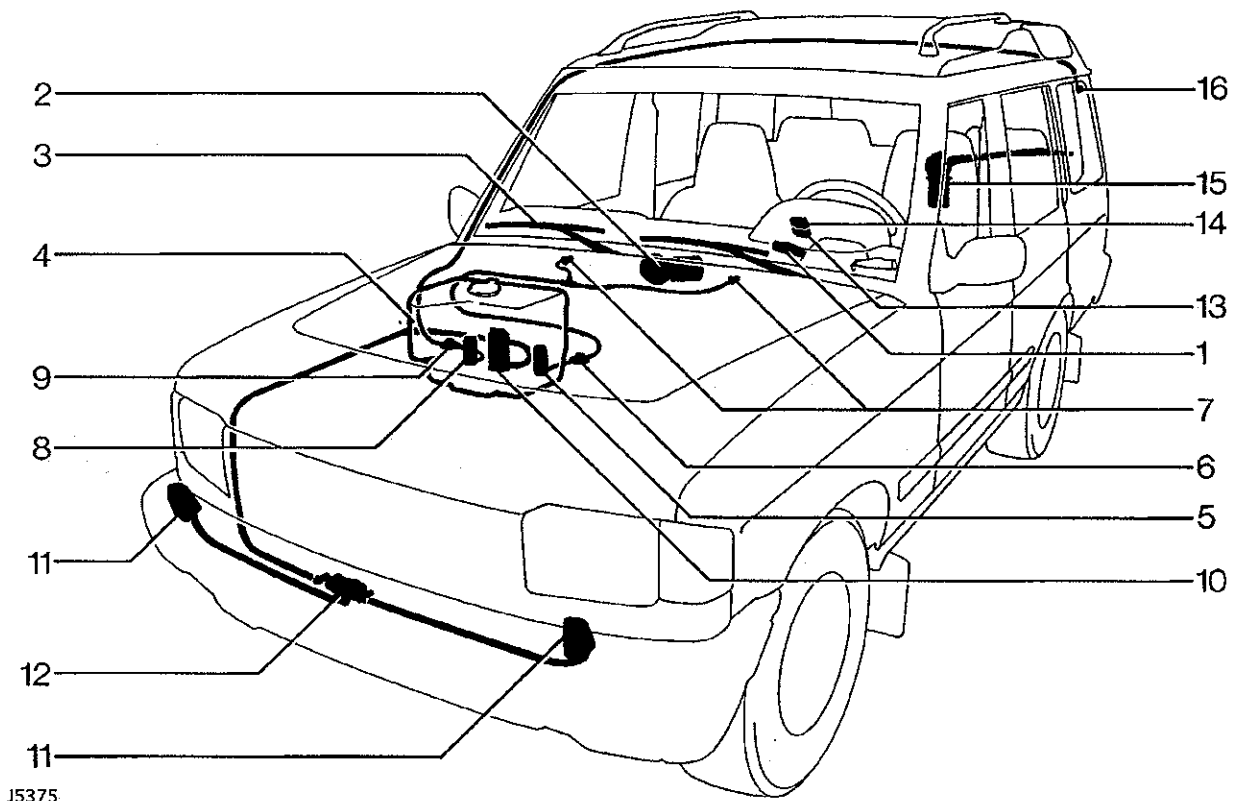




### WINDSCREEN WIPER AND WASHER OPERATION

The illustration below locates and identifies the main components of the windscreen and washer system which is operated by a multi-switch on the right hand side of the steering column.

All functions of the system are described in the following paragraphs.



J5375

- |                                  |  |
|----------------------------------|--|
| 1. Multi-switch                  | 10. Headlamp power wash motor/pump         |
| 2. Wiper motor                   | 11. Headlamp power washer jet              |
| 3. Wiper arm/blade               | 12. Non return valve                       |
| 4. Washer reservoir              | 13. Rear window wiper switch               |
| 5. Windscreen washer motor/pump  | 14. Rear window washer switch              |
| 6. Non return valve              | 15. Rear window wiper motor, arm and blade |
| 7. Washer jet                    | 16. Washer jet                             |
| 8. Rear window washer motor pump |  |
| 9. Non return valve              |  |

**Wash wipe function**

With the ignition switched on, power is supplied via a fuse to the multi-switch, a control unit and a park switch which is driven by the wiper motor.

