

250 Gearshift Linkage

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SELECTOR LEVER SERVICE

(Automatic transmission) 250-4

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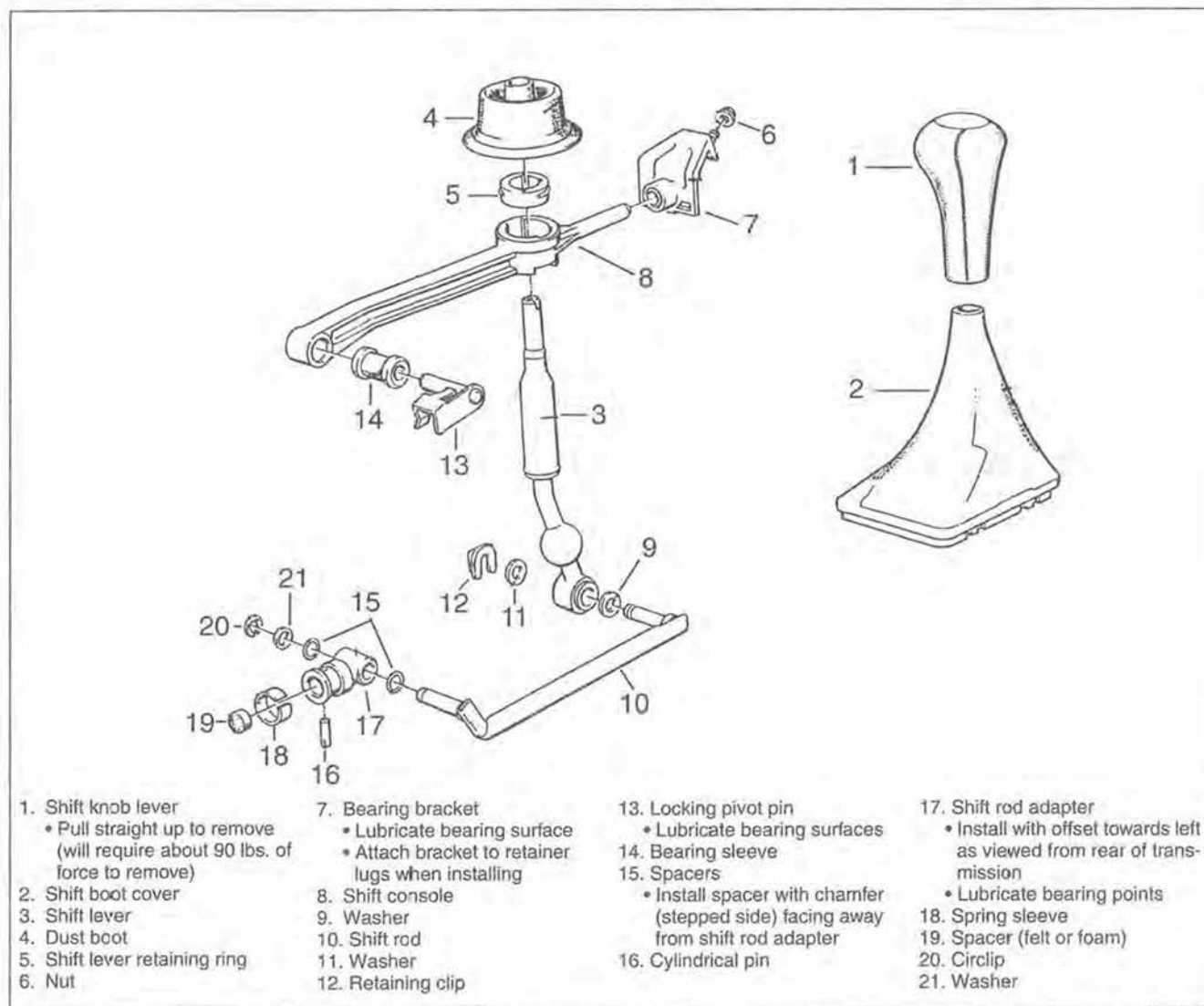
Automatic Shiftlock, checking function 250-7

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GENERAL

This repair group covers basic gearshift and linkage service for manual and automatic transmission models. Special service tools are required for some of the procedures.

250



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GENERAL

250-2 GEARSHIFT LINKAGE

GEARSHIFT SERVICE

Removal of most gearshift components requires that the exhaust system and driveshaft first be removed for access to the complete assembly.

