



ALTON
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General note for Alton generator sets

You'll notice that if you turn the Alton by hand, you get a notchy rotation effect. This is perfectly normal because Altons use permanent magnet technology which is radically different from the way dynamos work. Both generators and dynamos drain mechanical power to work but dynamos turn freely when operated by hand whereas generators do not. Be reassured that when fitted, Altons operate smoothly and quietly in normal use.

Fitting all models

Ensure that all the drive train components are in good condition - change any that are worn. Verify that you have good alignment. If anything seems out of place or you have any questions, contact a professional before going any further.

Fit the Alton in the same way as the original Lucas dynamo using the original clamp and fittings. Once the Alton is correctly positioned in the cradle, fit and tighten the clamping strap. Now you may fit the spacer, key and pulley, drive pinion or sprocket along with the 6mm x 15mm screw and special large washer provided in the kit. Check the alignment, gear engagement and rotation of the Alton. You can adjust the position by slackening the clamp slightly and turning the whole unit slightly. Once you are satisfied with the position and rotation, you can fully tighten the pinions screw.

Model specific information

ACG01 for Vincent twins.

It's preferable to use the PD15 polyamide version that is supplied with your generator. If you decide to use the original metal version, it must be in excellent condition. The Alton should be mounted in the same manner as the original Lucas dynamo, ensuring that the correct clearances are maintained with the primary chain, ie, at least 10 thou gap at any time. If necessary shim underneath the cradle to suit. For series C, use cradle ET221, clamp ET176/2 with G72, nuts and washers. For series B, use adaptor ET202, clamp ET176/1 with bolt ET177, hook nut ET185, bolt pivot ET178, nuts and washers. Fit only the oil thrower PD28 and sprocket. Fully tighten the allen screws (the two side screws are metric 5mmx25mm and the central one is metric 6mmx15mm) with adequate allen screwdrivers.

ACG02 for Vincent Comet.

Make sure that all generator drive parts in timing chest are in perfect condition. If they are in bad condition or misaligned, get them corrected by a professional. Use clamp ET176/2 with nuts E222 and 142, studs E109/5 and E109/10 and washers. Fit the Alton spur sprocket and 3.2 mm key, with M6 x 16 allen screw + washer, ensuring that the correct clearances are maintained between generator spur sprocket and idler gear ET50 at any time. To make clearance adjustment easier do NOT use the oil seal E224 but sealing compound.

ACG03 for Velocettes.

Follow the general instructions in *Fitting all models*. Belt tension is obtained by movement of the whole Alton by slackening off the clamping strap. Once the above has been satisfied and ensured, the security of the pulley mounting screw etc. may be made good.

ACG04 for Triumph twin pre-unit motors.

Follow instructions in *Fitting all models*. Plus when you fit the clamping strap, insert and tighten the supplied metric 5mm x 40mm central screw to aid assembly.

ACG05 for motorcycles with Magdyno.

The Alton should be mounted in the same manner as the original Lucas dynamo using the original clamp and fittings. Once the Alton is in position on the magdyno body, fit and tighten the clamping strap, at the same time, screw in the new 5mm x 35mm central securing screw firmly just to aid assembly. The key and drive pinion may now be fitted along with the newly provided 6mm x 12mm securing screw and special large washer. Having double-checked the alignment, the gear engagement and the free rotation of both magneto and Alton armatures. At this point follow the instructions in *Fitting all models*. The magneto should now be ready to be fitted back on the engine.

ACG06 (with V belt drive kit) for BSA A10, A7 and Ariel Huntmaster.

The Alton is supplied with generator drive replacement kit (one V-belt and two pulleys). The generator drive case should be free from any grease or oil. V-Belt tension adjustment is effected by movement of the whole Alton by slackening off the Alton clamping strap. Follow the instructions in *Fitting all models*.

ACG06C (11 tooth chain sprocket) for BSA A10, A7 and Ariel Huntmaster.

The Alton is supplied with replacement sprocket matching the specific straight design of the Alton drive shaft. Follow instructions in *Fitting all models*. You should add grease to the drive chain.