**Single wipe A**

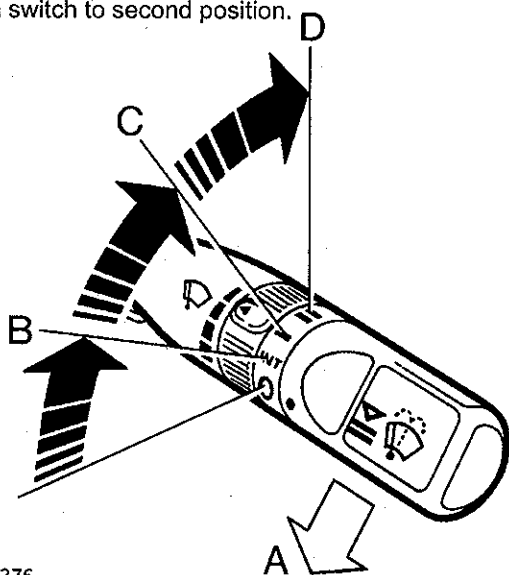
Pull the lever down and release immediately.



**NOTE:** With the lever held down, the wipers will continue operating at high speed until it is released.

**Intermittent wipe B**

Turn switch to second position.



J5376

**Normal speed wipe C**

Turn switch to second position.

**Fast speed wide D**

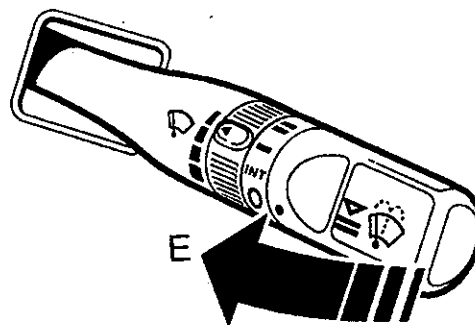
Turn switch to third position.

**Variable delay (intermittent wipe)**

Rotate the switch to vary the delay between wipes.

**Windscreen washer E**

Pull the lever towards the steering wheel. The windscreen washers will operate in conjunction with the wipers for as long as the lever is held in this position.



J5377

**Headlamp washers**

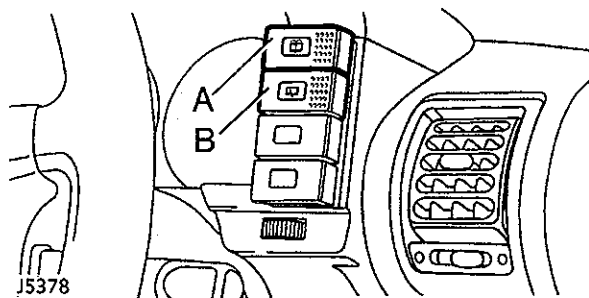
The headlamp washers operate automatically whenever the windscreen washers are operated, provided the headlamps are illuminated and switched to dipped beam. For continuous washing, hold the windscreen washer control in the wash position E.

**REAR WINDOW WIPER AND WASHER OPERATION**

The illustration J5375 also locates and identifies the main components of the rear window wiper and washer system which is operated by two switches mounted on the right hand side of the instrument binnacle.

**Rear window wipe A**

Press the switch to operate: after continuously wiping 3 or 4 times, the wiper operates intermittently (approx once every 6 seconds) until switched off.



J5378

**Rear window washer B**

Press and hold the switch for the required duration of rear screen washing. The wiper operates automatically during washing and continues for a further 3 wipes after the switch is released.



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**WIPER MOTOR CHECKING**

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**NOTE:** These instructions apply to windscreen and rear window wiper motor.