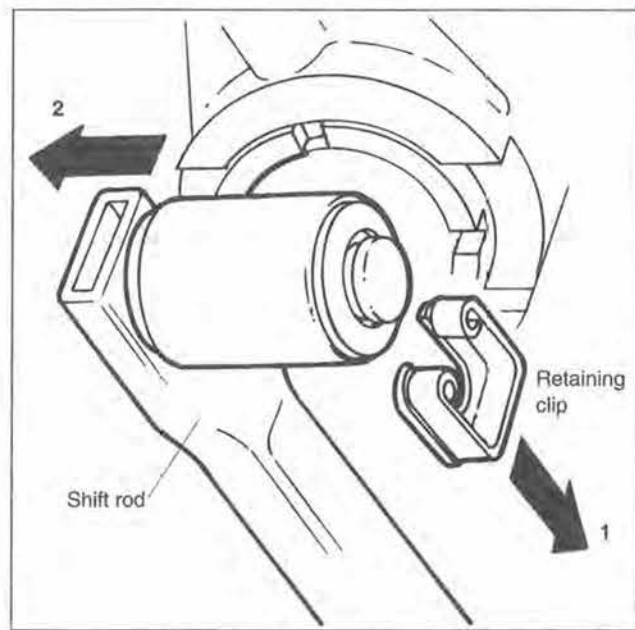
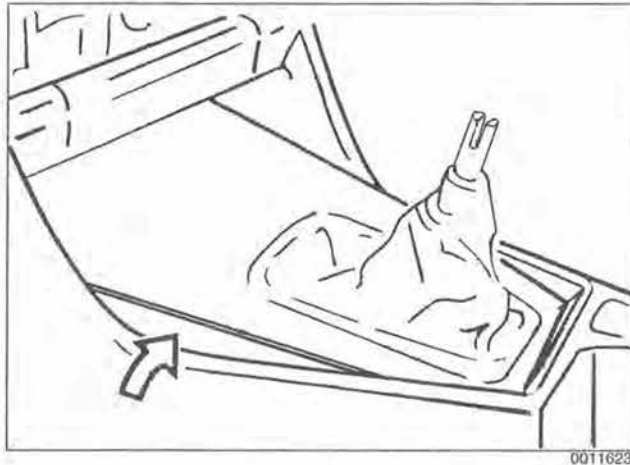
Gearshift lever, removing and installing

- Pull shift knob up and off of the shift lever.

NOTE—

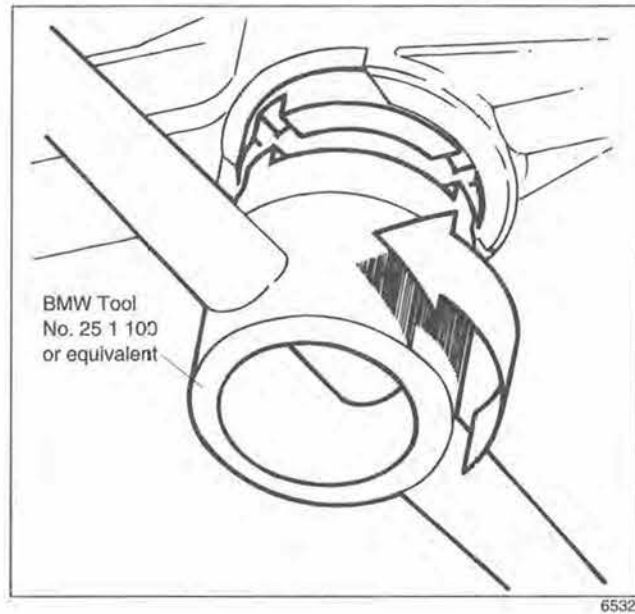
Removal of the shift knob will require a force of about 90 lbs.

- Unclip shift boot cover from retainers at front and remove cover together with shift boot.
- Remove insulation padding and unclip dust boot from body and shift console. Pull dust boot from shift lever.

