

Clutches

1967-73 SAAB V4

V4 Sedan (1967-73)
Sonett V4 (1967-72)

DESCRIPTION

A dry single plate clutch incorporated in flywheel is located at end of crankshaft and coupled to transmission mainshaft. A group of coil springs are used to maintain pressure plate. Maker of clutch is Fichtel and Sachs. 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 engine from vehicle, See *Engine Removal* in *ENGINE* Section.

2) Gradually loosen six bolts attaching pressure plate assembly to flywheel. Remove pressure plate assembly and clutch disc.

Installation – 1) Insert clutch disc and replace pressure plate assembly in flywheel.

2) Center clutch disc with suitable tool (No. 784064). Gradually tighten six pressure plate bolts.

NOTE – Before reinstalling clutch, check clutch shaft seal, and apply a light coat of graphite grease to shaft splines.

PRESSURE PLATE ASSEMBLY

Disassembly – 1) Mark all parts so they may be assembled in their proper positions to retain clutch balance.

2) Lift three retaining springs, and remove release plate. Compress clutch springs completely in an arbor press.

3) Remove clutch release levers from clutch cover. Slowly reduce pressure of press. Remove clutch cover, pressure plate and springs. To assemble, reverse disassembly procedures.

CLUTCH MASTER CYLINDER

Removal (Except Sonett) – 1) Disconnect hose from slave cylinder and pump hydraulic fluid into a container.

2) Remove cotter pin, washer and clevis pin from clutch push rod. Remove attaching bolts from master cylinder and lift off instrument panel.

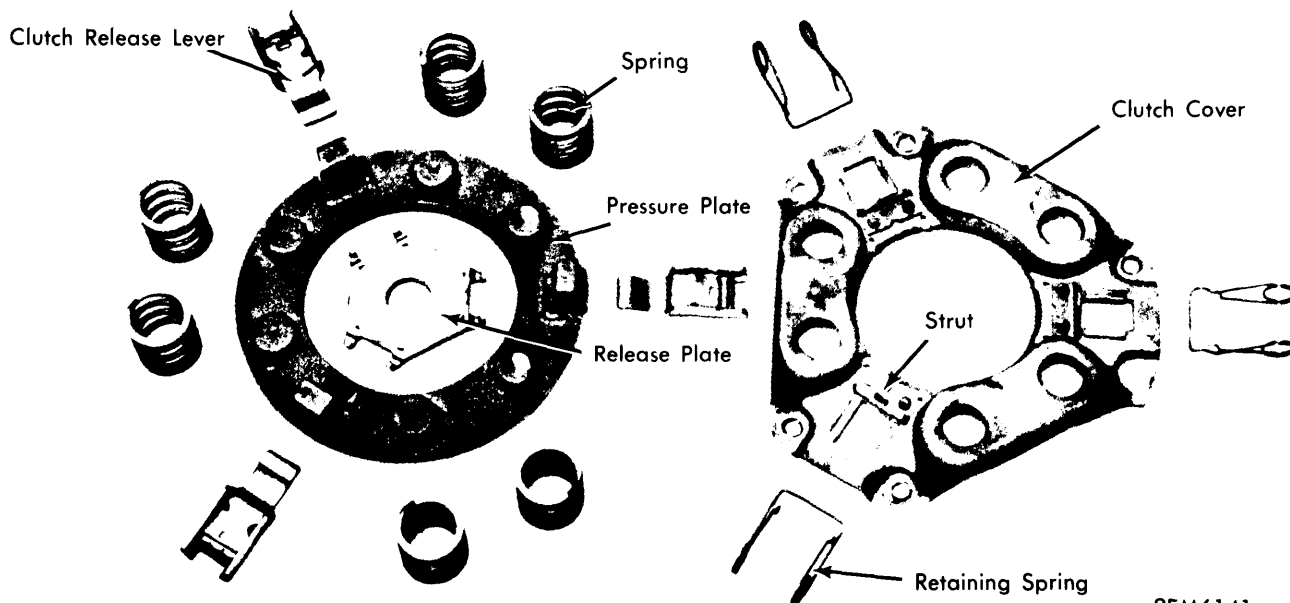
Installation (Except Sonett) – 1) Position master cylinder against instrument panel and install attaching bolts. Replace clevis pin, washer and cotter key.

