

# The TRIUMPH Corporation

## SERVICE BULLETIN

January 7, 1965

65/1

TO ALL EASTERN TRIUMPH DEALERS:

Suggested "Flat Rate" Labor Schedule for Triumph Unit Construction Motorcycles.  
This schedule is offered as a guide to all dealers.

* OPERATION NUMBER	OPERATION TITLE	SUGGESTED NUMBER OF HOURS	
		ALL TWIN MODELS "B" & "C" RANGE	SINGLE CYL. "A" RANGE
1	Remove & install Engine/Gearbox Unit	4	2-1/2
2	Rebuild Engine/Gearbox Unit	15	9
3	"Top End" Rebuild	6	3
4	Engine Tune-Up	1-3/4	1-1/4
5	Replace Oil Pump	1	1-1/2
6	Overhaul Primary Drive	2	1-1/2
7	Rebuild Gearbox & Primary Drive	4	3-1/2
8	Rear Drive Chain	1/4	1/4
9	Replace & Rebuild Front Wheel Assembly	1-1/4	1-1/4
10	Replace & Rebuild Rear Wheel Assembly	1-1/2	1-1/2
11	Wheel Repair	1-3/4	1-3/4
12	Replace Gas Tank	1	3/4
13	Replace Oil Tank	1	1
14	Replace Front Frame Section	9	6
15	Replace Damaged Front Fork Assembly	3	3
16	Overhaul Front Fork	2	1-1/2
17	Replace Wiring Harness	2-1/2	2-1/2
18	Electrical Test	1/2	1/2

\* See description of "Operation Details".

Continued.....

OPERATION DETAILS1. Remove and install engine/gearbox unit.

Remove unit from frame, clean up frame and engine plates. Clean oil tank.  
Install new or reconditioned engine, tune-up and road test.

2. Rebuild engine/gearbox unit.

Completely dismantle engine, gearbox and inspect all parts. Replace parts as necessary including cleaning prior to reassembly. Complete reassembly ready for installation in frame.

3. "Top End" Rebuild.

Dismantle to crankcase level. Check pistons, cylinder bore and pin bushings. Replace parts as necessary.

Dismantle cylinder head and rocker boxes. Reface valve seats and grind valves. Assemble, adjust and road test.

4. Engine Tune-Up.

Adjust Valve clearance, clean and adjust contact points, check ignition timing (Use TRI-COR IGNITION TIMER). Clean, and adjust carburetor. Clean and adjust spark plugs. Road test.

5. Replace Oil Pump.

Dismantle to gain access to oil pump. Clean or replace pump. Assemble and check ignition timing.

6. Overhaul Primary Drive.

Dismantle primary drive and clutch. Clean and replace parts including alternator if necessary. Assemble, adjust and road test.

7. Rebuild Gearbox and Primary Drive.

Dismantle gearbox and primary drive. Clean, check and replace parts as required. Make adjustments as required and road test.

8. Rear Drive Chain.

Lubricate and adjust rear chain. Adjust rear brake control.

9. Replace and Rebuild Front Wheel Assembly.

Remove front wheel. Transfer bearings, brake parts, tire and tube from damaged wheel to new "wheel less internals". Assemble and adjust brake.

10. Replace and Rebuild Rear Wheel Assembly.

As front wheel. Transfer bearings, brake parts, sprocket, etc., from damaged wheel to new "wheel less internals". Assemble and adjust rear chain and brake.

11. Wheel Repair.

Replace wheel rim and spokes as required. True and align wheel.

12. Replace Gas Tank.

Replace gas tank. Transfer accessories including taps and fuel.

13. Replace Oil Tank.

Remove oil tank. Clean oil tank and filter or replacement with new. Assemble.

14. Replace Front Frame Section.

Dismantle. Fit new front frame. Assemble, adjust and road test.

15. Replace Damaged Front Fork Assembly.

Remove fork assembly, Transfer accessories. Assemble. Adjust head bearings and road test.

16. Overhaul Front Fork.

Remove lower legs, replace bearings, oil seals and rubber boots as necessary. Assemble. Check head bearing adjustment, add oil and road test.

17. Replace Wiring Harness.

Removal of wiring harness. Does not include work on any other electrical components. Assemble new harness.

18. Electrical Test.

Test all electrical components using TRI-COR Test Set following written instructions.

# The TRIUMPH Corporation

## SERVICE BULLETIN

December 8, 1965

65/20

TO ALL EASTERN TRIUMPH DEALERS

SUBJECT: Chain Oiler - - Late 1965 Twin Models and Early Production 1966 Models

We enclose a copy of our Index Bulletin 65/9 sent to all dealers last July. The first paragraph of this bulletin is self-explanatory.

The early production 1966 - 650cc Twins and 500cc Twins had this small oil hole in the circular cover plate behind the clutch assembly. If a customer complains of oil leakage from the primary at this point, we suggest that you plug this hole as follows:

Loosen primary chain adjustment all the way. Remove primary cover, clutch pressure springs, pressure plate and clutch plates from clutch housing. Using CD150 Clutch Holder Tool, remove the mainshaft nut and then pull the cush drive and clutch center assembly off of the spline. You can then remove the loose rollers and the clutch housing and sprocket without disturbing the engine sprocket, alternator, rotor, or primary chain. With clutch sprocket removed, close the small hole in the aluminum cover plate by peening it over. Grease inner race of the clutch sprocket and insert rollers before re-fitting clutch center on spline. This is the quickest way of doing the job.

"B" Range 650cc Twins up to engine #DU27893 and "C" Range 500cc Twins up to engine #H41567 have the above mentioned oil hole. If you close off this "chain oiler" hole send us a claim tag showing the engine number and name of customer. We will issue you a credit of \$4.00.

Very truly yours,

THE TRIUMPH CORPORATION

  
Service Manager

Rod Coates:bjh

Enclosure

# The TRIUMPH Corporation

## SERVICE BULLETIN

January 18, 1965

65/3

TO ALL EASTERN TRIUMPH DEALERS

SUBJECT: 1964 Type Fork Springs Fitted to "B" & "C" Range Twin Models as Shown Below.

The original equipment fork springs part H1660 were fitted to all 650cc Twin Models between engine #DU5825 and engine #DU13375. These same springs were also fitted to 500cc Twin Models from engine #H32465 through engine #H35987.

Original Equip. Fork Spring H1660.

Tri-Cor Replacement Spring H1660TH.

Free length 8-3/4"  
Number of turns 13  
Diameter of wire .193"  
Spring gradient 30 lbs.

Free length 8-3/4"  
Number of turns 17  
Diameter of wire .207"  
Spring gradient 32 lbs.

Tri-Cor Fork Spring H1660TH9/4 is same as H1660TH except 3/8" longer.  
Free Length (9-1/8").

Tri-Cor Spring Spacer part CD397.

List Price \$ .62A

This aluminum alloy spring spacer can be fitted under the bottom end of each fork spring of original equipment springs H1660 or Tri-Cor replacement H1660TH in order to change fork spring characteristics to suit customer requirements (see below).

During the past season we have had some complaints of "soft" fork springs and we suggest the following correction.

SYMPTOM: Customer complains "forks bottom" especially when riding double.

CAUSE: Spring has "settled" to free length of approx. 8-1/2".

CURE: Replace original equipment spring with H1660TH if the customer rides solo most of the time and prefers softest action fork. Next alternative is to fit H1660TH9/4 which give slightly more "pre-load". For heavier rider or double riding, we suggest H1660TH with CD397.

Original equipment fork springs that have proved unsatisfactory can be returned for credit under warranty or replaced free-of-charge with Tri-Cor springs.

When fitting new springs we suggest replacing the rubber fork boots and if original equipment type with eight convolutions are returned with claim tag, we will supply the latest twelve convolution type H1645 free-of-charge.

Continued.....

Oil Leaks at Fork Seals.

This can be caused by rough surface of the stanchion tubes damaging the seals. Examine both stanchion tubes and smooth the surface with fine emery cloth if necessary. Weak fork springs can cause "bottoming" that could lead to leakage at the seals. Make sure that the correct amount of oil (190cc SAE 30 for each for leg) is used.

We have not been able to obtain sufficient supplies of original equipment "double lip" seals part H1500 and we are supplying a domestic made replacement seal part CD396. When installing this replacement seal remember it is necessary to fit two of these to each fork leg. The lip of the bottom seal facing downward and the one on top of it should be installed with the lip facing upward.

