

## Suspension System - General Information -

### Coil Spring Suspension

| Item  | Specification                                                                              |
|-------|--------------------------------------------------------------------------------------------|
| Front | Front: - Conventional coil spring with a twin tube damper and a high stress stabilizer bar |
| Rear  | Rear: - Conventional coil spring with a twin tube damper and a high stress stabilizer bar  |

### Wheel Alignment Specification (All Markets) - Front

• NOTE: All figures are with vehicle at 'Showroom' ride height - full fluids, full tank of fuel, no occupants/luggage, tires inflated to normal pressures

| Item   |                 | Left-hand |           | Right-hand |           | Total/Balance |           |
|--------|-----------------|-----------|-----------|------------|-----------|---------------|-----------|
| Camber |                 | Nominal   | Tolerance | Nominal    | Tolerance | Nominal       | Tolerance |
|        | Decimal degrees | -0.50°    | ± 0.75°   | -0.50°     | ± 0.75°   | 0°            | ± 0.75°   |
|        | Degrees/minutes | -30'      | ± 45'     | -30'       | ± 45'     | 0'            | ± 45'     |
|        |                 | Minimum   | Maximum   | Minimum    | Maximum   | Minimum       | Maximum   |
|        | Decimal degrees | -1.25°    | 0.25°     | -1.25°     | 0.25°     | -0.75°        | 0.75°     |
|        | Degrees/minutes | -1°15'    | 15'       | -1°15'     | 15'       | -45'          | 45'       |
| Castor |                 | Nominal   | Tolerance | Nominal    | Tolerance | Nominal       | Tolerance |
|        | Decimal degrees | 3.25°     | ± 0.75°   | 3.25°      | ± 0.75°   | 0°            | ± 0.75°   |
|        | Degrees/minutes | 3°15'     | ± 45'     | 3°15'      | ± 45'     | 0'            | ± 45'     |
|        |                 | Minimum   | Maximum   | Minimum    | Maximum   | Minimum       | Maximum   |
|        | Decimal degrees | 2.50°     | 4°        | 2.50°      | 4°        | -0.75°        | 0.75°     |
|        | Degrees/minutes | 2°30'     | 4°        | 2°30'      | 4°        | -45'          | 45'       |
| Toe    |                 | Nominal   | Tolerance | Nominal    | Tolerance | Nominal       | Tolerance |
|        | Decimal degrees | 0.10°     | ± 0.10°   | 0.10°      | ± 0.10°   | 0.20°         | ± 0.20°   |
|        | Degrees/minutes | 6'        | ± 6'      | 6'         | ± 6'      | 12'           | ± 12'     |
|        |                 | Minimum   | Maximum   | Minimum    | Maximum   | Minimum       | Maximum   |
|        | Decimal degrees | 0°        | 0.20°     | 0°         | 0.20°     | 0°            | 0.40°     |
|        | Degrees/minutes | 0'        | 12'       | 0'         | 12'       | 0'            | 24'       |

### Wheel Alignment Specification (All Markets) - Rear

• NOTE: All figures are with vehicle at 'Showroom' ride height - full fluids, full tank of fuel, no occupants/luggage, tires inflated to normal pressures

| Item   |                 | Left-hand |           | Right-hand |           | Total/Balance |           | Thrust Angle |           |
|--------|-----------------|-----------|-----------|------------|-----------|---------------|-----------|--------------|-----------|
| Camber |                 | Nominal   | Tolerance | Nominal    | Tolerance |               |           |              |           |
|        | Decimal degrees | -1.95°    | ± 0.75°   | -1.95°     | ± 0.75°   |               |           |              |           |
|        | Degrees/minutes | -1°57'    | ± 45'     | -1°57'     | ± 45'     |               |           |              |           |
|        |                 | Minimum   | Maximum   | Minimum    | Maximum   |               |           |              |           |
|        | Decimal degrees | -2.70°    | -1.20°    | -2.70°     | -1.20°    |               |           |              |           |
|        | Degrees/minutes | -2°42'    | -1°12'    | -2°42'     | -1°12'    |               |           |              |           |
| Toe    |                 | Nominal   | Tolerance | Nominal    | Tolerance | Nominal       | Tolerance | Nominal      | Tolerance |
|        | Decimal degrees | 0.17°     | ± 0.14°   | 0.17°      | ± 0.14°   | 0.33°         | ± 0.20°   | 0°           | ± 0.14°   |
|        | Degrees/minutes | 10'       | ± 8'      | 10'        | ± 8'      | 20'           | ± 12'     | 0'           | ± 8'      |
|        |                 | Minimum   | Maximum   | Minimum    | Maximum   | Minimum       | Maximum   | Minimum      | Maximum   |
|        | Decimal degrees | 0.03°     | 0.31°     | 0.03°      | 0.31°     | 0.13°         | 0.53°     | -0.14°       | 0.14°     |
|        | Degrees/minutes | 2'        | 18'       | 2'         | 18'       | 8'            | 32'       | -8'          | 8'        |

