TRANSMISSION REMOVAL & INSTALLATION - A/T

1990 Nissan 240SX

1990 TRANSMISSION SERVICING
Nissan Automatic Transmission Removal

Axxess, Maxima, Pathfinder, Pickup, Pulsar NX, Sentra, Stanza, 240SX, 300ZX

NOTE: For manual transmission/transaxle replacement procedures, see CLUTCHES article.

REMOVAL & INSTALLATION

AXXESS

Removal

1) Remove battery and bracket. Remove air duct. Disconnect heater hose from dash panel. Disconnect shift cable and throttle cable from transaxle. Remove starter motor and drive axle shafts. See FWD AXLE SHAFT article. Remove front exhaust pipe.

2) On 2WD models, support transaxle with transmission jack. Remove center crossmember, buffer rod and rear transaxle mount. Scribe match marks on torque converter and drive plate for reassembly reference. Remove torque converter-to-drive plate bolts. Turn crankshaft to gain access to bolts.

3) Reinstall center crossmember to support engine when transaxle is removed. Insert wooden block between oil pan and center crossmember. Remove left side transaxle mount. Remove transaxle-to-engine bolts. Remove transaxle.

4) On 4WD models, remove driveshaft and buffer rod, Scribe match marks on torque converter and drive plate for reassembly reference. Remove torque converter-to-drive plate bolts. Turn crankshaft to gain access to bolts. Using a socket and long extension, remove bracket-to-transaxle bolts, located under intake manifold.

5) Support transaxle and transfer case with transmission jack. Remove rear transaxle mount and left side transaxle mount. Remove transaxle-to-engine bolts. Remove transaxle and transfer case assembly.

Installation

1) Before installing torque converter, measure drive plate runout with a dial indicator. Maximum runout is .020" (.5 mm).

2) After installing torque converter into transaxle, ensure converter is properly seated in transaxle by measuring distance from edge of engine mating surface to converter drive plate bolts. See CONVERTER DRIVE-TO-ENGINE MOUNTING DISTANCE table in this article.

3) Tighten torque converter-to-drive plate bolts. Tighten transaxle-to-engine bolts and engine-to-transaxle bolts to specification. See TORQUE SPECIFICATIONS table.

FWD TRANSAXLE

NOTE: On Maxima models, transaxle and engine must be removed as an assembly.

Removal

1) Remove battery and battery bracket. Remove air cleaner and airflow meter. Disconnect wiring for starter motor and remove starter. Remove throttle linkage cable or linkage, shift linkage and all external wiring connectors to transaxle. Remove transaxle cooler lines. Raise and support vehicle. Drain transaxle fluid.

2) Remove front wheels. Remove right side wheel bearing lock nut and front brake caliper assembly without disconnecting hydraulic line. Separate drive shaft from knuckle by tapping end slightly with a small wood block. Remove tie rod ball joint and remove 3 lower ball joint nuts.

3) Remove bolts holding knuckle to strut and draw out wheel hub, baffle plate and knuckle as a unit. Cover drive shaft boot to protect it from damage. Remove right side axle shaft bearing support bracket (if equipped). Remove axle shaft by prying against transaxle. Repeat drive shaft removal for other side.

4) Remove bolts securing exhaust front tube brackets (if necessary) and remove dust cover. Index mark torque converter in reference to drive plate. Rotate engine to remove each torque converter bolt.

5) Support engine under oil pan with a jack stand. Secure a transaxle jack under transaxle and remove any mounts attached to transaxle. Remove remaining bolts attaching transaxle to engine and carefully lower transaxle.

Installation

1) Before installing torque converter, measure drive plate runout with a dial indicator. Runout should not exceed .020" (.5 mm). After installing torque converter into transaxle, ensure converter is properly seated in transaxle by ensuring distance from edge of engine mating surface to converter drive plate mounting pad is within specifications. See CONVERTER DRIVE-TO-ENGINE MOUNTING DISTANCE table.

CONVERTER DRIVE-TO-ENGINE MOUNTING DISTANCE TABLE

Application	In. (mm)
Axxess & Stanza	.750 (19)
Maxima	.709 (18)
Pulsar & Sentra	.831 (21.1)

2) Apply sealant to torque converter bolts prior to installation. Align previously indexed marks of torque converter and drive plate before bolting torque converter to drive plate. After converter is secured to drive plate, rotate crankshaft several times to ensure free movement without binding.

3) Tighten transaxle-to-engine bolts and engine-to-transaxle bolts to specifications. To TORQUE SPECIFICATIONS table. To complete installation, reverse removal procedure.

RWD TRANSMISSION

Removal

1) Disconnect battery ground cable. Raise and support vehicle. Drain transmission and remove drive shaft. Remove wiring for starter motor and remove starter.

2) Remove any exhaust support brackets attached to transmission. Remove right side exhaust pipe from manifold (V6 models). Disconnect shift linkage. Disconnect and label all electrical and vacuum leads interfering with transmission removal. Disconnect speedometer cable.