Special Competition Type "Sidecar" Fork Spring.

This Factory spring part H1697 should be used for sidecars and all heavy-duty applications such as Enduros, Scrambles, etc. Specifications are as follows:

- Free length 8-3/4"
- Number of turns 15-1/2
- Diameter of turns .213"
- Spring gradient 38-1/2 lbs.

Important Note.

All 1965 Models 650cc beginning with engine #DU13375 and 500cc beginning with engine #H35987 have forks with increased length of travel and are fitted with the following springs.

<u>1965 Models</u>	<u>Part No. of Fork Spring</u>	<u>Free Length of Fork Spring</u>
TR6/R, T120/R & 6T	H1891 (yellow/blue)	9-3/4"
TR6/C, T120/C & T120/TT SPEC.	H1892 (yellow/green)	9-3/4"
T100S/R and T100S/R with 17" wheels	H1891 (yellow/blue)	9-3/4"
T100S/C	H1892 (yellow/green)	9-3/4"

NOTE:

Competition Models have sidecar springs (H1892) and also fork damper kits fitted.

Very truly yours,

THE TRIUMPH CORPORATION

*Rod Coates*  
Service Manager

Rod Coates:bjh

# The TRIUMPH Corporation

## SERVICE BULLETIN

TO ALL EASTERN TRIUMPH DEALERS

February 22, 1965

65/4

SUBJECT: Instructions for Mounting VDO Enduro Speedo

To mount the VDO Enduro Speedo to either "B" range, 650 cc or "C" range 500 cc models use part #CD433 which contains the following items:

- 1-Circular Mounting Plate.
- 2-Rubber Grommets.
- 2-1" spacers
- 2-1/4" x 28 Mounting Bolts, 1-3/8" long.
- 2-1/8" Spacers.
- 2-Flat Washers.

To mount the VDO Enduro Speedo to T20 Tiger Cub Models use Part #CD434 which contains the following items in addition to those listed above:

- 1-1 3/8" x 3 7/8" Steel Adaptor Bracket.
- 2- 1/4 x 28 hex nuts
- 2- 1/4" lockwashers

### REFER TO ATTACHED DRAWING

- 1. Fit rubber grommets into two 1/4" obround holes.
- 2. Fit the 1-3/8" mounting bolts in the remaining 1/4" holes and fit the 1" spacers below the mounting plate.
- 3. Affix the assembly to the handlebar lug on 650cc or 500cc models

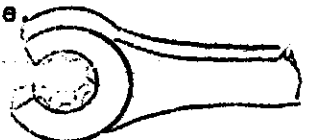
Note: Omit Step 4 unless mounting to T20 Tiger Cub.

- 4. If mounting to T20 Tiger Cub, fasten the above assembly to the Steel mounting plate as shown using the 1/4" nuts and lockwashers. This assembly then bolts the "U" bolt handlebar clamps. It will be necessary to move the headlamp as far forward as possible to give proper cable clearance.
- 5. Remove the two thumbnuts and bracket from the VDO Enduro Speedo.
- 6. Connect the instrument light wire and attach speedo cable to VDO Enduro Speedo (Use CD431 VDO Speedo Cable for T20 Tiger Cub and 500cc models and CD432 Speedo Cable for 650cc models.

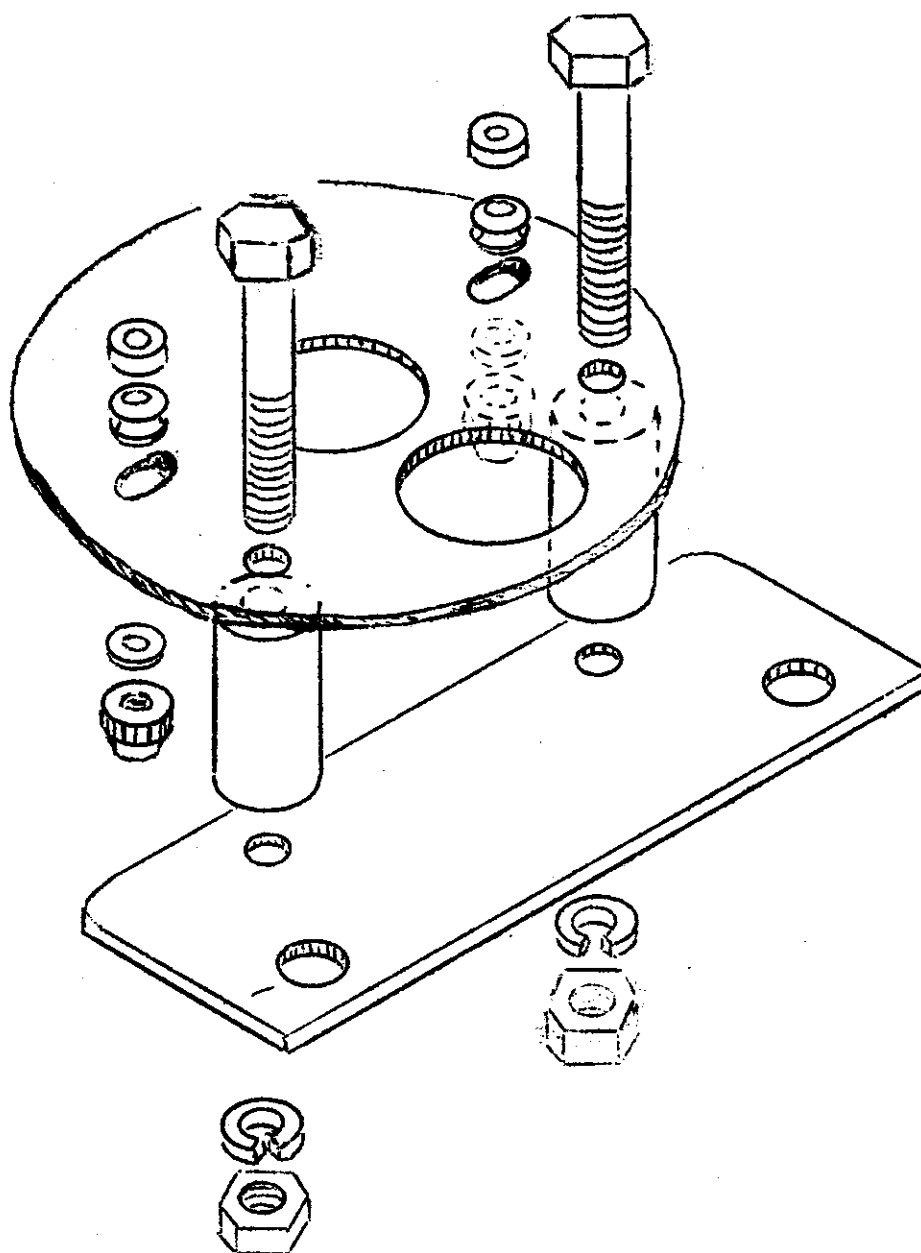
CAUTION: Do not use standard Triumph cable with VDO Enduro Speedo.

NOTE: When removing or replacing the speedo cable on a 650cc unit construction engine, cut an opening in a box end wrench (5/16" W for Triumph and 11/16" American for VDO cable nuts). This will avoid the need to remove the outer gear box cover to provide wrench clearance.

Cable Width



7. Put the 1/8" spacers on each of the mounting studs and place the instrument on the circular mounting plate pushing the mounting studs through the rubber grommets.
8. Assemble the remaining flat washers onto the mounting studs and replace the thumb nuts using Triumph LOCTITE to avoid loosening.
9. Finally remove the odometer reset knob and set screw and apply Triumph LOCTITE to avoid losing these parts, and reassemble.





# The TRIUMPH Corporation

## SERVICE BULLETIN

May 4, 1965

65/5

TO ALL EASTERN TRIUMPH DEALERS:

### USE OF TRIUMPH ELECTRICAL TEST SET MODEL 102

Instructions for Testing Lucas RML9 Equipment Fitted to Both "B" and "C" Range 1963-65 (6 VOLT) Battery Ignition Triumph Twin Models. (These instructions do not apply to 1964-65 Thunderbird (6T) Model which has a 12 VOLT system. Use your Test Set and Workshop Manual CD411 for testing 6T.

CAUTION: If battery connections are reversed the rectifier and rotor can be damaged.

Test No. 1 Testing charge rate (D.C. current in-put to battery).