If unsatisfactory operation of wiping equipment is experienced, a systematic check to determine fault should be carried out:

1. Check blades for signs of excessive friction. This reduces wiping speed of motor and cause increased current draw which may damage armature. Check by substitution.
2. Check windscreen wiper motor light running current and speed with motor coupling link disconnected from wiper shaft transmission linkage.

Check rear window glass wiper motor with wiper connected and glass wet. Connect an ammeter in series with motor supply. Measure current consumption when motor is switched on. Check operating speed by timing speed of rotation of motor coupling link. The results should compare with figures given in 'General Specification Data'.



**NOTE:** If vehicle wiring connections are disconnected and an alternative supply source is applied it is essential that correct polarity is observed. Failure to observe this will cause motor to rotate in reverse direction, which may result in limit switch contacts being damaged.

3. If motor does not run satisfactorily or takes higher than normal current, a fault exists and must be remedied.
4. If current consumption and speed of motor are satisfactory. A check should be carried out for proper functioning of transmission linkage and wiper arm shafts.



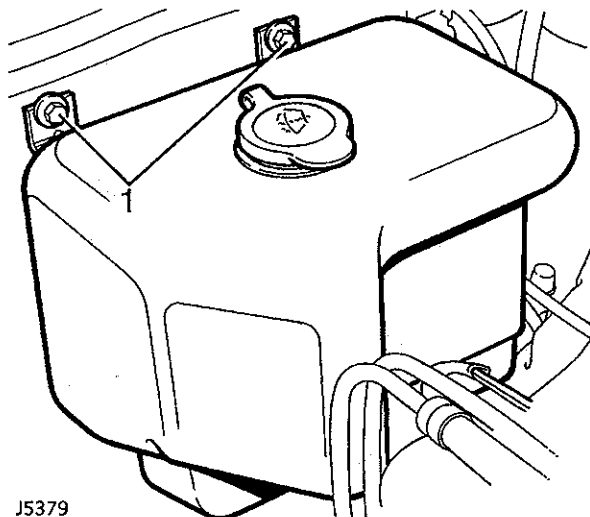
**NOTE:** Service parts are not available for windscreen and rear window wiper motors with exception of windscreen wiper rotary connecting link.



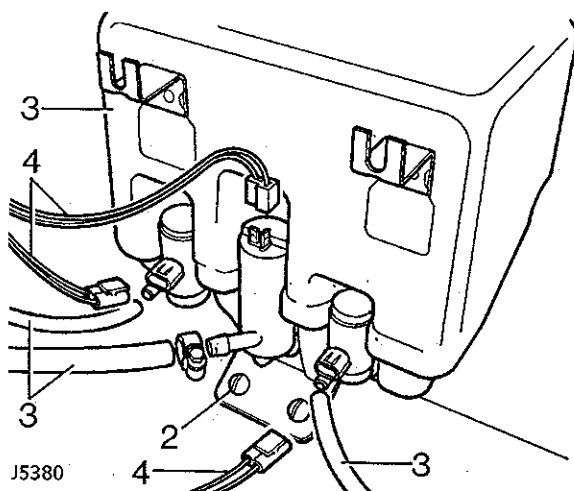
## WASHER RESERVOIR

Service repair no - 84.10.03.

## Remove



1. Remove two bolts securing top of reservoir.



2. From underneath the wheelarch remove two bolts securing base of reservoir.
3. Withdraw reservoir and disconnect tubing from washer pumps and power wash.
4. Disconnect electrical leads from pumps.

