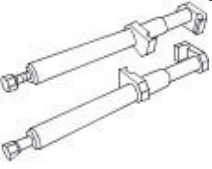




Rear Suspension - Rear Shock Absorber

Removal and Installation

| Special Tool(s) | |
|--|---|
|  <p>E36480</p> | Spring Compressors 204-179 (JD 199) |
|  <p>E36481</p> | Spring Retaining Straps 204-179-1 (JD 199-1) |

Removal

- 
CAUTION: Replacement of nuts and bolts: Various thread-locking devices are used on nuts and bolts throughout the vehicle. These devices restrict the number of times a nut or bolt can be used.
 For additional information, refer to Section [100-00 General Information](#).

Raise the rear of the vehicle and support on axle stands.

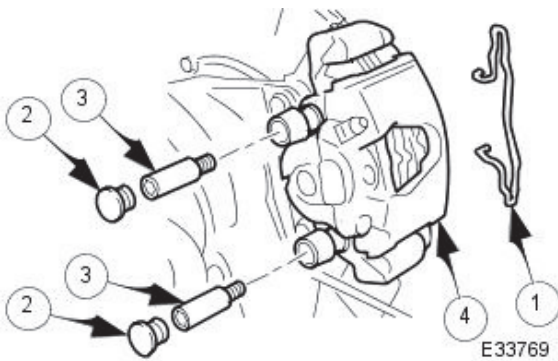
For additional information, refer to Section [100-02 Jacking and Lifting](#).

- Remove the relevant rear wheel.
 For additional information, refer to Section [204-04 Wheels and Tires](#).

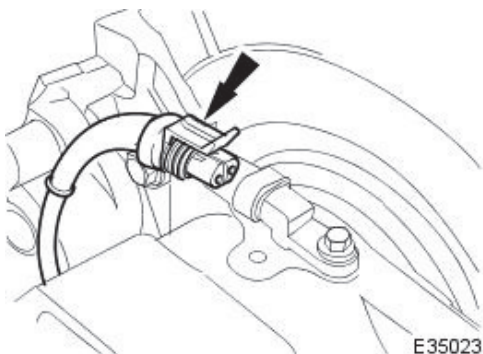
- 
CAUTION: Do not suspend the caliper from the brake hose as this will damage the hose.

Remove the brake caliper from the carrier.

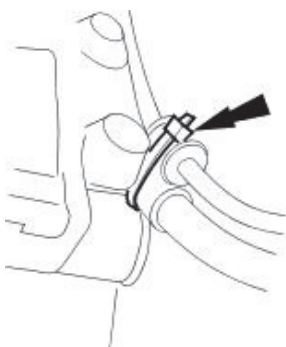
- Remove the caliper spring clip.
- Remove the guide pin dust caps.
- Slacken and withdraw the guide pins.
- Remove the caliper from the carrier and secure to the suspension mounting bracket using a tie strap.



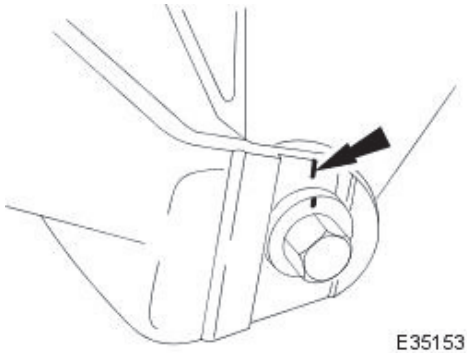
- Disconnect the wheel speed sensor electrical connector.



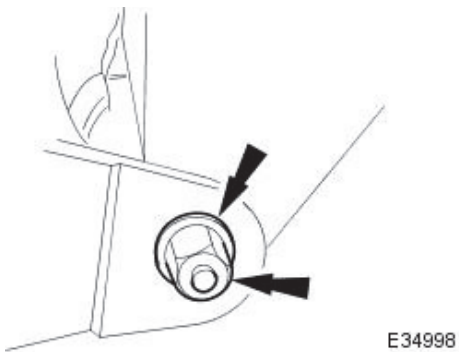
- Remove and discard the tie strap securing the wheel speed sensor harness to the brake hose clip.




