

SB/RG/28A HOME
(Supersedes SB/RG/28)
A/2A EXPORT
(Supersedes A/2)
MAY 1965

MOTORCYCLE ZENER DIODE-CHARGING REGULATOR

(Modified Procedure for Testing on the Machine)

As a result of further experience in the testing of motorcycle zener diode charging regulator type ZD715, when fitted to the motorcycle, the following instructions supersede the earlier information contained in bulletins SB/RG/28-Home and A/2-Export issued January 1965.

Good quality moving coil d.c. meters should be used for the tests. The voltmeter should have a scale 0-18, and the ammeter 0-3 amperes minimum. The test procedure is as follows:-

METER CONNEXIONS

- A. Disconnect the cable from the zener diode and connect the ammeter between (in series) the zener Lucar terminal and the cable previously disconnected. The ammeter red or positive lead must connect to the zener Lucar terminal.
- B. Connect d.c. voltmeter across zener diode and heat sink. The red or positive lead must connect to the heat sink which is earthed to the frame of the machine by its fixing bolts and a separate earth cable. The black lead connects to the zener Lucar terminal.
- C. Ensure that all lights are 'off'. Start the engine and gradually increase its speed while at the same time observing both meters.

NOTE It is essential that the batteries are in a good condition and in a reasonably good state of charge. If the battery condition is uncertain, it should be temporarily replaced by a good battery for this test.

It may be necessary (particularly on magneto equipped machines which have only two coil charging) to reconnect the alternator for six coil charging or maximum output i.e. join the alternator Green/Black and Green/Yellow leads together at the snap connectors.

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- (i) When the voltage across the zener diode reaches 12.75 volts, the zener current ammeter must indicate zero.
- (ii) Increase engine speed until a zener current of 2 amperes is indicated on the ammeter. At this value a satisfactory zener diode should cause a reading on the voltmeter of between 13.5 and 15.5 volts.

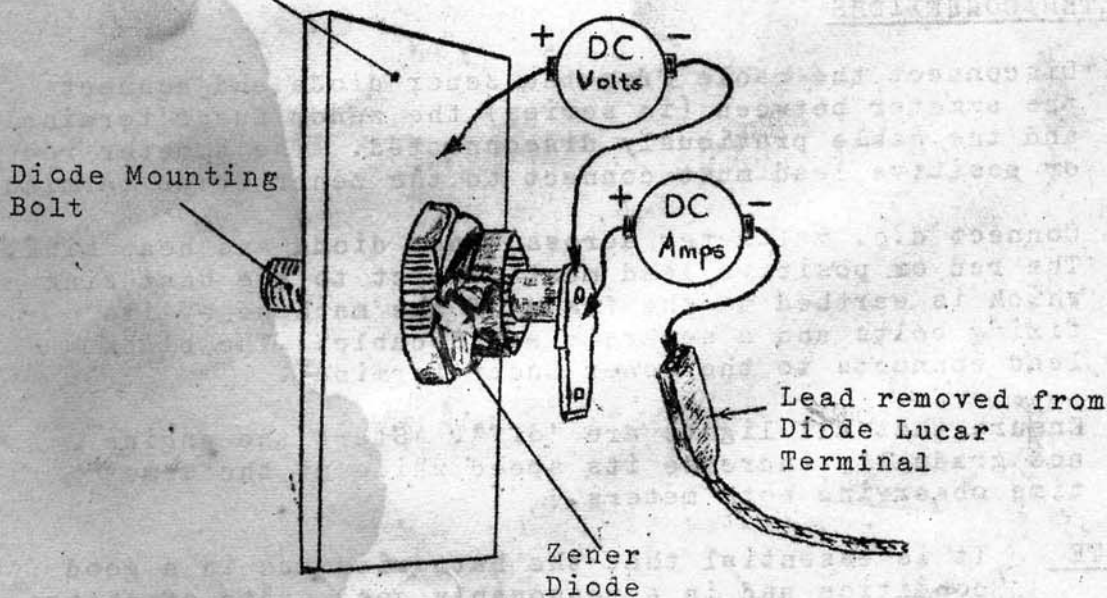
NOTE The original test (iii) (i.e. 5 amperes without battery) has been found to be unreliable and has, therefore, been discontinued.

TEST CONCLUSIONS

If the zener current ammeter in test (i) registers any current at all before the zener voltmeter indicates that the voltage across the zener is 12.75 volts, then a replacement zener diode must be fitted.

If test (i) proves satisfactory but in test (ii) a higher voltage

Heat Sink-Fastened To Frame of Machine



than that stated is registered on the voltmeter, before the zener current ammeter registers two amperes, then a replacement zener diode must be fitted.