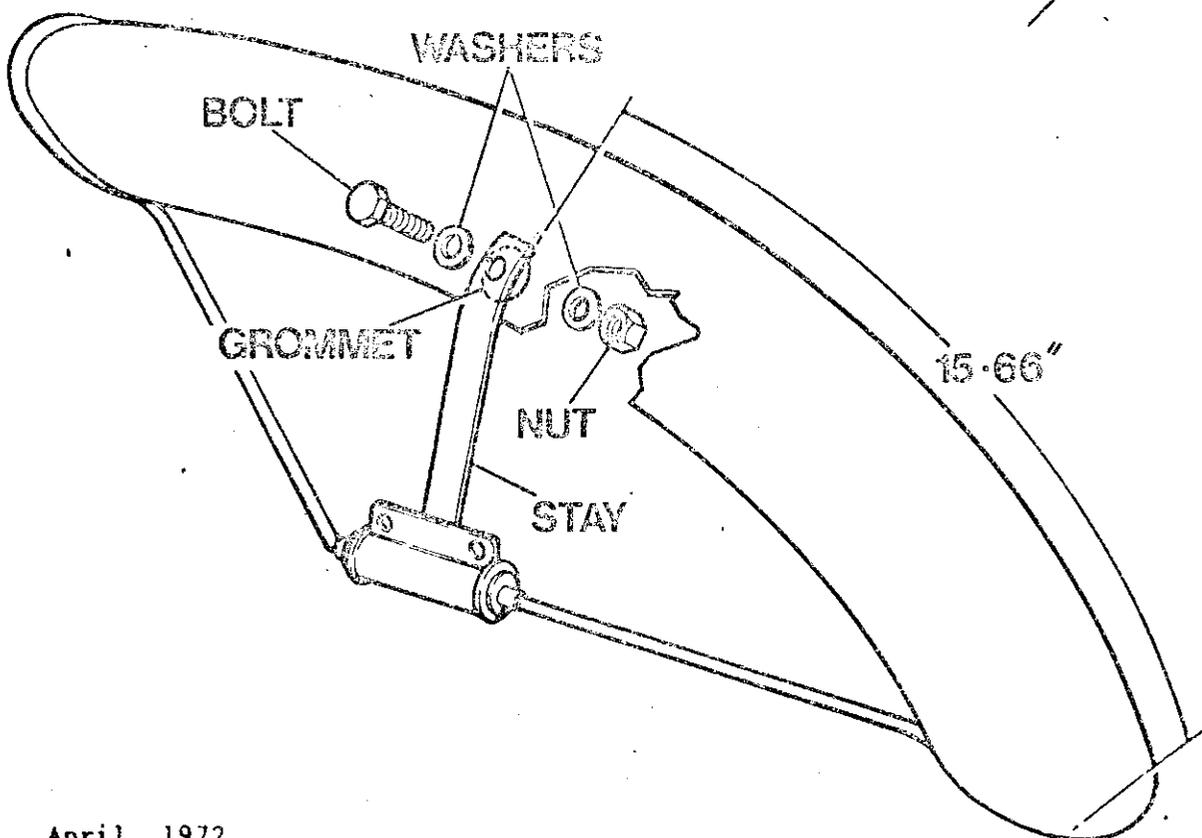
Front Mudguard Stays - B range models (650 cc twins)

The front mudguard currently fitted to 'B' range models have two additional stays welded to the blade from the existing stay.

Should owners of 1971 and early 1972 machines wish to up-date their models, a bolt on stay kit is available from the factory service department under part No. 97-4403 (2 off).

The assembly is made up of the following:-

83-4725	Stay assembly	2 off
60-3370	Grommet	2 off
60-2347	Plain washer	4 off
14-0103	Bolt	2 off
14-1301	Nut	2 off



April, 1972.



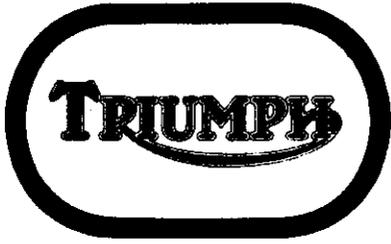
SERVICE BULLETIN NO. 401

REAR CHAINGUARD - 'B' RANGE MODELS (650 c.c.) ONLY

It has been discovered that the rivet fixing the attachment stay to the rear chainguard may foul the chain when the machine is wheeled backwards and cause the spring clip to be detached from the chain.

To eliminate any possibility of this happening simply pull the stay away from the chain and towards the suspension unit.

May 1972.



SERVICE BULLETIN NO. 402

CYLINDER HEAD - T120 MODELS ONLY

The current cylinder head, Part number 71-3446 (complete with valve guides) will replace earlier cylinder heads fitted from engine No. KE 00001 provided the following conditions are adhered to:-

1. Machines up to engine No. GG 50414 can accommodate the current cylinder head provided it is used in conjunction with carburetter adaptors 71-2811 and 71-2812 only.
2. From Engine No. GG 50414 onwards the current cylinder head can only be fitted with the angled adaptors part No. 71-3302 (2 off).

May 1972.



SERVICE BULLETIN NO. 403

REPLACEMENT FRONT FRAME B RANGE MODELS (650 c.c.) ONLY

Front Frame Part No. F7371 is no longer available.

This frame has now been replaced by F11354 together with the following chargeable items:-

2 off	F11356	Plates
2 off	14-025	Bolt
2 off	14-1204	Nut
2 off	S25-1	Washer
1 off	F11560	Prop Stand
1 off	F7021	Pivot Bolt
1 off	14-0703	Nut
1 off	F8392	Spring

May 1972.

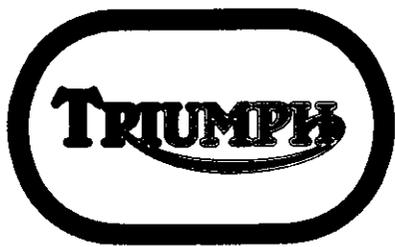


SERVICE BULLETIN NO. 406

TELESCOPIC FRONT FORKS - OIL CAPACITY T150 (750 c.c.) 3 CYLINDER MODEL ONLY

The volume of oil required for each fork leg on all 750 c.c. three cylinder machines is now increased to 230 c.c.

June 1972.



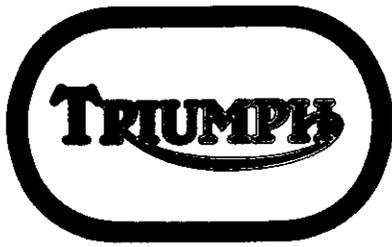
SERVICE BULLETIN NO. 407

OVERSIZE VALVE GUIDES - T150 (750 c.c.) MODELS ONLY

Oversize valve guides in two sizes are now specified as replacement parts for use when servicing the cylinder head.

Guide	Standard Component	1st Oversize + .002"	2nd Oversize + .015"
Valve Guide	E 6420	E 13280	E 13281

June 1972.



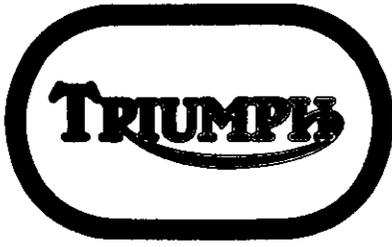
SERVICE BULLETIN NO. 408

OVERSIZE VALVE GUIDES - T25 (250 c.c.) MODELS ONLY

Oversize valve guide in two sizes are now specified as replacement parts for use when servicing the cylinder head.

Guide	Standard Component	1st Oversize Component (+ .002)	2nd Oversize Component (+ .015)
Exhaust	E 12226	E 13321	E 13322
Inlet	E 12231	E 13319	E 13320

June 1972.



SERVICE BULLETIN NO. 411

FRAME - PETROL TANK MOUNTING

FRAME - PETROL TANK MOUNTING - "B" RANGE (650 c.c.) MODELS ONLY

The petrol tank mounting bracket has been modified on all machines produced from engine No. CG 50414. This consists of altering the slot to accommodate a coach bolt instead of the hexagon headed type. See figs. (1) and (2).

When ordering replacement tank fixing bolts please ensure that coach bolt part number F 14667 (U.S.A. only) and F 12776 (Home and General Export) is used with the frame shown in fig. (1), and that the hexagon-headed bolt part No. S 1823 (U.S.A. only) and 14-0224 (Home and General Export) is used with the frame shown in fig. (2).

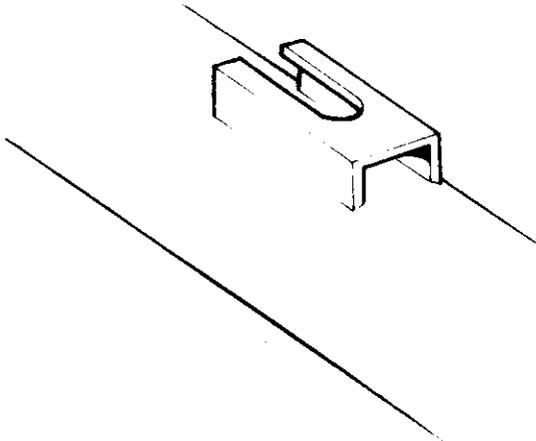


Fig. (1)
Slot facing forward.

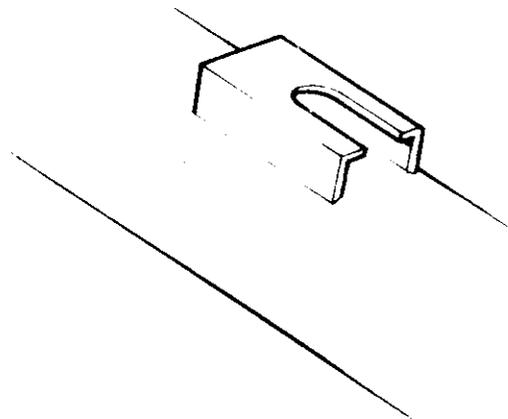
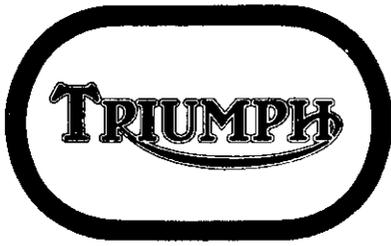


Fig. (2)
Slot facing rear.

June 1972.



SERVICE BULLETIN NO. 414

GEARBOX - 5 SPEED, ALL MODELS

The following parts will no longer be supplied:-

T4380	Mainshaft 1st and 2nd gear
T4387	Layshaft 3rd
T4388	Layshaft 2nd
T4600	Driving dog
T4602	Layshaft 1st gear assembly
T4381	Driving dog
T4391	Layshaft 1st gear assembly
T4368	Selector fork

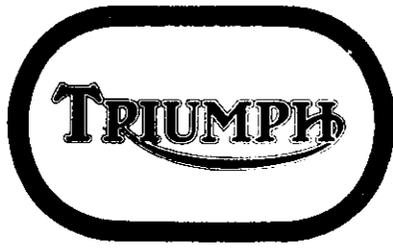
Bushes for the above layshaft 1st and 2nd gears will continue to be supplied as required, i.e. T4577 and T4578.

The above list of parts are now replaced by the following:-

T4654	Layshaft 1st gear assembly
T4653	Mainshaft 1st and 2nd gear
T4657	Layshaft 2nd gear assembly
T4661	Driving dog
T4647	Layshaft 3rd gear
T4660	Selector fork
T4662	Bush - layshaft 2nd gear - as required
T4663	Bush - layshaft 1st gear - as required

Note: When ordering replacement parts either individually or collectively from the first list, the total number of parts in the second list will be required, i.e. the parts in the second list are a matched set and must be fitted as such when servicing earlier gearboxes.

October 1972.



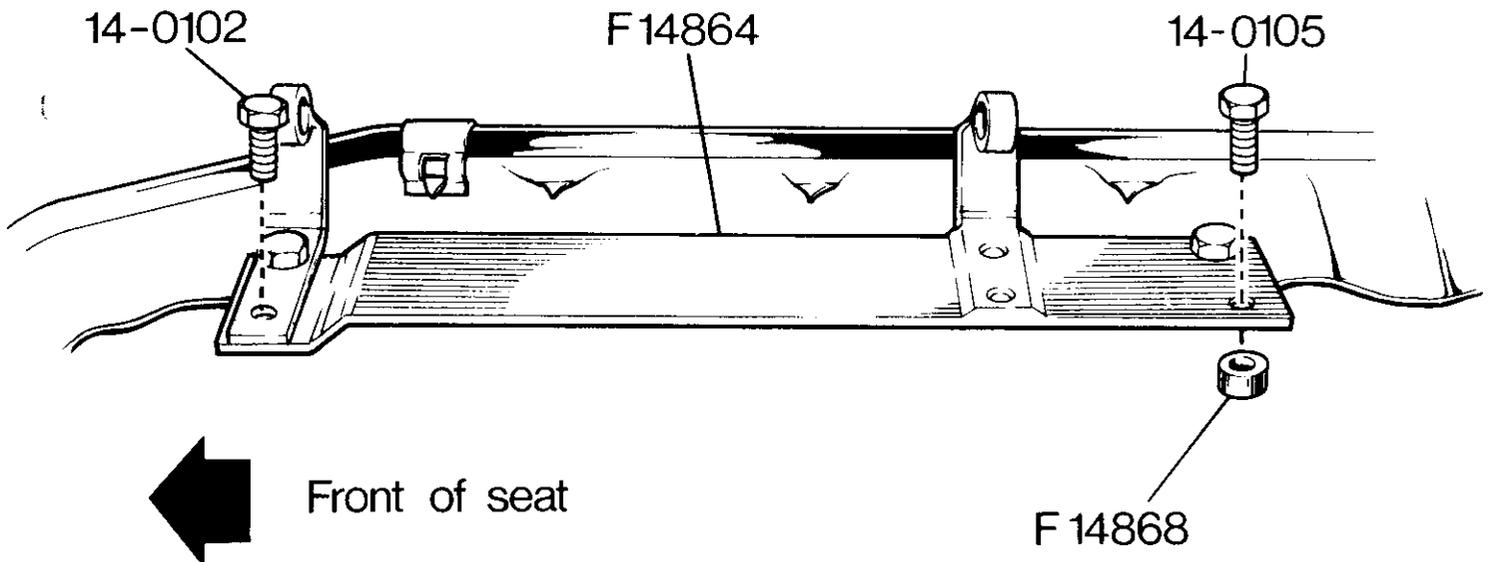
SERVICE BULLETIN NO. 415

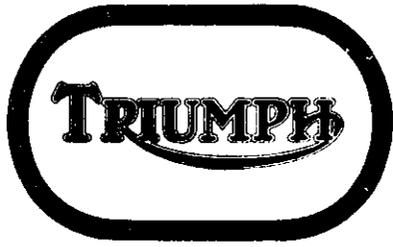
FRAME - "B" RANGE (650 c.c.) MODELS

The frame Part No. F12089 will no longer be supplied and is replaced by Frame Part No. F14283.

However the original seat Part No. F13634 will not fit the later frame Part No. F14283 due to the different hinge positions on the new frame. To avoid the necessity of fitting a new seat when ordering the frame the following list of parts will be required to adapt the old twinseat and they are as follows:-

F14864	Adaptor Assembly	1 off
F14868	Spacers	2 off
14-0102	Bolts	2 off
14-0105	Bolts	2 off





SERVICE BULLETIN NO. 416

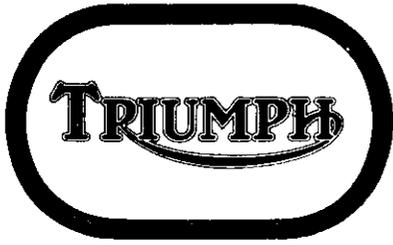
Connecting rods - All 'C' Range Models

Connecting rod E8834 will no longer be available. All orders are cancelled.

Re-order on new Part No. E9915 but,

NOTE:- Connecting rods Part No. E9915 must be fitted in pairs and not mixed individually with E8834.

September 1972.



SERVICE BULLETIN NO. 418

CONNECTING RODS - 250 cc MODELS ONLY

In the interests of standardisation, a new connecting rod E1-3667 replaces connecting rods E-8836, E1-2158 used on engines built prior to the start of the 1971 season.

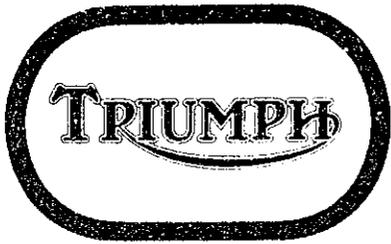
The new rod is readily identified by the use of tab washers to secure the nuts on the big end cap bolts.

The correct connecting rod for engines built subsequent to the start of the 1971 season, serial number JD 00101 onwards remains as E-9911.

The tab washers and nuts associated with the new rod E1-3667 are part numbers E1-3647 and E1-3505 respectively. They can also be used with the rod E-9911 instead of the self locking nuts. Torque settings remain unchanged.

NOTE: Stocks of the two rods referred to in the first paragraph may be returned to the Spares Department for credit and the new rod E1-3667 ordered in replacement.

October 1972.



SERVICE BULLETIN NO. 419

GEARBOX SPROCKET NUT SPANNER - 5 Speed models

Gearbox Sprocket Nut Spanner 61-6125 is now available for all 5 speed models. The current 'B' range Workshop Manual, page J6, shows the wrong part number and illustration for the above spanner.

Also spanner part No. 61-6061 listed in the Trident Workshop Manual may be used in place of Z63 for 'B' range 4 speed models.

Would dealers please amend their records accordingly.

October 1972.



SERVICE BULLETIN NO. 420

ALTERNATOR - ALL 750 c.c. THREE CYLINDER (T150) MACHINES

Errors have been revealed in certain Replacement Parts Lists concerning the correct part numbers for the rotor and the stator. The position however can be resolved by Dealers adhering to the following:-

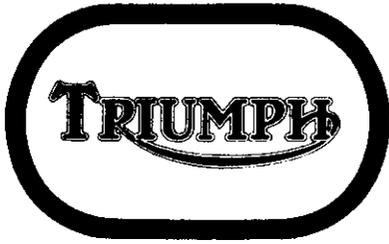
When ordering replacement rotors or stators for all T150 machines use the part numbers listed below:

54213902	(99-1138)	-	RM20	(Wide rotor)
47205	(99-1016)	-	RM21	(Narrow stator)

The above arrangement will replace the original RM20 Trident equipment as the output is almost identical.

Would Dealers please alter their records and re-order accordingly.

November, 1972.



SERVICE BULLETIN NO. 421

CRANKCASE ASSEMBLIES - ALL 750 c.c. THREE CYLINDER (T150) MODELS.

The following crankcase assemblies will no longer be supplied:-

71-2421

71-1008

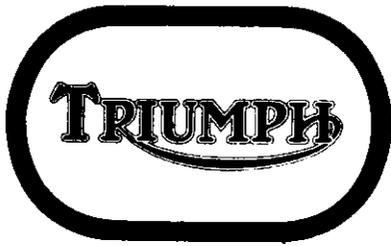
70-9002

All the above conditions will be replaced by crankcase assembly 71-3215.

Note:- When ordering replacements for E9002, order assembly
71-3215 with 51-3989 selector rod.

Would dealers please amend their records and re-order accordingly.

November, 1972.



SERVICE BULLETIN NO.

422

REAR BRAKE DRUM - 'B' AND 'C' RANGE (650cc and 500cc)

Rear brake drum part number 37-1498 (CEI condition) will no longer be supplied. All orders are cancelled.

The above drum is replaced by 37-3585 in conjunction with 21-2010 sprocket bolt (UNF condition). - 8 off.

Would dealers amend their records and re-order accordingly.

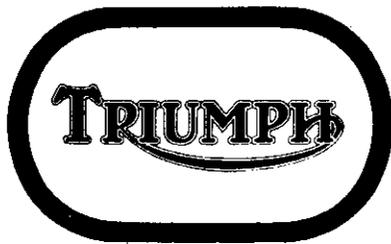
December 1972.

ISSUED BY:

ISSUED BY:

SERVICE DEPT. TRIUMPH ENG.CO.LTD.MERIDEN WORKS.ALLESLEY.COVENTRY CV5 9AU

SERVICE DEPT. TRIUMPH ENG. CO. LTD. MERIDEN WORKS, ALLESLEY, COVENTRY CV59AU



SERVICE BULLETIN NO. 423

PISTON ASSEMBLIES - All 750cc Twin Cylinder Models "B" Range

All machines are currently fitted with the following piston assemblies (75mm bore):-

71-3349 Piston assembly - Std. 2 off
71-3352 Compression ring - Std. 4 off
71-3353 Scraper ring - Std. 2 off
71-3728 Cylinder barrel - Std. 1 off

Note:- Only one oversize condition is available for the above, i.e. bore +0.040", and uses 71-3676 Piston assembly.

All models produced after engine no. T140V XH 22019 will be fitted with 76mm bore piston + a range of oversizes as detailed below.

76mm bore:-
71-3676 Piston assembly - Std. 2 off
71-3690 Compression ring - Std. 4 off
71-3695 Scraper ring - Std. 2 off

71-3686 Piston assembly +0.101" - 2 off 71-3687 Piston assembly +0.020"-2 off
71-3691 Compression ring +0.010" -4 off 71-3692 Compression ring +0.020"-4 off
71-3696 Scraper ring +0.010" - 2 off 71-3697 Scraper ring +0.020" - 2 off

71-3689 Piston assembly +0.040" - 2 off
71-3694 Compression ring +0.040" - 4 off
71-3699 Scraper ring +0.040" - 2 off

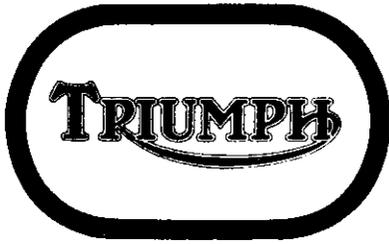
The above parts to be used in conjunction with 71-3700 Gudgeon pin circlip
71-3679 Cylinder block
71-3681 Head gasket

When current stocks of the 75mm bore condition are exhausted the following supercession will apply:

For 71-3349 bore +0.040 and use 2 off 71-3676 piston and
71-3681 head gasket.

For 71-3728 cylinder block use 71-3679 with 2 off 71-2676 piston
and 71- 3681 head gasket.

January 1973.



SERVICE BULLETIN

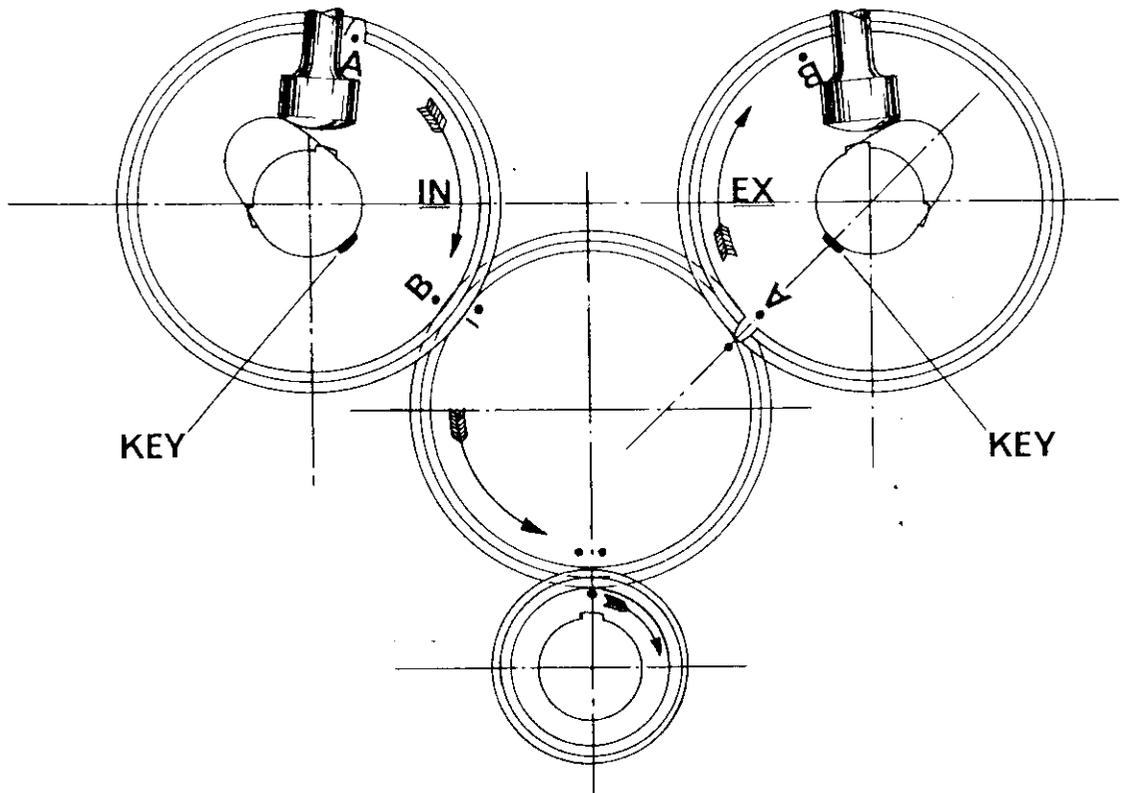
NO. 424

TIMING GEARS - ALL 750 c.c. TWIN CYLINDER MODELS - "B" RANGE

The inlet and exhaust timing gears fitted to the 750 c.c. twin cylinder models are each stamped with two sets of valve timing marks.

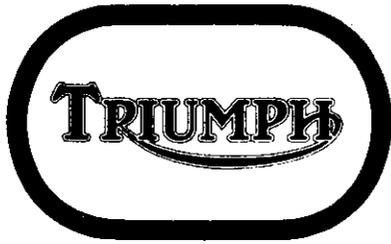
From engine number TR7RV 21257 these marks are ~~identical~~^{AS} with the accompanying ~~Passport~~^{Passport} "A" and "B" models built prior to this engine number are without such identification and to ensure that confusion does not arise when removing/replacing the gears from their respective camshafts, reference should be made to the valve timing diagram below.

Note the position of the timing marks relative to the keyway in use.



Valve timing arrangement 750 c.c. twin cylinder.

January 1973.



SERVICE BULLETIN NO. 425

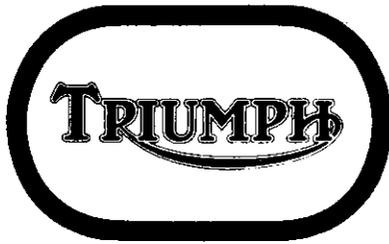
CARBURETTOR INDUCTION TUBE - 1972 TR5T - TROPHY TRAIL MODELS ONLY

Because of the differential in pressure between the intake charge and the surrounding atmosphere it has been discovered that under certain conditions the rubber intake tube (Part No. 83-4450) can collapse.

To solve the above condition a coil spring, Part No. 83-5256 is available that can be inserted inside the induction tube (Part No. 83-4450). This spring will not be fitted as original equipment and will not be necessary for 1973 machines.

However the spring will be made available through normal spares channels for owners of 1972 machines who find it necessary.

January 1973.



SERVICE BULLETIN

NO. 426

NEW EXHAUST SYSTEM REQUIREMENTS FOR ALL 1973 MODELS
OPERATIONAL FROM JANUARY 1st 1973

To comply with new noise level requirements exhaust systems on all machines have been re-designed to suit. The components involved for each range of machines are detailed below together with corresponding replacements.

500c.c. TWIN CYLINDER MODELS - 'C' RANGE

<u>CURRENT PART</u>	<u>REPLACED BY.</u>
7I-2628 Exhaust Pipe - L.H. - 1. off	7I-3803 Exhaust Pipe - L.H. -1. off
7I-2629 Exhaust Pipe - R.H. - 1. off	7I-3807 Exhaust Pipe - R.H. -1. off
7I-2017/8 Silencer - 2. off	7I-3723 Silencer -2. off
2I-1910 Pillion Footrest Bolt. - 2. off	I4.0I28 Pillion Footrest Bolt. -2. off

ADDITIONAL PARTS ARE:-

7I-3810 Silencer Bracket - L.H. - 1. off
7I-3811 Silencer Bracket - R.H. - 1. off

750c.c. TWIN CYLINDER MODELS - 'B' RANGE MODELS.