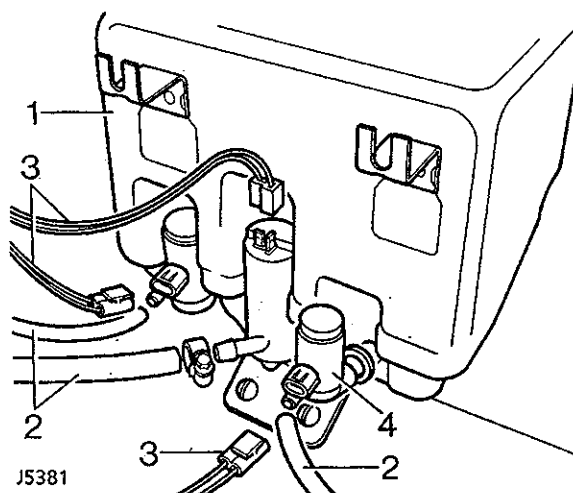
## Refit

5. Reverse removal procedure. 1 to 4.

## WASHER PUMP - WINDSCREEN, REAR WINDOW OR POWER WASH

Service repair no - 84.20.21.

## Remove



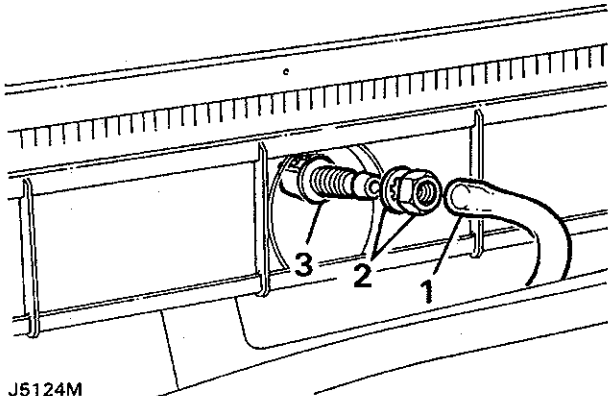
1. Remove washer reservoir. *See Washer reservoir*
2. Disconnect washer tubing from pump.
3. Disconnect electrical leads from pump.
4. Pull top of pump away from its location in reservoir and remove pump.  
Note position of sealing gasket in reservoir.

## Refit

5. Reverse removal procedure. 1 to 4.

**WINDSCREEN WASHER JETS**

Service repair no - 84.10.09.

**Remove**

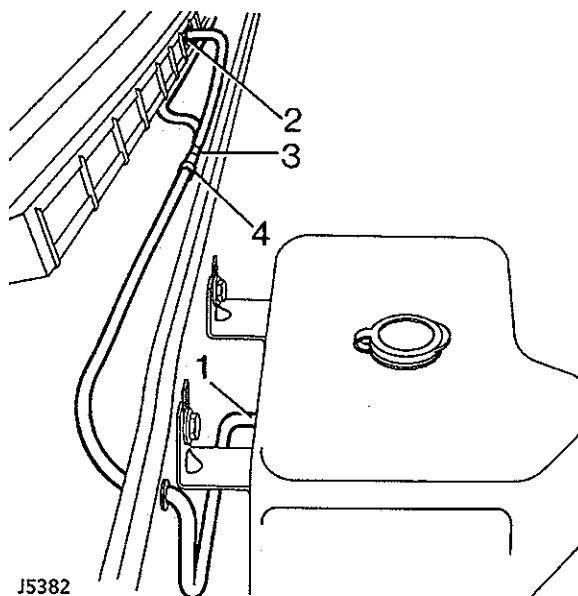
1. Disconnect washer tube from jet.
2. Remove nut and washer securing washer jet to air intake cowl.
3. Remove jet.

**Refit**

4. Reverse removal procedure. 1 to 3.

**WINDSCREEN WASHER TUBES**

Service repair no - 84.10.15.

**Remove**

1. Disconnect tubing from reservoir pump.
2. Disconnect tubing from washer jets.
3. Disconnect tubing from three-way tee piece.
4. Release tubing from retaining clip and withdraw.

