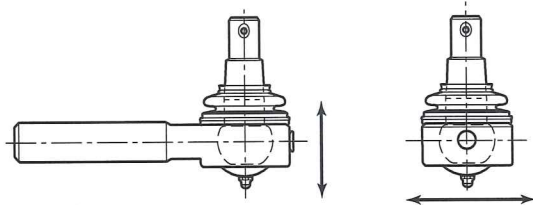
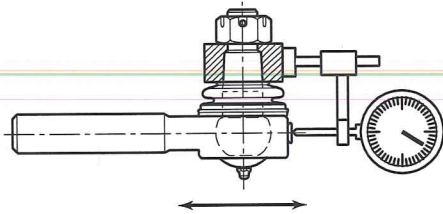


NOTE: The FVA System activates when vibration is detected. A vertical and lateral movement of the ball stud of .100" (2.54 mm) Ref. is required to absorb vibrations inside the socket.



Wear in FVA tie rod ends is determined by measuring the movement in load direction with a dial indicator. End play in load direction must be .040" (1.02 mm) Max.



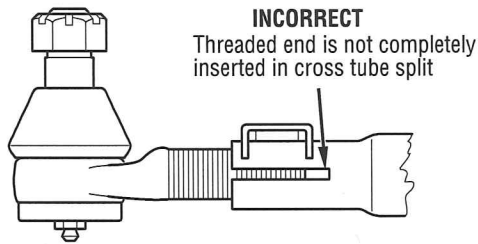
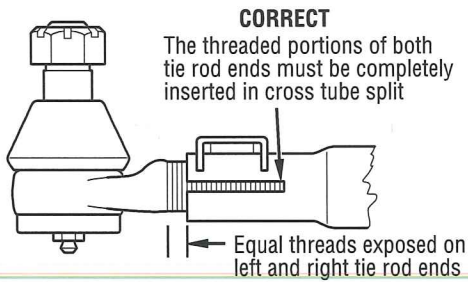
7. Ball and socket torque should be 5 in. lbs. (.6 N•m) or more on disconnected tie rod end assemblies. Replace assemblies that test less than 5 in. lbs. (.6 N•m). Loose assemblies will adversely affect steering performance and may prevent adjustment of the steering assembly to vehicle manufacturer's alignment specifications.
8. If the cross tubes or clamps are bent, cracked or damaged, replacement is necessary. Do not attempt to repair a cross tube as this could result in damage to the axle.
9. Proper positioning of clamp relative to beam and correct orientation of nut and bolt are required to ensure clearance at high wheel cuts.

Tie Rod End Replacement

1. Disconnect the tie rod end.
2. If the cross tube is being replaced, count the number of exposed threads on the tie rod end.
3. Loosen the clamp nut and unscrew the tie rod end.
4. Install new tie rod ends or new cross tube.

NOTE: Cross tube has right-hand and left-hand threads for corresponding sides of the vehicle.

5. Thread tie rod end into cross tube past the tube split. The number of threads exposed from the tube should be equal on both left and right tie rod ends.



6. For E and I straight socket tie rod ends, tighten the clamp nut to 45-60 ft. lbs. (61-81N•m). Make sure the tab on the clamp holds the end of the cross tube.

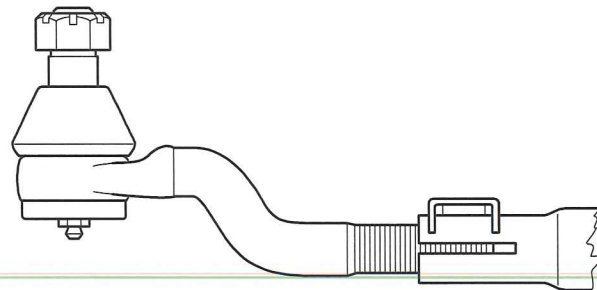
Straight Socket Tie Rod Ends

E & I Series	55-70 ft. lbs. (75-95 N•m)
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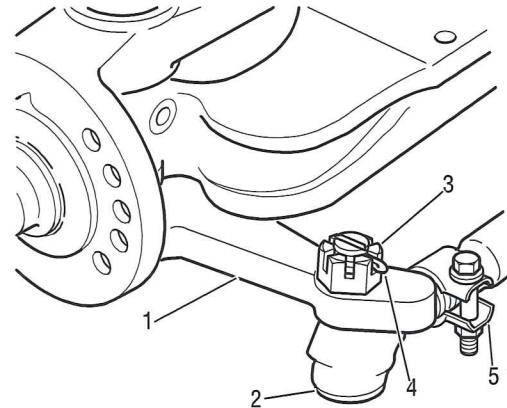
8. For drop socket tie rod ends, tighten as follows:

Drop Socket Tie Rod Ends

I-120SG, I-140SG	55-70 ft. lbs. (75-95 N•m)
E-1460I, E-1320W, E-1460W	80-90 ft. lbs. (108-122 N•m)
I-200SG, I-200W, I-220W, I-160W, I-180W	150-180 ft. lbs. (203-244 N•m)



9. Install tie rod end into knuckle tie rod arm. Secure with slotted nut and tighten to 120-160 ft. lbs. (163-217 N•m).



- 1 – Tie rod arm
- 2 – Tie rod end
- 3 – Slotted nut
- 4 – Cotter pin
- 5 – Position clamp fastener away from beam

10. Install the cotter pin in the slotted nut and bend the ends to secure. If necessary, tighten the nut until the holes align.

11. Adjust toe-in.

NOTE: On tie rods with rotating clamp, position clamp with fastener away from beam.