

Wheel Knuckle - F-450/F-550

Special Tool(s) / General Equipment

	204-592 Separator, Lower Arm Ball Joint TKIT-2006C-FFMFLM TKIT-2006C-LM TKIT-2006C-ROW
	211-023 (T74P-3044-A1) C-Frame and Screw
Two Leg Puller	

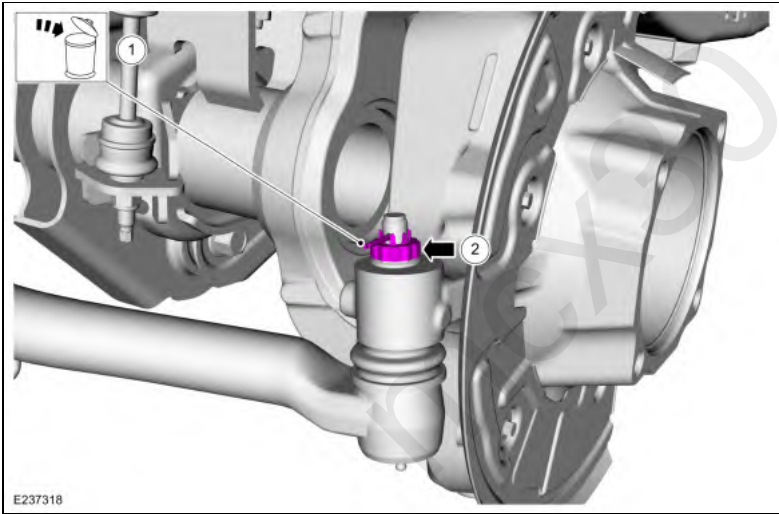
Removal

NOTICE: Suspension fasteners are critical parts that affect the performance of vital components and systems. Failure of these fasteners may result in major service expense. Use the same or equivalent parts if replacement is necessary. Do not use a replacement part of lesser quality or substitute design. Tighten fasteners as specified.

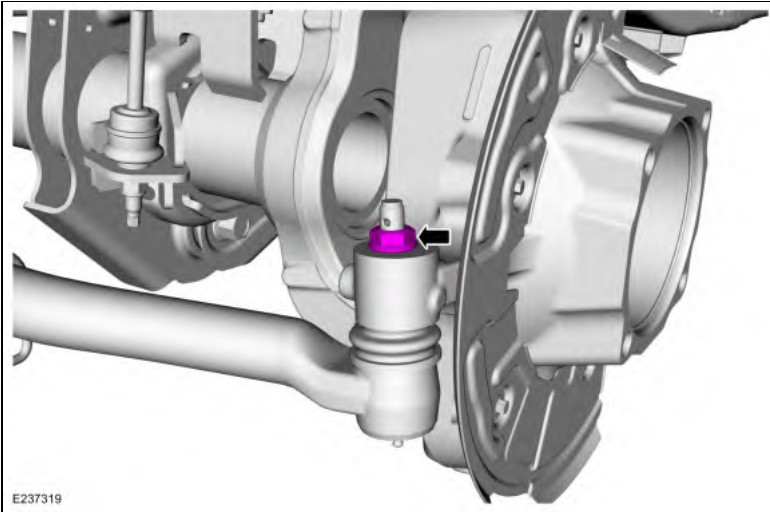
1. Remove the front wheel bearing and wheel hub.
Refer to: Front Wheel Bearing and Wheel Hub - F-450/F-550 (204-01A Front Suspension - RWD, Removal and Installation).
2. **NOTE:** LH side shown, RH side similar.

