

Steering Linkage -

Torque Specifications

Description	Nm	lb-ft
* Tie-rod end nut - Vehicles fitted with an M12 nut	76	56
* Tie-rod end nut - Vehicles fitted with an M14 nut	150	111
Tie-rod locking nut	55	40
Road wheel nuts	140	103

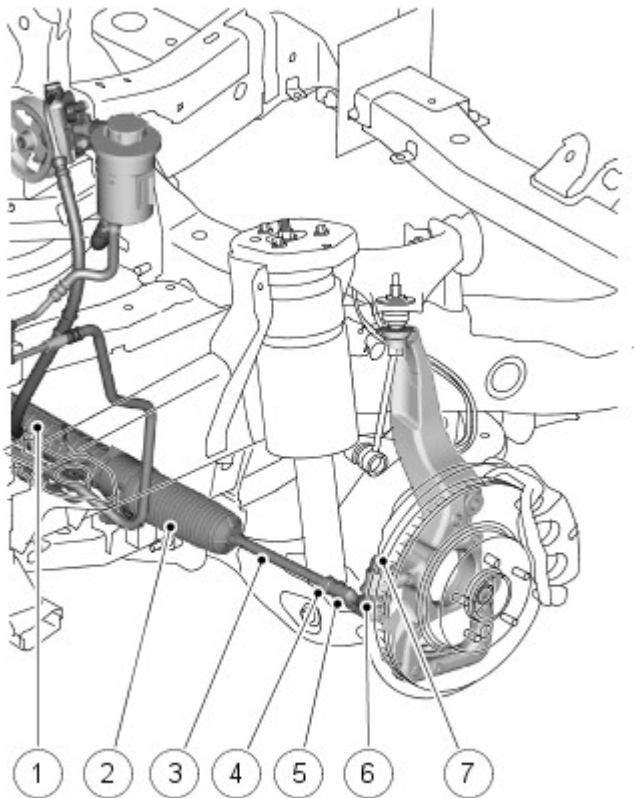
*** New nut must be installed**

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Steering Linkage - Steering Linkage

Description and Operation

Steering Linkage Component Location



E46659

Item	Part Number	Description
1	-	Steering gear
2	-	Steering gear boot
3	-	Tie rod
4	-	Locknut
5	-	Tie rod end
6	-	Ball joint
7	-	Self-locking nut

GENERAL

The steering linkage comprises the tie rod which provides the connection between the steering gear and the front wheel knuckle.

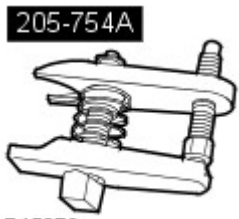
Each end of the steering gear has a threaded hole which provides for the fitment of the tie rods. The external ends of the tie rods are sealed with steering gear boots to prevent the ingress of dirt and moisture into the steering gear.

The outer ends of the tie rods are threaded to allow the fitment of the tie rod ends. The tie rod ends are screwed onto the tie rods and locked with locknuts to prevent inadvertent movement. The thread on the tie rod allows the position of the tie rod end to be adjusted in order to set the correct toe angle for each front wheel.

The tie rod end comprises a forged housing with a threaded bore for attachment to the tie rod. The tie rod end incorporates a non-serviceable tapered ball joint which locates in a tapered hole in the front wheel knuckle and is secured with a self-locking nut. The ball joint has an internal hexagonal drive which enables the joint to be held stationary when the self-locking nut is tightened.

Steering Linkage - Tie Rod End

Removal and Installation

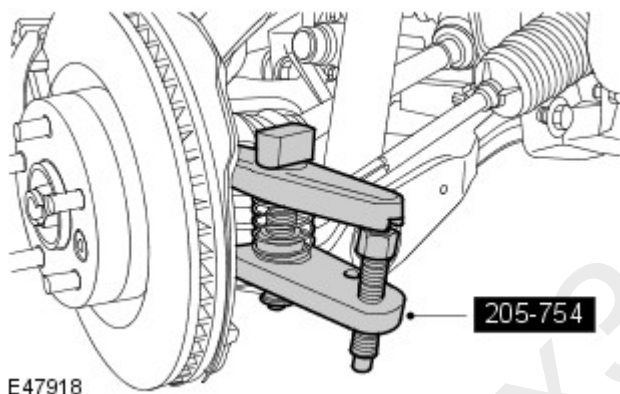
Special Tool(s)	
 205-754A E45276	Ball joint separator 205-754 (LRT-54-027)

Removal

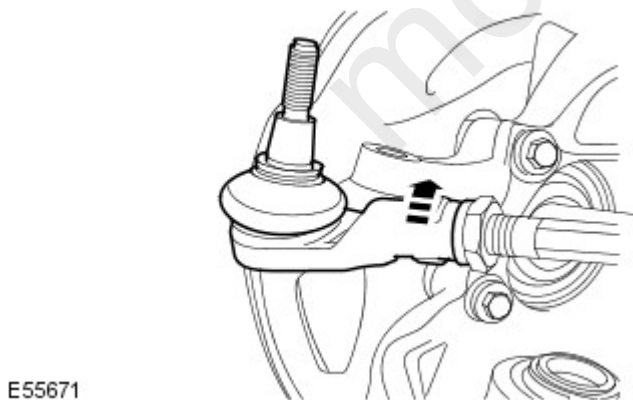
1.  **WARNING:** Do not work on or under a vehicle supported only by a jack. Always support the vehicle on safety stands.