2) Fill master cylinder with hydraulic fluid. Reconnect hydraulic line to slave cylinder and bleed system.

Removal (Sonett) – 1) Remove floor mat, left side panel and left pedal plate. Remove cotter pin, washer and clevis pin from clutch push rod.

2) Remove left front wheel. Disconnect hose from slave cylinder and filler hose connection to cover.

3) Remove two attaching screws and lift master cylinder from instrument panel. To install, reverse removal procedures. Bleed hydraulic system.



2EM6141

CLUTCH DISASSEMBLED

1967-73 SAAB V4 (Cont.)

CLUTCH SLAVE CYLINDER

Removal – Disconnect hydraulic hose and pump hydraulic fluid into a container. Remove attaching screws from cylinder. Separate cylinder from push rod and clutch cover.

Installation – Locate slave cylinder on clutch housing and pass push rod through hole in rubber dust cover. Install cylinder attaching screws, reconnect hydraulic hose and bleed system.

CLUTCH RELEASE BEARING

1) Turn clutch lever forward and remove two spring clips. Slide release bearing off transmission shaft.

2) Inspect bearing for wear or damage. Graphite ring or teflon ring must not be worn level with its retainer, replace if necessary. To install, reverse removal procedures.

NOTE – Make sure spring clips are correctly located.

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

Disassembly (1967-68) – 1) Ease rubber dust cap back and remove lock ring using needle nose pliers. Remove push rod and cupped washer.

2) Remove complete piston assembly. Lift retainer spring leaf over tongued end of piston. Carefully take piston seal off piston and remove end seal.

3) Push down piston return spring enabling valve spindle to slide through key-shaped hole in retainer so that spring is released.

4) Remove valve spacer, taking care not to damage elastic washer located under valve head. Remove seal from valve head.

5) Examine cylinder bore for wear or scoring, replace if any wear is found. Replace seals and lubricate with hydraulic oil.

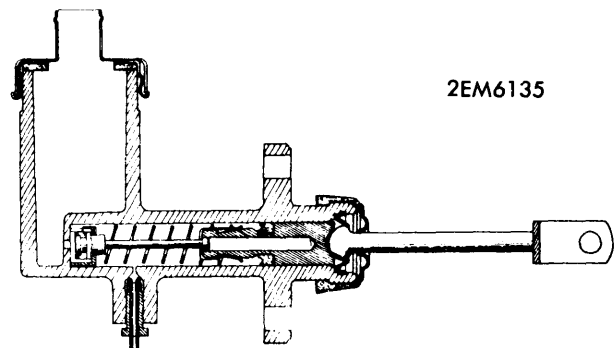
Reassembly (1967-68) – 1) Install valve seal with its flat side properly located on valve head. Place elastic washer with dished side facing lower side of valve head, retaining it in position by means of valve spacer, the legs of which are turned toward valve seal.

2) Replace piston return spring, centering it on the washer. Insert spring retainer in spring and press down until valve spindle bottoms through key-shaped hole, checking at same time that spindle is correctly located in middle of retainer. Check that spring is still centered on spacer.

3) Fit new piston seal with flat side turned toward front of piston, and a new end seal with its lip facing piston seal.

4) Insert small end of piston in retainer until retainer spring leaf engages piston tongue. Press retainer leaf fully home.

5) Lubricate piston thoroughly with hydraulic oil and install with valve end first. Use care easing valve lips into cylinder bore. Replace push rod in cylinder with dished side of washer under spherical head. Install lock ring and rubber dust cap.



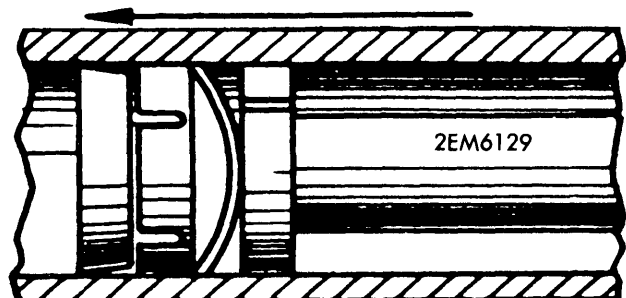
MASTER CYLINDER (1967-68)

Disassembly (1969-73) – 1) Ease rubber dust cap back and remove lock ring with needle nose pliers. Remove push rod and washer.

