

PUBLISHED: 27-AUG-2020
2020.0 DEFENDER (LE), 204-01

FRONT SUSPENSION

WHEEL KNUCKLE (G2424477)

mcx30.com

SPECIAL TOOL(S)



204-506/1

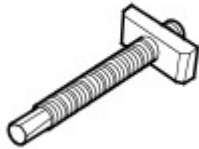
Remover/Installer, Halfshaft



204-506/2

Remover/Installer, Halfshaft Spacer

204-506/3



E49620

204-506/3

Remover/Installer, Halfshaft Screw Thread

204-506/5



E49621

204-506/5

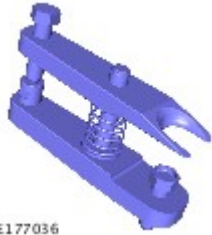
Retainers, Halfshaft tools



E156593

204-598

Hydraulic Cylinder 10t



E177036

JLR-204-793A

Ball Joint Splitter



E145966

JLR-204-803

Splitter, Upper Arm



E258695

JLR-204-838

Ball joint splitter



E269374

JLR-204-838-01

Ball Joint Splitter Adaptor

GENERAL EQUIPMENT

EQUIPMENT NAME
Transmission jack

PART(S)

STEP	PART NAME	QUALIFICATION	QUANTITY
Step 3	Upper control arm retaining nut and bolt	All vehicles	1
Step 4	Front lower arm ball joint to wheel knuckle nut(s)	All vehicles	1
Step 4	Rear lower arm to knuckle nut	All vehicles	1
Step 6	Tie-rod end nut	All vehicles	1

STEP	PART NAME	QUALIFICATION	QUANTITY
Step 12	knuckle extension bolt	All vehicles	1
Step 15	Front halfshaft nut	All vehicles	1

REMOVAL

NOTES:

- This procedure contains some variation in the illustrations depending on the vehicle specification, but the essential information is always correct.
- This procedure contains illustrations showing certain components removed to provide extra clarity.
- Special tool 204-598 may be substituted with LR-121.

The following step(s) applies to:

All vehicles

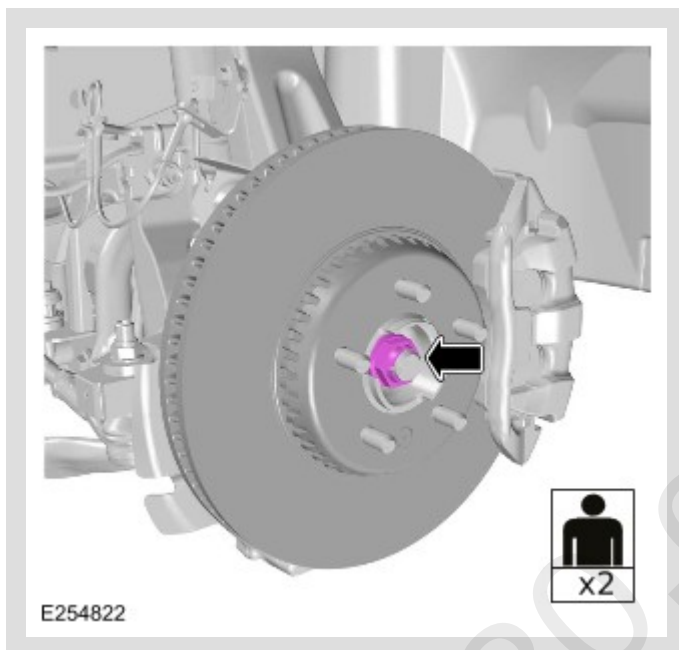
1. Use the Jaguar Land Rover (JLR) approved diagnostic system, to depressurise the air suspension.
Refer to: [Air Suspension System Depressurize and Pressurize](#) (204-05 Vehicle Dynamic Suspension, General Procedures).
2. Raise and support the vehicle on a suitable 2-post lift.
Refer to: [Jacking and Lifting](#) (100-02 Jacking and Lifting, Description and Operation).
3. Remove the front wheel and tire assembly.
Refer to: [Wheel and Tire](#) (204-04 Wheels and Tires, Removal and Installation).

⚠ CAUTION:

Do not use air tools to remove the half shaft nut.

⚠ NOTES:

- Apply the brake pedal during the removal of the half shaft nut.
- Retain the nut for use in the installation procedure.

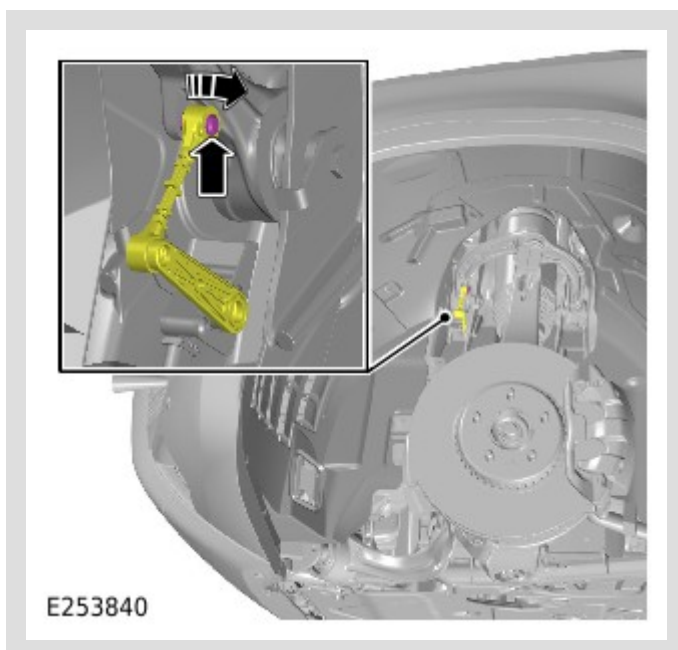


Remove the halfshaft nut.

