

PORSCHE

911SC
924
928
930 Turbo

DESCRIPTION

All models use a dry, single disc, diaphragm spring type of clutch system. Clutch operation is mechanical. Pedal is connected to release lever by cables. All models have similar clutch disc designs: 930 models have thicker clutch lining, stronger springs, and larger diameter hubs. 930 models also have release lever mounted so a shorter, thicker cable can be used.

REMOVAL & INSTALLATION

CLUTCH ASSEMBLY

Removal (911SC, Turbo & 924) 1) — On all vehicles, remove engine and transaxle as described in *Engine Section*. On 924 after detaching transmission mounts, move the central tube with the transmission back about 4" to remove clutch disc and pressure plate.

2) Index mark pressure plate and flywheel for reassembly. Insert clutch alignment tool. Loosen clutch mounting bolts alternately and evenly until spring pressure is released. Slip clutch assembly from vehicle.

Removal (928) 1) — Remove lower body brace and slave cylinder with line connected. Remove clutch housing cover with starter and suspend from stabilizer bar. Remove coupling screws and push coupling back onto drive shaft.

2) Remove release bearing bolts and push bearing sleeve toward flywheel. Mark position of pressure plate, intermediate ring and flywheel as they are a balanced unit. Loosen mounting bolts evenly and alternately until pressure is off clutch. Remove bolts, disconnect release lever and push clutch assembly back and remove downward.

Inspection — 1) Check pressure plate and disc for wear, cracks, burning or loose rivets. Replace any part found defective. Check ends of diaphragm spring for wear marks from release bearing.

2) Lay a straightedge across pressure plate face and check for distortion; up to .011" (.3 mm) is permissible. Place clutch disc on input shaft and see that it moves freely on splines. Check disc for maximum allowable runout of .24" (.6 mm).

3) Check clutch release bearing for noise or rough operation. Do not wash bearing in any cleaning solution; clean with a lint free cloth only. Replace bearing if contaminated or loud. Check pilot bearing in crankshaft for rough operation, replace as necessary.

Installation — 1) Place graphite grease or molybdenum disulphide grease in crankshaft pilot bearing, and moisten felt seal with engine oil. Install clutch disc on flywheel using a suitable aligning tool to center disc. Coat diaphragm spring of pressure plate with a thin coat of molybdenum disulphide grease. See Fig. 1.

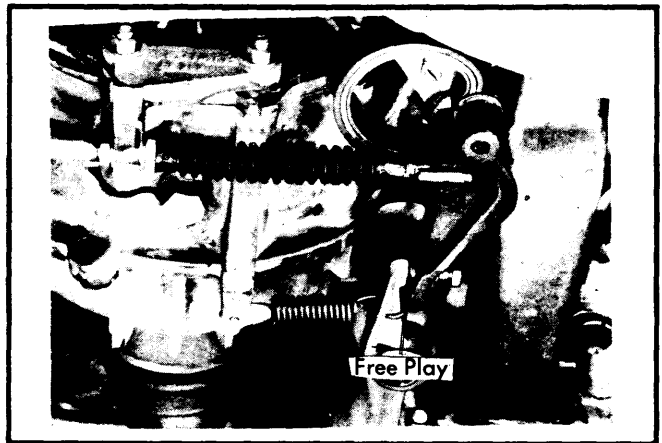


Fig. 2 View of Clutch Adjusting Mechanism (911SC & 930 Turbo)

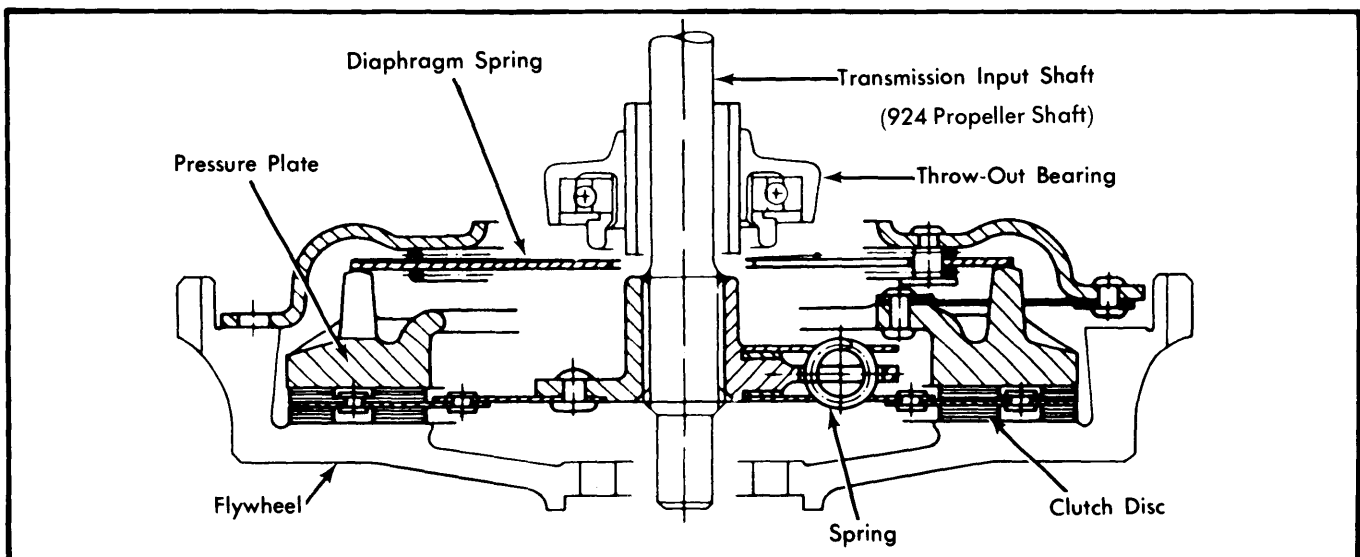


Fig. 1 Sectional View of Clutch Assembly

PORSCHE (Cont.)

