

BMW 3-Series 320i & 320xi (12-14), 325i, 325xi, 330i & 330xi (06) & 328i & 328xi (07-14) Haynes Online Manual

# 17 Wiper arms, motor and linkage - removal and installation

### Wiper arms

- 1 Operate the wiper motor, then switch it off so that the wiper arms return to the at rest position.
- 2 Stick a piece of masking tape to the windshield or rear window along the edge of the wiper blade(s) to use as an alignment aid on installation.
- 3 Pry off the wiper-arm-spindle nut cover, then loosen and remove the spindle nut. Lift the blade off the windshield and pull the wiper arm off its spindle. If necessary, the arm can be pried off the spindle using a flat-bladed screwdriver or puller (see illustrations). Note: If both windshield wiper arms are to be removed at the same time, mark them for identification; the arms are not interchangeable.

17.3a Remove the wiper arm spindle nut



17.3b If using a puller, install the nut so it's level with the end of the spindle to prevent thread damage



4 Ensure that the wiper arm and spindle splines are clean and dry, then install the arm to the spindle, aligning the wiper blade with the tape on the windshield. **Note:** *If the splined-tapered sleeves on the arms are loose, they must be replaced.* Install the spindle nut, tightening it to the specified torque setting, and clip the nut cover back in position. If the wipers are being installed on a new windshield, position the wiper arms as shown (see illustration).

17.4 The distance from the windshield surround trim to the lower edge of the arm-to-blade pivot point is  $88 \pm 3$  mm (driver's side) or  $95 \pm 3$  mm (passenger's side)



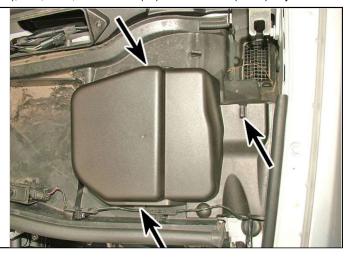
### Wiper motor and linkage

### Front wiper motor

5 Working at the rear of the engine compartment, remove the bolts and remove the cabin air filter cover (see <u>Chapter 1</u>). Slide the filter from the housing.

6 Release the catch at each side and remove the left and right plastic covers from behind the strut tower at each side of the engine compartment. Unclip the hose from the right-hand cover (see illustration).

17.6 Release the clips and remove the plastic covers behind the strut towers



7 Depress the clips and pull the cable guide forwards from the cabin air filter lower housing (see illustration) .

17.7 Release the clips and pull the cable guide forwards



8 Release the catch and remove the bolt at each side, then slide the cabin air filter lower housing forwards and maneuver it from the <u>cowl</u> (see illustrations) .

17.8a On the driver's side, rotate the air temperature sensor and detach it from the panel. On the passenger's side, disconnect the hood switch



17.8b Remove the bolt, and release the clip on each side . . .



17.8c . . . then pull the lower cabin air filter housing forwards



9 Remove the wiper arms (see Steps 1 through 3).

10 Disconnect the washer hose, pull away the sealing strip and pull the <u>cowl</u> trim panel upwards from the base of the windshield. Maneuver the cowl trim panel from the vehicle (see illustrations) . Disconnect the heated washer nozzle electrical connectors as the panel is withdrawn.

17.10a Pull the cowl trim panel upward from the base of the windshield



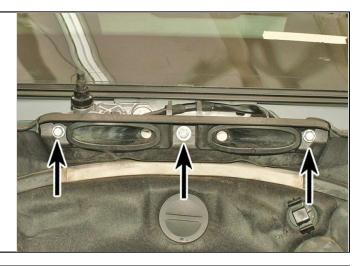
17.10b Disconnect the heated washer nozzle electrical connector



11 On models with strut supports, loosen the center bolt, remove the outer bolts and carefully remove both supports from the <u>cowl</u>. Note that new bolts must be installed upon reassembly (see <u>Chapter 10</u>). Take care not to move the support's grommets.

