

AXLE SHAFTS - 2.2L

1994 Toyota Celica

1994 DRIVE AXLES
Toyota FWD Axle Shafts

Celica 2.2L 4-Cyl

DESCRIPTION

Axle shafts transfer power from transaxle to the front wheels. Axle shaft consists of axle shaft and flexible Constant Velocity (CV) joint at each end. Inner CV joint is bolted or splined to transaxle. Outer CV joint is splined to the front hub assembly.

Inner and outer CV joints are enclosed by a CV joint boot. Boot maintains lubrication in CV joint and prevents contamination of CV lubricant. Boots must be replaced if cracked, torn or damaged. Inner CV joint can be repaired without replacing assembly as outer CV joint must be replaced as an assembly.

TROUBLE SHOOTING

NOTE: See TROUBLE SHOOTING - BASIC PROCEDURES article in GENERAL INFORMATION.

REMOVAL, DISASSEMBLY, REASSEMBLY & INSTALLATION

AXLE SHAFTS

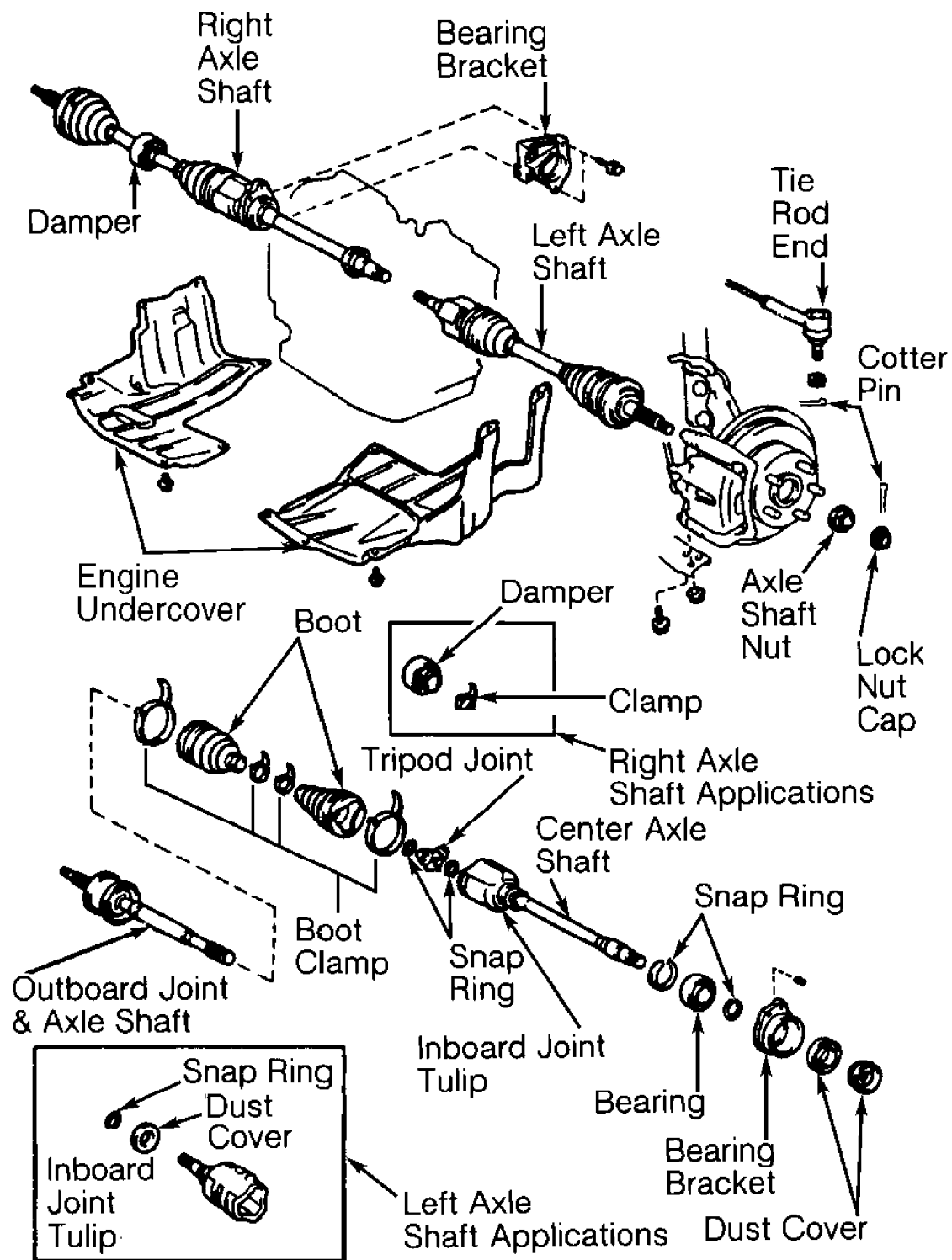
Removal (2.2L 5S-FE)