1. Remove and discard the tie rod end cotter pin.

2. Remove the tie rod end nut retainer.

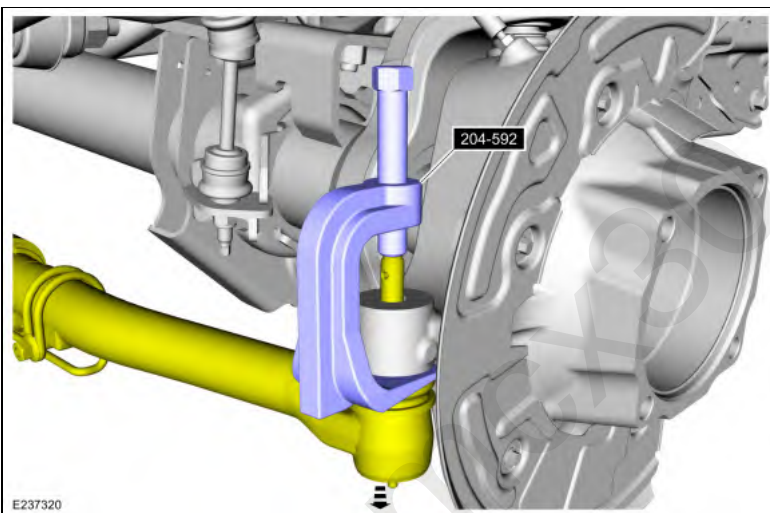


3. **NOTE:** LH side shown, RH side similar.
Remove the tie rod end nut.



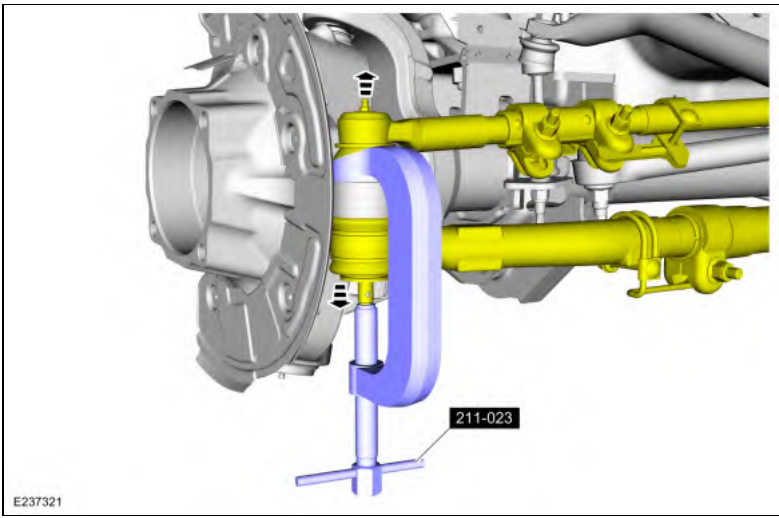
4. **NOTE:** *If servicing LH wheel knuckle.*

Disconnect the LH outer tie rod end from the wheel knuckle.
Use Special Service Tool: 204-592 Separator, Lower Arm Ball Joint.

