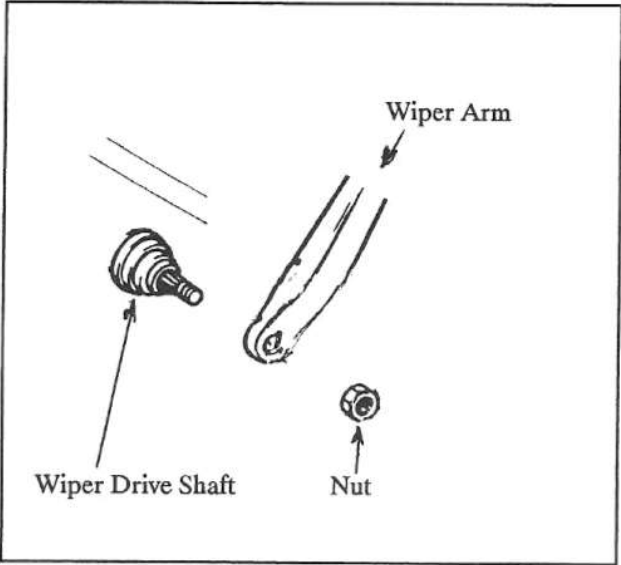


WINDSCREEN WIPERS & WASHERS

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DESCRIPTION

The wiper motor is a two speed type and incorporates a parking switch which is activated when wipers are switched off.



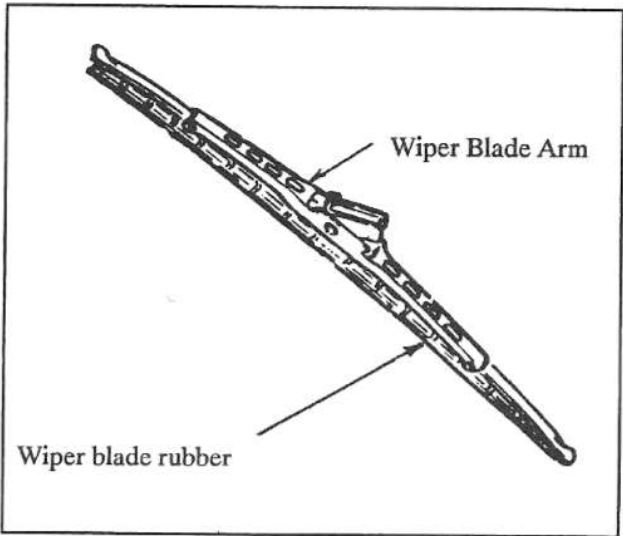
The windscreen washer bottle is located in the engine compartment under the bonnet. The washer pump, a centrifugal type driven by a motor is mounted in the washer bottle.

Control switches for high speed, low speed, intermittent operation and the windscreen washers are mounted on the dash, to the left of the instrument gauge panel, at the bottom of the left side switch bank.