**Refit**

5. Reverse removal procedure. 1 to 4. Ensuring the tubing is not pinched or restricted.

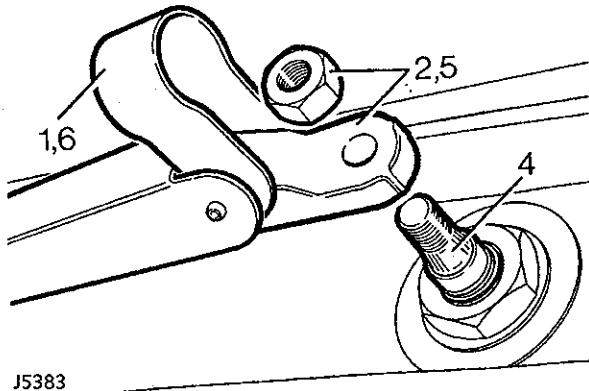


## WIPER ARMS - WINDSCREEN

Service repair no - 85.15.01.

### Remove

1. Lift wiper arm end cap to gain access to securing nut.
2. Remove nut and withdraw wiper arm from splined boss.



### Refit

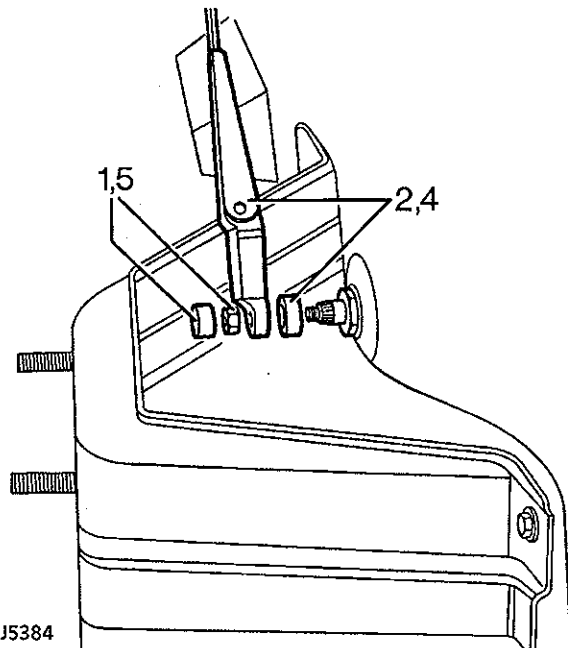
3. Allow wiper motor to move to 'park' position.
4. Push arm onto splined boss, locating it so that wiper blades are clear of windscreen rail.
5. Fit and tighten securing nut.
6. Push end cap over securing nut.
7. Operate wiper on a wet windscreen to ensure blades do not over travel.

## WIPER ARM - REAR WINDOW

Service repair no - 84.35.01.

### Remove

1. Remove plastic nut cover and wiper arm securing nut.
2. Withdraw wiper arm and grommet from splined boss.



### Refit

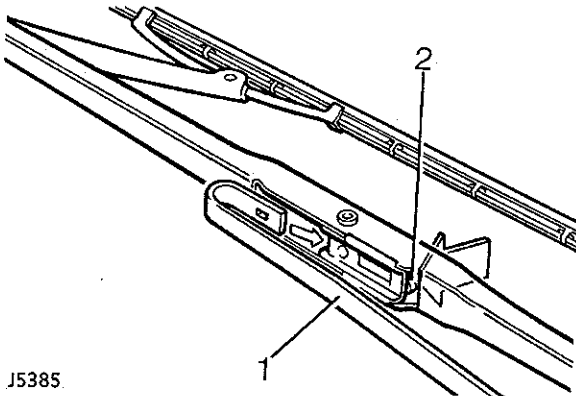
3. Allow wiper motor to move to 'park' position.
4. Fit spacer and wiper arm to splined boss so that the wiper blade is clear of rear window surround.
5. Fit and tighten securing nut.
6. Push plastic nut cover into position.
7. Check operation of wiper.

