The TRIUMPH Corporation

SERVICE BULLETIN

October 12, 1965 65/15

TO ALL EASTERN TRIUMPH DEALERS:

MODEL 102 ELECTRICAL TEST SET INSTRUCTIONS

Testing Lucas RM18 Equipment as Fitted to 1962 - 1965 Battery Ignition T20 Road Cub Models

When testing Lucas RM18 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.

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RM18 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.

Connect Black Test Lead to:	Connect Red (COMMON) Test Lead to:	A.C. Voltage
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).

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RM18 Electrical Tests

Test 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.