Raise and support the vehicle.

2. Remove the front wheel.
3. Loosen the tie rod end ball joint retaining nut.
4. Loosen the tie rod end lock nut.
5. Using the special tool, release the tie-rod end ball joint from the wheel knuckle.
 - Remove and discard the tie rod end retaining nut.



6. Remove the tie-rod end, note the number of turns for installation.



Installation

1. Install the tie rod end, note the number of turns until adjacent to the locknut.
2.  **CAUTION:** To prevent damage to the tie rods, use an additional wrench when loosening or tightening the components.

Connect the tie rod end ball joint.

- Clean the component mating faces.
- For vehicles fitted with an M12 nut, install a new nut and tighten to 76 Nm (56 lb.ft).

- For vehicles fitted with an M14 nut, install a new nut and tighten to 150 Nm (111 lb.ft).

3. Tighten the tie rod locking nut.

- Clean the component mating faces.
- Tighten the nut to 55 Nm (40 lb.ft).

4. Install the front wheel.

- Tighten the wheel nuts to 140 Nm (103 lb.ft).

5. Lower the vehicle.

6. Using only four wheel alignment equipment approved by Land Rover, check and adjust the wheel alignment.

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Steering Linkage - Steering Gear Boot

Removal and Installation

Removal

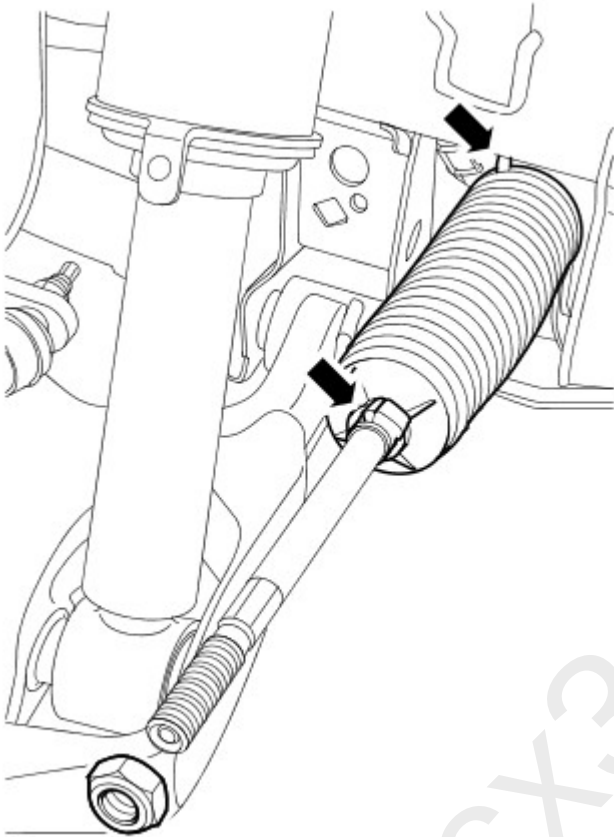
1. Remove the tie-rod end.
For additional information, refer to: [Tie Rod End](#) (211-03 Steering Linkage, Removal and Installation).

2. **NOTE:** Note the fitted position.

Remove the locknut.

3. Remove the steering gear boot.

- Release the 2 clips.



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Installation

1. Install the steering gear boot.

- Clean the component mating faces.
- Secure with the clips.

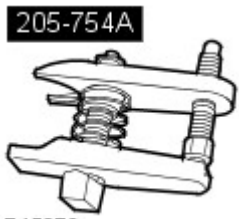
2. Install the locknut.

3. Install the tie-rod end.

For additional information, refer to: [Tie Rod End](#) (211-03 Steering Linkage, Removal and Installation).

