STEERING KNUCKLE (4WD and PRERUNNER)

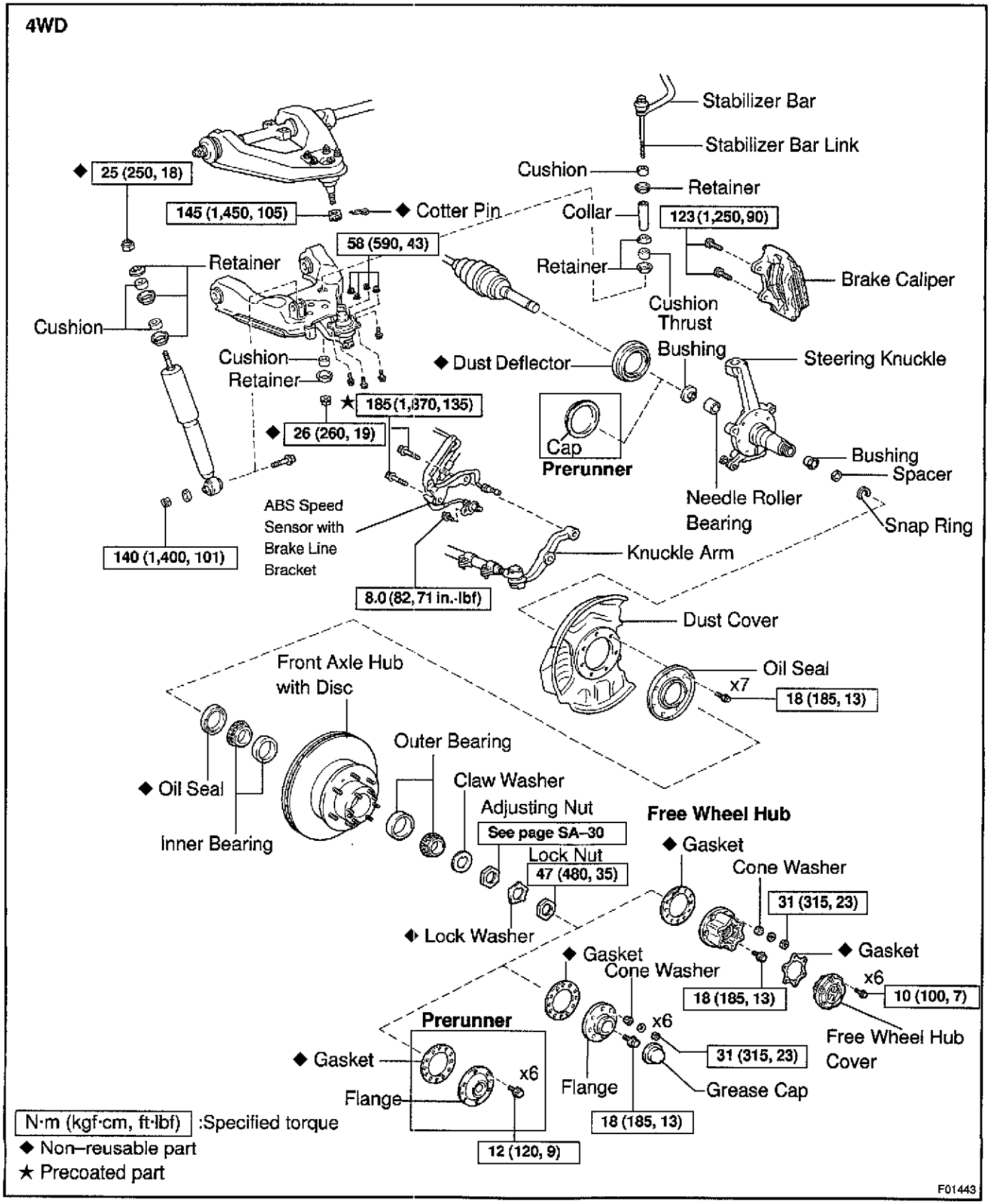
COMPONENTS

SA0LS-01

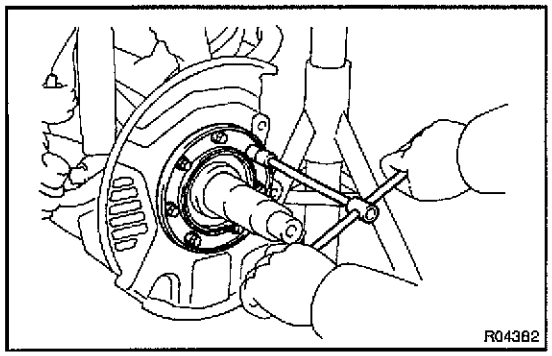
HINT:

Prerunner is the model described below.

RZN193L–PRMDK, LN191L–PRMDS



SA0LT–01

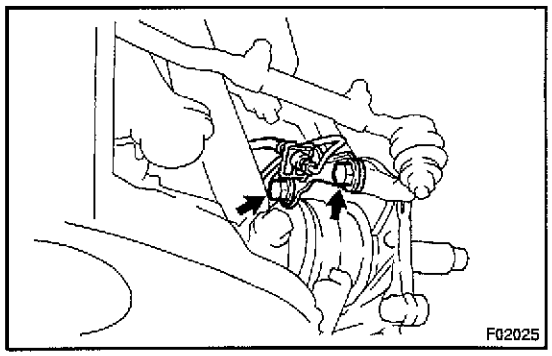


REMOVAL

1. REMOVE BRAKE CALIPER AND FRONT AXLE HUB (See page SA–26)

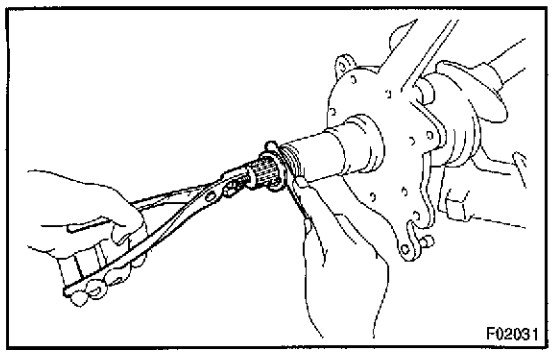
2. REMOVE DUST COVER AND OIL SEAL

Remove the 7 bolts, oil seal and dust cover.



3. DISCONNECT KNUCKLE ARM FROM STEERING KNUCKLE

Remove the 2 bolts and knuckle arm from the steering knuckle.



4. 4WD:
MEASURE STEERING KNUCKLE BUSHING THRUST CLEARANCE

