6.44. Riff 9

6W. WINDSCREEN WIPER.

Wiper model 6W has been developed for applications requiring greater torque than is available from model DR3. (The cold stall torque of the 6W is 1,500 ozf ins). The 6W uses the same armature and field system as the corresponding DR3. The increased power has been obtained by changing the type of gearing. The DR3 has worm and wheel gearing, while the 6W has 2 stage spur gearing. (The first stage is helical and the second stage is straight).

Both gears of the 6W wipers are moulded in Delrin — a plastic material, similar to nylon, but having increased impact strength at higher temperatures. Spur type gearing has been adopted in order to reduce transmission losses.

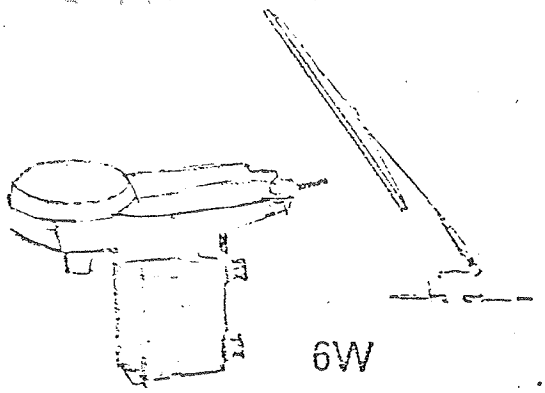


Fig. 8

6W. DESIGN FEATURES.

Like the DR3, the wiper has 2 speeds:—

Normal Speed: 45–50 rev/min.

High Speed: 60–70 rev/min.

In general appearance, the 6W closely resembles the DR3. However, the mounting studs are located on the yoke, and so face in the same direction as the cable rack outlet. Consequently, it is not necessary to invert the 6W wiper to fix it on either side of the vehicle.

The 6W has a "self-parking" device. When the control switch is turned to "parking", the motor rotation is reversed, and the eccentric coupling increases the movement of the wiper arm in the direction of parking, until the limit switch cuts off the supply to the motor. The wiper arms are then parked near the windscreen surround. The limit switch is built into the gearbox, and is operated by a striker on the crosshead. It is adjusted by means of a nut, near the cable outlet of the gearbox.

The 6W is used in conjunction with throated gear wheelboxes.

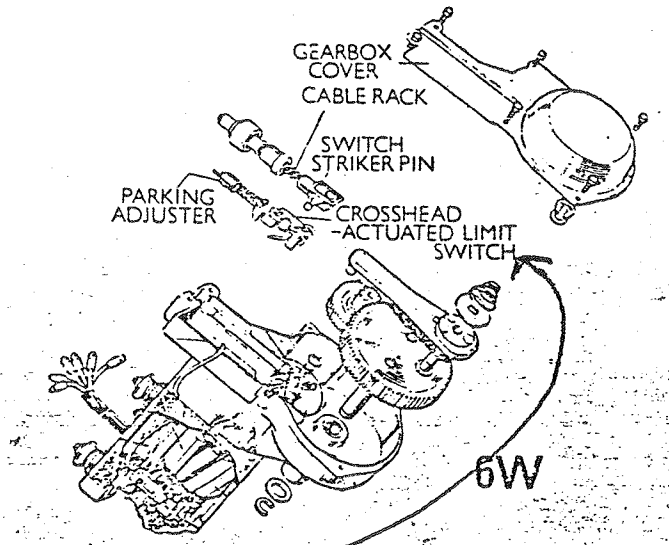
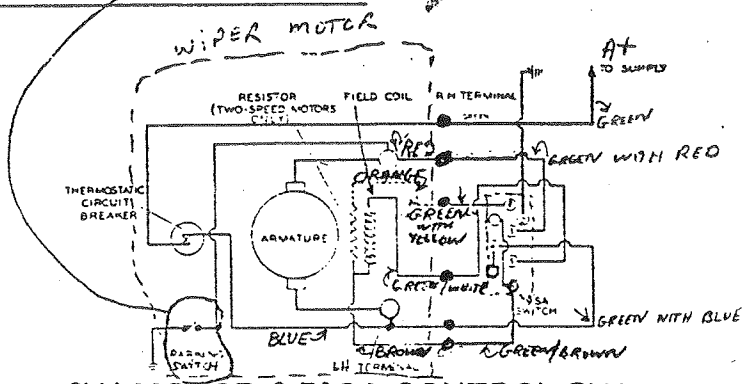


Fig. 9

6W. WINDSCREEN WIPER AND 79SA CONTROL SWITCH.