### Vehicle Ride Height

• NOTE: All figures are with vehicle at 'Kerbside' (curbside) ride height - full fluids, full tank of fuel, no occupants/luggage, tires inflated to normal pressures

• NOTE: Ride height is measured vertically from wheel center to underside of wheel arch

| Description | mm         | inch         |
|-------------|------------|--------------|
| Front       | 490.7 ± 12 | 19.32 ± 0.47 |
| Rear        | 504.6 ± 12 | 19.87 ± 0.47 |

# Suspension System - General Information - Suspension System

Diagnosis and Testing

## Principles of Operation

For a detailed description of the suspension system, refer to the relevant Description and Operation section in the workshop manual. REFER to:

[Front Suspension](#) (204-01 Front Suspension, Description and Operation),  
[Rear Suspension](#) (204-02 Rear Suspension, Description and Operation),  
[Ride and Handling Optimization](#) (204-06 Ride and Handling Optimization, Description and Operation).

## Inspection and Verification

1. **1.** Verify the customer concern.
2. **2.** Visually inspect for obvious signs of damage.

### Visual Inspection

| Mechanical                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>● Damaged tires</li> <li>● Wheel bearing(s)</li> <li>● Loose or damaged front or rear suspension components</li> <li>● Loose, damaged or missing suspension fastener(s)</li> <li>● Incorrect spring(s) installed</li> <li>● Damaged or sagging spring(s)</li> <li>● Damaged or leaking shock absorber(s)</li> <li>● Damaged or leaking strut(s)</li> <li>● Worn or damaged suspension bushing(s)</li> <li>● Loose, worn or damaged steering system components</li> <li>● Damaged axle components</li> </ul> |

3. **3.** If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step.
4. **4.** If the cause is not visually evident, verify the symptom and refer to the Symptom Chart.