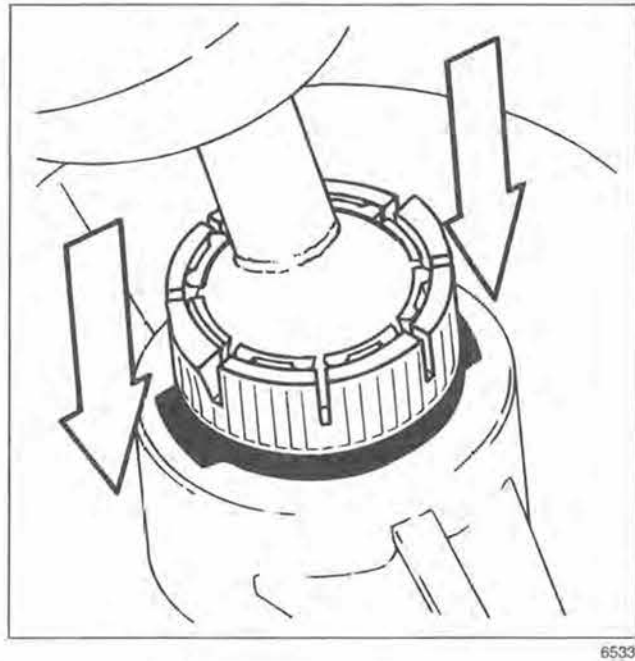


- Working underneath car, remove retaining clip in direction of arrow (1) and washer from shift rod. Disengage shift rod from bushing (2).

GEARSHIFT LINKAGE 250-3



- Working underneath car, use BMW special tool 25 1 100 to release bearing retaining ring by turning 90° (1/4 turn) counterclockwise.
- Working from inside passenger compartment, disengage retaining ring and lift shift lever out from above.
- Check condition of rubber and plastic bushings and washers. Replace circlips and any worn parts. Remove old grease from shift lever bearing and lubricate with molybdenum disulfide grease.



- When installing shift lever, align tabs on plastic retaining ring with openings in shift console.

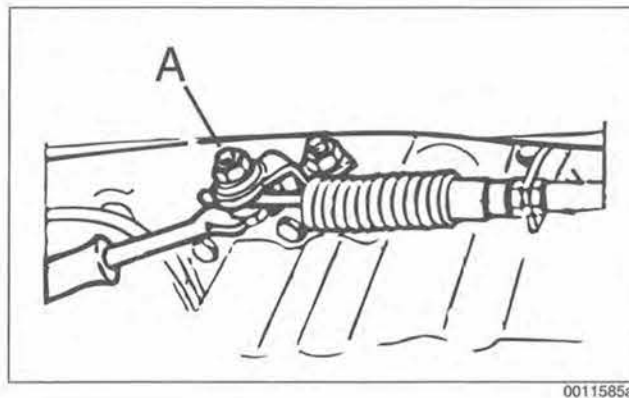
NOTE—

When mounting shift lever retaining ring, make sure locking tabs are aligned with openings in shift console. Push shift lever and retaining ring in until locking tabs click into position.

SELECTOR LEVER SERVICE (Automatic transmission)

Shift mechanism, adjusting

- Position selector lever in park (P).
- Counterhold clamping bolt when loosening nut. Working at left side of transmission, loosen operating cable clamping nut (A).



NOTE—

Hold cable clamping sleeve stationary when loosening nut to prevent bending or damaging cable.

- Push manual valve lever forward toward engine (Park position) while applying light pressure on the cable end.
- Tighten cable clamping nut when counterholding bolt.

Tightening torque

- Shift cable clamping nut 10–12 Nm (7.5–9 ft-lb)

Gear position/start disable switch, replacing

NOTE—

- A faulty gear position/start disable switch may cause transmission shifting problems and erratic transmission operation.
- Back-up light switch is included in gear position/start disable switch.

- Pry out transmission program switch from center console cover and disconnect harness connector.
- Remove hex-head screw (3 mm) from shift lever handle and remove handle.
- Pry cover up from front and then lift off rear retaining clips (arrows) and remove cover from shift lever console.



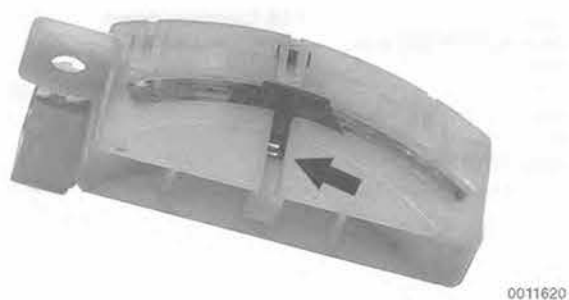
GEARSHIFT LINKAGE 250-5



- Disconnect harness connector from switch by pressing retaining clips together (**arrows**). Remove switch mounting screws (**1**).



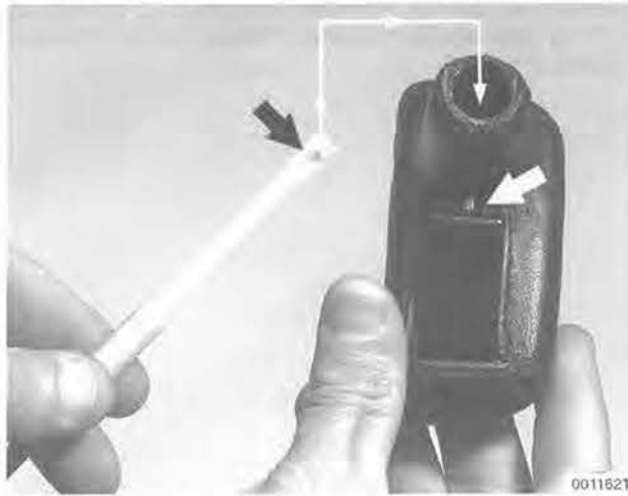
- Remove gear position/start disable switch by aligning drive slot with drive pin on lever.



