

2002-04 SUSPENSION

Rear - RAV4

DESCRIPTION

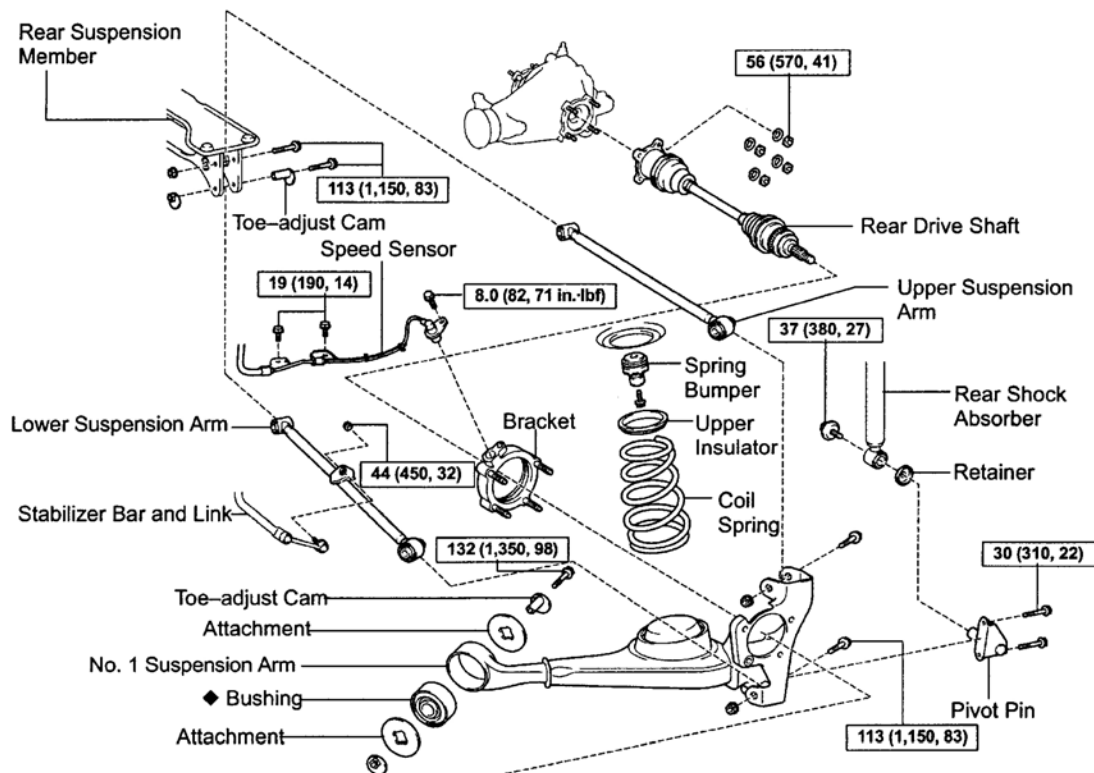
RAV4 models are either AWD or FWD.

A double wishbone with trailing arm type suspension is used at the rear. See **Fig. 1** or **Fig. 2** . The suspension stroke has been increased by methods such as extending suspension arms, thus ensuring excellent rough-road driveability. The coil spring and shock absorber are located separately, which enables the vehicle's floor to be lowered to provide ample interior space.

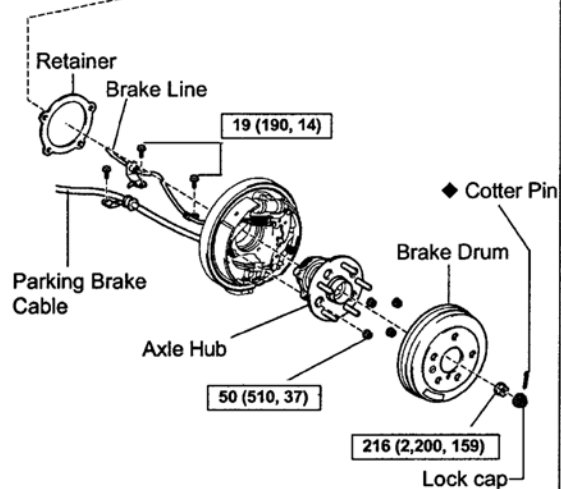
Optimal suspension geometry and wheel alignment are achieved through analysis of component design, materials and characteristics to provide a high level of controllability, stability and riding comfort.

