

Wiper motor fitting

Parts needed

1. Lucas wiper motor (Mini/Jag/Triumph/BL type)& brackets
2. 130 deg Gear wheel
3. Two long stem wiper boxes
4. Lucas drive rack cable
5. Two wiper arms
6. Two 10" or 11" wiper blades



The above picture shows the Lucas Type motor and wiper boxes and fixing bracket

Method:

1. Mark a center line on the top of the scuttle section just in front of the windscreen towards the bonnet opening, measure 8.5" (216mm) each side of the center line and mark a line parallel to the center line. This will give you the 17" (432mm) centers for the holes for the wiper boxes.
2. Mark 3 ¼"(82.5mm) from the edge of the bonnet opening to give the position to drill the holes for the wiper boxes. As shown below.



- 3. Note:** The hole will move forward as you open them up, as the hole runs through the GRP at an angle.
- 4.** Drill a small hole through the scuttle at the points that you have marked, this should be drilled at an angle. Start drilling square to the scuttle until you have a good mark, then lean the drill to the correct angle. This can be judged by using the outer chrome bezel from the wiper box.



- 5.** Once you have both holes pilot drilled open up to the full size, make sure that the hole does not wander and it is opened up and the angle is maintained. Until the stem of the wiper box passes through with a small amount of clearance to allow for paint later.



- 6.** With the Double skin of your Python body it is necessary to remove more of the inner skin to allow the rear angled tube on the wiper box stem to contact the outer skin, this can be done with a rotary burr in a drill or die grinder. (As shown above left) Test fit the wiper box in position adjust if required.



- 7.** Now that you have both wiper boxes fitted, it time to cut and flare the steel outer sleeve tube.
(one type of flaring tool shown above)
The length of these tubes may very depending on the wiper boxes used, the lengths given are a
“GIDE ONLY” and you should check the detentions on “your” car before you cut the tubes.



- 8.** The center tube (shown above) should be cut to 15.74” (400mm) BEFORE flaring. The finished tube should be 15.47” (393mm). If the tube has one end flared already then you will need to cut 3.5mm shorter, and then flare. You will need a flaring tool for this operation, if you do not have one of these then you may have to get a local pipe company to do this job for you.



- 9.** The above tube is the one that runs from the motor to the fist wiper box, this should be cut 9.92 (252mm) before flaring. 9.65” (245mm) **Note:** remember to fit the brass not from the wiper motor **BEFORE** you flare the end! (Yes I have done that!)



- 10.** The last piece of tube is just the end tail, this is to cover the end of the rack cable as it runs back and forth. The length of this tube is not that important and should be around 6” (150 mm) 7” (175mm).

- 11.** Fit the newly made tubes into the wiper boxes. The tail piece to the driver's side of the car, and the wiper motor connection piece to the passenger side & therefore the center in the center.



- 12.** Lay the Rack cable on top of the assembly you should now have and position the connecting pin end into the wiper motor housing as pictured and mark the length of the rack cable about 3" (75mm) longer than the center of the last wiper box as shown. Cut the rack cable to length with a hacksaw or angle grinder and deburr the end.

- 13.** Fit the boxes and tubes in to the car and offer the motor up to the end of the tube (you may need to bend the tubs a small amount to get all the parts inline) the motor should now be in the position shown below.

