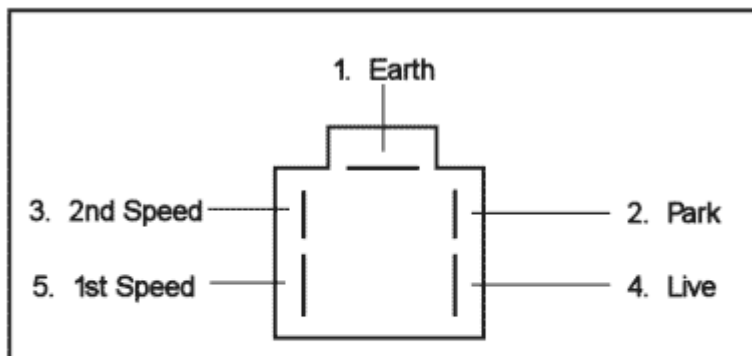


## 1. Motor

The most popular type still available is the Lucas 14W. This is a two speed wiper motor, with self parking. Lucas did make a 16W type but as this was only used on Triumph Stags & Reliant Scimitars etc, and has now been dropped from the range.

Make sure you use the correct base pad and strap with the rubber covering, and the motor is not touching any part of the vehicle body to eliminate noise.

Wiring connections to the motor



- 1 Earth black
- 2 Park brown/light green
- 3 2nd Speed blue/light green
- 4 Ignition live green
- 5 1st speed red/light green

## 2. Drive Gear

When the new motor arrives there is no threaded ferrule to take the drive tubes or internal gear. There are several gears to fit this motor starting with the number 95 which is stamped on the top round plate. This is giving the least amount of travel to the rack and wiper arms. The most travel gear is 130.

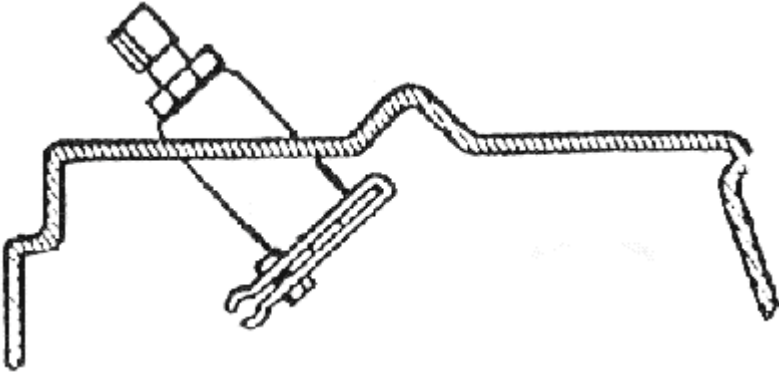
The gear ratios go up in 5's so starting with 95, 100, 105 and so on, most of these are still available. On the top of the gear plate where the number is stamped there is a drive peg welded in position. This is the only item which changes position throughout all the gears(e.g. welded in different positions on the top plate.). Obviously if this peg was welded to the centre of the plate there would be no travel at all, so the further the peg is positioned to the outer edge of the plate the more travel you get. With each gear come 2 washers and a circlip retains the gear in to the motor, always pack with grease in the gear area before refitting the top cover.

## 3. Wheel Boxes

The most popular wheel box size is 32 teeth on the inner drive wheel and the ideal length of shaft from the inner face to the end of the splines is 2.5 inches. This allows for the thickness of material on fibreglass cars as the first spacer can be cut down in size allowing for varying thicknesses through the bulkhead where the wheel boxes fit. There is also a 40-tooth wheel box which will reduce the amount of wiper arm travel.

If the car has a split screen then it is quite easy to fit what was called the clapped hands system. This is by turning one of the wheel boxes through 180 degrees.