6. Mark the wishbone at the pivot pin eccentric flange marker to aid installation.



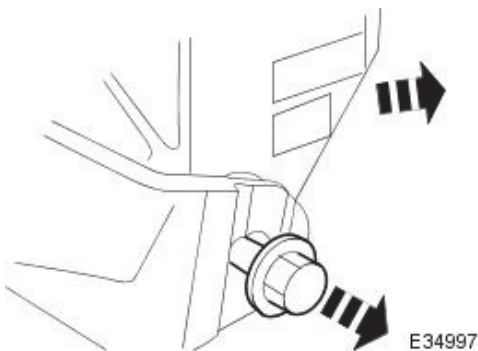
7. Remove the pivot pin nut and washer.



8.  CAUTION: To prevent damage to the parking brake cable, the hub carrier must be supported on removal from the wishbone.

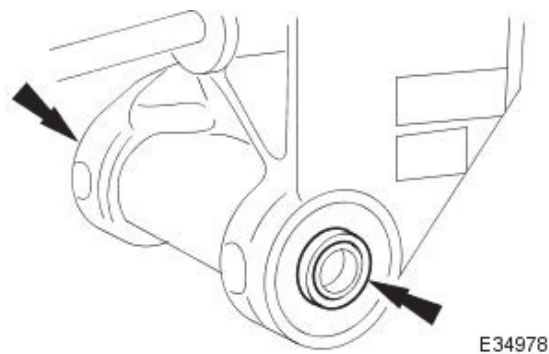
Remove the hub carrier from the wishbone.

- Remove the pivot pin from the hub carrier.
- Withdraw the hub carrier and support on a block of wood.



9.  CAUTION: Note the position of the shims during removal. They must be returned to their original position during installation.

Noting their positions, remove the shim from each end of the pivot pin sleeve.



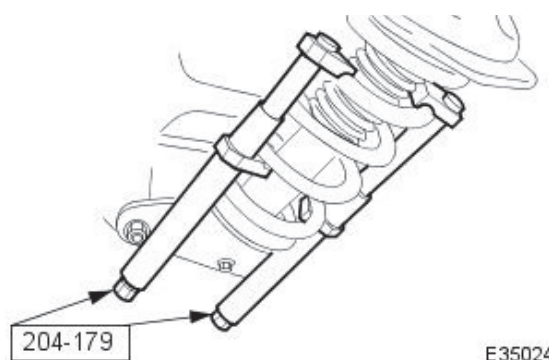
10. WARNINGS:

 ENSURE THE SPECIAL TOOLS ARE POSITIONED DIAMETRICALLY OPPOSITE ON THE SPRING AND THE ARMS ARE CORRECTLY SEATED .

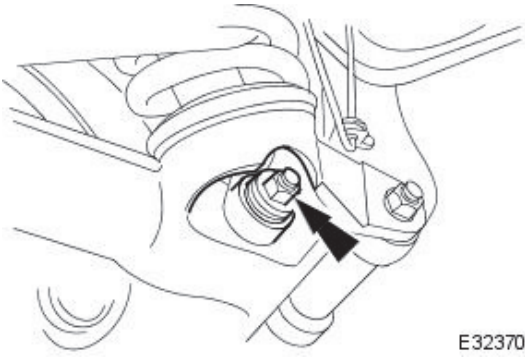
 WHEN COMPRESSING THE SPRING, TIGHTEN THE SPECIAL-TOOL ADJUSTMENT BOLTS EVENLY .

Compress the spring.

- Install and align the special tools 204-179 diametrically opposite on the spring.
- Evenly tighten the special tool tensioning bolts to compress the spring.

