

INSTALLATION INSTRUCTIONS

FORM NUMBER
4547

⚠ CAUTION: Proper service and repair procedures are essential for the 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 technician, otherwise an unsafe vehicle and/or personal injury could result.

⚠ WARNING: Prior to removal of the tie rod stud from the steering knuckle, make sure the stud is firmly seated in the tapered hole of the steering knuckle. If the stud is 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 result in stud breakage and loss of steering ability.

1. Raise and support vehicle. Remove wheel.
2. Loosen jam nut which secures the outer tie rod to the inner tie rod.
3. Remove nut securing outer tie rod stud to steering knuckle.
4. Using a suitable taper breaker, break the tie rod taper loose from the steering knuckle.
NOTICE: Do not use a hammer to separate the taper as damage may result.
5. Clean and inspect steering knuckle taper. If wear or damage is noticed, **STEERING KNUCKLE MUST BE REPLACED.**
6. Remove old tie rod end and jam nut from inner tie rod.
7. Install grease fitting and boot on the new tie rod and install along with new jam nut onto the inner tie rod.

8. Install tie rod end stud into steering knuckle. Install washer and slotted nut and torque to value specified in table tie rod ball stud nut torque and continue to tighten until hole in stud is in alignment with window of slotted nut. Install cotter pin.

NOTICE: Always tighten slotted nut to align window with hole in stud. Never loosen nut to achieve alignment.

TIE ROD BALL STUD NUT TORQUE	
P/N ES3452	22 ft. lb. +180°
ES3453 ES3455 ES3459	22 ft. lb. + 120°

9. Install wheel and align vehicle as required. When alignment is complete, tighten jam nut and lubricate new tie rod.

NOTICE: The parts in this kit are designed to replace the worn or non-functioning original equipment parts in the vehicle as produced by the manufacturer. 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.