1) Raise and support vehicle. Remove front wheels. Remove cotter pin and lock nut cap from end of axle shaft. See Fig. 1. Apply brakes and remove axle shaft nut. Release brakes.

2) Drain transaxle oil. Remove cotter pin and nut from tie rod end. Disconnect tie rod end from steering knuckle. Disconnect stabilizer bar link from lower control arm. Remove lower control arm-to-ball joint bolts/nuts. Disconnect lower control arm from ball joint.

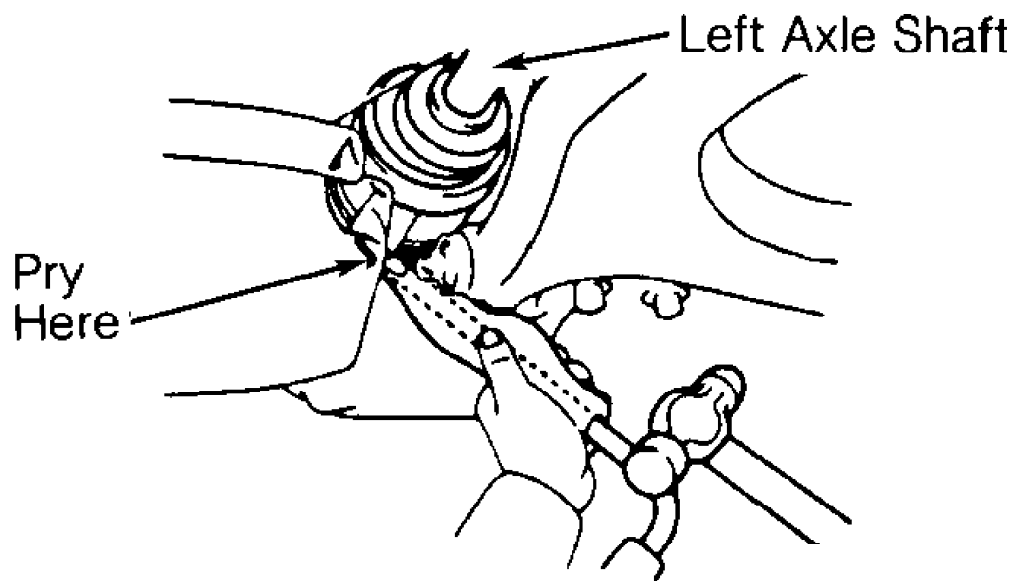
3) Using soft-faced hammer, tap axle shaft from front hub assembly. Pull steering knuckle outward and separate axle shaft from hub assembly. To remove left axle shaft, pry between transaxle case and axle shaft until axle shaft disengages from transaxle. See Fig. 2. Remove snap ring from end of left axle shaft.

4) To remove right axle shaft, remove bearing bracket bolts. See Fig. 2. Remove right axle shaft assembly.

