

1968-73 SAAB 99

99 (1968-73)

DESCRIPTION

A dry single plate clutch incorporated in flywheel is located at end of crankshaft and coupled to transmission clutch shaft. Transmission is located below engine. Transmission clutch shaft drives transmission through a set of gears. A diaphragm spring is used to maintain pressure plate. Clutch has a hydraulic release system consisting of a clutch pedal, master cylinder, slave cylinder and clutch release bearing.

REMOVAL & INSTALLATION

CLUTCH ASSEMBLY

Removal – 1) Remove hood and disconnect battery ground cable. Drain radiator and disconnect wires from fan motor and radiator-mounted switch.

2) Disconnect all water hoses from radiator. On 1972-73 models, remove air cleaner cold air hose. Remove front panel and radiator.

3) Disconnect wiring from coil, temperature transmitter and oil pressure switch. Remove clutch cover and spring at slave cylinder.

4) Back off clutch adjusting screw and lower clutch release lever. Remove lock ring and sealing cap over clutch shaft.

5) Remove clutch shaft center screw, washer and "O" ring. Pull clutch shaft using suitable tool (No. 839027 & 839001). Remove all clutch screws except two at top, this prevents clutch from falling down.

6) Remove three attaching screws of release bearing guide sleeve. Using suitable tool (No. 839207), clamp clutch and release bearing together. Pressure plate, clutch disc and release bearing with guide sleeve can then be removed.

Installation – 1) Place clutch disc in flywheel. Press together clutch and release bearing with suitable tool (No. 839207). If necessary use guide spindle (No. 879041) for centering of release bearing. Press guide sleeve into release bearing and place clutch assembly in position.

2) Align clutch disc using clutch shaft. Slide clutch onto locating pins and tighten top screws lightly. Tighten three attaching screws of guide sleeve.

CAUTION – Gasket is not symmetrical.

3) Remove clutch tool and tighten attaching screws. Install clutch shaft center screw, washer and "O" ring. Install sealing cap and lock ring over clutch shaft.

4) Align clutch lever and install spring at slave cylinder. Adjust clutch release lever clearance. See *Clutch Adjustment*.

CLUTCH MASTER CYLINDER

Disconnect hydraulic line from slave cylinder. Pump hydraulic fluid into a container. Disconnect push rod from clutch pedal by removing cotter key and clevis pin. Remove mounting bolts and lift off cylinder. To install, reverse removal procedures.

CLUTCH SLAVE CYLINDER

Loosen clutch adjusting lock nut and back-off adjusting screw. Disconnect spring from clutch release lever and push lever back

to clear slave cylinder push rod. Remove attaching bolts and slave cylinder. To install, reverse removal procedures.

CLUTCH RELEASE BEARING

Remove clutch release bearing guide sleeve and bearing. Slide bearing off of sleeve. Inspect for wear or damage. From transmission No. 45459 onward a new bearing with an "O" ring is used.

PILOT BEARING

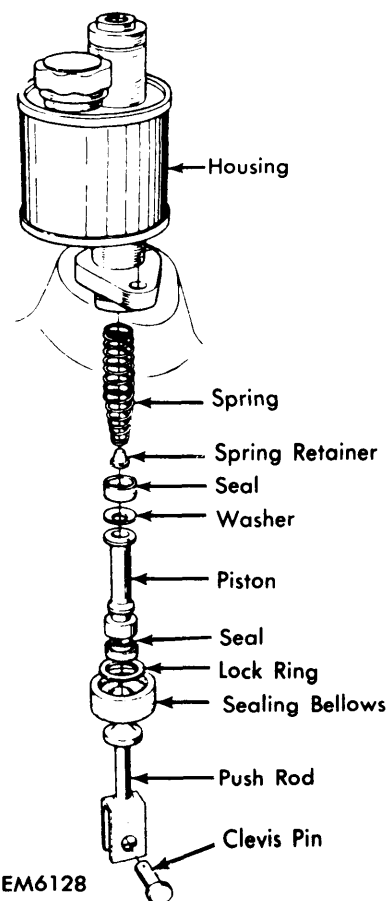
1) Fill bushing with grease, insert suitable centering tool (No. 839003) into bushing. Tap tool gently with a mallet to force out bushing, add more grease as bushing comes out.

2) Clean all grease from crankshaft, using care not to get grease on flywheel. Install new bushing using suitable tool (No. 839003).

OVERHAUL

CLUTCH MASTER CYLINDER

1) Pull back seal bellows and remove lock ring. Remove push rod and washer. Remove piston, convex washer piston seal and spring. Inspect cylinder bore for wear or damage. Replace complete assembly if cylinder is worn or damaged. Replace seal if worn or swollen.