5.

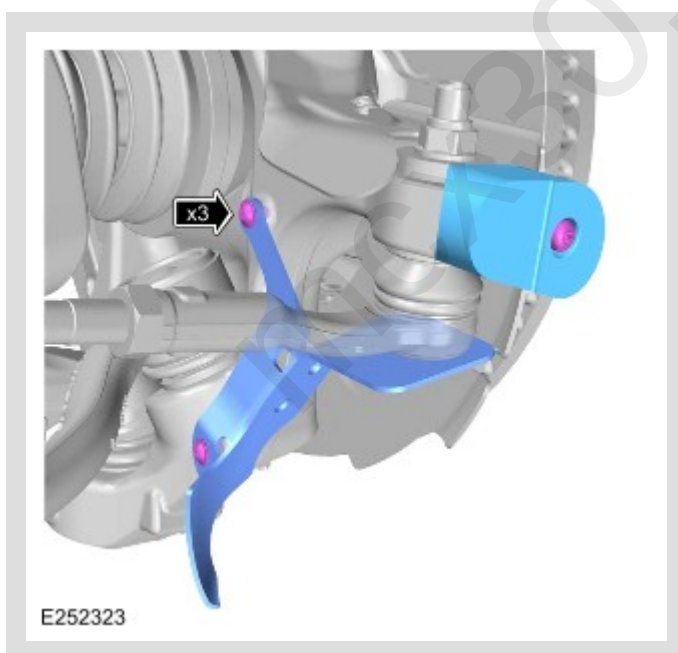
⚠ CAUTION:

Do not use excessive force to release the height sensor.



Release the height sensor from the upper control arm.

6.



- Remove the 2 bolts.
- Remove the air deflector.
- Remove and discard the bolt.
- Remove the knuckle extension.

7. Remove the brake disc.

Refer to: [Brake Disc 2 Piston Floating Caliper](#) (206-03 Front Disc Brake, Removal and Installation).

Refer to: [Brake Disc 4 Piston Fixed Caliper](#) (206-03 Front Disc Brake, Removal and Installation).

The following step(s) applies to:

Vehicles with high performance brakes

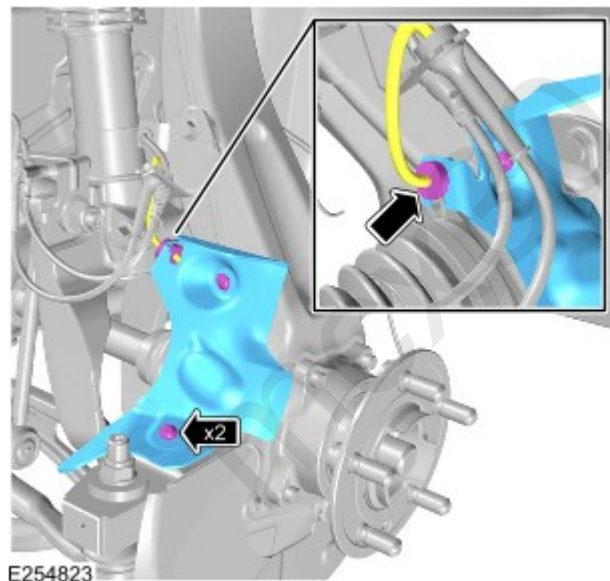
8. Remove the brake disc.

Refer to: [Brake Disc 6 Piston Fixed Caliper](#) (206-03 Front Disc Brake, Removal and Installation).

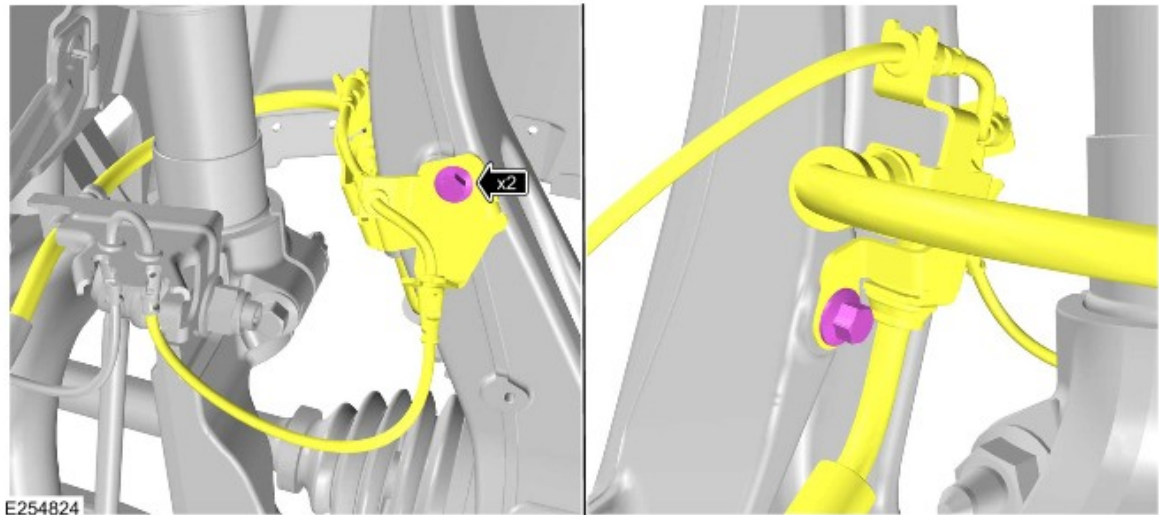
The following step(s) applies to:

All vehicles

- 9.