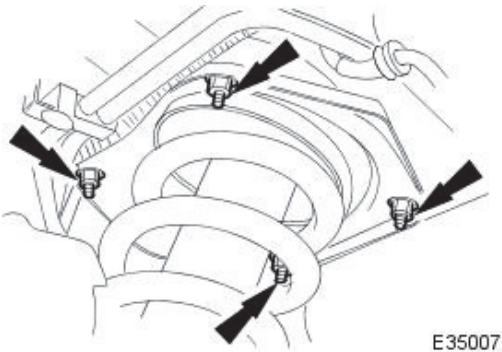


11. Remove the shock absorber to wishbone mounting nut and bolt.



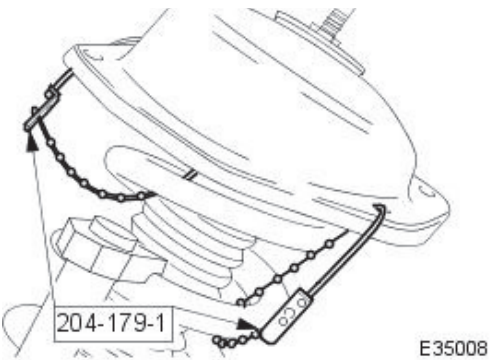
E32370

12. Remove the nuts securing the shock absorber and spring upper mounting to the body.



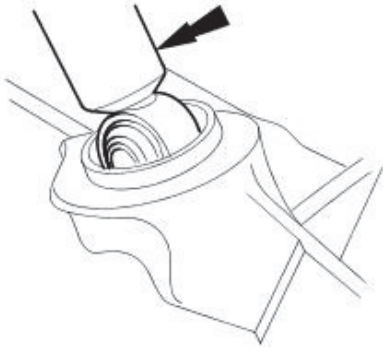
E35007

13. Using the special tools 204-179-1, secure the upper mounting to the spring.



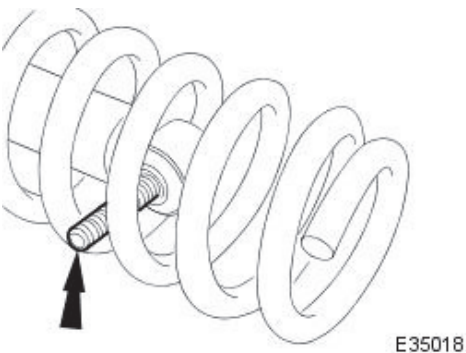
E35008

14. Using a jack, retract the shock absorber through the wishbone aperture.



E35017

15. Position a bolt through the spring coils and shock absorber lower-bush, to temporarily locate the shock absorber.

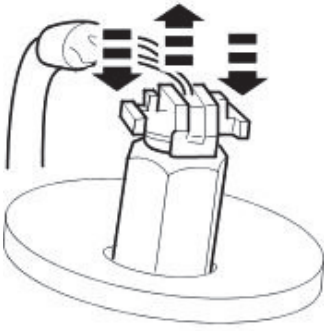


E35018

16. Partially lower the jack for access to the top of the shock absorber.

17. On vehicles with adaptive damping:

- Disconnect the shock absorber electrical connector by pressing the lugs down and pulling the connector up.



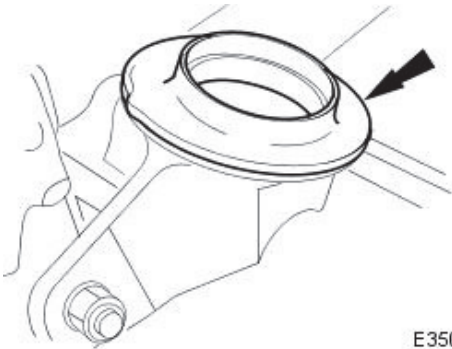
E35165

18. Lower and remove the jack.

19. Remove the shock absorber and spring assembly from the vehicle and place the assembly on a work bench.

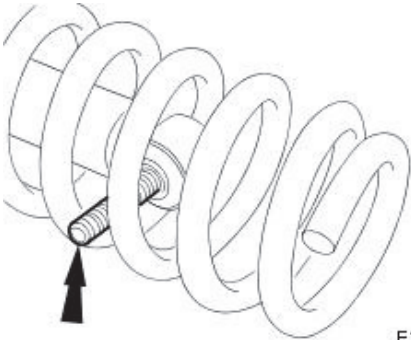
20. Clean the upper mounting spring location.

21. Remove the pigtail seat and clean the wishbone lower spring location.



E35011

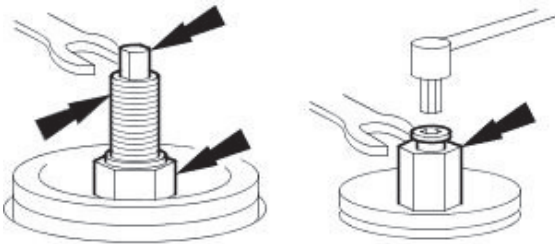
22. With assistance, manually compress the shock absorber and withdraw the bolt from the spring coils.