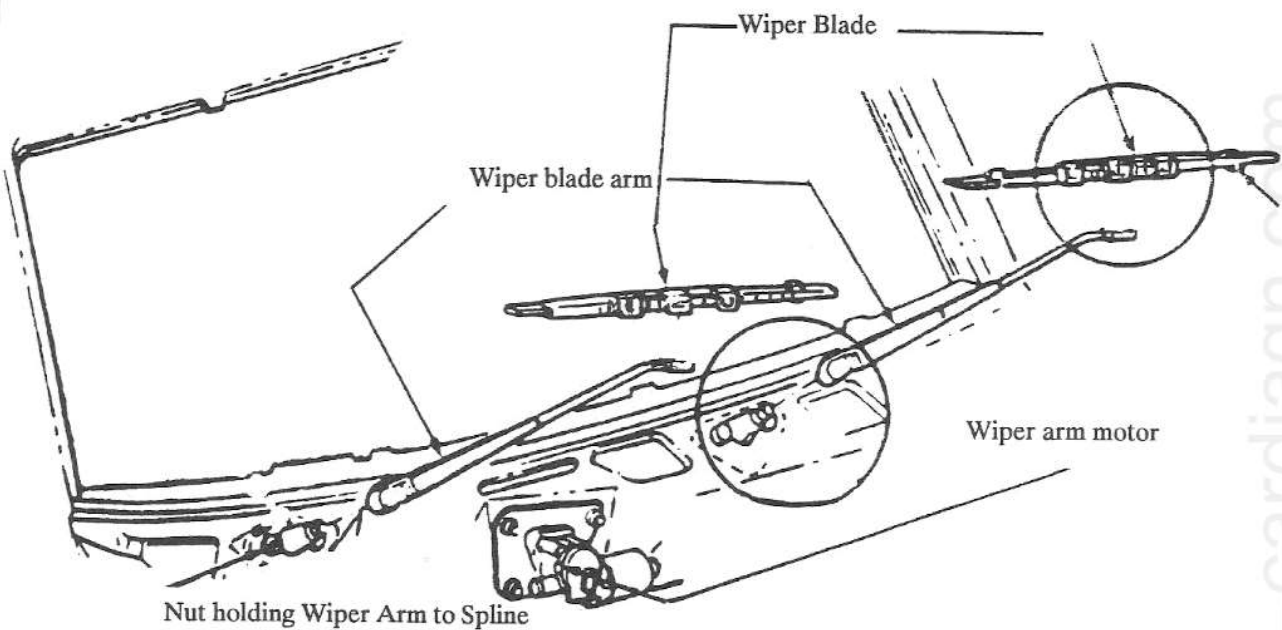
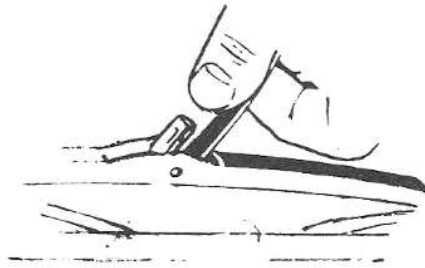
WIPER ARM

Removal

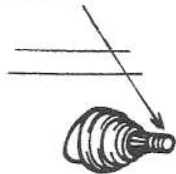
- 1. Lift and push back the nut trim cover. Remove the attaching nut for the wiper arm.
- 2. Remove wiper arm by lifting arm, it may be necessary to prize arm from pivot.
- 3. Remove wiper blade from arm, hold arm, turn blade approx 180° to unclip the blade from the arm.



Clip on wiper blade



Wiper pivot shaft



Wiper arm



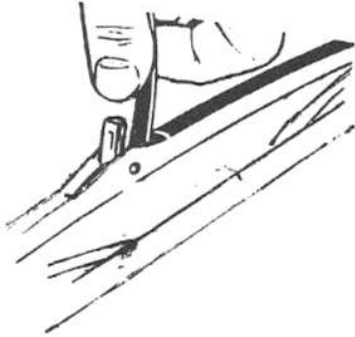
Wiper arm nut



WINDSCREEN WIPERS and WASHERS

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Slide the wiper away from the arm

**Installation**

1. Install the wiper blade onto the wiper arm, turn blade approx 180° to clip the blade to the arm.
2. Install wiper arm assembly onto spline so that the blade is positioned as shown on windshield. For rear window wiper, position blade as shown in diagram.
3. Install nut and tighten to torque specification.
Wiper Arm Nut Torque Specification: 16-20 Nm
4. Push trim cap into place.

WINDSCREEN WIPER ARM LINKAGE AND MOTOR**Removal**

1. Lift and push back the nut trim cover. Remove the attaching nut for the wiper arm.
2. Remove wiper arm by lifting arm then turn and pulling arm off pivot.
3. Remove the large nuts securing the plastic water deflector & mesh panel to expose then wiper motor and linkage.
4. Remove wiring loom connectors and earth wire attached to the wiper motor.
5. Remove the wiper motor linkage attaching screw and linkage assembly arms from the wiper motor and vehicle.
6. Remove the wiper motor attaching screws and motor.

Installation

1. Install wiper motor and attaching screws.

Wiper Pivot Assembly Screw Specified Torque: 1-2 Nm

2. Replace screws securing wiper motor assembly and wiper arm pivot shafts.

Tighten screws to specified torque.