(a) Install a bolt in the drive shaft.

(b) Using a feeler gauge, measure the front drive shaft thrust clearance between the steering knuckle outside bushing and spacer, by pulling the bolt and applying a load of 98 N (10 kgf, 22.0 lbf).

Front drive shaft thrust clearance:
Standard: 0.10 – 0.50 mm (0.0039 – 0.0197 in.)
Maximum: 1.0 mm (0.039 in.)

If the thrust clearance exceeds the maximum, replace the steering knuckle inside bushing.

5. DISCONNECT FRONT SHOCK ABSORBER FROM LOWER SUSPENSION ARM

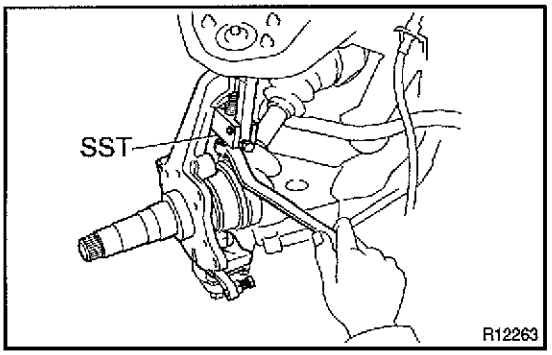
Remove the nut, washer and bolt and disconnect the shock absorber.