E35018

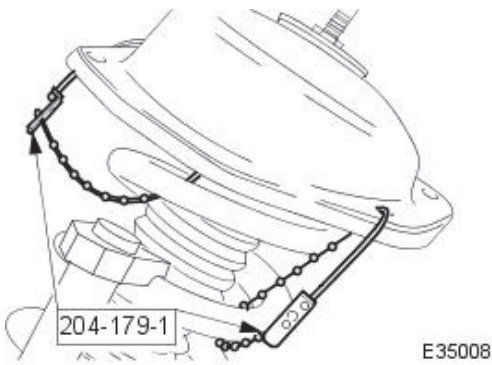
23. Remove the shock absorber from the upper mounting.

- Position a wrench on the shock absorber shaft flats to prevent rotation (wrench in socket on vehicles with adaptive damping).
- Remove the shock absorber upper retaining nut.
- Remove the upper washer and isolator.



E35166

24. Remove the special tools 204-179-1 and remove the upper mounting from the spring.



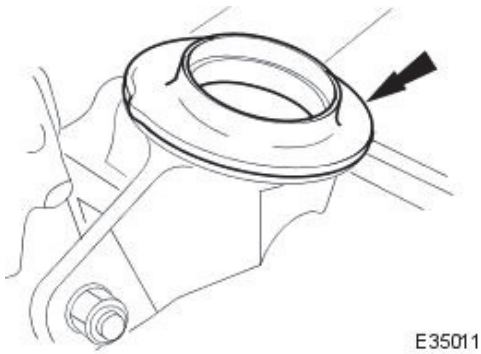
25. Remove the shock upper mounting assembly from the spring.

- Remove the spring upper isolator.
- Remove the upper spring pan.
- Remove the packing ring.



Installation

1. Install the spring pigtail lower seat on to the wishbone.

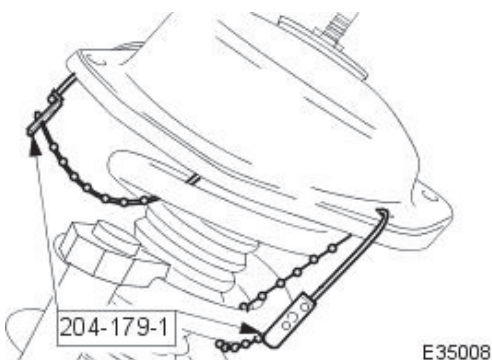


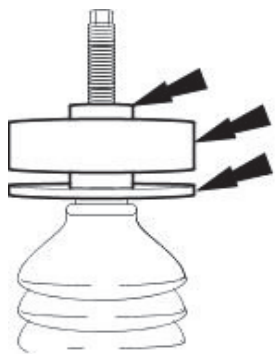
2. Install the spring in the upper mounting.

- Install the spring upper isolator.
- Install the upper spring pan.
- Install the packing ring.



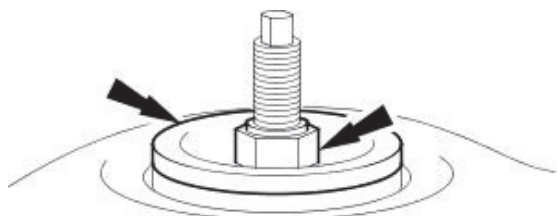
3. Ensuring the correct orientation, secure the upper mounting to the spring using the special tools 204-179-1.





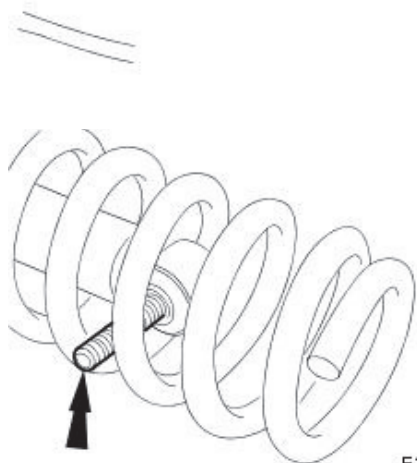
E35020

4. Position the spring upper mounting assembly on to the shock absorber.
 - Apply a thin coat of grease to the upper mounting bush.
 - Ensure that the washer, lower isolator and bush are correctly positioned on the shock absorber shaft.
 - Position the shock absorber shaft in the upper mounting.