**WIPER BLADES**

Service repair no - 84.15.05

**Remove**

1. Pull wiper blade away from screen.
2. Depress spring clip and withdraw blade from hooked end of wiper arm.



J5385

**Refit**

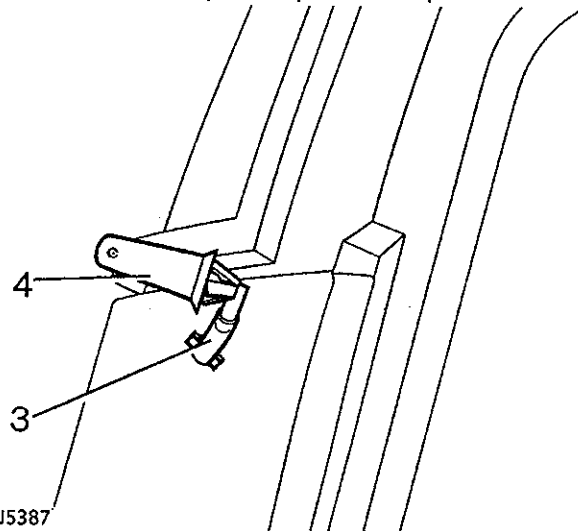
3. Reverse removal procedure. 1 and 2.

**REAR WINDOW WASHER JET**

Service repair no - 84.30.09

**Remove**

1. Turn washer jet in a clockwise direction to release it from the rear quarter panel.
2. Remove rear quarter/speaker trim panel.



J5387

3. Feed washer tubing through rear quarter panel to allow removal of washer jet.
4. Remove washer jet from tubing.

**Refit**

5. Reverse removal procedure. 1 to 4.



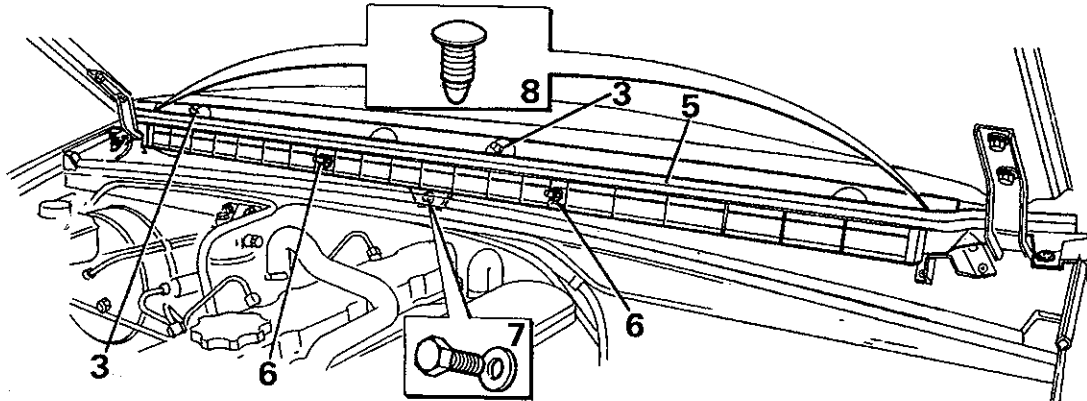
**NOTE:** The tubing run from the reservoir to rear door washer jet differs between left and right hand drive vehicles. On right hand vehicles the tubing run is on the left hand side of the roof. On left hand drive vehicles, the right side. See *Description and operation, Windscreen Wiper and Washer Operation*



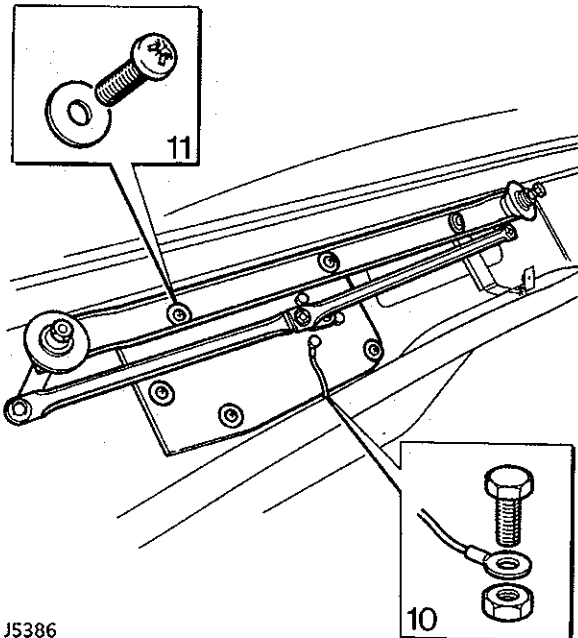
# WINDSCREEN WIPER MOTOR AND LINKAGE

Service repair no - 84.15.12.