Wheelbox showing inner and outer spacer



#### 4. Drive Rack

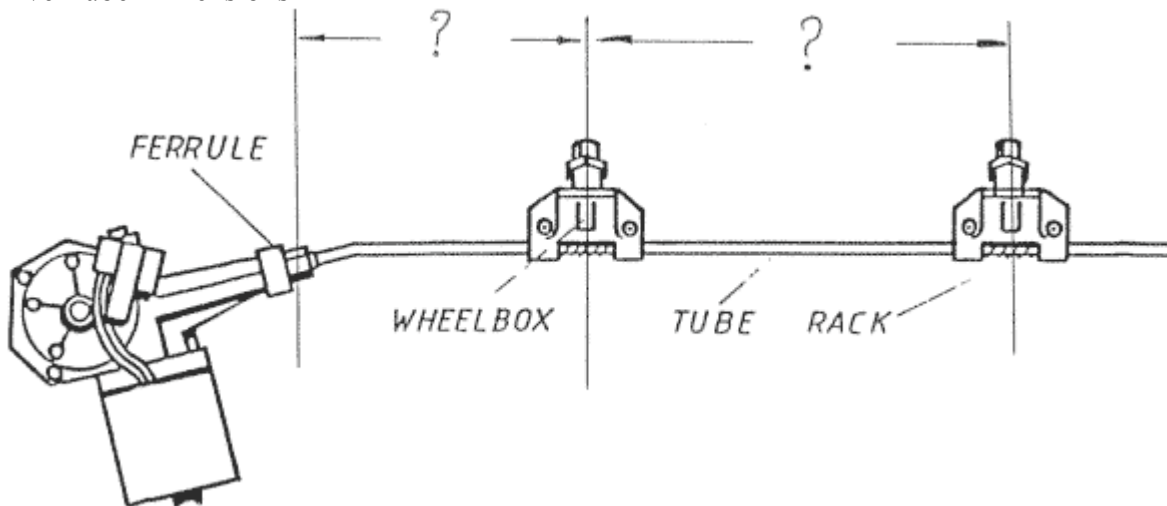
When fitting a new system it is advisable to fit a new drive rack as this is one of the items that wears, resulting in the wiper arms having too much play.

#### 5. Drive or "Bundy" Tubing Sets

It is far better to use the recommended wiper tubing from Lucas than to use copper tube as this can be noisy and wears very quickly on any bends. Wear of the drive tube causes friction that can lead to the motor burning out.

Bundy tube sets can be made up providing you give the supplier 2 dimensions. The first is the distance from the motor to the centre of the first wheel box hole, and the second the distance between the wheel box hole centres through the bulkhead. Obviously if there is a 3 wiper system then there is another dimension needed. Try to avoid sharp bends in the tubing, If you have to bend the bundy tube, an easy way to form the shape is to insert the drive rack into the tube before bending. This will keep the tube the correct diameter on any of the bends (very much like a plumber bends copper piping by inserting the spring). Always grease the rack liberally before inserting into the bundy tube.

Drive Tube Dimensions



#### 6. Switch

It is important that you use a correct wiper 2-speed switch. The reason for this is that when the switch is in the off position with the ignition switched on there is one connection which becomes live. This operates the parking position. If you use a non-live switch then the wipers would stop whenever the switch was switched off.