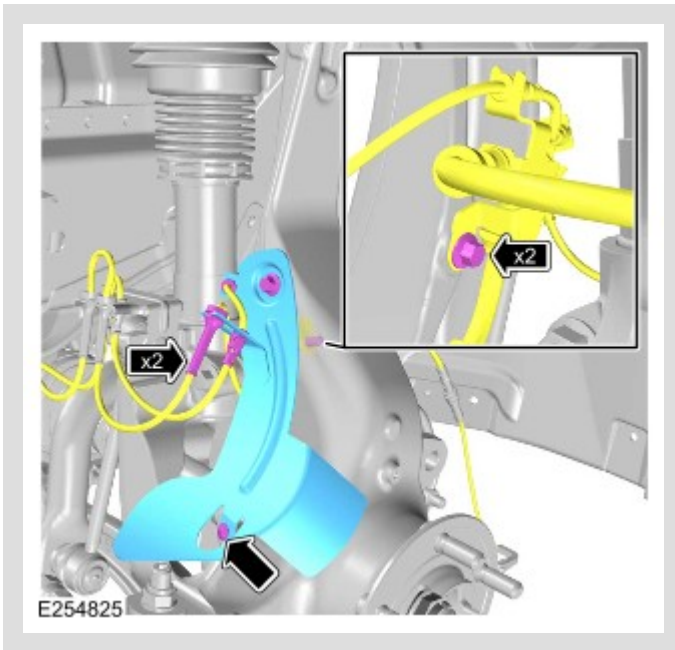
- Release the wiring harness from the grommet.
- Remove the 2 bolts.
- Remove the heatshield.



- Remove the 2 bolts.
- Release the brake hose and wiring harness bracket assembly.

The following step(s) applies to:

Vehicles with high performance brakes



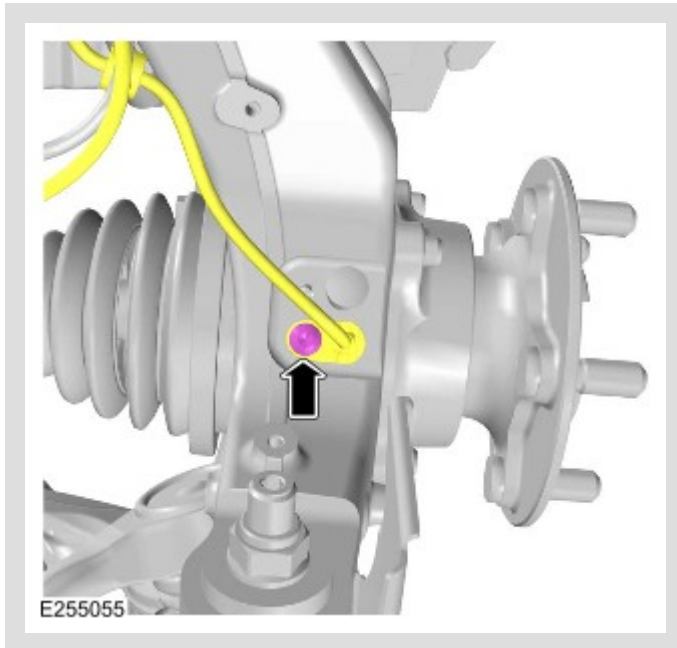
- Release the 2 wiring harness from the 3 grommets.
- Remove the lower bolt.
- Remove the 2 upper bolts
- Remove the heatshield.
- Release the brake hose and wiring harness bracket assembly from the wheel knuckle.

The following step(s) applies to:

All vehicles

ⓘ CAUTION:

Make sure that the component is clean, free of foreign material and lubricant.

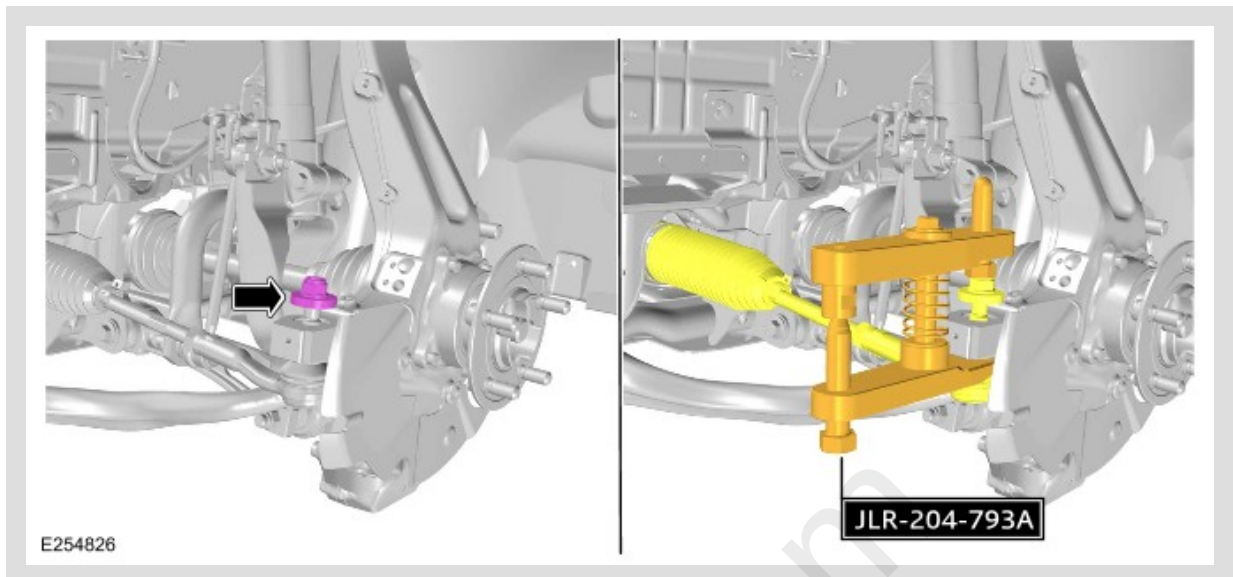


- Remove the bolt.
- Remove the wheel speed sensor.