Wheel bearings are pressed into axle hubs, which are bolted to rear suspension arms.

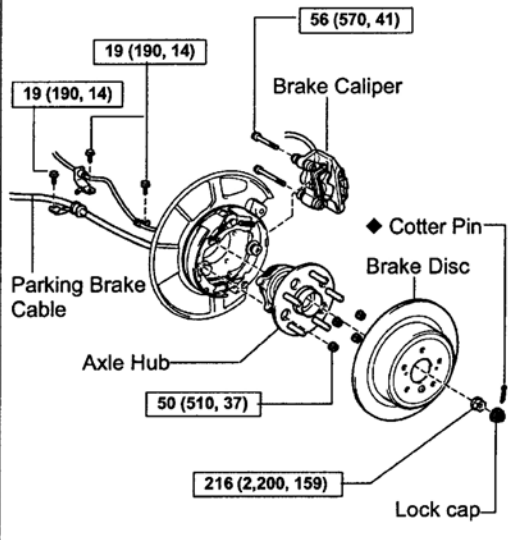
4WD



Drum Brake:



Disc Brake:

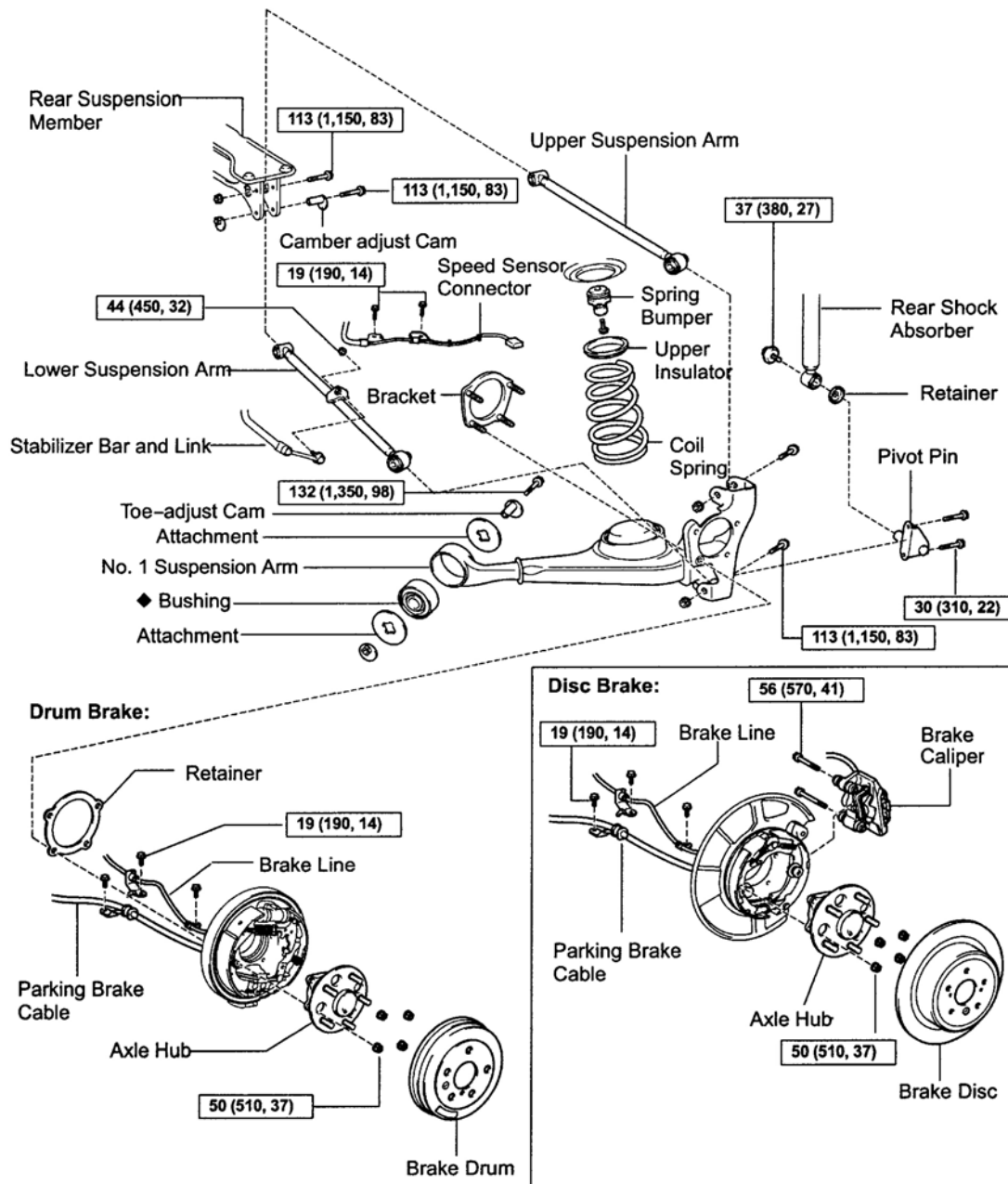


N·m (kgf·cm, ft·lbf) : Specified torque

◆ Non-reusable part

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Fig. 1: Exploded View Of Rear Suspension Components (4WD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.



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Fig. 2: Exploded View Of Rear Suspension Components (FWD)
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

ADJUSTMENTS & INSPECTION

WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

NOTE: For wheel alignment specifications and procedures, see:

- **2002 Models -SPECIFICATIONS & PROCEDURES in WHEEL ALIGNMENT article.**