<u>CURRENT PART.</u>	<u>REPLACED BY.</u>
7I-3056 Exhaust Pipe - L.H. -1. off	7I-3755 Exhaust Pipe - L.H. - 1. off
7I-3059 Exhaust Pipe - R.H. -1. off	7I-3758 Exhaust Pipe - R.H. - 1. off
7I-2383 Silencer -2. off	7I-3723 Silencer - 2. off
7I-3487 Hanger -2. off	7I-3761 Hanger - 2. off

continued

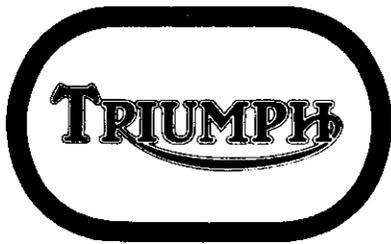
750 c.c. THREE CYLINDER - T.150V.

CURRENT PART

REPLACED BY.

83-3218 Front Frame - 1. off	83-5240 Front Frame - 1. off
71-2451 Exhaust Pipe -L.H. - 1.off	71-3812 Exhaust Pipe L.H.-1.off
71-2453 Exhaust Pipe -R.H. - 1.off	71-3815 Exhaust Pipe R.H.-1.off
71-2382 Silencer - 2.off	71-3723 Silencer 2.off
70-4711 Hanger - 2.off (71-3817 Hanger - L.H. 1.off
(71-3828 Hanger - R.H. 1.off (
71-2460 Silencer Bracket - L.H. - 1.off.	71-3810 Silencer Brkt. LH -1.off
71-1848 Silencer Bracket . R.H. - 1.off.	71-3811 Silencer Brkt. RH -1.off
21-1910 Pillion Footrest Bolt - 2.off.	14-0128 Pillion Footrest Bolt -2.off

JANUARY 1973.



SERVICE BULLETIN

NO.

427

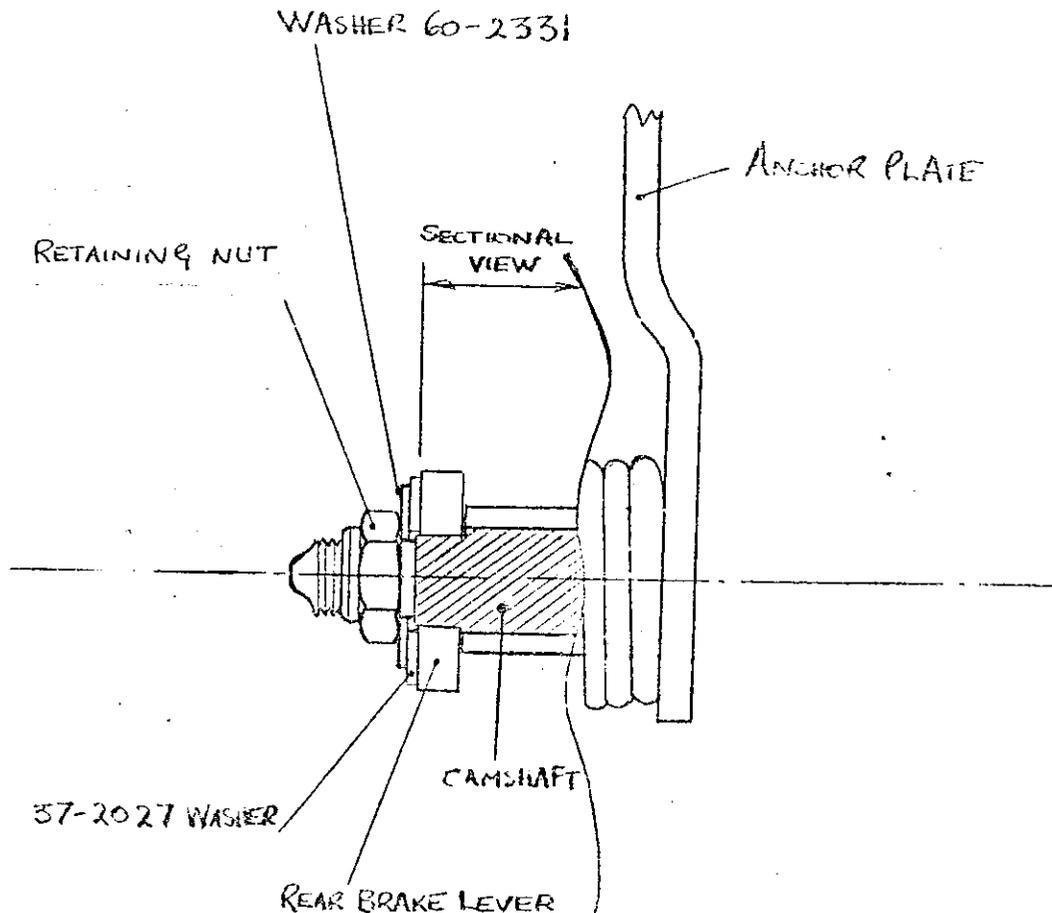
SPECIAL EDITION.

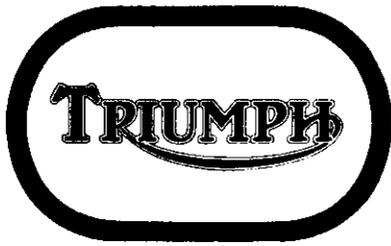
REAR BRAKE OPERATING ARM - ALL 1973 750 c.c. THREE CYLINDER MACHINES
FITTED WITH A STEEL REAR BRAKE ANCHOR PLATE.

It has been brought to our attention by manufacturing that excessive play has been discovered at the rear brake operating lever due to an oversize dimension on the brake cam spindle. This can be visually identified by the fact that the square spigot onto which the brake lever is pressed protrudes from the face of the lever.

To overcome this problem the washer (37-2027) at present in use between the brake lever and the retaining nut must be opened up to 9/16" diameter and a plain std 3/8" diameter washer (60-2331) fitted between the enlarged washer and the retaining nut.

Refer to the diagram below for the correct assembly details.





SERVICE BULLETIN NO. 428

SERVICE LITERATURE

This Bulletin contains details of all currently available literature. This literature is only obtainable through Triumph Spares Stockists with the exception of Technical Information Bulletins which are available free of charge from the Service Department or a Spares Stockist.

The prices quoted are recommended retail and are subject to a Dealer's proprietary discount of 25%.

This Company reserves the right to change any specification, description or part number in any publication without giving prior notice.

February 1973.

PART NO.	DESCRIPTION	ENGINE NUMBERS OR MODEL YEAR	PRICE (P)
T20 Models 199 c.c.			£ p
99-0811	Parts Catalogue No. 8	From 81890	1.00
99-0812	Parts Catalogue No. 9	From 94600	1.00
99-0813	Parts Catalogue No. 10	From 99720	1.00
99-0814	Parts Catalogue No. 1	From 101	1.00
99-0815	Parts Catalogue	T20B & T20SC	1.00
99-0833	Workshop Manual No. 8	All T20 up to 1964	1.00
99-0834	Owners Handbook	T20, T20SS & T20SH from 88347	0.45
99-0835	Owners Handbook	T20B, T20M & T20SH from 101	0.45
650 and 750 c.c. Twin Cylinder Models			
99-0819	Parts Catalogue No. 16	From 029364	1.00
99-0821	Parts Catalogue No. 2	From DU5825	1.00
99-0822	Parts Catalogue No. 3	From DU13375	1.00
99-0823	Parts Catalogue No. 4	From DU24875	1.00
99-0824	Parts Catalogue No. 5	From DU44394	1.00
99-0825	Parts Catalogue No. 6	From DU66246 U.K. & General Export	1.00
99-0880	Parts Catalogue No. 6	From DU66246 USA only	1.00
99-0881	Parts Catalogue No. 7	From DU85904 U.K. & Gen. Export	1.00
99-0882	Parts Catalogue No. 7	From DU85904 U.S.A. only	1.00
99-0901	Parts Catalogue	1970 U.K. & General Export	1.00
99-0903	Parts Catalogue	1970 U.S.A. (combined with 500 cc)	2.75
99-0932	Parts Catalogue	1971 USA (U.K. Supplement available)	1.00
99-0953	Parts Catalogue	1972 USA (UK Supplement available)	1.00
99-0980	Parts Catalogue	1973 USA (UK Supplement available)	1.00
99-0836	Workshop Manual No. 11	1946 - 1955 inclusive	1.00
99-0837	Workshop Manual No. 17	1956 - 1962 inclusive	1.00
99-0883	Workshop Manual	Up to 1968	2.75
99-0889	Workshop Manual	1969	2.75
99-0947	Workshop Manual	1971 - 1972	2.75
99-0884	Owner Handbook	From DU101 U.K. & General Export	0.45
99-0839	Owner Handbook	From DU44394 U.K. & Gen. Export	0.45
99-0840	Owner Handbook	From DU44394 U.S.A.	0.45
99-0878	Owner Handbook	From DU66246 U.K. & Gen. Export	0.45
99-0879	Owner Handbook	From DU66246 U.S.A.	0.45

PART NO.	DESCRIPTION	ENGINE NUMBERS OR MODEL YEAR	PRICE (P)
			£ p
99-0877	Owner Handbook	From DU85904 U.K. & Gen. Export	0.45
99-0876	Owner Handbook	1969 U.S.A.	0.45
99-0891	Owner Handbook	1970 U.S.A.	0.45
99-0892	Owner Handbook	1970 U.K. & Gen. Export	0.45
99-0930	Owner Handbook	1971 U.S.A.	0.45
99-0931	Owner Handbook	1971 U.K. & General Export	0.45
99-0951	Owner Handbook	1972 U.S.A.	0.45
99-0952	Owner Handbook	1972 U.K. & General Export	0.45
99-0974	Owner Handbook	1973 U.S.A.	0.45
99-0975	Owner Handbook	1973 U.K. & General Export	0.45

350 and 500 c.c. Twin Cylinder Models

99-0826	Parts Catalogue No. 3	From H11512	1.00
99-0827	Parts Catalogue No. 4	From H18612	1.00
99-0828	Parts Catalogue No. 5	From H32465	1.00
99-0829	Parts Catalogue No. 6	From H35987	1.00
99-0830	Parts Catalogue No. 7	From H40528	1.00
99-0831	Parts Catalogue No. 8	From H49833	1.00
99-0832	Parts Catalogue No. 9	From H57083	1.00
99-0885	Parts Catalogue No. 10	From H65573	1.00
99-0902	Parts Catalogue No. 11	1970 U.K. & General Export	1.00
99-0903	Parts Catalogue	1970 USA (Combined with 650 c.c.)	2.75
99-0934	Parts Catalogue	1971 USA with U.K. & Gen. Export Supplement	1.00
99-0954	Parts Catalogue	1972 USA with UK & Gen. Export Supplement	1.00
99-0981	Parts Catalogue	1973 USA with UK & Gen. Export Supplement	1.00
99-0973	Parts Catalogue	TR5T 1973 U.S.A. only	1.00
99-0842	Workshop Manual No. 4	Up to 1963	1.00
99-0948	Workshop Manual	1972 and previous	2.75
99-0886	Owner Handbook	From H32465	0.45
99-0873	Owner Handbook	From H49833	0.45
99-0875	Owner Handbook	From H57083 U.K. & General Export	0.45
99-0874	Owner Handbook	From H65573 U.K. & General Export	0.45
99-0872	Owner Handbook	From H65573 U.S.A.	0.45

PART NO.	DESCRIPTION	ENGINE NUMBERS OR MODEL YEAR	PRICE (P)
			£ p
99-0893	Owner Handbook	1970 U.S.A.	0.45
99-0894	Owner Handbook	1970 U.K. & General Export	0.45
99-0907	Owner Handbook	French	0.45
99-0925	Owner Handbook	1971 U.S.A.	0.45
99-0926	Owner Handbook	1971 U.K. & General Export	0.45
99-0956	Owner Handbook	1972 U.S.A.	0.45
99-0960	Owner Handbook	1972 U.K. & General Export	0.45
99-0958	Owner Handbook	1973 TR5T U.S.A. only	0.45
99-0979	Owner Handbook	1973 U.K. & General Export	0.45
99-0978	Owner Handbook	1973 U.S.A.	0.45

T150 750 c.c. 3 Cylinder Models

99-0866	Parts Catalogue	2nd Edition from T150T 101	1.00
99-0904	Parts Catalogue	1970 with USA variant supplement	1.00
99-0943	Parts Catalogue	1971 USA with U.K. & Gen. Export Supplement	1.00
99-0955	Parts Catalogue	1972 USA with U.K. & Gen. Export Supplement	1.00
99-0972	Parts Catalogue	1973 USA with U.K. & Gen. Export Supplement	1.00
99-0967	Parts Catalogue	1973 X75 USA only	1.00
99-0867	Owners Handbook	1969	0.45
99-0890	Owners Handbook	1970	0.45
99-0937	Owners Handbook	1971 U.K. & General Export	0.45
99-0938	Owners Handbook	1971 USA	0.45
99-0961	Owners Handbook	1972 U.K. & General Export	0.45
99-0957	Owners Handbook	1972 USA	0.45
99-0968	Owners Handbook	1973 U.K. & General Export	0.45
99-0970	Owners Handbook	1973 USA	0.45
99-0966	Owners Handbook	1973 X75 USA only	0.45
99-0887	Workshop Manual	1970 and previous	2.75
99-0963	Workshop Manual	1971	2.75

TR25W, T25T and T25SS, 250 c.c. Models

99-0870	Parts Catalogue	1968	1.00
99-0871	Parts Catalogue	1969	1.00
99-0906	Parts Catalogue	1970	1.00

PART NO.	DESCRIPTION	ENGINE NUMBERS	PRICE (P) £ p
		OR MODEL YEAR	
99-0929	Parts Catalogue	1971 USA with UK & Gen. Export Supplement	1.00
99-0868	Owners Handbook	1969 U.K. & General Export	0.45
99-0869	Owners Handbook	1969 U.S.A.	0.45
99-0895	Owners Handbook	1970 U.S.A.	0.45
99-0896	Owners Handbook	1970 U.K. & General Export	0.45
99-0927	Owners Handbook	1971 U.S.A.	0.45
99-0928	Owners Handbook	1971 U.K. & General Export	0.45
99-0921	Workshop Manual	1970 and previous	2.75
99-0945	Workshop Manual	1971 T25T/T25SS	2.75

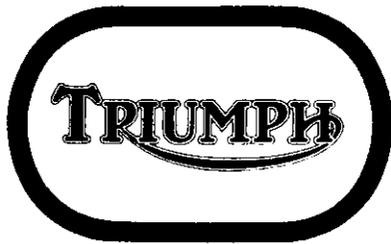
) SCOOTER - TINA AND T10

99-0850	Parts Catalogue	Tina	0.30
99-0848	Owners Handbook	Tina	0.25
99-0852	Wall Chart No. 20	Tina	0.15
99-0853	Wall Chart No. 21	Tina	0.15
99-0854	Wall Chart No. 22	Tina	0.15
99-0855	Wall Chart No. 23	Tina	0.15
99-0851	Parts Catalogue	T10	0.40
99-0847	Owners Handbook	T10	0.25
99-0849	Workshop Manual	T10	0.70

) Additional Literature

99-0846	Master Price List	All models	0.75
99-0897	Parts Managers Index	1967 All models	0.30
99-0898	Parts Managers Index	1968 All models	0.30
99-0899	Parts Managers Index	1969 All models	0.30
99-0919	Parts Managers Index	1970 All Models	0.30
99-0950	Parts Managers Index	1971 All Models	0.30
99-0959	Parts Managers Index	1972 All Models	0.30
99-0910	Multi Model Handbook	Spanish	0.90
99-0900	Multi Model Handbook	French	0.90
99-0909	Multi Model Handbook	German	0.90
99-0911	Wall Chart, Engine Unit	650 c.c. Unit Construction	0.25
99-0912	Wall Chart, Engine Unit	350/500 c.c. Unit Construction	0.25

PART NO.	DESCRIPTION	ENGINE NUMBERS	PRICE (P)
		OR MODEL YEAR	
99-0913	Wall Chart, Engine Unit	TR25W	£ p 0.25
99-0914	Wall Chart, Engine Unit	T150	0.25
99-0915	Wall Chart, Forks	All Models (exploded)	0.25
99-0916	Wall Chart, Carburetter	All Models	0.25
99-0917	Wall Chart, Gearbox	650 c.c. Unit Construction	0.25
99-0918	Wall Chart, Gearbox	350/500 c.c. Unit Construction	0.25
99-0920	Wall Chart, Wiring Diagram	T150	0.25
99-0922	Wall Chart, G/Box Summary	650 c.c. Unit Construction	0.25
99-0923	Wall Chart, Service	All Models	0.25
99-0924	Wall Chart, Forks, How they Work	1969/70	0.25
99-0946	Wall Chart, Forks	1971	0.25
99-0962	Wall Chart, 5 Speed Gearbox		0.25
99-0964	Wall Chart, Wiring	650 c.c. Unit Construction 1971/1972	0.25
99-0936	Warranty Operations Manual	U.K. All Models	0.50
99-0939	Warranty Operations Manual	USA All Models	0.50
99-0940	Warranty Operations Manual	Italian All Models	0.50
99-0941	Warranty Operations Manual	German All Models	0.50
99-0942	Warranty Operations Manual	French All Models	0.50
99-0944	Parts Catalogue Binder	All 1971 books	0.75
T.I.B. 2	Technical Information Bulletin	Pre Unit 500/650 c.c. Models	-
T.I.B. 4	Technical Information Bulletin	T20	-
T.I.B. 13	Technical Information Bulletin	Unit Construction 350/500 c.c.	-
T.I.B. 14	Technical Information Bulletin	Unit Construction 650 c.c.	-



SERVICE BULLETIN NO. 429

CRANKSHAFT - ALL 750 c.c. THREE CYLINDER MODELS

As from engine number PG 01603 (Trident) and PG 1842 (TRX 75 Hurricane) a new crankshaft was introduced to achieve the necessary emergency start requirements.

This new crankshaft (part No. 71-3307) differs from the original component (part No. 70-8778) by having two separate Woodruff keys for the cam timing pinion and rotor as opposed to one long single key for the pinion and rotor. The new Woodruff keyway position for the rotor is offset approximately 196 degrees from the original single keyway location but the new Woodruff keyway for the cam timing pinion remains in the original position.

It will be noted that rotors fitted to all three cylinder engines since June 1971 carry three additional ignition timing marks. These new timing marks are designated "B" whereas the original timing marks are designated "A".

The rotor timing marks "A" must be used on all single keyway crankshafts (70-8778) and timing marks "B" used on all two keyway crankshafts (71-3307).

The original crankshaft (70-8778) will no longer be supplied when present stocks are exhausted and will be replaced by the new crankshaft (71-3307) which will be supplied with two Woodruff keys (part No. 70-1580 for pinion and ~~part No. 99-1138~~ for rotor) ex works.

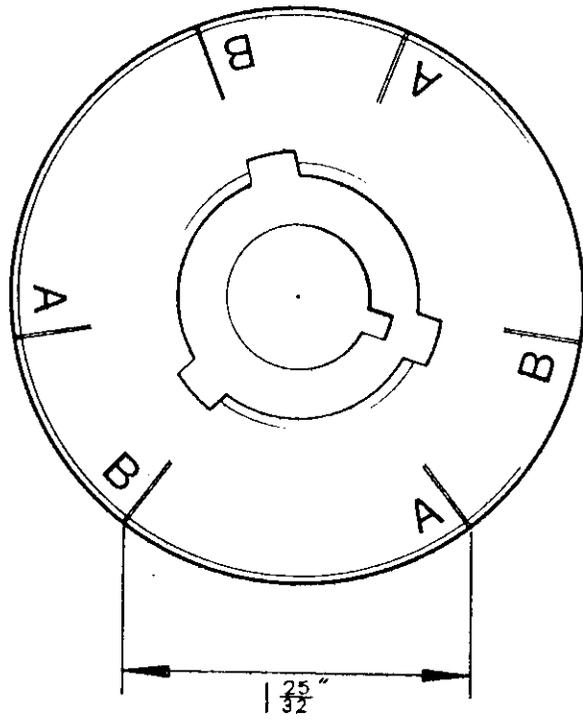
NOTE:

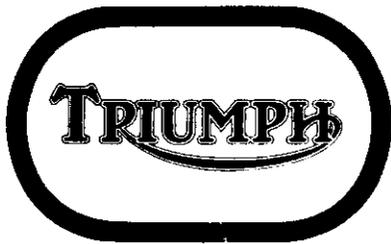
In the event of a new crankshaft being used as a replacement for an original component, it is imperative that a later type rotor (part No. 99-1138) carrying "B" timing marks is used in conjunction with it, or the original rotor is re-marked to the following instructions, if an emergency start system is required.

To add "B" timing marks to a rotor which only carries "A" (or undesignated) timing marks, the following procedure should be employed:-

With a pair of dividers or compasses, measure off in a clockwise direction from the original "A" marks $1 \frac{25}{32}$ inches at the extreme edge of the rotor. The position thus obtained should then be permanently marked with a line which passes from it to the centre of the rotor (as in the diagram shown overleaf.)

February 1973.

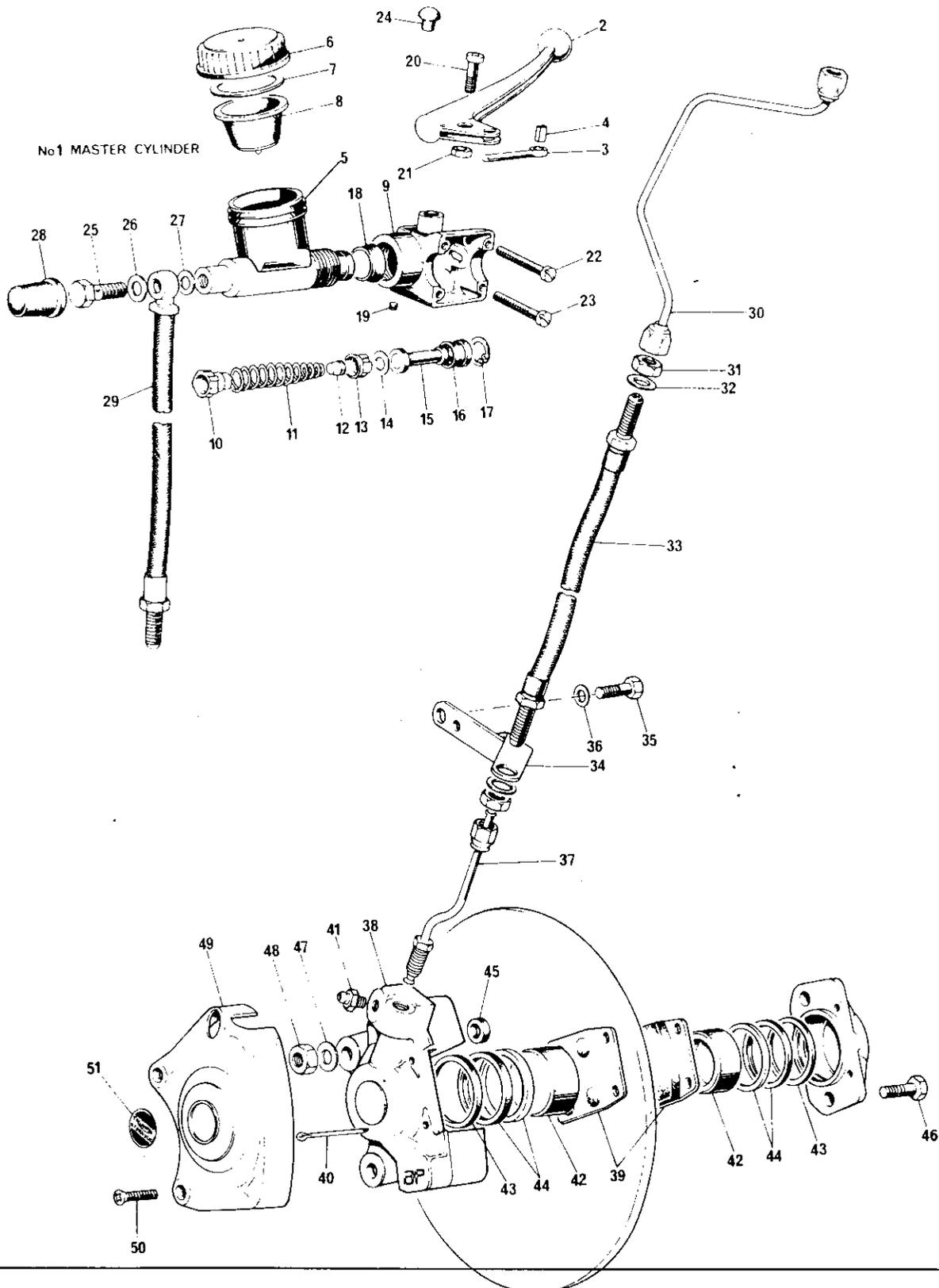




SERVICE BULLETIN

NO. 430A

HYDRAULIC FRONT BRAKE - ILLUSTRATION OF COMPONENTS

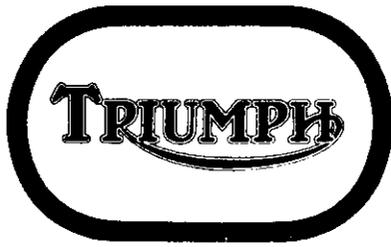


1	4222-979	MASTER CYLINDER (60-4102)	1
2	60-4206	Brake lever assy	1
3	3761-270	Piston	Ref. only
4	3528-441	Spiral pin	Ref. only
5	4221-072	Barrel and tank assy. (99.2770)	1
6	3847-240	Cap (99-2751)	1
7	60-4328	Washer	1
8	* 3818-747	Diaphragm (99-2752)	1
9	3338-901	Switch housing (99-2753)	1
10	* 4312-318	Trap valve (99-2754)	1
11	3118-234	Spring (99-2755)	1
12	3675-216	Spring retainer (99-2756)	1
13	* 3842-424	Primary cup (99-2757)	1
14	* 106418	Piston washer (99-2758)	1
15	3261-542	Piston (99-2759)	1
16	* 3871-473	Secondary cup (99-2760)	1
17	K29103	Circlip (99-2761)	1
18	* 3811-420	Rubber boot (99-2762)	1
19	3476-209	Grub screw (99-2763)	1
20	21-2191	Pivot screw	1
21	14-1201	Nut	1
22	21-2192	Screw)	2
23	21-2194	Screw) Switch assy, to housing	2
24	70-7573	Plug	1
25	30420	Banjo bolt (60-4183)	1
26	KL4516	Sealing washer (60-4182)	1
27	KL4518	Sealing washer (60-4184)	1
28	60-4186	Rubber boot	1
29	KL58505	Hose, master cylinder to top yoke (60-4176)	1
30	ZT2071N	Pipe, top yoke to bottom yoke (60-4179)	1
31	K24103	Locknut (60-4180)	3
32	K19407	Washer (60-4181)	3
33	KL56612	Hose, bottom yoke to fork leg (60-4175)	1
34	83-5150	Bracket, pipe support	1
35	14-0103	Bolt)	2
36	60-2427	Washer) Bracket to fork leg	2
37	ZTA2070N	Pipe, fork leg to caliper (60-4178)	1
38	4823-432	CALIPER (60-4101)	1
39	+ 4741-537	Brake pad	Ref. only
40	+ K19866TP2	Retaining pin	Ref. only
41	3486-229	Bleed nipple (99-2764)	1
42	3275-428	Piston (99-2765)	2
43	96498	Fluid seal (99-2766)	2
44	SSB72075	Retainer (99-2767)	2
45	102799	Fluid seal	Ref. only
46	3437-307	Bolt	Ref. only
47	60-2331	Washer)	2
48	14-1303	Nut) Caliper to outer member	2
49	37-4170	Cover, caliper	2
50	21-2196	Screw, cover attachment	2
51	60-4156	Decal, caliper cover	1

* Master cylinder repair kit 99-2768

+ Brake pad kit 99-2769

JUNE 1973



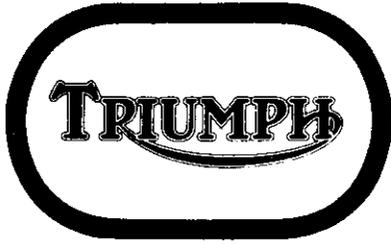
SERVICE BULLETIN NO. 430

HYDRAULIC FRONT BRAKE - T140V/TR7RV and T150

The following Lockheed parts are now available, and when required should be ordered in the usual manner using the 99- part number.

