

TRANSMISSION REMOVAL & INSTALLATION - M/T

1996 Toyota upra

Manual Transmission Servicing

Camry, Celica, Corolla, MR2 (1995), Paseo, Pickup (1995),
RAV4 (1996), Supra, Tacoma, Tercel, T100, 4Runner

MODEL IDENTIFICATION

MANUAL TRANSMISSION/TRANSAXLE APPLICATIONS

Application	Transmission/Transaxle
Camry	
2.2L 4-Cyl.	5-Speed - S51
Celica	
1.8L (7A-FE)	5-Speed - C52
2.2L (5S-FE)	5-Speed - S54
Corolla	
1.6L (4A-FE)	5-Speed - C50
1.8L (7A-FE)	5-Speed - C52
MR2	
2.0L Turbo	5-Speed - E153
2.2L Non-Turbo	5-Speed - S54
Paseo	5-Speed - C150
Pickup	
2.4L 4-Cyl.	
2WD	5-Speed - W55
4WD	5-Speed - G58 Or W56
3.0L V6	
2WD	5-Speed - R150
4WD	5-Speed - R150F
RAV4	
2WD	5-Speed - E250
4WD	5-Speed - E250F
Supra	
3.0L Non-Turbo	5-Speed - W58
3.0L Turbo	6-Speed - V160
Tacoma	
2WD	
2.4L 4-Cyl.	5-Speed - W59
3.4L V6	5-Speed - R150
4WD	
2.7L 4-Cyl.	5-Speed - W59
3.4L V6	5-Speed - R150F
Tercel	4-Speed - C141 Or 5-Speed - C151
T100	
1995	
2WD	
2.7L 4-Cyl.	5-Speed - W56
3.4L V6	5-Speed - R150
4WD	5-Speed - R150F
1996	
2WD	
2.7L 4-Cyl.	5-Speed - W59
3.4L V6	5-Speed - R150
4WD	5-Speed - R150F
4Runner	
1995	
4WD	
2.4L 4-Cyl.	5-Speed - G58
3.0L V6	5-Speed - R150F

1996

2WD

2.7L 4-Cyl. 5-Speed - W59

4WD

2.7L 4-Cyl. 5-Speed - W59

3.4L V6 5-Speed - R150F

REMOVAL & INSTALLATION

WARNING: To prevent air bag deployment, disconnect negative battery cable and wait at least 90 seconds before working on vehicle.

CAMRY

Removal & Installation

1) Disconnect negative battery cable. Remove air cleaner case with air intake hose. Remove cruise control actuator. Remove clutch release cylinder with hose attached and secure aside.

2) Remove starter. Disconnect necessary ground straps, electrical connections and control cables from transaxle. Remove upper transaxle mounting bolts from cylinder block.

3) Raise and support vehicle. Remove front wheels. Remove lower engine covers. Drain transaxle fluid. Remove axle shafts from transaxle. See appropriate AXLE SHAFTS article in AXLE SHAFTS & TRANSFER CASES section. Remove stabilizer bar mount and bushing from crossmember.

4) Support steering gear so steering gear remains in place. Remove steering gear-to-crossmember bolts and nuts. Remove front exhaust pipe, located below oil pan. Remove stiffener plates, located between cylinder block and transaxle, at rear of oil pan.

5) Support engine with hoist. Remove front (exhaust manifold side) engine mount-to-crossmember bolts and nuts. Remove rear (intake manifold side) engine mount-to-crossmember nuts.

6) Using transmission jack, slightly raise transaxle to remove weight from engine mounts. Remove transaxle mount-to-transaxle bolts and transaxle mount-to-crossmember nuts. Disconnect necessary pipes and clamps from crossmember. Remove bolts, nuts and crossmember, located below engine and transaxle.

7) Support transaxle with transmission jack. Remove remaining transaxle mounting bolts. Slightly lower engine and remove transaxle. To install, reverse removal procedure. Tighten nuts and bolts to specification. See TORQUE SPECIFICATIONS.

WARNING: To prevent air bag deployment, disconnect negative battery cable and wait at least 90 seconds before working on vehicle.

CELICA

Removal & Installation

1) Disconnect negative battery cable. On 2.2L (5S-FE) models, remove battery and cruise control actuator. On all models, remove air cleaner case with air intake hose. Remove clutch release cylinder with hose attached and secure aside.

2) Remove starter. Disconnect necessary ground straps, electrical connections and control cables from transaxle. Remove upper transaxle mounting bolts from cylinder block.

3) Raise and support vehicle. Remove front wheels. Remove lower engine covers. Drain transaxle fluid. Remove axle shafts from transaxle. See AXLE SHAFTS article in AXLE SHAFTS & TRANSFER CASES section.

4) Remove front exhaust pipe, located below oil pan. Remove

front exhaust pipe support bracket. On 2.2L (5S-FE), remove stiffener plate, located between cylinder block and transaxle, at rear of oil pan.

5) On all models, support engine with hoist. Using transmission jack, slightly raise transaxle to remove weight from engine mounts. Remove front (exhaust manifold side) engine mount-to-crossmember bolts and nuts. Remove rear (intake manifold side) engine mount-to-crossmember bolts and nuts.

6) Remove front (exhaust manifold side) engine mount and rear (intake manifold side) engine mount brackets from cylinder block. Remove bolts and crossmember, located below engine and transaxle. Remove transaxle mount bolts.

7) Remove remaining transaxle mounting bolts. Slightly lower engine and remove transaxle. To install, reverse removal procedure. Tighten nuts and bolts to specification. See TORQUE SPECIFICATIONS.

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COROLLA

Removal & Installation

1) Disconnect negative battery cable. Remove air cleaner case with air intake hose. Remove coolant reservoir tank. Remove clutch release cylinder with hose attached and secure aside.

2) Disconnect necessary ground straps, electrical connections and control cables from transaxle. Remove upper transaxle mounting bolts from cylinder block.