- **2003 Models -SPECIFICATIONS & PROCEDURES in WHEEL ALIGNMENT article.**
- **2004 Models -SPECIFICATIONS & PROCEDURES in WHEEL ALIGNMENT article.**

WHEEL BEARING INSPECTION

Raise and support vehicle. Remove rear wheel. Remove 2 bolts, and disconnect brake caliper (disc brake type). Suspend brake caliper. Remove brake disc. Remove brake drum (drum brake type). Position dial indicator with stem against center of axle hub. Move axle hub in and out while observing dial indicator. Replace hub if axial play exceeds .002 in. (.05 mm). Measure hub axial runout. Replace hub if runout exceeds .0028 in. (.07 mm).

WHEEL BEARING ADJUSTMENT

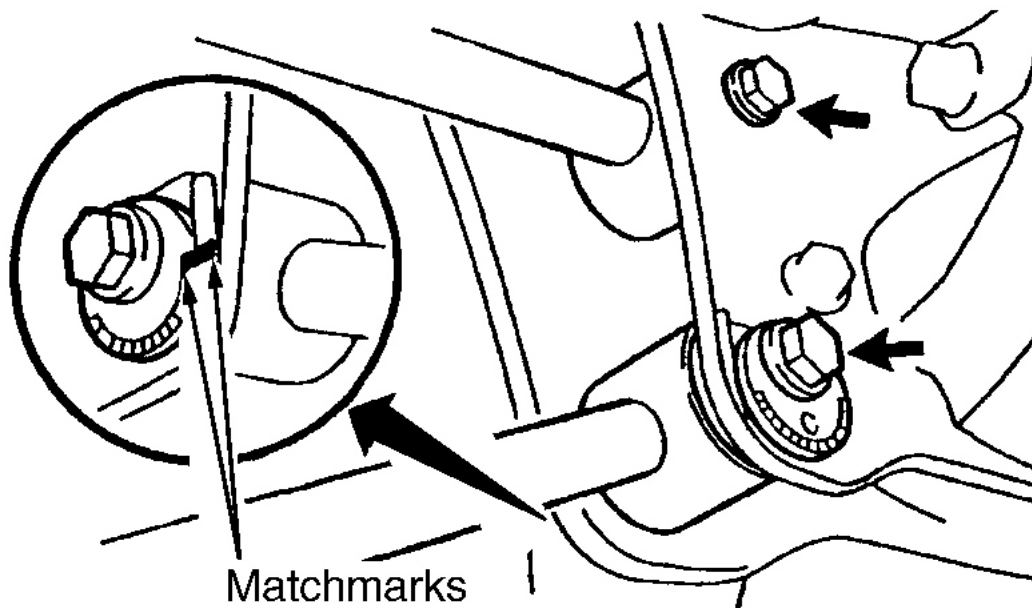
Hubs must be replaced if axle end play or runout are not within specification. No adjustment is available. See **WHEEL BEARING & HUB ASSEMBLY** under REMOVAL & INSTALLATION

