

Halfshaft

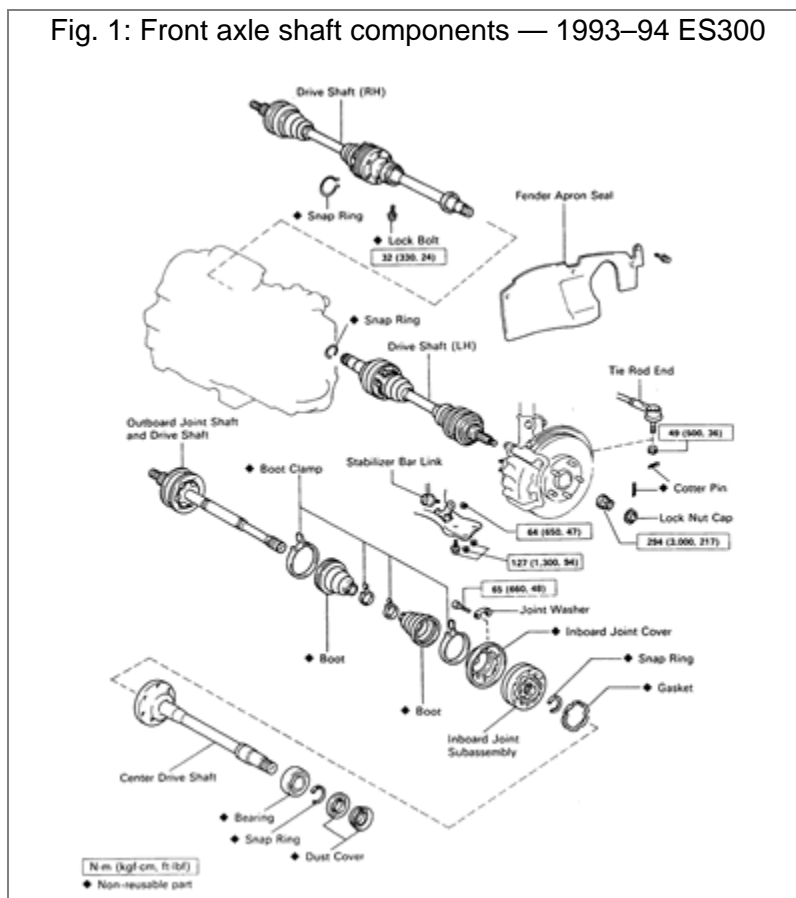
REMOVAL AND INSTALLATION

ES300

1993–94 Models

WARNING

The hub bearing could be damaged if it is subjected to the vehicle weight, such as when moving the vehicle with halfshaft removed.



1. Disconnect the negative battery cable.
2. Raise and safely support the vehicle.
3. Remove the front fender apron seal.
4. Remove the wheel assembly.
5. Remove the cotter pin, locknut cap and locknut. Have a helper apply the brakes when removing the locknut.
6. Drain the oil from the differential.
7. Disconnect the steering knuckle from the lower ball joint.

8. Disconnect the tie rod end from the steering knuckle.
9. Disconnect the stabilizer bar link from the lower control arm.
10. Place matchmarks on the halfshaft and center halfshaft or the side gear shaft. Loosen but do not remove the mounting bolts.

NOTE: Do not remove the bolts. Finger-tighten them so the halfshaft does not fall.

11. Pull the left hub toward the outside of the vehicle and disconnect the halfshaft from the axle hub.
12. Remove the six mounting bolts and the halfshaft.
13. Push the side gear shaft to the differential. Measure and note the distance between the transaxle case and the side gear shaft so it can be installed in the same position.
14. Pry the left sidegear shaft out of the differential.
15. Pull the right hub toward the outside of the vehicle and disconnect the halfshaft from the axle hub.
16. Remove the right side bearing lock bolt and the snapping. Pull out the right side halfshaft with the center shaft.