13.

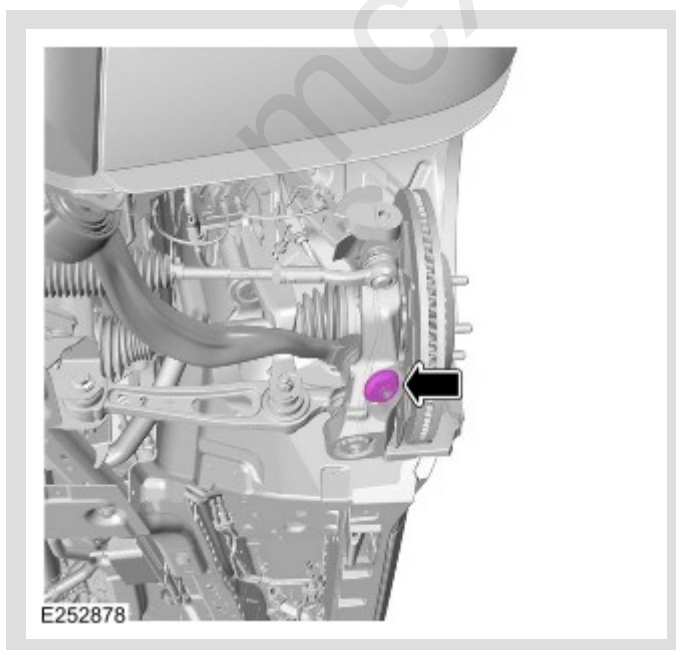
ⓘ CAUTION:

Make sure the special tool is correctly located and the lower ball joint boot is not damaged while carrying out the operation. Failure to follow this instruction may result in damage to the component.



- Loosen, but do not remove the nut.
- Use the special tool to release the tie-rod end from the wheel knuckle.
Special Tool(s): [JLR-204-793A](#)
- Remove the nut.
- Release the tie rod end from the wheel knuckle.

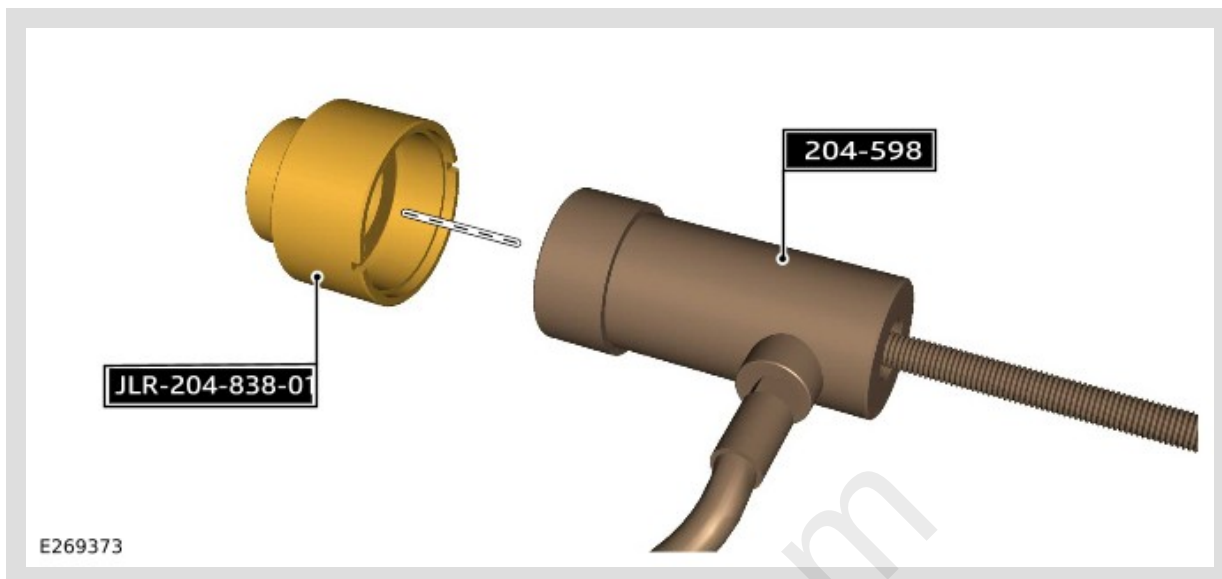
14.



Loosen, but do not fully tighten the nut.

 NOTE:

This step is only required for special tool 204-598. If LR-121 is used, do not install JLR-204-838-01.