- Installation is reverse of removal. Before installing switch, align drive slot in switch housing (**arrow**) with switch sliding piece.

SELECTOR LEVER SERVICE (AUTOMATIC TRANSMISSION)

250-6 GEARSHIFT LINKAGE

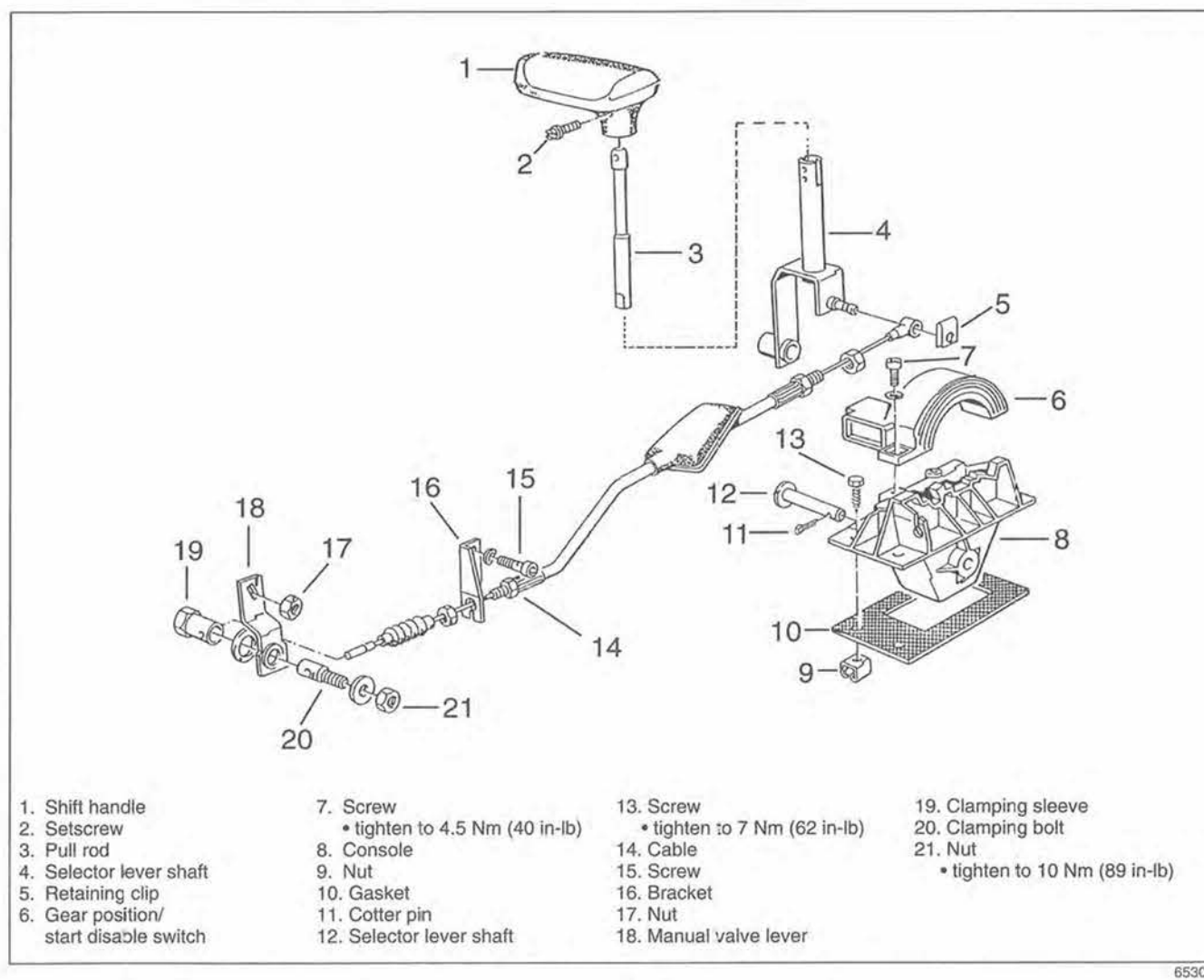


— Install switch so that sliding piece on switch aligns drive pin on lever.

