Fitting Lucas RM Motorcycle Alternator Parts – Important Information

Your new Lucas alternator components (stator and/or rotor) are precision-engineered parts that must be installed with care and expertise. For correct fitting and torque settings, please refer to the workshop manual for your specific motorcycle model. It's important that all retaining hardware is present, in good condition, and correctly fitted. Single-use locking devices —such as tab washers—*must* be replaced during installation to ensure safety and reliability.

Incorrect installation of Lucas rotors or stators may result in mechanical failure, which can lead to personal injury or damage to the alternator. Any such damage will not be covered under warranty.

Fitting Notes – Rotor and Stator Clearance

New Lucas stators and rotors are manufactured on modern precision equipment to tolerances far beyond what the original company could achieve. These components are consistently accurate, issues with fitting or rotor-to-stator clearance are always caused by other factors.

Important: Machining the rotor must *never* be considered a solution to a clearance problem.
If the clearance is found to be incorrect, possible causes include:

- Damage from a previous impact, particularly to the front of the primary cover, which can bend one or both front stator studs.
- In more severe cases, the force of impact may cause the stator to strike the rotor, bending the crankshaft.
- A bent mainshaft is also relatively common.

Other common causes of clearance issues:

- Excessive play in crankshaft bearings.
- Stators fitted to misaligned or bent studs.
- Misaligned or loose inner primary covers (especially on non-unit Triumph, BSA, and Norton models).
- Rotors fitted to crankshafts with worn keyways.

Such defects are easily missed if you do not check fully between each and every pole faces while rotating the engine through 360 degrees. In some positions the rotor may appear to have the 0.008” clearance but when you rotate the motor 180 degrees the required clearance may close up or disappear all together. You will have to have such defects repaired by an experienced engineer.

Clearance Checking and Final Fitment

A competent mechanic familiar with classic British motorcycles should have no trouble fitting these parts, even if a little fettling is required. It’s worth remembering that even original factory components often needed adjustment—“plug and play” wasn’t a concept back then.
Once the rotor and stator are correctly aligned and torqued, the engine must be rotated through a full 360 degrees. Carefully check the clearance between the magnetic rotor and *each* stator pole face during rotation.

- Single-phase stators have 6 pole faces.
- Three-phase stators have 9 pole faces.

A minimum clearance of **0.2mm (0.008")** at each pole face is required. A typical working clearance is **0.2–0.25mm (0.008–0.010”)**. We recommend using **non-magnetic feeler gauges**, such as those made from stainless steel, brass, or plastic.

Special Note – Triumph Tiger Cub

Some Triumph Tiger Cub models require reducer sleeves to adapt the stator mounting holes from 5/16" to 1/4". As the stator is mounted on the primary cover, the method for checking rotor clearance is slightly different.
To check for contact:

1. Wrap a single layer of masking tape around the rotor.
2. Fit the primary cover with the stator attached and tighten the screws evenly.
3. Gently kick the engine over several times.
4. Remove the cover and inspect the tape for any signs of contact.

If rub marks are present, adjust the stator mounting, reapply fresh tape, and repeat the test until no contact marks appear.