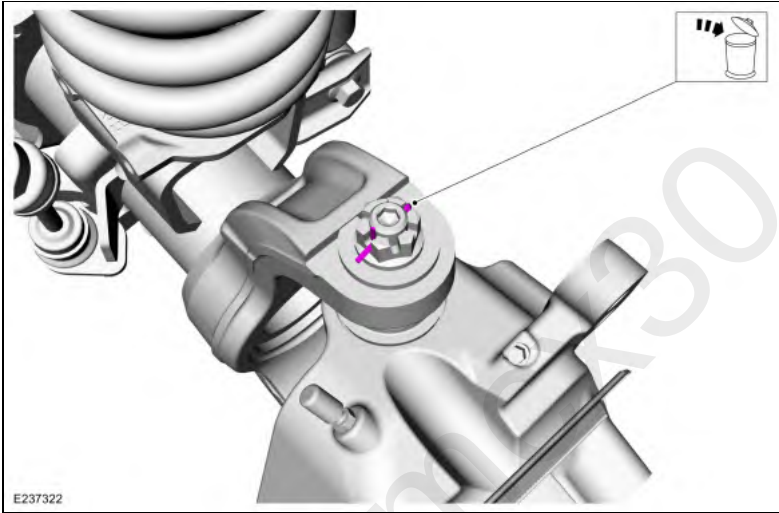


5. **NOTE:** *If servicing RH wheel knuckle.*

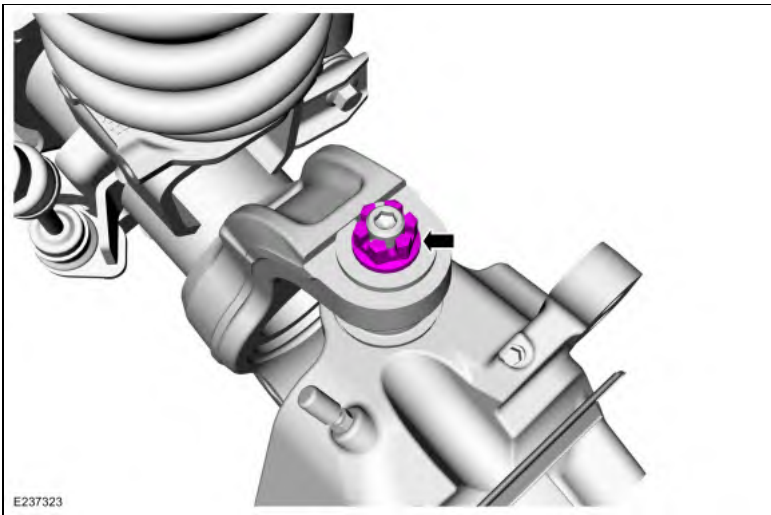
Disconnect the RH outer tie rod end and drag link from the wheel knuckle.
Use Special Service Tool: 211-023 (T74P-3044-A1) C-Frame and Screw.



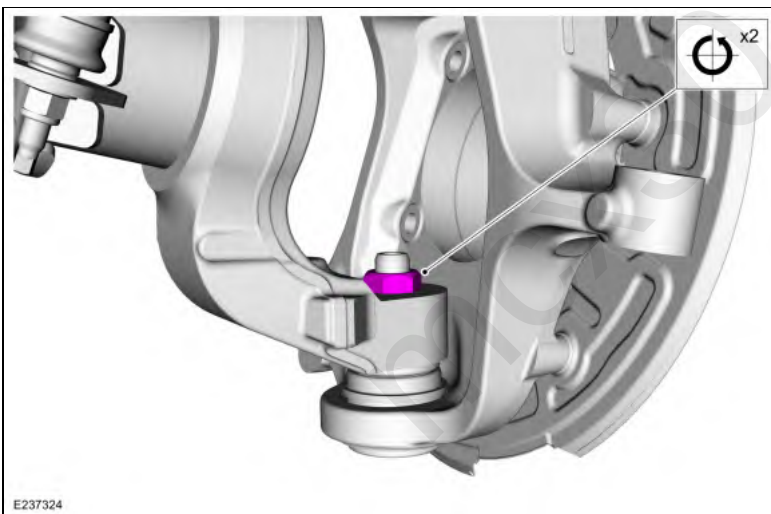
6. Remove and discard the upper ball joint cotter pin.