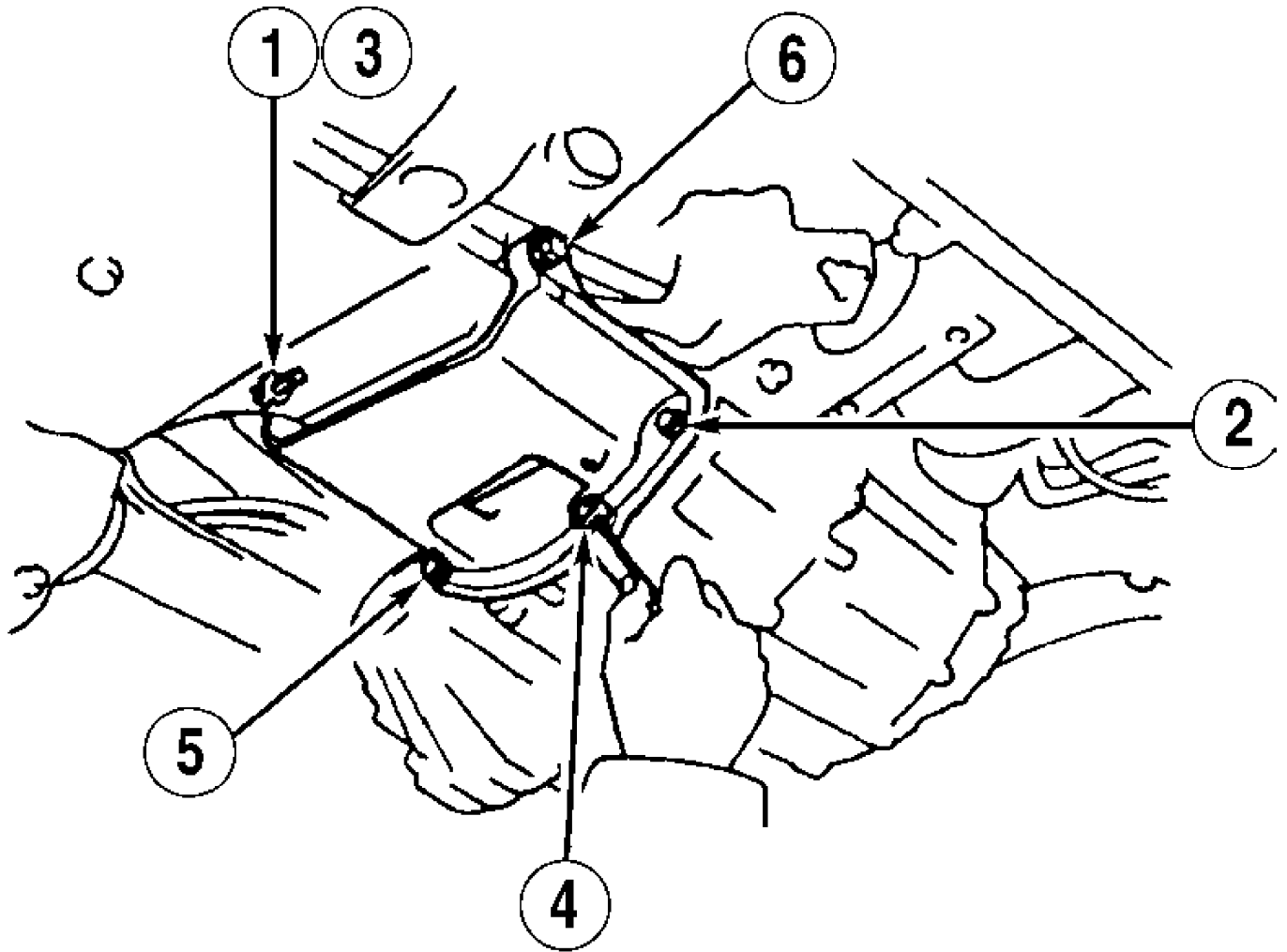
3) Raise and support vehicle. Remove front wheels. Remove lower engine covers. Drain transaxle fluid. Remove axle shafts from transaxle. See appropriate AXLE SHAFTS article in AXLE SHAFTS & TRANSFER CASES section.

4) Remove front exhaust pipe, located below oil pan. Remove exhaust pipe support bracket. Support engine with hoist. Remove bracket and bolts from top of transaxle mount. Using transmission jack, slightly raise transaxle to remove weight from engine mounts.

5) Remove front (exhaust manifold side) engine mount-to-crossmember bolts. Remove rear (intake manifold side) engine mount-to-crossmember nuts. Remove bolts and crossmember, located below engine and transaxle and between lower suspension arms. Remove starter. On 1.6L (4A-FE), remove stiffener plate, located between cylinder block and transaxle, at rear of oil pan. See Fig. 1.

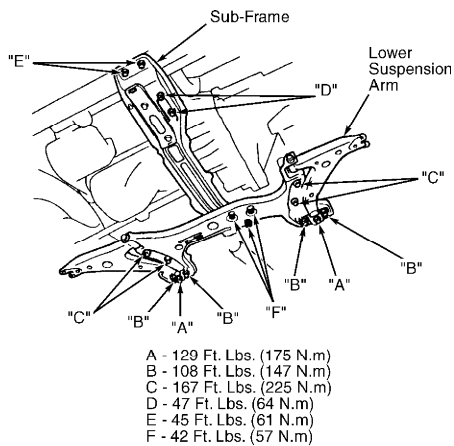
6) On 1996 models, remove sub-frame and lower suspension arm. See Fig. 2. On all models, remove remaining transaxle mount bolts. On 1.8L (7A-FE), remove No. 1 oil pan-to-transaxle bolts, located at rear of No. 1 oil pan. On all models, remove remaining transaxle mounting bolts. Slightly lower engine and remove transaxle.

7) To install, reverse removal procedure. Tighten nuts and bolts to specification. On 1.6L (4A-FE), install and tighten stiffener plate bolts to specification in sequence. See Fig. 1. On 1996 models, tighten sub-frame and lower suspension arm bolts and nuts to specification. See Fig. 2. See TORQUE SPECIFICATIONS.



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Fig. 1: Stiffener Plate Bolt Installation Sequence (Corolla 1.6L)
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



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 Fig. 2: Tightening Sub-Frame & Lower Suspension Arm (1996 Corolla)
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

WARNING: To prevent air bag deployment, disconnect negative battery cable and wait at least 90 seconds before working on vehicle.

MR2

Removal & Installation

1) Disconnect negative battery cable. Remove air cleaner assembly with air intake hose. Remove strut tower-to-firewall braces (if equipped).

2) Remove starter. Disconnect necessary ground straps, electrical connections and control cables from transaxle. Remove upper transaxle mounting bolts from cylinder block.

3) Raise and support vehicle. Remove rear wheels. Remove lower engine covers. Drain transaxle fluid. Remove axle shafts from transaxle. See appropriate AXLE SHAFTS article in AXLE SHAFTS & TRANSFER CASES section. Remove front exhaust pipe.

