

# Clutches

## PORSCHE 911SC & 924

### DESCRIPTION

Both models use a single disc dry clutch with a diaphragm spring type pressure plate. The clutch release mechanism is operated through an adjustable cable.

### REMOVAL & INSTALLATION

#### CLUTCH ASSEMBLY

##### Removal (911SC)

1) Raise and support vehicle. Disconnect negative battery cable and remove air cleaner. Loosen engine block vent hose at engine and plug vent cover hole. If equipped with air conditioning, detach compressor and place out of way but DO NOT disconnect hoses.

2) Remove relay plate cover and disconnect the engine wires at relay plate, adapter plug, relay plate socket, and ignition control unit. Remove fuel hoses at filter and return line. Disconnect accelerator linkage.

3) Remove rear center tunnel cover in passenger compartment. Slide boot forward over shift selector rod and disconnect coupling from inner shift rod. Disconnect speedometer sensor wires in tunnel. Drain engine oil and plug hoses on engine and oil tank.

4) Remove heater hoses at exchangers. Remove rear stabilizer. Disconnect ground strap at body and battery wires at starter. Disconnect accelerator linkage from pedal and clutch cable at transmission. Remove axle shafts from flanges at transmission.

5) Place jack under engine/transmission assembly and lift slightly, using caution to prevent damage to secondary air injection pipes. Loosen transmission and engine mounting bolts and carefully lower assembly from vehicle.

6) Remove circlip from clutch release lever shaft and pull off lever and rubber ring. Remove mounting bolts and pull transmission from engine.

7) Mark pressure plate and flywheel for reassembly and insert alignment tool. Loosen bolts 1 or 2 turns at a time in a diagonal pattern and separate clutch assembly from engine.

##### Removal (924)

1) Disconnect ground strap at battery. Disengage clutch cable housing from bracket under vehicle. Use engine support (VW 10-222) to suspend engine from above. Remove bottom engine guard.

2) Remove catalytic converter and muffler assembly. Disconnect wiring from backup light switch. Disconnect shift rod at transmission and at shift lever. Turn shift lever 180° and push forward about 12".

3) Remove plug from central tube housing. Push back protective tube for shift rod far enough so that it is outside of the central tube housing. Insert a screwdriver through opening in tube housing and open the tab on the protective tube.

4) Remove coupling screws through the opening. Move coupling toward transmission. Detach axle shafts from transmission and suspend to prevent damage to boots.

5) Place jack under transmission and remove transmission-to-central tube flange bolts. Remove transmission mount bolts and lower transmission.

6) Disconnect oxygen sensor wire at plug and remove from clips. Move exhaust pipe holders and rubber mounts out of brackets bolted to central tube.

7) Remove front exhaust pipe and heat shields (if equipped). Remove central tube-to-clutch housing bolts. Push central tube toward rear to rest on transmission carrier, turning 90° to ease operation.

8) Remove clutch housing attaching bolts. Move clutch housing back and turn until clutch release lever is located below cast boss on oil pan. Loosen pressure plate attaching bolts evenly and alternately and remove clutch assembly from flywheel.

##### Installation (911SC & 924)

1) Ensure that marks on flywheel and clutch are aligned and tighten pressure plate bolts 1 turn at a time in a diagonal pattern. Use a clutch centering tool to center disc. If installing new clutch, balancing marks on clutch and flywheel should be offset 180°.

2) On 911SC models, pull release lever in opposite direction of engine when transmission is installed on engine. There must be at least .78" (19.8 mm) clearance between release lever and transmission housing.

3) On all models, complete installation by reversing removal procedure. On 924, check that insulation sheet on central tube is positioned correctly. Inside flange to insulation distance should be 17.75" (500 mm). Install shift lever to transmission at an angle of 85°.

**NOTE:** Use care when guiding central tube into clutch housing.

#### CLUTCH RELEASE BEARING

##### Removal (911SC)

Bearing is removed with pressure plate. Remove by laying pressure plate on bearing and removing snap ring on flywheel side of clutch fingers. Remove bearing along with washers.

##### Removal (924)

With clutch removed, detach bearing spring clips from release lever. Move lever forward and take bearing off of guide tube.

##### Installation (All Models)

Apply thin coat of lubricant to guide tube and friction surfaces and reverse removal procedures.

### ADJUSTMENT

#### CLUTCH ADJUSTMENT

##### 911SC

1) Clutch free play must be checked at transmission adjusting lever due to auxiliary clutch spring. With cable snug, adjust play at lever to .040" (1.0 mm).

**Fig. 1: 911SC Clutch Adjusting Mechanism**



Free play should be .04" (1 mm).

## PORSCHE 911SC & 924 (Cont.)

2) Clutch pedal travel may be adjusted at stop on floor plate. Release travel should be .965-1.004" (24.5-25.5 mm) when measured at cable end.

### 924

Adjust cable with counternuts on holder to give .8-1.0" (20.0-25.0 mm) free play at clutch pedal.

### PEDAL ADJUSTMENT

**NOTE:** Pedal adjustment procedures not available from manufacturer for other models.

### 911SC

1) With engine running and warm, reverse gear must be able to be engaged silently when pedal is fully depressed. Release lever should move .6" (15.0 mm) to completely release clutch.

2) If cable housing rests on bottom of guide clamp when pedal is fully depressed, inner cable must be adjusted at yoke end. Measure from threaded cable end of yoke to outer edge of lock nut.

3) Adjust if not within .7-.9 (17.0-22.0 mm). If arc of cable is too large and allows cable to come out of guide clamp when pedal is released, inner cable must be shortened at yoke end.