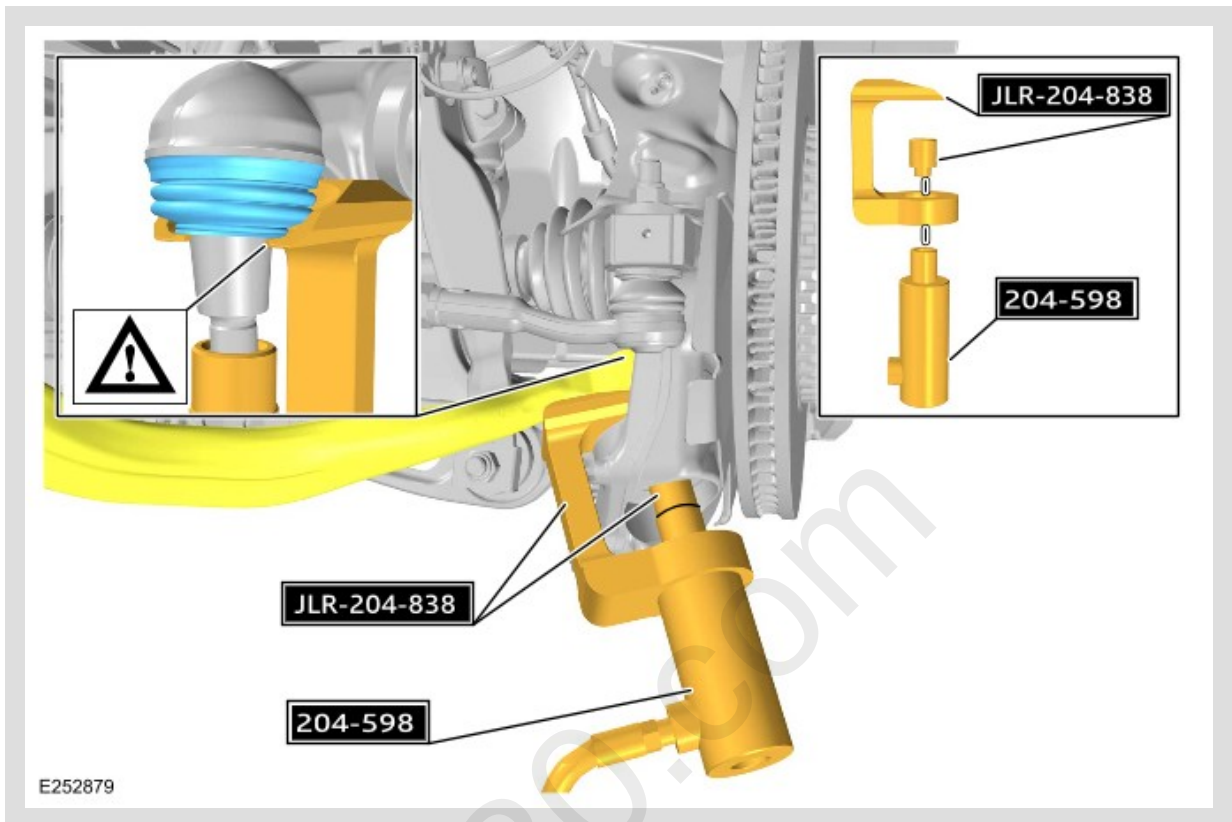
Assemble the special tools.

Special Tool(s): [JLR-204-838-01](#), [204-598](#)

16.

⚠ CAUTION:

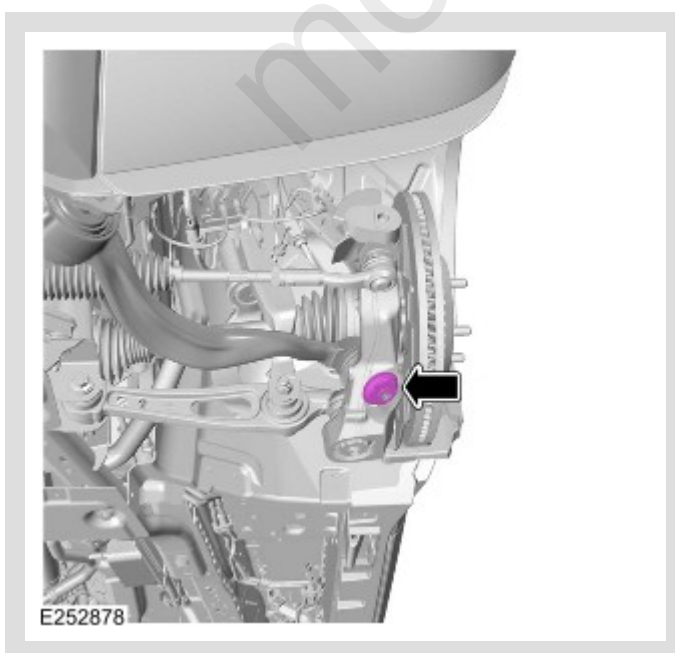
Make sure the special tool is correctly located and the lower ball joint boot is not damaged while carrying out the operation. Failure to follow this instruction may result in damage to the component.



Use the special tools to release the front lower control arm ball joint from the wheel knuckle.

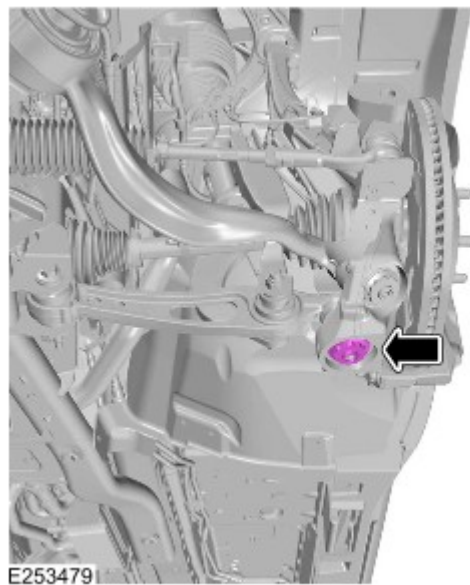
Special Tool(s): [204-598](#), [JLR-204-838](#)

17.



