



MODEL XJ

DATE 3 DEC 2007

NUMBER JTB00067 (Issue 1)

SERVICE

TECHNICAL BULLETIN

THIS BULLETIN REPLACES XJ204-06, ISSUED 03/2005. AS THE CHANGES ARE EXTENSIVE, THEY ARE NOT HIGHLIGHTED IN GREY

SECTION: 204-05

Air Suspension System - Diagnosis

AFFECTED VEHICLE RANGE:

XJ (X350)

VIN: G00442 - Onwards

Model Year: 2004 - Onwards

CONDITION SUMMARY:

AIR SUSPENSION SYSTEM LEAK DIAGNOSIS

Situation: A lower than normal suspension system after being parked for several hours or concerns about air spring leakage may be caused by air leakage from a component or connection in the air suspension system.

Action: Should a customer express the above concern, follow the Diagnostic Procedure outlined below to set the air suspension system to a known condition so measurements can be taken.

PARTS:

NOTE: GOTEK LDS is a shop supply and is not to be claimed for this procedure. C2C 22398.....GOTEK LDS (Leak Detection Spray) As required

TOOLS:

Jaguar IDS and DVD 109 Patch File 3 or later 204-484.....Ride Height Gauge

WARRANTY:

NOTE: Repair procedures are under constant review, and therefore times are subject to change; those quoted here must be taken as guidance only. Always refer to DDW to obtain the latest repair time.

DDW requires the use of causal part numbers. Labor only claims must show the causal part number with a quantity of zero.

Table with 5 columns: Description, SRO, Time (Hours), Condition Code, Causal Part. Row 1: Air Suspension Diagnostic Procedure, 60.91.44, 1.10, 42, C2C 27702

Normal warranty policy and procedures apply.

NOTE: The information in Technical Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment required to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers." If you are not a Dealer, do not assume that a condition described affects your vehicle. Contact an authorized Jaguar service facility to determine whether the bulletin applies to a specific vehicle.

DIAGNOSTIC PROCEDURE

AIR SUSPENSION SYSTEM LEAK INSPECTION

1. Park the vehicle on level ground with the ignition switched 'OFF', the steering in the straight ahead position and the transmission selector lever in 'PARK'.



CAUTION: This procedure requires IDS DVD109 with Patch file 3 or later and the Midtronics PSC-550 Vehicle Power Supply connected to the vehicle battery during diagnosis.

2. Connect a Midtronics PSC-550 Vehicle Power Supply to the vehicle.
3. Connect IDS to the vehicle and begin a new diagnostic session by entering the correct VIN for the current vehicle.
4. When prompted 'Do you wish to read configuration information from the vehicle?' select 'NO'.
5. Press 'tick' to continue.
6. When prompted 'Vehicle Configuration Confirmation?' select 'YES'.
7. Press 'tick' to continue.



NOTE: Read and record the air suspension DTCs on the repair order and carry out any repairs associated with the DTCs as a separate warranty claim. If DTCs and corrective actions relate directly to vehicle lean system leakage issues, do not continue with this procedure.

8. When prompted 'Do you wish to read diagnostic trouble codes?' select 'YES'.
9. Record all DTCs on the repair order.
10. Press 'tick' to continue.
11. Open the luggage compartment lid.
12. Remove the spare wheel/tool compartment cover.
13. Remove spare wheel.
14. Remove compressor and valve block cover.




NOTE: Any leaks identified must be corrected on a separate Warranty Claim.

15. Perform a leak detection check on all valve block, reservoir and air spring (front and rear) pipe connectors using GOTEK LDS (C2C 22398) or equivalent pneumatic/gas leak detection spray.
16. If leaks are identified and corrected that correspond directly to the customer concern, proceed directly to step 13 of **SETTING VEHICLE SUSPENSION TO CUSTOMER MODE** below.

RECORDING VEHICLE RIDE HEIGHT

1. Select the 'Vehicle Configuration' tab.
2. Select from the menu 'Set-up and Configuration',
3. Press 'tick' to continue.
4. Select 'Air Suspension' and then 'Air Suspension Transportation/customer mode' from the menu.
5. Press 'tick' to continue.
6. Select 'Transportation Mode'.
7. Press 'tick' to continue.
8. Follow all on-screen instructions to complete this task.
9. When the task is completed, exit the current session.
10. Disconnect IDS and the battery charger/power supply.