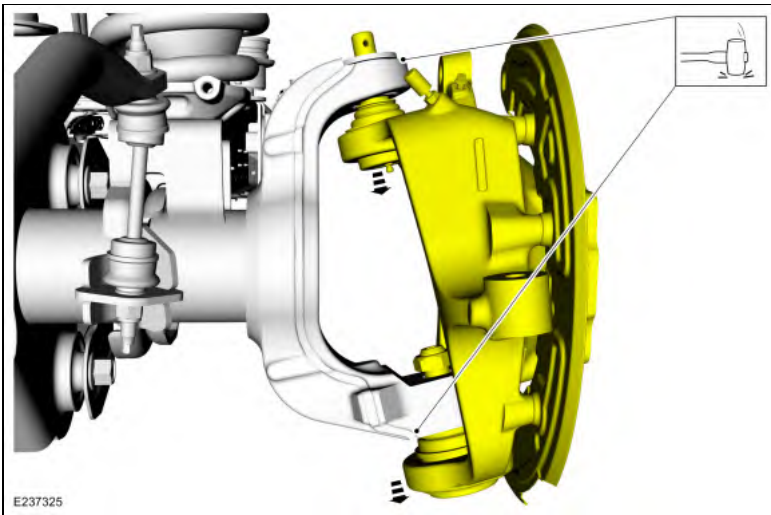
7. Remove the upper ball joint nut.



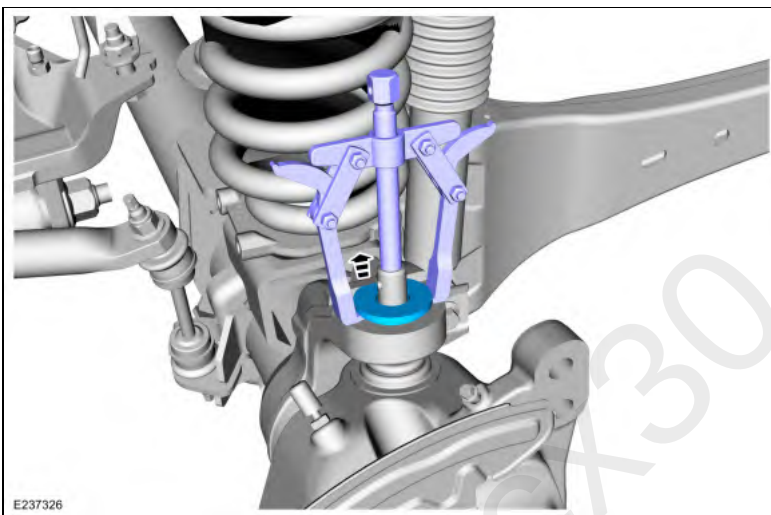
8. Loosen, but do not remove the lower ball joint nut.
Loosen:
approximately: 2 turn(s)



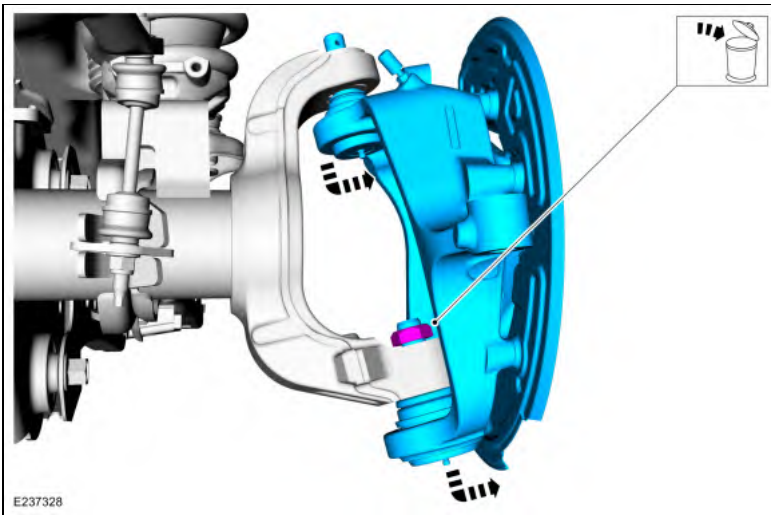
9. **NOTICE:** To prevent damage to the ball joint seal and the ball joint socket, do not use a pickle fork-type remover to loosen the ball joints.
Strike the lower and upper end of the axle to loosen the ball joints and the camber adjustment sleeve.