Figure 10 shows the internal connections of the 6W windscreen wiper, and also the 79SA control switch.



RIFF - 9

Fig. 10

6,44. RIFF 10

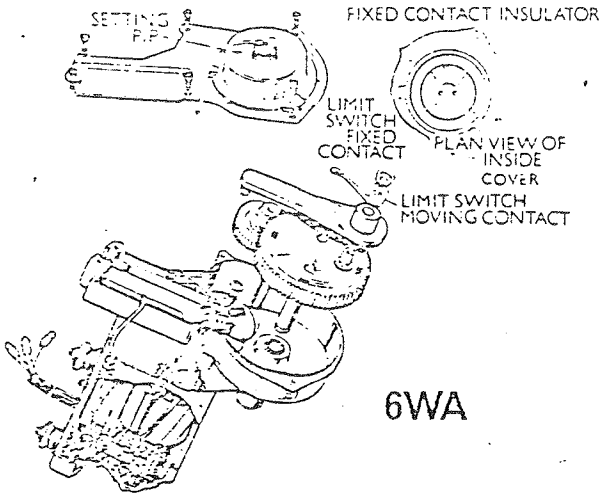


Fig. 11

6WA. SELF-SWITCHING.

In addition, there is the "self-switching" model — 6WA. This has a non-reversing motor, incorporating a limit switch to bring the blades to rest at the end of the wiping stroke.

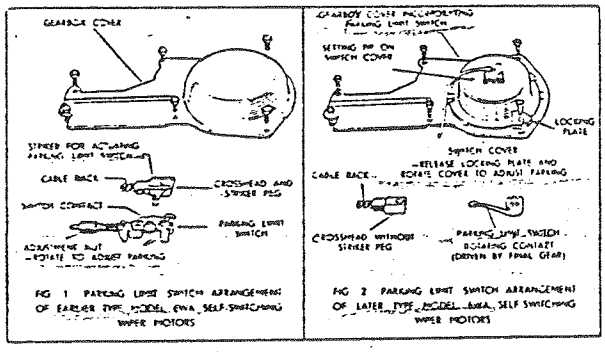


Fig. 12

6WA. LIMIT SWITCHES.

There are two types of limit switch used on the 6WA. The switch of earlier models was actuated by a striker peg on the crosshead of the cable rack. (Shown on left of Fig. 12).

Later model 6WA wipers have the switch housed under the domed cover of the gearbox (see Fig. 12). The cable racks for these motors are not fitted with a striker peg.

6WA motors (with rotating switch contact) can be used as a service replacement for the earlier type (with crosshead switch). The existing cable rack can still be used. (The striker on the crosshead is not required to operate the limit switch, but it can be accommodated in the space originally intended for the crosshead switch).

However, the earlier type motor cannot be used to replace the later version, unless the cable rack is also changed. Failure to do this will cause the wiper blades to park incorrectly.

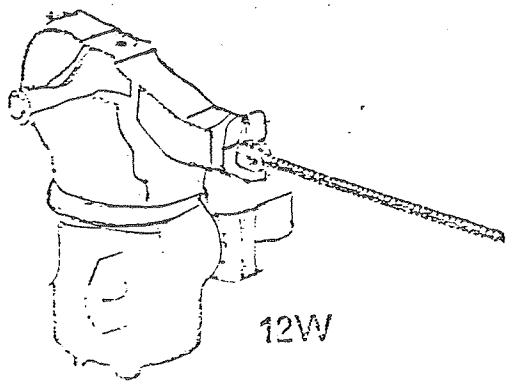


Fig. 13

12W. WINDSCREEN WIPER.

Instead of having wound field coils, the 12W employs a permanent magnet field system, consisting of two Barium Ferrite ceramic magnets. The 12W is more powerful than the 6W (Cold stall torque figures: 12W, 1,650 ozf ins: 6W; 1,505 ozf ins). It is also much quieter in operation, and more efficient. Consequently, the current consumption is lower for the corresponding speeds.

The 12W weighs 4·1 lbs. and is thus lighter than the 6W (5·7 lbs).

The two permanent magnets and the armature are contained in a cylindrical yoke. When the wiper is switched on, the armature rotates.

RIFF-10