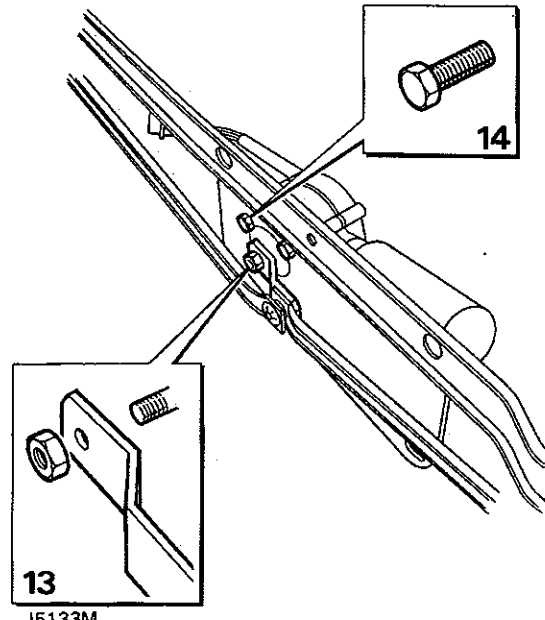
Remove



J5131M



J5386



J5133M

1. Disconnect battery negative lead.
2. Remove windscreen wiper arms. **See Wiper arms - Windscreen**
3. Remove securing nuts and steel and rubber washer from wiper spindles.
4. Open the bonnet [hood].
5. Remove rubber seal from cowl flange.
6. Disconnect tubing from windscreen washer jets.
7. Remove centre bolt from cowl.
8. Remove retainers securing centre section of cowl to outer sections.
9. Detach centre section of cowl.
10. Remove nut and bolt securing wiper motor negative lead to body.

11. Remove five screws securing wiper motor/linkage support plate.
12. Lift assembly clear of bulkhead, disconnect wiper motor multi-plug and withdraw assembly.
13. Remove wiper motor spindle nut and release rotary connecting link from spindle.
14. Remove wiper motor retaining bolts and withdraw negative lead and wiper motor from support plate.
15. The linkage arms can be detached by removing the retaining clips and withdrawing the arms and washers.  
Note location of plain and wavy washers for reassembly purposes.



## Refit

16. Reverse removal procedure.
17. Fit wiper motor to support plate using new sealing bushes at the motor spindle as necessary.
18. When positioning assembled motor and support plate use a new seal and bushes, if necessary.

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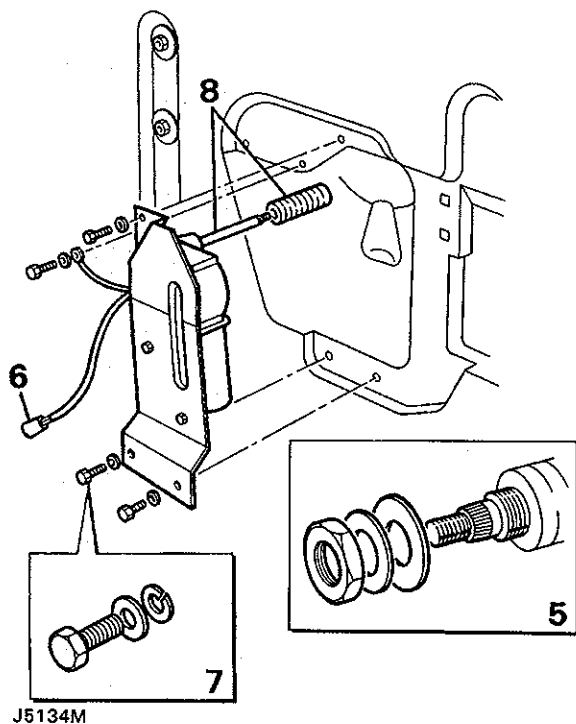
**REAR DOOR WIPER MOTOR**