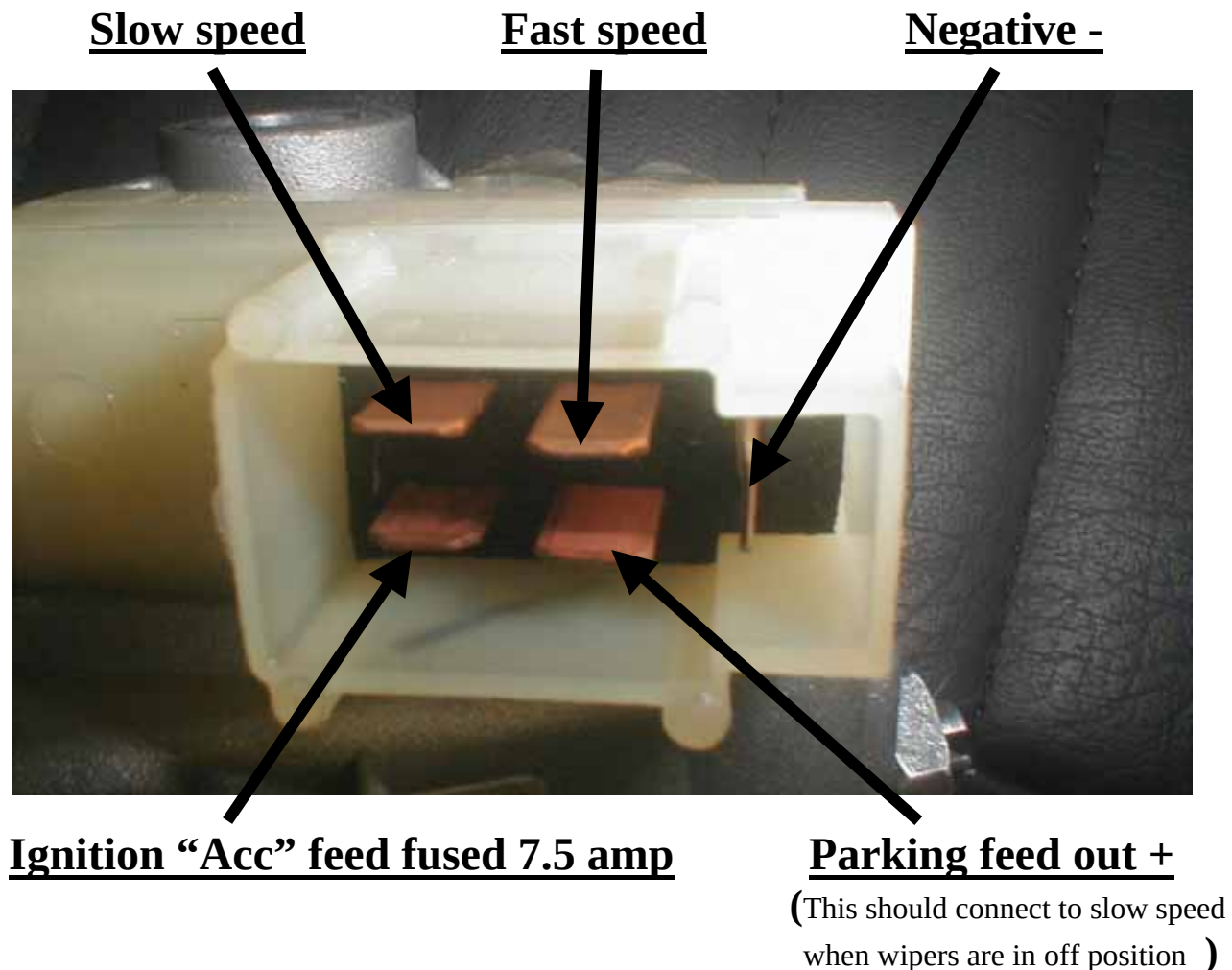


- 14.** Offer up the fixing bracket and mark the position of the two **M6** bolt holes, Drill and **tap M6** OR fit **M6** nut inserts (rivnuts)
- 15.** The gear wheel inside the motor unit has a plastic ramp section on it, this is the parking stop position. This may need to be changed if it is not in the correct position. The parking ramp should be on the opposite side of the wheel to arm pivot. It is only held in place by plastic pins from the rear of the ramp and can be lifted with a screwdriver and pushed into the opposite set of holes as shown below.



- 16.** Assemble the motor unit with the gear wheel and rack cable ***note:*** the two curved washers that come with the gear wheel should be placed on the shaft first, the first one with the “cup” side up and the second the other way up. This makes a spring that keeps every thing tight.
- 17.** Fit the Rack cable into the slot in the housing and insert the gear wheel, locating the pin in the rack cable. You may need to clamp the wheel with a small “G” cramp to fit the washer and cer-clip to the outer end of the gear wheel pivot. Compressing the spring washes that where just fitted. Make sure that all the parts/ pivots and gears are well greased fit the outer cover plate back in position and screw down.
- 18.** Grease the Rack cable well and slide into the tube, you may have to loosen the tube clamping bolts some to aid fitting the rack cable, the cable should slide in with out jamming or snagging. If it will not check tube flares as they can some times cause problems if the bore of the tube has closed up during the flaring procedure, if this has happened open up with a file and try again.
- 19.** Fit the motor brackets and rubber pads loosely in position and fit the nut on the tube end to the motor and line every thing up in position and then tighten up fully.

- 20.** When it comes to that great time to pain your pride and joy it is easily to just remove the outer nuts and chrome bezels, mask the ends and push the stems back below the level of the scuttle. Once the paint work is polished and finished then they can be pushed back up and fitted permanent.
- 21.** If you are using the wiring loom supplied by RVD then you will find a five pin plug on the loom that simply plugs in to the socket on the wiper motor, if you are using any other loom or making it yourself then the pins are looking into the socket with four pins horizontal and one vertical on the right



- 22.** If you have your switch gear wired then you can test you system to make sure that all the speeds and parking work, if you do not have all the wiring connected then fit a wire to the slow speed and the negative and test run from a battery, and then test the fast speed.
- 23.** There should be no grating noses or dramatic change in speed when the motor is running, if there is stop and recheck the tubes and Rack cable. Once the motor runs smooth and the wiper boxes are running freely the job is complete at this stage in the build, the arms and blade will be fitted after painting along with the wind screen and other Bright work.