REMOVAL & INSTALLATION

AXLE HUB & CARRIER

Removal

1. Raise and support vehicle. Remove rear wheel. Remove 2 bolts, and disconnect brake caliper (disc brake type). Suspend brake caliper. Remove brake disc. Remove brake drum (drum brake type). On AWD models, remove drive shaft. See **Fig. 1** and **Fig. 2** . Remove ABS speed sensor (if equipped). Disconnect brake line from No. 1 suspension arm. Disconnect parking brake cable. Remove rear axle hub. Disconnect bottom of shock absorber, stabilizer bar and link from lower suspension arm. Remove upper suspension arm. Place matchmarks on camber adjustment cam and lower suspension arm. See **Fig. 3** . Place matchmarks on toe-adjust cam and body. See **Fig. 4** . Loosen bolt. Remove coil spring and upper insulator. Remove bolt, toe-adjust cam, two attachments and nut. Remove lower suspension arm.



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Fig. 3: Placing Matchmarks On Camber Cam (RAV4)
Courtesy of TOYOTA MOTOR SALES, U.S.A. INC.

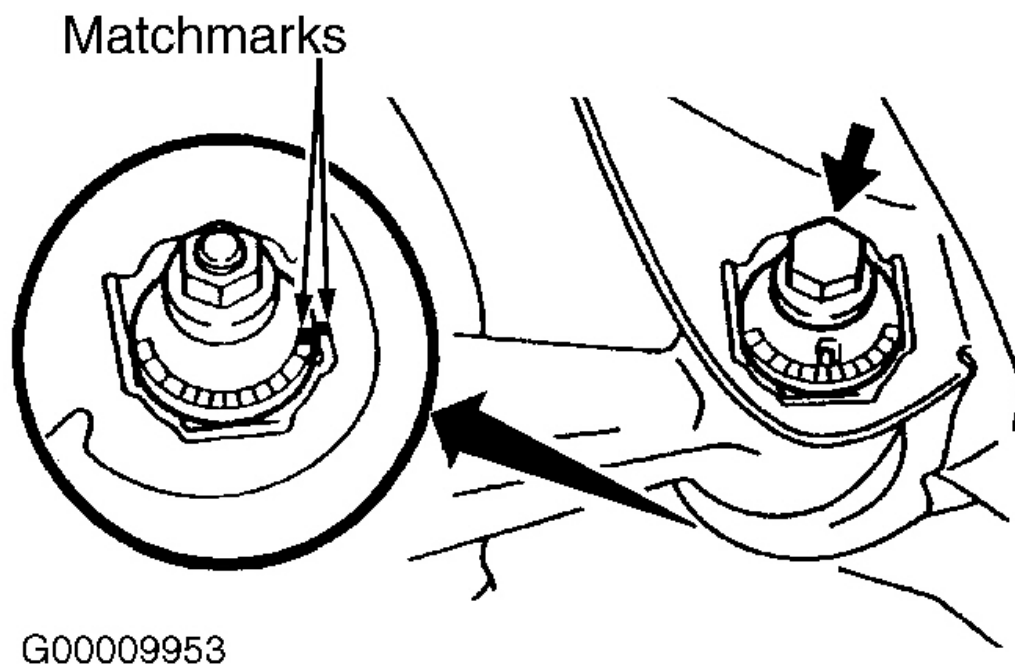


Fig. 4: Placing Matchmarks On Toe Cam (RAV4)
 Courtesy of TOYOTA MOTOR SALES, U.S.A. INC.