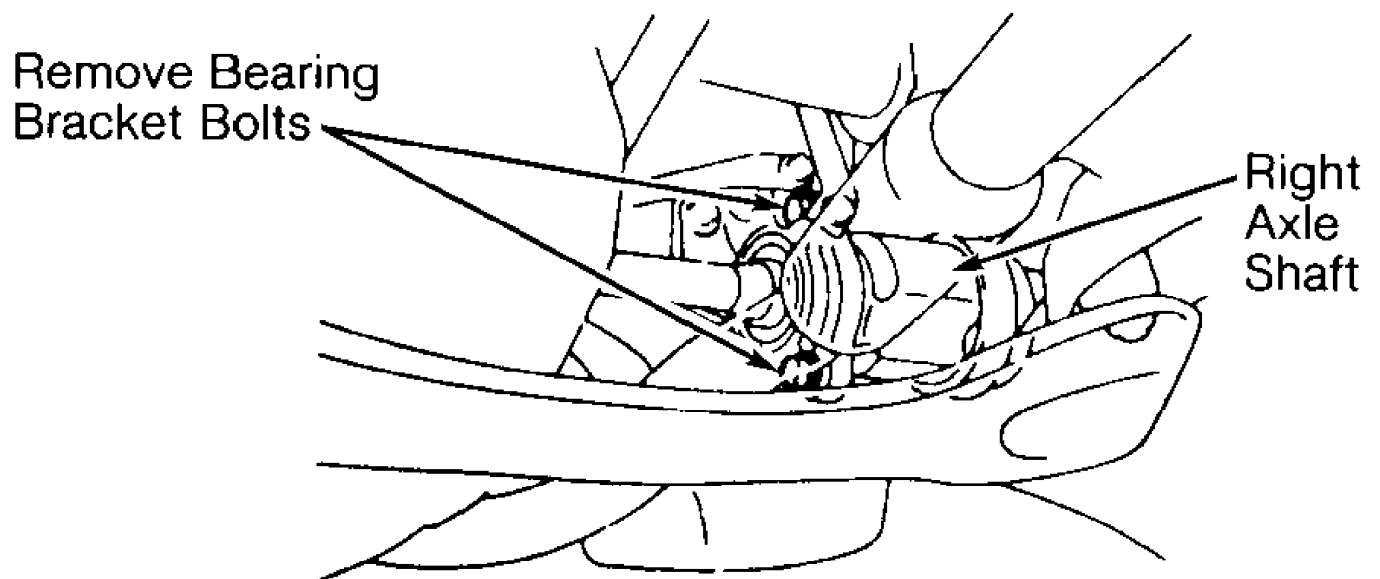


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Fig. 1: Identifying Axle Shaft Components (2.2L 5S-FE)
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



REMOVING LEFT AXLE SHAFT



REMOVING RIGHT AXLE SHAFT

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Fig. 2: Removing Axle Shafts (2.2L 5S-FE)
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

Inspection

Ensure no play exists in inboard and outboard joints. Inboard joint must slide smoothly inward and outward and be free from excessive play in radial direction. Check for torn or damaged boots.

Disassembly

1) Remove boot clamps and slide boots away from joints. Paint

reference marks inboard joint tulip, tripod joint and axle shaft or center axle shaft for reassembly reference. See Fig. 1. Remove inboard joint tulip from axle shaft.

NOTE: Manufacturer does not recommend overhaul of outboard joint assembly.

2) Remove outer snap ring that retains tripod joint on axle shaft. Expand inner snap ring and slide snap ring down axle shaft, away from tripod joint. See Fig. 1.

3) Paint reference marks on tripod joint and axle shaft. Using hammer and brass drift, tap tripod joint from axle shaft. DO NOT tap on roller of tripod joint during removal. On right axle shaft, remove clamp and damper from axle shaft. See Fig. 1. On all axle shafts, remove boots from axle shaft.

4) Using press, press dust covers from inboard joint tulip and end of center axle shaft. Center axle shaft contains a dust cover on outer end of shaft and a dust cover on inner end of center axle shaft, next to the bearing. If disassembling bearing from center axle shaft, remove snap ring that retains bearing in the bearing bracket. Using press, press bearing bracket from center axle shaft.

5) Press inside dust cover from center axle shaft. Remove snap ring from center axle shaft that retains bearing on center axle shaft. Press bearing from center axle shaft. Remove remaining snap ring from center axle shaft.