## Symptom Chart

| Symptom                       | Possible Cause                                                                                                                                                                                                                                                                                                                                 | Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Crabbing                      | <ul style="list-style-type: none"> <li>● Incorrect rear thrust angle</li> <li>● Front or rear suspension components</li> <li>● Drive axle damaged</li> </ul>                                                                                                                                                                                   | CHECK the rear toe adjustment.<br>REFER to: <a href="#">Specifications</a> (204-00 Suspension System - General Information, Specifications) / Four-Wheel Alignment (204-00 Suspension System - General Information, General Procedures).<br>INSPECT the front and rear suspension systems. REPAIR or INSTALL new suspension components as necessary. INSTALL a new rear drive axle/differential as necessary                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Drift/Pull                    | <ul style="list-style-type: none"> <li>● Unequal tire pressure</li> <li>● Incorrect wheel alignment</li> <li>● Tires</li> <li>● Unevenly loaded or overloaded vehicle</li> <li>● Damaged steering components</li> <li>● Brake drag</li> </ul>                                                                                                  | CHECK and ADJUST the tire pressures. INSPECT the tire for excessive wear.<br>REFER to: <a href="#">Specifications</a> (204-04 Wheels and Tires, Specifications).<br>CHECK and ADJUST the wheel alignment.<br>REFER to: Four-Wheel Alignment (204-00 Suspension System - General Information, General Procedures).<br>CHECK and ADJUST the tire pressures. INSPECT the tire for excessive wear.<br>REFER to: <a href="#">Specifications</a> (204-04 Wheels and Tires, Specifications).<br>NOTIFY the customer of incorrect vehicle loading. CHECK the steering system.<br>REFER to: <a href="#">Steering System</a> (211-00 Steering System - General Information, Diagnosis and Testing).<br>CHECK the brakes.<br>REFER to: <a href="#">Brake System</a> (206-00 Brake System - General Information, Diagnosis and Testing). |
| Front Bottoming or Riding Low | <ul style="list-style-type: none"> <li>● Coil springs</li> </ul>                                                                                                                                                                                                                                                                               | CHECK the ride height. INSTALL new springs as necessary.<br>REFER to: <a href="#">Spring</a> (204-01 Front Suspension, Removal and Installation) / <a href="#">Rear Shock Absorber</a> (204-02 Rear Suspension, Removal and Installation).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Incorrect Tire Wear           | <ul style="list-style-type: none"> <li>● Incorrect tire pressure (rapid center rib or inner and outer edge wear)</li> <li>● Excessive front or rear toe (rapid inner or outer edge wear)</li> <li>● Excessive negative or positive camber (rapid inner or outer edge wear)</li> <li>● Tires out of balance (tires cupped or dished)</li> </ul> | CHECK and ADJUST the tire pressure. INSPECT the tire for excessive wear.<br>REFER to: <a href="#">Specifications</a> (204-04 Wheels and Tires, Specifications).<br>CHECK and ADJUST the wheel alignment.<br>REFER to: Four-Wheel Alignment (204-00 Suspension System - General Information, General Procedures).<br>BALANCE the wheels/tires                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

# Suspension System - General Information - Four-Wheel Alignment

## General Procedures

1. Check the geometry specifications.

Refer to: [Specifications](#) (204-00 Suspension System - General Information, Specifications).

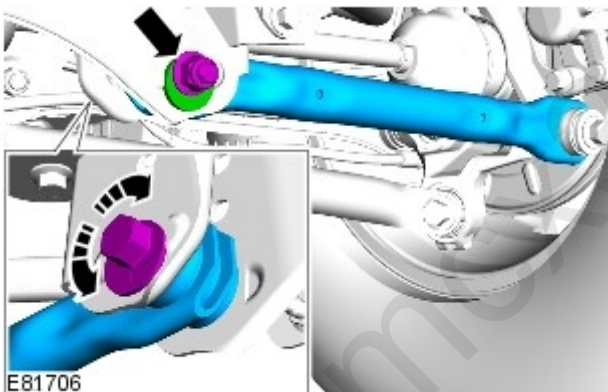
2. Check the tie rod ends, suspension joints, wheel bearings and wheels and tires for damage, wear and free play.
3. Check and adjust tire pressures.
4. Position the vehicle on a calibrated, level, vehicle lift.
5. Release the vehicle parking brake.
6. Using only four wheel alignment equipment approved by Land Rover, check and adjust the wheel alignment.

7.  **WARNING:** Make sure to support the vehicle with axle stands.

Raise and support the vehicle.

8. Adjust the rear toe.

*Torque: 175 Nm*

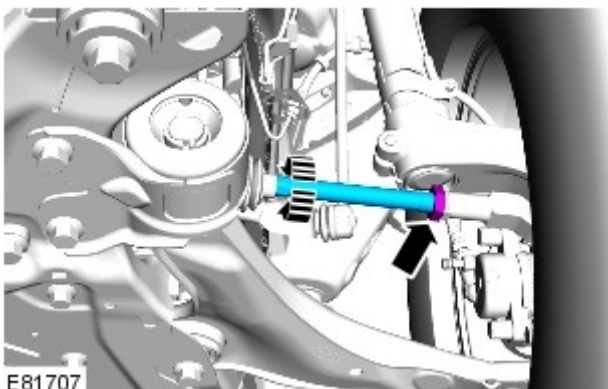


9. Repeat the rear toe measurement.

10. Align the steering to straight ahead.

11. Adjust the front toe.

*Torque: 55 Nm*



12. Check, and if necessary, repeat the wheel alignment procedure until the correct values are obtained.
13. Using the Land Rover approved diagnostic system, calibrate the steering angle sensor.

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