6. DISCONNECT STABILIZER BAR FROM LOWER SUSPENSION ARM (See page SA–161)

7. 4WD:
REMOVE SNAP RING AND SPACER

(a) Using snap ring pliers, remove the snap ring.

(b) Remove the spacer.

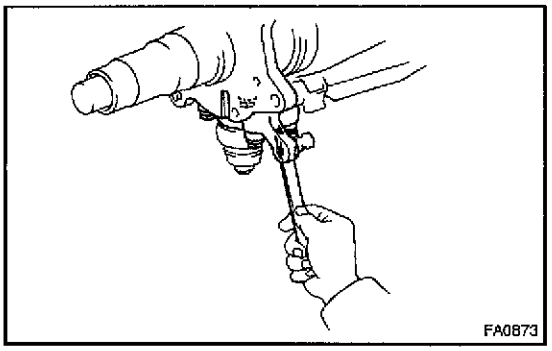


8. REMOVE STEERING KNUCKLE

(a) Support the lower suspension arm with a jack.

(b) Remove the cotter pin and nut from the upper ball joint.

(c) Using SST, disconnect the steering knuckle from the upper ball joint.
SST 09628–62011

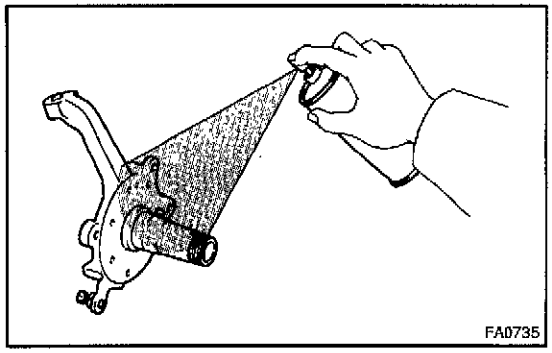


(d) Remove the 4 bolts from the lower ball joint and disconnect the steering knuckle from the lower ball joint.

(e) Push down the lower suspension arm and remove the steering knuckle.

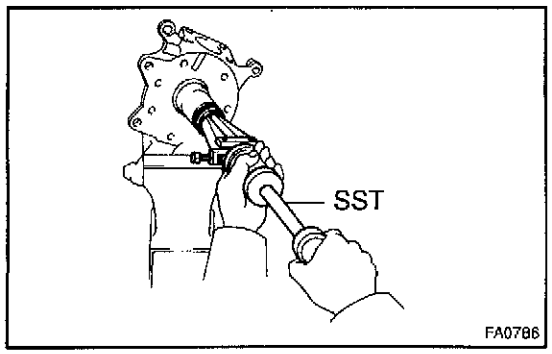
SA0LU-01

DISASSEMBLY



1. INSPECT STEERING KNUCKLE

Using a dye penetrant, check the steering knuckle for cracks.



2. 4WD:
REMOVE DUST DEFLECTOR

Using a screwdriver and hammer, remove the dust deflector from the steering knuckle.

3. Prerunner:
REMOVE CAP

Using a screwdriver and hammer, remove the cap.

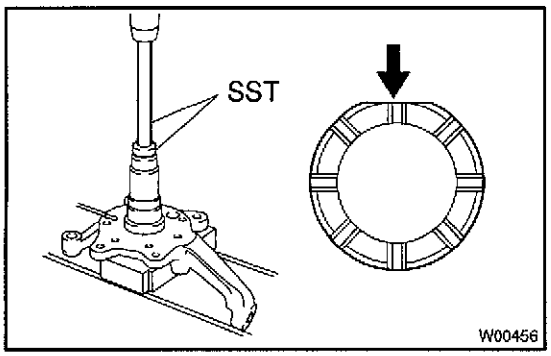
4. REMOVE STEERING KNUCKLE BUSHING

(a) Using SST, remove the steering knuckle outside bushing.
SST 09308–00010

(b) Using a brass bar and hammer, remove the steering knuckle needle roller bearing and thrust bushing.