Installation

To install, reverse removal procedure. Install suspension arms and adjusting cam bolts, but DO NOT tighten. Lower vehicle and bounce several times to settle suspension. Tighten all nuts and bolts to specification with vehicle weight on suspension. See **TORQUE SPECIFICATIONS** .

STABILIZER BAR

Removal & Installation

1. Remove fuel tank. Remove 2 nuts and stabilizer bar link. Remove both sides. Remove 2 bolts, bracket and bushing. Remove both sides.
2. Remove stabilizer bar. At time of installation, install bushing so that cutout faces downward. Install bushing to inside of paint line.
3. To complete installation, reverse removal procedure. Tighten all nuts and bolts to specification, with vehicle weight on suspension. See **TORQUE SPECIFICATIONS** .

STRUT OR SHOCK ABSORBER ASSEMBLY

Removal & Installation

Raise and support vehicle. Remove rear wheels. Remove upper suspension cap. See **Fig. 1** and **Fig. 2** . Using a jack and wooden block, support rear suspension arm. Remove 2 shaft nuts, retainers and cushions from shock absorber upper body mount and lower pivot pin. Remove shock absorber. To install, reverse removal procedure. Tighten all nuts and bolts to specification. See **TORQUE SPECIFICATIONS** .

SUSPENSION ARMS

Removal & Installation

1. Raise and support vehicle. Remove rear wheel. On AWD models, remove drive shaft. See **Fig. 1** and **Fig. 2** . Remove 2 bolts, and disconnect brake caliper (disc brake type). Suspend brake caliper. Remove brake disc. Remove brake drum (drum brake type).
2. Disconnect brake line from No. 1 suspension arm. Remove ABS speed sensor (if equipped). Disconnect parking brake cable. Remove rear axle hub. Disconnect bottom of shock absorber, stabilizer bar and link from lower suspension arm. Remove upper suspension arm.
3. Place matchmarks on camber adjustment cam and lower suspension arm. See **Fig. 3** . Place matchmarks on toe-adjust cam and body. See **Fig. 4** . Loosen bolt. Remove coil spring and upper insulator. Remove bolt, toe-adjust cam, two attachments and nut. Remove lower suspension arm.