1. Plug Black test lead into Yellow Socket (AMPS). Position test set toggle switch for Test No. 1 (D.C. AMPS).
2. Disconnect positive side of battery by removing fuse (or remove red ground wire at (+) battery terminal).
3. Connect COMMON Red Test lead to a good ground on motorcycle frame.
4. Connect Black test lead (AMPS) to battery positive terminal.
5. Start engine and check maximum readings according to Light Switch position shown below. (Engine speed approximately 3,000 RPM, a fast idle).

#### LIGHT SWITCH POSITION

#### TEST METER READING

Off	2.0 AMPS
Pilot	1.4 "
Head	1.1 "

Above readings are normal. All readings with switch in "Head" position are with the dip switch in high beam position. All lights normally fitted should be in working condition. If extra lights are fitted, meter readings will be reduced accordingly.

NOTE: Low or no out-put can be due to faulty battery, defective alternator, defective rectifier, poor or incorrect wiring and connections, defective ammeter, defective ignition switch, or defective light switch.

Proceed to Test No. 2 if the above D.C. Current readings are not obtained.

Continued.....

USE OF TRIUMPH ELECTRICAL TEST SET MODEL 102RM19 Electrical Test

Test No. 2 Testing A.C. voltage out-put of alternator You are reading A.C. VOLTS on the meter for this test.

1. Reconnect motorcycle wiring as normal.
2. Plug Black test lead into Black Socket (VOLTS). Position test set toggle switch for Test No. 2 (A.C. VOLTS with 1 Ohm Load).
3. Disconnect the three alternator wires, White/Green, Green/Yellow and Green/Black from the alternator side of the alternator cable junction block.
4. Start engine and connect test leads to wires as shown below. At a fast idle (approximately 3,000 RPM), the following A.C. voltage readings should be obtained.

<u>Connect Black Test Lead to:</u>	<u>Connect Red (COMMON) Test Lead to:</u>	<u>A.C. Voltage</u>
Green/Black	White/Green	4.5 VOLTS
Green/Yellow	White/Green	7.4 "
Green/Black & Green/Yellow (CONNECTED TOGETHER)	White/Green	9.6 "

NOTE: Low readings on any of the above three TESTS indicate grounded or shorted coils in the A.C. stator assembly. Zero readings indicate open circuit, broken wires, or shorted coils. Remove and clean stator using TRI-COR Metal Cleaner and compressed air. Repair any obvious wire breaks, or replace stator assembly.

5. With engine running, connect Red (COMMON) test lead to ground and connect Black test lead to each of the three alternator wires in turn. There should be no reading between any one wire and ground. ANY reading indicates "grounded" stator coils or cable and the stator assembly must be repaired, or be replaced. Old stator can be sent in with your parts order to obtain a new replacement at "Exchange" price.

If A.C. Voltage readings check O.K., proceed to Test No. 2A.

Continued.....

USE OF TRIUMPH ELECTRICAL TEST SET MODEL 102RML9 Electrical Tests

Test No. 2A Testing rectifier. Using No. 2 Test position of the toggle switch, you are reading D.C. VOLTS on the meter for this test No. 2A.

1. Reconnect motorcycle wiring as normal.
2. Position Test Set toggle switch for Test No. 2 (D.C. VOLTS, 1 Ohm Load).
3. Disconnect Brown/White colored wire from middle rectifier terminal.
4. Un-plug Green/Yellow alternator wire from alternator side of junction block.
5. Make a separate wire connection from this Green/Yellow alternator wire to top rectifier terminal. (This terminal has the Green/Black wires attached).
6. Connect Red (COMMON) Test lead to a good ground on the motorcycle frame.
7. Connect Black test lead to middle rectifier terminal.
8. Start engine and look for maximum indicated voltage of 8.0 to 10.0 volts; (at fast idle, approximately 3,000 RPM). If this reading is obtained, it proves that the rectifier is O.K.

NOTE: If no reading or low reading is found check rectifier for good ground to motorcycle frame. If no reading or low reading persists, replace rectifier and re-check. When fitting a new rectifier (Part #49072) always hold the top hexagon bolt head (above the top plate) when tightening the bottom fixing nut.

SUMMATION:

By means of these simple tests, each of the three major electrical components of the RML9 set can be determined to be positively good, or in need of replacement.

Should electrical trouble persist, check by substituting one at a time, the ammeter, lighting switch, ignition switch, and wiring harness.

Remember, that the entire system depends upon a good ground connection at the battery and that the battery itself must be in good condition. If there is any doubt about battery condition, for test purposes use a battery that is known to be O.K.

Continued.....

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Bulletin	#59/18	Test Set Instructions RML3 (Early Cub Models).
"	#59/19	" " " RML4 and RML3/15 (Early Twin Models).
"	#59/20	" " " Lucas D.C. Generators and Regulators.
"	#62/12	"A" Range Wiring Chart showing color codes and switch connections.
"	#62/13	"B" " " " " " " " " " "
"	#62/14	"C" " " " " " " " " " "
"	#65/2	Lucas Stator and Rotor Identification (Equipment fitted to Triumph Models - 1954 thru 1965).

1. Ignition coil testing - continuity tests - pages H3 thru H6.
2. Testing charge rate, alternator out-put, testing rectifier, testing Zener Diode - pages H8 thru H13.
3. Testing A.C. Ignition Models - pages H15 - H16.
4. Complete wiring diagrams for all Triumph Twins will be found on pages H19 thru H22.
5. A table listing alternator and stator details and out-put figures, page H23. Make the following correction on page H23 opposite "alternator out-put" for #47188 stator - column "A" is O.K., 5.0 VOLTS A.C. Column "B" should read 2.0 VOLTS A.C., column "C" should read 5.0 VOLTS A.C.

Loose switch sockets have been reported as a cause of various electrical problems including blown bulbs. Each pin on each switch must be a tight fit in it's respective brass socket. Socket diameter can be gauged by using a length of 3/32" welding rod. (.093" dia.) For good electrical contact this .093" dia. rod must be a tight fit in each brass socket.

# The TRIUMPH Corporation

## SERVICE BULLETIN

May 11, 1965

65/6

TO ALL EASTERN TRIUMPH DEALERS

SUBJECT: CD415 Luggage Rack and Seat Rail Combination  
CD417 Saddlebag Brackets to fit CD415

### Parts Included with CD415

- 1 - CD415 Luggage Rack and Seat Rail Combination
  - 2 - 1/4"-28 x 1-3/8" Hex Head Bolts
  - 2 - 1/4"-28 x 1" Hex Head Bolts
  - 4 - 1/4"-28 Hex Nuts
  - 4 - 1/4" Lock Washers
  - 2 - 5/8" Spacers
  - 2 - Rear Support Brackets (1 left hand, 1 right hand)
1. Locate the two 1/4" holes, just in front of the Upper Suspension Unit Mounting Point. Mount the CD415 in these two holes using two 5/8" Spacers and two 1/4"-28 x 1-3/8" Bolts with Nuts and Lockwashers.
  2. Place the rear center mount, located below the Seat Rail, under the lifting rail of the license plate holder. Bolt to the rear fender using existing bolt, nut and washer.
  3. Attach the rear support brackets to the 1/4" hole in the rear lug welded to the lower arm of the CD415 using the remaining 1/4" bolts, nuts and lockwashers and bolt to the rear fender using existing fender bolts.

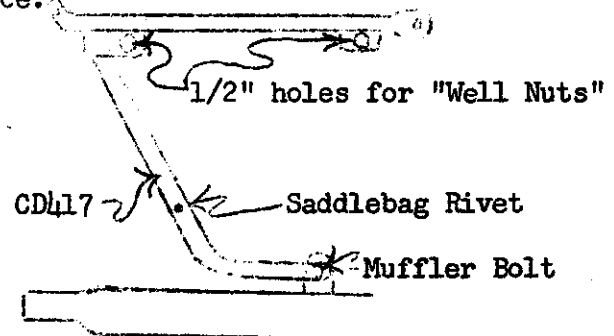
### CD417 Saddlebag Bracket

Mount CD417 (either CD417B-650cc or CD417C-500cc) Saddlebag Bracket as shown below:

To mount the saddlebags (either CD144 or CD279) push the "Well Nuts" into the large 1/2" holes in the lugs welded to CD415 combination bracket. Hook one of the slots in the steel backing plate on the saddlebag on the CD417 rivet and position the mounting holes over the "Well Nuts". Insert the 1-1/4" machine screws through the holes from inside the bag, using the spring clips as washers for the screws. As the screws are tightened the rubber nut will expand behind the steel lug to firmly secure the bag in place.