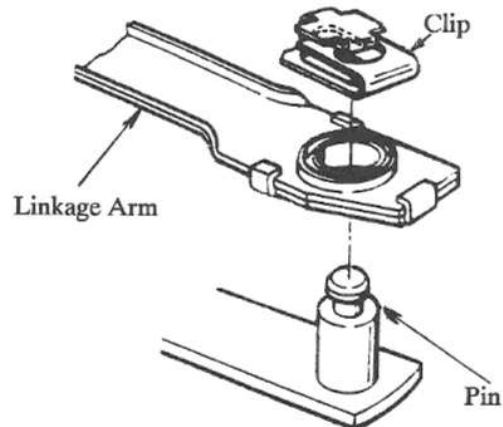
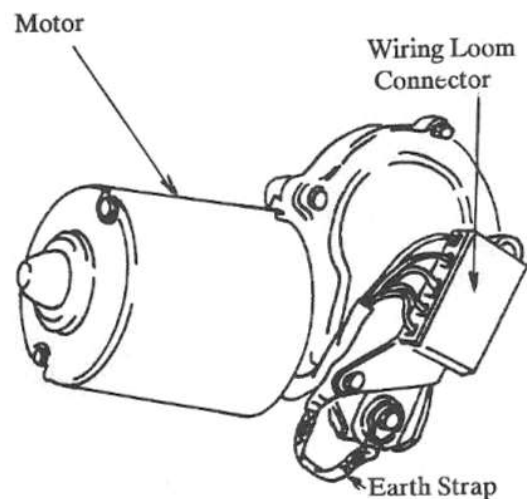
Wiper Pivot Assembly Screw Torque Specification: 1-2 Nm

3. Replace screw securing earth strap adjacent to wiper motor.

4. Replace water deflector mesh as described in 'Body' in this manual.

5. Replace wiper arms as described above.

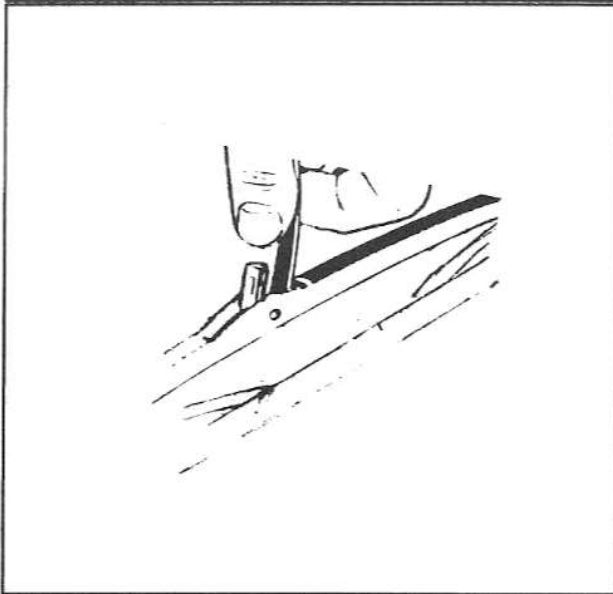
Remove clip to remove motor shaft from wiper arm assembly

**Wiper Motor****REPLACE WIPER BLADES**

Wiper insert rubbers deteriorate as a result of environmental conditions, such as atmospheric pollution and road grime, temperature extremes and natural ageing of rubber. It is therefore recommended that wiper inserts are replaced every twelve months.

Wiper Blade Insert Assembly (With metal backing)

1. Lift the blade away from the windscreen as far as will go, so the wiper arm is held into position by its own spring tension.
2. Remove the wiper from the wiper arm. Unclip the wiper away from the arm.
3. Remove the retaining clip from the wiper and slide the old blade assembly out from the arm.
4. Slide the wiper insert assembly into position, install the metal retaining clip.



5. Install the wiper onto the wiper arm. Clip the wiper onto the arm.

Wiper Blade (Rubber insert only)

1. Lift the blade away from the windscreen as far as the blade will go, so the wiper arm is held into position by its own spring tension.

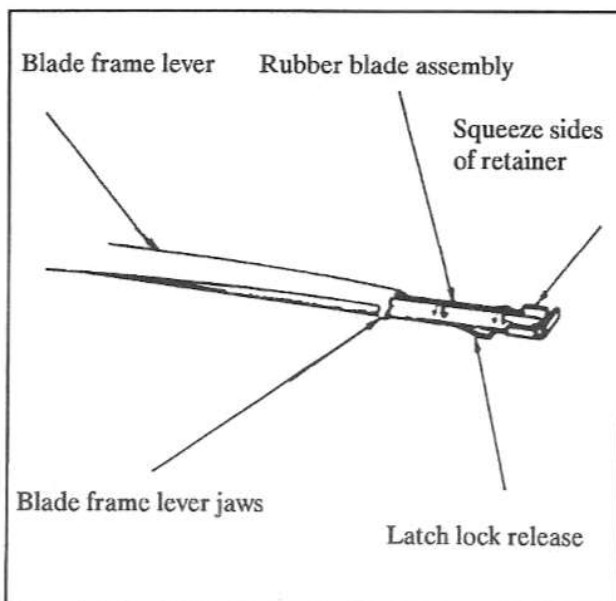
2. Remove the wiper from the arm. Unclip the wiper away from the arm.