4) Remove brace from top of left transaxle mount. Support engine with hoist. Remove front engine mount. Remove clutch release cylinder with hose attached and secure aside. Remove rear engine mount.

5) Remove suspension arm-to-axle carrier bolt, located on rear of axle carrier, near brake backing plate. Disconnect speed sensor bracket from suspension crossmember, located below engine. Disconnect lower control arms from suspension crossmember. Remove bolts and suspension crossmember.

6) Using transmission jack, slightly raise transaxle to remove weight from engine mounts. Remove left transaxle mount bolts. Remove bolts and stiffener plates, located between rear of cylinder block and transaxle.

7) Remove rear plate, located at front of transaxle, just below oil pan. Remove remaining transaxle mounting bolts. Slightly lower engine and remove transaxle. To install, reverse removal procedure. Tighten nuts and bolts to specification. See TORQUE SPECIFICATIONS.

WARNING: To prevent air bag deployment, disconnect negative battery cable and wait at least 90 seconds before working on vehicle.

PASEO & TERCEL

Removal & Installation

1) Disconnect negative battery cable. Remove air cleaner case with air intake hose. Remove battery. Remove clutch release cylinder with hose attached and secure aside.

2) Disconnect necessary ground straps, electrical connections, control cables and speedometer cable from transaxle. Remove upper transaxle mounting bolts from cylinder block.

3) Raise and support vehicle. Remove front wheels. Remove lower engine covers. Drain transaxle fluid. Remove axle shafts from transaxle. See appropriate AXLE SHAFTS article in AXLE SHAFTS & TRANSFER CASES section.

4) Support engine with hoist. Using transmission jack, slightly raise transaxle to remove weight from engine mounts. Remove front (exhaust manifold side) engine mount-to-body bolts. Remove rear (intake manifold side) engine mount-to-body bolts. Remove front exhaust pipe.

5) Remove starter. Remove remaining transaxle mounting bolts. Slightly lower engine and remove transaxle. To install, reverse removal procedure. Tighten nuts and bolts to specification. See TORQUE SPECIFICATIONS.

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PICKUP & 4RUNNER

Removal & Installation

- 1) Disconnect negative battery cable. Remove fan shroud bolts. Remove transmission shift lever boot retainer.
- 2) Pull transmission shift lever boot upward. Place shop towel on shift lever cap, located at top of transmission on transmission shift lever. Press shift lever cap downward and rotate counterclockwise to remove from transmission. Remove transmission shift lever with shift lever cap from transmission.
- 3) On 4WD models, remove snap ring and transfer case shift lever. On all models, raise and support vehicle. Drain transmission and transfer case fluid (if equipped).
- 4) Remove drive shaft dust cover (if equipped). Place reference mark on drive shaft flanges for reassembly reference. Remove drive shaft(s) as required. Disconnect necessary electrical connectors at transmission and transfer case (if equipped).
- 5) Remove necessary exhaust pipe components for removal of transmission and transfer case (if equipped). Remove clutch release cylinder with hose attached and secure aside.
- 6) On 4WD V6 models, support front differential with transmission jack. Remove front differential mounting bolts. On all models, remove stabilizer bar bracket-to-frame bolts.
- 7) Support transmission with transmission jack. Remove necessary crossmembers for removal of transmission and transfer case (if equipped). Place wooden block between oil pan and front crossmember or front differential. Slightly lower transmission.
- 8) Remove starter and exhaust pipe bracket. Remove stiffener plates, located between rear of cylinder block and transmission. Remove transmission mounting bolts.
- 9) Slowly pull transmission and transfer case (if equipped) rearward. On some models, it may be necessary to rotate transmission approximately 45 degrees for transmission removal. To install, reverse removal procedure. Tighten bolts to specification. See TORQUE SPECIFICATIONS.

WARNING: To prevent air bag deployment, disconnect negative battery cable and wait at least 90 seconds before working on vehicle.

RAV4 2WD

Removal & Installation

- 1) Disconnect negative battery cable. Remove air cleaner case with air intake hose. Remove engine coolant reservoir tank. Remove clutch release cylinder with hose attached and secure aside.
- 2) Disconnect necessary ground straps, electrical connections, control cables and speedometer cable from transaxle. Remove 4 upper transaxle mounting bolts from cylinder block.
- 3) Raise and support vehicle. Remove front wheels. Remove lower engine covers. Drain transaxle fluid. Remove axle shafts from transaxle. See appropriate AXLE SHAFTS article in AXLE SHAFTS & TRANSFER CASES section. Remove front exhaust pipe.
- 4) Remove front suspension crossmember and stabilizer bar. Support engine with hoist. Using a transmission jack, slightly raise transaxle to remove weight from engine mounts.
- 5) Remove front (exhaust manifold side) engine mount-to-body bolts. Remove rear (intake manifold side) engine mount-to-body bolts.
- 6) Remove starter. Remove remaining transaxle mounting bolts. Slightly lower engine and remove transaxle. To install, reverse removal procedure. Tighten bolt/nuts to specification. See TORQUE SPECIFICATIONS. Fill transaxle with 75W-90 gear oil with API GL-4 or GL-5 rating.

WARNING: To prevent air bag deployment, disconnect negative battery cable and wait at least 90 seconds before working on vehicle.

RAV4 4WD

NOTE: Engine and transaxle are removed as an assembly from bottom of engine compartment. For reassembly reference, label all electrical connectors, vacuum hoses and fuel lines before removal. Also place mating marks on engine hood and other major assemblies before removal.

Removal

1) Release fuel pressure. Manufacturer recommends disconnecting electrical connector at electric fuel pump and operating engine until engine stalls before loosening fuel line connection. Remove driver's side rear seat and floor panel cover for access to electrical connector for electric fuel pump.

2) Disconnect electrical connector for electric fuel pump. Start engine and allow engine to idle until engine stalls. Turn ignition off. Reconnect electrical connector for electric fuel pump. Reinstall floor panel cover and driver's side rear seat.

3) Disconnect negative battery cable. Place an approved gasoline container under fuel line. Cover fuel line connection with shop towel. Slowly loosen fuel line connection to release fuel pressure. Once fuel pressure is released, fuel system components may be serviced. Remove hood, battery and battery tray. Drain cooling system and engine oil.

4) Disconnect control cables at throttle body. Remove air cleaner assembly and air cleaner case. Remove bolts and disconnect relay box from body. Relay box is located near driver's side strut tower. See Fig. 3.