SA0LV–01

REASSEMBLY



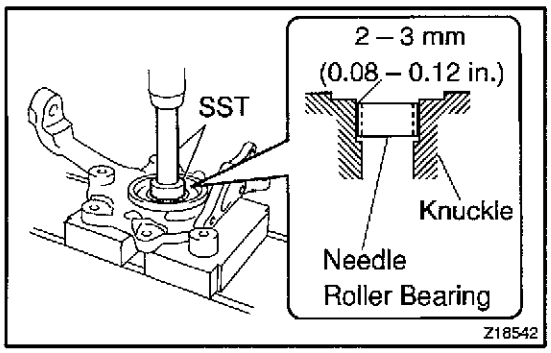
1. INSTALL STEERING KNUCKLE BUSHING

(a) Using SST and a press, install a new steering knuckle outside bushing.

SST 09950–60010 (09951–00360),
09950–70010 (09951–07150)

HINT:

When installing the bushing to the spindle, make sure the flat portion of the bushing is aligned with the spindle groove, as shown in the illustration.

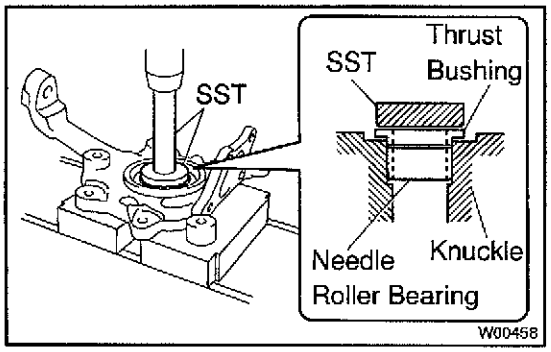


(b) Using SST and a press, install a new needle roller bearing, as shown in the illustration.

SST 09950–60010 (09951–00360),
09950–70010 (09951–07150)

HINT:

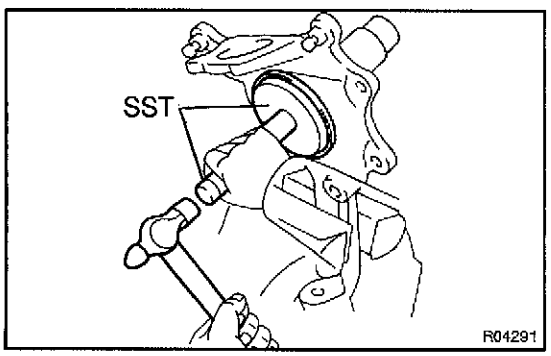
- Bearing must be installed with flat side which has I.D. and part number facing outward.
- Press the bearing in until the top surface of the bearing is in approx. 2 – 3 mm (0.08 – 0.12 in.) inside the knuckle surface.



(c) Using SST and a press, install a new thrust bushing.

SST 09950–60010 (09951–00500),
09950–70010 (09951–07150)

(d) Apply synthetic oil and lithium soap base chassis grease, NLGI No.1 to the steering knuckle inner side of thrust bushing.



2. 4WD: INSTALL DUST DEFLECTOR TO STEERING KNUCKLE

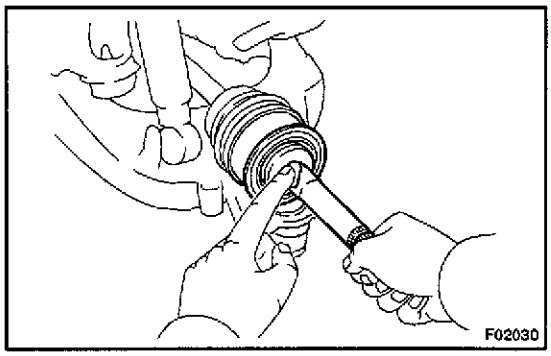
Using SST and a hammer, install a new dust deflector.