NOTE: If the halfshaft cannot be pulled out, tap out the driveshaft with a plastic hammer.

17. If necessary, replace the side gear shaft oil seal.

To install:

18. Using a new snapping, install the left side gear shaft using a suitable tool to tap in the driveshaft until it makes contact with the pinion shaft. Ensure the new snapping is positioned securely in the groove of the side gear shaft.
19. Check that the side gear shaft will not come out by hand. Push the side gear shaft to the differential and measure the distance between side gear shaft and the transaxle case. Make sure the distance is the same measurement taken before removing the side gear shaft.
20. Pack the side gear shaft with a suitable grease.
21. Align the matchmarks on the side gear shaft and the halfshaft. Install the left side halfshaft and finger-tighten the bolts.
22. Slide the axle shaft through the hub and install the hub nut but do not tighten it.
23. Install the right side halfshaft with the center halfshaft to the transaxle through the bearing bracket. Install the snapping and a new lock bolt. Torque the lockbolt to 24 ft. lbs. (32 Nm).
24. Install the outboard joint side of the halfshaft to the axle hub. Temporarily, connect the steering knuckle to the lower ball joint.
25. Connect the tie rod ends to the steering knuckles and tighten the bolts to 36 ft. lbs. (49 Nm). Tighten the lower ball joint mounting bolts to 94 ft. lbs. (127 Nm).
26. Connect the stabilizer bar link to the lower arms and tighten it to 47 ft. lbs. (64 Nm).
27. Have a helper apply the brakes and tighten the six hexagon bolts to 48 ft. lbs. (65 Nm). Torque the locknuts to 217 ft. lbs. (294 Nm).
28. Install the locknut caps and new cotter pins.

29. Install the front fender apron seals.
30. Replace the front wheels assembly.
31. Lower the vehicle to the floor.
32. Check the front wheel alignment.

1995–97 Models

1. Disconnect the negative battery cable to the battery.
2. Raise and support the vehicle safely.
3. Remove the front wheel(s).
4. Remove the front fender apron seal.
5. Drain the transaxle.
6. Disconnect the tie rod end from the steering knuckle by removing the cotter pin and nut. Using tool SST 09628–62011 or equivalent, separate the tie rod from the steering knuckle.
7. Disconnect the stabilizer bar link from the lower control arm. Make note of the washers and cushions positions.
8. Disconnect the lower ball joint from the steering knuckle by removing the bolt and two nuts. Push down on the lower control arm and separate the steering knuckle from the ball joint.
9. Remove the cotter pin, lock cap and locknut holding the halfshaft to the steering knuckle.
10. Using a plastic hammer, disconnect the halfshaft from the steering knuckle.
11. Remove the left halfshaft from the transaxle as follows:
 - A. Use a brass bar and hammer to tap the inner joint out of the transaxle.
 - B. Remove the halfshaft.
 - C. Once the halfshaft is removed from the vehicle, remove the snapping from the halfshaft.
12. Remove the right halfshaft from the transaxle as follows:
 - A. Remove the bearing lockbolt. The lockbolt is located in the center of the halfshaft, near the dampener.
 - B. Using snapping pliers, remove the snapping and pull the halfshaft from the transaxle.

To install:

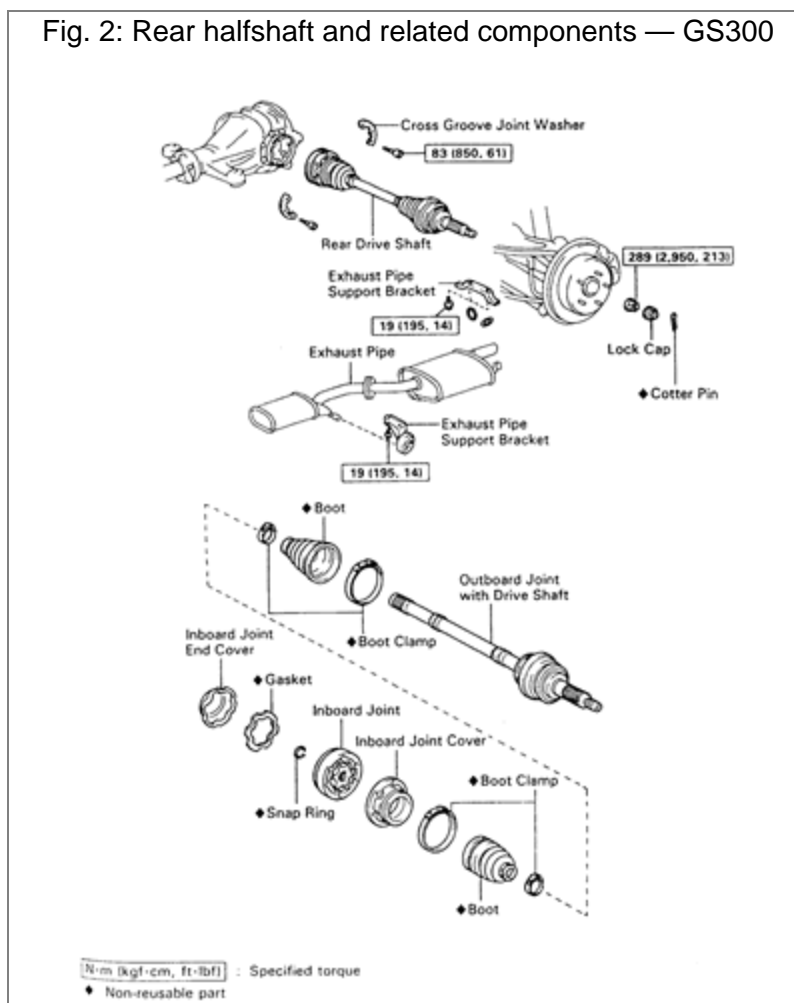
13. To install the right halfshaft to the transaxle:
 - A. Coat the side gear shaft and differential case sliding surface with gear oil.
 - B. Using snapping pliers, install the snapping to the halfshaft.
 - C. Install the halfshaft and the bearing lockbolt. Torque the lockbolt to 24 ft. lbs. (32 Nm).
14. To install the left halfshaft to the transaxle:
 - A. Install a new snapping to the inner spline of the halfshaft.
 - B. Coat the side gear shaft and differential case sliding surface with gear oil.
 - C. Install the halfshaft to the transaxle with the snapping opening facing down. The halfshaft should click into place when installing.
 - D. After installation of the halfshaft, check that the halfshaft cannot be removed by hand.
15. Connect the halfshaft to the steering knuckle and then install the locknut. Torque the locknut to 217 ft. lbs. (294 Nm).

16. Install the lock cap and a new cotter pin to the halfshaft.
17. Connect the steering knuckle to the lower ball joint. Install the two nuts and bolt. Torque the nuts and bolt to 94 ft. lbs. (127 Nm).
18. Connect the stabilizer bar link to the lower control arm. Torque the nut to 29 ft. lbs. (39 Nm).
19. Connect the tie rod to the steering knuckle and torque the nut to 36 ft. lbs. (49 Nm). Install a new cotter pin to the tie rod end.
20. Install the front fender apron seal.
21. Install the wheel(s) and lower the vehicle. Torque the lug nuts to 76 ft. lbs. (103 Nm).
22. Refill the transaxle and check for leaks.
23. Connect the negative battery cable to the battery.

GS300

CAUTION

The air bag system (SRS or SIR) must be disarmed before removing the halfshafts. Failure to do so may cause accidental deployment, property damage or personal injury.