5) Remove upper cover from relay box. Disconnect electrical connector from relay box. See Fig. 4. Remove nuts and disconnect engine wiring harness from relay box.

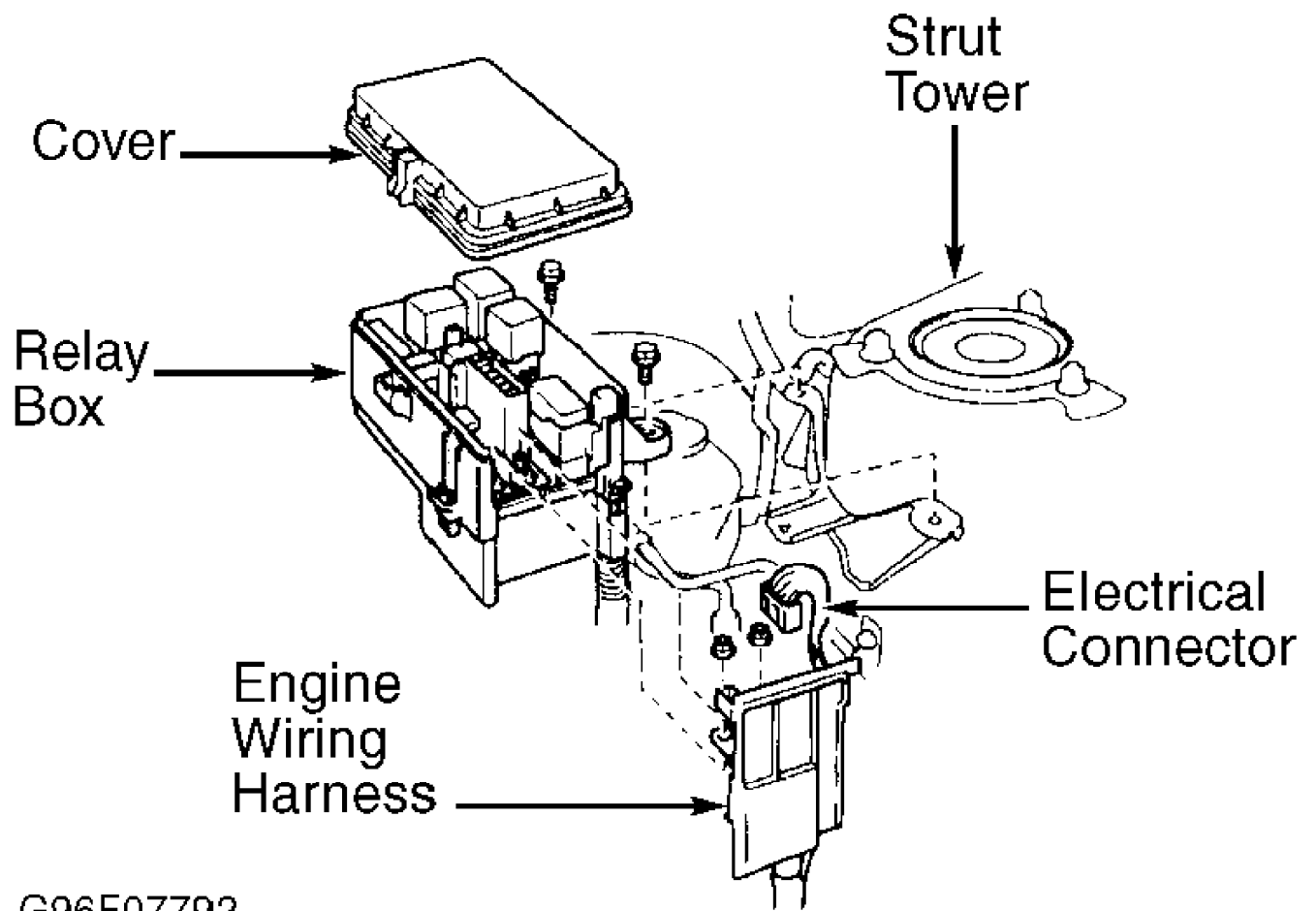
6) Remove charcoal canister. Remove accessory drive belt and generator. Disconnect upper and lower radiator hoses. Remove thermostat housing from front of engine.

7) Disconnect necessary electrical connectors, coolant hoses, vacuum hoses and fuel lines for engine removal. Remove A/C compressor with hoses attached and secure aside.

8) Remove scuff plate from passenger's side door opening and passenger's side kick panel. Remove center console trim panel from passenger's side of center console. See Fig. 4.

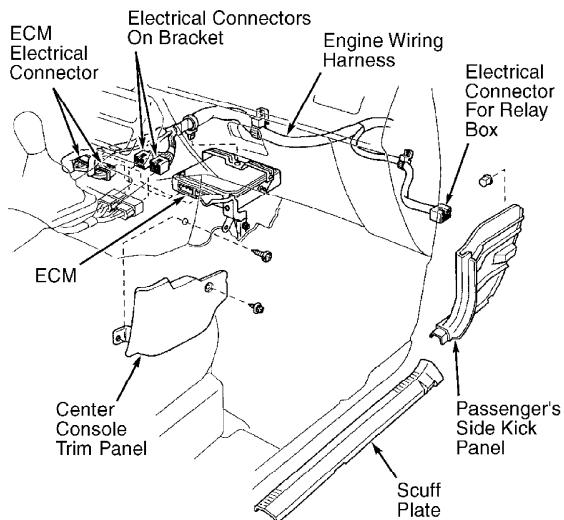
9) Disconnect 2 electrical connectors from Engine Control Module (ECM) and 2 electrical connectors on bracket. Disconnect electrical connector for relay box located behind passenger's side kick panel.

10) Disconnect engine wiring harness clamp located on engine wiring harness, near firewall. Pull engine wiring harness out through firewall.



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Fig. 3: Relay Box, Electrical Connector & Engine Wiring Harness
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



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Fig. 4: Identifying ECM & Electrical Connectors
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

11) Raise and support vehicle. Remove lower engine covers.
 Remove clutch release cylinder with hose attached and secure aside.

Remove starter. Disconnect control cables and electrical connectors at transaxle. Remove front exhaust pipe that fits between front catalytic converter on exhaust manifold and rear exhaust pipe.

12) Place reference marks on drive shaft flanges for reassembly reference. Remove drive shaft flange bolts/nuts at rear axle. Remove drive shaft center support bearing bolts. Pull drive shaft from transaxle. Remove drive shaft.