SST 09950–60020 (09951–00810),
09950–70010 (09951–07150)

3. Prerunner: INSTALL CAP

Using a screwdriver and hammer, install the cap.

SADLW-01



INSTALLATION

1. INSTALL STEERING KNUCKLE

(a) Apply synthetic oil and lithium soap base chassis grease, NLGI No.1 to the drive shaft.

(b) Push down the lower suspension arm and install the steering knuckle.

NOTICE:

Be careful not to damage the oil seal and boot.

(c) Connect the lower ball joint to the steering knuckle, install and torque the 4 bolts.

Torque: 58 N·m (590 kgf·cm, 43 ft·lbf)

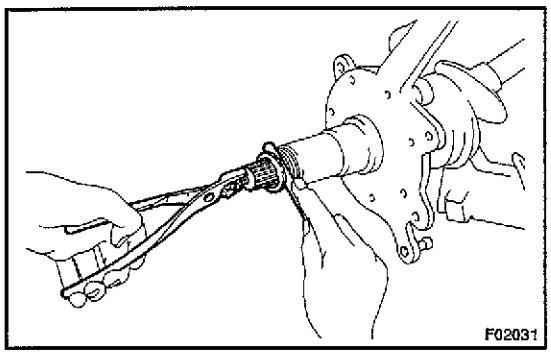
(d) Connect the upper ball joint to the steering knuckle, install and torque the nut.

Torque: 145 N·m (1,450 kgf·cm, 105 ft·lbf)

(e) Install a new cotter pin.

(f) 4WD:

Install the spacer to the drive shaft.



(g) 4WD:

Using snap ring pliers, install the snap ring.

NOTICE:

If you replace the steering knuckle bushing, recheck the drive shaft thrust clearance.

(h) Install the bolt in the drive shaft.

(i) Using a feeler gauge, measure the drive shaft thrust clearance between the steering knuckle outside bushing and spacer, by pulling the bolt and applying a load of 98 N (10 kgf, 22.0 lbf).

Front drive shaft thrust clearance:

Standard: 0.10 – 0.50 mm (0.0039 – 0.0197 in.)

Maximum: 1.0 mm (0.039 in.)

If the clearance is not within specification, replace the spacer.

Spacer thickness

1.80 mm (0.0709 in.)	2.25 mm (0.0886 in.)

2. CONNECT STABILIZER BAR TO LOWER SUSPENSION ARM (See page SA–162)

3. CONNECT FRONT SHOCK ABSORBER TO LOWER SUSPENSION ARM

Connect the shock absorber and, install the bolt, washer and nut.

Torque: 140 N·m (1,400 kgf·cm, 101 ft·lbf)

4. CONNECT KNUCKLE ARM FROM STEERING KNUCKLE

(a) Clean the threads of the 2 bolts and steering knuckle with toluene or trichloroethylene.

(b) Apply sealant to the bolt threads.
Sealant:
Part No. 08833–00070, THREE BOND 1324 or equivalent

(c) Install the knuckle arm, brake line bracket and 2 bolts to the steering knuckle.
Torque: 185 N·m (1,870 kgf·cm, 135 ft·lbf)

5. INSTALL DUST COVER AND NEW OIL SEAL

Install the dust cover, oil seal and 7 bolts.
Torque: 18 N·m (185 kgf·cm, 13 ft·lbf)

6. INSTALL FRONT AXLE HUB AND BRAKE CALIPER (See page SA–30)

7. CHECK BLEED BRAKE SYSTEM (See page BR–4), ABS SPEED SENSOR SIGNAL (See page DI–52) AND FRONT WHEEL ALIGNMENT (See page SA–12)