2) Install pressure plate to flywheel, aligning marks made at disassembly. **NOTE** — If a new clutch is installed, balancing marks on clutch and flywheel should be offset 180°. Install and tighten clutch attaching bolts one turn at a time in a diagonal sequence to prevent distorting pressure plate.

3) On 911SC models, when transmission is installed on engine, pull release lever in a direction opposite engine. There must be a distance of at least .787" between release lever and transmission housing.

CLUTCH RELEASE BEARING

Removal (911SC, 928 & 930) — Bearing is removed with pressure plate and must be removed by laying pressure plate on bearing. Remove snap ring and take out bearing together with washers.

Removal (924) — With clutch removed, detach bearing spring clips from release lever. Move lever forward and take release bearing off of guide tube.

Installation — Apply thin coat of suitable lubricant to guide tube and reverse removal procedures.

NOTE — Do not wash clutch release bearing in cleaning solvent. Bearing is pre-packed and requires no lubrication.

ADJUSTMENT

CLUTCH ADJUSTMENT

911SC & 930 Turbo — Clutch free play must be checked at transmission adjusting lever due to auxiliary clutch spring. With cable snug, adjust play at lever to .004" (1.0 mm). Clutch pedal travel may be adjusted at stop on floor plate. Release travel for 911SC should be .982-.986" (24.5-25.5 mm), and for 930 Turbo should be 1.061-1.065" (26.5-27.5 mm) when measured at cable end.

924 — Lower end of clutch cable should measure 5.36-5.52" (136-140 mm) when measured from lower edge of cable holder to pin at release lever with release bearing against diaphragm spring. To adjust, turn outboard release lever on shaft and tighten in position. Adjust cable with counter-nuts on holder to give .8-1" (20-25 mm) free play at clutch pedal.

Clutch Pedal Free Play	
Application	Free Play
911SC & 924.....	.8-1.0" (20-25 mm)
930 Turbo9" (23 mm)

928 — No adjustment is necessary because of automatic adjustment of slave cylinder. There must however, be .5 mm (.05") play between the push rod and master cylinder piston. This cannot be measured directly, but can be felt at the pedal. Play can be corrected by adjusting the push rod (See Fig. 3).

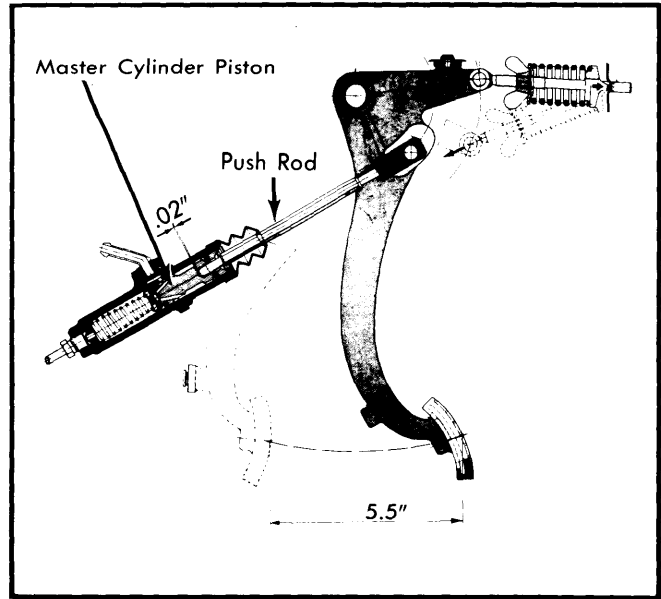


Fig. 3 928 Clutch Push Rod Adjustment

PEDAL ADJUSTMENT

All Models — 1) With engine and transmission warm, depress clutch pedal to stop. In this position reverse gear must just be able to be engaged silently.

2) When clutch pedal is fully depressed, clutch release lever should move .6" (15mm) to completely disengage clutch. If cable housing rests on bottom of guide clamp when pedal is fully depressed, inner cable must be adjusted at yoke end.

3) Measure from threaded cable end of yoke to outer edge of lock nut. Measurement should be .7-.9" (17-22mm), adjust if necessary. If cable housing rests on bottom of guide clamp when clutch pedal is fully depressed, inner cable must be lengthened at yoke end.

4) If arc of cable is too large, allowing cable to come out of guide clamp when pedal is released, inner cable must be shortened at yoke end.

TIGHTENING SPECIFICATIONS	
Application	Ft. Lbs. (mkg)
Flywheel (All Models)	108 (15)
Clutch	
911SC.....	25 (3.5)
924	23 (3.2)
928	14-17 (1.9-2.3)
930 Turbo	14-18 (1.9-2.5)