10. Remove the camber adjustment sleeve.
Use the General Equipment: Two Leg Puller

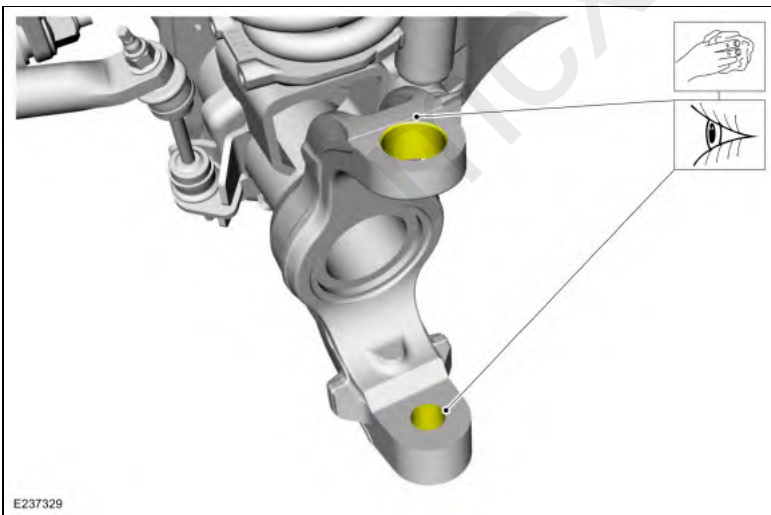


11. Remove and discard the lower ball joint nut and remove the front wheel knuckle.

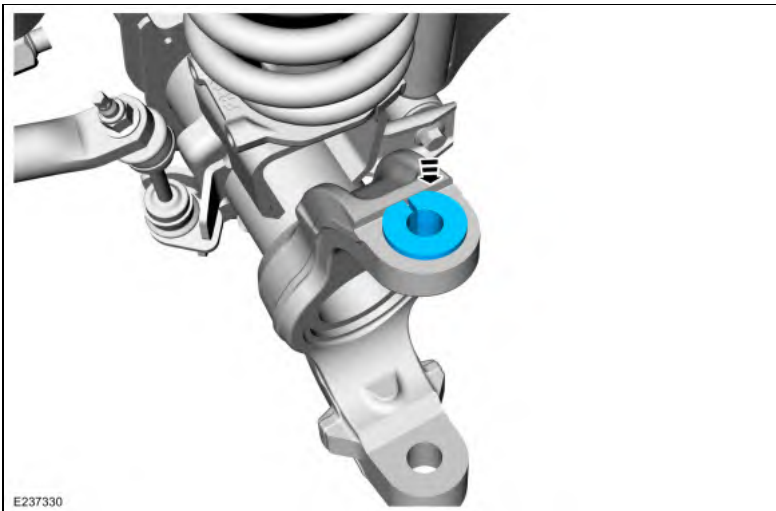


Installation

1. **NOTICE:** The caster/camber adjustment sleeve must be removed and the axle bores and adjustment sleeve contact areas cleaned to ensure proper torque sequence. If not clean, damage to the ball joint, adjustment sleeve and/or axle bores can occur.
- NOTICE:** Failure to remove the caster/camber adjustment sleeve can result in a hard to steer condition.
- Thoroughly clean and inspect the axle bore and adjustment sleeve contact areas.