3. Remove the retaining clip from the end of the wiper.

4. Pull the rubber away from the wiper arm (retaining clip end) and slide the old blade rubber out from the other end of the wiper.

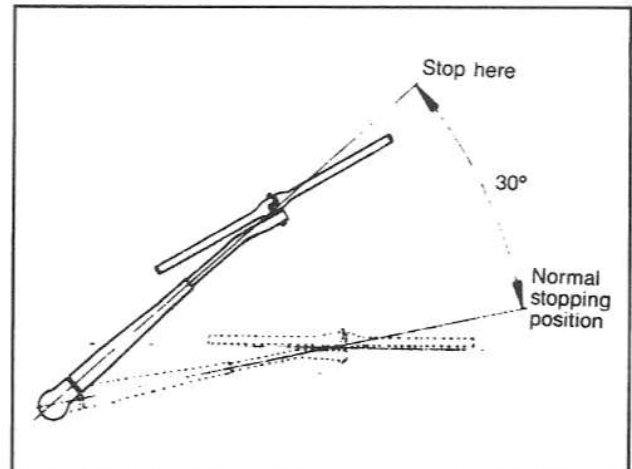
5. Slide the new rubber wiper insert into position from the end of the retaining clip, install the metal retaining clip.

6. Install the wiper onto the wiper arm. Clip the wiper onto the arm.



CHECKING WIPER ARM TO WINDSCREEN ALIGNMENT

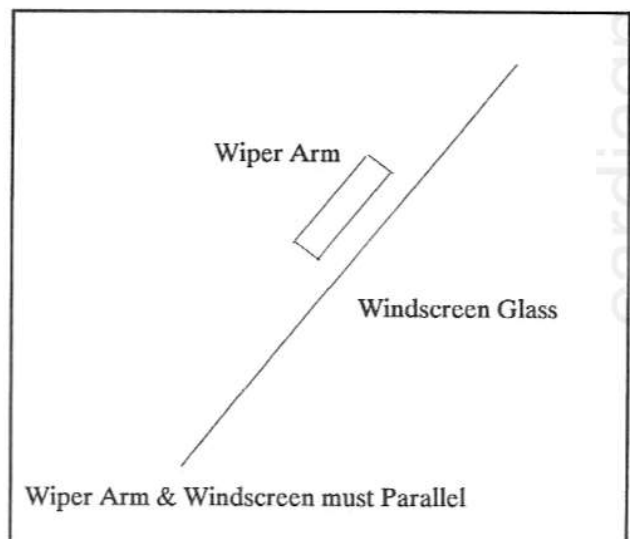
This check should be performed if wiper inserts are in good operating condition.



1. Operate wipers and then, by turning ignition switch off, position wipers at approximately 30° into the arc of the wiper.

2. Remove wiper blade and check that end of wiper arm is square to windscreen.

3. If arm is not square, gently twist end of arm to achieve correct alignment.



4. Refit wiper blades.

5. Turn ignition switch on and allow wiper arms to return to normal position.

WINDSHIELD WASHER

The windshield washer components are located as shown in diagram on next page.

Don't operate washer motor for more than 20 seconds continuously or when washer bottle is empty as motor or pump could be damaged.

WINDSCREEN WIPERS and WASHERS

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Washer Liquid

Fill washer unit with either water or water and a small amount of detergent, this will help remove road grim such as oil and insects.

