

TRANSMISSION REMOVAL & INSTALLATION - AT

1995 Volvo 850

AUTOMATIC TRANSMISSION REMOVAL
Volvo

850, 940, 960

APPLICATION

TRANSMISSION APPLICATION

Vehicle Application	Transaxle Model
1995	
850	AW50-42LE
940	AW-70L
940 Turbo	AW-71
960	AW-40
1996	
850	AW50-42LE
960	AW-40

REMOVAL & INSTALLATION

850

Removal

1) Release steering wheel adjustment lever and move steering wheel up as far as possible. Put gear selector in "N" position. Remove battery, air cleaner, and air cleaner intake. Remove battery shelf.

2) Remove transmission cable from transmission. Disconnect electrical connector from transmission. Remove wiring harness and ground wire clamp on control system cover. Remove clamp from transmission ventilation hose.

3) Remove inlet hose from upper transmission cooler quick connector and return hose at transmission. Drain oil from transmission. Remove dipstick tube. Remove EGR hoses from EGR valve. Remove 5 transmission-to-engine and transmission-to-starter bolts. Disconnect ground wire from transmission. Lift radiator expansion tank from its mount and lay it to one side.

4) Disconnect torque rod arm at engine. Lift engine about 1/4" to relieve weight from engine mounts. Remove front wheels. Remove ABS sensor from left outboard shaft. DO NOT disconnect ABS electrical connector. Disconnect left and right brake lines and ABS cable brackets. Unhook brackets and allow them to hang free. Remove Torx screws and plastic nuts from left fender liner. Remove hub center nut locking clip. Remove hub center nut. Using a rubber or plastic mallet, knock in end of drive shaft about 1/2".

5) Remove front splash guard bolts. Push guard forward so locating pins on back come loose. Disconnect front of splash guard and remove. Remove splash guard under engine. Remove ball joint-to-link arm nuts on both sides. Disconnect link arms from ball joints. Disconnect and remove link arms from anti-roll bar.

6) Remove bolts connecting cable pipe on subframe and unhook pipe from frame. Disconnect charcoal canister from subframe and hang from body. Disconnect exhaust gas tie behind 3-way catalytic converter. Remove bolts holding pipe brackets to steering gear in subframe. Remove 2 bolts holding torque rod on transmission.

7) Remove bolts from front engine mounting subframe. Loosen bolts securing steering gear to engine mounting about one turn. Remove

nuts holding steering gear to subframe. Disconnect subframe from vehicle by positioning Jack (998 5972) under left side of subframe. Tighten jack up gently against subframe. Remove bolts on both sides of subframe brackets. Loosen 2 right subframe-to-body bolts.

8) Lower subframe while ensuring steering gear bolts do not hang up. Ensure MacPherson strut disengages from right drive shaft bellows. Remove jack and allow subframe to hang free on right side. Secure end of right drive shaft onto back of oil pipes. Hang steering gear on left side using Hook (999 5045) in hole in frame member flange. Ensure lower steering wheel shaft section does not slip out of steering column.

9) Remove engine mount-to-subframe bolts and nut on top of engine mount. Remove engine mount. Disconnect HO2S cable terminals from cover. Disconnect speed sensor connector. Remove rear engine mount cover and rear mounting from gearbox.

10) Remove left drive shaft by twisting and pulling out MacPherson strut. Tap drive shaft end with plastic mallet and pull shaft from hub. Using Lever (999 5462), remove drive shaft from gearbox. Use care not to damage drive shaft seal or bellows. Install Plug (999 5488) to seal hole. Clean metal glue off hub drive shaft splines.

11) Use lifting hook and lower engine and transmission. DO NOT lower engine too much, as exhaust pipe may press on steering gear. Ensure no wiring or hoses are pinched or stretched, and that dipstick clears fan.

12) Install Universal Tool (999 5972) and Transmission Fixture (999 5463) to jack. Attach transmission fixture to gearbox using bolts from torque rod. At same time, position Support Plate (999 5463-1) on fixture. Raise engine. Remove lower plastic nut and fold out right fender liner. Turn crankshaft with a socket wrench. Remove 6 torque converter bolts and 7 engine-to-transmission bolts. Pull transmission straight out from engine, using care to ensure torque converter does not slip off shaft.