### Hardware Includes:

- 1 - CD417 Bracket Set (left and right)
- 4 - 1/4"-20 x 1-1/4" Machine Screws
- 4 - 1/4"-20 Rubber Mounted "Well Nuts"



# The TRIUMPH Corporation

## SERVICE BULLETIN

May 11, 1965

1965 "B" RANGE 650cc TWIN MODELS

### BULLETIN No. 10

SUBJECT: Service Notes on 1965 Models

T1979T Washer - Price .10A Used between G/B sprocket and primary case.

Dealers report that the original equipment felt has a limited life and we enclose a sample of a domestic made part that we now supply and believe is more durable. Order some now. A new felt should be installed when you service a clutch or change a countershaft sprocket. This felt protects the primary seal E4578. It also fits the 500cc "C" Range Twin Models.

F5988T Rubber "O" Ring - Price .16A Fits switches of all Twin Models.

This part, shown on page 74 of your #3 Parts Book, is important to prevent wiring harness sockets from loosening at the lighting and ignition switches. We understand the original rubber band often fails. The enclosed sample domestic "O" ring is more durable. Order some now. When you service a customer's machine, lift the seat and check the switch sockets. No need to remove panel. Use Loctite on light switch knob screw after fitting "O" Ring. A loose socket can mean serious trouble by disconnecting the battery from the circuit causing high ignition voltage and "retard spark" that can lead to piston seizure, etc. Also fit the "O" Ring and Bracket F5983 to the Nacelle switches of the Thunderbird to eliminate electrical trouble caused by loose switch connections.

\*E3833 Rubber Connector - Oil tank to overhead rocker Oil Feed Line.

We have had several reports from dealers that this rubber connector has "blown-off" of the steel tube welded to the oil return line at the bottom of the oil tank. A good suggestion to avoid serious trouble is to clean the painted steel tube and the rubber connector with TRI-COR Metal Cleaner to remove the oil film and then press the connector in place and use a suitable clamp or safety wire. SEE NOTE REVERSE SIDE

CD268 & CD312 MC Forged Pistons in .060" to .100" oversize for 650cc Twins

To meet popular demand, we carry in stock these large oversize pistons. (shown in 1965 Accessory Catalog) Genuine Factory pistons are not available in sizes larger than .040" oversize. Boring a 650cc cylinder to larger than "forty over" is risky. Always caution your customer that there is no guarantee against failure of the cylinder when it is bored larger than .050" oversize. If your customer insists on .060", .080" or .100" oversize, explain that it is "at his own risk" and is not recommended by us.

Continued.....

May 11, 1965

CD376 Ignition Timer Disc - Price \$1.10A      Used with CD368 Ignition Timer Kit

We discover that some of these plastic discs are not accurately printed. The printing is mis-located with respect to the Center hole.

To check this, locate a 1965 engine on top center using the top center pin tool D571/2T and set one side of the disc on top center. Remove the pin and rotate the engine thru one revolution and drop the pin in the slot once more and check the "other" top center position on the disc. If the reading varies slightly, you can split the difference between the two.

If the variation is more than 3 degrees, replace the disc. We will send you free replacements for any that are bad. A new, more accurate disc of a different color (same part number) will soon be available.

#### Contact Breaker Cam Assembly

We now have a part number for the contact breaker cam and auto advance assembly for battery ignition twin cylinder models.

54415750      Ignition Cam and Auto Advance Assembly for 1963-65 TR6/R, TR6/C, T120/R, T120/C and T100S/R.

#### Service Note:

The contact breaker cam must be well lubricated where it pivots on the shaft. Use a high quality light grade oil. We suggest LRP100 which is ideal for the job. Spray this oil into the joint between the cam and the shaft. This will prevent sticking of the auto advance assembly. Frequent lubrication will assure smooth running. Order this handy, penetrating, spray lube. Six aerosol cans per case. Price \$6.00 net per case.

425379 Contact Breaker Plate Assembly - Price \$7.50A For all Twin Models with coil ignition.

We can supply this assembly from stock. A very handy item consisting of the base plate, two pairs of contact points and two condensers all assembled in one unit ready to install.

#### Service Note:

When setting the contact breaker points on a Twin Cylinder Model, always rotate the engine forward until the points are just fully open. Then adjust the gap (.014" to .016"). Make a reference mark on the end of the cam and turn the engine forward until the rubbing block of the other point lines up with this mark. Now adjust this contact. After setting these gaps check the timing using Tri-Cor Timer Kit then you may find it necessary to change one point gap slightly to obtain the same timing on both cylinders.

376/161 Amal Brass Float Needle - Price \$1.04

376/118 Special Large Needle Seat - Price \$1.20

We can now supply the above needle and seat combination. These parts should always be used together and are used in England for alcohol fuel. Dealers report that this combination float needle and seat gives good results with the 1-3/16" monobloc carburetor under racing conditions.

\*REFERENCE E3833 - Rocker feed line connector - this line can be "blown-off" due to Inadequate Venting of the oil tank, or by a restriction in the oil tank return pipe. Carefully investigate these possibilities if you experience an oil line "blowing-off".

# *The* **TRIUMPH** *Corporation*

## SERVICE BULLETIN

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July 7, 1965 65/7

TO ALL EASTERN TRIUMPH DEALERS:

SUBJECT: 376/077T Float Bowl Window Gauge

1. Replace the standard 376/077 Diecast Float Bowl Cover with the 376/077T fuel level "window" gauge using 376/078 joint washer.

CAUTION: Tighten screws only enough to keep gas from leaking at the gasket joint.

2. Keeping the motorcycle vertical with the tires on the ground, open the gas tap and allow the float bowl to fill with gasoline. Note the float level and shut off the gas tap. Start the engine and run until the gas level drops. Now open the gas tap and run the engine at varying speeds from 1,500 to 4,500 rpm for 10 to 15 seconds until the gas level has stabilized itself. The gas level should not be more than 1/16" above or below the center of the cross lines scribed on the plexiglass.
3. If the level is more than 1/16" below the cross lines remove enough material from the bottom end of the plastic needle (where it contacts the float) to give the proper level.
4. If the float level is too high, build up the section of the float that contacts the needle with DuPont cement or some other glue that is resistant to gasoline, until the fuel level is within 1/16" of the cross line.

CAUTION: DO NOT LEAVE THE PLEXIGLASS "WINDOW" GAUGE ON THE CARBURETOR AS A PERMANENT INSTALLATION.



# *The* **TRIUMPH** *Corporation*

## SERVICE BULLETIN

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July 15, 1965

65/8

TO ALL EASTERN TRIUMPH DEALERS:

New "Red" Ignition Timer Disc CD376 \$1.10A

We enclose with our compliments, a sample of a new improved ignition timer disc. It has the same part number and is graduated the same as before with five degree marks. The new improved features however, include a more durable plastic material and much more accurate calibrations.

The price is the same as before and we suggest that you include a quantity of these on your next parts order. If you have any of the old type that have given trouble due to inaccurate marking, return them for Free of Charge replacement.

Very truly yours,

THE TRIUMPH CORPORATION

*Rod Coates*  
Service Manager

Rod Coates

# The TRIUMPH Corporation

## SERVICE BULLETIN

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July 23, 1965

65/9

TO ALL EASTERN TRIUMPH DEALERS

SUBJECT: Important Service Notes to be Read by Sales and Service Personnel.

Chain Oiler - Late 1965 Twin Cylinder Models.

A production change on late 1965 Twin Cylinder Models was incorporated to provide a means of lubricating the rear drive chain. To accomplish this a pin hole was made in the projecting boss on the surface of the circular aluminum plate located behind the clutch. The addition of this chain oiler has resulted in complaints from some dealers and riders who feel that the excess oil is annoying. To plug this hole remove the plate andpeen the hole shut. Be sure to periodically apply TRI-COR Wonderlube to the chain if this step is taken.

### RETARD SPARK

CAUTION: Serious engine damage can result from a blown fuse or broken ammeter. Refer to Blue Service Bulletin #8 - dated June 18, 1964.

A common cause of ammeter failure is the needle pivot set screw loosening. To prevent this happening apply a drop of 3-M cement to the head of the set screw in the back of the ammeter.

If all other tests outlined in Blue Service Bulletin #8 fail to help, carefully check the wiring on the motorcycle against a wiring diagram for that model.