13) On all models, remove front wheels. Drain transaxle fluid. On models with Anti-Lock Brake System (ABS), remove bolt and pull ABS speed sensor from front of axle carrier.

14) On all models, remove cotter pin and retainer from end of axle shaft. Loosen axle shaft nut while applying brakes. Remove axle shaft nut. Remove nut and separate tie rod from steering knuckle. Disconnect stabilizer bar link from lower control arm. Remove ball joint-to-lower control arm bolts/nuts.

15) Remove axle shafts from transaxle. See appropriate AXLE SHAFTS article in AXLE SHAFTS & TRANSFER CASES section. Remove stabilizer bar-to-frame mount bolts. Remove stabilizer bar with mounting brackets and insulators. Remove 2 steering gear assembly-to-front suspension crossmember bolts/nuts located at each end of steering gear assembly.

16) Support engine with hoist. Remove engine mount crossmember-to-front suspension crossmember nuts. Front suspension crossmember fits between both lower control arms.

17) Support front suspension crossmember with floor jack. Remove front suspension crossmember bolts and front suspension crossmember. Remove front (exhaust manifold side) engine mount-to-engine mount crossmember bolts. Remove engine mount crossmember-to-body bolts. Remove engine mount crossmember.

18) Remove power steering pump with hoses attached and secure aside. Remove left (transaxle side) engine mounting bracket-to-engine mount bolts/nuts. Remove right (timing belt side) engine mounting bracket-to-engine mount bolts/nuts. Lower engine from engine compartment.

19) Remove transaxle case protector. Disconnect remaining wire harnesses from transaxle. Label vacuum hoses and remove transfer vacuum actuator assembly. Remove stiffener plates between engine and transaxle. Remove 9 transaxle-to-engine bolts. Separate transaxle from engine.

Installation

1) Install transaxle to engine. Install engine in engine compartment. Loosely install right (timing belt side) engine mounting bracket-to-engine mount bolts/nuts.

2) Install and tighten left (transaxle side) engine mounting bracket-to-engine mount bolts/nuts to specification. See TORQUE SPECIFICATIONS. Tighten right (timing belt side) engine mounting bracket-to-engine mount bolts/nuts to specification.

3) Install power steering pump. Install and tighten bolts to specification. See TORQUE SPECIFICATIONS. Install engine mount crossmember with front (exhaust manifold side) engine mount-to-engine mount crossmember bolts and engine mount crossmember-to-body bolts loosely installed. DO NOT tighten bolts at this time.

4) Install front suspension crossmember on body with bolts loosely installed. Loosely install engine mount crossmember-to-front suspension crossmember nuts and steering gear assembly-to-front suspension crossmember bolts/nuts. DO NOT tighten bolts/nuts at this time.

5) Install and tighten front suspension crossmember bolts to specification. See TORQUE SPECIFICATIONS. Tighten steering gear assembly-to-front suspension crossmember bolts/nuts and then engine mount crossmember-to-front suspension crossmember nuts to specification. See TORQUE SPECIFICATIONS.

6) Tighten front (exhaust manifold side) engine mount-to-engine mount crossmember bolts and then engine mount crossmember-to-body bolts to specification. See TORQUE SPECIFICATIONS.

7) Install axle shafts. See appropriate AXLE SHAFTS article in AXLE SHAFTS & TRANSFER CASES section. To install remaining components, reverse removal procedure. On 4WD models, ensure reference marks on drive shaft flanges are aligned. Ensure mounting bracket on drive shaft center support bearing is straight and perpendicular to drive shaft before tightening bolts to specification.

8) On all models, use NEW gasket and NEW nuts when installing front exhaust pipe on catalytic converter. Ensure all bolts/nuts are loosely installed before tightening to specification. Adjust fluid levels and control cables. Use SAE 75-90 GL-5 gear oil.

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SUPRA

Removal & Installation

1) Disconnect negative battery cable. Remove shift knob from shift lever. Using screwdriver, pry upper console panel upward for access to shift lever bolts.

Upper console panel is located on top of console, near shift lever.

2) Remove bolts and shift lever boots. Remove shift lever bolts. On non-turbo models, remove upper shroud bolts from radiator. On all models, raise and support vehicle. Drain transmission fluid. Remove lower engine cover. Remove front exhaust pipe and support bracket.

3) Remove center exhaust pipe that fits between front exhaust pipe and tailpipe with muffler assembly. Remove heat insulator from body for access to drive shaft.

4) Remove crossmember brace bolted to body, below drive shaft. Place reference mark on drive shaft flanges for reassembly reference. Remove drive shaft flange-to-differential flange bolts. DO NOT remove drive shaft-to-drive shaft flange bolts. Support drive shaft and remove drive shaft center bearing bolts. Remove adjusting washers that fit between drive shaft center bearing and body (if equipped).

5) On turbo models, remove drive shaft flange-to-transmission flange nuts. On all models, slide drive shaft assembly forward to disengage drive shaft from centering pin on differential flange. Remove drive shaft.