Installation

1) Ensure torque converter is in transmission as far as possible. Distance between cover and mounting lip should be about .50" (13 mm). Install transmission to engine, adjusting height and angle with transmission jack. Install and tighten crosswise 7 engine-to-transmission bolts. See TORQUE SPECIFICATIONS. Remove jack.

2) Fit torque converter to flexplate. Install new torque converter bolts loosely. Tighten bolts so bolt heads are in contact with flexplate. Final tighten bolts to specification. See TORQUE SPECIFICATIONS. To install remaining components, reverse removal procedure.

940

Removal & Installation

1) Place gearshift lever in "P" position. Detach kickdown cable from throttle pulley. Disconnect negative battery cable.

CAUTION: On vehicles with front rubber drive shaft flange, flange should only be disconnected from transmission. DO NOT disconnect flange from drive shaft or an imbalance may occur. On standard (non-rubber) drive shafts, always replace 4 retaining bolts and nuts.

2) Raise and support vehicle. Remove propeller shaft. Drain transmission fluid. Unscrew oil filler tube from transmission oil pan. Disconnect reaction rod and actuator rod from transmission shift levers. Disconnect solenoid lead on AW71. On all models, support transmission with jack. Remove rear transmission crossmember.

3) Remove starter motor bolts and cover plate. Remove torque converter-to-flexplate bolts. Disconnect oil cooler lines. Remove transmission-to-engine bolts. Slide transmission rearward and lower from vehicle. To install, reverse removal procedure. Tighten bolts to specification. See TORQUE SPECIFICATIONS. Adjust kickdown cable and gearshift linkage. Fill transmission with ATF fluid.

960

Removal & Installation

1) Lift engine slightly to relieve weight on engine and transmission mounts. Remove splash guard under engine. Remove air preheater pipe. Disconnect oxygen sensor. Remove cable clip on torque converter housing. Open clips on transmission and remove 2 clips on transmission support member. Remove 3 connectors from bracket on torque converter housing. Remove front exhaust pipe. Disconnect drive shaft.

2) Remove heat shield. Disconnect fluid pipes from transmission. Plug pipe ends. Remove transmission support member. Lower rear of engine as far as possible. Use care so no hoses, wiring, or sensors are damaged. Remove torque converter bolts. Install jack under transmission. Remove torque converter housing bolts. Lower transmission.

3) To install, reverse removal procedure. Tighten bolts to specification. See TORQUE SPECIFICATIONS. Ensure torque converter is in transmission as far as possible. Distance between cover and mounting lip should be about .55" (14 mm).

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS

Application	Ft. Lbs. (N.m)
850	
Control Arm-To-Ball Joint Nut (New)	(1) 13 (18)
Drive Shaft Nut	(2) 89 (120)
Engine-To-Transmission Bolt	37 (50)
Frame Bolt	(1) 77 (105)
Frame Bracket Bolt	37 (50)
Flexplate-To-Torque Converter Bolt	22 (30)
Rear Transmission/Engine Mount	37 (50)
Roll Bar Bearing Cap Bolt	37 (50)
Steering Gear Nut (New)	37 (50)
Torque Rod-To-Transmission Bolt	(3) 13 (18)
940	
Drive Shaft Flange Retaining Bolt (Non-Rubber)	
8-mm	26 (35)
10-mm	37 (50)
Drive Shaft Flange Retaining Bolt (Rubber)	52-65 (70-88)
Flexplate-To-Torque Converter Bolts	33 (45)
Lower Oil Filler Tube Nut	65 (88)
960	
Drive Shaft-To-Transmission Bolt	37 (50)
Flexplate-To-Torque Converter Bolt	22 (30)
Transmission-To-Engine Bolt	
Starter Bolts	30 (40)
Remaining Bolts	35 (48)

(1) - Tighten an additional 120 degrees.

(2) - Tighten an additional 60 degrees.

(3) - Tighten an additional 90 degrees.