* *Note: Do not use too much detergent as this will obscure vision on the windscreen.*

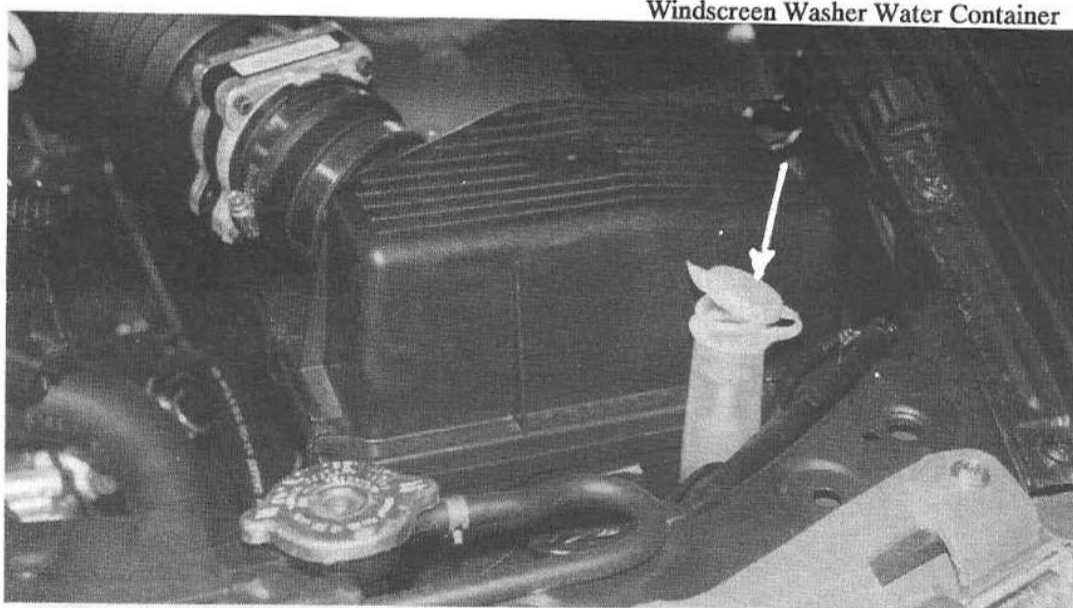
Blocked Washer Nozzle

If the nozzles become blocked remove the hose from the back of the washer nozzle and use air pressure to blow the

foreign matter from the nozzle. Reconnect the hose to the nozzle and test washer unit.

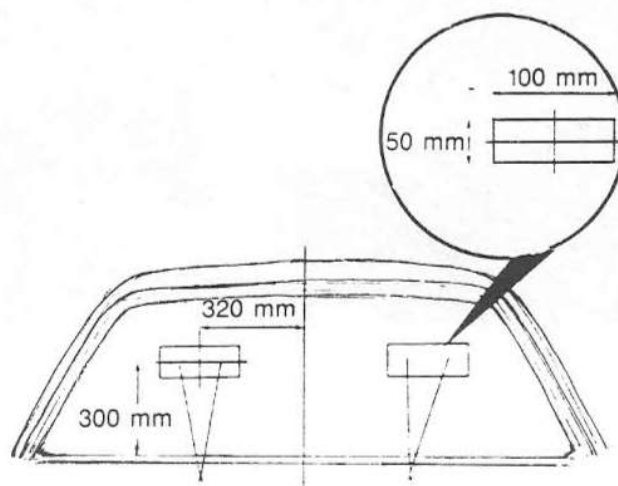
WASHER NOZZLE ADJUSTMENT

1. Check washer fluid spray pattern is as shown below.
2. If adjustment is necessary use a metal wire or pin 1.0 mm or less in diameter inserted in nozzle tube.
3. If insufficient washer fluid is supplied check system for clogged, bent or crushed hoses.

Windscreen Washer and Components

Windscreen Washer Water Container

Electrical Water Pumps Front Windscreen Washers and Back Window Washers for Station Wagon



Windscreen Washer should spray as pattern as shown.

REAR WINDOW WIPER MOTOR**Remove**

1. Lift and push back the nut trim cover. Remove the attaching nut for the wiper arm.
2. Remove wiper arm by lifting arm then turn and pulling arm off pivot.
3. Remove the internal tail gate trim panel.
4. Disconnect rear compartment harness connector and earth strap.
5. Remove the wiper motor attaching screws and pull the assembly out of the tail gate.

Install

1. Install wiper motor. Torque motor attaching bolts to specification.

Wiper Motor Attaching Bolts: 6-14 Nm

2. Reconnect the wiring harness to the wiper motor.

3. Replace end gate trim panel, ensure that the panel fits in the correct manner.

4. Replace cap, hexagon nut, cap washer and spacer to the wiper shaft housing.

5. Replace wiper arm to wiper arm drive. Torque wiper arm pivot nut to specification.

Wiper Arm Pivot Nut: 0.2-1.0 Nm

Station Wagon Back Window Wiper

Window Washer Nozzle

Wiper Blade

Wiper Arm