### AMAL CARBURETOR HINTS AND TIPS

Enclosed with this bulletin is a very good pamphlet describing Amal Monobloc Carburetors. With careful study you will find the solution to almost any problem you may encounter.

# *The* **TRIUMPH** *Corporation*

## SERVICE BULLETIN

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August 3, 1965

65/10

TO ALL EASTERN TRIUMPH DEALERS

SUBJECT: Rear Wheel Bearing Seal

Some dealers report premature rear wheel bearing failures on 1965 "B" Range, 650cc models. The majority of these failures result from the W1638 Felt Seal collecting moisture and this in turn leads to rusting and pitting of the right hand wheel bearing.

Whenever the rear wheel is removed always check bearings for pitting or rust and re-pack with a good multi-purpose grease. When replacing the W1638 Seal, soak it in oil to provide a more effective seal.

While the wheel is removed, tighten the eight bolts and nuts that hold the brake drum to the hub.

# *The* **TRIUMPH** *Corporation*

## SERVICE BULLETIN

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August 18, 1965

65/11

TO ALL EASTERN TRIUMPH DEALERS:

SUBJECT: Alternative WISCO G-3A Battery - - - \$13.25A List \$6.63 Net

We can now offer as an alternative the WISCO Battery with transparent plastic case. We will supply the WISCO as a substitute if we should be out of stock of original equipment Lucas MLZ9E Batteries.

If you prefer the WISCO Battery, specify part #G-3A on your parts order.

Very truly yours,

THE TRIUMPH CORPORATION

  
Service Manager

Rod Coates:pe

# The TRIUMPH Corporation

## SERVICE BULLETIN

Bulletins 62/10, 63/8 and 65/2 Revised October 7, 1965

65/12

RE: Lucas Stators and Rotors Fitted to Triumph Motorcycles - 1954 thru 1966.

### "A" RANGE

RM No.	STATOR PART No.	NUMBER OF LEADS-COILS	ROTOR PART No.	No. STAMPED ON ROTOR	MODEL	YEAR
RML3	465915 Use 468678*	3 - 6	466124	465904	T15, T20 & T20C	54-55
RML3	47119 is 468678	3 - 6	"	"	T20	56-61
RML3	47138 ***	3 - 4	"	"	T20S E.T.Ign.	59
RML3	47175 ***	3 - 6	"	"	T20S & T20W E.T.Ign.	60
RML3	47177	4 - 6	"	"	T20S, T20SL & T20T E.T.Ign.	61
RML3	47168 Use 468678	3 - 6	"	"	T20	62
RML8	47161	3 - 6	54213903	54212284	T20	62-65
RML3	47166 ***	4 - 6	466124	465904	T20SR & T20SC E.T.Ign.	62
RML9	47173	4 - 6	54213901	54212006	T20SR, T20SC & T20SM E.T.Ign.	63-66

### "B" RANGE

RML4	466168	3 - 6	466230	465969	5T & 6T	54-58
RML5	47127 is 469427	3 - 6	423506	466177	6T	59-61
RML3/15	High Medium Low Out-put					
	47134-47178 -47171	3 - 6	423506	466177	T110, T120, TR7 & TR6	60-61
RML9	47183 Low Out-put	3 - 6	54213901	54212006	T120R, TR6SR & TR6SC	62
RML9	47164 **	3 - 6	54213901	54212006	6T	62
RML9	47162	3 - 6	54213901	54212006	6T, TR6 & T120	63-66-7
RML9	47188	5 - 6	54213901	54212006	T120/TT SPEC. (E.T.Ign.)	63-66
(or) 54215824						

### "C" RANGE

RML3/15	47124 is 468973	3 - 6	423506	466177	3TA & 5TA	58-61
RML9	47162	3 - 6	54213901	54212006	3TA, 5TA & T100SR	62-66
RML9	47173	4 - 6	54214272	Use 54213901	- T100SC E.T.Ign.	62
RML3/15	47149	5 - 6	54211596	54211595	1960 T100A & TR5AR E.T.Ign.	61
					up to Engine # H21122	
RML3/15	47124 is 468973	3 - 6	54211596	54211595	TR5AR Battery-Coil Ign.	61
					after Engine #H 21122	
RML3/15	47177	4 - 6	54211596	54211595	TR5AC E.T.Ign. up to	61
					Engine #H 25251	
RML9	47188	5 - 6	54213901	54212006	T100SC E.T.Ign.	63-66
(or) 54215824						

\* Can use 47178 in place of 468678

\*\* 47181 Supersedes 47164

\*\*\* Use 47177

# The TRIUMPH Corporation

## SERVICE BULLETIN

October 8, 1965  
Supersedes No. 63/7

65/13

TO ALL EASTERN TRIUMPH DEALERS

RE: Exchange Prices on Lucas Electrical Equipment

We CANNOT ship any items at the exchange price unless we have already received one of the equivalent used parts. We CANNOT issue a credit for any old parts returned after we have sold the Lucas parts at the regular price.

<u>PART No.</u>	<u>DESCRIPTION</u>	<u>MODELS</u>	<u>EXCHANGE LIST PRICE</u>	<u>STD. LIST PRICE</u>
20035EX	DC Generator Assy.		\$ 40.00	\$ 48.00
37097EX	Voltage Regulator		10.50	15.25
37225EX	Voltage Regulator		13.50	16.75
47149EX	Stator RM15	1960-T100A, & TR5AR E.T.IGN.	21.50	29.50
47162EX	Stator RM19	1963-66-T120R,T120C,TR6S/R,TR6S/C (Medium Out-Put)	16.00	21.00
47181EX	Stator RM19	1963-66-T120R,T120C,TR6S/R,TR6S/C (High Out-Put)	16.00	21.00
47171EX	Stator RM15	1960-61-T110,T120,TR7,TR6 (Low Out-Put)	17.00	24.75
47173EX	Stator RM19	1963-66-T20S/R,T20S/C,E.T.IGN.	17.00	24.75
47177EX	Stator RM13	1959-62-T20S, E.T.IGN.	16.00	21.00
47183EX	Stator RM19	1962-T120R,T120/C,TR6S/R,TR6S/C	17.00	24.75
47188EX	Stator RM19	1963-66-T120/TT SPECIAL, T100S/C	17.75	27.75
423506EX	Rotor RM15	1958-61-3TA,5TA	21.50	29.50
466124EX	Rotor RM13	1959-61-6T,T110,T120,TR7,TR6		
466168EX	Stator RM14	1954-62-T20,T20C,T20S	16.00	24.50
466230EX	Rotor RM14	1954-58-5T,6T	21.50	29.25
468973EX	Stator RM15	1954-58-5T,6T	24.75	32.50
469427EX	Stator RM15	1958-61-3TA,5TA	17.50	27.50
54211596EX	Rotor RM15	1959-61-6T	22.50	29.75
54213901EX	Rotor RM19	1960-61-T100A,TR5AR,TR5AC	16.50	26.75
		1963-66-T20S/R,T20S/C	16.00	20.00
		1962-66-T120,T120C,TR6S/R,TR6S/C T120/TT SPECIAL		
		1962-66-T100S/C,T100S/R,3TA,5TA		
54213903EX	Rotor RM18	1962-65-T20	16.00	20.00

Prices shown are effective October 8, 1965. Class A discount applies to all list prices shown.

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

Very truly yours,

THE TRIUMPH CORPORATION

*Rod Coates*  
Service Manager

Rod Coates:bjh

# The TRIUMPH Corporation

## SERVICE BULLETIN

October 12, 1965

65/14

TO ALL EASTERN TRIUMPH DEALERS:

### MODEL 102 ELECTRICAL TEST SET INSTRUCTIONS

For Early Triumph Models Fitted With  
Lucas D.C. Generators and Regulators

If you suspect electrical troubles on Triumphs fitted with Lucas D.C. equipment, we suggest the following steps for isolating the fault:

#### Test No. 1 Testing the generator, wires and regulator ground.

- A. Disconnect both wires from generator.
- B. Plug Black test lead into Black socket (VOLTS). Position Test Set toggle switch for Test #3 (VOLTS-NO LOAD).
- C. Connect the Red test lead from the Triumph Test Set to a good ground on the motor-cycle frame. Connect the Black test lead to the generator "D" terminal.
- D. Start the engine and gradually raise the speed to a fast idle.

