

INSTALLATION INSTRUCTIONS

FORM NUMBER
4563



The steering knuckle must be replaced in any and all cases of broken, bent, or loose ball joint studs in knuckle.

! CAUTION: Proper service and repair procedures are essential for safe and reliable installation of chassis parts, and require experience and tools specially designed for the purpose. These parts **MUST** be installed by a qualified mechanic, otherwise an unsafe vehicle and/or personal injury could result.

! WARNING: Before attempting to remove the stud from the steering knuckle, make sure the stud of the old ball joint was firmly seated in the tapered hole of the steering knuckle. If the ball joint was loose in the steering knuckle, or if any out-of-roundness, deformation, or damage is observed, the **STEERING KNUCKLE MUST BE REPLACED**. Failure to replace a damaged or worn steering knuckle may cause loss of steering ability since the ball joint **STUD MAY BREAK** and cause the wheel to separate from the vehicle.

1. Raise and support the vehicle under the lower control arm.
2. Remove the wheel and tire assembly.
3. On 4WD vehicles remove the drive shaft axle nut.
4. Remove the two bolts securing the disc brake caliper adapter to the steering knuckle. Remove caliper and caliper adapter assembly and secure out of the way.

NOTE: DO NOT allow caliper to hang by flex hose.

5. Remove the wheel speed sensor bracket bolt from the upper control arm.
6. Disconnect the wheel speed sensor harness from the upper control arm.
7. Remove the wheel speed sensor wire from the body.
NOTE: Mark the holes used to mount the speed sensor electrical connector before removing. This will ensure the proper location of the speed sensor electrical connector for installation.
8. Disconnect the wheel speed sensor harness from the chassis harness.
9. To ensure the ease of removal, bundle speed sensor wiring harness and tie to knuckle. This will prevent the harness from getting entangled in any of the [suspension](#) components during removal of the knuckle.
10. Remove the outer tie rod nut from the steering knuckle. Using a suitable tool separate the tie rod from the knuckle.
11. Remove the lower ball joint retaining nut from the stud and install hand tight.
12. Remove the upper ball joint retaining nut from the stud and install hand tight.
13. Using a suitable tool, separate the studs from the tapered holes in the knuckle for both the upper and lower ball joints.

14. On 4WD vehicles support the front half shaft with a wire. This is to prevent the shaft from over-extending when the steering knuckle is removed.
15. Remove the upper and lower ball joint stud nuts. Remove knuckle and set aside.
16. Remove the ball joint nuts and bolts from the lower control arm and discard.
17. Remove the lower ball joint from the control arm.
18. Examine the ball joint mounting area of the control arm and make sure it is clean and free of cracks.
! WARNING: If any cracks or other damage is found, the control arm must be replaced. Failure to replace a cracked or damaged control arm may cause loss of steering ability or cause the wheel to separate from the vehicle.
19. Clean steering knuckle and ball joint tapers. Insert new ball joint stud into steering knuckle by hand and check fit of stud taper to the knuckle. Stud should seat firmly without any rocking. Only the threads of the stud should extend through the steering knuckle. If the parts do not meet these requirements either the steering knuckle is worn and needs replacement or incorrect parts are being used.

20. Attach the new ball joint inside the lower control arm.
21. Install new bolts washers and nuts provided and tighten to 47 ft.lbs. (64 Nm).
NOTE: Install washer onto bolt before installing bolt into control arm.
22. Thoroughly clean the tapered holes of the steering knuckle before assembly of the studs with the knuckle. Insert knuckle over the upper and lower ball joint studs simultaneously. On 4WD vehicles insert the half shaft through the spline in the hub bearing.
23. Install the slotted nut onto lower ball joint stud nut and torque to 102 ft.lbs. (138 Nm). Continue to tighten the slotted nut to the next available slot. **Never back off the slotted nut to achieve alignment with the hole in the stud.** Install and spread the cotter pin.
24. Install the nut onto the upper ball joint and torque to 74 ft.lbs. (100 Nm)
25. If included install the grease fitting into the ball joint and lubricate with a good grade of chassis grease.
26. Reinstall the wheel speed sensor harness and bracket to the upper control arm.
27. Install wheel speed sensor bracket bolt on control arm and tighten to 15 ft.lbs. (20 Nm).
28. Reconnect the wheel speed sensor harness to the chassis harness.
29. Reinstall the caliper and adapter assembly to the steering knuckle. Tighten caliper adapter bolts to 129 ft.lbs. (175 Nm).
30. Reinstall the outer tie rod end and tighten nut to 33 ft.lbs. (45Nm) plus 95 degrees.
31. On 4WD vehicles reinstall the drive shaft axle nut and torque to 191 ft.lbs. (260 Nm).

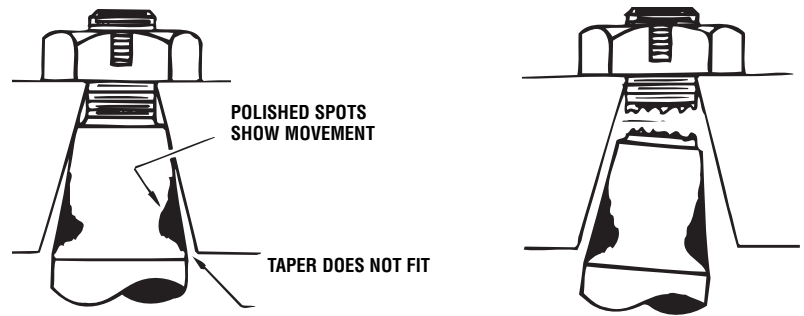
32. Install the wheel and tire and lower the vehicle to the floor.
33. Align the front end of the vehicle to specifications. A check of the wheel balance is recommended.

NOTE: The parts in this kit are designed to replace the worn or non-functioning original equipment parts in the vehicle as produced by the car factory. These parts are not designed for installation on vehicles where the suspension and/or steering systems have been modified for racing, competition, or any other purpose

SPECIAL NOTICE
STEERING KNUCKLE WEAR CAN CAUSE BALL JOINT STUD BREAKAGE

THE STEERING KNUCKLE MUST BE REPLACED IN ANY AND ALL CASES OF BALL JOINT STUD BREAKAGE.

THE STEERING KNUCKLE MUST BE REPLACED IF ANY TEST INDICATES AN "OUT-OF-ROUND" OR "FRETTED" TAPER.



NOTE: THIS KIT MAY CONTAIN SELF TAPPING GREASE FITTING(S) FOR THREADED OR NON-THREADED HOLES.