99-2770	Barrel and Tank Assy.	(Lockheed 4221-072)	1 off
99-2751	Cap	(Lockheed 3847-240)	1 off
* 99-2752	Diaphragm	(Lockheed 3818-747)	1 off
99-2753	Switch Housing	(Lockheed 3338-901)	1 off
* 99-2754	Trap Valve	(Lockheed 4312-318)	1 off
99-2755	Spring	(Lockheed 3118-234)	1 off
99-2756	Spring Retainer	(Lockheed 3675-216)	1 off
* 99-2757	Primary Cup	(Lockheed 3842-424)	1 off
* 99-2758	Piston Washer	(Lockheed 106418)	1 off
99-2759	Piston	(Lockheed 3261-542)	1 off
* 99-2760	Secondary Cup	(Lockheed 106420)	1 off
99-2761	Circlip	(Lockheed K29103)	1 off
* 99-2762	Rubber Boot	(Lockheed 3811-420)	1 off
99-2763	Grub Screw	(Lockheed 3476-209)	1 off
99-2764	Bleed Nipple	(Lockheed 3486-229)	1 off
99-2765	Piston	(Lockheed 3275-428)	2 off
99-2766	Fluid Seal	(Lockheed 96498)	2 off
99-2767	Retainer	(Lockheed SS872075)	2 off
99-2769	Brake Pad Kit	(Lockheed LDB750M64)	1 off
* 99-2768	Master Cylinder Repair Kit	(Lockheed SSB 930)	1 off

MAR 1977



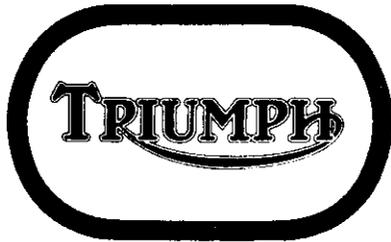
SERVICE BULLETIN NO. 431

CAP WASHER FOR HYDRAULIC RESERVOIR - All Disc Brake Models.

A paper washer part number 60-4328 is now available for the front brake reservoir on all disc brake models. The function of this washer is to prevent the cap seizing and consequently being difficult to unscrew.

The washer must be fitted between the rubber diaphragm and the screwed cap.

March 1973.



SERVICE BULLETIN NO. 32

CYLINDER BLOCK AND PISTON GRADING - ALL 750 c.c. TWIN 76 mm.

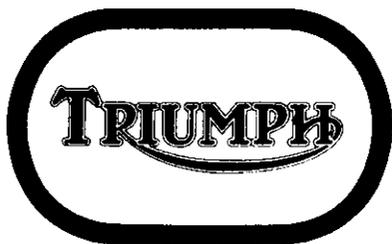
Standard piston assembly, part number 71-3676 is graded during engine assembly to suit each cylinder barrel. The pistons are identified by a letter stamped on the piston crown and the barrels with a similar stamping on the face of the top fin adjacent to the appropriate bore. When ordering replacement standard pistons and standard size cylinder blocks, please ensure that the appropriate grading letter accompanies the part number, e.g. 71-3676(H)

CYLINDER BLOCK AND PISTON GRADING

	LOW (L)		MEDIUM (M)		HIGH (H)	
Diameter of Piston (ins)	2.9874	2.9871	2.9878	2.9875	2.9882	2.9879
Bore size (mm)	75.973	75.980	75.990	75.983	76.000	75.993

Piston diameters are measured at the skirt of the piston, at right angles to the gudgeon pin axis.

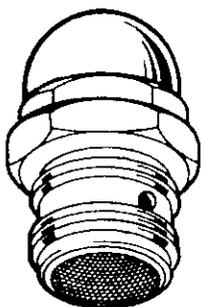
March, 1973.



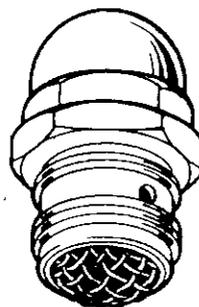
SERVICE BULLETIN NO. 433

PRESSURE RELEASE VALVE - All Models

Two types of pressure release valve are in current use, i.e. 71-3447 and 70-6595. It is important that 71-3447 is fitted to all models except 750 c.c. three cylinder T150. This valve uses a fine gauze filter. A coarse gauze filter Pt. No. 70-6595 is fitted to 750 c.c. three cylinder models and should not be confused with a fine gauze filter. For clarification see diagram below.

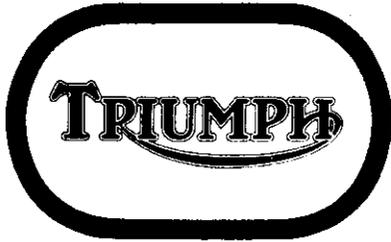


71-3447 (Fine Gauze)



70-6595 (Coarse Gauze)

April 1973.



SERVICE BULLETIN NO. 1. 434

WARRANTY CREDIT CLAIMS - V.A.T.

The introduction of V.A.T. has necessitated a change in the completion of the Home Market Warranty Claim Forms. It is therefore absolutely essential that the changes stated in the following instructions are used when completing these forms.

- (1) The space allocated for 'Frame number' must be left blank. This space will be used for V.A.T. coding by the Service Warranty department.
- (2) The date when entered below the 'Owners signature' on the old type form will be necessary for V.A.T. It must be stated.
- (3) On the later current type form the date position following the 'Approved by Dealer' signature will be used for this purpose.

The date to be entered in (2) and (3) must be that date when the owner has signed that the work has been completed to his/her satisfaction.

Any form submitted and not having these dates entered will be returned.

April 1973.



WARRANTY CREDIT CLAIM

Submit within 10 days of completion of work.

DEALER: Hold parts for 60 days unless otherwise notified

LEAVE BLANK

HO N^o 3146

Owner's Name

Address

Work Order Date: Phone:

Approved by Dealer: Date:

Service Completed to my Satisfaction

Owner's Signature

Engine No.	MODEL	#
Frame No.		#
Date of Purchase	DAY MONTH YEAR	#
CIRCLE ONE CLAIM TYPE 1. Defect in Service. 2. Transit Damage. 3. Shortages. 4. Defective Spares.		#
MILEAGE		#
DEFECT CODE	LABOUR CODE	N/L



DATE REQUIRED AFTER CUSTOMER HAS SIGNED.

> HO N^o 011387

Engine No.	MODEL	#
Frame No.		#
Date of Purchase	DAY MONTH YEAR	#
Mileage at Present		#
Defect Code		#
CLAIM TYPE 1. Defects in Service. 2. Transit Damage. 3. Shortages. 4. Defective Spares.		#
Dealer Code No.		#
LABOUR ALLOWANCE CODE		N/L
LABOUR COST		N/L
Description	Part No.	Qty.
		N/L

Dealer's Signature

Service has been completed to my satisfaction

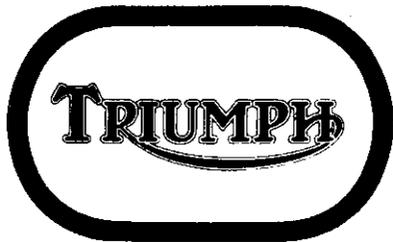
Owner's Signature

Address

Date:

Approved: Date:

COPY No. 3 — Retained by Dealer



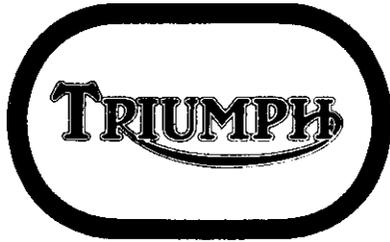
SERVICE BULLETIN NO. 435

CYLINDER BLOCK (76 mm) - ALL 750 c.c. TWIN CYLINDER MODELS

From engine number CH 2950 all tapped holes machined in the cylinder block are now U.N.F. (part number 71-4005). This necessitates the use of four new outer cylinder head retaining bolts, part number 14-0241.

Replacements for the previous cylinder block 71-3679 will continue to be supplied until spares stocks are exhausted.

April 1973.



SERVICE BULLETIN NO. 436

SERVICE REPLACEMENT UNITS

PRICE LIST

Operable from May 1st, 1973

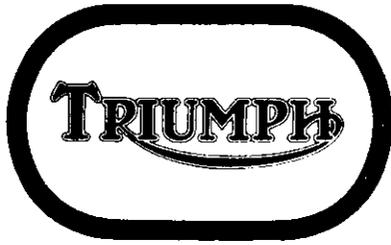
	"B" RANGE (650 cc)	T150 (750 cc)	"C" RANGE (500 cc)	T25 (All 250 cc)	T20 (200 cc)
Reconditioned Engine	£90.00	£150.00	£90.00	£55.00	N/A
Reconditioned Crankshaft Assy.	£12.95	£ 19.45	£12.95	£ 9.90	N/A
Rebored Barrel c/w Piston(s)	£10.50	£ 15.75	£10.50	£ 6.30	N/
*Reconditioned Frame complete	£27.40	£ 27.40	£27.40	N/A	£21.60
*Reconditioned Front Frame	£12.50	£ 12.50	£12.50	N/A	£ 9.00
*Reconditioned Rear Frame	£ 8.00	£ 8.00	£ 8.00	N/A	£ 6.10
Reconditioned Swinging Arm	£ 5.50	£ 5.50	£ 5.50	£ 4.80	£ 4.80
Reconditioned Fork Assy.	£23.50	£ 23.50	£23.50	£23.50	£16.10
Reconditioned Petrol Tank	£ 9.30	£ 9.30	£ 9.30	£ 9.30	£ 7.35
Heli-Coil Cyl. Head Exhaust Stubs	£ 4.50	£ 6.75	£ 4.50	N/A	£ 2.25
Heli-Coil Cyl. Head -Spark Plug	£ 3.60	£ 5.40	£ 3.60	£ 1.80	£ 1.80

* Not applicable to oil container frame.

Note: Reconditioned Clutch Plates are available from the Spares Department.
Reconditioned Brake Shoes are available from the Spares Department.

ALL PRICES SUBJECT TO V.A.T.

April, 1973.



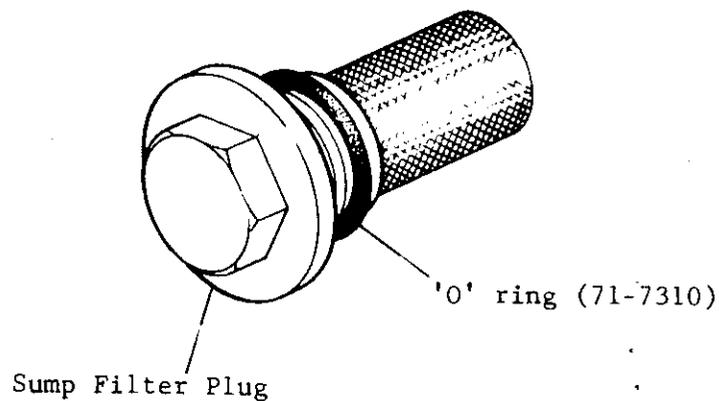
SERVICE BULLETIN NO.

437

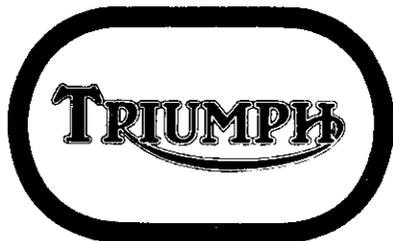
SUMP FILTER PLUG - 'B' Range Models

It has been discovered that the sealing washer fitted between the filter plug and the crankcase is sometimes prone to leakage.

Leakage of this nature can be easily cured by fitting a rubber 'O' ring, part no. 71-7310 in place of the flat washer. (This 'O' ring is currently in use on the push rod cover tubes.)



May 1973.



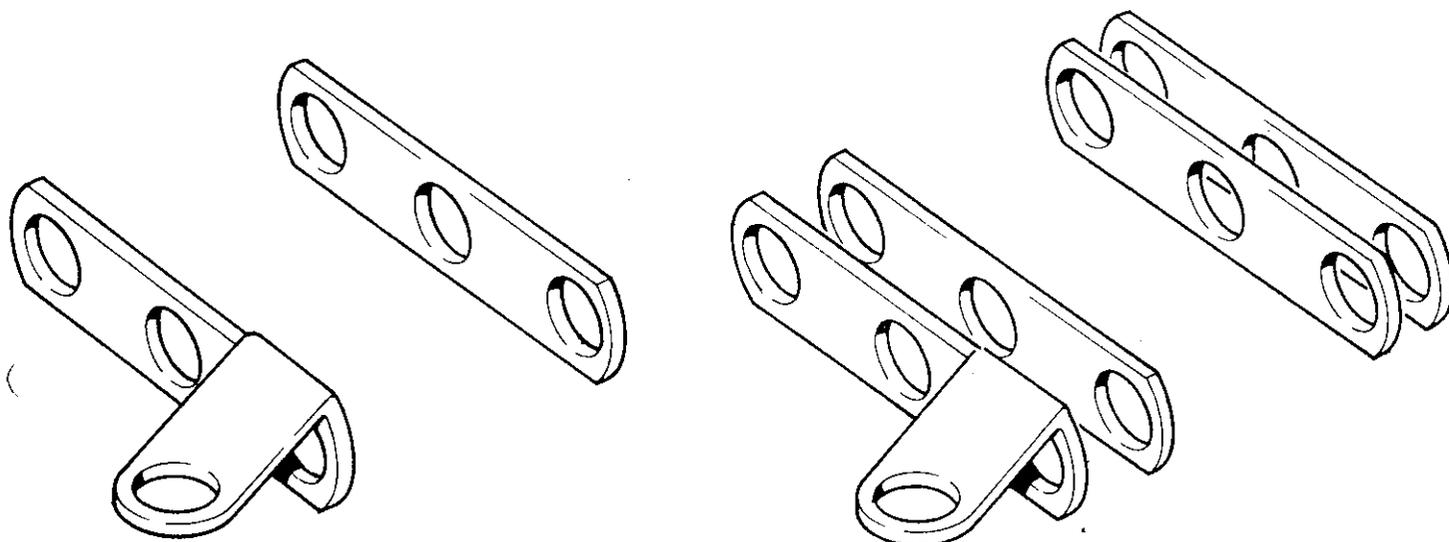
SERVICE BULLETIN NO. 438

FRONT MUDGUARD STAY SUPPORT BRACKET - T140V only

T140V machines produced up to engine no. NH.17668 are fitted with mudguard stay support bracket part no. 97-4446 (1 off) and 97-4477 (1 off).

After engine no. NH.17668 a modification was introduced whereby 2 off 97-4446 bracket is fitted to the right hand fork leg and 1 off 97-4477 and 1 off 97-4446 brackets are fitted to the left hand fork leg.

Bracket assemblies are shown in the diagrams below : .



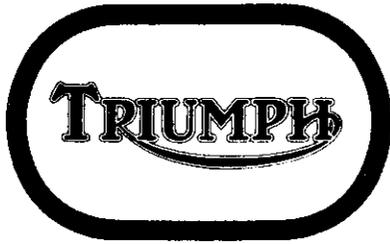
Up to Engine No. NH.17668

After Engine No. NH.17668

The above conditions have been currently superceded by a re-designed bracket part no. 83-5150 (1 off) left hand side and 83-5151 (1 off) right hand side.

Brackets part nos. 83-5150 and 83-5151 will supercede all previous conditions.

MAY 1973



SERVICE BULLETIN NO.

439

5 SPEED GEARBOXES - T140/TR7RV ONLY

From engine number T140V EH33674 to T140V GH34735 the following new components were fitted:-

57-4900	Layshaft
57-4902	Selector fork
57-4908	Driving dog

From engine number T140V GH34735 the selector fork and the driving dog have been replaced by the previous earlier condition, i.e.

57-4660	Selector fork
57-4661	Driving dog

NOTE:-

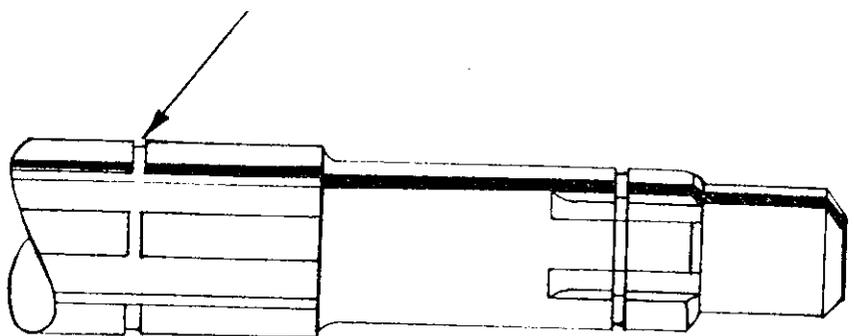
- (1) Layshaft 57-4900 is fully interchangeable with the earlier layshaft 57-4785 (57-4785 will no longer be supplied).
- (2) Selector fork 57-4660 is fully interchangeable with 57-4902. (57-4902 will not be supplied).
- (3) Driving dog 57-4908 is NOT interchangeable with 57-4661. When ordering a replacement for dog part number 57-4908, order 57-4661 driving dog and 57-4660 selector fork and fit them as a pair. (57-4908 will not be supplied).

Trident 750 c.c. three cylinder machines are not affected by the selector fork and driving dog changes. The new layshaft only (57-4900) was introduced and is fully interchangeable.

Identification details shown overleaf.

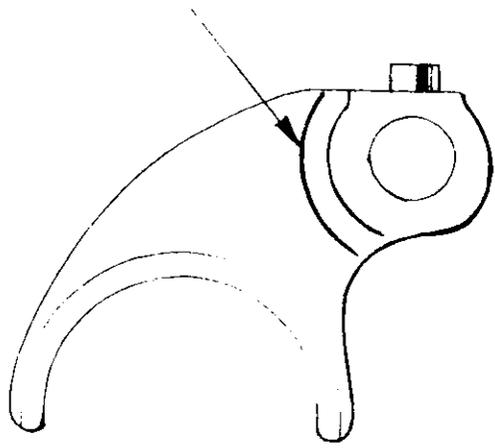
August 1973.

Identification groove machined here.



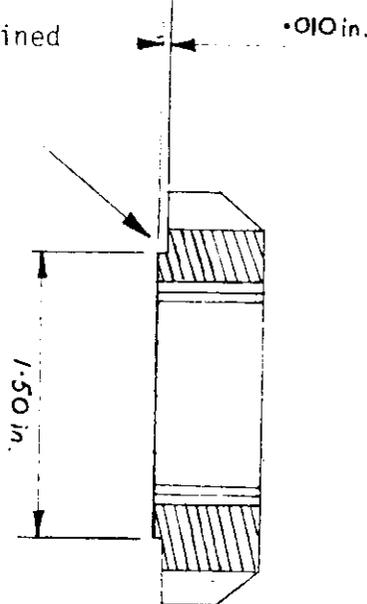
LAYSHAFT Pt.No. 57-4900

Single identification groove machined here.



SELECTOR FORK
Pt.No. 57-4902

Step machined here.



DRIVING DOG
Pt.No. 57-4908

It may be noticed that some selector forks have two grooves. These are in fact 57-4660 and have been machined in this manner for factory identification only.



SERVICE BULLETIN NO. 440

CYLINDER BLOCK - 750 c.c. TWINS

71-4005 Cylinder block will replace previous blocks as follows:-

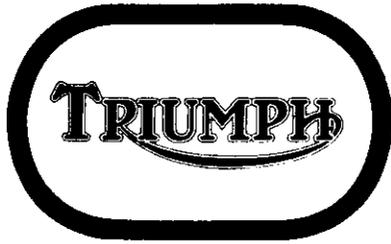
For 71-3335 use	1 off	71-4005	Cylinder block
	4 off	14-0241	Bolts UNF
	2 off	71-3676	Pistons

For 71-3679	1 off	71-4005	Cylinder block
	4 off	14-0241	Bolts UNF

71-3335 and 71-3679 will no longer be supplied when current stocks are exhausted.

Would Dealers please amend their records and order accordingly.

July, 1973



SERVICE BULLETIN NO. 441

TRIDENT T150 750 c.c. THREE CYLINDER REPLACEMENT PARTS CATALOGUES

Would Dealers please make the following corrections to their 750 c.c. Three Cylinder Catalogues :

1971 and 1972 Catalogues

Page 35, Line 26 should read 57-1645 Clutch cable abutment.
Line 27 should read 57-2220 Clutch cable adjuster.

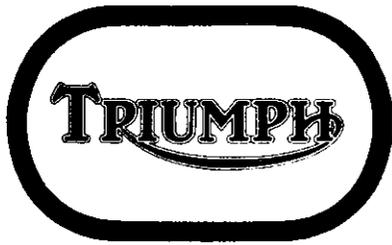
1973 Catalogue

Page 33, Line 26 should read 57-1645 Clutch cable abutment.
Line 27 should read 57-2220 Clutch cable adjuster.

1974 Series 1 Catalogue

Page 33, Line 24 should read 57-1645 Clutch cable abutment.
Line 25 should read 57-2220 Clutch cable adjuster.

August, 1973



SERVICE BULLETIN NO.

442

WIRING HARNESS—500 c.c. TWIN CYLINDER TROPHY TRAIL TR5T ALL 1974 MODELS ONLY

Due to slight changes made to the electrical layout on the machine for 1974 and to enable the 1973 wiring harness to be retained, certain modifications have been made to the wiring, i.e.

1. The R.H. front/rear turn signal is now fed by the green/red wire.
2. The L.H. front/rear turn signal is now fed by the green/white wire.
3. The green/white wire from the turn signal switch on the L.H. handlebar now feeds into the green/red wire at the snap connector in the headlamp.
4. The green/red wire from the turn signal switch on the L.H. handlebar now feeds into the green/white wire at the snap connector in the headlamp.

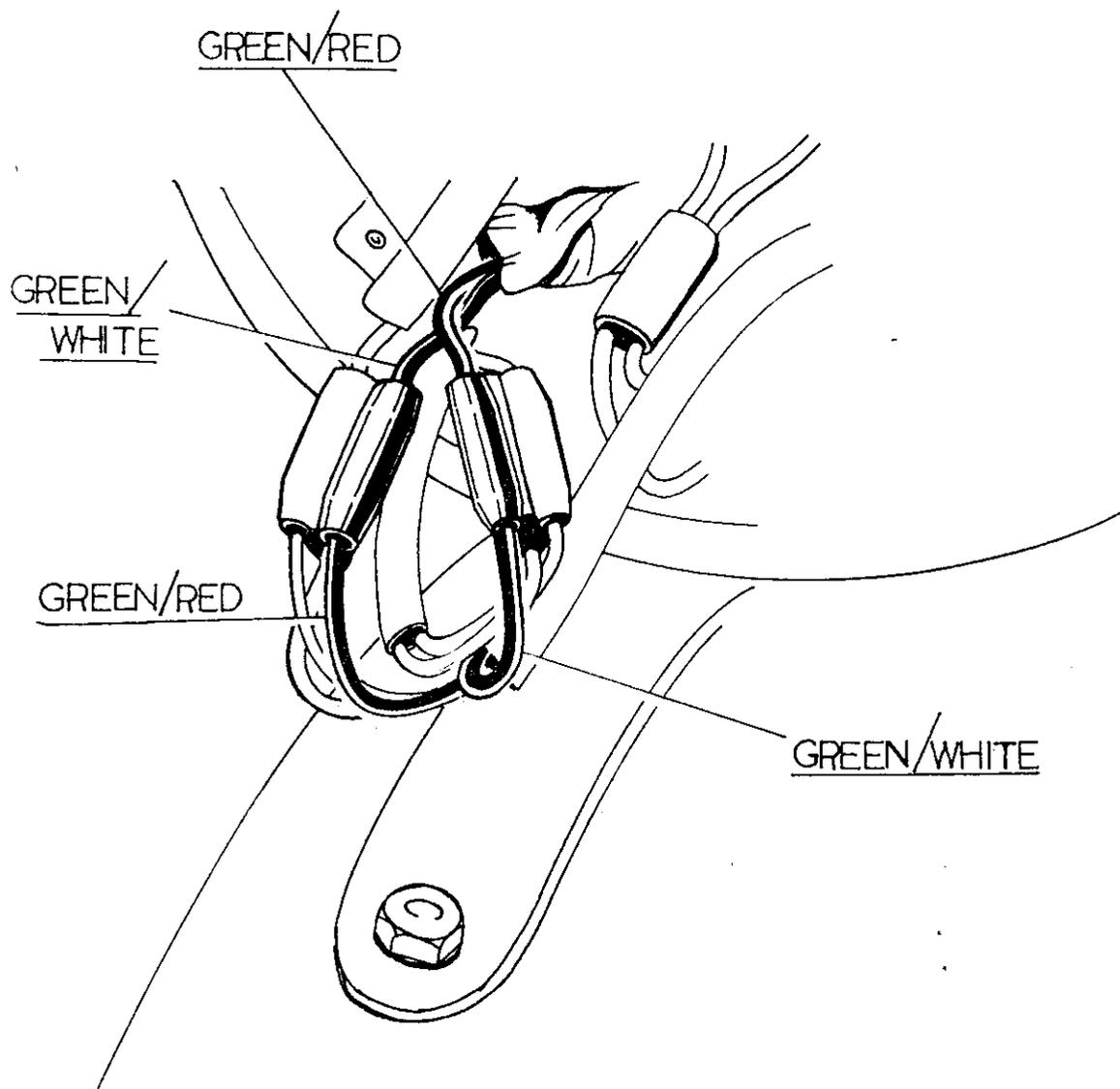
Later Models

The wires in the headlamp will have identification labels attached to them, i.e.

The green/white wire from the turn signal switch will have a red label attached to it and the green/red wire from the turn signal will have a white label attached to it.

See diagram overleaf for wiring in headlamp.

August, 1973



**WIRING DETAILS IN
HEADLAMP**

NORTON TRIUMPH MOTORCYCLES PTY. LTD.

25 MOXON ROAD, PUNCHBOWL, N.S.W. 2196

TELEPHONE 02-7082966, TLX 25111

(FOR SPARES CALL 02-700731)

CABLES NORTVIL SYDNEY



CORRECT INSTALLATION OF ZENER DIODE

With the higher electrical output now being achieved from the motorcycle alternator, the zener diode is required to dissipate increased excess charging current than previously when running with no lighting load and a fully charged battery.

The existing zener diode (Lucas No. 49345) is perfectly capable of dealing with the additional load, provided the diode body is seated perfectly onto the footrest hangar plate, which functions as the heat sink.

When fitting or replacing a zener diode at any time, apply a thin smear of silicone compound to the mating surfaces to ensure full area heat transference.

Suitable silicone compounds specifically designed to meet this function are readily available from television repair shops. Two readily available compounds are:

1. G.E. Electronic Silicone Compound transistor Z-5 No. 8101
2. G.E. Silicone Compound G-640 or G-641

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NTE 7/T2/2 - AUG. 1974

CONTACT BREAKER TYPE 7CA-SERIAL NO: 54041128L

TRIUMPH T150V, from Engine 43170

In order to improve the acceleration at the lower speeds, the auto advance governor springs have been changed.

Formerly, two springs of identical strength were used, but, on engines subsequent to that quoted above, the two springs differ in strength, their new Lucas part numbers being 54417992 (strong spring) and 54415642 (weak spring)

If it becomes necessary at any time to consider modifying the engine performance on engines built prior to that given above, it will be inadvisable to change the springs only, because every governor is tested for accuracy in the assembled condition by Messrs. Lucas.

It is preferable therefore, to change the complete auto advance unit, which is available under the above serial number.

DIRECTORS : W. B. COLQUHOUN (CHAIRMAN) . A. J. F. IREDALE (MANAGING) . W. N. HILLIER

Norton

TRIUMPH

AJS

BRANCHES : FRANCE . 54 RUE ROUGET DE L'ISLE . 92 PUTEAUX . PARIS Tel.: 506-55-90
GERMANY . 42 OBERHAUSEN-STERKRADE . WALDTEICHSTR 91 Tel.: 02132/69034-35 Telex.: 803856979

Norton

Norton Triumph Europe Limited

North Way, Andover
 Hampshire SP10 5BD
 Telephone: 0264-61411
 Telex: 47223
 Cables: NORVIL

SERVICE RELEASE NTE 12/T3/4

NOVEMBER 1974

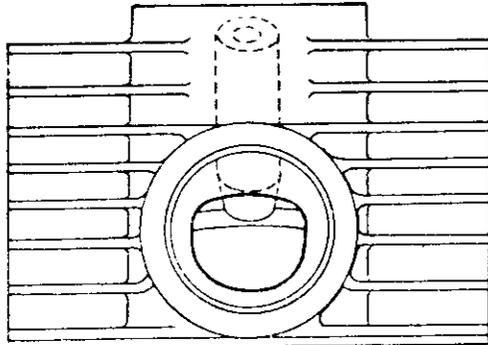
CYLINDER HEAD EXHAUST PORT RESTRICTION. TRIUMPH T150 MODELS

EXPLANATION: Lack of top-end performance on a small proportion of Triumph T150 model 'Trident' machines has been rectified by removal of casting restriction in the exhaust port shape, particularly in the case of the centre cylinder.