Reassembly

1) If installing bearing on center axle shaft, use press to install NEW bearing into bearing bracket. Install NEW snap ring that retains bearing in the bearing bracket.

2) Using press, press bearing with bearing bracket on center axle shaft. Install NEW snap ring that retains bearing on center axle shaft. Using press, press NEW inner dust cover on center axle shaft until clearance between bearing and dust cover is .039" (1.00 mm). See Fig. 4

3) Using press, press NEW dust cover on outer end of center axle shaft until distance from end of center axle shaft to dust cover is 3.39-3.43" (86.0-87.0 mm). See Fig. 4.

4) Using press, press NEW dust cover on inboard joint tulip. Wrap splines on axle shaft with tape to prevent damage to boots during installation. Install NEW boots and NEW boot clamps on axle shaft.

5) On right axle shaft, install damper and clamp on axle shaft. On all axle shafts, install NEW inner snap ring for tripod joint on axle shaft. Install tripod joint on axle shaft with beveled side toward outboard joint. See Fig. 3. Ensure reference mark on tripod joint and axle shaft are aligned.

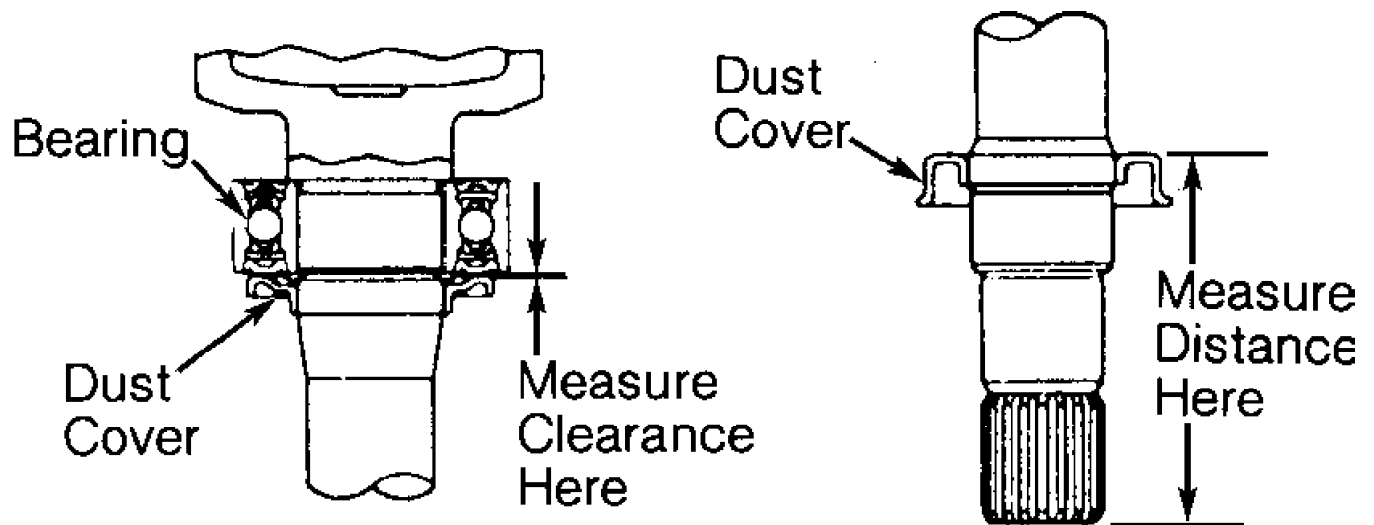
6) Using hammer and brass drift, tap tripod joint on axle shaft. Tap on center of tripod joint. DO NOT tap on rollers on tripod joint. Install NEW outer snap ring that retains tripod joint on axle shaft.

7) Apply 4.2-4.6 ounces of Black colored grease supplied with overhaul kit on outboard joint and boot. Pack 6.3-6.7 ounces (A/T models) or 8.2-8.5 ounces (M/T models) of Yellow colored grease supplied with overhaul kit in the inboard joint tulip.