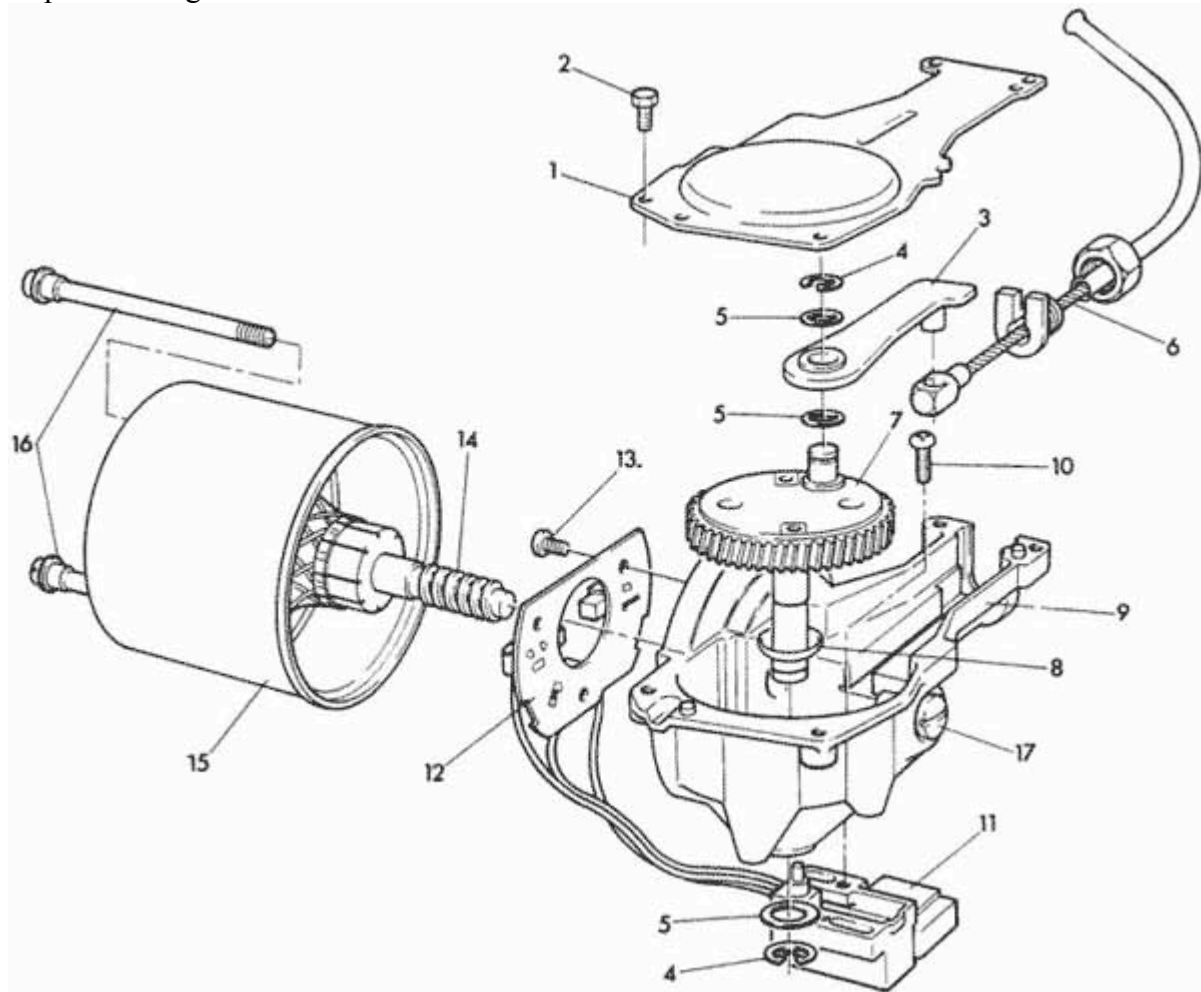
**LUCAS WIPER SWITCH Part No. 35927**

## Terminal Connections

4. 1st speed red/green light
8. Park brown/light green (linked to no.4 when switch is on off position)
6. Ignition live green
2. 2nd Speed blue/light green

The park position can be changed by reading the Lucas information leaflet. If purchasing a second hand motor make sure there are 3 wires going into the motor body. This is the way to tell if the motor is 2-speed, 1 speed only has 2 wires.

## Exploded Diagram



## KEY:

- |                        |                            |                      |
|------------------------|----------------------------|----------------------|
| 1 Gearbox cover        | 7 Gear wheel with crankpin | 13 Screw for brushes |
| 2 Screw for cover      | 8 Dished washer            | 14 Armature          |
| 3 Connecting Rod       | 9 Gearbox                  | 15 Yoke              |
| 4 Circlip              | 10 Limit switch screw      | 16 Bolts             |
| 5 Washers              | 11 Limit switch            | 17 Thrust screw      |
| 6 Flexible wiper drive | 12 Brush gear              |                      |