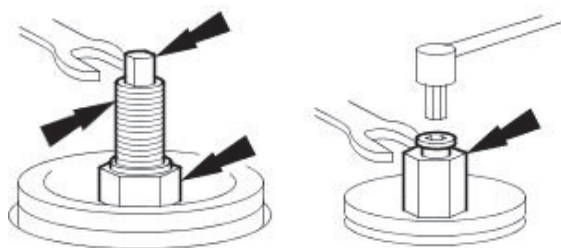
E35021

5. Secure the top of the shock absorber to the upper mounting.
 - Install the spring upper isolator.
 - Install the upper washer.
 - Install but do not tighten the locknut on to the shock absorber.



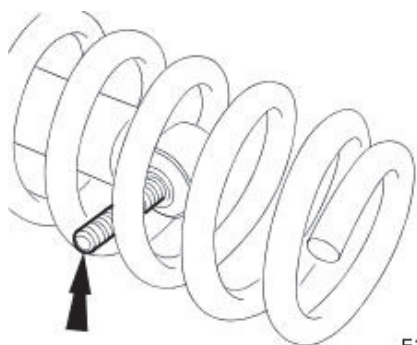
E35018

6. Manually retract the shock absorber and place a bolt through the spring coils and the shock absorber lower-bush.



E35166

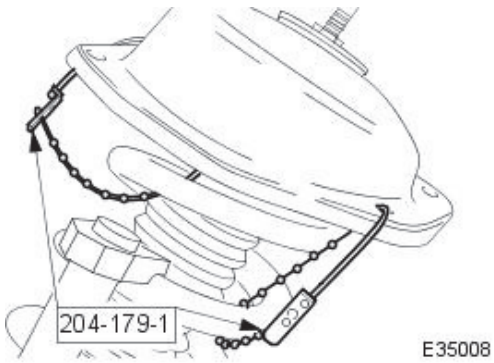
7. Secure the shock absorber to the upper mounting.
 - Position a wrench on the shock absorber shaft flats to prevent rotation (wrench in socket on vehicles with adaptive damping).
 - Tighten the shock absorber upper lock nut to 30-40 Nm (16-18 Nm on vehicles with adaptive damping).



E35018

8. Position the shock absorber and spring assembly to the vehicle.
9. With assistance, manually retract the shock absorber and remove the temporary securing bolt.

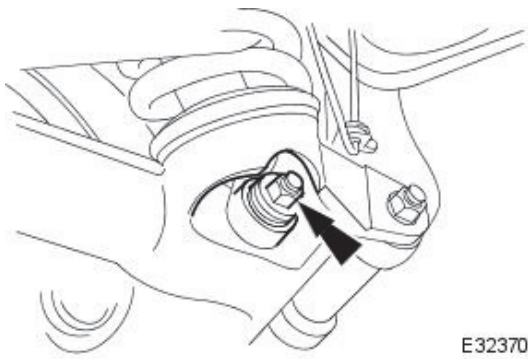
10. Remove the special tools 204-179-1.




E35008

11. Align the shock absorber lower bush to the wishbone and install the mounting bolt.

1. Install but do not tighten the nut.

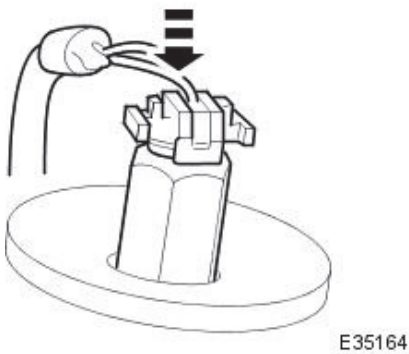


E32370

12.  CAUTION: Make sure the adaptive damping electrical connector is correctly aligned. Failure to follow these instructions may cause damage to the electrical connector.