8) Install inboard joint tulip on axle shaft so reference marks are aligned. Install boots on inboard joint tulip and outboard joint. Ensure boots are seated in grooves on axle shaft.

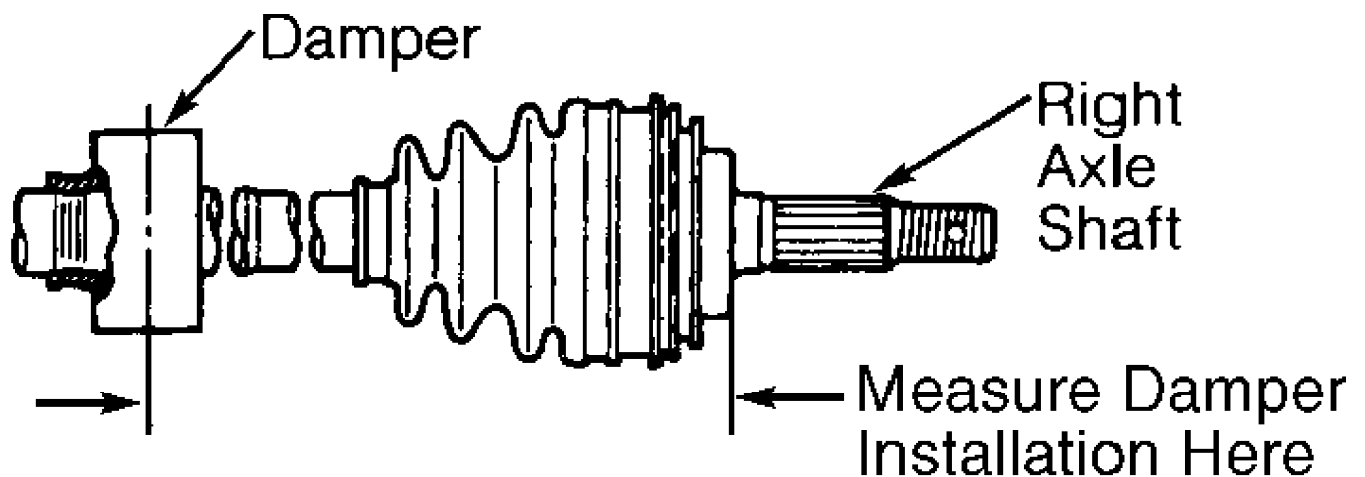
9) Adjust axle shaft to standard axle shaft length. See AXLE SHAFT LENGTH SPECIFICATIONS table. See Fig. 5. Install and tighten boot clamps. Install NEW snap ring on end of left axle shaft.

10) On right axle shaft, position damper on axle shaft so damper installation distance on axle shaft is 7.68-8.07" (195.0-205.0 mm). See Fig. 3. Tighten clamp for damper.



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Fig. 3: Installing Dust Covers
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



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Fig. 4: Measuring Damper Installation Distance
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