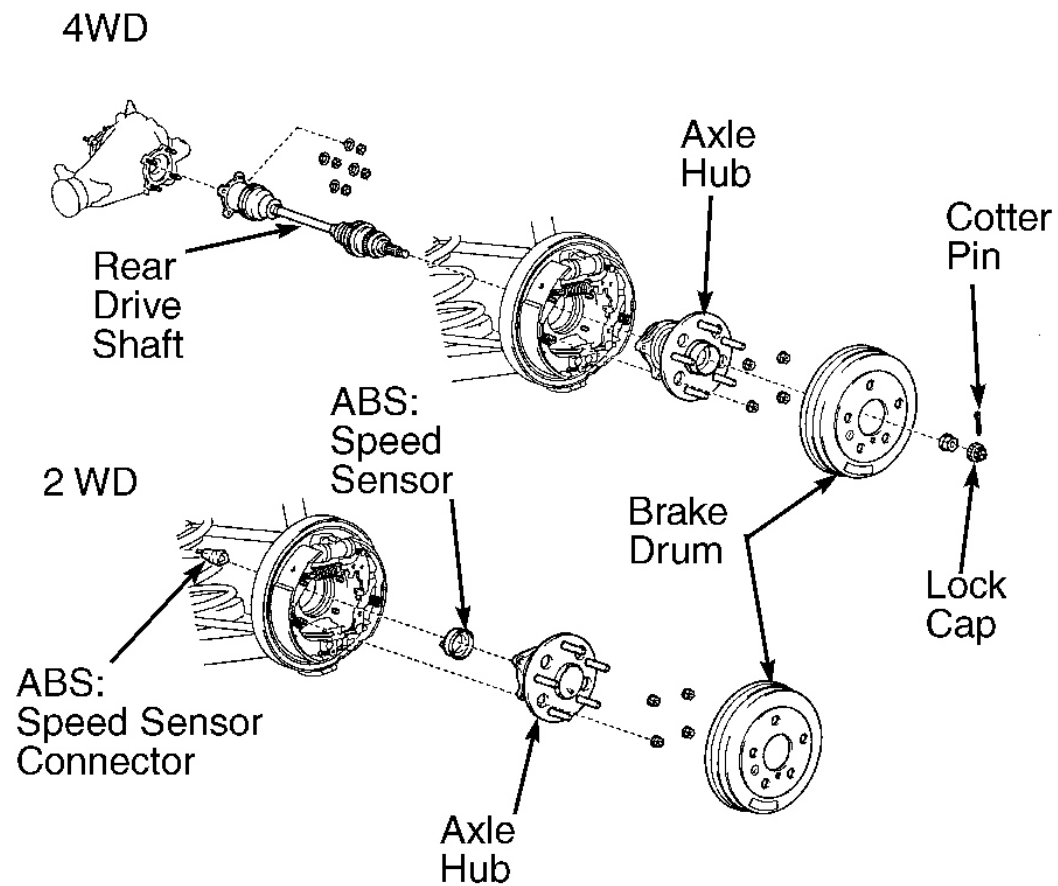
Installation

To install, reverse removal procedure. Install suspension arms and adjusting cam bolts, but DO NOT tighten. Lower vehicle and bounce several times to settle suspension. Tighten all nuts and bolts to specification with vehicle weight on suspension. See **TORQUE SPECIFICATIONS** .

WHEEL BEARING & HUB ASSEMBLY

Removal (AWD)

1. Raise and support vehicle. Remove rear wheel. Remove 2 bolts and disconnect brake caliper (disc brake type). Suspend brake caliper. Remove brake disc. Remove brake drum (drum brake type). Using a dial indicator, check wheel bearing end play and runout. End play should not exceed .002 in. (.05 mm). Runout should not exceed .0028 in. (.07 mm). If axle hub end play or runout exceed specification, replace hub and bearing.
2. Place matchmarks on drive axle and differential side gear shaft. **Fig. 5** . Remove drive axle lock nut and remove drive axle. Remove 4 bolts and axle hub with bearing.
3. Mount axle hub assembly to a soft jaw vise. Using Puller (09520-00031) and Bearing Remover (09950-00020) assembled with 2 bolts (12 mm in diameter, with a 1.5 pitch), remove ABS sensor. See **Fig. 6** . Remove bearing from axle hub. Remove bearing race from axle hub.



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Fig. 5: Exploded View Of Rear Axle Hub Components (AWD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