ACTION: The cylinder head casting of one supplier only is affected, which is identified by a casting mark (A&M) viewed from the rear of the head, immediately inboard at the right hand inlet port casting boss.

Any port restriction that may exist will be found in the area of the valve guide support boss in the port, resulting in severe 'Necking'. Excess metal must be cleaned out in order to maintain a constant cross sectional area in the ports. However, note must be taken of the recommended ultimate port dimension and shapes as shown, to prevent any possibility of port break-through into the cylinder head holding down bolt holes.

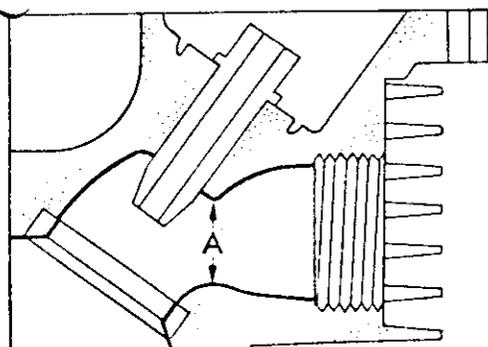
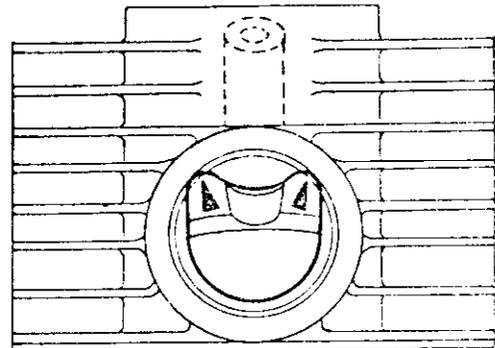
INCORRECT



EXHAUST PORT SHAPES

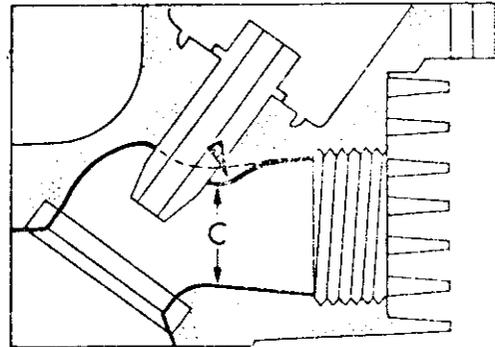
Remove excess metal in these areas, but do not weaken valve guide support boss.

CORRECT



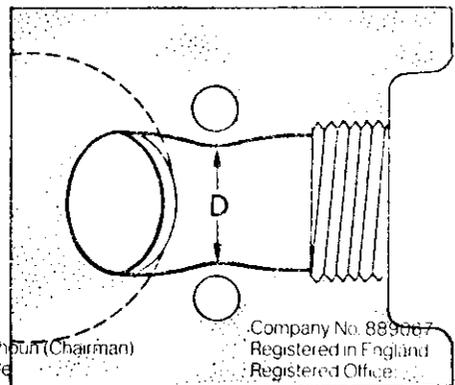
BEFORE

A $1\frac{13}{16}$ " (20.6mm)
 B $1\frac{31}{32}$ " (24.6mm)



AFTER

C $1\frac{1}{16}$ " (27.0mm)
 D $1\frac{13}{64}$ " (30.6mm)



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CABLES NORTVIL SYDNEY



NOVEMBER 1974

SERVICE RELEASE NTE 13/T3/5

1973/4 TRIDENT OWNERS MANUAL PUBLICATION REFS: 99-09760 and 99-2256

EXPLANATION:

An error appears in the wiring diagrams (fig.11 in both manuals). The battery is shown with the negative lead to ground (earth), but the correct connection is POSITIVE LEAD TO GROUND. All Tridents have been connected in this way.

ACTION:

During pre-delivery attention and after filling the battery with electrolyte, the dealer must verify that the connections are correct during installation. (POSITIVE GROUND).

It is also recommended that a check is made on all machines returned to a dealer's premises for whatever reason, to ensure that the leads have not been modified by the owner to make them conform to the diagram.

Dealers are requested to inform new owners of this discrepancy when delivering machines.

NORTON TRIUMPH MOTORCYCLES PTY. LTD.

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CABLES NORTVIL SYDNEY



December 1974

TO: All U.K. Dealers and European Distributors

Dear Sirs,

Norton Triumph Warranty Arrangements 1975 Season

We enclose Service Release NTE 19/T2/3, introducing the combined Norton Triumph Warranty arrangements which will be effective from the 1st January 1975.

Also enclosed is your initial supply of the new Warranty Credit claim form, further supplies are available on request from N.T.B. Andover.

A new Warranty Operations Manual has been introduced, your copy is enclosed and further copies are available from NTE Andover.

Please destroy all previous claim forms and Warranty Operations Manuals.

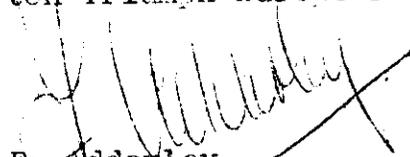
With effect from the 1st January 1975, all Norton and Triumph claims must be submitted on the new claim form using the new Operations Manual. Any that are not, will be returned to the sender for re-submission on the new document.

To standardise procedures and facilitate processing of claims (and spares orders) the Norton parts inventory has been programmed into the computer. To do this, it has been necessary to change some of the earlier Norton part numbers, those prefixed III, NIT etc., to numerical sequences in the 06 - 91 and 99 series.

An instant part number conversion table has been produced, copy enclosed and further copies can be obtained from NTE Andover on request. It applies to Warranty claims and orders for parts.

Keep copy No. 4 of the claim form for your file and post copies 1 - 2 and 3 to NTE Andover.

Yours faithfully,
Norton Triumph Europe Ltd


F. Adderley
Service Manager



NORTON TRIUMPH MOTORCYCLES PTY. LTD.
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CABLES NORTVIL SYDNEY

JANUARY 1975

SERVICE RELEASE NTE 22/T3/8

NATURE OF RELEASE:

Introduction of fuel economy kit.

MODELS AFFECTED:

Trident T160 prior to engine No.00917
and T150V.

EXPLANATION:

The carburetors currently fitted to the Trident utilise throttle needle 622/278 and throttle valve 622/060/4. This specification has been selected in the interests of performance coupled with fuel economy, and earlier T160 Models and all T150 Models can be converted to obtain similar economy by fitting the above parts in place of those used originally.

ACTION:

A fuel economy kit, Part No.00-5245 comprising one complete set of the above parts, is obtainable from the Spares Department.

NORTON TRIUMPH MOTORCYCLES PTY. LTD.

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CABLES NORTVIL SYDNEY



MARCH 1975

SERVICE RELEASE NTE 29

NATURE OF RELEASE: Assembly of gearbox cross-over shaft to engine

MODELS AFFECTED: NT160 - 750cc Trident

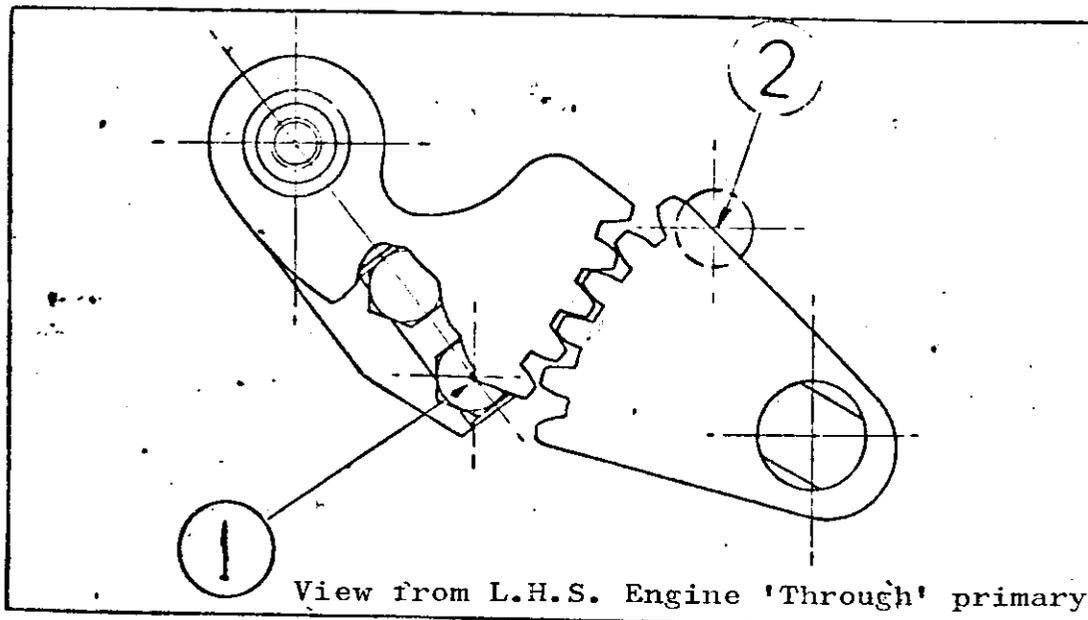
EXPLANATION: When assembling the cross-over gear change shaft and quadrants the following procedure should be followed:-

Assemble the cross-over gearchange shaft 57-5114 to the quadrant 57.4926 using spacer 57.4930 washer 60.2321 and nut 14.1202.

Position the link assembly 57.5089 in the gearchange fork 57.4698 in the gearbox outer cover assembly.

With the primary outer cover removed and the gearbox outer cover loosely assembled onto the inner cover, push the cross-over shaft carefully through the gearbox from the primary side.

Align lower edge of quadrant 57.4926 with the centre line of the lower bolt holding the location plate - see fig. 1, then gently feed the link assembly (in the gearbox outer cover) onto the splines of the cross-over shaft, and secure using nut 14.1202 and washer 60.2321. This locates the shaft and quadrant to the gearchange fork finally align the upper edge of the pedal spindle quadrant across the centre line of the drain hole in the clutch withdrawal mechanism cavity. See fig. 2 and assemble primary cover onto the engine. This locates the gear change pedal to the gearchange fork in the gearbox outer cover.



NORTON TRIUMPH MOTORCYCLES PTY. LTD.

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CABLES NORTVIL SYDNEY



MARCH 1975

SERVICE RELEASE NTE 30

NATURE OF RELEASE: Cylinder Head Gasket

MODELS AFFECTED: Triumph NT160V

EXPLANATION: The 1975 NT160V has a copper cylinder head gasket. If the cylinder head is removed, the head gasket should be cleaned and replaced and a sealant applied to the area around the oil return drain holes on re-assembly.

Use Golden Hermatite, or
Loctite RTV 2.

Norton

Norton Triumph Europe Limited

North Way, Andover
Hampshire SP10 5BD
Telephone: 0264-61411
Telex: 47223
Cables: NORVIL

MARCH 1975

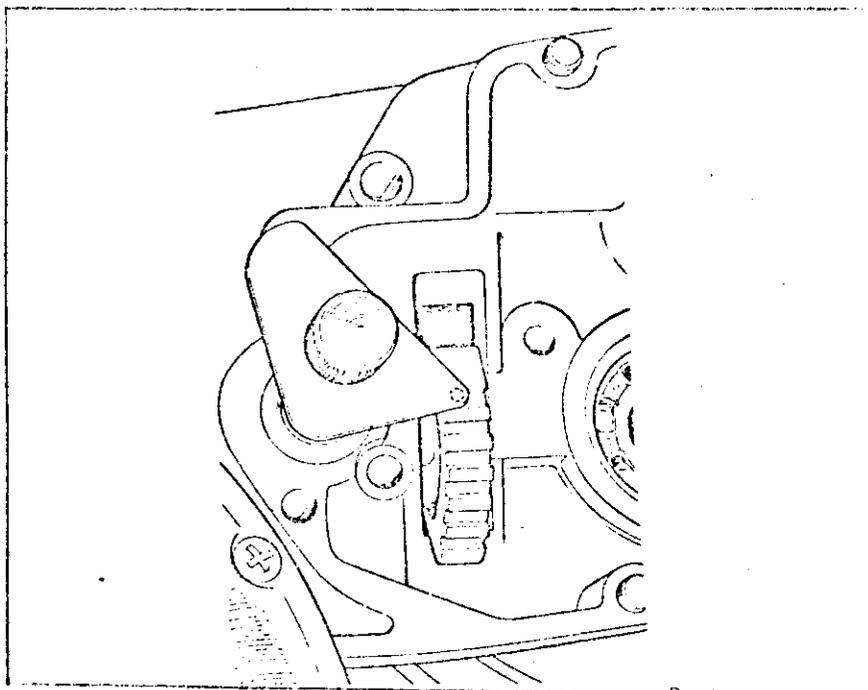
SERVICE RELEASE NTE 31/T3/9

NATURE OF RELEASE: Five speed gearbox assembly tool.

MODELS AFFECTED: T150V and T160

EXPLANATION: Service tool 61-6128 is suitable for use with the T150V only, as a different sized inner cover bush for the gear shift fork is involved on the T160. The tool has therefore been modified to suit both the T150V and the T160 by the use of different sized spacer bushes on the peg which locates in the gear shift fork bush. As previously, the spherical projection on the tool registers with the bottom tooth of the quadrant, whilst the third projection locates in the inner cover bolt hole, as in the drawing below. The full gearbox assembly procedure is outlined in the Workshop Manual.

The modified Service Tool bears the part number 60-4614.



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54 rue Rouget de l'Isle
92800 Puteaux
Tel: 506 55-90

Directors:
W. B. Colquhoun (Chairman)
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M. Jackson
S. N. Shilton

Company No. 889067
Registered in England
Registered Office:
1 Love Lane
London EC2V 7HJ

DEALER INSTRUCTION

INSTRUCTIONS FOR THE TRIUMPH 750cc BONNEVILLE AND TR7 MACHINES

SEQUENCE OF RE-ASSEMBLING COMPONENTS REMOVED FOR PACKING PURPOSES

Remove motorcycle from crate and place on centre stand. Cut fork tie from R.H. side of motorcycle.

FRONT MUDGUARD

Remove front mudguard assembly from stowed position under rear mudguard. **NOTE:** Take care not to tip motorcycle too far forward on centre stand. Fit front mudguard with upper bridge bracket adjacent to fork outer members and with hydraulic pipe clip inside bridge bracket. Use $\frac{1}{4}$ " UNF \times $\frac{3}{4}$ " long bolts and spring washers for upper bridge bracket attachment and $\frac{5}{16}$ " UNC \times $\frac{3}{4}$ " long bolts and spring washers on lower stay locations. **DO NOT** tighten at this stage.

FRONT WHEEL

Remove keeper from between front brake pads and fit front wheel taking care entering brake disc between pads. Locate spindle groove with two outer studs, fit caps, spring washers and nuts, tighten to torque setting of 15 ft/lbs. N.B. Tighten nuts on L.H. side fork cap before R.H. side in order to ensure correct alignment of spindle. Finally mudguard stay bolts should now be tightened.

HANDLEBAR: SEE FIGURE 1

To each bolt, fit bevelled washer (ensuring that chamfer in bore is adjacent to corner radius on bolt) fit cup rubber and distance piece. Pass eye bolts through top yoke, fit lower bevelled washer, fit nuts and tighten to torque setting of 16 ft/lbs. Remove packing plate from front brake lever, re-assemble lever to bar ensuring clip bites on serrations. Fit and tighten twist grip, lighting switch and clutch lever. Fit cable clips to bars, fit and tighten front direction indicators.

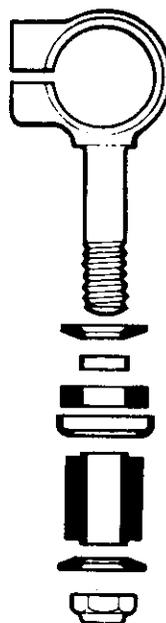


FIG. 1

PETROL PIPES

Fit petrol pipes to taps: **FOR BONNEVILLE ONLY** – from L.H. carburettor to R.H. tap and vice versa.

REAR BRAKE PEDAL AND FOOTRESTS

Remove brake pedal from spindle. Fit and tighten R.H. and L.H. footrests. Check that nut retaining trunnion lever to brake pedal spindle is tight, with two threads of spindle protruding. Slacken adjustment nuts on rear master cylinder rod, allowing free play on trunnion lever. Fit brake pedal, ensuring engagement of square on spindle. Fit plain washer and nut to spindle and tighten to torque setting of 20 ft/lbs. Adjuster nuts should now be set to give a $\frac{1}{16}$ " **MINIMUM** clearance between brake pedal and footrest and locked up. (SEE FIGURE 2).

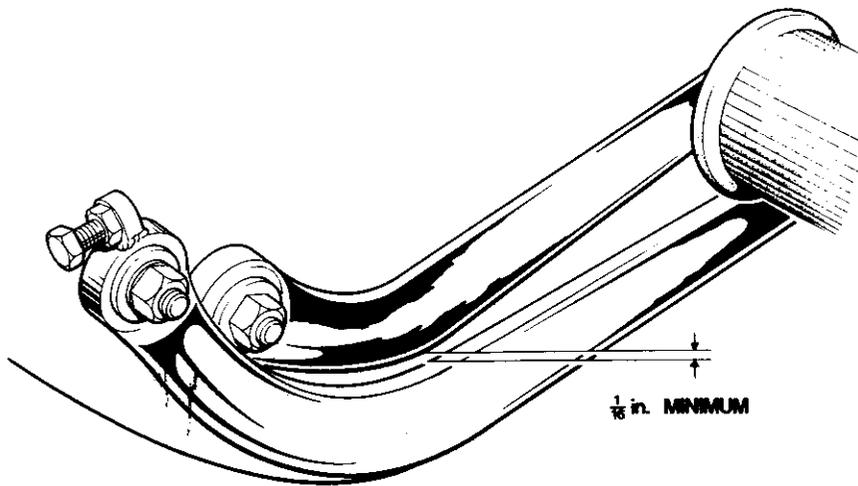


FIG. 2

REAR BRAKE SWITCH

Screw head of brake switch adjustment screw in towards pedal. Fit brake switch to frame. Leave adjustment until battery is fitted.

SILENCERS

Remove brackets from silencers as packed and refit as shown in **FIGURE 3**. Remove packing brackets from pillion footrest hangers. Slacken bolts securing balance pipe between exhaust pipes. Fit and secure silencer assemblies to exhaust pipes and frame. Ensure that locating peg in pillion footrest hangers engages in frame. Finally, re-tighten balance pipe securing bolts.

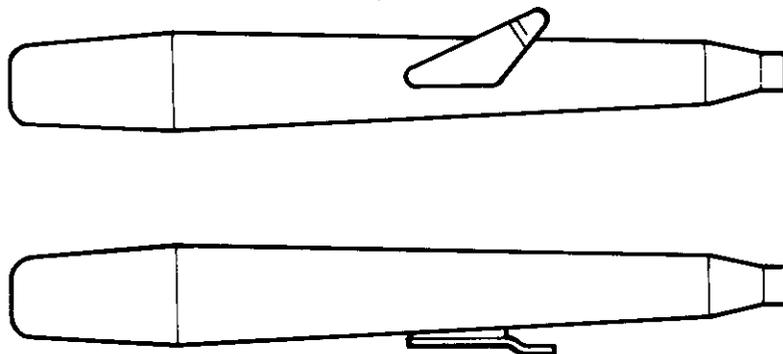


FIG. 3

REAR LIGHT

Fit rear light lens. Fit and tighten rear direction indicators.

BATTERY

Remove battery and make operational following makers instructions. Refit and connect. **NOTE:** Positive (red) earth. Route battery vent pipe, free from kinks, to atmosphere. Avoid venting adjacent to chromium plate.

CHECKS

Adjust and lock rear brake switch adjustment screw. Check hydraulic fluid levels in front and rear brake reservoirs and check operation of brakes. Fill oil tank, check engine and gearbox levels. Check tyre pressure.



Number: 4-77
 Subject: Rear Rim Replacement

Models: 1976-1977 T140V & TR7RV
 Date: December 7, 1977

SERVICE BULLETIN

REAR WHEEL SPOKE BREAKAGES

REAR RIM REPLACEMENTS (76-77 TWINS)

The 37-7018 REAR RIM used on 1976-1977 year model T140V's and TR7RV's will no longer be supplied by our parts department.

The 37-7018 REAR RIM is replaced by a 37-7030 REAR RIM.

The 37-7030 RIM requires all new spokes and nipples as follows:

<u>Quantity</u>	<u>Description</u>
20	37-7031 Spoke (replaces 37-7009)
10	37-7032 Spoke (replaces 37-7007)
10	37-7033 Spoke (replaces 37-7008)
40	37-7034 Nipple (replaces 37-2294)

The EARLY SPOKES and NIPPLES (37-7009, 37-7007, 37-7008, and 37-2294 will continue to be supplied for the 1976-1977 motorcycles with the EARLIER RIM (37-7018).

CAUTION

DO NOT USE THE NEW RIM (37-7030) WITH THE EARLIER SPOKES AND NIPPLES.



Number: (Twin) 5/78
Subject: Lucas Sulfated
Batteries
Models: TR7RV/T140V
Date: From 1978 Service
Seminar

SERVICE BULLETIN

BEWARE

Lucas will not honor warranty claims for sulfated batteries.

Lucas states that sulfation occurs when the battery has been standing in a discharged condition over a long period of time, or when the battery has been operated continually in a state of partial discharge.

Sometimes slow charging -- at .75 to 1.0 amp for up to 12 hours-- will remove the sulfation.

Lucas further states that 80% of battery warranty claims originate from installation of batteries at less than full charge.

The personnel preparing batteries for sale, or for service in new motorcycles, should follow the white tag instructions with the battery. Also refer to Service Bulletin (Triple) 3/75 which covers proper battery preparation.

It is suggested that batteries are not serviced until the new motorcycle is ready to deliver.

Last, but not least, the word sulfation is sometimes "loosely" used. If a battery won't take a full charge or has a dead cell, don't write these failures up as sulfation. Tell it like it is - won't take a full charge or has a dead cell.



Number: (Twin) 7/78
Subject: Muffler Mounting

Models: TR7EV/T140V
Date: From 1978 Service Seminar

SERVICE BULLETIN

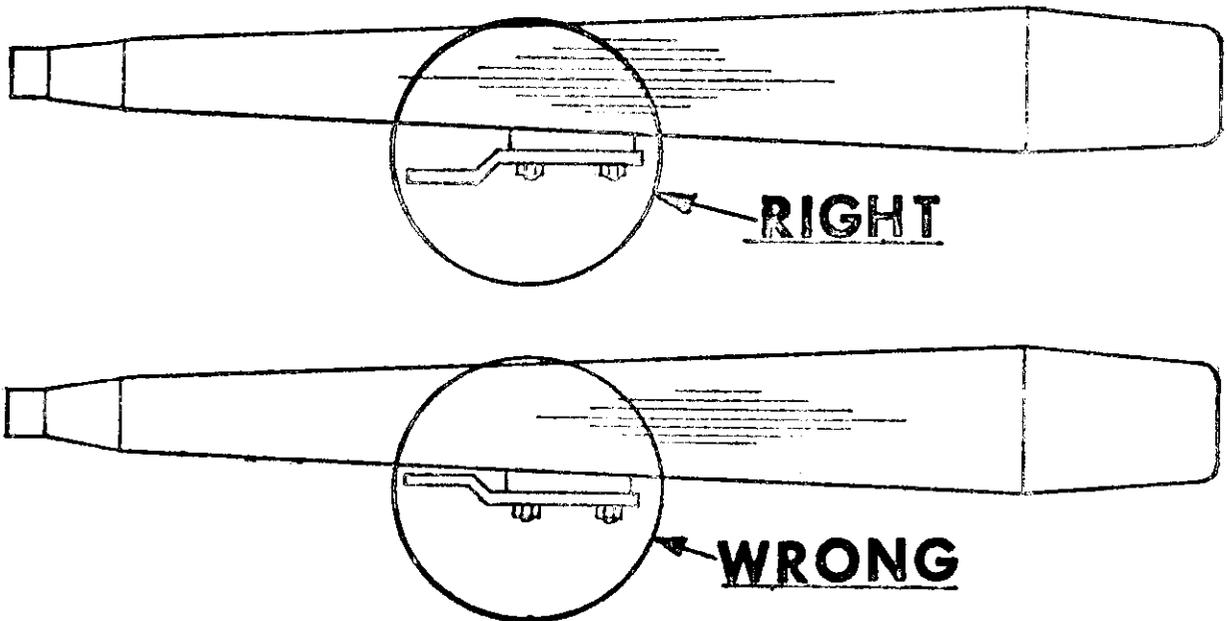
PROPER INSTALLATION OF MUFFLER BRACKETS

If the muffler brackets are installed wrong, the right side bracket will come in contact with (and may damage) the rear brake caliper.

DEALER ACTION REQUIRED

Be certain when setting up new machines that the muffler brackets are properly installed. Inspect machines on your showroom floor! Also, advise your service personnel to inspect machines that are returned for service work.

SEE ILLUSTRATION BELOW AND REFER TO FIG. 3 IN THE SET-UP INSTRUCTIONS INCLUDED WITH EACH NEW MACHINE.





Number: (Twin) 11/78
Subject: Sump Plug
Models: TR7RV/T140V
Date: From 1978 Service Seminar

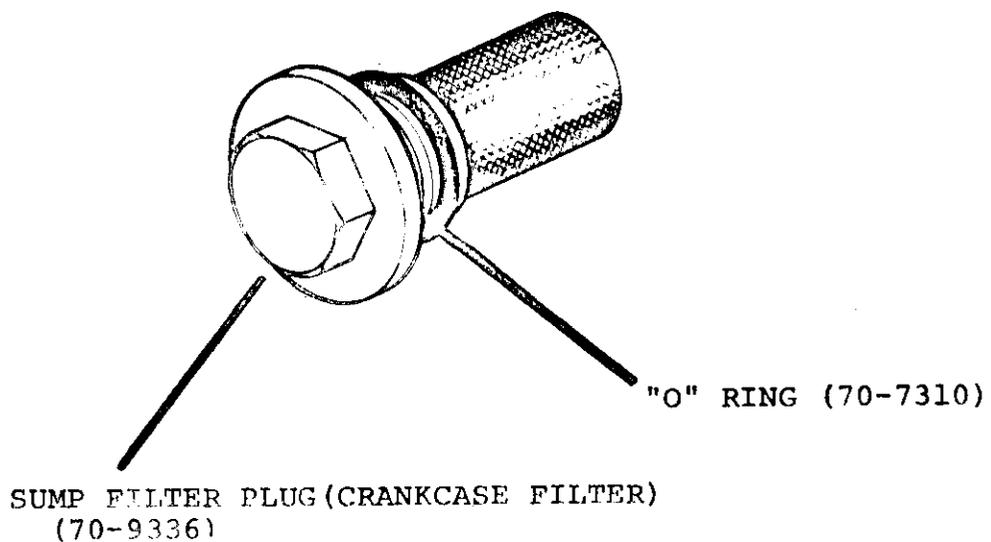
SERVICE BULLETIN

OIL LEAKAGE AT SUMP PLUG

The sealing washer currently being used on the sump filter plug is sometimes prone to leakage.

Leakage at this point can easily be cured by fitting "O" ring, Part No. 70-7310, in place of the flat washer. (This "O" ring is currently in use on the push rod tubes.)