3) Remove oil filler tube from transmission and disconnect both oil cooler lines. Remove torque converter housing inspection plate and index mark torque converter to drive plate for realignment reference. Rotate engine to remove each torque converter bolt.

4) Support transmission with transmission jack. Remove rear mount and crossmember mounting bolts. Remove transmission-to-engine bolts and slowly lower transmission out of vehicle.

Installation

1) Check drive plate runout on face of drive plate as close to ring gear as possible. Maximum runout is .020" (.5 mm). Torque converter is correctly seated if distance from converter drive lugs to engine mating surface is at least as specified. See CONVERTER DRIVE LUG-TO-ENGINE MOUNTING DISTANCE table.

2) Align previously indexed marks of torque converter and drive plate before bolting torque converter to plate. Align transmission mounting bolt holes with engine dowel pins before mounting transmission assembly to engine.

3) Tighten torque converter-to-drive plate bolts. Tighten transmission-to-engine bolts. See TORQUE SPECIFICATIONS table.

CONVERTER DRIVE LUG-TO-ENGINE MOUNTING DISTANCE TABLE

Application	In. (mm)
Pickup, Pathfinder & 240SX	1.02 (26)
300ZX	.71 (18)

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS TABLE

Application	Ft. Lbs (N.m)
Axxess	
Starter Bolt	22-30 (30-41)
2WD	
Center Crossmember Bolt	57-72 (77-98)
Drive Plate-to-Torque Converter Bolt	33-43 (45-58)
Engine-to-Transaxle Bolt	22-30 (30-41)
Transaxle Mount Through Bolt/Nut	46-58 (62-79)
Transaxle Mount-to Engine Bolt	32-41 (43-56)
Transaxle Mount-to Frame Bolt	32-41 (43-56)
Transaxle-to-Bracket Bolt	12-15 (16-20)
Transaxle-to-Engine Bolt	29-33 (39-45)
4WD	
Drive Plate-to-Torque Converter Bolt	33-43 (45-58)
Drive Shaft Flange Bolt/Nut	25-33 (34-45)
Engine-to-Transaxle Bolt	29-33 (39-45)
Transaxle Mount Through Bolt/Nut	46-58 (62-79)
Transaxle Mount-to-Engine Bolt	32-41 (43-56)
Transaxle Mount-to-Frame Bolt	32-41 (43-56)
Transaxle-to-Engine Bolt	29-33 (39-45)
Maxima	
Drive Plate-to-Torque Converter Bolt	33-43 (45-58)
Engine-to-Transaxle Bolt	30-40 (41-54)
Transaxle-to-Engine Bolt	29-36 (39-49)
Pathfinder & Pickup	
Crossmember Mounting Bolt	
2WD	50-64 (68-87)
4WD	30-38 (41-52)

Drive Plate-to-Torque Converter Bolt	29-36 (39-49)
Drive Shaft Flange Bolt/Nut	
Except 1-Piece Rear Drive Shaft	29-33 (39-45)
1-Piece Rear Drive Shaft	58-65 (79-88)
Engine-to-Transmission Bolt	
2.4L 4-Cyl. (Pickup)	29-36 (39-49)
3.0L V6	22-29 (30-39)
Exhaust Pipe-to Manifold (V6)	
Pathfinder	32-37 (43-50)
Pickup	20-27 (27-37)
Rear Transmission Mount Nut	30-38 (41-52)
Transmission-to-Engine Bolt	29-36 (39-49)

Pulsar NX & Sentra

Brake Caliper Mount Bolt	40-47 (54-64)
Drive Plate-to-Torque Converter Bolt	29-36 (39-49)
Knuckle-to-Strut Bolt/Nut	84-98 (147-133)
Lower Ball Joint-to Knuckle Nut	43-54 (58-73)
Tie Rod Ball Joint	22-29 (30-39)
Transaxle-to-Engine Bolt	22-30 (30-41)
Wheel Bearing Lock Nut	145-203 (197-275)
Wheel Lug Nut	72-87 (98-118)

Stanza

Axle Shaft Bearing Support Bracket	18-26 (24-35)
Brake Caliper Mount Bolt	53-72 (72-97)
Drive Plate-to-Torque Converter Bolt	33-43 (45-58)
Engine-to-Transaxle Bolt	22-30 (30-41)
Front Exhaust Pipe Bracket	24-28 (33-38)
Knuckle-to-Strut Bolt	116-137 (157-186)
Lower Ball Joint Mount Nuts	56-80 (76-108)
Lower Ball Joint-to-Knuckle Nut	52-64 (71-87)
Tie Rod Ball Joint	22-29 (30-39)
Transaxle-to-Engine Bolt	29-36 (39-49)
Wheel Bearing Lock Nut	174-231 (236-313)
Wheel Lug Nut	72-87 (98-118)