Remove and discard the nut.

18.

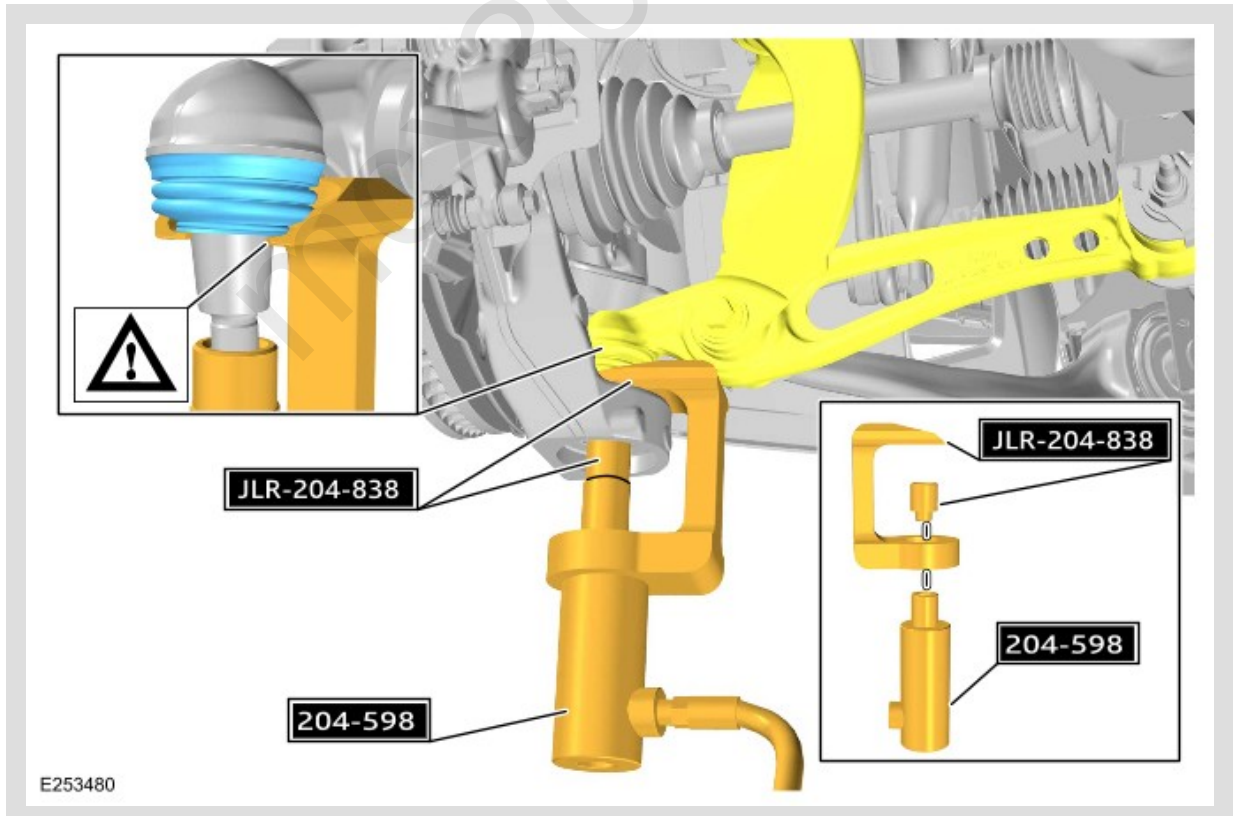


Loosen, but do not fully tighten the nut.

19.

⚠ CAUTION:

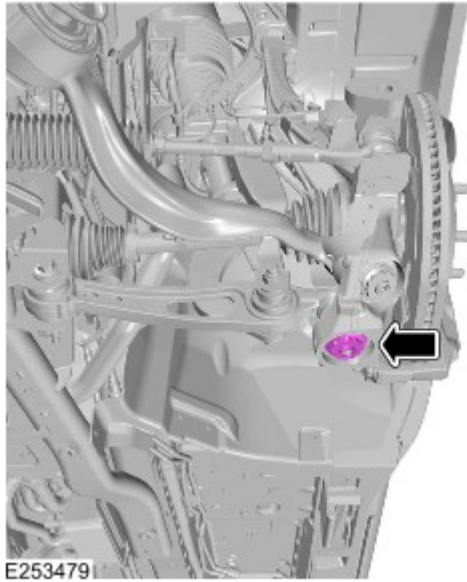
Make sure the special tool is correctly located and the ball joint boot is not damaged while carrying out the operation. Failure to follow this instruction may result in damage to the component.



Use the special tools to release the rear lower control arm ball joint from the wheel knuckle.

Special Tool(s): [204-598](#), [JLR-204-838](#)

20.

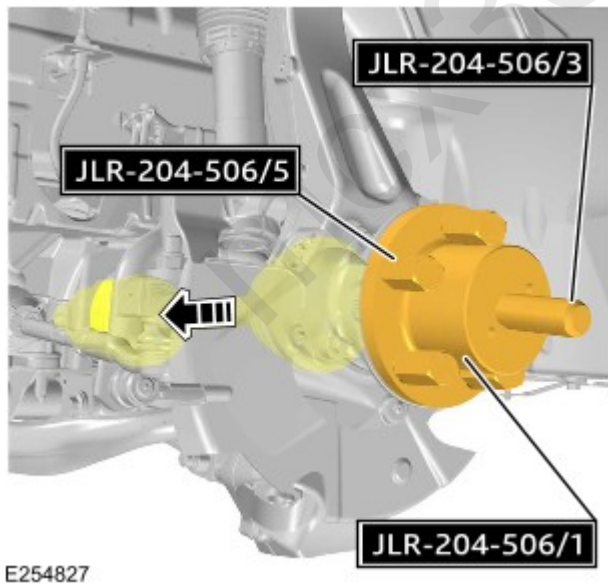


Remove and discard the nut.