Installation

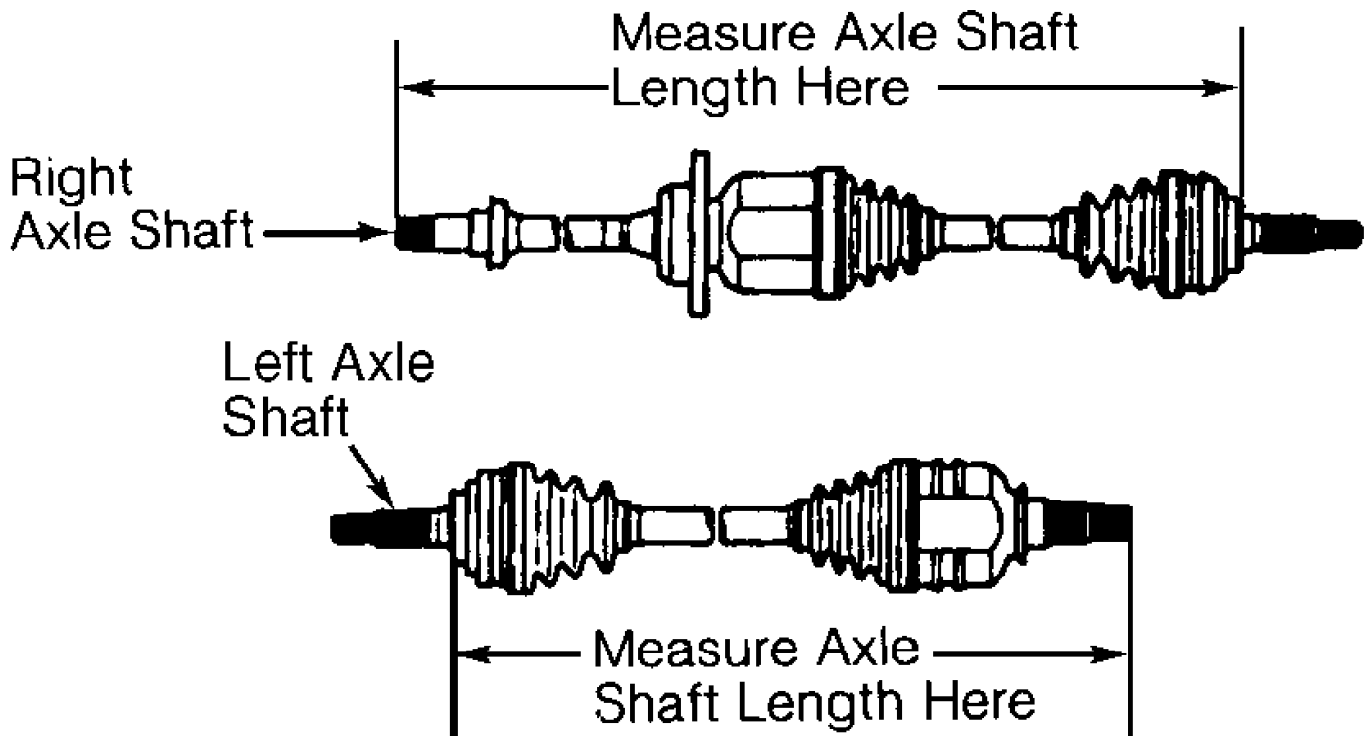
1) Before installing axle shafts, install NEW snap ring on end of left axle shaft. Coat axle shaft seals in transaxle with grease. Coat axle shaft splines and sliding surfaces with gear oil (M/T models) or Dexron-II (A/T models). Position snap ring on end of left axle shaft with opening facing downward.

2) Install left axle shaft by lightly tapping axle shaft into transaxle. Ensure left axle shaft will move inward and outward approximately .079-.120" (2.00-3.00 mm) and cannot be pulled from transaxle.

3) When installing right axle shaft, tighten bearing bracket bolts to specification. See TORQUE SPECIFICATIONS.

4) To install remaining components, reverse removal procedure. Tighten bolts/nuts to specification. See TORQUE SPECIFICATIONS. Fill transaxle with Dexron-II (A/T models) or 75W-90

gear oil with API GL-3 or 4 rating (M/T models).



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Fig. 5: Measuring Axle Shaft Length (2.2L 5S-FE)
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

AXLE SHAFT LENGTH SPECIFICATIONS TABLE

Application	Length - In. (mm)
2.2L (5S-FE) Engine (1)	
A/T	
Left Axle Shaft	22.51-22.90 (571.7-581.7)
Right Axle Shaft	33.74-34.13 (857.0-867.0)
M/T	
Left Axle Shaft	22.34-22.73 (567.4-577.4)
Right Axle Shaft	33.56-33.96 (852.5-862.5)

(1) - For measuring location, see Fig. 5.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS TABLE

Application	Ft. Lbs. (N.m)
Axle Shaft Nut	159 (216)
Bearing Bracket Bolt (2.2L 5S-FE)	47 (64)
Lower Control Arm-To-Ball Joint Bolt/Nut	94 (127)
Stabilizer Bar Link-To-Lower Control Arm Nut	33 (45)
Tie Rod End Nut	36 (49)
Wheel Lug Nut	76 (103)