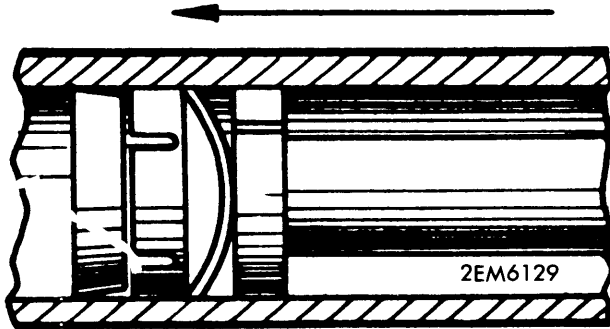


CLUTCH MASTER CYLINDER

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2) Install return spring and retainer. Lubricate piston and seals with hydraulic oil. Install seals, convex washer and piston. Install push rod followed by washer and lock ring. Install seal bellows.

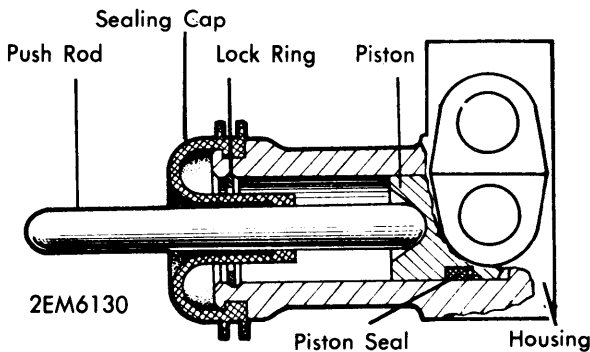
NOTE — When installing convex washer, convex side must face piston (see illustration).



CONVEX WASHER INSTALLATION

CLUTCH SLAVE CYLINDER

Remove rubber push rod seal and lock ring. Remove piston and seal. Inspect piston seal and cylinder for wear or damage, replace as necessary. Reassemble using hydraulic oil as a lubricant.



SLAVE CYLINDER

CLUTCH DISC

Inspect clutch disc for wear, warping or loose rivets, replace if necessary.

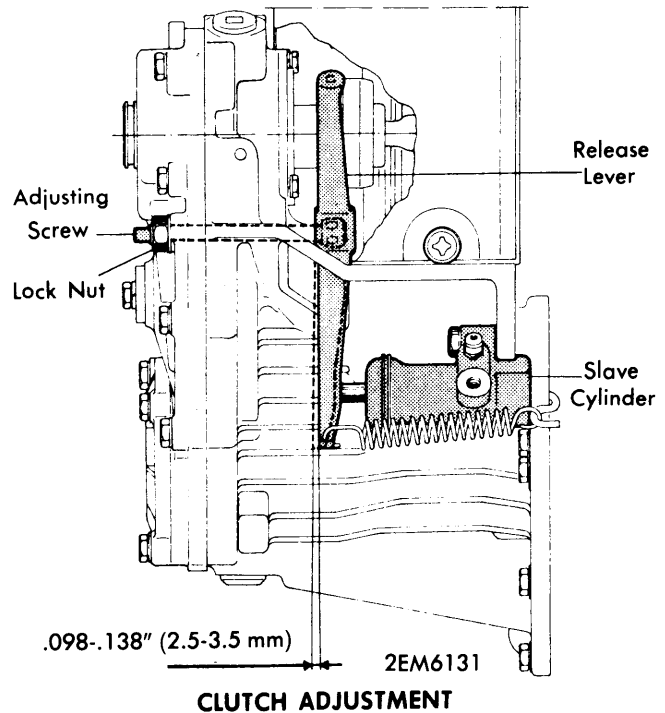
PRESSURE PLATE ASSEMBLY

Check pressure plate for cracks or scratches. Check plate for warping using a steel ruler and a feeler gauge. Rule must touch at outer edges and may have .001" (.025 mm) gap at inner edge.

ADJUSTMENT

CLUTCH ADJUSTMENT

Loosen lock nut and adjust screw until there is .098-.138" (2.5-3.5 mm) clearance at tip of clutch release lever (see illustration).



CLUTCH ADJUSTMENT

HYDRAULIC SYSTEM BLEEDING

- 1) Connect a 1/4" (6 mm) hose to slave cylinder bleeder nipple, and place free end in a container partly filled with hydraulic fluid.
- 2) Fill master cylinder header tank with hydraulic fluid. Open bleeder nipple on slave cylinder about 1/2 a turn.
- 3) Place a coolant system tester over filler opening of master cylinder. Pump tester until all air has been expelled from system.
- 4) Close slave cylinder bleeder nipple and check to see that all air has been expelled by depressing clutch pedal.