12 Remove the bolts/nut and remove the firewall center and right-hand panels (see illustrations) .

# 17.12a Remove the bolts and remove the firewall center panel



#### 17.12b Remove the nut/bolt . . .

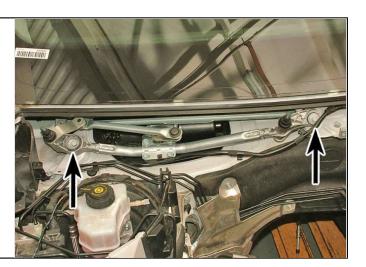


## 17.12c . . . and remove the right-hand panel



- 13 Unclip the wiring harness from the linkage bracket.
- 14 Remove the wiper linkage retaining bolts, and lift the linkage assembly from the <u>cowl</u> (see illustration). Disconnect the wiper motor electrical connector as it's withdrawn.

### 17.14 Wiper linkage retaining bolt locations



15 No further disassembly is recommended. **Note:** *The motor and linkage are only available as a complete assembly* . Installation is the reverse of removal.

### Rear wiper motor

16 Pull the rear window side trims inward to release the retaining clips, and disengage them from the upper trim (see illustration) .

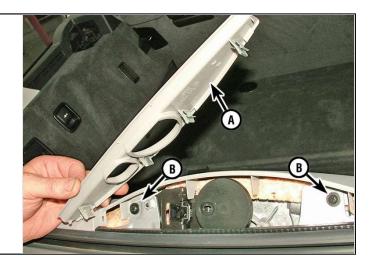
17.16 Pull the window side trims inwards to release the clips



17 Release the mounting clips, then fold down and remove the trim insert on the tailgate rear panel (see illustration 7.40) .

18 Open the rear window, pull the plastic trim at the top of the rear panel rearward to release the clips, then remove the mounting bolts at the top of the panel (see illustration).

17.18 Pull the plastic trim panel (A) rearwards, then remove the mounting bolts (B)



19 Pry out the cover, then remove the bolt in the handle recess on each side (see illustration) .

17.19 Pry out the cover in each handle recess, and remove the bolt



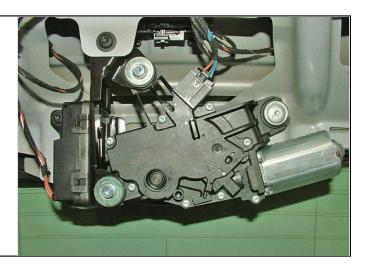
20 Pull the rear trim panel away from the tailgate to release the retaining clips (see illustration). Disconnect the trunk compartment light as the panel is withdrawn.

#### 17.20 Pull the panel from the tailgate



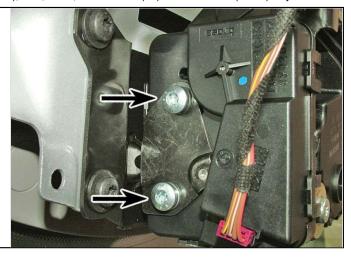
- 21 Disconnect the wiper motor electrical connector.
- 22 Remove the retaining bolts and remove the wiper motor (see illustration) .

# 17.22 Remove the bolts and remove the wiper motor



23 If required, the window lock can be separated from the wiper motor by removing the retaining bolts (see illustration) . Installation is the reverse of removal.

#### 17.23 Tailgate lock bolt locations

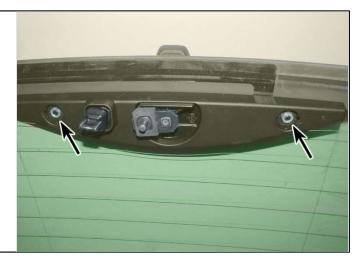


#### Rear wiper arm spindle and housing

24 Remove the rear wiper arm (see Steps 1 through 3).

25 Open the tailgate, pry out the two plastic caps, and remove the nuts securing the plastic cover over the spindle (see illustration) . Remove the cover.

# 17.25 Pry out the plastic caps and remove the mounting nuts



26 On the outside of the rear window, loosen and remove the wiper-arm spindle nut and any washers (see illustration) .

17.26 Loosen and remove the wiper spindle nut



27 On the inside of the rear window, disconnect the rear window-button electrical connector, remove the retaining nut, and maneuver the housing and spindle out (see illustration) . No further disassembly is recommended.

17.27 Remove the nut and remove the housing and spindle as an assembly



28 Installation is the reverse of removal.

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