READING	SYMPTOM
1. Approx. 2 volts	Armature connections O.K., proceed to next test. (Step E)
2. Zero reading	Poor contact between brushes and commutator, weak brush springs, bad brush wires or defective armature.
3. Rising volts with rising speed	Internal short, D and F terminals.

- E. Link terminals "D" and "F" on generator. Connect Black Test Set lead to this link. Red Test Set lead should still be grounded.

- F. Start the engine and gradually raise the speed to a fast idle.

READING	SYMPTOM
1. Rising volts with rising speed- full scale reading at fast idle.	Generator in good order. Proceed to next test. (Step G)
2. Approx. 2 volts	Open circuit in field coil or connections.
3. Zero volts	Grounded field coil or field coil connection.

Continued.....

MODEL 102 ELECTRICAL TEST SET INSTRUCTIONSLucas D.C. Generators and Regulators

- G. Reconnect wires from generator.
- H. Remove twinseat (when necessary).
- I. Remove wires from "D" and "F" terminals at the regulator.
- J. Connect the Black Test Set lead to the end of "D" terminal wire. The Red Test Set lead should still be grounded.
- K. Start engine and gradually raise the speed to a fast idle.

READING	SYMPTOM
1. Approx. 2 volts	"D" wire from generator to regulator O.K. Proceed to next step. (Step L)
2. Zero reading	"D" wire open-circuited (broken wires).
3. Rising volts with rising speed	Short between "D" and "F" wires.

- L. Join "D" and "F" wires together and connect Black Test Set lead to these two wires. Leave Red Test Set lead grounded.
- M. Start the engine and gradually raise the speed to a fast idle.

READING	SYMPTOM
1. Rising volts with rising speed- full scale reading at fast idle	Wires from generator to regulator O.K. Proceed to next test. (Step N)
2. Zero reading	Grounded "F" wire.
3. Approx. 2 volts	"F" wire open-circuited.

- N. Reconnect wires from "D" and "F" terminals at the regulator.
- O. Connect the Red Test Set lead from the Triumph Test Set to regulator "E" terminal. (This is the regulator ground wire). Connect the Black Test Set lead from the Triumph Test Set to regulator "A" terminal (which connects with battery).

READING	SYMPTOM
1. Full battery voltage	Regulator ground wire O.K.
2. Zero or less than battery voltage	Broken or poor regulator ground wire.

## Test No. 2 Testing and adjusting the Lucas voltage regulator.

- A. Disconnect the battery. All other wiring on the motorcycle should be connected as normal.
- B. The Triumph Test Set should still be utilized as in Test No.1, (Step B).
- C. Connect the Red Test Set lead to a good ground on the motorcycle frame. Connect the Black Test Set lead to terminal "D" on either the generator or regulator.

Continued.....



MODEL 102 ELECTRICAL TEST SET INSTRUCTIONSLucas D.C. Generators and Regulators

D. Start the engine and gradually raise the speed to a fast idle.

READING	SYMPTOM
1. Steady voltage increase with speed increase until voltage rise levels out at 7.5 to 7.7 volts	Voltage control portion of regulator O.K. Proceed to next test. (Step F). Do not subsequently alter voltage control adjustment.
2. Steady voltage increase with speed increase but rise levels out at a different figure than given in D (1).	Adjust the voltage control screw by turning the adjusting screw to the right to increase or to the left to decrease the setting, which must be 7.5 to 7.7 volts. Remember, the battery must be disconnected when adjusting the voltage control.
3. Voltage does not rise with engine speed or is erratic.	Check air gap settings. (Compare them with a new regulator. Loosen 2 screws on top of armature to adjust).
4. Rising volts with rising speed—no leveling-out action.	Open circuit shorted winding in regulator coil. Replace regulator.
5. Reading approximately half required setting.	Burned for defective regulator points. Repair points or replace regulator.

E. After proving that the voltage control portion of the regulator is functioning properly, complete the regulator test and adjustment as follows:

F. Reconnect the battery. Connect the Black Test Set lead to regulator terminal "A". Red Test Set lead should still be grounded.

READING	SYMPTOM
1. Full battery voltage	Ammeter circuit O.K. Proceed to next test. (Step G)
2. Zero or less than battery volts.	Improper connection at battery, ammeter or regulator. Or, broken battery-ammeter wire or defective ammeter.

G. With Triumph Test Set connections same as Test No. 2 (Step F), start the engine and watch the Test Set meter.

READING	SYMPTOM
1. As cut-out contacts close with the engine speed increase, the voltmeter reading should rise to 6.3 to 7.0 volts.	Cut-Out O.K. Proceed to next test. (Step H).
2. Little or no voltage increase with engine speed increase.	Cleand and adjust cut-out contacts so that they meet correctly.

Continued.....

MODEL 102 ELECTRICAL TEST SET INSTRUCTIONSLucas D.C. Generators and Regulators

- H. Connect Black Test Set lead to regulator "D" terminal or regulator frame. Start engine and watch Triumph Test Set meter as the speed is gradually increased to a fast idle.

READING	SYMPTOM
1. Cut-out points close when voltage builds up to 6.3 - 6.7.	Cut-Out O.K.
2. Cut-out points do not close within the given limits.	Adjust by turning adjusting screw to the right to increase, or to the left to decrease the setting.
3. Cut-out points do not close.	Replace regulator.

CONCLUSION

We are sure that these step-by-step tests, when used with the Triumph Model 102 Electrical Test Set will enable our Dealers to carry out straightforward repairs on both generators and regulators.

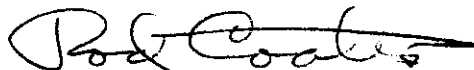
All Triumphs since 1952 (Engine #18706NA) utilize the positive ground battery system. The generator must be polarized accordingly. Should the polarity become changed by reversing battery wires or while repairing the generator, it will be indicated by reversed ammeter readings.

The polarity of a generator can easily be changed and the proper way of changing a negative ground generator to positive ground is as follows:

Remove generator wires from bakelite end cover. Connect a negative battery wire to the "F" terminal on the generator end cover and flash the positive battery wire to the body or frame of the generator.

Very truly yours,

THE TRIUMPH CORPORATION



Service Manager

Rod Coates:bjh

# The TRIUMPH Corporation

## SERVICE BULLETIN

October 12, 1965

65/15

TO ALL EASTERN TRIUMPH DEALERS:

### MODEL 102 ELECTRICAL TEST SET INSTRUCTIONS

#### Testing Lucas RMI8 Equipment as Fitted to 1962 - 1965 Battery Ignition T20 Road Cub Models

When testing Lucas RMI8 A.C. equipment as fitted to 1962 - 1965 Tiger Cubs, proceed as follows:

#### Test No. 1 Testing charge rate (D.C. current input to battery).

1. Plug Black test lead into Yellow Socket (AMPS). Position test set toggle switch for Test No. 1 (D.C. AMPS).
2. Disconnect positive side of battery by removing fuse (or remove red ground wire at (+) battery terminal).
3. Connect COMMON Red test lead to a good ground on motorcycle frame.
4. Connect Black test lead (AMPS) to battery positive terminal.
5. Start engine and check maximum readings according to light switch position shown below. (Engine speed approximately 3,000 RPM, a fast idle).

#### LIGHT SWITCH POSITION

#### TEST METER READING

Off	3.8 Amps.
Pilot	2.8 Amps.
Head	3.0 Amps.

Above readings are normal. All readings with switch in "HEAD" position are with dip switch in high beam position. All lights normally fitted should be in working condition. If extra lights are fitted, readings will be reduced accordingly.

NOTE: Low or no output can be due to faulty battery, defective alternator, defective rectifier, poor or incorrect wiring or poor connections.

CHARGE RATE TOO HIGH: See note at end of this bulletin.

Proceed to Test No. 2 if the above readings are not obtained.

Continued.....

MODEL 102 ELECTRICAL TEST SET INSTRUCTIONSRM18 Electrical Tests

Test No. 2 Testing A.C. voltage out-put of alternator. You are reading A.C. volts on the meter for this test.

1. Reconnect motorcycle wiring as normal.
2. Plug Black test lead into Black Socket (VOLTS). Position test set toggle switch for Test No. 2 (A.C. VOLTS with 1 Ohm Load).
3. Disconnect the three alternator wires, White/Green, Green/Yellow and Green/Black from the alternator side of the alternator cable junction block.
4. Start engine and connect test leads to wires as shown below. At a fast idle, (approximately 3,000 RPM), the following A.C. voltage readings should be obtained.