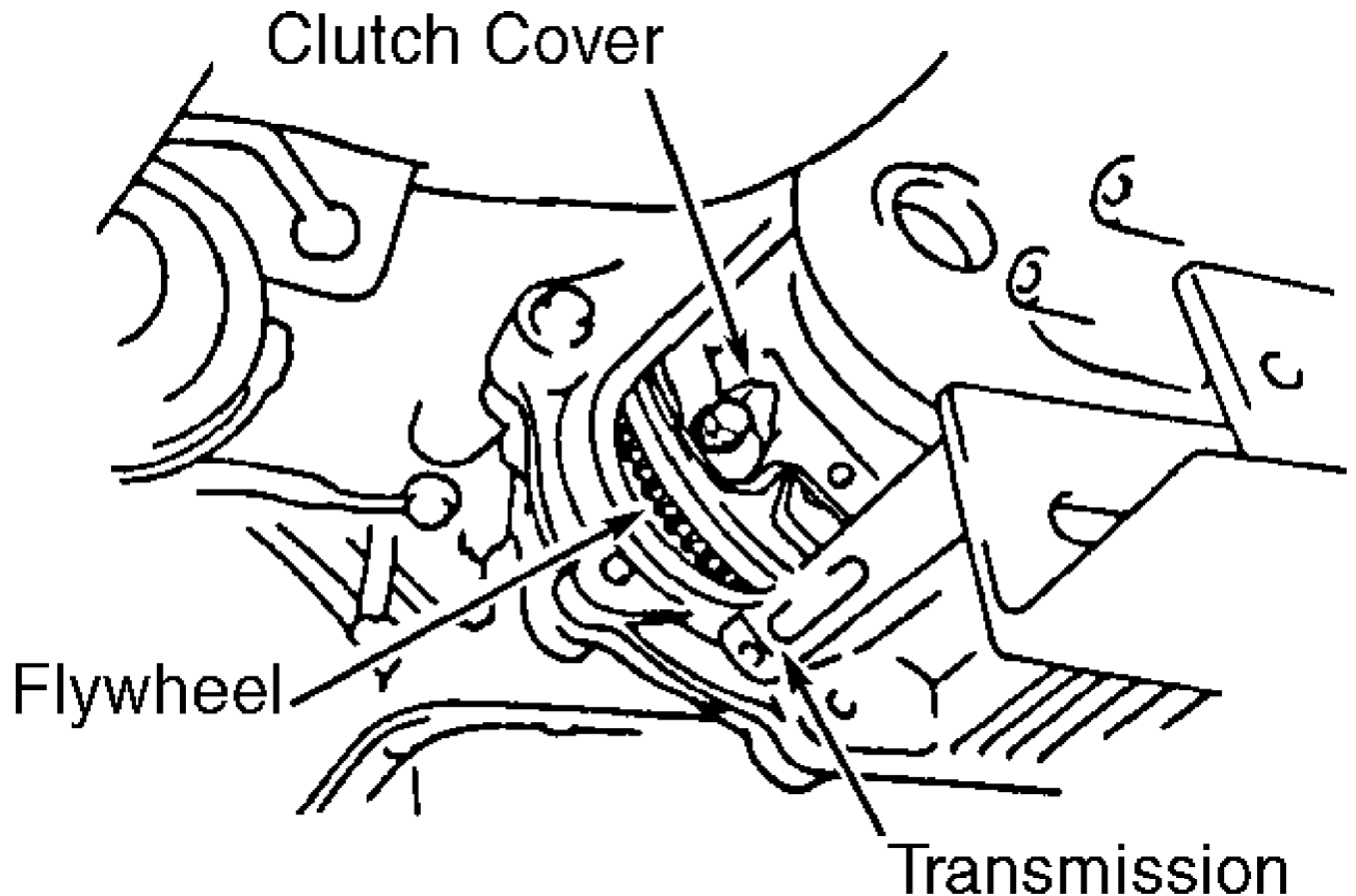
6) Remove shift lever-to-shift linkage bolt at rear of transmission. Remove shift lever. Remove clutch release cylinder with hose attached and secure aside. Disconnect necessary electrical connectors at transmission. Remove starter.

NOTE: On turbo models, clutch cover bolts must be removed before transmission can be removed.

7) On turbo models, remove cover on driver's side of transmission for access to clutch cover bolts. Place reference mark on clutch cover and flywheel for reassembly reference. Remove 6 clutch cover bolts from flywheel. See Fig. 5.

8) On all models, support engine with hoist. Using transmission jack, slightly raise transmission to remove weight from mount. Remove bolts and nuts, and crossmember located at rear of transmission. Slightly lower engine. Remove transmission mounting bolts and transmission. To install, reverse removal procedure. Tighten nuts and bolts to specification. See TORQUE SPECIFICATIONS.

NOTE: On turbo models, clutch cover and clutch disc will be removed with transmission.



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Fig. 5: Removing Clutch Cover Bolts (Supra Turbo)
Courtesy of Toyota Motor Sales, U.S.A., Inc.

WARNING: To prevent air bag deployment, disconnect negative battery cable and wait at least 90 seconds before working on vehicle.

TACOMA & T100 2WD

NOTE: Engine and transmission must be removed as an assembly because the rear crossmember is welded to chassis. For reassembly reference, label all electrical connectors, vacuum hoses and fuel lines before removal. Also place mating marks on engine hood and other major assemblies before removal.

Removal & Installation

1) Release fuel pressure. With ignition off, disconnect negative battery cable. Place suitable container under fuel line. Cover fuel line connection using shop towel. Slowly loosen fuel line connection to release fuel pressure.

2) Once fuel pressure is released, fuel system components can be removed. Remove hood, battery and lower engine covers. Drain cooling system and engine oil. Remove air cleaner case and hose.

3) Remove radiator, accessory drive belts and fan. Disconnect necessary electrical connections, vacuum hoses, coolant hoses and fuel

lines. Disconnect control cables at throttle body. Disconnect cruise control cable (if equipped). Disconnect necessary ground straps. Remove power steering pump and A/C compressor with hoses attached and secure aside (if equipped).

4) Place reference mark on drive shaft flanges for reassembly reference. Remove bolts and all drive shaft(s). Remove shift lever(s) from inside vehicle. Remove clutch release cylinder with hoses attached and secure aside. Disconnect necessary shift linkages, hoses and electrical connections at transmission and transfer case (if equipped). Disconnect speedometer cable.

NOTE: DO NOT lose felt dust protector and washers from speedometer cable.

5) Disconnect oxygen sensor connector. Remove front exhaust pipe located between exhaust manifold and catalytic converter. Support transmission. Remove rear engine mount and bracket.

6) Support engine with hoist. Remove engine mount-to-frame bolts. Lift engine and transmission assembly from vehicle. To install, reverse removal procedure. Ensure reference marks on drive shaft flanges are aligned.

7) Use NEW nuts when installing front exhaust pipe on exhaust manifold. Tighten nuts and bolts to specification. See TORQUE SPECIFICATIONS. Adjust all fluid levels, control cables and shift linkages.

WARNING: To prevent air bag deployment, disconnect negative battery cable and wait at least 90 seconds before working on vehicle.

TACOMA & T100 4WD

Removal & Installation

1) Disconnect negative battery cable. Remove transmission shift lever boot retainer. Pull transmission shift lever boot upward. Place shop towel on shift lever cap, located at top of transmission on transmission shift lever.

2) Press shift lever cap downward and rotate counterclockwise to remove from transmission. Remove transmission shift lever from transmission.

3) Remove snap ring and transfer case shift lever. Raise and support vehicle. Drain transmission and transfer case fluid. Remove drive shaft dust cover (if equipped). Place reference mark on drive shaft flanges for reassembly reference. Remove drive shafts as required. Disconnect necessary electrical connectors at transmission and transfer case.

4) Remove necessary exhaust pipe components for removal of transmission and transfer case. Remove clutch release cylinder with hose attached and secure aside. Remove stabilizer bar bracket-to-frame bolts.