2) Remove piston, washer, piston seal and spring. Gently take seal off of piston. Examine cylinder bore for wear or scoring. Replace cylinder if any wear or damage is present. Install new seal.

Reassembly (1969-73) – 1) Install return spring and spring retainer. Lubricate piston and seals with hydraulic fluid. Install seal, washer and piston.

NOTE – Convex side of washer must face piston (see illustration).

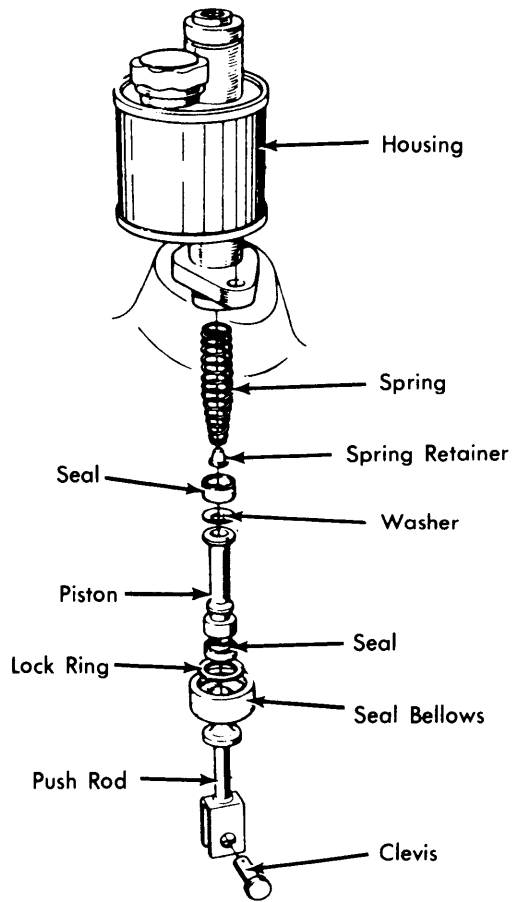


CONVEX WASHER INSTALLATION

1967-73 SAAB V4 (Cont.)

2) Install push rod into cylinder, followed by washer and lock ring. Reinstall dust cap.

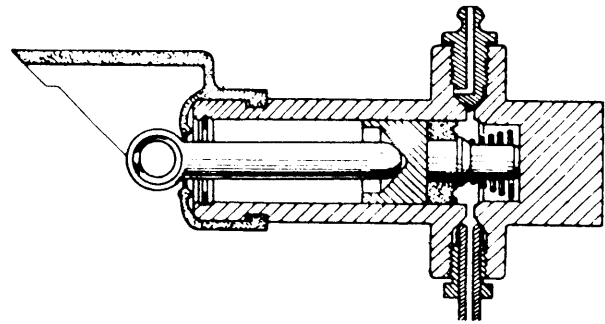
Reassembly — Replace seal and lubricate cylinder with hydraulic oil. Replace piston and lock ring. Pack dust cap with rubber grease.



MASTER CYLINDER (1969-73)

CLUTCH SLAVE CYLINDER

Disassembly — Ease dust cap back and remove lock ring using needle nose pliers. Remove piston and seal. Check cylinder for wear or scoring, replace if necessary.



SLAVE CYLINDER

2EM6136

ADJUSTMENT

CLUTCH ADJUSTMENT

Located opposite slave cylinder in clutch housing is the adjusting screw. Turn adjusting screw until clearance of .160" (4.0 mm) is achieved between clutch arm and slave cylinder.

HYDRAULIC SYSTEM BLEEDING

1) Remove protective cap from bleed nipple on slave cylinder. Connect a 1/4" (6 mm) hose to nipple and dip free end of hose into a container of hydraulic fluid.

2) Fill master cylinder reservoir with hydraulic fluid. Open bleed nipple 1/2 turn and depress clutch pedal. Close bleed nipple just before bottom of pedal stroke. Repeat procedure until air bubbles no longer flow out of hose. Close nipple and top-up hydraulic reservoir. Replace protective cap on bleed nipple.