SUMP PLUG WITH "O" RING





Number: (Twin) 17/78
 Subject: Primary Chain Adjustment
 Models: TR7RV/T140V
 Date: From 1978 Service Seminar

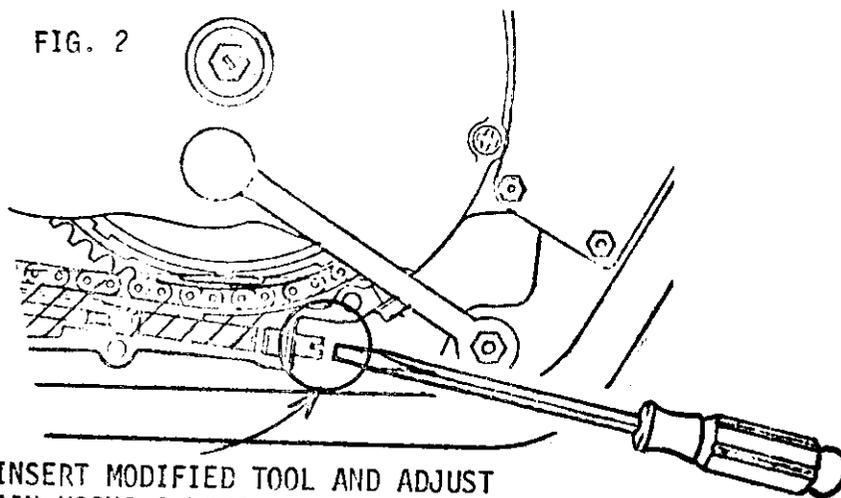
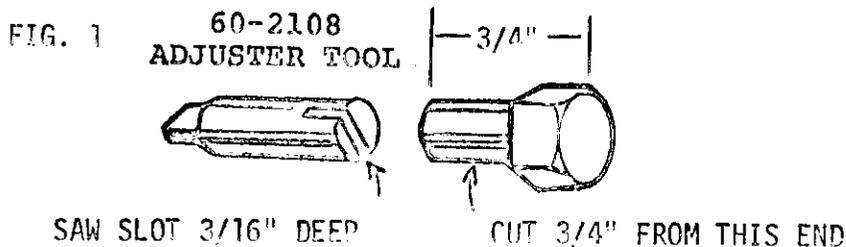
SERVICE BULLETIN

PRIMARY CHAIN ADJUSTMENT

A method of adjusting the primary chain has been devised which saves considerable time and is much easier than the method outlined in both the Owner's Handbook and the Workshop Manual.

MODIFY ADJUSTING TOOL: Using Chain Adjuster Tool 60-2108, cut 3/4 inch from the hexagon end (this portion of the tool may be discarded). Clamp the screwdriver end of the tool in a vise, and with a hacksaw, cut a slot approximately 3/16 inch deep. (SEE FIG. 1)

CHAIN ADJUSTMENT: Remove the plug at the rear of the primary chaincase, and insert the modified adjuster tool. Using a long, thin screwdriver, proceed with chain adjustment per the instructions in the Workshop Manual. When the chain is properly adjusted, remove the tool, install the plug, and refill the chaincase with the required amount of oil. (SEE FIG. 2)



INSERT MODIFIED TOOL AND ADJUST CHAIN USING A LONG, THIN SCREWDRIVER



Number: (Twin) 18/78

Subject: Air Filter

Models: TR7RV/T140V

Date: From 1978 Service Seminar

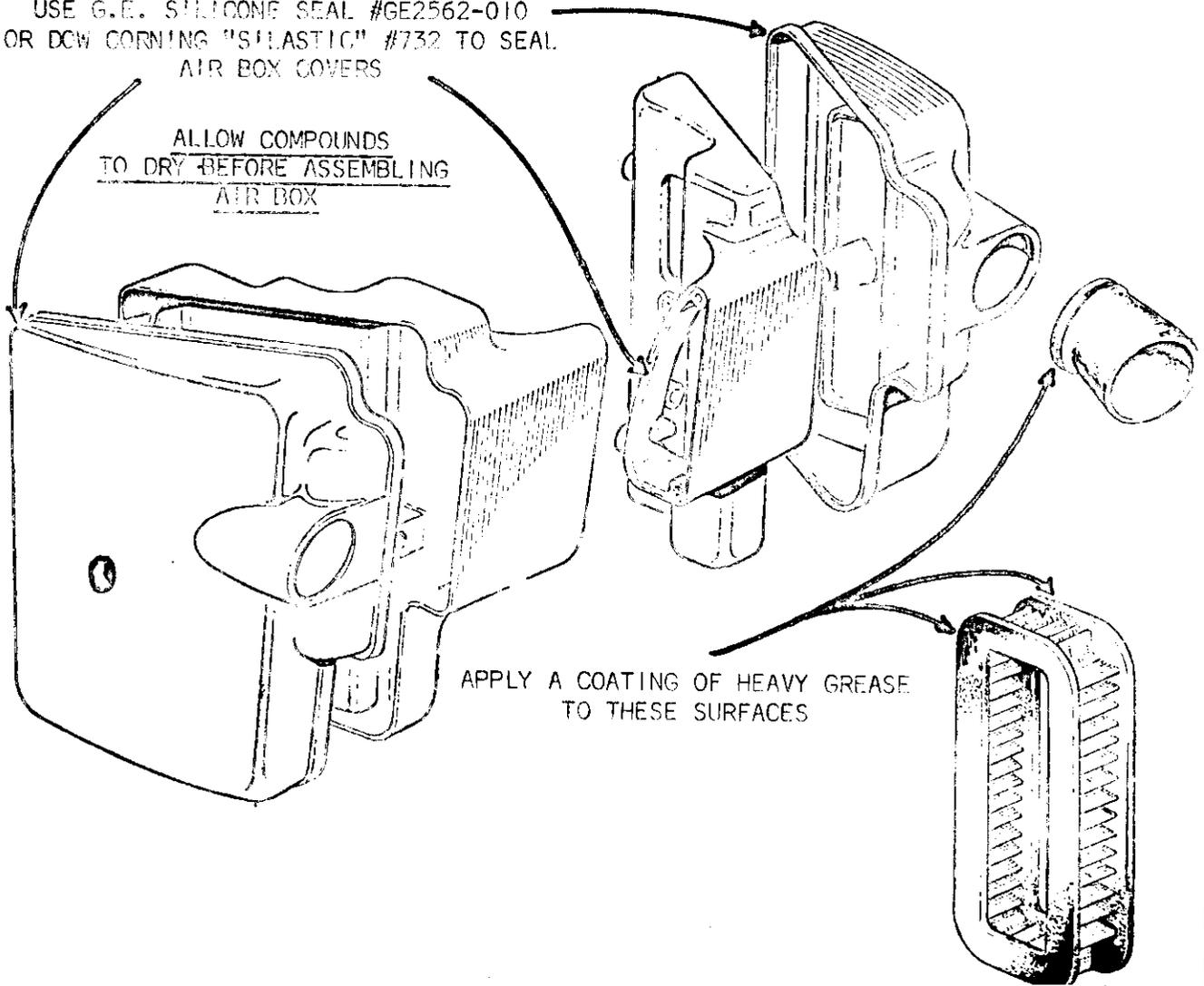
SERVICE BULLETIN

IMPROVING THE AIR FILTER

If the motorcycle is to be operated off the road, the air box should be sealed to prevent any leakage, which would allow dust and dirt to enter the engine. (Refer to the illustration below for a simple and effective method.)

USE G.E. SILICONE SEAL #GE2562-010
OR DOW CORNING "SILASTIC" #732 TO SEAL
AIR BOX COVERS

ALLOW COMPOUNDS
TO DRY BEFORE ASSEMBLING
AIR BOX



APPLY A COATING OF HEAVY GREASE
TO THESE SURFACES



Number: T1
Subject: VALVE TIMING
Models: 750 TWIN
Date: 22nd JUNE 78

SERVICE BULLETIN

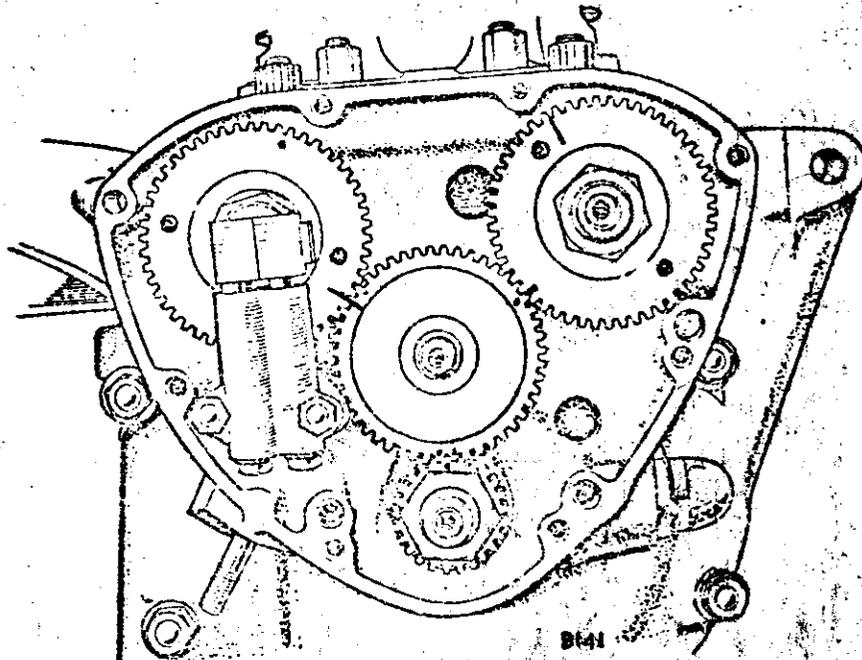
VALVE TIMING

From engine No. CX 06001 'A' & 'B' marks on camwheels have been deleted, these being replaced by dash and dot markings. Both camwheels carry identical marks so making them interchangeable with each other and they will also service pre CX 06001 750 Twins.

METHOD

Inlet camwheel to be assembled dash to dash.
Exhaust camwheel to be assembled dot to dot.

If camwheels have been removed from shafts replace with key in keyway nearest dash for inlet and key in keyway nearest dot for exhaust.



TRIUMPH

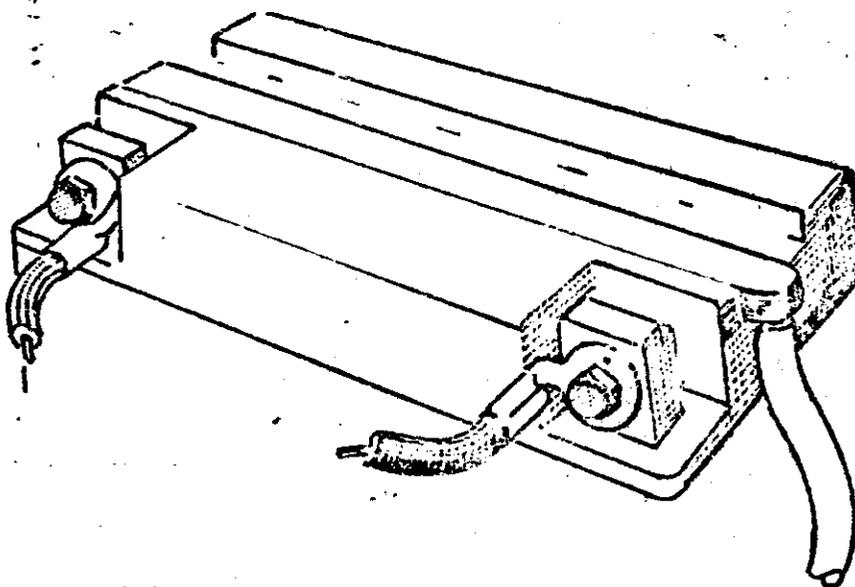
Number: T2
Subject: BATTERY TERMINALS
Models: ALL 750 TWINS
Date:

SERVICE BULLETIN

BATTERY INSTALLATION

When preparing motorcycle for use or on PDI, it is essential that terminals are fitted as shown in sketch, i.e. bent at 90° and not fitted standing upright.

Failure to observe the above can result in the terminals being fouled by the seat pan causing severe burning of the wiring harness.



BATTERY TERMINALS:

Connect eyelets to battery terminals as shown in above diagram.
Ensure the eyelets do not extend above the top of the battery.



TRIUMPH

Number: 1-79
Subject: Negative Ground
Models: T140E
Date: October '78

SERVICE BULLETIN

IMPORTANT

1979 model Triumphs commencing with engine number T140E HA 11001 are NEGATIVE GROUND.

The BROWN/BLUE wire with the fuseholder connects to the POSITIVE (+) battery terminal.

The BLACK wire connects to the NEGATIVE (-) battery terminal.

DO NOT CONNECT THE WIRES TO THE WRONG BATTERY TERMINALS AS DAMAGE TO THE RECTIFIER AND ALTERNATOR WILL RESULT.



TRIUMPH

Number: 2-79
Subject: Conversion to
"lights on" Condition
Models: T140E
Date: October '78

SERVICE BULLETIN

Converting to "Ignition On - Lights On" Condition

It is intended that 1979 model Triumphs be supplied in "Ignition on - Lights on" condition. However, some early production units are in "Ignition on - Lights off" condition. If it is desired to convert to "Ignition on - Lights on", it can be done easily by re-connecting two wires inside the headlight shell as follows:

1. Remove the BLUE/YELLOW wire from the left handlebar switch (i.e. the dipswitch feed) from its tubular connector and re-connect it to the double connector to which are connected two BLUE wires.
2. Remove the WHITE wire from the right handlebar switch (i.e. ignition kill switch) from its double connector and re-connect it into the double connector with two BLUE wires (same as in Step 1).

The first ignition key position clockwise from "off" and the headlight switch on the right handlebar switch are now out of the ignition and lighting circuits. The second key position clockwise from "off" now controls ignition and lights.

TRIUMPH/LUCAS SERVICE BULLETIN

1979 TRIUMPH "BONNEVILLE" AND "TIGER" MOTORCYCLES

The new model Triumph "Bonneville" and "Tiger" motorcycles are to be announced at the British Motorcycle Show, Earls Court, England in August (1978). These have a completely new electrical system to the previous model.

The Alternator is three phase, rectified by a six diode rectifier pack and voltage controlled by a single zener diode. Ignition is electronically triggered by the new AB11 amplifier, switched by the 5PU pick-up assembly. The coils are now two 6 volt in series, fired simultaneously. The cylinders fire alternatively, the spurious sparks having no effect.

The switchgear and headlight have been re-styled. The warning lights and ignition lighting switch are now mounted in a binnacle between the speedo and tachometer.

Attached are latest service parts, technical and test procedure information, together with such workshop instructions as may be relevant.

H. Woolridge
Warranty/Service

TECHNICAL INFORMATION

ALTERNATOR RM24

DESCRIPTION

This is an 11 amp version of the basic three phase design. The alternator is similar to the existing RM21 and RM23 units and has been designed to physically replace these units. This has been achieved by maintaining the same stator inside and outside diameters and the three fixing hole positions, although the lamination stack thickness is slightly increased (by 0.030 inch) which should not affect fitting. The RM23 hot staked rotor is fitted.

The improved slow speed output has been achieved by designing the stator with 9 poles (instead of 6) which with the six pole rotor gives a three phase output when suitably connected. A star connection system has been decided upon after testing.

ELECTRICAL CHARACTERISTICS

D C OUTPUT

An output/speed curve is attached, it can be seen that an improvement is obtained in the 1500-2000 rev/min speed range which ensures balancing the lighting load below 30 miles/hour (50 K P.H.). This curve is typical only of a cold stator regulated at 16 volts. The single zener fitted to the motorcycle regulates at 14.7-15.8 volts and the curve may also vary slightly with hot stator temperatures.

STATOR

A C OUTPUT

The A C output between any two leads is:-

At 1000 rev/min 4.5 volts minimum
At 5000 rev/min 6.5 to 7.0 volts

RESISTANCE

Resistance between any two leads should be between 0.80 and 0.95 OHM.

INSULATION

Insulation resistance must withstand a 500 volt A C flash test or not be less than 100 megohms at 500 volts D C, when tested between any one of the cable leads and the lamination assembly.

ROTOR

Permanent magnet, solid state rotor with magnets hot staked to central boss before casting.

TECHNICAL INFORMATION (continued)

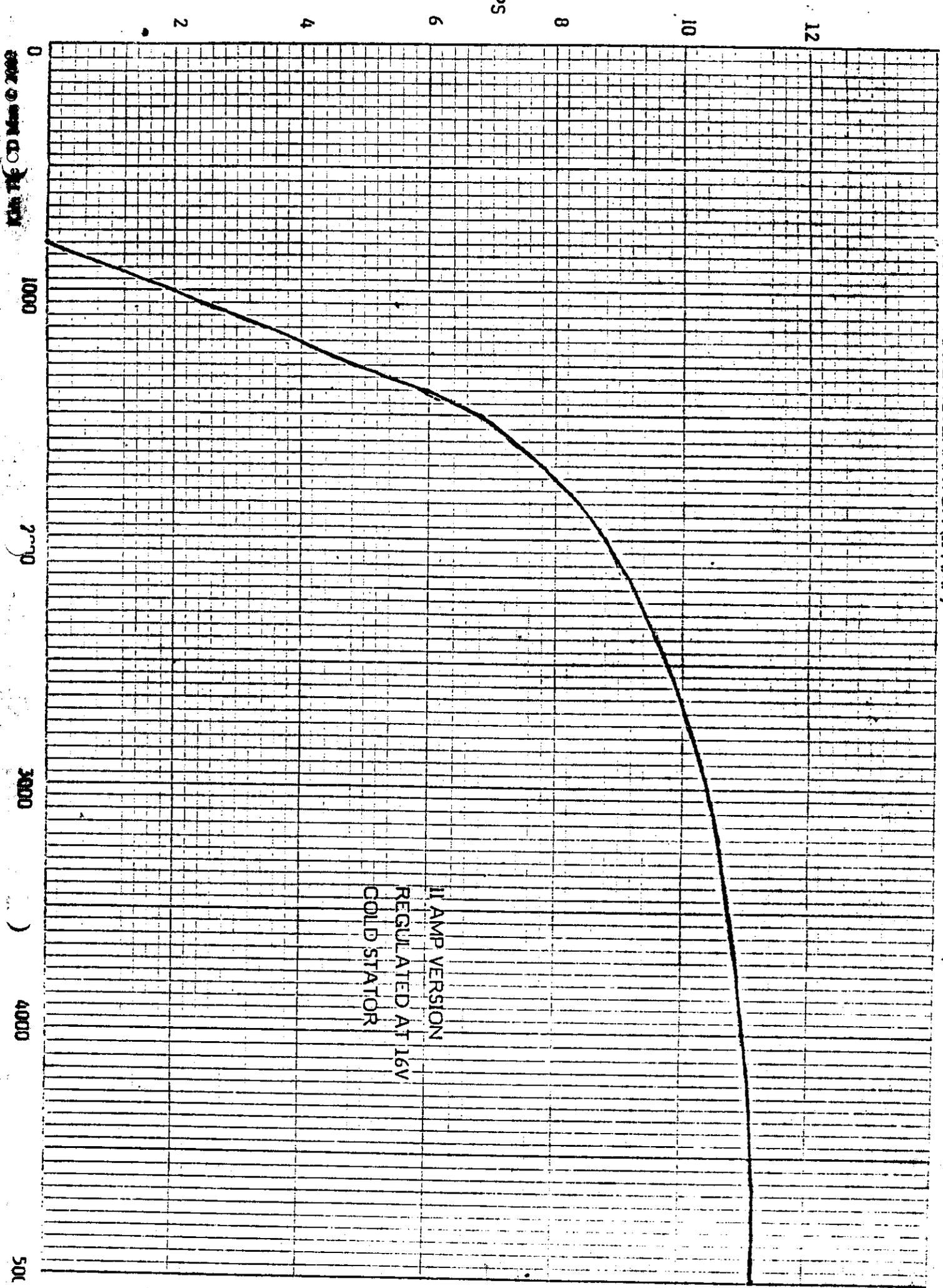
REGULATION

Regulation is by means of a standard negative earth zener diode regulating within the tolerance range 14.7 to 15.8.

RECTIFICATION

Rectification is by a six diode rectifier pack. This pack is surge and polarity conscious, the D.C. circuits must not be disconnected while the engine is running.

RM24 3 - PHASE ALTERNATOR (11 AMP)



11 AMP VERSION
REGULATED AT 16V
COLD STATOR

0 1000 2000 3000 4000 5000

500

TECHNICAL INFORMATION

ELECTRONIC IGNITION

DESCRIPTION

The system consists of three parts:- An AB11 amplifier, a 5PU pick-up and a reluctor. The amplifier is a remotely mounted electronic switching system contained in a cast aluminum box. The pick-up is a magnetic base plate and encapsulated winding mounted in the crank case of the motorcycle, around the reluctor. The reluctor is a precision ground steel timing device mounted on the end of the cam shaft.

OPERATION

On closing the ignition switch, current passes through the primary windings of the two 6 volt coils in series, through the conducting amplifier to earth.

The magnetic base plate of the pick-up generates a magnetic field between the poles of the pick-up, as the arms of the rotating reluctor approach these poles, the rapidly changing field strength generates a pulse in the winding. This pulse is transmitted to the amplifier causing it to switch off. The collapse of the primary winding field in the ignition coils generates the H.T. voltage for the spark.

CHARACTERISTICS

MINIMUM IGNITION PERFORMANCE

With two Lucas 6 volt coils in series, either coil must produce not less than 12 Kv when loaded with 1 MEGOHM + 50pf the other coil operating on a gap approximately 5Kv, with a supply voltage of 13.5 volts over the reluctor speed range 100-4000 rev/min, after five minutes running at an ambient temperature 20-25°C.

ADVANCE CURVE

At 14.0 volts timing change as follows for engine speed at:

100	rev/min	spark	at	TDC
500	"	"	advance to be	9°
1000	"	"	" "	19°
2000	"	"	" "	30°
3000	"	"	advance to be	36°
3500	"	"	" "	38°
5000	"	"	" "	40°

VOLTAGE OPERATING RANGE

At 2000 rev/min the maximum timing variation over the supply voltage range 8-16 volts must not exceed 1.5°. The system produces consistent sparking without missing over the whole speed range 90-4000 reluctor rev/min and the supply voltage 8-16 volts.

TECHNICAL INFORMATION (Continued)

RADIO INTERFERENCE

The system is suppressed to E.C.E. 10 (meets U.S.A. requirements) and to an acceptable level for V.H.F. radio telephone equipment.

RADIO INTERFERENCE SUSCEPTIBILITY

The system is unaffected by V.H.F. radio frequencies.

BATTERY POLARITY

The AB11 amplifier is suitable for both positive or negative earth polarity but not completely insulated systems. The casting MUST be earthed.

ROTATIONAL CONSCIOUSNESS

The pick-up is direction conscious, the reductor must be of the correct rotation.

TEMPERATURE

The AB11 will operate in an ambient temperature of -30°C to 70°C . The 5PU will operate in an ambient temperature of -30°C to 120°C .

ENVIRONMENT

Both AB11 and 5PU meet the required levels for resistance to environmental attack, for the appropriate sections of the Lucas test specifications.

SYDIPTON	CHECK	RESULT	CONCLUSION
	<p><u>PICK-UP MODULE CHECK</u></p> <p>Continuity check. Disconnect pick-up leads only at amplifier (white/orange and white/purple). Using a D.C. voltmeter (no load) connect the Red voltmeter lead to battery positive and the black voltmeter lead to either of the two pick-up leads. Earth the other pick-up lead and the meter should read approx 9v.</p> <p>Pick-up wiring check. The pick-up wiring is connected into the harness at two bullet connectors situated under the fuel tank. Disconnect the pick-up leads at this point and repeat the continuity check on these leads.</p> <p>Release pick-up from crank case and move it aside Fit substitute pick-up and change bullet connectors at Amplifier to connectors of new pick-up. These temporary connections can be wired straight across to the amplifier.</p> <p><u>IGNITION TIMING CHECK</u></p> <p>This can only be done using a strobe light.</p> <p>Timing mark is on alternator rotor. Remove cover plug on opposite side of machine to pick-up.</p>	<p>NO READING</p> <p>NO READING</p> <p>READING O.K.</p> <p>Difficult To start and /or erratic running</p> <p>If in-correct</p>	<p>Pick-up winding or leads open circuit proceed to next check.</p> <p>Pick-up module faulty.</p> <p>Fault was probably due to bad connection at bullet connectors under tank - make sure that these connections are O.K. when remade.</p> <p>Ignition Timing incorrect proceed to next check.</p> <p>Adjust pick-up assembly to achieve correct timing. Timing mark on rotor should line up with pointer fitted when strobe light flashes.</p>
<p>ENGINE RUNS ON ONE CYLINDER ONLY</p>	<p><u>COIL H.T. OUTPUT</u></p> <p>Partially withdraw both H.T. leads from coil chimneys about $\frac{1}{4}$". Remove spark plugs and lay them on engine. Crank engine and check for regular sparking from ends of H.T. leads to centres of coil chimneys.</p>	<p>No spark evident on one coil only</p>	<p>Either:- Faulty coil (secondary) OR. Faulty H.T. lead OR. Faulty spark plug. Proceed to next check.</p>

Kim (The CD) 10/10/10

SYMPTON	CHECK	RESULT	CONCLUSION
PICK-UP MODULE CHECK (Continued) ...	<p>Pick-up wiring check. The pick-up wiring is connected into the harness at two bullet connectors situated under the fuel tank. Disconnect the pick-up leads at this point and repeat the continuity check on these leads.</p> <p>Release pick-up from crank case and move it aside. Fit substitute pick-up and change bullet connectors at Amplifier to connectors of new pick-up. These temporary connections can be wired straight across to the amplifier.</p>	<p>NO READING</p> <p>READING O.K.</p> <p>Difficult is start and/or erratic running</p>	<p>Pick-up module faulty.</p> <p>Fault was probably due to bad connection at bullet connectors under tank - make sure that these connections are O.K. when remade.</p> <p>Ignition Timing incorrect proceed to next check.</p>

TEST PROCEDURE

MOTOR CYCLE THREE PHASE ALTERNATOR CHARGING SYSTEM

Kinn (19) CD No. 200

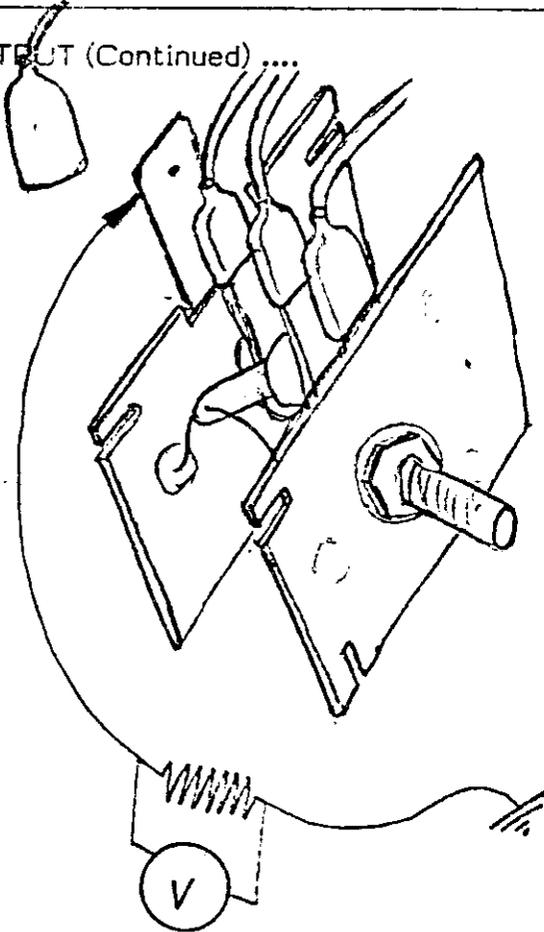
SYMPTON	CHECK	RESULT	CONCLUSION
<p>FLAT BATTERY</p>	<p>Where the battery is completely discharged it will be necessary to use a slave battery in order to start the machine. <u>BE SURE TO MAKE THE CORRECT CONNECTIONS. REVERSE POLARITY WILL DAMAGE THE RECTIFIER.</u></p> <p>1. <u>LOAD BALANCING CHECK</u></p> <p>Disconnect the battery positive cable (this can be done at the main fuse), and connect a moving coil ammeter. (Scale 0-25a) in series with the battery lead. Black ammeter connection to the battery, red connection to the lead going into the harness. Run the engine at about 2,000 R.P.M. and switch on the headlight (high beam). The ammeter should show a small amount of charge.</p> <p>2. <u>ALTERNATOR A.C. OUTPUT CHECK</u></p> <p>Disconnect the three leads from alternator to rectifier (Green/White, Green/Yellow and Green/Black). Connect on <u>A.C.</u> voltmeter (scale 0-18v) with a 1 OHM load resistor (100 WATT rating) connected across the meter terminals, between the Green/White and Green/Black alternator leads. Run the engine at about 2,000 R.P.M. and note the reading.</p> <p>Repeat with meter connected across Green/White and Green/Yellow note the reading.</p> <p>Repeat across Green/Yellow and Green/Black leads. Voltmeter should read 5.0 VOLTS min. on all tests.</p> <p>3. <u>D.C. OUTPUT FROM RECTIFIER</u></p>	<p>Ammeter shows a discharge note the reading for future checks.</p> <p>Low or no reading on two tests</p> <p>Low or no reading on all tests</p> <p>All O.K.</p>	<p>Possible alternator, rectifier, battery or wiring fault. Stop engine, reconnect battery and proceed to next check.</p> <p>Alternator stator faulty</p> <p>Possible stator fault but more likely caused by demagnetised alternator rotor</p> <p>Stop engine. Reconnect alternator leads Proceed to next check.</p>
<p>FLAT BATTERY</p>	<p>Remove the ignition amplifier housing for access to the rectifier. Remove the brown/blue lead (main +) from the rectifier. Connect a <u>D.C.</u> voltmeter (scale 0-18v) with a 1 OHM load resistor (100 WATT rating) across the meter between a good earth connection (black voltmeter lead) and the rectifier main positive terminal (red voltmeter lead). Run the engine at about 2,000 R.P.M. The voltmeter should read 9.0 VOLTS min.</p>	<p>Low or no reading</p> <p>READING O.K.</p>	<p>Rectifier faulty</p> <p>If the ammeter reading in the first test was showing the full lighting discharge this indicates that there is no charge at all and the fault is due to an open circuit in the wiring harness.</p>

SYMPTOM CHECK

RESULT

CONCLUSION

3. D.C. OUTPUT (Continued)



If the ammeter reading in first test was only slightly below zero, this indicates a low charge. The fault may be due to a sulphated battery (try again with a substitute good battery), OR it may be due to incorrect regulating voltage. Stop engine, reconnect rectifier and proceed to next check.