<u>Connect Black Test Lead to:</u>	<u>Connect Red (COMMON) Test Lead to:</u>	<u>A.C. Voltage</u>
Green/Black	White/Green	5 - 5.5 VOLTS
Green/Yellow	White/Green	8.5 - 9 "
Green/Black & Green/Yellow (CONNECTED TOGETHER)	White/Green	11.5 -12 "

NOTE: Low readings on any of the above three Tests indicate grounded or shorted coils in the A.C. stator assembly. Zero readings indicate open circuit or shorted coils. Remove and clean stator using Tri-Cor metal cleaner and compressed air. Repair any obvious wire breaks, or replace stator assembly.

5. With engine running, connect Red (COMMON) test lead to ground and connect Black test lead to each of the three alternator wires in turn. There should be no reading between any one wire and ground. ANY reading indicates "grounded" stator coils or cable and the stator assembly must be repaired, or be replaced. Old stator can be sent in with your parts order to obtain a new replacement at "Exchange" price.

If A.C. voltage readings check OK, proceed to Test No. 2A

Test No. 2 A Testing rectifier. Using No. 2 Test Position of the toggle switch, you are reading D.C. VOLTS on the meter for this test No. 2A.

1. Reconnect motorcycle wiring as normal.
2. Position Test Set toggle switch for Test No. 2 (D.C. VOLTS, 1 Ohm load).
3. Disconnect Brown/Blue colored wire from middle rectifier terminal.
4. Unplug Green/Yellow alternator wire from alternator side of junction block.
5. Make a separate wire connection from this alternator Green/Yellow wire to top rectifier terminal. (Terminal which has Green/Black wires connected).

Continued.....

MODEL 102 ELECTRICAL TEST SET INSTRUCTIONSRM18 Electrical TestsTest No. 2 A cont'd.

6. Connect Red (COMMON) test lead to a good ground on the motorcycle frame.
7. Connect Black test lead to middle rectifier terminal.
8. Start engine and look for maximum indicated voltage of 8.0 to 10.0 VOLTS, (at a fast idle, approximately 3,000 RPM). If this reading is obtained, it proves that the rectifier is OK.

NOTE: If no reading or low reading is found check rectifier for good ground to motorcycle frame. If no reading or low reading persists, replace rectifier and re-check. When fitting a new rectifier (Part #49072) always hold the top hexagon bolt head (above the top plate) when tightening the bottom fixing nut.

SUMMATION: These three simple tests will prove whether or not the three main components of the RM18 electrical set are good or in need of replacement. Should trouble persist, check by substituting the ignition-lighting switches and the wiring harness. Remember that a good and proper battery ground connection is essential. Also, the battery must be in good condition.

CHARGE RATE TOO HIGH: Excess charge rate on Tiger Cub models can be corrected by running a wire from lighting switch terminal #4 to the alternator cable junction block. (Connect this additional wire to the alternator White/Green wire). Battery in-put figures (Reference - Test #1, item #5) will then be 2.3 A., 1.3 A., and 1.5 A. respectively.

# The TRIUMPH Corporation

## SERVICE BULLETIN

TO ALL EASTERN TRIUMPH DEALERS

November 9, 1965

65/17

12 Volt Lucas Equipment Testing - 1966 Triumph Motorcycles - T120/R, TR6/R, 6T, T100/R using Tri-Cor Model 102 Electrical Test Set.

Earlier Models Note: Refer to Tri-Cor Service Bulletin Index to select the appropriate instructions for testing older Triumph models.

Battery Condition Note: For Test purposes the battery must be in good condition. If any doubt exists, fit a battery that you know to be good.

CAUTION: POSITIVE terminal of battery is ALWAYS GROUNDED. If battery connections are reversed the rectifier and rotor can be damaged.

Test No. 1 Testing Charge Rate. (D.C. current in-put to battery).

1. Plug Black test lead into Yellow Socket (AMPS). Position test set toggle switch for Test No. 1 (D.C. AMPS).
2. Disconnect positive side of battery by removing fuse (or remove red ground wire at (+) battery terminal).
3. Connect COMMON Red Test lead to a good ground on motorcycle frame.
4. Connect Black test lead to battery positive terminal.
5. Turn on key, start engine and check maximum readings according to Light Switch position shown below. (Engine speed approximately 3,000 RPM, a fast idle).

### LIGHT SWITCH POSITION

Off  
Pilot  
Head

### TEST METER READING

1. 5 AMPS  
1. 0 "  
1. 0 "

Above readings are average. All readings with switch in "Head" position are with the dip switch in high beam position. All lights normally fitted should be working. If extra lights are fitted, meter readings will be reduced accordingly.

NOTE: Incorrect out-put can be due to faulty battery, faulty Zener Diode, defective alternator, defective rectifier, poor or incorrect wiring and connections, defective ammeter, defective ignition switch, or defective light switch.

Proceed to Test No. 2 if the above D.C. Current readings are not obtained.

Test No. 2 Testing Alternator. You are reading A.C. VOLTS on the meter for this test.

1. Reconnect motorcycle wiring as normal.
2. Plug Black test lead into Black Socket (VOLTS). Position test set toggle switch for Test No. 2 (A.C. VOLTS with 1 Ohm Load).
3. Disconnect the three alternator wires, White/Green, Green/Yellow and Green/Black from the alternator side of the alternator cable junction block (Underneath Gearbox).

Continued.....

12 Volt Lucas Equipment Testing - Test No. 2 cont'd.

4. Start engine and connect test leads to wires as shown below. At a fast idle (approx. 3,000 RPM), the average A.C. voltage readings should be obtained as follows:

<u>Connect Black</u> <u>Test Lead to:</u>	<u>Connect Red (COMMON)</u> <u>Test Lead to:</u>	<u>A.C. Voltage</u> <u>A.C. Voltage</u>
Green/Black	White/Green	4.7 VOLTS
Green/Yellow	White/Green	8.1 "
Green/Black & Green/Yellow (CONNECTED TOGETHER)	White/Green	10.2 "

NOTE: Low readings on any of the above three TESTS indicate grounded or shorted coils in the A.C. stator assembly. Zero readings indicate open circuit, broken wires, or shorted coils. Remove and clean stator using Tri-Cor Metal Cleaner and compressed air. Repair any obvious wire breaks, or replace stator assembly.

5. IMPORTANT

With engine running, connect Red (COMMON) test lead to ground and connect Black test lead to each of the three alternator wires in turn. There should be no reading between any one wire and ground. ANY reading indicates "grounded" stator coils or cable and the stator assembly must be repaired, or be replaced.

Proceed to Test No. 2A if the alternator Tests are satisfactory.

Test No. 2A Testing Rectifier. Using No. 2 Test position of the toggle switch, you are reading D.C. VOLTS on the meter for this Test No. 2A.

1. Reconnect motorcycle wiring as normal.
2. Position Test Set toggle switch for Test No. 2 (D.C. VOLTS, 1 Ohm Load).
3. Disconnect Brown/White colored wire from middle rectifier terminal.
4. Connect Red (COMMON) Test lead to a good ground on the motorcycle frame.
5. Connect Black test lead to middle rectifier terminal.
6. Start engine and look for maximum indicated voltage of 12.0 volts, (at fast idle, approx. 3,000 RPM). If this reading is obtained, it proves that the rectifier is OK.

NOTE: If no reading or low reading is found check rectifier for good ground to motorcycle frame. If no reading or low reading persists, replace rectifier and re-check. When fitting a new rectifier (Part #49072) always hold the top hexagon bolt head (above the top plate) when tightening the bottom fixing nut.

Zener Diode Test All 12 Volt system Triumph models employ the Zener Diode to control the charging rate. CAUTION! The body of this Zener Diode is made of copper to insure maximum heat conductivity and the fixing stud can be easily broken by over-tightening. The recommended maximum torque is 17 inch lbs. (1-1/2 ft. lb.).

Detailed testing procedure for the Lucas Zener Diode as fitted to 1966 Triumph 12 Volt Battery ignition models will be found on page H24 of latest Triumph Workshop Manual (Part No. CD411).

A quicker means of testing the Diode is by substituting a new one (Part No. 49345) and comparing meter readings as in the first test of this bulletin.

# The TRIUMPH Corporation

## SERVICE BULLETIN

December 8, 1965

65/19

TO ALL EASTERN DEALERS

SUBJECT: Rear Wheel Sprockets.