 **NOTE: The driver's door window should remain open and all doors, luggage compartment lid and hood should remain closed. Do not enter the vehicle for the remainder of this procedure.**

11. From outside the vehicle, start the engine and allow to idle for two minutes to allow the air suspension system to level.
12. From outside the vehicle, switch 'OFF' the engine.
13. Leave car for two hours to allow car temperature to stabilize.
14. Record external ambient temperature (Celsius) displayed in the vehicle on the repair order as "Temp1".
15. From outside the vehicle, start engine and allow engine to idle for two minutes.


 **NOTE: The vehicle must remain with the doors, luggage compartment lid and hood closed until step 20 has been completed.**

16. From outside the vehicle, switch the engine 'OFF' and remove the ignition key.
17. Gently push down on each corner of the vehicle to settle the suspension.
18. Use the Ride Height Gauge (204-484) to measure suspension ride height at each wheel and record measurements on the repair order as 'Before'.
19. Let vehicle set for 24 hours or until a change of **8mm** has occurred.
20. After the 24-hour period, use the Ride Height Gauge (204-484) to measure suspension ride height at each wheel and record measurements on the repair order as 'After'.


 **NOTE: The doors, luggage compartment lid and hood may now be opened.**

21. Record the external ambient temperature (Celsius) displayed in the vehicle on the repair order as "Temp 2".

CALCULATING SUSPENSION HEIGHT LOSS

 **NOTE: A leak in one air spring or pipe connection will result in a ride height reduction in other corners due to the increased loading on their air springs. However, the non-leaking springs do not require replacement.**

1. If 'Temp 2' is within **2°C** of 'Temp1', verify that the 'After' measurements are within **8mm** of the 'Before' measurements.
2. If any single wheel's ride height has gone down by more than **8mm**, perform the following:
 - Replace only the air spring/damper assembly at the affected corner as described in GTR Workshop Manual, section 204-05.
 - Check all disturbed connectors using GOTEK LDS or suitable leak detection spray.
 - Claim the repair on a separate Warranty Claim.

 **NOTE: The vehicle ride height is affected by the air temperature in the air spring. If the ambient temperature has gone down by more than 2°C, the following temperature compensation formula solution is required to determine the maximum amount of ride height change allowed under those temperature conditions:**

Formula: $X = [(Temp\ 1 - Temp\ 2) \times 1.5mm] + 8mm.$

Example: $X = [(25°C - 20°C) \times 1.5mm] + 8mm, \text{ or } X = 15.5mm \text{ in this example.}$

3. If 'Temp 2' is more than **2°C** below 'Temp 1', calculate the maximum amount of ride height reduction allowed (**Xmm**) to determine if a fault lies within the air suspension system or is in fact a normal reaction to the effect air temperature has on the pressure in the air spring.
4. If any single wheel's ride height has gone down by more than **Xmm**, perform the following:
 - Replace only the air spring/damper assembly at the affected corner as described in GTR Workshop Manual, section 204-05.
 - Check all disturbed connectors using GOTEC LDS or suitable leak detection spray.
 - Claim the repair on a separate Warranty Claim.

SETTING VEHICLE SUSPENSION TO CUSTOMER MODE



CAUTION: This procedure requires IDS DVD109 with Patch file 3 or later and the Midtronics PSC-550 Vehicle Power Supply connected to the vehicle battery during diagnosis..

1. Connect a Midtronics PSC-550 Vehicle Power Supply to the vehicle.
2. Connect IDS to the vehicle and begin a new diagnostic session, by entering the correct VIN for the current vehicle.
3. Select the 'Vehicle Configuration' tab.
4. Select from the menu 'Set-up and Configuration'.
5. Press 'tick' to continue.
6. Select 'Air Suspension', then 'Air Suspension Transportation/customer mode' from the menu.
7. Press 'tick' to continue.
8. Select 'Customer Mode'.
9. Press 'tick' to continue.
10. Follow all on-screen instructions to complete this task.
11. When the task is completed, exit the current session.
12. Disconnect IDS and the battery charger/power supply.
13. Install reservoir and valve block cover.
14. Install spare wheel.
15. Install the spare wheel/tool compartment cover.
16. Close the luggage compartment lid.