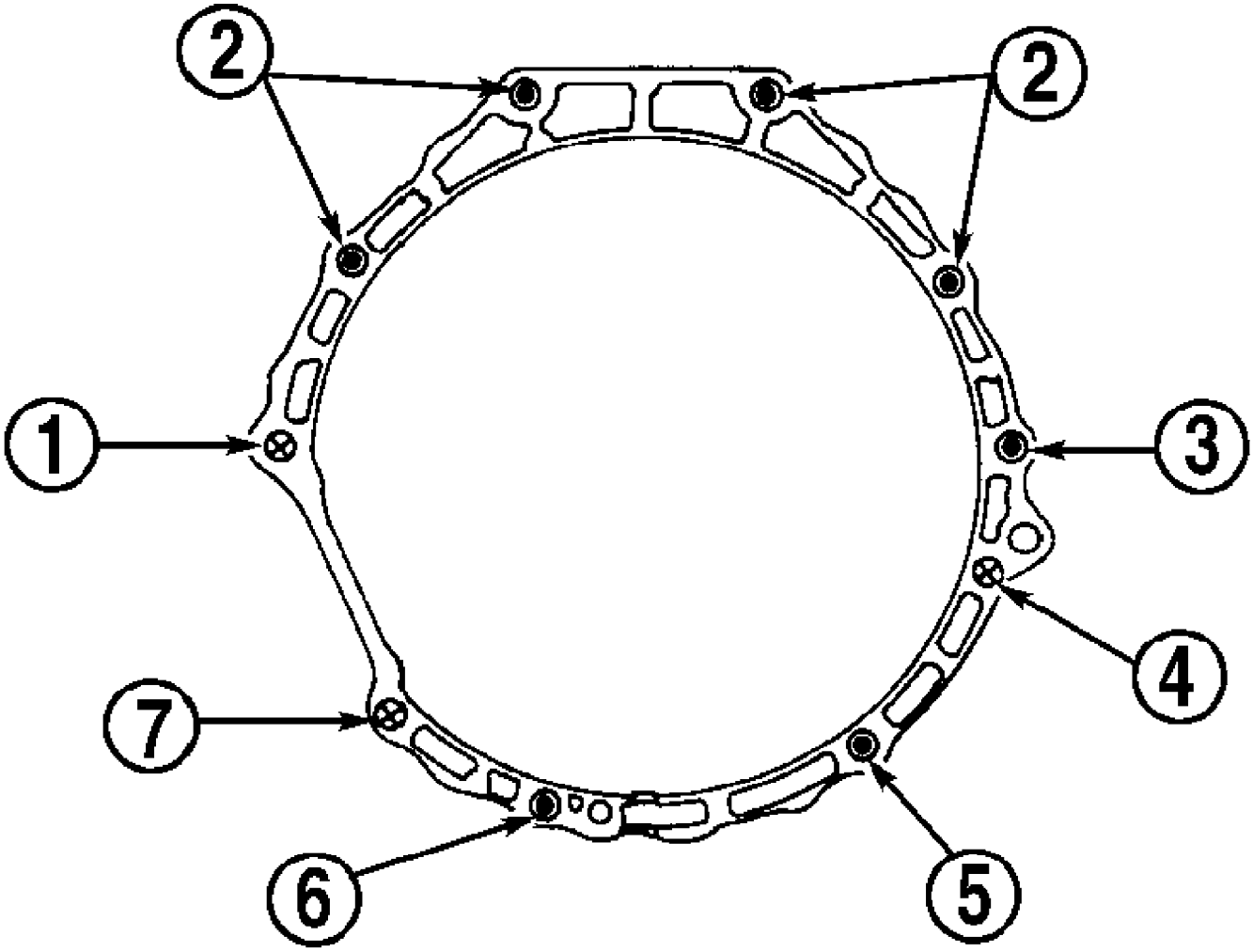
240SX

Crossmember Mounting Bolt	32-41 (43-56)
Drive Plate-to-Torque Converter Bolt	29-36 (39-49)
Drive Shaft Flange Bolt	29-33 (30-39)
Engine-to-Transmission Bolt	22-29 (30-39)
Rear Transmission Mount Nut	16-21 (22-28)
Transmission-to-Engine Bolt	29-36 (39-49)

300ZX

Crossmember Mounting Bolt	38-48 (52-65)
Drive Plate-to-Torque Converter Bolt	29-36 (39-49)
Drive Shaft Flange Bolt	25-33 (34-45)
Engine-to-Transmission (1)	
Bolts No. 1, 2, 3, 6 & 7	29-36 (39-49)
Bolts No. 4 & 5	22-29 (29-39)
Exhaust Pipe-to-Manifold Nut	33-37 (45-50)
Rear Transmission Mount Nut	43-55 (58-75)
Transmission-to-Engine Bolt	29-36 (39-49)

(1) - See Fig. 1.



92G00956

Fig. 1: Tightening Sequence For Engine-To-Transmission Bolts (300ZX)
Courtesy of Nissan Motor Co., U.S.A.