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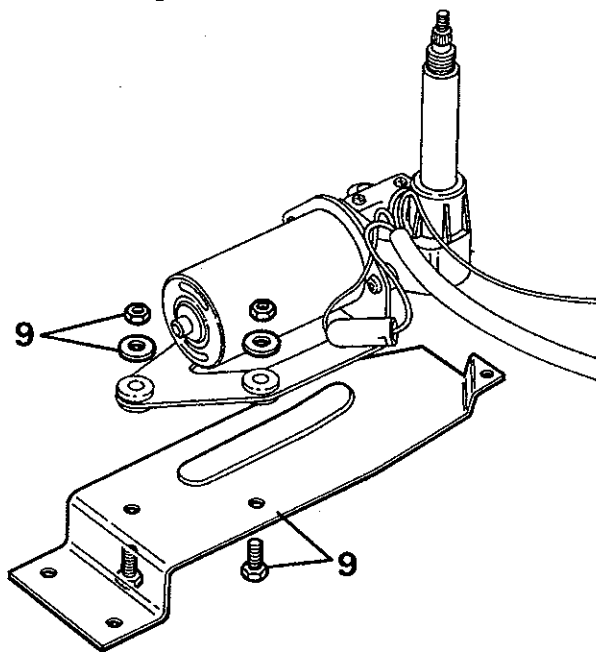
Service repair no - 84.35.12.

## Remove

1. Disconnect battery negative lead.
2. Remove rear door trim panel.
3. Remove spare wheel.



4. Remove wiper arm and grommet.
5. Remove nut, plain washer and seal from drive spindle.
6. From inside the door, disconnect wiper motor leads from door harness at multi-plug.
7. Remove bolts securing wiper motor mounting bracket and negative lead to inner door panel.
8. Withdraw motor spindle from outer door panel and manoeuvre wiper motor from door casing complete with the spindle spacer.
9. Remove two rubber mounted nuts securing mounting bracket to motor and detach bracket.



## Refit

10. Reverse removal procedure. 1 to 9.



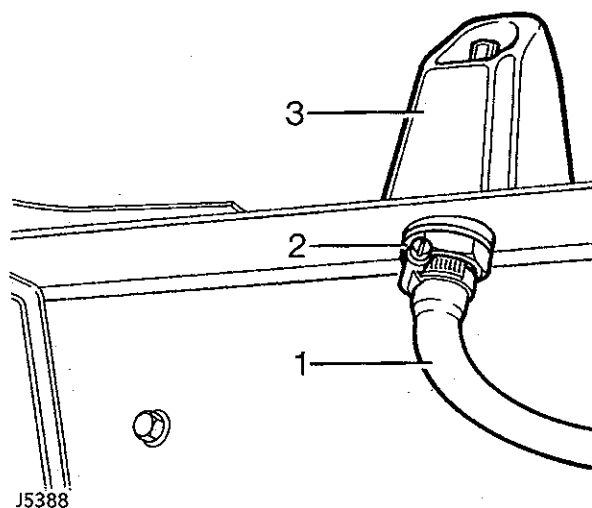
**NOTE:** If a new wiper motor assembly has been fitted, before fitting the wiper arm. Reconnect battery negative lead. Operate wiper motor to ensure that motor spindle is in park position.

**HEADLAMP POWER WASH JET**

Service repair no - 84.20.08

**Remove**

1. Disconnect hose from power wash jet.
2. Remove nut securing jet to bumper.
3. Remove power wash jet.

**Refit**

4. Reverse removal procedure. 1 to 3.

**POWER WASH HOSE**

Service repair no - 84.20.14

**Remove**

1. Disconnect power wash hoses from jets and washer pump.
2. Release clamps securing hose.
3. Remove power wash hose.

**Refit**

4. Reverse removal procedure. 1 to 3, locating hose in original position.