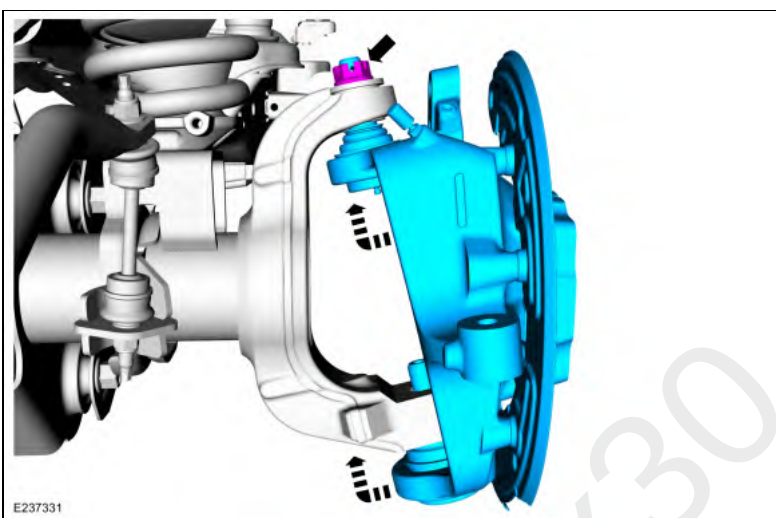


2. Install the camber adjustment sleeve.



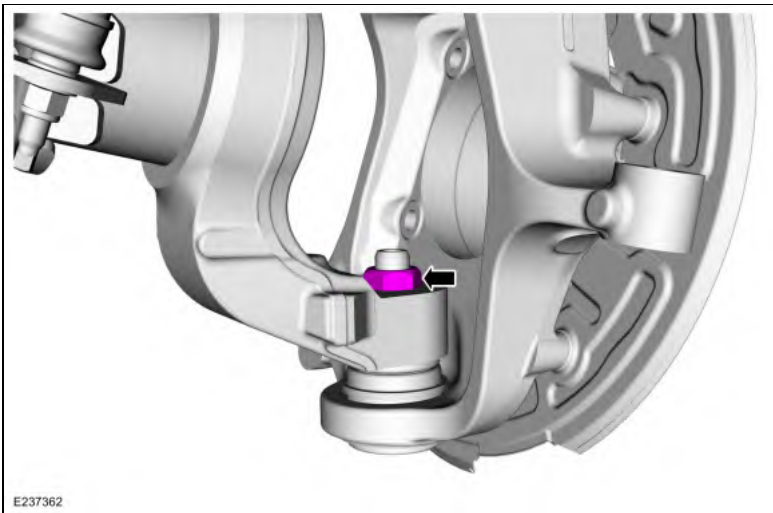
3. **NOTE:** *Only tighten the nut finger tight at this stage.*

Position the knuckle onto the axle and install the upper ball joint nut.