### "A" RANGE TIGER CUBS

#### Bolt on Steel Sprockets

<u>Part No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Description</u>
W1320	46T	W1074	50T
W984/48	48T	W1076	54T

#### Bolt on Aluminum Sprockets

47T20	47T	51T20	51T
49T20	49T	52T20	52T
50T20	50T		

#### Quick Change Type Aluminum Sprockets

54T20Q	54T	66T20Q	66T
56T20Q	56T	68T20Q	68T
58T20Q	58T	70T20Q	70T
60T20Q	60T	72T20Q	72T
62T20Q	62T	75T20Q	75T
64T20Q	64T	84T20Q	84T

### "B" AND "C" RANGE Bolt Over Sprockets

#### To Bolt Over W1276 43T Rear Drum and Sprocket

52T43	52T	58T43	58T
53T43	53T	59T43	59T
54T43	54T	60T43	60T
55T43	55T	61T43	61T
56T43	56T	62T43	62T
57T43	57T		

#### To Bolt Over W951 46T Rear Drum and Sprocket

53T46	53T	57T46	57T
54T46	54T	58T46	58T
55T46	55T	59T46	59T
56T46	56T	60T46	60T



SPECIAL ALUMINUM REAR SPROCKETS TO FIT ALL 1966 TWIN MODELS  
With New Bolt on Type Drum W1498

"B" AND "C" RANGE MODELS  
BOLT ON SPROCKETS

Aluminum Sprockets to fit W1498 Drum

<u>Part No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Description</u>
W1499/46	46T (Steel)	W1499/52	52T
W1499/47	47T	W1499/53	53T
W1499/48	48T	W1499/54	54T
* W1499/49	49T	W1499/55	55T
W1499/50	50T	W1499/56	56T
W1499/51	51T		

Drum and Sprocket

W1276	43T
W951	46T

THE ABOVE LISTED SPROCKETS AND DRUMS  
 WILL FIT ALL "B" AND "C" RANGE 500c.c. and 650c.c. TWIN

- \* By fitting the 49T in place of 46T Rear Sprocket on T120/R 1966 it gives you a 5.16 Gear Ratio without having to change the Gearbox Sprocket.

# The TRIUMPH Corporation

## SERVICE BULLETIN

December 8, 1965

### 1966 "B" RANGE 650cc TWIN MODELS

#### BULLETIN No. 11

SUBJECT: Service Notes on 1966 Model "B" Range Twins

#### Electrical

The wire terminal (brown/blue "HOT" wire from battery to the wiring harness) is too large to fit the negative battery terminal. Cut it to size and bend it over after fastening to the battery, otherwise it could cause a direct short against the bottom of the seat.

#### Diode Part No. 49345

The center mounting post of the diode is a 1/4" - 28 thread. Be careful when tightening this nut as the diode is made of brass and if the nut is over-tightened it will twist the mounting stud off and destroy the diode. To test the performance of a diode, refer to page H24 of the latest edition of CD411 looseleaf Factory Workshop Manual, or our Index Service Bulletin #65/17.

#### Ignition Key

There are 80 variations of the new ignition keys and it is important for a dealer to make a note of the number of the key when he sells the motorcycle (we have a place to mark this on your New Motorcycle Free Service Check List). We carry in stock replacement keys for each number.

#### 20 Amp. Fuse

The original equipment 35 amp. fuse is too large for the new 1966 12 volt electrical system. We suggest replacing this fuse with a 20 amp. type.

#### Oil Leaks at Push Rod Cover Tube Seals

The white rubber sealing rings at the top and bottom of each push rod cover tube, (#E3547) are .095" thick. To cure oil leaks, replace with #E4752 which are the same material, but .125" thick. When fitting cylinder head ALWAYS measure the amount of compression on the push rod cover tube seals. With the cover tubes, seals and head in position, check gap between cylinder head and head gasket (use 1/16" drill for a gauge). Less than 1/16" compression can result in leaks. Too much compression can lead to cylinder head distortion. Shown below are three alternative rings that can be used.

<u>PART NO.</u>	<u>THICKNESS OF SEAL</u>
EL497RT	.070"
E3547	.095"
E4752	.125"

#### Exhaust Adaptors (E5914)

The new threaded exhaust pipe adaptors are made of aluminum instead of steel and it is important that these be carefully tightened before setting up a new machine and whenever the exhaust pipes are removed. We now offer a handy wrench for this purpose (Part No. CD441) and will soon be sending one of these tools to every dealer.

New "Adjustable" Rear Chain Oiler

In some cases the oil feed to the rear chain cannot be shut off completely in spite of the screw in the top of the oil tank being tightened all the way. You will probably find that this is caused by the tapered end bottoming in the hole, or the thread on the end of the screw could be bottoming in the tapped hole. This problem can be corrected by removing about 1/16" from the taper end, or removing the first two threads of the screw. Be careful not to over-tighten the adjustment screw as this could break it at the small diameter between the taper and the thread. Let us know if this trouble cannot be overcome and you should explain to your customer how he can control the lubrication of the rear chain.

Oil Feed to OHV Rocker Arms

Make sure the rubber tube is a tight fit on the steel tube at the oil tank filler neck. To prevent the rubber tube from working loose we suggest fitting a convenient clamp, part (#E3513). Serious loss of oil can result if the rubber hose becomes disconnected from the tank.

Oil Leaks - Front Forks

We have received some complaints of oil leaks at the threaded joint between the chrome plated dust excluder sleeve nut and the top of the lower sliding tube. When setting-up a new model, always correct this condition. Un-screw the sleeve nut, clean the threads with TRI-COR Metal Cleaner and apply B & K Super Gasket Sealer, or Super 300 Permatex liquid sealing compound on the threads. It is important to use either of these special compounds which will definitely eliminate oil leaks. Always use CD367 Wrench to tighten the chrome plated sleeve nut.

Tank Emblems

Dealers report difficulty fitting the new die cast tank emblems. Always check the tapped holes in the tank with the Phillips head screw before fitting the emblem. If the screw cannot be easily screwed all the way in place, re-tap the hole using an American #10-32 tap. When fitting the emblem always start both screws at the same time. By tightening each screw a little at a time, the emblem will be drawn up properly against the curved surface of the gas tank.

VDO ENDURO Speedometers

These special speedometers supplied with 1966 - T100/C and TR6/C models have been improved. If one should fail during the 90 day guarantee period, be sure to send it with a claim tag to:

VDO Instruments  
90 Victor Ave.  
Detroit, Michigan 48203

DO NOT send VDO to The Triumph Corporation for guarantee adjustment or repairs.

Vibration

If you notice an unusual vibration, especially in the footrest, make certain that there is clearance between the jiffy stand lug on the bottom frame tube and the surface of the crankcase. If necessary, increase the clearance by using a thin file or a double thickness hack saw blade. The crankcase should not touch the stand lug or the frame tube at that point.

# The TRIUMPH Corporation

## SERVICE BULLETIN

December 10, 1965 REVISED 65/18

TO ALL EASTERN DEALERS

SUBJECT: COUNTERSHAFT SPROCKETS.

### "A" RANGE TIGER CUBS

For Engines up to #35847 (using Felt Seal T1071).

<u>Part No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Description</u>
T1488	13T	T1369	16T
T1489	14T	T1081	17T
T1339	15T	T1204	18T

For Engines after #35847 (Lipseal H1168).

T1555/13	13T	T1513/17	17T
T1555/14	14T	T1513/18	18T
T1555/15	15T	T1568	19T

### "B" RANGE TWIN MODELS

Separate Gearbox Model 1946-1962  
and Unit Construction 1963 Models. \* Unit Construction Models 1964-1966

<u>Part No.</u>	<u>Description</u>	* <u>Part No.</u>	<u>Description</u>
T471/15	15T	T1952	15T
T471/16	16T	T1953	16T
T471/18	18T	T1916	17T
T1816	17T	T1917	18T
T1815	18T	T1918	19T
T1715	19T	T1919	20T
T1719	20T		

### "C" RANGE 500cc TWIN MODELS UNIT CONSTRUCTION

<u>Part No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Description</u>
T1558	17T	T1476/19	19T
T1476/18	18T	T1569	20T

\* Beginning with 1964 Models Engine No.D5825 the M/S High Gear Spline was changed. These new Sprockets must be used with the 1964 and later M/S High Gears T1910, T1912 and T1914.