4. ZENER DIODE REGULATING VOLTAGE CHECK

For accurate results in this test it is essential that the battery is fully charged if not use a substitute charged battery.

Disconnect the cable from the zener diode terminal (situated behind the air filter box. This is easier if the air filter is removed).

CHARGE RATE TOO HIGH
(over-charging & possibly blown bulbs)

SYMPTOM CHECK	RESULT	CONCLUSION
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4. ZENER
 08
 CHARGE
 RATE
 TOO LOW
 (flat
 battery)

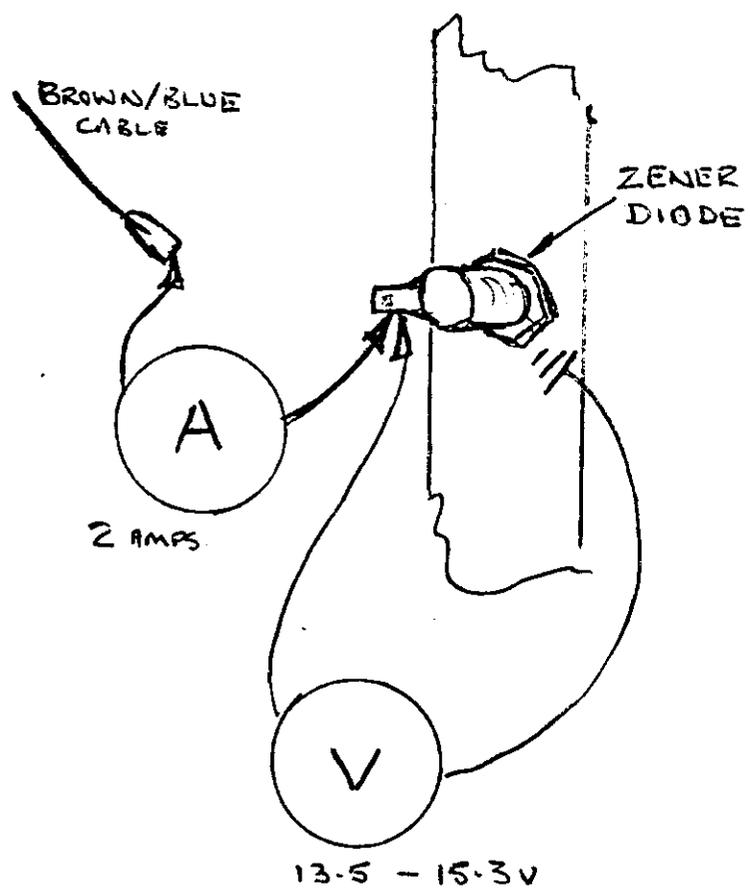
4. ZENER DIODE REGULATING (Continued)

Connect a moving coil ammeter (min scale 0-5a) in series with the zener terminal and the lead removed (black ammeter lead to the terminal, red to the cable). Also connect a D.C. voltmeter (scale 0-18v) between the zener terminal and a good earth (red to the terminal, black to earth). Start the machine and carry out the following check.

- A. Increase the revs until the ammeter shows 2.0 AMPS hold the revs at this figure and the voltmeter should read between 13.5v and 15.3v.

Voltmeter
 reads
 above
 or below
 the limits
 given

ZENER DIODE faulty
 causing incorrect
 charge rate



WORKSHOP INSTRUCTIONS

Parts not immediately visible can be discovered as follows:

1. ALTERNATOR:-

Behind left hand side crankcase cover, at forward end of crankcase.

Access:- Release foot rest bolts and allow footrest to swing down. Release pinch bolt in gearchange lever and slide lever from splines. Remove Philips Head bolts from periphery of crank case cover and lift cover clear. To remove stator remove three securing nuts and release bullet connections from main harness. Lift stator clear and withdraw lead through grommet. To remove rotor, knock down the tab washer and remove the central nut. N.B. it may be necessary to put the motorcycle in gear and apply the rear brakes. When reassembling pass an 0.008 feeler gauge round the gap between rotor and stator. Ensure this clearance does not take-up when the rotor revolves.

2. AB11 AMPLIFIER:-

Behind inner panel on right hand side below seat.

Access:- Release springs above and below carburettor inlets. Swing right hand model name panel out and to rear. Lift out sideways the "L" shaped rear edge which is hooked around the frame. Remove the single nut in the plastic air filter cover (Forward Panel) and lift out. Remove two bolts inside rear edge of air filter box. Carefully ease out the leading edge of the metal rear panel. Lift forward off retaining peg. Amplifier is secured top and bottom by nuts and bolts to this metal panel. A short earth lead is also secured by the topmost of these two bolts. N.B. it may be necessary to remove the air filter element by carefully driving the central bolt back through the sprag washer.

3. BATTERY:-
IGNITION COILS
H.T. LEADS

Beneath seat.

Access:- Unlock seat on right hand side with ignition key. Pull out seat catch knob, lift saddle to left. To remove battery, unhook strap remove leads and lift out. To remove coils, remove leads and slide upwards from rubber rings.

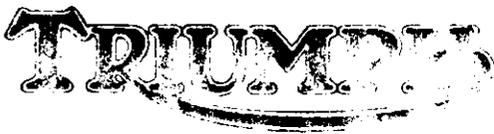
4. SPU PICK-UP:- Behind ribbed cover at front of right hand crank case cover.

Access:- Remove two Philips head bolts and lift off cover and gasket. To remove the base plate and windings, release the two small hexagon barrel nuts at top and bottom. Release the pick-up cable bullets from the main harness and the cable from the securing straps. Lift the base plate out and carefully withdraw the lead through the grommet in the crank case. To remove the reluctor, remove securing bolt from centre of reluctor. Insert puller (Triumph part no. 61-7023) and ease reluctor out of tapered hole in camshaft, taking care not to allow the reluctor to twist as this will damage the keyway. When replacing the reluctor, the securing bolt should be tightened to a torque of 5 lb ft. See also "TIMING".
5. RECTIFIER:- On the front of the rear mudguard (Fender) behind air filters.

Access:- Remove springs above and below carbs swing out and lift off the right hand model name panel. Rectifier can be reached beneath the triangular metal tray at the rear. If more accessibility is required this metal tray can be removed. (See AB11 amplifier).
6. TIMING:- When the baseplate and winding is replaced, the ignition must be reset. Set the baseplate to the centre of the adjustment slot, secure lightly and start engine. Using a stroboscope, adjust the baseplate until the timing mark on the rotor appears stationary beneath the fixed timing mark, with the engine at 3500 rev/min. See also "Timing Marks".
7. TIMING MARKS:- Behind forward Philips head cover in left hand side crankcase cover. (Above the word "TRIUMPH").
8. ZENER DIODE:- On rear of right hand air filter casting in front of battery.

Fixing Nut. Release springs above and below carbs. Swing right hand model name panel out and rear wards. Lift out rear edge which is hooked around the frame. Remove the single centre nut and plastic air filter cover (Front Panel). Carefully drive the central air filter bolt back through the sprag washer and remove the air filter. The zener diode fixing nut can be seen at the top of the rear side face of the filter casting.

Harness Connection. The harness connection on the zener diode Lucar can be seen between the chassis members and can be reached with pointed-nose pliers or by removing the battery.



Number: 3-79
 Subject: Pre-delivery Service
 Models: 1405
 Date: October 1978

SERVICE BULLETIN

PRE-DELIVERY SERVICING INSTRUCTIONS FOR 1979 MODELS

1. Drain the gearbox, primary chaincase, oil reservoir and sump.
2. Refill the gearbox, primary chaincase and oil reservoir with the grade and quantity of lubricant listed below.
3. Service the battery according to the instructions attached to the battery. Make sure the venting is done through the battery. The battery venting must be routed so that no harm will result from carbon dioxide. Be sure to observe polarity when installing the battery. The electrical system is NEGATIVE GROUND.
4. Remove fuel tank and drain.
5. Check all 10 cylinder head bolts for tightness:
 Two small air center bolts.....20 ft. lbs.
 Eight larger bolts.....25 ft. lbs.
6. Check cylinder base nuts for tightness....25 ft. lbs.
7. Remove tappet inspection covers and check valve clearance;
 Inlet - .008"; Exhaust - .007"
8. Pour 4 fluid ounces of engine oil into the rocker box. This will drain into the sump to keep prime on the return side of the oil pump.
9. Check primary chain free play through the inspection hole in the top of the cylinder. Correct free play is 3/8" (9.5mm).
10. Check free play of the rear chain. Correct free play is 3/4" (1.8cm) with the machine on its wheels or 1 3/4" (4.3cm) with the machine on its center stand. Lube the chain with a suitable chainlube.
11. Check clutch adjustment. Slacken the handlebar adjuster and check the pushrod adjustment through the inspection hole in the primary cover. Correct adjustment is the pushrod 1/8" from touching the adjuster. Adjust clutch lever free play to 1/8". Lubricate the cable pivot with grease.



TRIUMPH

Number: 4-79
Subject: 500 Mile Service

Models: T140E
Date: October '78

SERVICE BULLETIN

500 MILE SERVICING INSTRUCTIONS

1. Drain the gearbox, primary chaincase, oil reservoir and sump. Clean oil reservoir and sump screens. Refill with the quantity and grade of lubricants listed below.
2. Remove the fuel tank.
3. Retorque the cylinder base nuts....25 ft. lbs.
4. Retorque all 10 cylinder head bolts;
Two smaller center head bolts....16 ft. lbs.
Eight larger bolts....18 ft. lbs.
5. Adjust valve clearance; Inlet - .008"; Exhaust - .005"
6. Check brake fluid levels in both reservoirs.
7. Reinstall fuel tank.
8. Adjust primary chain. Proper free play is 3/8".
9. Adjust rear chain. Proper free play is 3/4" with the machine on its wheels or 1 3/4" with the machine on its center stand.
10. Check clutch adjustment. Proper adjustment at the pressure plate is one full turn out from touching the pushrod. Proper free play at the clutch lever is 1/8".
11. Check the ignition timing with a strobe light. The mark on the rotor should line up with the pointer in the primary cover at 3500 rpm.
12. Adjust carburetors if necessary.
13. Replenish battery water. Use distilled water.
14. Road test.

(over)



TRIUMPH

Number: 5-79
Subject: Ignition Timing Procedure
Models: T140E
Date: October '78

SERVICE BULLETIN

ELECTRONIC IGNITION TIMING PROCEDURE

1979 Triumphs are equipped with electronic ignition. Timing procedure differs from previous models, and is much simpler and faster.

The timing advances electronically, not mechanically as before. For this reason the timing must be set with a strobe light. The procedure is as follows:

1. Remove the plug in the primary cover to expose the timing marks.
2. Install a strobe-type timing light on the drive side spark plug. One cylinder only needs to be timed as both plugs fire simultaneously.
3. Start the engine. Rev it to 3500 - 4000 rpm. VERY IMPORTANT. At this engine speed, the timing mark and pointer should line up. If the timing needs to be changed to bring the mark and pointer into alignment, remove the finned cover from the timing cover, slacken the pillar bolts and rotate the PICKUP PLATE clockwise to retard or counterclockwise to advance.

Once set, the ignition will stay in time until the pickup plate is disturbed. Ignition timing should of course be checked during tune-ups to ensure it has not been changed.



TRIUMPH

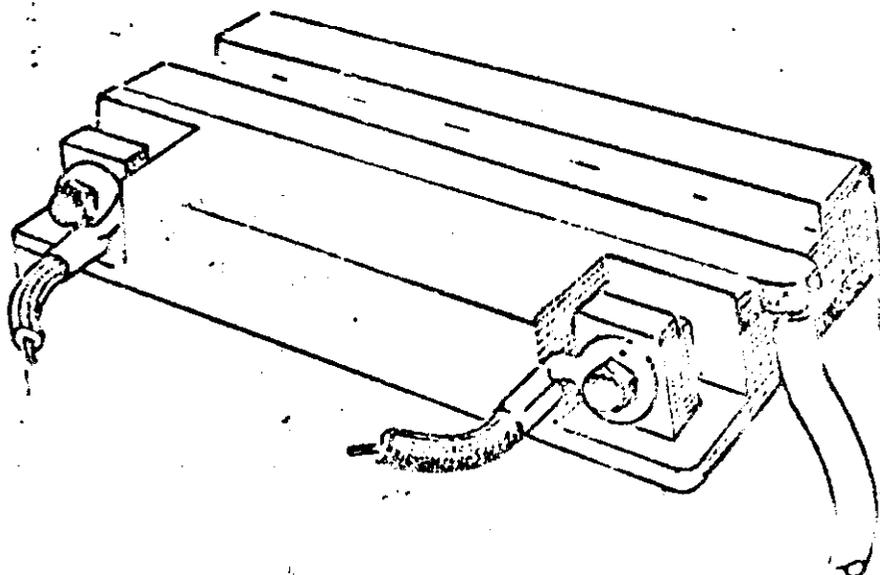
Number: 6-79
Subject: BATTERY TERMINALS
Models: ALL 750 TWINS
Date: NOVEMBER 1978

SERVICE BULLETIN

BATTERY INSTALLATION

When preparing the motorcycle for use or on PDI, it is essential that the terminals are fitted as shown in the sketch, i.e. bent 90 degrees and not fitted standing upright.

Failure to observe the above can result in the terminals being fouled by the seat pan causing severe burning of the wiring harness.



BATTERY TERMINALS

Connect eyelets to battery terminals as shown in above diagram.
Ensure the eyelets do not extend above the top of the battery.



TRIUMPH

Number: 7-79
Subject: BRAKE BLEEDING
PROCEDURE
Models: ALL 750 TWINS
Date: NOVEMBER 1978

SERVICE BULLETIN

"BLEEDING" THE HYDRAULIC SYSTEM—FRONT AND REAR

If at any time it has been found necessary to disconnect a part of the hydraulic system (for repair etc.) it will be necessary to replenish the master cylinder reservoir and "bleed" the system free of trapped air pockets. "Bleeding" (or expelling air from) the hydraulic system is not a routine maintenance operation. Always keep a careful check on the fluid level in the reservoir during "bleeding". It is most important that it is kept at least half full, otherwise air may be drawn into the system necessitating a fresh start.

Fluid drained from the system should not be used again unless it is perfectly clean and free from air bubbles. The fluid should not be used again in any case if it has been in use for some time. To ensure that the fluid is completely free of air bubbles it should be allowed to stand for several hours before use.

Use only the specified type of brake fluid for topping up the reservoir. See General Data.

NOTE: For the rear brake, first partially withdraw the rear wheel spindle, see Section F, out to the L.H. side enabling the brake caliper and mounting bracket to swing down to the position shown in Fig. F8 prior to commencing with the "bleeding" procedure.

Procedure for "bleeding" is as follows (Rear brake is similar):—

Connect a suitable sized rubber "pipe" "C" Fig. F7 to the bleed nipple "A" Fig. F7 and suspend the free end of the tube in a glass jar with the open end immersed in at least 1/2 in. (12.7mm.) of brake fluid. Remove the screwed cap from the master cylinder reservoir and take out the rubber diaphragm "E" Fig. F5. Now slacken the bleed nipple 1/2 to 3/4 of a turn, (with the bleed pipe still attached).

Ensure that the master cylinder is full of the correct fluid. Before commencing further, now pull the front brake lever firmly to the handlebar holding it in that position for a few seconds. Air in the system will now be expelled through the rubber tube and will be observed in the form of bubbles rising in the jar. Release the brake lever and repeat the operation until air bubbles are no longer seen to escape. As a safeguard to prevent any air being drawn back into the system when the lever is released, loop the "bleed" pipe as shown in Fig. 7. This ensures that a "head" of fluid is maintained between the top of the loop and the "bleed" nipple.

When the flow of air bubbles ceases hold the brake lever in the fully "on" position and retighten the bleed nipple (with the "bleed" pipe still connected).

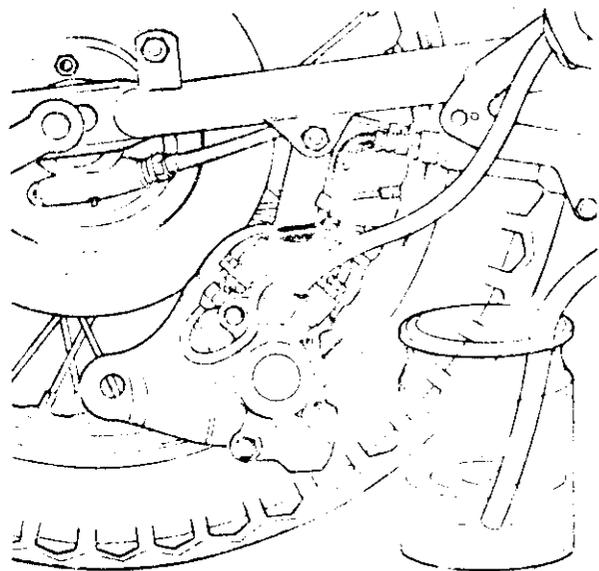


Fig. F8. Showing arrangement for bleeding the rear brake



Remember to maintain the level of hydraulic fluid in the master cylinder during the entire operation. The correct level for the fluid is shown in Fig. F5 at "F". This will be the correct level when the brake pads are NEW. When replacing the rubber diaphragm (Fig. F5 "E") it will be easier to replace the cap with the diaphragm in a folded condition. See Fig. F9.

Hold the diaphragm upside down on a flat surface and push the middle section down until it touches the surface. It will now remain in that position and the diaphragm can now be replaced into the reservoir and the cap refitted. Do not forget the paper washer that is fitted between the cap and the

diaphragm. When fitting the cap make sure it is retightened firmly and make sure that the vent is unobstructed.

If at any time it has been necessary to replenish the system with hydraulic fluid during the life of one set of brake pads, remember that when new pads are fitted the fluid level will rise appreciably in the cylinder and may spill onto the gas tank. Therefore the level will have to be corrected to that shown in Fig. F5. (Hydraulic fluid instantaneously corrodes cellulose paint work and great care should be exercised when handling this fluid)

BRAKE FLUID LEVEL

The brake fluid level in the master cylinder reservoir should be as shown in Fig. F5 (F). There is a mark running around the inside periphery of the reservoir about 1/8 in. (6.35mm) from the top. The level will drop slightly as the pads wear and when new pads are fitted the fluid will return to the original level provided no leakage has occurred.

It is necessary to 'top-up' the fluid level at the intervals stated in "Routine Maintenance".

Always hold the handlebars against full RIGHT lock when 'topping-up' the front brake reservoir. Do not overfill.

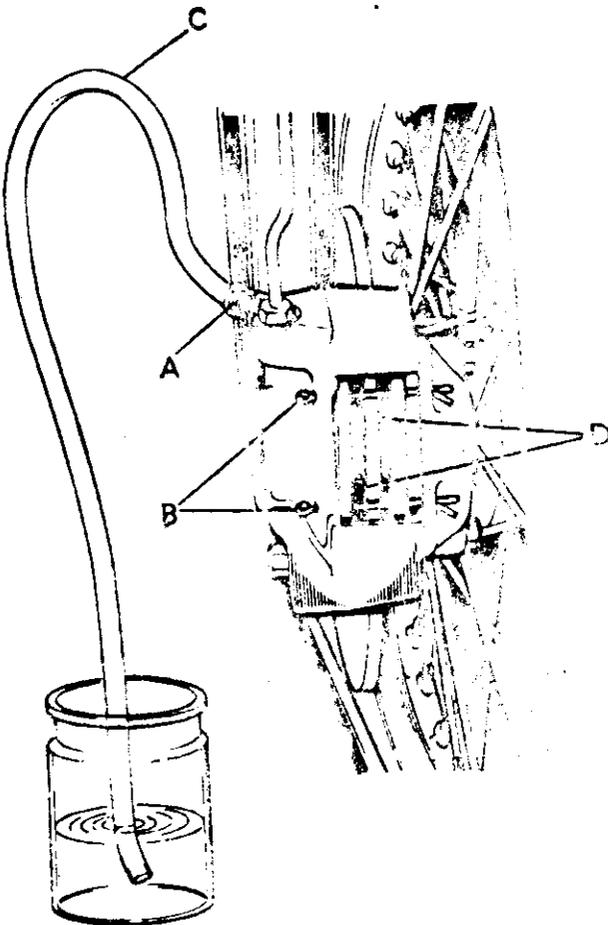


Fig. F7. Showing arrangement for bleeding the front brake

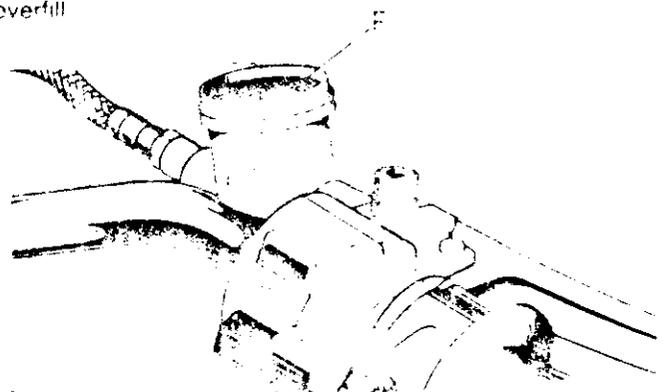


Fig. F5. Showing the front brake reservoir fluid level

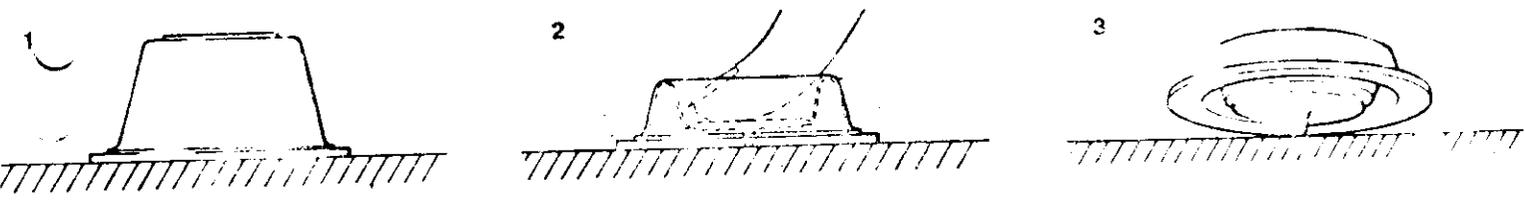


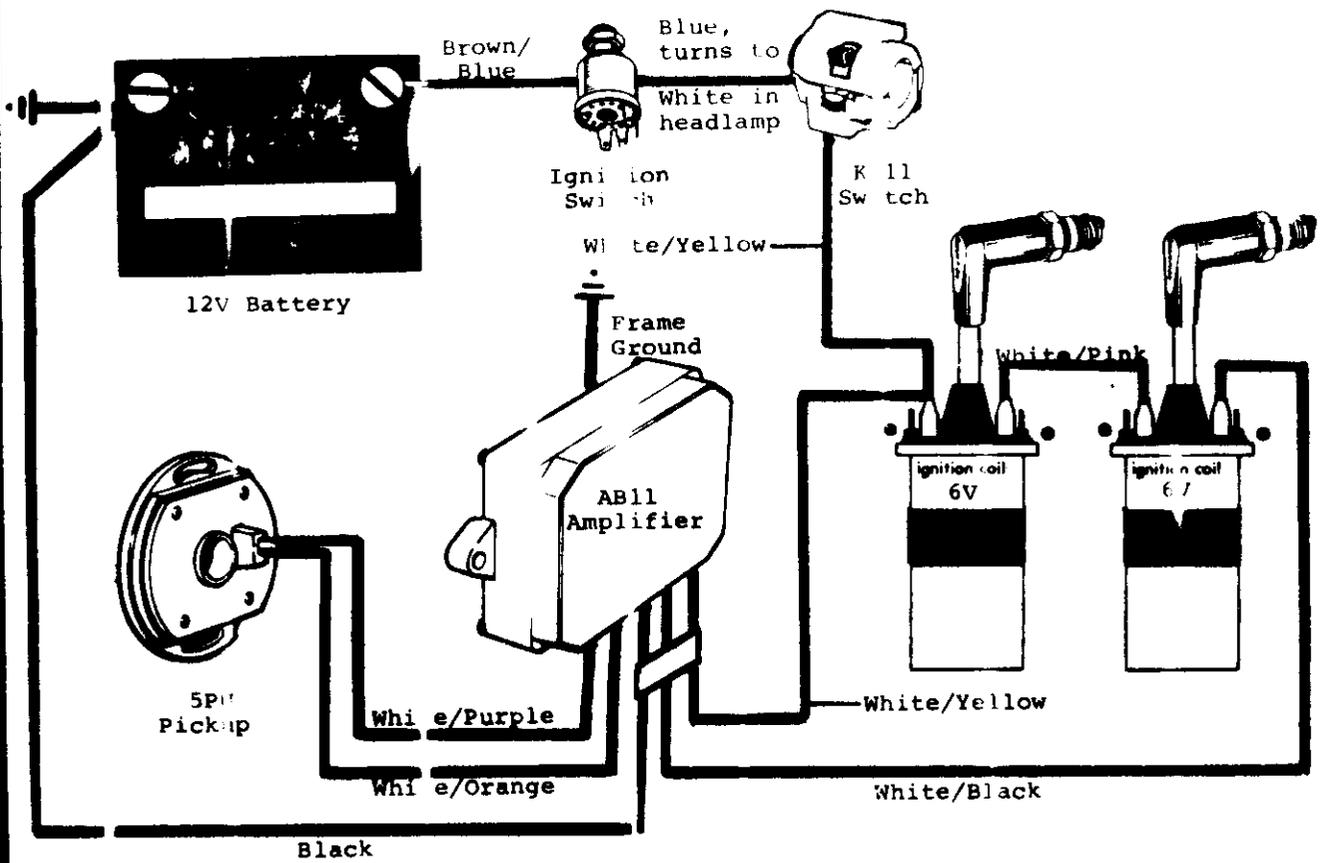
Fig. F9. Folded condition of rubber diaphragm



Number: 8-79
 Subject: Electronic Ignition
 Wiring Diagram
 Models: T140E
 Date: January 1979

SERVICE BULLETIN

ELECTRONIC IGNITION WIRING DIAGRAM



NOTE The BLUE wire from the ignition switch is the ignition and lighting feed in "Lights-on" condition only. (See Service Bulletin 2-79, "Conversion to 'Lights-on' Condition".)

In "Lights-off" condition, the WHITE wire from the ignition switch is the ignition feed.