5) Support engine with hoist. Support transmission with transmission jack. Remove necessary crossmember for removal of transmission and transfer case. Remove starter. Remove stiffener plates, located between rear of cylinder block and transmission.

6) Remove transmission mounting bolts. Remove transmission. To install, reverse removal procedure. Tighten nuts and bolts to specification. See TORQUE SPECIFICATIONS.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS

Application

Ft. Lbs. (N.m)

Camry		
Clutch Cover Bolt	14	(19)
Crossmember-To-Body		
Large Bolt	134	(182)
Small Bolt	24	(33)
Small Nut	27	(37)
Front (Exhaust Manifold Side) Engine		
Mount-To-Crossmember Bolt/Nut	59	(80)
Pivot Stud-To-Transaxle	29	(39)
Rear (Intake Manifold Side) Engine		
Mount-To-Crossmember Nut	59	(80)
Stabilizer Bar Mount-To-Crossmember Bolt	14	(19)
Starter Bolt	29	(39)
Steering Gear-To-Crossmember Bolt/Nut	134	(182)
Stiffener Plate Bolt	27	(37)
Transaxle Mount-To-Crossmember Nut	59	(80)
Transaxle Mount-To-Transaxle Bolt	38	(52)
Transaxle Mounting Bolt		
10-mm Bolt	34	(46)
12-mm Bolt	47	(64)
Wheel Lug Nut	76	(103)
Celica		
Clutch Cover Bolt	14	(19)
Crossmember Bolt		
1.8L (7A-FE)	26	(35)
2.2L (5S-FE)	38	(52)
Exhaust Pipe Support Bracket Bolt/Nut	14	(19)
Front (Exhaust Manifold Side) Engine		
Mount Bracket-To-Cylinder Block Bolt	57	(77)
Front (Exhaust Manifold Side) Engine		
Mount-To-Crossmember Bolt/Nut		
1.8L (7A-FE)	59	(80)
2.2L (5S-FE)	47	(64)
Front (Exhaust Manifold Side) Engine		
Mount Through-Bolt	64	(87)
Pivot Stud-To-Transaxle		
1.8L (7A-FE)	27	(37)
2.2L (5S-FE)	29	(39)
Rear (Intake Manifold Side) Engine		
Mount Bracket-To-Cylinder Block Bolt	57	(77)
Rear (Intake Manifold Side) Engine		
Mount Through-Bolt	64	(87)
Rear (Intake Manifold Side) Engine		
Mount-To-Crossmember Bolt/Nut		
1.8L (7A-FE)	59	(80)
2.2L (5S-FE)	47	(64)
Starter Bolt	29	(39)
Stiffener Plate Bolt		
2.2L (5S-FE)		
Cylinder Block Side	32	(43)
Transaxle Side	15	(20)
Transaxle Mounting Bolt		
10-mm Bolt	34	(46)
12-mm Bolt	47	(64)
Transaxle-To-Mount Bolt	47	(64)
Wheel Lug Nut	76	(103)
Corolla		
Clutch Cover Bolt	14	(19)
Crossmember Bolt		
10-mm Bolt	45	(61)
14-mm Bolt	152	(206)
Exhaust Pipe Support Bracket Bolt/Nut	14	(19)

Front (Exhaust Manifold Side) Engine		
Mount-To-Crossmember Bolt	47	(64)
No. 1 Oil Pan-To-Transaxle Bolt (1.8L 7A-FE) ...	17	(23)
Pivot Stud-To-Transaxle	27	(37)
Rear (Intake Manifold Side) Engine		
Mount-To-Crossmember Nut	35	(47)
Starter Bolt	29	(39)
Stiffener Plate Bolt (1.6L 4A-FE) (1)	17	(23)
Sub-Frame & Lower Suspension Arm		(2)
Transaxle Mounting Bolt		
10-mm Bolt	34	(46)
12-mm Bolt	47	(64)
Transaxle-To-Mount Bolt	41	(56)
Wheel Lug Nut	76	(103)
MR2		
Brace-To-Left Transaxle Mount Bolt		
Body Side Bolt	54	(73)
Transaxle Side Bolt	18	(24)
Clutch Cover Bolt	14	(19)
Front Engine Mount Bolt		
Body Side Bolt	54	(73)
Mount Through-Bolt	71	(96)
Transaxle Side Bolt	57	(77)
Left Transaxle Mount Bolt	47	(64)
Lower Control Arm-To-Suspension		
Crossmember Bolt	98	(133)
Pivot Stud-To-Transaxle	35	(47)
Rear Engine Mount Bolt		
Crossmember Side Bolt	47	(64)
Mount Through-Bolt	64	(87)
Transaxle Side Bolt	57	(77)
Starter Bolt	29	(39)
Stiffener Plate Bolt	27	(37)
Strut Tower-To-Firewall Brace Bolt/Nut		
Bolt	54	(73)
Nut	47	(64)
Suspension Arm-To-Axle Carrier Bolt	76	(103)
Suspension Crossmember Bolt	83	(113)
Transaxle Mounting Bolt		
10-mm Bolt	34	(46)
12-mm Bolt	47	(64)
Wheel Lug Nut	76	(103)
Paseo & Tercel		
Clutch Cover Bolt	14	(19)
Front (Exhaust Manifold Side) Engine		
Mount-To-Body Bolt	35	(47)
Pivot Stud-To-Transaxle	27	(37)
Rear (Intake Manifold Side) Engine		
Mount-To-Body Bolt	58	(79)
Starter Bolt	29	(39)
Transaxle Mounting Bolt		
10-mm Bolt	34	(46)
12-mm Bolt	47	(64)
Wheel Lug Nut	76	(103)
Pickup & 4Runner		
Clutch Cover Bolt	14	(19)
Crossmember-To-Frame Bolt	70	(95)
Drive Shaft Center Bearing Bolt	27	(37)
Drive Shaft Flange Bolt	54	(73)
Front Differential Mounting Bolt (4WD V6 Models)		
Differential Carrier Cover-To-Frame Bolt	108	(146)
All Others	123	(167)
Pivot Stud-To-Transmission		