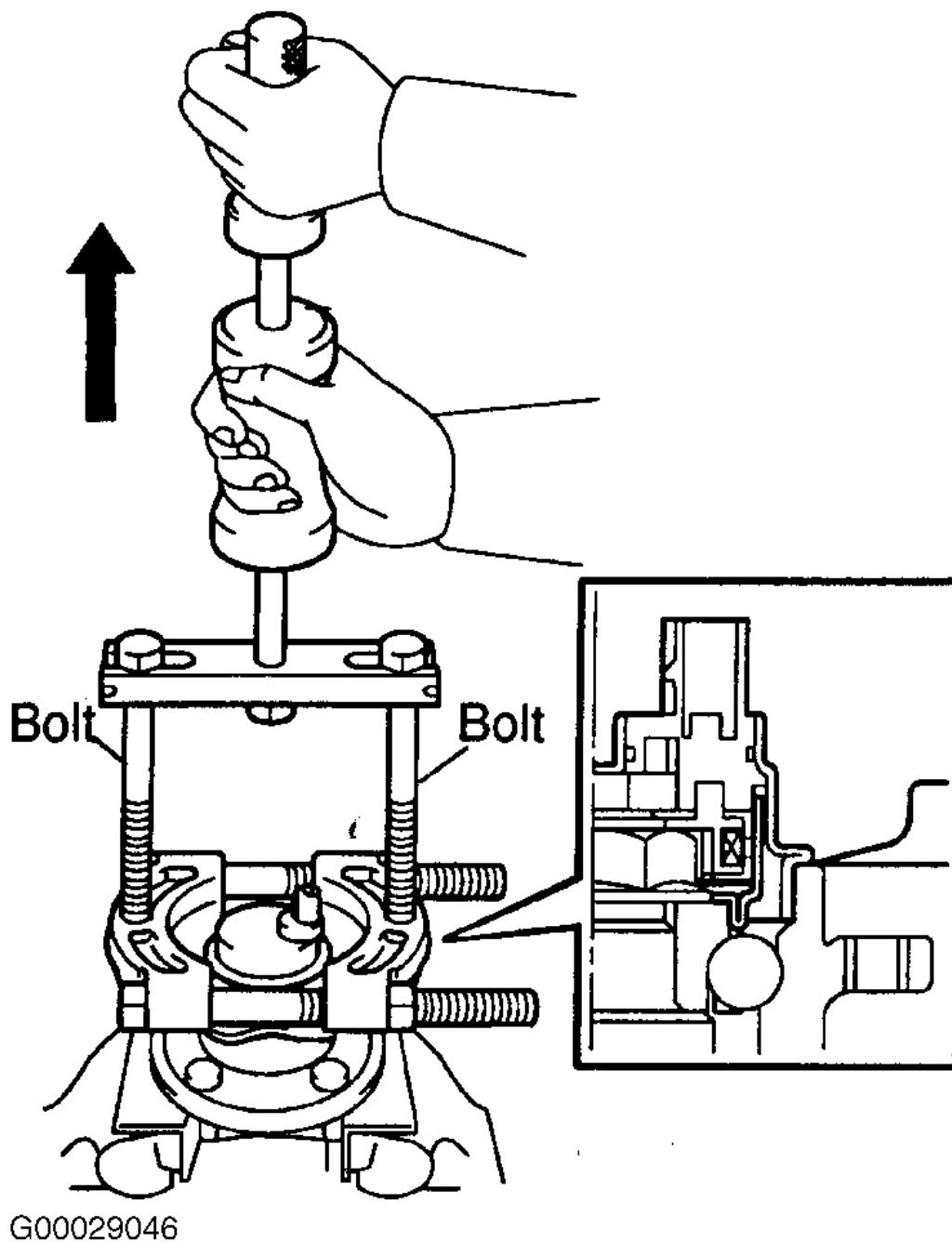


Fig. 6: Removing ABS Speed Sensor From Rear Axle Hub (AWD)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- 1. With backing plate on axle hub, install NEW ABS speed sensor to axle hub using a press and adaptors (09951-00680). Install axle hub with backing plate to rear lower suspension arm. See **Fig. 5** .
- 2. To complete installation, reverse removal procedure. Tighten all nuts and bolts to specification. See **TORQUE SPECIFICATIONS** .

Removal (FWD)

NOTE: **Wheel bearing and hub is a one piece assembly and must be replaced as a unit.**

- 1. Raise and support vehicle. Remove rear wheels. Remove 2 bolts and disconnect brake caliper (disc brake type). Suspend brake caliper. Remove brake disc. Remove brake drum (drum brake type). Disconnect ABS sensor (if equipped).
- 2. On all models, check wheel hub axial play and runout. See **WHEEL BEARING INSPECTION** under ADJUSTMENTS & INSPECTION. Remove 4 bolts, axle hub and "O" ring.

Installation

Coat NEW "O" ring with grease and install hub. To complete installation, reverse removal procedure. Tighten all nuts and bolts to specification. See **TORQUE SPECIFICATIONS** .

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Axle Hub-To-Rear No. 1 Suspension Arm Bolts	37 (50)
Camber Adjust Cam Bolt	83 (113)
Drive Axle Lock Nut	159 (216)
Drive Axle-To-Differential Side Gear	41 (56)
Rear No. 1 Suspension Arm Toe Adjust Cam Bolt	97 (132)
Shock Absorber Shaft Nut	11 (15)
Shock Absorber Lower Mounting Bolt	27 (37)
Upper & Lower Suspension Arm Nuts	76 (103)
INCH Lbs. (N.m)	
ABS Speed Sensor Bolt	71 (8.0)