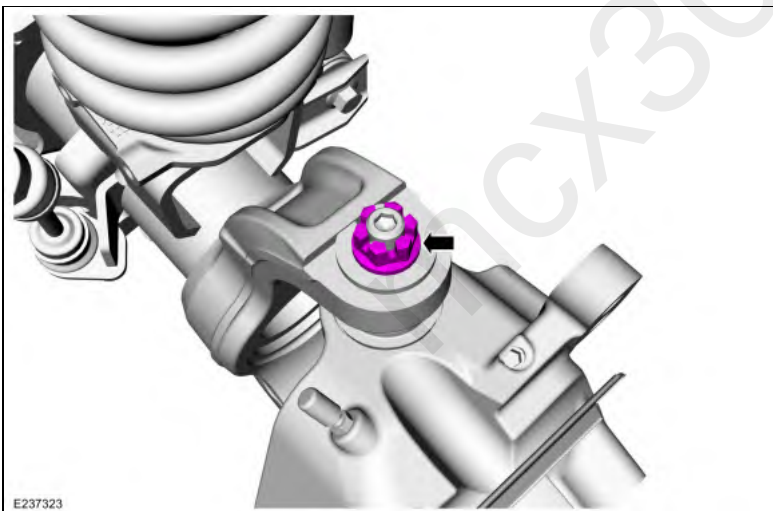


4. Install the new lower ball joint nut.
Torque: 44 lb.ft (59 Nm)

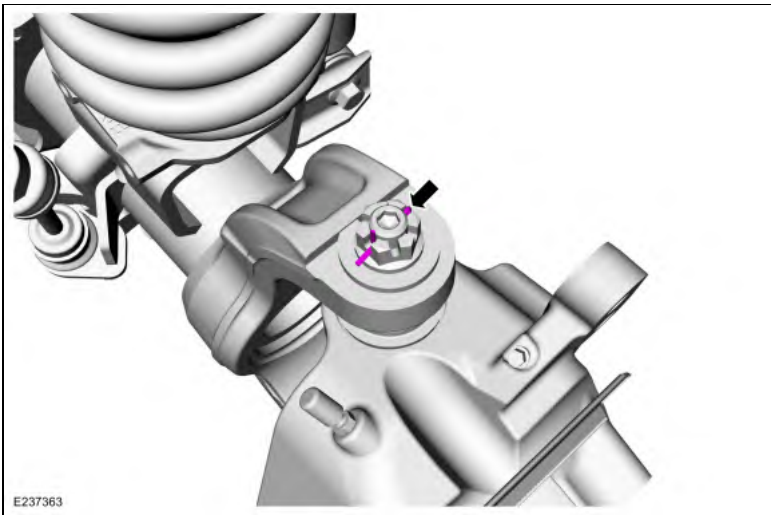
Torque: 44 lb.ft (59 Nm)



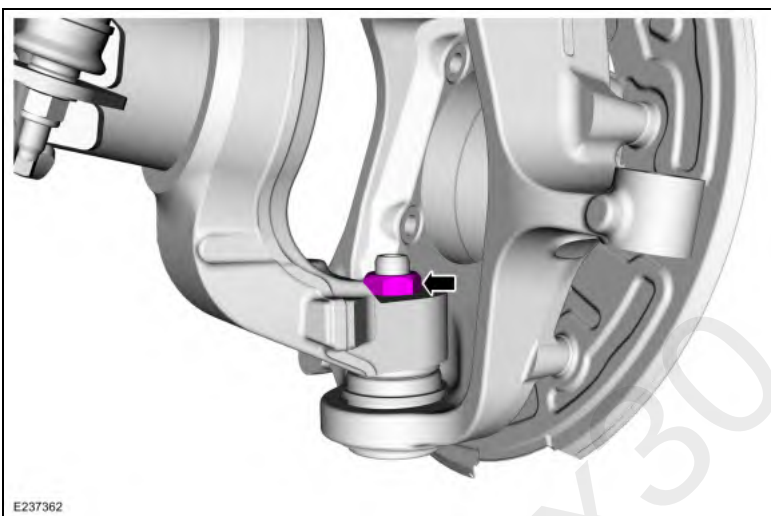
5. Install the upper ball joint nut.
Torque: 69 lb.ft (94 Nm)



6. **NOTE:** *If necessary, tighten the nut until the cotter pin can be installed.*
Install the new upper ball joint cotter pin.