◀ When installing shift lever handle, engage pin on release button (**white arrow**) to hole in pull rod (**black arrow**).

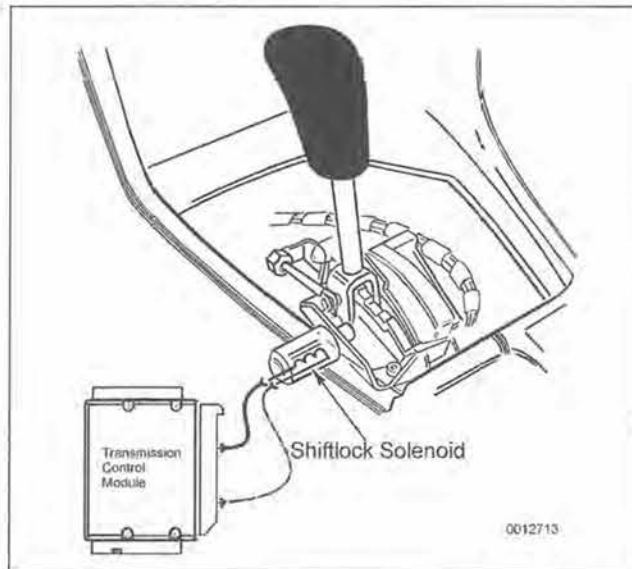
Tightening Torques

- Console to body 7 Nm (62 in-lb)
- Gear position/start disable switch to shift console 4.5 Nm (40 in-lb)



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SELECTOR LEVER SERVICE (AUTOMATIC TRANSMISSION)



Automatic shiftlock, checking function

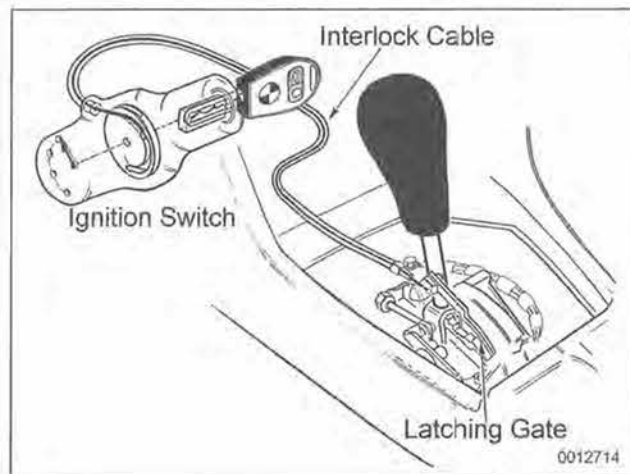
1992 and later models are equipped with automatic shiftlock. The shiftlock feature uses an electric solenoid to lock the selector lever in P or N. Depressing the foot brake with the ignition on energizes the solenoid, allowing lever to be moved into a drive gear. The solenoid is energized only when the engine speed is below 2,500 rpm and the vehicle speed is below 3 mph. The solenoid is mounted in the right-hand side of the selector lever housing.

- With engine running and car stopped, place selector lever in P or N.
- Without depressing brake pedal, check that selector lever is locked in position (P or N).
- Depress brake pedal firmly.
- Check that the selector lever can now be moved out of P or N. The solenoid should be heard to energize.
- With the selector lever in P or N and the brake pedal depressed, raise the engine above 2,500 rpm.
- Check that the selector lever cannot be moved out of P or N.
- If any faults are found check electrical operation of shiftlock solenoid and check for wiring faults to or from transmission control module (TCM).

NOTE—

The solenoid is energized via the TCM, using brake pedal position, engine speed, and road speed inputs.

250-8 GEARSHIFT LINKAGE



Shift interlock, checking function

1993 and later models are equipped with shift interlock. The shift interlock uses a bowden-type cable between the ignition switch and the shift lever. The cable mechanically locks the shift lever in the park position when the key is in the off position or removed from the ignition lock. This feature also prevents the key from being removed from the ignition lock until the selector lever is in P.

- Shift selector lever to park (P) position and turn ignition key OFF.
- Remove ignition key. Check that selector lever cannot be shifted out of (P) position.

NOTE —

- It must only be possible to remove ignition key with selector lever in (P) position.

- Shift interlock cable must not be kinked.

- Turn ignition key on and depress brake pedal. Check that selector lever can be moved freely from gear to gear.
- With selector lever in a gear position other than P, attempt to move key to off position. Key should not go into the off position.

If any faults are found check cable and cable attachment points for damage or faults.