1. Disconnect the negative battery cable from the battery.

2. Raise and safely support the vehicle.
3. Remove the rear tire and wheel assembly.
4. Remove the cotter pin, locknut cap and locknut while having someone pressing down on the brake pedal.
5. Secure the rear exhaust assembly with mechanics wire or equivalent.
6. Remove the two exhaust pipe support brackets.
7. Have someone press down on the brake pedal. Place matchmarks on the halfshaft and the side gear shaft. Remove the six hex bolts and two washers.
8. Hold the inboard joint side of the halfshaft so the outboard joint side does not bend too much. Tap the end of the halfshaft with a rubber mallet to loosen it from the axle hub and remove the halfshaft.

To install:

9. Insert the outboard joint side of the halfshaft through the axle hub. Align the matchmarks on the side gear shaft and the halfshaft.
10. Coat the threads with clean oil and install the hex bolts. Tighten the bolts to 61 ft. lbs. (83 Nm).
11. Install the exhaust pipe support brackets and torque to 14 ft. lbs. (19 Nm).
12. Install the bearing locknut and have a helper apply the brakes. Torque the locknut to 213 ft. lbs. (289 Nm).
13. Install the lock cap and a new cotter pin.
14. Replace the rear tire and wheel assembly.
15. Lower the vehicle and connect the negative battery cable.

LS400

1. Raise and safely support the rear of the vehicle.
2. Remove the rear wheel.
3. Remove the cotter pin, lock cap and the nut holding the halfshaft to the rear knuckle.
4. On some models it will be necessary to, remove the tail pipe O-rings and suspend the tail pipe, using a piece of wire.
5. Disconnect the height control sensor, if equipped.
6. Remove the suspension member brace by removing the two bolts.
7. Place matchmarks on the halfshaft and the side gear shaft. Remove the hexagon bolts and washers with the proper tool.
8. Hold the inboard joint side of the halfshaft so the outboard joint side does not bend too much. Tap the end of the halfshaft with a rubber mallet and disengage the halfshaft from the knuckle.
9. Remove the halfshaft.

To install:

10. Insert the outboard joint side of the halfshaft and align the matchmarks on the side gear shaft and the halfshaft.
11. Coat the threads with clean oil and install the hexagon bolts. Torque bolts to 61 ft. lbs. (83 Nm).
12. Install the suspension member brace with the two bolts. Torque the two bolts to 37 ft. lbs. (50 Nm).

13. Install the nut to hold the halfshaft to the rear knuckle. Torque the nut to 253 ft. lbs. (344 Nm) on the 1993–94 models, 213 ft. lbs. (289 Nm) on the 1995–97 models.
14. Connect the height control sensor, if equipped.
15. Replace the O-rings supporting the tail pipe if removed.
16. Install the lock cap and cotter pin.
17. Install the rear wheel.
18. Lower the vehicle.

SC300 and SC400

1. Raise and safely support the vehicle.
2. Remove the rear tire and wheel assembly.
3. Remove the rear exhaust assembly.
4. Remove the cotter pin, locknut cap and the locknut holding the halfshaft to the rear axle carrier.
5. Remove the lower suspension arm brace by removing the four bolts.
6. Place matchmarks on the halfshaft and the differential side gear shaft. Remove the hexagon bolts and washers with the proper tool.
7. Hold the inboard joint side of the halfshaft so the outboard joint side does not bend too much. Tap the end of the halfshaft with a rubber mallet and disengage the halfshaft from the axle carrier.
8. Remove the halfshaft.

To install:

9. Insert the outboard joint side of the halfshaft and align the matchmarks on the side gear shaft and the halfshaft.
10. Coat the threads with clean oil and install the hexagon bolts. Torque the bolts to 61 ft. lbs. (83 Nm).
11. Install the lower suspension arm brace and torque the four bolts to 13 ft. lbs. (18 Nm).
12. Install the bearing locknut and torque the locknut to 213 ft. lbs. (289 Nm).
13. Install the locknut cap and install a new cotter pin.
14. Install the rear exhaust assembly.
15. Replace the rear tire and wheel assembly.
16. Lower the vehicle.