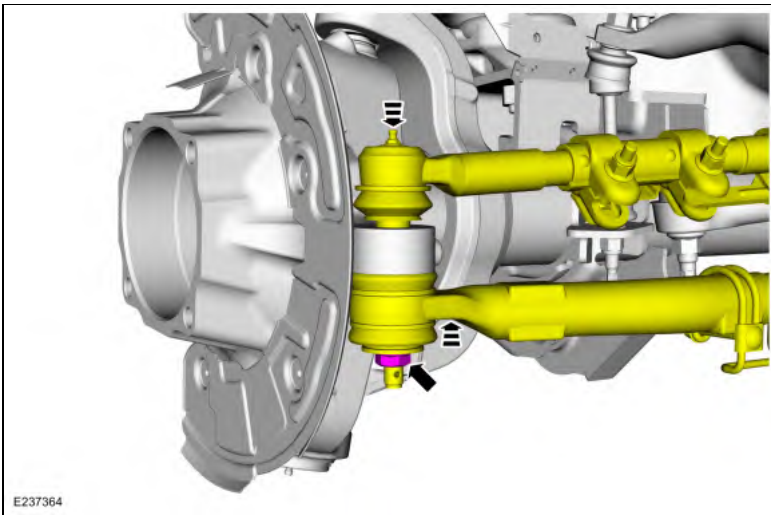


7. Install the new lower ball joint nut.
Torque: 150 lb.ft (204 Nm)



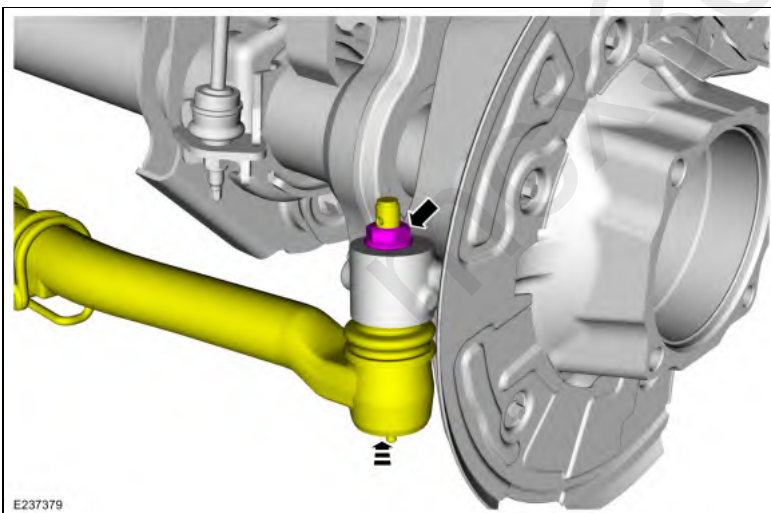
8. **NOTE:** *If servicing RH wheel knuckle.*

Attach the RH outer tie rod end and drag link to the wheel knuckle and install the new tie rod end nut.
Torque: 85 lb.ft (115 Nm)



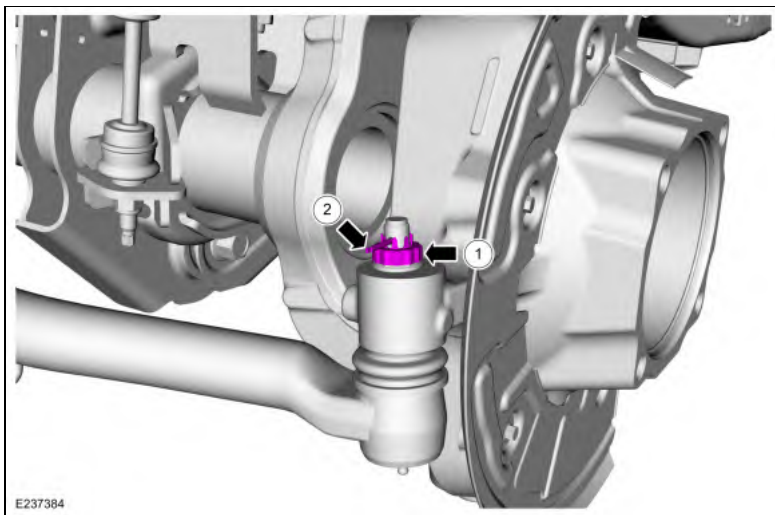
9. **NOTE:** *If servicing LH wheel knuckle.*

Attach the LH outer tie rod end to the wheel knuckle and install the new tie rod end nut.
Torque: 85 lb.ft (115 Nm)



10. **NOTE:** *LH side shown, RH side similar.*

1. Install the tie rod end nut retainer.
2. Install the new tie rod end cotter pin.



11. Install the front wheel bearing and wheel hub.
Refer to: Front Wheel Bearing and Wheel Hub - F-450/F-550 (204-01A Front Suspension - RWD, Removal and Installation).
12. Check and if necessary, align the front end.
Refer to: Front Camber and Caster Adjustment - F-250/F-350/F-450/F-550, 4WD (204-00 Suspension System - General Information, General Procedures).

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