TRIUMPH

Number: 9-79
Subject: Cylinder Head Gasket
Models: T140
Date: January 1979

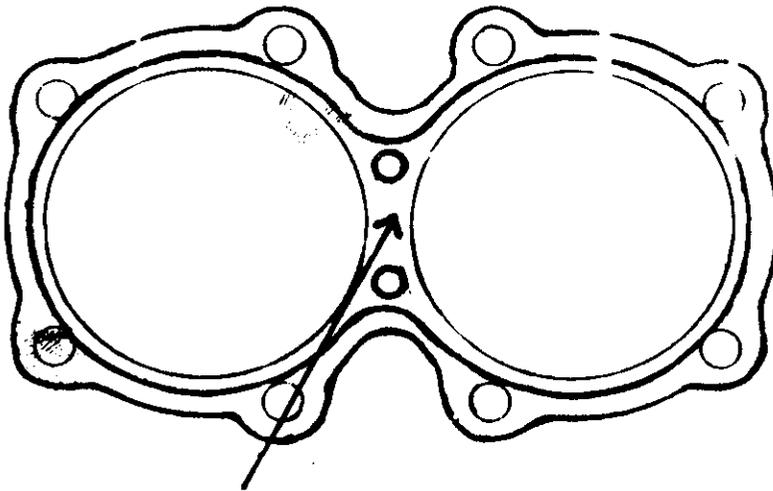
SERVICE BULLETIN

CYLINDER HEAD GASKET

As you are aware the Klinger cylinder head gasket was introduced to prevent failure to which the copper gasket was prone.

What has become clear is that not all mechanics are familiar with this type of gasket. Therefore, clarification is as follows:

- 1) Ensure gasket is fitted correct way up, i.e. metal center towards cylinder head.



METAL CENTER TOWARDS CYLINDER HEAD

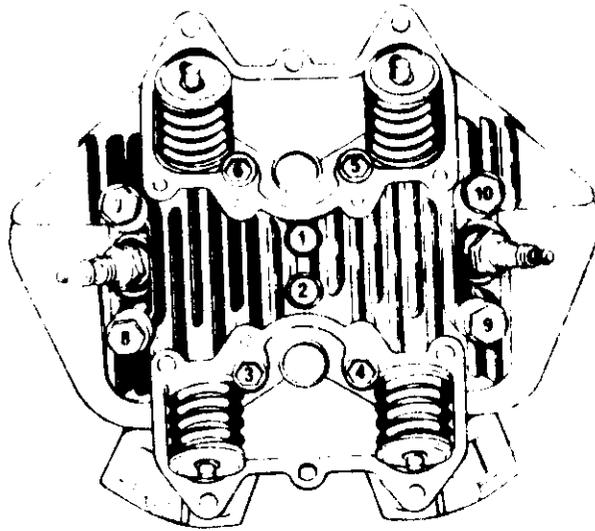
- 2) On initial assembly, torque should be 22 lbs/ft for all 3/8" diameter studs and 18 lbs/ft for remaining 5/16" diameter studs.
- 3) Run engine until thoroughly warm, stop and allow to cool, retorque to 18 lbs/ft for 3/8" diameter studs and 16 lbs/ft for 5/16" diameter studs.
- 4) After torque, reset tappets: .008" inlet and .006" exhaust.
- 5) IMPORTANT: Retorque head at 500 mile service.

It is vital that the above procedure is carried out as failure to do so can result in premature gasket failure.

(over)

NOTE:

To enable retorque to be accomplished swiftly a service tool has been produced which drops through the rocker box fixing bolt holes and is available from the Triumph Parts Department. Part No. 61-7010.



Cylinder head bolt tightening sequence



61-7010. Sleeve nut adaptor tool—cylinder head



Number: 10-79
 Subject: T140E Carburetion
 Models: T140E
 Date: January 1979

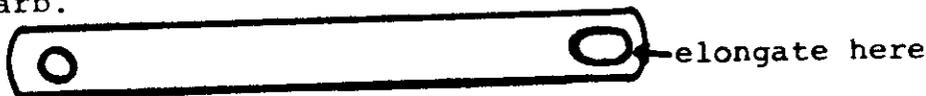
SERVICE BULLETIN

T140E CARBURETION

If rich running is encountered after normal setting procedure has been carried out, the following checks should be made.

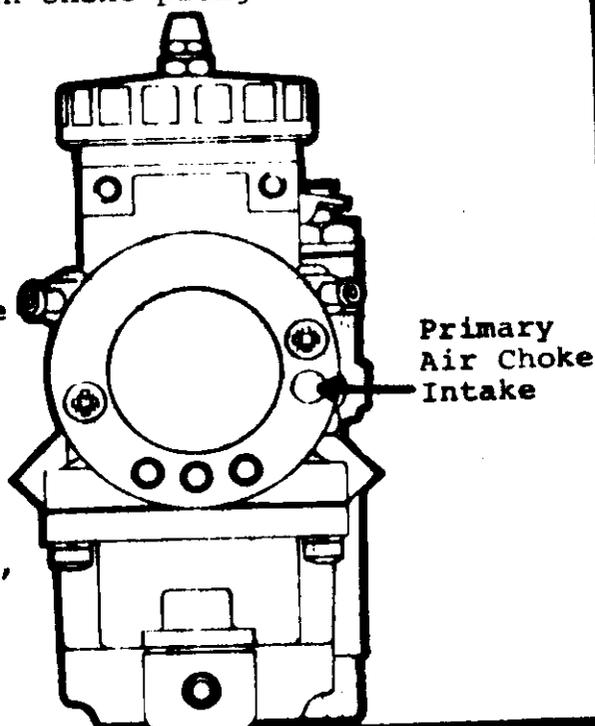
- a) With engine running at approximately 1000-1500 RPM and choke lever in the normal running position, apply pressure (by thumb or finger) to each choke plunger in turn. If richness clears, then choke plunger is being held off seating.

Remedy - Remove choke linking bar (this is the strip of metal that links the LH choke operating lever to the RH lever) and elongate one hole towards the edge of the strip by 1/16", ending up with a 3/16" oval slot. Refit bar ensuring that the elongated hole operates the RH carb.



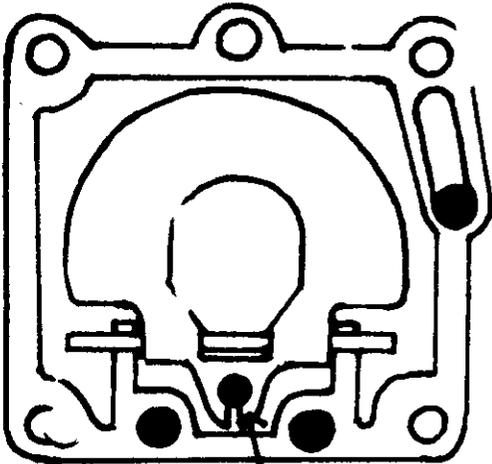
This modification will ensure that both choke plungers seat irrespective of carburetor angles.

- b) If above is correct, remove air filter covers and, again with engine running at 1000-1500 RPM and choke lever in the normal running position, place one finger over the Primary Air Choke Intake (this is the hole in the air intake adaptor just below the RH fixing screw). If suction can be felt, then the choke plunger is not seating correctly and should be removed for investigation.



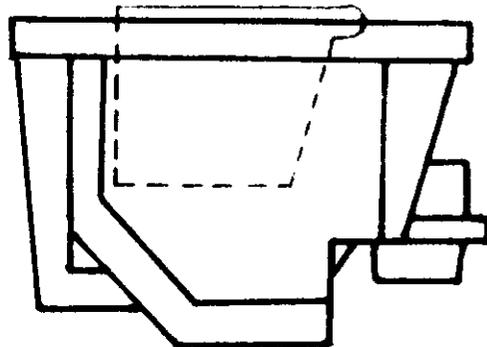
If both the above show no improvement, then the float chambers should be removed and the float levels checked as follows.

The level is correct when with light pressure being applied to the float directly by the needle groove, the float rests horizontal in the float bowl; that is to say, there is an equal distance all around the rim.



PUSH ON TAB ONLY
NOT ON NEEDLE

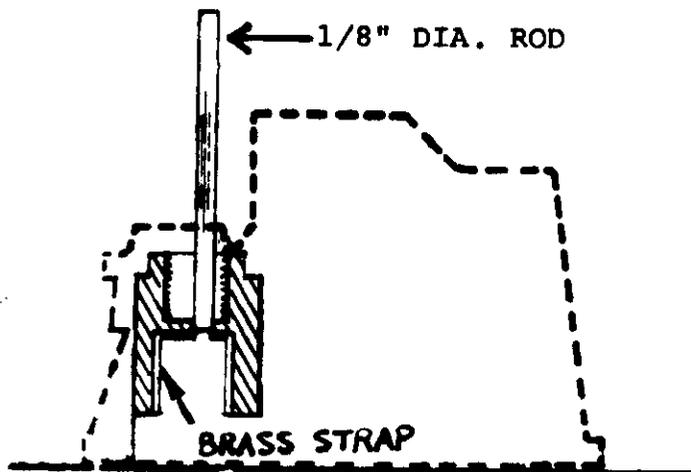
TOP OF FLOAT SHOULD BE
PARALLEL WITH TOP OF
FLOAT BOWL.



ADJUSTING FLOAT LEVEL

- a) Remove all fittings from float bowl.
- b) Heat the bowl slightly with a propane torch, or by immersing in boiling water. This will free the brass seat so it can easily be moved.
- c) Using a 1/8" diameter rod, gently tap the brass seat until the proper setting is attained. Note that only the smallest amount of movement is required due to the leverage ratio of the float.

CAUTION: Do not attempt to move seat without heating bowl.





Number: 11-79
Subject: T140E Spark Plug
Heat Range
Models: T140E
Date: January 1979

SERVICE BULLETIN

T140E PLUG SPECIFICATION FROM ENGINE NO. HA 11001

Following tests carried out in conjunction with Champion, the specification of the spark plug as fitted to the 1979 T140E Bonneville has been changed from N3 grade to N5 grade.

This alteration gives easier starting and improved slow running particularly when the motorcycle is used predominantly in town and suburban conditions.

NOTE: This change only applies to T140E models fitted with Mk II Amals. The older T140 must still be serviced by the N3 grade plug.

TRIUMPH

Number: 12-79
Subject: 1979 Electrical Parts
Identification
Models: 140
Date: January 1979

SERVICE BULLETIN

NOTE:

All 1979 models from introduction engine no. HA 11001 have negative earth system. Although parts may look similar to ones used previously, they are not interchangeable.

IDENTIFICATION

ZENER DIODE - PART NO. 60-7156

Identify by Lucas No. 49589 and directional flow mark  printed on body.

RECTIFIER - PART NO. 99-7051

Identify by Lucas No. 83539 and stud— mark.

ALTERNATOR

Identify by three lead output cable.

COIL - PART NO. 60-7131

Identify by Lucas No. 45220A 17 M 6 stamped on bottom of coil indicating 6 volt type.



RIDE A LIVING LEGEND

October, 1981.

TO THE TRIUMPH DEALERS OF VICTORIA

NEW MODEL RELEASE FOR 1982.

TRIUMPH is marching into a new and exciting era for English motor cycles. For 1982 new models have been produced, one reviving the famous "THUNDERBIRD" name, others competing in the de luxe field and another making its entry into the off-road market. The very popular BONNEVILLE, the present market leader, still stands supreme, offering an electric starter as an option.

TRIUMPH DEALERSHIP is a valuable enfranchisement. The brand has a definite following in its own right, and the motor cycle is in fact a living legend with a history dating back beyond a TOURIST TROPHY VICTORY IN 1905. Its famous handling capability and uncomplicated construction are definite sales features.

<u>MODEL RANGE.</u>		<u>RECOMMENDED RETAIL.</u>	
TR65	650cc 3995	\$3595-00	3800 3850
TR7T	750cc 4235	\$3795-00	4000 4060
T140E.	750cc 4295	\$3895-00	
T140E.	Electro 4395	\$3995-00	
T140E	Exec. Electro. —	\$4750-00	
T140E	Exec. Full Fairing —	\$4995-00.	
T140E.	Eight Valve Models	Price subject to negotiation	
	TFF \$4950	Due around mid 1982.	
	TFX 1600 \$4750		

COMMISSIONS: Subject to negotiation.

U.S. specification, high bars and small tanks, are available for all but the de luxe Executive models, while U.K. specification, large tanks and low bars can be ordered for the whole range, except the TR7T Trail. TRIUMPH have redesigned the U.K. fuel tank, produced in Italy, which greatly enhances appearance and style of this version. You will note too, in the specification the occurrence of the use of some Mazzochi products and Bing constant velocity carburation.

Colour finishes are particularly attractive with blue, red, black with gold lines, olympic flame and silver and ivory. In some cases smoked overtones are used. The Trail bike is in Sunburst Yellow only.

October, 1981.

CONFIDENTIAL.

DEALERS COMMISSIONS FOR CASH OR BORG WARNER FINANCE.

<u>MODEL</u>	<u>CASH</u>	<u>BORG WARNER</u>	<u>REC. RETAIL.</u>
TR65	\$500-00	\$460-00 +	\$3595-00
TR7T	\$550-00	\$506-34	\$3795-00
T140E. K/S.	\$550-00	\$501-15	\$3895-00
T140E. E/S.	\$550-00	\$496-44	\$3995-00
T140E. Small Fairing	\$700-00	\$631-80	\$4750-00
T140E. Full Fairing	\$750-00	\$670-16	\$4995-00.

COMMISSIONS Subject to change without prior notice.

SPECIFICATIONS Subject to change without prior notice.



Number: 5/81
Subject: ELECTRIC START GEAR DRIVE

Models:
Date: 19th June 1984

produced under licence by L F Harris (Rushden)Ltd

SERVICE BULLETIN

Due to engineering changes to the gears in the drive of the electric start model the following information should be noted:

- Part No. 71-7436 Hub Gear No. 8 - 24 teeth
- Part No. 71-7243 Gear 6/7 - 36/11 teeth

will no longer be supplied from stores.

If one or both these components are required they will be serviced by a service pack No. 99-7515, comprising of:

- Part No. 71-7619 Hub Gear No. 8 - 19 teeth
- Part No. 71-7621 Gear 6/7 - 36/9 teeth
- Part No. 71-7561 Intermediate Spindle (no cross holes)

NOTE: The latter mentioned gears and spindle are not interchangeable individually with the earlier type and therefore must be used as a set.

All engines produced subsequent to NDA 31369 have these later type components fitted.

Bob Haines
Spares Manager

October, 1981.

1982 RANGE- PRESS INFORMATION.

THUNDERBIRD.

The Thunderbird has a 650cc twin cylinder four stroke OHV engine with single carburettor. Aimed at the first-time big bike rider, it is less expensive to purchase, and more economical to run than the 750cc, achieving 65-70 m.p.g. at 55-65 m.p.h.

It is easy to service- the majority of engine components being the same as the 750cc- and features a new four gallon Triumph style petrol tank, in a smokey cherry red finish, with high rise or traditional handlebars and a two-into-one exhaust system running into a single silencer on the left hand side of the machine. The Thunderbird is economically priced and retains the traditional qualities of Triumph handling at its best.

TIGER TRAIL.

The Triumph Tiger Trail is a dual purpose 750cc twin, also suitable for off-road use. It is finished in a conspicuous yellow, has a new inlet camshaft and modified valve timing for more engine power at lower rpm. The special rear suspension units provide increased wheel travel and have spring/damper characteristics suitable for trail riding or normal road use. Other off-road features include Avon mud plugger tyres, 21 inch front wheel, plastic mudguards, a 7 inch diameter rear drum brake and a black finish two-into-one exhaust system.

BONNEVILLE AND BONNEVILLE EXECUTIVE.

The famous Bonneville 750cc, available with high rise or U.K. handlebars, has several new styling features and technical improvements. These include a new petrol tank for the four gallon specification, styling changes to the front forks, optional twin disc front brakes, alloy calipers and Dunlopad sintered metal wet weather pads. A vastly improved Lucas sealed beam 60/45 watts lighting unit, in a matt black headlamp shell is carried on improved rubber insulated mountings.

The Bonneville Executive version has twin Bing carburettors and is fitted with cockpit fairing (full fairing optional) and twin mirrors; a top box to hold two full face helmets with a concealed tool recess and first aid kit and a pair of matching executive suitcase panniers.

Latest specification improvements 17th April 1981.

A. GENERAL - ALL MODELS

Dunlopad sintered metal brake pads with plain cast iron discs, the pad material having been developed by Dunlop's Aviation Division, provide the best possible braking efficiency in all weather conditions. TRIUMPH is the first motorcycle manufacturer to adopt Dunlopad as original equipment and these are fitted to all disc brake models.

New rectangular pattern matt black finish direction indicator lamps.

New shape 4 gallons capacity fuel tank with snap-up filler cap.

Front fork sliding members finished in matt black.

Headlamp mounting brackets redesigned to give improved flexible mounting for the light unit and finished in matt black.

Headlight unit is Lucas sealed beam type 60/45 watts and the wiring harness now has multi-pin connectors throughout.

The rear handrail reverts to the conventional pattern without small carrier and is finished in matt black.

The dualseat interior cushion is improved with a cold-cure insert for increased rider comfort (except for the TR65).

Footrests are rubber mounted for improved rider comfort (except for TR7 Tiger Trail and TR65).

B. TR7 TIGER TRAIL

Low compression 7.4:1 engine with new inlet camshaft to increase torque at lower RPM and gear ratio modified to suit with 18T gearbox sprocket and 47T rear wheel sprocket.

Marzocchi rear suspension units provide 5 ins travel at rear wheel.

Front fork has rubber gaiters.

300 x 21 front and 400 x 18 rear wheels with Avon Mud Plugger tyres.

...1...

...2...

7 ins diameter rear finned drum brake.

Spring loaded footrests without rubbers and a heavy gauge sheet steel crankcase undershield are fitted.

Handlebar is matt black, has a welded cross brace and is mounted on rigid clamps to the fork top lug.

Mudguards are self coloured plastic with extra tyre clearance.

Headlamp is 6 ins diameter matt black fitted with a wire stone grid and flexibly mounted.

Tachometer is not fitted but the ignition switch and usual warning lamps are mounted in the tachometer rubber cup.

Seat is the three quarter type but a dual seat can be fitted if required.

Two into one siamesed black chrome finish exhaust system with high level silencer on nearside.

Centre stand not fitted; prop stand is standard equipment.

C. TR65 THUNDERBIRD

650cc engine unit with single Amal mk1 carburettor, the chaincase, timing cover, gearbox cover and rocker box covers being finished in matt black and the gearbox is 19T.

The front tyre is 3.25 x 19 and the rear 400 x 18 and the rear wheel has the 7 ins drum brake as the TR7T Tiger Trail.

Tachometer is not fitted but the ignition switch and usual warning lamps are mounted in the tachometer rubber cup as the TR7T Tiger Trail.

Ignition is by contact breaker and a 12v single phase alternator is fitted.

Two into one siamesed exhaust system in black chrome finish with silencer on nearside.

D. T140E BONNEVILLE

Twin front disc brakes with Lockheed alloy calipers are optional extras, also available on the Executive model.

Alloy wheels in matt black finish are similarly available.

...3...

TRIUMPH

RIDE A LIVING LEGEND

...3...

Overall gearing ratio raised by fitting 45T rear wheel sprocket.

Twin 32mm choke constant vacuum Bing carburettors with modified styling panels fitted to the Executive model.

Executive model also available with optional full fairing.

Bonnevilles available with optional cockpit type or full fairings.



DETAIL FEATURES FOR 1982 T140ES BONNEVILLE

FUEL TANK

All new-styled shape -- with locking flip-up fuel cap. 4 Imperial Gallon capacity.

SEAT

New contour, improved cushion, excellent comfort.

FRONT FORKS

Finished in black. New headlight brackets.

HEADLAMP

Black finished -- 60/45 watt, all glass. Light unit -- no pilot. New rubber mounting.

TURN SIGNALS

New rectangular shape. Black finish, including stalks.

HANDLEBAR

New shape, 6-1/2 inch rise, 32 inches overall.

REAR SHOCKS

Marzocchi -- 5 spring-load positions.

FOOTRESTS

Rider footrests rubber-mounted.

BRAKE DISCS

Cast iron discs front and rear. Fitted with Dunlop wet weather brake pads.

REAR SPROCKET

45 tooth.

MIRRORS

Fitted with both right and left-hand mirrors.

COLORS

Misty Red
Astral Blue



1982 T140ES BONNEVILLE SPECIFICATIONS

ENGINE:

Type:	Twin Cylinder
Design:	Four-Stroke, Vertical
Displacement:	744cc
Valves:	OHV
Carburetion:	Twin Bing 32mm Constant Velocity
Lubrication:	Dry Sump
Cooling:	Air
Horsepower:	54.7 (SAE) @ 7,000 r.p.m.

ELECTRICAL:

Ignition:	Electronic
Starting System:	Electric, Kick
Headlight, Size:	12v 60/40 Watt
Charging Output:	176 Watts @ 4,000 r.p.m.
Battery:	12v 14 ah

TRANSMISSION AND FINAL DRIVE:

Type:	Constant Mesh
Gears:	5
Primary:	Chain, Triplex
Final Drive:	Chain 5/8" x 3/8"
Rear Sprocket:	45T
Gearbox Sprocket:	20T

CHASSIS:

Frame:	Cradle, Tubular / Oil in Frame
Suspension, Front:	Telescopic 6.25" Travel

1982 T140ES BONNEVILLE SPECIFICATIONS - Continued

CHASSIS - Continued

Suspension, Rear:	Marzocchi - 5-position spring pre-load
Wheels, Front:	Spoked - 19"
Rear:	Spoked - 18"
Wheelbase:	56"
Tires, Front:	Avon Roadrunner 4.10 x 19
Load:	550 lbs. at 36 psi
Tires, Rear:	Avon Roadrunner 4.25 x 18
Load:	550 lbs. at 36 psi
Brakes, Front:	Single Hydraulic Disc
Rear:	Single Hydraulic Disc
Weight, Dry:	430 lbs.
Wet:	445 lbs.
Seat Height:	31"
GVWR:	800 lbs.
Fuel Tank Capacity:	4 Imp. Gallons
Recommended Fuel:	Premium

INSTRUMENTS:

Tachometer, Speedometer, Odometer, High Beam, Oil, Turn Indicators, Neutral Indicator.

TOURING PERFORMANCE:

Est. Top Speed:	100 +
RPM Top Gear at 55 m.p.h.:	3,500
at 65 m.p.h.:	4,000
Fuel Consumption:	43 - 50 m.p.g.
Max. Fuel Tank Range:	Approximately 225 Miles



DETAIL FEATURES FOR 1982 T140ES BONNEVILLE "EXECUTIVE"

FAIRING

Cafe-styled. Made by SIGMA. Mounts to top and bottom triple clamps. Dash panel fits around top of the instruments.

SADDLEBAGS

Made by SIGMA. Measures 18-3/4"x12"x9-1/2". Contains two-snap dividers to separate and control contents. An expanding lift strap is provided to act as a handle when saddlebags are removed by an easily operated locking device.

TOUR BOX

Made by SIGMA. Measures 19-1/2"x14"x11". With lid up, a reflectorized international warning triangle is displayed for safety purposes. Lift strap is provided when removed. Contains first aid kit in floor of box.

REAR CARRIER RACK

Designed to mount tour box and saddlebags. Three key locks are provided for attachment/removal of saddlebags and tour box.

COLORS

Candy Apple Red and Black. Fenders, gas tank, side panels, fairing, tour box, and saddlebags are color-matched.

FUEL TANK

All new-styled shape -- with locking flip-up fuel cap. 4 Imperial Gallon capacity.

FRONT FORKS

Finished in black. New headlight brackets.

HEADLAMP

Black-finished -- 60/45 watt, all glass. Light unit -- no pilot. New rubber mounting.

TURN SIGNALS

New rectangular shape. Black finish, including stalks.

HANDLEBARS

Low/flat European-styled.

REAR SHOCKS

Marzocchi -- 5 spring-load positions.

FOOTRESTS

Rider footrests rubber-mounted.

BRAKE DISCS

Cast iron discs front and rear. Fitted with Dunlop wet weather brake pads.

REAR SPROCKET

45 tooth

MIRRORS

Fitted with both right and left-hand mirrors.



1982 T140ES BONNEVILLE "EXECUTIVE" SPECIFICATIONS

ENGINE:

Type:	Twin Cylinder
Design:	Four-Stroke, Vertical
Displacement:	744cc
Valves:	OHV
Carburetion:	Twin Bing 32mm Constant Velocity
Lubrication:	Dry Sump
Cooling:	Air
Horsepower:	54.7 (SAE) @ 7,000 r.p.m.

ELECTRICAL:

Ignition:	Electronic
Starting System:	Electric, Kick
Headlight, Size:	12 v 60/40 watt
Charging Output:	176 watts @ 4,000 r.p.m.
Battery:	12v 14 ah

TRANSMISSION AND FINAL DRIVE:

Type:	Constant Mesh
Gears:	5
Primary:	Chain, Triplex
Final Drive:	Chain 5/8" x 3/8"
Rear Sprocket:	45T
Gearbox Sprocket:	20T

CHASSIS:

Frame:	Cradle, Tubular / Oil in Frame
Suspension, Front:	Telescopic 6.25" Travel

1982 T140ES "EXECUTIVE" SPECIFICATIONS - Continued

CHASSIS - Continued

Suspension, Rear:	Marzocchi - 5-position spring pre-load
Wheels, Front:	Spoked - 19"
Rear:	Spoked - 18"
Wheelbase:	56"
Tires, Front:	Avon Roadrunner 4.10 x 19
Load:	550 lbs. at 36 psi
Tires, Rear:	Avon Roadrunner 4.25 x 18
Load:	55 lbs. at 36 psi
Brakes, Front:	Single Hydraulic Disc
Rear:	Single Hydraulic Disc
Weight, Dry:	470 lbs.
Wet:	480 lbs.
Seat Height:	31"
GVWR:	800 lbs.
Fuel Tank Capacity:	4 Imp. Gallons
Recommended Fuel:	Premium

INSTRUMENTS:

Tachometer, Speedometer, Odometer, High Beam, Oil, Turn Indicators, Neutral Indicator.

TOURING PERFORMANCE:

Est. Top Speed:	100 +
RPM Top Gear at 55 m.p.h.:	3,500
at 65 m.p.h.:	4,000
Fuel Consumption:	43 - 50 m.p.g.
Max. Fuel Tank Range:	Approximately 225 Miles

COLOUR CHART

Triumph Motorcycles (Meriden) Limited

MODEL	SPEC	FUEL TANK	MUDGUARDS	SIDE COVERS
TR65 Thunderbird	UK/Euro or USA	Smokey Cherry	Polished Stainless Steel	Smokey Cherry
TR7 T Tiger Trail	Trail Only	Sunburst Yellow	Yellow Plastic	Sunburst Yellow
T140E	UK/Euro	Smokey Flame or Smokey Blue or Black with Gold Lining	Polished Stainless Steel	Smokey Flame or Smokey Blue or Black with Gold Lining
T140E Bonneville	USA	Smokey Flame with Ivory Panels or Smokey Blue with Silver Panels or Black with Candy Apple Red Panels or Black with Gold Lining or Silver Blue Sheen with Black Panels	Polished Stainless Steel	Smokey Flame or Smokey Blue or Black with Gold Lining
T140E Executive	UK/Euro Only	Smokey Red or Black with Gold Lining	Fuel Tank, Mudguards, Sidecovers and Fairing (Cockpit Type or Full Fairing) ALL in matching Paintwork with Gold Lining	

MAY 1981



Number: LFH 84-2
Subject: CAMSHAFT BUSHES

Models: T120-T140 "BONNEVILLE"
Date: 21/9/84

PARTS BULLETIN

CAMSHAFT BUSHES T120 & T140 BONNEVILLE

For 70-1479 use 71-0286
 70-1516 use 710287
 70-2260 use 71-0288

'Old' spares replacement parts catalogues list the timing side camshaft bush as E1479 (70-1479). This number is now used for the bush "as cast" & the spares number for the finished part is 71-0286.

Similarly

70-1516 (E1516) DS Bush-Short should read 71-0287
70-2260 (E2260) DS Bush-Long should read 71-0288

Bob Haines

Spares Manager

King of the CD.M. © 2002



Number: LFH 84-3
Subject: OIL FILTER

Models: T120-T140 "Bonneville"
Date: 21/9/84

PARTS BULLETIN

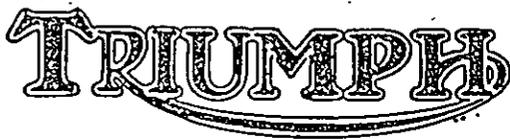
OIL FILTER. 1973-1983 MODELS T120-T140 "BONNEVILLE"

Part Number 83-4783 / 84-0027 - OIL TANK SUMP FILTER

An improved OIL TANK SUMP FILTER is available under Part No 84-0027 as a direct replacement for Part No 83-4783. This new part creates a 1" deep sludge trap in the bottom of the tank to ensure cleaner oil in circulation.