ACG07 for AMC-AJS-Matchless singles.

This model is supplied with a 19 tooth sprocket. It may be necessary to add 1 or 2 links to the generator chain to suit. Follow instructions in *Fitting all models*.

ACG08 for Norton 7, 88 and 99.

Follow instructions in *Fitting all models*. Plus when you fit the clamping strap, insert and tighten the 3 supplied metric 5mm x 50mm screws to aid assembly.

ACG09 for AMC-AJS-Matchless twins.

Follow instructions in *Fitting all models*. Plus when you fit the clamping strap, insert and tighten the supplied metric 5mm x 50mm screw to aid assembly.

Electrical connections

To ensure conductivity, connections and extensions used should be made by soldering appropriate terminals to the cable tails.

For both polarities:

- 1) Connect a yellow wire of the rectifier-regulator to one black wire from the Alton.
- 2) Connect the other yellow wire of the rectifier-regulator to the other black wire from the Alton. There is no right or wrong way round - the yellow cables are both identical.

For negative earth (ground):

- 1) Connect the red wire from the rectifier-regulator to the ammeter as shown in the wiring diagram provided.
- 2) The black wire from the rectifier-regulator passes to earth (ground).

For positive earth (ground):

- 1) Connect the black wire from the rectifier-regulator to the ammeter as shown in the wiring diagram provided.
- 2) The red wire from the rectifier-regulator passes to earth (ground).

Important Information:

1) The Alton you have just purchased for your British motorcycle must be used with a battery. Failure to fit a battery or running with poor/interrupted connectivity to the battery for whatever reason will damage the rectifier-regulator and cause potentially irreparable damage to your Alton. A dead or weak battery will also cause damage to the system through overload/overheating thus damaging the internal components. Should the use of your motorcycle be intermittent then either, charge the battery before intended use or install a permanent 'smart trickle charger' to the system to maintain the battery and also extend its life (Optimate or similar). These units have already undergone extensive testing prior to delivery and any overload with the resultant damage caused by any of the above mentioned conditions will render the 2 year warrantee void.

2) The continuous cruising rating for your Alton is 90 watts, with an absolute maximum of 150 watts. Even at 90 watts output this is still 50% more than the best Lucas dynamo. One would expect a normal configuration to have a 45/55 watt headlight bulb, 21/5 watt stop/tail bulb, with an additional 10w for speedometer and side lights. Should the motorcycle have coil ignition, then one would expect this to use a further 10 to 15 watts of electricity. Adding those wattages together there is adequate power available for everything. The fitment of headlights akin to searchlights may not be the best for your bike or your pocket. Check your wattages - it is not rocket science.

3) The regulator supplied allows you to choose either positive or negative polarity. It is important to check what electrical equipment is fitted on your machine - some will impose a polarity (electronic ignition etc). Then follow the wiring diagram appropriate to this choice. If you have no particular equipment fitted, you are free to choose one or the other polarity but then be sure to be coherent - do not follow one diagram and then the other - it really is one OR the other.

4) Recommended 12 volt battery range: from 10 to 14 ampere-hour (A-h). The bigger the better - although the initial cost will be higher, in the long term the extra battery life and reduced load on the system will make it far more economical.

5) From a safety and operational point of view, your own and battery life can be prolonged by riding with lights 'on' at cruising speeds or over. Your Alton and system is designed to work this way.

Your Alton # is specially designed and manufactured to replace the 3 inch generator on classic British motorcycles in normal road use. Any other use (including but not exclusively competition bikes, sport cars, airplanes, go-karts etc) will void the guarantee unless expressly discussed with Alton and approved before purchase. The same applies to incorrect fitting and failure to use the supplied regulator which will negate responsibilities.

The guarantee covers parts, repair or replacement (at Alton's discretion) plus the cost of transport to return the unit to the customer. It does not cover the cost of shipping the unit to Alton nor any works/parts to the motorcycle upon which it was mounted nor any associated labour or other costs related to or resulting from vehicle breakdown. This does not affect your statutory rights. The Alton is assembled with special tools and should not be opened if you wish to keep the two year guarantee.