

TECHNICAL SERVICE BULLETIN

NO.

75-B-3

BRITISH



LEYLAND

Triumph

February, 1975

SUBJECT:

ALTERNATOR DAMAGE & DIAGNOSIS

MODELS:

ALL MODELS

During April of 1974, we issued a Service Bulletin 74-B-2 which dealt with alternator damage diagnosis and prevention. It is felt that because of the relatively large number of alternators which are being returned under warranty due to rectifier pack damage that this bulletin was not fully understood, therefore we are re-producing part of that bulletin, but accompanied by photographs which should serve to clear up any misunderstanding.

1. **RECTIFIER PACK DAMAGE** - This is generally caused by a very large current being allowed to pass through the diodes. Such a condition occurs when:
 - (a) the vehicle battery is installed with the connections reversed.
 - (b) an attempt is made to jump-start a car or boost-charge a battery in a car with the charger leads or battery cables reversed.
 - (c) a battery that has been reverse-charged is installed in a car.
 - (d) when the vehicle harness is improperly connected to the alternator.

Such damage, when it occurs, is usually characterized by at least one of the following symptoms; beads of solder emerging from one or more individual diodes and travelling up the stem; (Fig. 1 & 2) a burning or charring of a diode; melting and burning of the 'petal's (Fig. 3) which connect to the diode stems and one or more diode stems lifting from the rectifier plates.

2. **REGULATOR DAMAGE** - The regulator mounted inside a Lucas ACR Alternator is manufactured with the latest electronic devices which operate at normal battery voltage. The regulator can be damaged if subjected to high voltage which may be generated on the vehicle in the following ways:

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- (a) loose, corroded or intermittent connection in the charging system.
- (b) operation of the vehicle with the battery disconnected.
- (c) battery or alternator becoming disconnected while engine is running.
- (d) use of a battery master switch to stop the vehicle.

Such damage is usually confined to the internal components of the regulator itself. Symptoms include alternator supplying maximum output continuously or no output at all.

The surge protection device which is fitted to all current Lucas ACR alternators will help to protect the regulator from occasional high voltage conditions but only strict avoidance of the above conditions will ensure trouble free regulator and alternator operation.

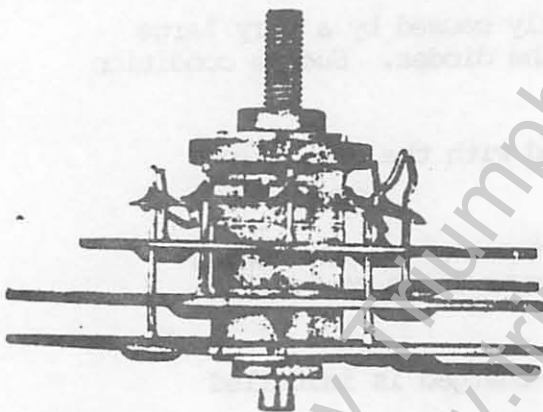


FIG. (1)

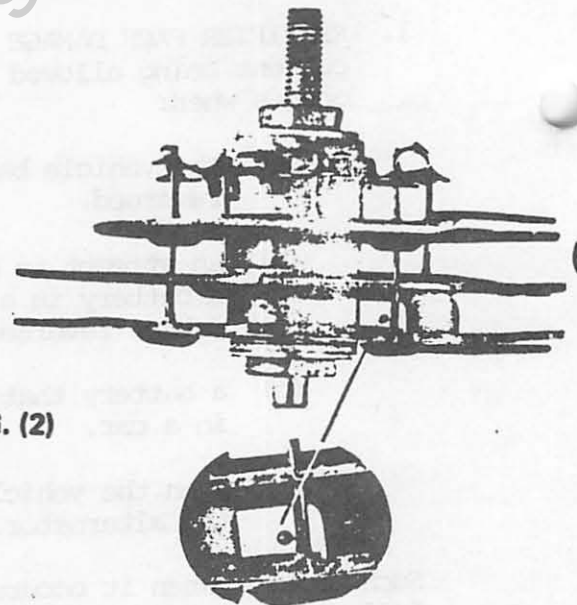


FIG. (2)

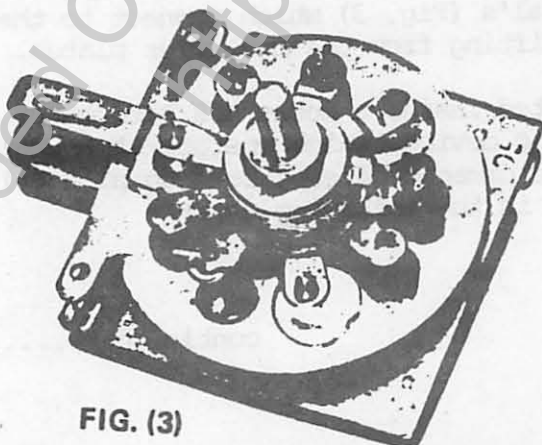


FIG. (3)