On vehicles with adaptive damping:

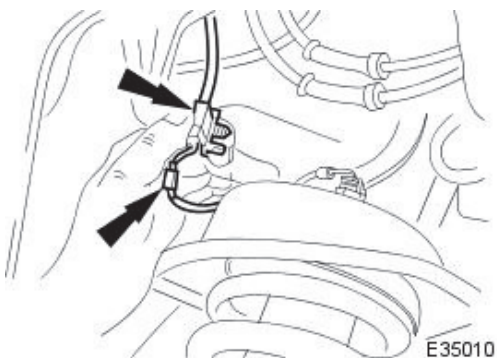
- Connect the shock absorber electrical connector, ensuring the electrical connector key locates in the socket keyway.



E35164

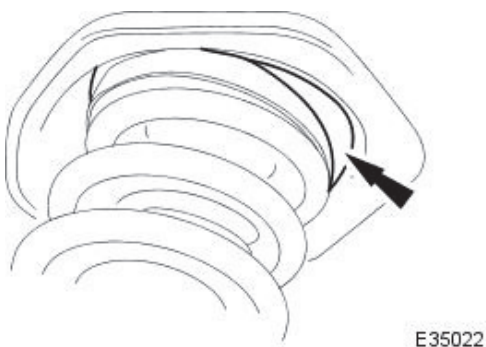
13. Seat the upper mounting in the body location.

1. If adaptive damping is installed, ensure the harness is correctly positioned.

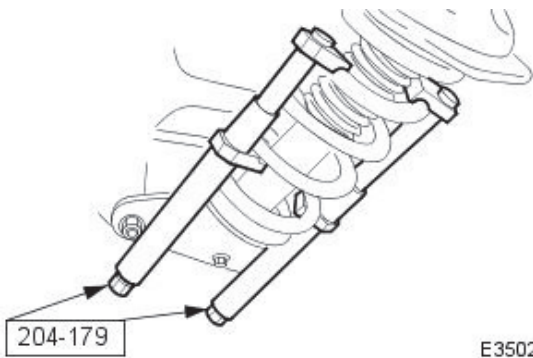


E35010

14. Ensuring that the spring is seated on the isolator and spring pan, position the upper spring pan on to the body studs.



E35022



E35024

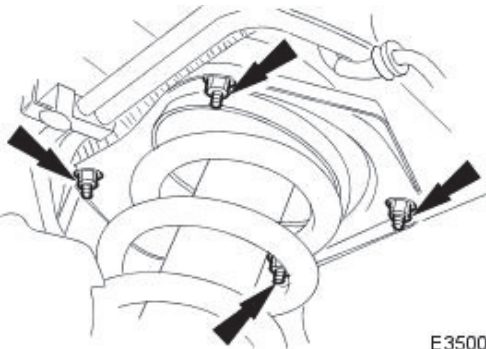
15. Release the spring tension.

- Ensuring that the spring is correctly located, evenly slacken the adjuster bolts on the special tools 204-179.

16. Remove the special tools 204-179.

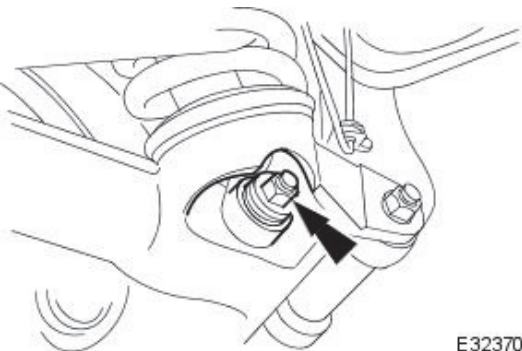
17. Fully seat and secure the upper spring pan to the body.

- Ensure the spring pan is correctly seated in the body location.
- Install the nuts securing the spring pan to the body studs.
- Tighten to 17-23 Nm.