21.

⚠ CAUTION:

Do not use a hammer to detach the halfshaft from the hub assembly, failure to follow this instruction may result in damage to the halfshaft.



Use the special tool to release the halfshaft from the wheel knuckle.

Special Tool(s): [204-506/5](#), [204-506/3](#), [204-506/1](#)

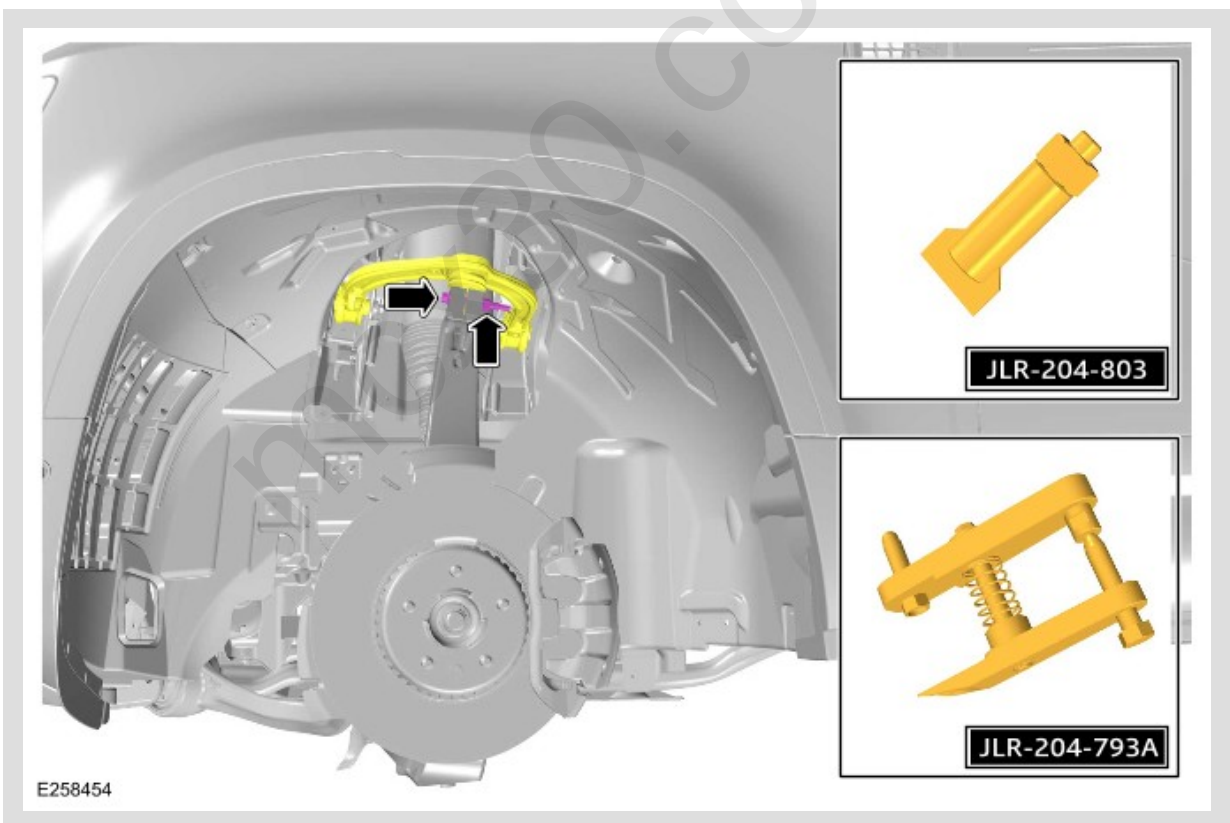
22.



Use a suitable transmission jack to support the front wheel knuckle.

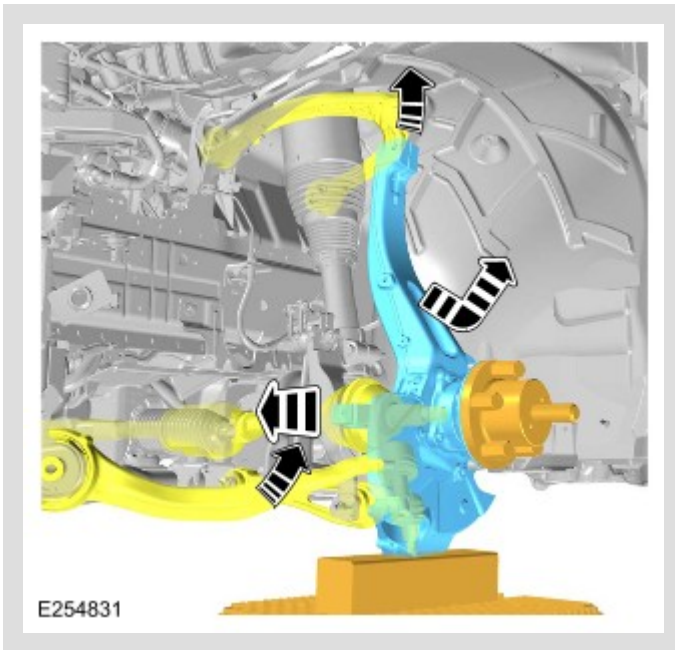
General Equipment: [Transmission jack](#)

23.