Steering Linkage - Tie Rod

Removal and Installation

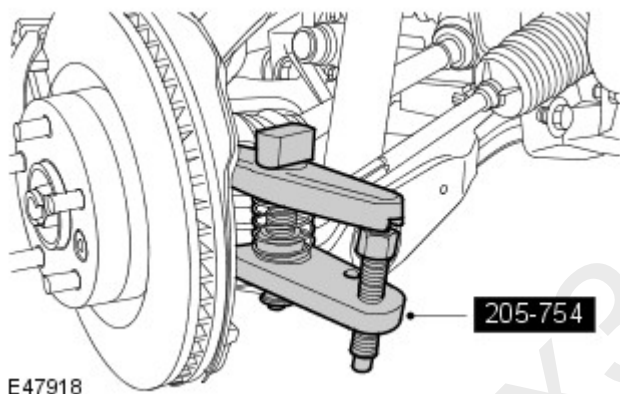
Special Tool(s)	
 E45276	Ball joint separator
	205-754(LRT-54-027)

Removal

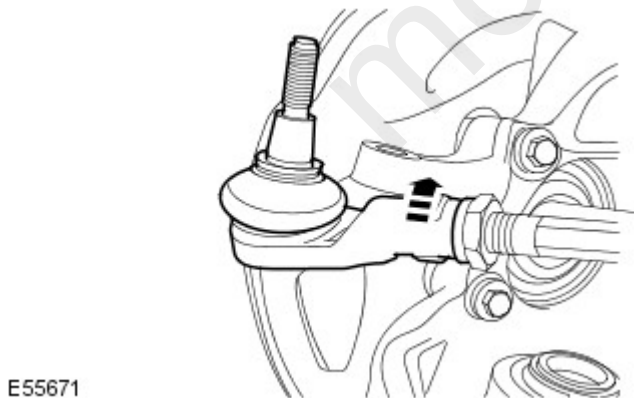
1.  **WARNING:** Do not work on or under a vehicle supported only by a jack. Always support the vehicle on safety stands.

Raise and support the vehicle.

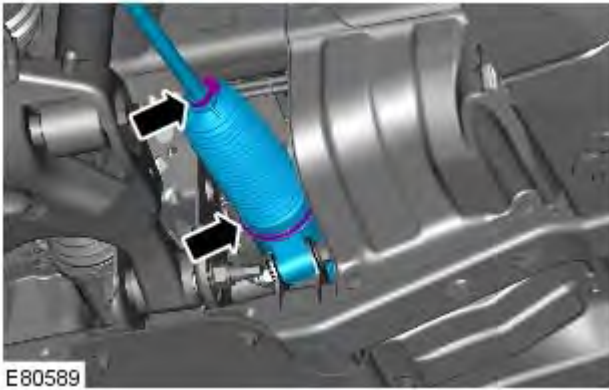
2. Remove the front wheel.
3. Loosen the outer tie-rod end ball joint retaining nut.
4. Loosen the outer tie-rod end lock nut.
5. Using the special tool, release the tie-rod end ball joint from the wheel knuckle.
 - Remove and discard the tie rod end retaining nut.



6. Remove the outer tie-rod end, note the number of turns for installation.

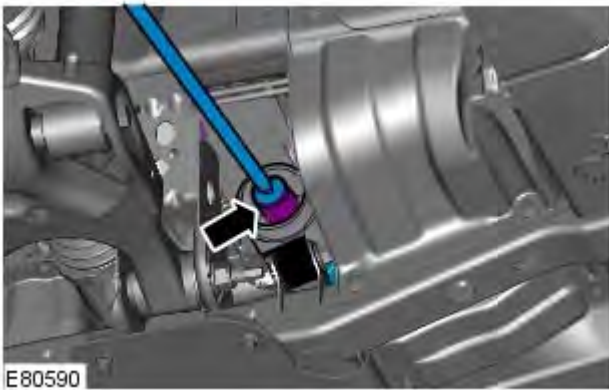


7. Remove the outer tie-rod end lock nut.



8. Remove the steering gear boot.

- Release the 2 clips.



9. Remove the inner tie-rod end.

- Loosen the nut.

Installation

1. Install the inner tie-rod end.

- Tighten the nut to 100 Nm (74 lb.ft).

2. Install the steering gear boot.

- Secure with the clips.

3. Install the outer tie-rod end lock nut.

4. Install the tie rod end, note the number of turns until adjacent to the locknut.

5. CAUTION: To prevent damage to the tie rods, use an additional wrench when loosening or tightening the components.

Connect the tie-rod end ball joint.

- Clean the component mating faces.
- For vehicles fitted with an M12 nut, install a new nut and tighten to 76 Nm (56 lb.ft).
- For vehicles fitted with an M14 nut, install a new nut and tighten to 150 Nm (111 lb.ft).

6. Tighten the tie-rod locking nut.

- Clean the component mating faces.
- Tighten the nut to 55 Nm (40 lb.ft).

7. Install the front wheel.

- Tighten the wheel nuts to 140 Nm (103 lb.ft).

8. Lower the vehicle.

9. Using only four wheel alignment equipment approved by Land Rover, check and adjust the wheel alignment.