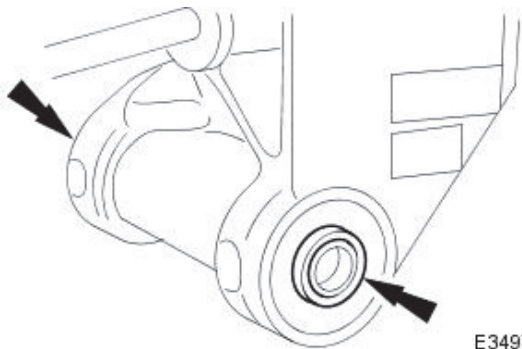
E35007

18. Tighten to 80-100 Nm.



E32370

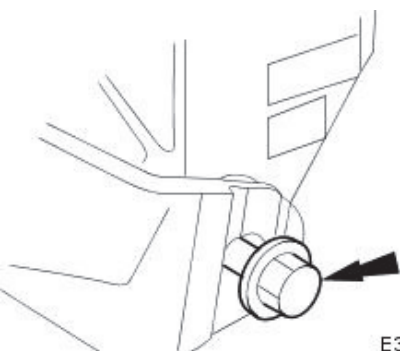
19. Install the shims on the pivot pin sleeve in the positions noted during removal.



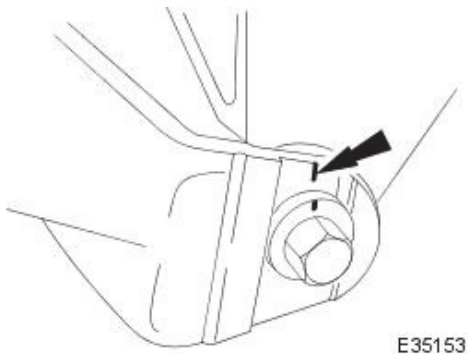
E34978

20. Install the hub assembly to the wishbone assembly.

- Position the hub and carrier to the wishbone.
- Install the pivot pin ensuring that the eccentric flange correctly seats in the wishbone groove.



E34977



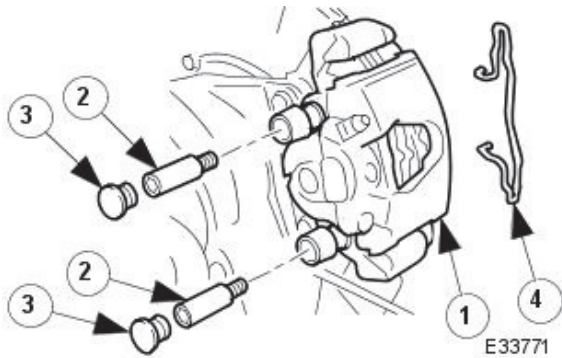
21. Install the pivot pin nut.

- Align the marker on the pivot pin flange with the mark made on wishbone.
- Install the nut on to the pivot pin and, ensuring the pin position is not disturbed, tighten the nut to 88-118 Nm.

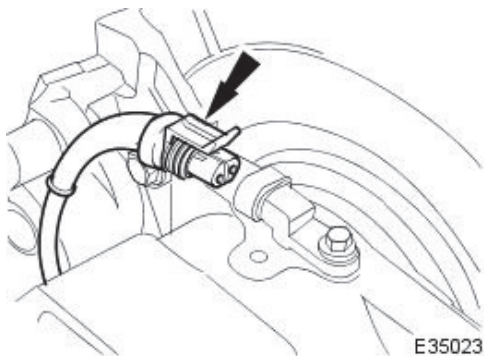
22. Release the tie strap securing the brake caliper to the suspension mounting bracket.

23. Install the brake caliper on to the carrier.

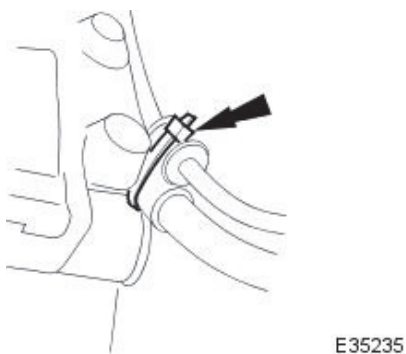
1. Position the caliper assembly on to the carrier.
2. Install the guide pins and tighten to 25-30 Nm.
3. Install the dust caps.
4. Install the brake caliper spring clip.



24. Connect the wheel speed sensor electrical connector.



25. Using a new tie strap, secure the wheel speed sensor harness to the brake hose clip.



26. Install the rear wheel.

For additional information, refer to Section [204-04 Wheels and Tires](#).

27. Remove the axle stands and lower the vehicle.

For additional information, refer to Section [100-02 Jacking and Lifting](#).

28. Check and adjust the rear wheel alignment as necessary.

For additional information, refer to Section [204-00 Suspension System - General Information](#).