4-Cylinder	29 (39)
V6	35 (47)
Stabilizer Bar Bracket-To-Frame Bolt	21 (29)
Starter Bolt	29 (39)
Stiffener Plate Bolt	27 (37)
Transmission Mounting Bolt	53 (72)
RAV4	
A/C Compressor Bolt/Nut	
Bolt	27 (37)
Nut	20 (27)
Stud Bolt	34 (46)
Ball Joint-To-Lower Control Arm Bolt/Nut	94 (127)
Brake Line-To-ABS Actuator Nut	11 (15)
Clutch Cover Bolt	14 (19)
Crossmember-To-Body (2WD)	152 (206)
Drive Shaft Center Support Bearing Bolt (4WD) ..	27 (37)
Drive Shaft Flange Bolt/Nut (4WD)	54 (73)
Engine Left Mount	
Insulator-To-Bracket (2WD)	9 (12)
Engine Mounts & Brackets	
Front (Exhaust Manifold Side) Engine Mount-To-Engine	
Mount Crossmember Bolt	59 (80)
Left (Transaxle Side) Engine Mounting	
Bracket-To-Engine Mount Bolt/Nut	47 (64)
Right (Timing Belt Side) Engine Mounting	
Bracket-To-Cylinder Block Bolt	38 (52)
Right (Timing Belt Side) Engine	
Mount-To-Body Bolt	47 (64)
Right (Timing Belt Side) Engine Mounting	
Bracket-To-Engine Mount Bolt/Nut	
Bolt	27 (37)
Nut	38 (52)
Engine Mount Crossmember-To-Body Bolt	26 (35)
Engine Mount Crossmember-To-Front Suspension	
Crossmember Nut	82 (111)
Exhaust Manifold Nut	36 (49)
Front (Exhaust Manifold Side) Engine	
Mount-To-Crossmember (2WD)	59 (80)
Flywheel/Drive Plate Bolt	65 (88)
Front Catalytic Converter Brace Bolt/Nut	31 (42)
Front Catalytic Converter-To-Exhaust	
Manifold Bolt/Nut	21 (29)
Front Exhaust Pipe-To-Front	
Catalytic Converter Nut	46 (62)
Front Exhaust Pipe-To-Rear	
Exhaust Pipe Bolt/Nut	35 (47)
Front Suspension Crossmember Bolt	
Bolt At Body	152 (206)
Bolt At Lower Control Arm	101 (137)
Fuel Line-To-Fuel Filter Union Bolt	21 (29)
Fuel Pipe-To-Delivery Pipe Union Bolt	25 (34)
Generator Adjusting Bracket Bolt	20 (27)
Generator Mounting Bracket Bolt	31 (42)
Pivot Stud-To-Transaxle	35 (47)
Power Steering Pump Bolt	32 (43)
Power Steering Pump Mounting Bracket-To-Cylinder	
Block Bolt	32 (43)
P/S Gear-To-Crossmember (2WD)	83 (113)
Rear (Intake Manifold Side) Engine	
Mount-To-Crossmember (2WD)	82 (112)
Stabilizer Bar Link-To-Lower Control Arm Nut	
3-Door Vehicles	47 (64)
5-Door Vehicles	83 (113)

Stabilizer Bar-To-Frame Mount Bolt	21	(29)
Starter Bolt	29	(39)
Steering Gear Assembly-To-Front Suspension		
Crossmember Bolt/Nut	83	(113)
Stiffener Plate Bolt	27	(37)
Tie Rod Nut	36	(49)
Transaxle Case Protector	18	(25)
Transaxle Mounting Bolt		
10-mm Bolt	34	(46)
12-mm Bolt	47	(64)
Vacuum Actuator Assembly (4WD)	27	(37)
Wheel Lug Nut	76	(103)
		INCH Lbs. (N.m)
ABS Speed Sensor Bolt	71	(8.0)
Clutch Release Cylinder Bolt	106	(12.0)
Fuel Delivery Pipe-To-Cylinder Head Bolt	115	(13.0)
Thermostat Housing Nut	78	(8.8)
Supra		
Clutch Cover Bolt	14	(19)
Clutch Release Fork Support Bolt		
Turbo Models	18	(24)
Crossmember Bolt/Nut		
Bolt	19	(26)
Nut		(3)
Crossmember Brace Bolt		(3)
Drive Shaft Center Bearing Bolt	36	(49)
Drive Shaft Flange-To-Differential		
Flange Bolt	58	(79)
Drive Shaft Flange-To-Transmission		
Flange Nut	41	(56)
Shift Lever-To-Shift Linkage Bolt	14	(19)
Starter Bolt	29	(39)
Transmission Mounting Bolt	53	(72)
Tacoma & T100 2WD		
Air Intake Chamber Bolt/Nut	13	(18)
Alternator Bracket-To-Cylinder Head Bolt	27	(37)
Cold Start Injector Fuel Pipe Union Bolt	11	(15)
Coolant By-Pass Outlet Bolt	13	(18)
Coolant Inlet Nut	15	(20)
Coolant Outlet Nut	11	(15)
Crossover Pipe Nut	29	(39)
Drive Axle-To-Side Gear Flange Nut	61	(83)
Drive Shaft Flange Bolt	55	(75)
Engine Mount-To-Frame Bolt	27	(37)
Exhaust Manifold Nut	29	(39)
Fan Bracket Bolt/Nut	30	(41)
Front Differential Crossmember Bolt	93	(126)
Front Differential Mount Bolts		
Differential Cover Mount Bolt	108	(146)
Left & Right Mount Bolt	123	(167)
Front Exhaust Pipe-To-Catalytic		
Converter Bolt	29	(39)
Front Exhaust Pipe-To-Exhaust Manifold Nut	46	(62)
Fuel Pipe Bolt		
No. 2 & No. 3 Fuel Pipes	25	(34)
Idler Pulley Bolt		
No. 1 Pulley	25	(34)
No. 2 Pulley	13	(18)
Stabilizer Bar-To-Frame Mount Bolt	21	(29)
Stabilizer Bar-To-Lower Control Arm Bolt	19	(26)
Transmission Crossmember-To-Frame Bolt	70	(95)
Tacoma & T100 4WD		

Clutch Cover Bolt	14 (19)
Crossmember-To-Frame Bolt	70 (95)
Drive Shaft Center Bearing Bolt	27 (37)
Drive Shaft Flange Bolt	54 (73)
Pivot Stud-To-Transmission	
4-Cylinder	29 (39)
V6	35 (47)
Stabilizer Bar Bracket-To-Frame Bolt	21 (29)
Starter Bolt	29 (39)
Stiffener Plate Bolt	27 (37)
Transmission Mounting Bolt	53 (72)

(3) - Tighten to 115 INCH lbs. (13.0 N.m).