Bob Haines

Spares Manager



Number: LFH 84-4 sheet 1 of 3
Subject: 4 Gallon Petrol Tanks

Models: 1971-1982 Bonneville
Date: 24.9.84

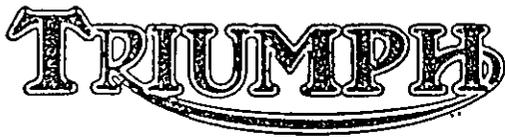
PARTS BULLETIN

4 GALLON PETROL TANKS "BONNEVILLE" MODELS 1971 to 1982

The 1971 shape - 4 Gallon petrol tank is no longer available. Spares requirements may be met with the 1983 new shape 4g tank as follows:-

Part No	Colour
83 7061	Sea Jade - White Panels
83 7062	Red - White "
83 7063	Blue - White "
83 7115	Tawny Brown-Gold "
83 7116	Aquamarine-Silver "
83 7117	Candy Apple-Silver "
83 7118	Burnished Gold- Silver "
83 7297	see 83 8318
83 7298	Beige - Gold "
83 7299	Dark Blue - Silver "
83 7562	Red - Ivory "
83 7580	Black - White "
83 7591	Grey - Candy Apple "
83 7592	Pale Metallic Blue- Black "
83 7597	see 83 8173
83 7900	see 83 8089
83 7901	see 83 8086
83 8085	Smokey Flame - Single Gold Line
83 8086	Smokey Blue- " " "
83 8087	Black - " " "
83 8088	Executive Red - " " "
83 8089	Smokey Cherry - " " "
83 8101	White (Police)
83 8173	Black - Double Gold Line
83 8318	Black-Candy Apple Flashes
83 8349	Deep Bronze Green (Army)
Basic Tank Unpainted 83 7937	
Badges:	60 7304 l.h. chrome letters , black background
	60 7305 r.h. " " " "
	60 7537 l.h. gold letters, " "
	60 7538 r.h. " " " "

Bob Haines
Spares Manager



Number: LFH 84.4 sheet 2 of 3
Subject: 3 gallon Petrol Tanks

Models: 1971- 83 'Bonneville'
Date: 25.9.84

PARTS BULLETIN

3 GALLON PETROL TANKS - BONNEVILLE MODELS 1971- 1983

The traditional 'tear drop' shape 3 gallon petrol tank is now only available with the 'flip' type filler cap and plain TRIUMPH name badge. Spares requirements using this later design are available as follows:-

Part No	Colour
83 5413	Cherokee Red - White panels
83 5415	Sea Jade Green - White "
83 7111	see 83 7950
83 7112	Astral Blue - Silver "
83 7113	Tawny Brown - Gold "
83 7114	Candy Apple - White "
83 7300	Dark Blue - Silver "
83 7301	Black - Silver "
83 7302	Candy Apple - Black "
83 7412	Black - Ivory "
83 7431	see 83 7952
83 7584	Grey - Black "
83 7589	see 83 7951
83 7590	Olympic Flame - Black "
83 7593	Pale Metallic Blue- Black "
83 7898	Smokey Flame - Ivory "
83 7899	Smokey Blue - Silver "
83 7949	Silver Blue - Black "
83 7950	Black - Candy Apple "
83 7951	Steel Grey - Black "
83 7952	Black - Gold Box Lines (T140D)
83 7996	Yellow
83 8090	Smokey Cherry - Single Gold Line
Basic Tank	unpainted 83 7430
Badges:	60 7304 l.h. chrome letters, black background
	60 7305 r.h. " " " "
	60 7357 l.h. gold letters, black background
	60 7358 r.h. " " " "

Note: τ sx tanks with central filler cap are available as follows:-

83 8332	Burgundy - multi colour panel
83 8427	Black " " "

Basic Tank unpainted 83 8293

Tank badge 60 7358 (2 off)

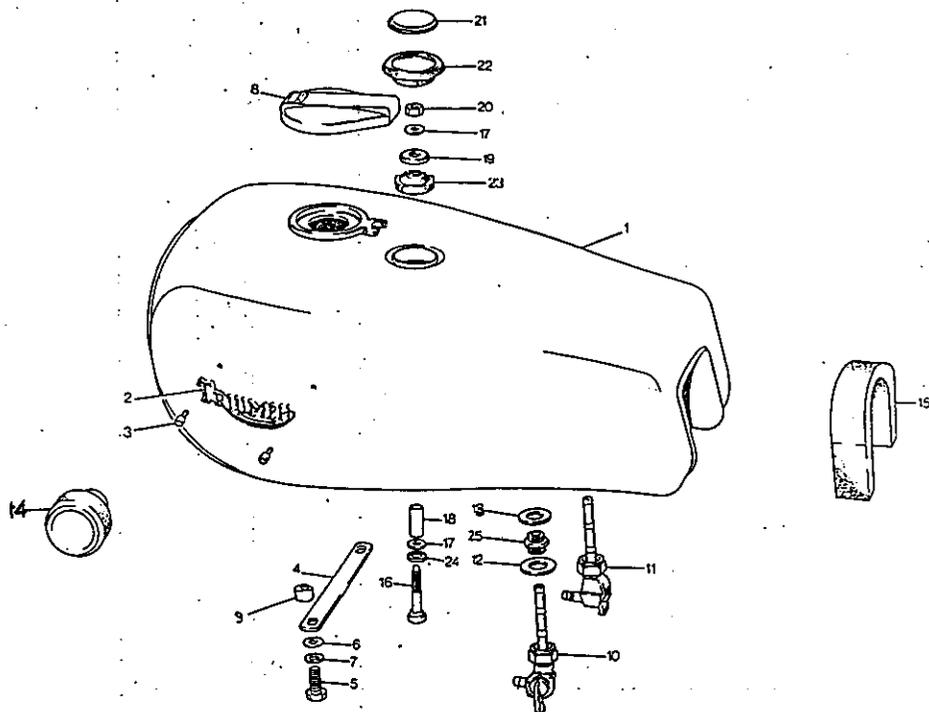
Bob Haines
Spares Manager

TRIUMPH

Number: LFH. 84. 4 sheet 3 of 3
 Subject: 4

Models: 1971 - 1983 BONNEVILLE
 Date: 25.9.84.

PARTS BULLETIN



3	21-7048	Screw-black 3/8" UH	OR 21-7064 CHROME.	4
4	83-4395	Tie strap -		1
5	14-0115	Bolt-Tie Strap		2
6	60-2321	Washer plain - bolt		2
7	60-2418	Washer spring - bolt		2
8	60-7503	Petrol filler cap		1
9	82-3069	Dist piece		2
10	60-7508	Petrol tap - main		1
11	60-7509	Petrol tap - reserve		1
NI	21-7023	Sealing tape - tap thread		2
12	70-7351	Washer bonded - tap seal		2
13	83-0002	Washer plain tap nut		2
14	83-4931	Steady rubber		2
15	83-4932	Mounting rubber		2
16	83-4930	Centre fixing bolt		1
17	60-2330	Washer		2
18	82-9063	Distance tube		1
19	82-3814	Washer - upper		1
20	14-0302	Nut - fixing bolt		1
21	83-4776	Badge - centre		1
22	97-5061	Grommet for badge		1
23	83-4934	Rubber - centre mounting		1
24	82-8245	Retainer		1
25	83-7970	Petrol tank tap adaptor		2

Bob Haines
 Spares Manager

TRIUMPH

Number: LFH 84-8

Subject: CYLINDER HEAD NUT WASHER

Models: BONNEVILLE & TIGER

Date: 24.10.84

PARTS BULLETIN

CYLINDER HEAD NUT WASHER 71-2598 / 82-2184

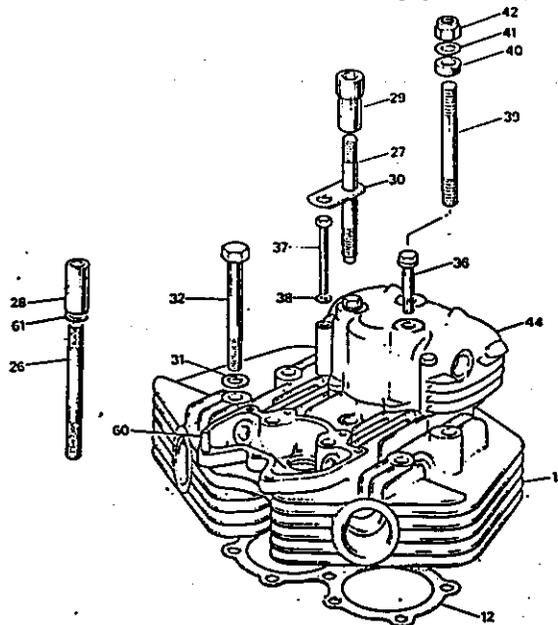
All 1971 & subsequent Bonneville & Tiger models used:-

71-2598 Washer 4 OFF - At centre studs

82-2184 Washer 4 OFF - At outer bolts

To increase the area of aluminium under the washers on the centre studs & thereby improve retention the cylinder head nut tightness we recommend the larger diameter washer 82-2184 is used at all 8 applications.

(It may be necessary to trim the rocker box joint gasket in the area of the washers).



Therefore for items 61 and 31 use 82-2184 - (8 OFF)

Bob Haines
Spares Manager

2002

TRIUMPH

Number: 86-13
Subject: Silencer Bracket
Models: Bonneville 1976/79
Date: 31.1.86

PARTS BULLETIN

SILENCER BRACKETS PART NOS 83-7022 /83-7021

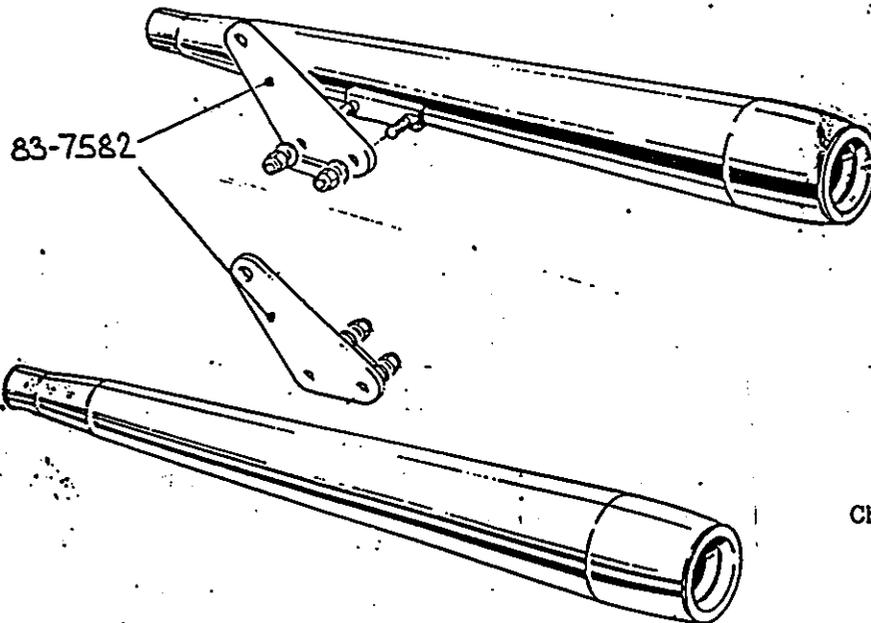
used 1976-1979 inclusive

The above parts are no longer available and should be replaced by :-

Part No 83 7582 Silencer Bracket

(used 2 off 1980- 1983 inclusive)

83 -7582 should be fitted on the outside of the frame bracket.



Brian Jones
Chief Engineer

002

TRIUMPH

Number: 86-14
Subject: D.S.Main Bearing
Models: T140, T120, TR7, TR6,
Date: 26.3.86

PARTS BULLETIN

PART NUMBER : 70-2879

Crankshaft Main Bearing - Drive Side.

The above part is manufactured to a closer than standard tolerance.

'Off the shelf' bearings held by 'bearing stockist' should NOT be used.

It is recommended only bearings supplied as genuine TRIUMPH spares via ourselves should be fitted.



Brian Jones

Chief Engineer

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TRIUMPH

Number: 86-15
Subject: TS Main Bearing
Models: T140, TR7
Date: 24.4.86

PARTS BULLETIN

PART NUMBER 60 4167

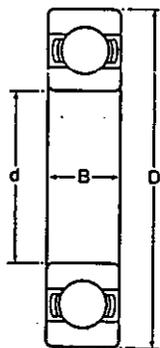
MAIN BEARING R.H. (TIMING SIDE) BALL BEARING

This Bearing was superseded in 1981 by :-

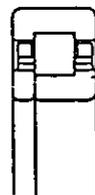
Part Number 60 7362

Main Bearing R.H. (Timing Side) Roller Bearing

They are completely interchangeable and 60 7362 should be used for all replacements to give maximum 'life expectancy'.



60-4167.



60-7362

Brian Jones
Chief Engineer

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Kim T Co CD M 2202

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87-2

SONNEVILLE T140 ALUMINIUM CYLINDER BLOCK. KIT PART NO 99-9982

ISSUE 2. 7.7.87.

COMPRISING:-

1 OFF 99-9981	Cylinder Block Assy	
Comprising	72-0012	Cylinder Block cw Pistons
	72-0013	Valve Guide Block (2)
	71-7357	Lock Bolt (2)
	70-7563	'O' Ring (2)
	70-2441	Copper Washer (2)

1 OFF	22-0038	Stud 5/16"
3 OFF	22-0039	Stud 3/8"
3 OFF	21-7121	Stud
3 OFF	60-2321	Washer
3 OFF	21-2177	Nut
4 OFF	82-2184	Washer
4 OFF	14-0303	Nut
4 OFF	71-1283	'O' Ring
1 OFF	71-4519	Gasket Cylinder Head
2 OFF	71-2599	Gasket Rocker Box
2 OFF	71-3573	Gasket Rocker Box Cover
1 OFF	70-6309	Gasket - Cylinder Base.

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BONNEVILLE T140 ALUMINIUM CYLINDER BLOCK KIT

To suit engine N° PB25001 (1980 Models) onwards
Part N° 99-9982 (see end note for earlier)

IMPORTANT READ THESE NOTES BEFORE EXAMINING PARTS.

These notes should be used in conjunction with the workshop manual.

- 1) Each piston is matched to its bore. Do not mix up.
Keep each piston with its bore as supplied.
- 2) Right hand side of cylinder base flange is machined. This face
must be fitted towards timing gear side.

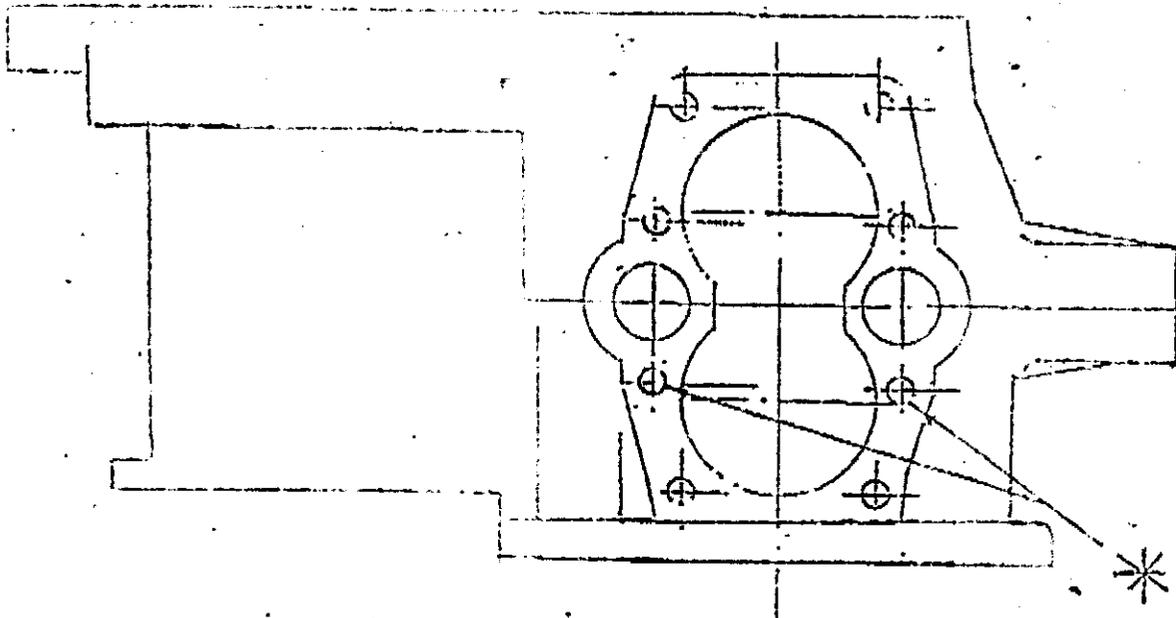
Sequence of Assembly.

Assuming engine is stripped and all joint faces cleaned.

- 1) Remove existing crankcase to cylinder block studs (8)
and replace with

21 7121 Stud 8 OFF

2 Studs at holes marked * must be fitted with jointing sealant
on threads.



2) Fit 8 - $\frac{3}{8}$ studs and 2 - $\frac{5}{16}$ studs into block top face (preferably with loctite)
 Note:- Long dog point & coarse thread end of stud goes into cylinder.

3) Fit cylinder Base Gasket.

4) Fit Pistons To Connecting Rods

5) Fit clamps to piston rings and slide barrel down. With barrel located on base studs, ring clamps off, BEFORE butting joint faces feed on

70-3446 Washer (8)

21-2177 Nut (8)

Butt joint, tighten down eight nuts.

6) Fit new head gasket 71-4619

7) Fit new 'O' rings 71-1283 (2) to tappet guide blocks and refit existing steel ring (removed from iron block)

8) Fit new 'O' rings 71-1283 (2) into cylinder head. Fit push rod tubes into head and lower assembly over cylinder block studs (10)

- 9) Fit 82-2184 Washer (4) at outer studs.
 14-0303(004 Nut (4 OFF) at outer studs)
 4 OFF Washer 71-2598)
 4 OFF Socket Nut 3/8")
 2 OFF Socket Nut 5/16)
 1 Bridge Plate)

Removed from Iron
Block Assy

Torque 8 OFF 3/8 Nuts to 18lbs ft
 2 OFF 5/16 Nuts to 16lbs ft

- 10) Insert push rods, refit rocker boxes, head steady etc.

Run cycle approximately 5 miles.. Leave to cool. Retorque cylinder
head nuts (10) as at 8 above
Check cylinder base nuts (8)
Check tappet adjustment (4)

Repeat at 500 miles.
Run in as for new engine.

Foot Note:

To fit to earlier T140 models it is necessary to fit
new push rod tubes (2) Part N^o 71-7191
Plus Sleeve (2) Part N^o 71-7196.
Plus blanking plug at oil feed to tappet block in crankcase top.

TRIUMPH

Matchless

Number: 88-18
Subject: SUSPENSION UNIT

Models: BONNEVILLE-TIGER
Date: G80

12.1.88

SHEET 1 OF 2

PARTS BULLETIN

PAIOLI REAR SUSPENSION UNIT

A SEAL KIT IS AVAILABLE - PART NO. 00-0009.

NOTES 1) CLEANLINESS ON ASSEMBLY IS IMPORTANT.

2) DAMPER FLUID IS SHELL TELUS T22.

3) SEE SHEET 2 FOR DRAWING OF INTERNALS.

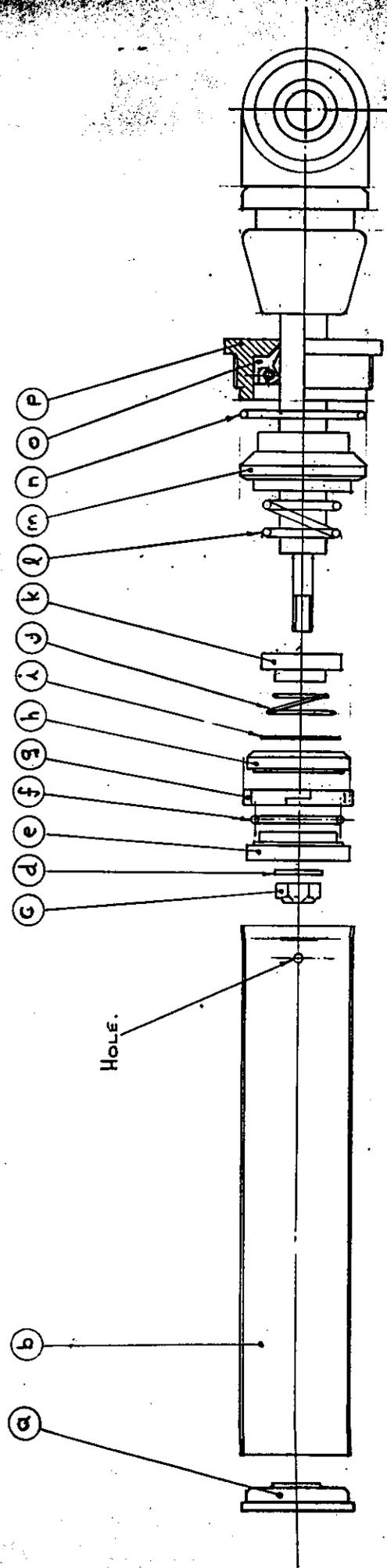
TO STRIP AND REBUILD UNIT PROCEED AS FOLLOWS:-

- 1) SET CAM TO LIGHTEST POSITION ie SPRING AS LONG AS POSSIBLE, COMPRESS SPRING, SLIDE OUT TOP COLLAR AND REMOVE SPRING.
WASH PARTS THOROUGHLY.
- 2) UNSCREW NUT 'P' AT TOP OF CYLINDER AND WITHDRAW INTERNALS ie PARTS ILLUSTRATED ON SHEET HEREWITH.
- 3) REMOVE CAP 'a' DISCARD FLUID IN TUBE 'b'. REMOVE TUBE 'b' FROM DAMPER ROD/PISTON ASS'Y.
- 4) PLACE IN VICE BY CLAMPING EYE WITH ROD STANDING UP-RIGHT.
- 5) REMOVE NUT 'c', WASHER 'd', VALVE BASE 'e', 'O' RING 'f', PISTON RING 'g', VALVE TOP 'h', SHIMWASHERS 'i', SPRING 'j', VALVE CAP 'k'.
- 6) REMOVE SPRING 'l', DAMPER TUBE CAP 'm', 'O' RING 'n', TOP NUT COMPLETE WITH SEAL 'o'/'p'.

IMPORTANT NOTE:- CLEANLINESS IS ESSENTIAL ON RE-ASSEMBLY..

- 7) REMOVE AND FIT NEW SEAL 'o' IN TOP NUT 'p'. FIT TOP NUT 'p' ONTO DAMPER ROD.
 - 8) FIT NEW 'O' RING 'n', REFIT DAMPER CAP 'm', SPRING 'l', VALVE CAP 'k', SPRING 'j', SHIM WASHER 'i', VALVE TOP 'h', NEW PISTON RING 'g', NEW 'O' RING 'f', VALVE BASE 'e', WASHER 'd', NUT 'c'.
 - 9) FIT DAMPER TUBE 'b' OVER PISTON (NOTE POSITION OF HOLE), PUSH TUBE ON TO CAP 'm', SLIDE TOP NUT 'p' TO EXTEND DAMPER ROD OUT OF TUBE AS FAR AS POSSIBLE.
 - 10) FILL DAMPER TUBE 'b' WITH FLUID OF CORRECT TYPE (SHELL TELUS T22).
 - 11) FIT CAP 'a'.
 - 12) FIT SUSPENSION OUTER CASE OVER DAMPER ASS'Y AND SCREW IN TOP NUT 'p'. REMOVE ASS'Y FROM VICE AND TIGHTEN TOP NUT 'p'.
 - 13) CHECK DAMPER ACTION - NOTE DAMPER MUST BE APPROXIMATELY UPRIGHT.
 - 14) FIT SPRING AND TOP COLLAR. SET SPRING PRE LOAD CAM TO DESIRED SETTING.
- NOTE:- BOTH UNITS MUST BE SET TO SAME CAM POSITION.

BEJ 11.1.88



DAMPER ASSY.

PAIOLI REAR SUSPENSION UNIT.

88J 11/85.

SERVICE BULLETIN. N° 88-18

SHEET 2 OF 4

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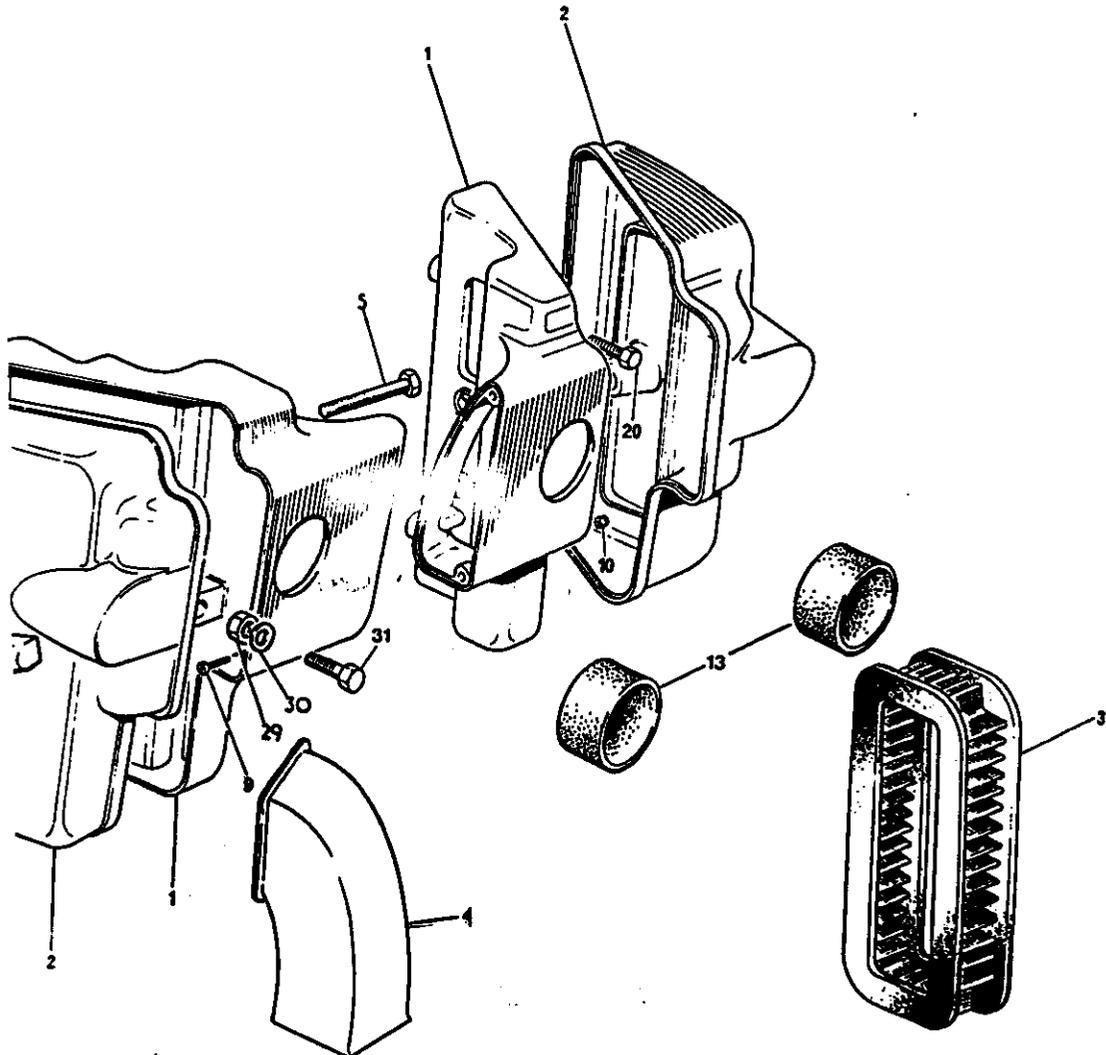
31st October 1990

Correction to Parts List

Page number 65, Line 13 should read:

Part Number 71-7527 Connector Pipe Carb to Air Box.

These parts are available as replacment now from stock.



AIR CLEANER AND SIDE PANELS

Directors: L. Harris S. Harris

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