- Remove and discard the nut and bolt.
- Use the special tools to release the upper control arm from the wheel knuckle.
Special Tool(s): [JLR-204-803](#), [JLR-204-793A](#)
- Release the upper control arm.

24.



- Remove the wheel knuckle assembly.
- Remove the special tool from the wheel knuckle assembly.

25.

NOTE:

Only do the following step(s) if a new component is to be installed.



- Remove the 2 bolts.
- Remove the brake disc shield.

INSTALLATION

The following step(s) applies to:

All vehicles

1.

- Install the brake disc shield.
- Install and tighten the 2 bolts.
Torque: 10Nm
- Install the special tool.
Special Tool(s): [204-506/5](#), [204-506/3](#), [204-506/1](#)

2.

- Install the wheel knuckle assembly.
- Connect the front lower control arm to the wheel knuckle.
- Connect the rear lower control arm to the wheel knuckle.
- Position the front halfshaft into the wheel knuckle.

3.

- Connect the upper arm and wheel knuckle.
- Install and tighten the upper control arm to the wheel knuckle nut and the bolt.
Renew Part: [Upper control arm retaining nut and bolt](#) Quantity: 1.
Torque: 70Nm

4.

- Remove the transmission jack.
General Equipment: [Transmission jack](#)
- Install and tighten the front lower control arm to the wheel knuckle nut.
Renew Part: [Front lower arm ball joint to wheel knuckle nut\(s\)](#) Quantity: 1.
Torque: 290Nm
- Install and tighten the rear lower control arm to the wheel knuckle nut.
Renew Part: [Rear lower arm to knuckle nut](#) Quantity: 1.
Torque: 290Nm

5.

- Install the special tool.
Special Tool(s): [204-506/1](#), [204-506/2](#), [204-506/3](#), [204-506/5](#)
- Use the special tools to install the front halfshaft.
- Remove the special tool.

6.

- Connect the tie rod end to the wheel knuckle.
- Install and tighten the tie rod end to wheel knuckle nut.

*Renew Part: **Tie-rod end nut** Quantity: 1.*

*Torque: **140Nm***

7.

 CAUTION:

Make sure that the sensor tip is clean and free of foreign material.

- Install the wheel speed sensor to the wheel knuckle.
- Install and tighten the wheel speed sensor to wheel knuckle bolt.

*Torque: **9Nm***

8.

- Secure the brake hose and wiring harness bracket assembly to the wheel knuckle.

- Install and tighten the 2 bolts.

*Torque: **10Nm***

- Install the heatshield to the wheel knuckle.

- Install and tighten the 2 bolts.

*Torque: **10Nm***

- Secure the wiring harness to the heatshield.

The following step(s) applies to:

Vehicles with high performance brakes

9.

- Secure the brake hose and wiring harness bracket assembly to the wheel knuckle.

- Install and tighten the 2 bolts.

*Torque: **10Nm***

- Install the heatshield to the wheel knuckle.

- Install and tighten bolt.

*Torque: **10Nm***

- Secure the 2 wiring harness to the heatshield.

The following step(s) applies to:

Vehicles with high performance brakes

10. Install the front brake disc.

Refer to: [Brake Disc 6 Piston Fixed Caliper](#) (206-03 Front Disc Brake, Removal and Installation).

The following step(s) applies to:

All vehicles

11. Install the front brake disc.

Refer to: [Brake Disc 2 Piston Floating Caliper](#) (206-03 Front Disc Brake, Removal and Installation).

Refer to: [Brake Disc 4 Piston Fixed Caliper](#) (206-03 Front Disc Brake, Removal and Installation).

12.

- Install the knuckle extension.
- Install and tighten the knuckle extension to the wheel knuckle bolt.
Renew Part: [knuckle extension bolt](#) Quantity: 1.
Torque: 10Nm
- Install the air deflector to the wheel knuckle.
- Install and tighten the air deflector to the wheel knuckle upper bolt.
Torque: 10Nm
- Install and tighten the air deflector to the wheel knuckle lower bolt.
Torque: 10Nm
- Secure the height sensor link to the upper control arm.

13.

 CAUTION:

Do not use air tools to install the half shaft nut.

 NOTE:

Apply the brake pedal during the installation of the halfshaft nut.

Install and tighten the old halfshaft nut.

Torque: 175Nm

14.

 CAUTION:

Do not use air tools to remove the half shaft nut.

 NOTE:

Apply the brake pedal during the removal of the halfshaft nut.

Remove and discard the old halfshaft nut.

15.

 CAUTION:

Do not use air tools to install the half shaft nut.

 NOTE:

Apply the brake pedal during the installation of the halfshaft nut.

Install and tighten the halfshaft nut.

Renew Part: [Front halfshaft nut](#) Quantity: 1.

Torque

Stage1: 120Nm

Stage2: 60°

The following step(s) applies to:

All vehicles

16.

Install the wheel and tire assembly.

Refer to: [Wheel and Tire](#) (204-04 Wheels and Tires, Removal and Installation).

17.

Use the JLR approved diagnostic system, to pressurise the air suspension.

Refer to: [Air Suspension System Depressurize and Pressurize](#) (204-05 Vehicle Dynamic Suspension, General Procedures).

18.

Use the JLR approved diagnostic system, to calibrate the suspension ride height.

Refer to: [Ride Height Adjustments](#) (204-05 Vehicle Dynamic Suspension, General Procedures).