



PERSONAL SERVICE LAB

MASTERS OF CARE

# Grecale, GranTurismo: Air Suspension System Diagnosis



**ATTENTION! This bulletin supersedes [MAS004068 RU 24-19](#) released on May 1, 2024. This bulletin has been updated with new diagnostic info. Please discard/remove all copies of the previous bulletin.**

DATE: December 17, 2024

This Technical bulletin serves as a guide and provides additional diagnostic info for possible Air suspension issues on GranTurismo and some Grecale equipped with Air Suspension System.

**All Air Suspension concerns require a BOL to be opened with the included checklist attached (last page).**

**MODELS:**

- M182 Grecale with **OPT 7XV** (All MY)
- M189 GranTurismo and GranCabrio(All MY)

**Preliminary checks to be carried out with the customer:**

- For a “suspension warning light in IPC is illuminated “concern (shown below) and/or the vehicle abnormally lowered while parked, refer to **section 1** of the bulletin.



- For a “lowering during maneuvering/steering” concern, refer to **section 2** of the bulletin.

## Section 1: Analysis of the concern

The air suspension system is subject to air micro-leaks which are normal characteristics of the system, and which could occur particularly on the springs and on the components installed in the front part of the vehicle due to the greater distance from the compressor and the valve unit which are installed in the rear area of the vehicle and due to the presence of "John Guest" intermediate joints.

In the case of the vehicle lowering while it is parked and/or the presence of the suspension warning light in the IPC it is necessary to check with the MD EVO the eventual presence of the DTC (both active and inactive) in the VDCM **55A100 - Unable to Obtain Desired Ride Height**.

### 1. If the DTC 55A100 - Unable to Obtain Desired Ride Height is stored in the VDCM, then proceed in the following way:

- a) Perform a complete scan report of all the ECUs, delete all the DTCs then perform the procedure that includes the consecutive vehicle height adjustment cycles from "Off Road 2" to "Aero 1" (iso campaign 591):
  - i. Change the driving mode from GT, the default mode at the ignition, to "CONFORT" mode, using the selector on the steering wheel, making sure that the vehicle has been parked for at least 30 minutes.
  - ii. Set the height from the ground by entering the "Suspension" menu in the "Comfort" menu by touching one of the different heights at which it is possible to set the suspension system.
  - iii. Perform the complete cycle from the highest to the lowest position, waiting for the vehicle to reach the desired height, switching from the "Off Road 2" to the "Aero 1" condition.
  - iv. Perform the cycle from the "Off Road 2" to the "Aero 1" position (from the highest to the lowest) for 5 (five) times, checking each time that the operation is carried out correctly and waiting 10 seconds between one cycle and the next to avoid overheating of the system.
- b) If the procedure at point "a" ends without any anomaly and without setting the DTC **55A100 - Unable to Obtain Desired Ride Height**, it is considered that the complaint may be related to a false activation of the diagnosis currently under investigation and that mechanically the air suspension system does not present anomalies, therefore no further checks are necessary.
- c) If the procedure at point "a" ends with an anomaly, or with the setting of DTC **55A100 - Unable to Obtain Desired Ride Height**, proceed to search for leaks in the system following the instructions given in section 3 of the bulletin.

### 2. If the DTC 55A100 - Unable to Obtain Desired Ride Height is NOT stored in the VDCM, then proceed in the following way:

- a) If the fault complained of by the customer and/or found in the workshop is the presence of the suspension warning light, then carry out the same procedure indicated in paragraph 1), the presence of the DTC in VDCM 55A100.

Ask the customer:

1. Was the 12V battery disconnected and reconnected after the vehicle lowering?
  2. When did the problem occur? Indicate the date.
  3. How many km did the odometer indicate when the problem occurred?
- b) If the customer has never noticed the presence of the suspension warning light, it is considered that the complaint is related to physiological air loss in the system; so, the behavior of the vehicle complies with the standards, and therefore no further check is necessary.

## Section 2: Sudden lowering of the vehicle during low-speed maneuvering/steering

To check for any air leakage from the front shock absorbers, carry out the following maneuver with the vehicle parked on a flat surface.

Turn the steering wheel completely to the left in two seconds, hold the steering wheel in this position for 30 seconds, and check for any sudden lowering of the front part of the vehicle.

Realign the steering wheel and wait for the vehicle to level.

Repeat the operation by activating the steering wheel completely to the right in two seconds, holding the steering wheel in this position for 30 seconds, and checking for any sudden lowering of the front part of the vehicle.

If the vehicle does not lower, repeat the same maneuvers on a slightly sloping road and check for any sudden lowering of the front part of the vehicle.

**NOTE: THE HEIGHT-LOWERING CHECK MUST BE PERFORMED WHEN THE WHEELS ARE FULLY TURNED. DURING THE STEERING (2 SECONDS) THERE IS A LEVELING OF THE VEHICLE DUE TO THE SUSPENSION GEOMETRY – IT MUST NOT BE CONFUSED WITH A LOWERING OF THE VEHICLE.**

If during the inspection a leakage is detected on a shock absorber on an axle (front or rear) and it is, therefore, necessary to replace the shock absorber, regardless of the mileage of the vehicle, it will **NOT** be necessary to also replace the other shock absorber installed on the same axle (front or rear). To guarantee the correct investigation of the root cause of the problem, if you detect any leakage, it is requested to:

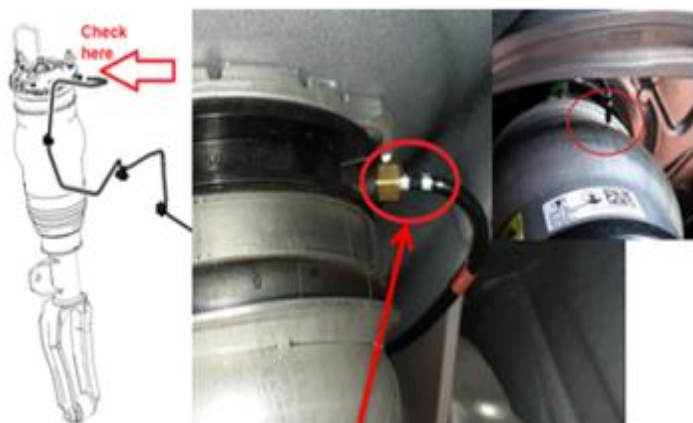
- Do not perform any repair operation.
- Open a BOL as "SUPPORT REQUEST" reporting all diagnosis performed
- Indicate which component the anomaly was detected.
- Attach images/videos of the anomaly Maserati technical support will indicate the operations to be performed and the eventual parts that must be replaced and returned for analysis.

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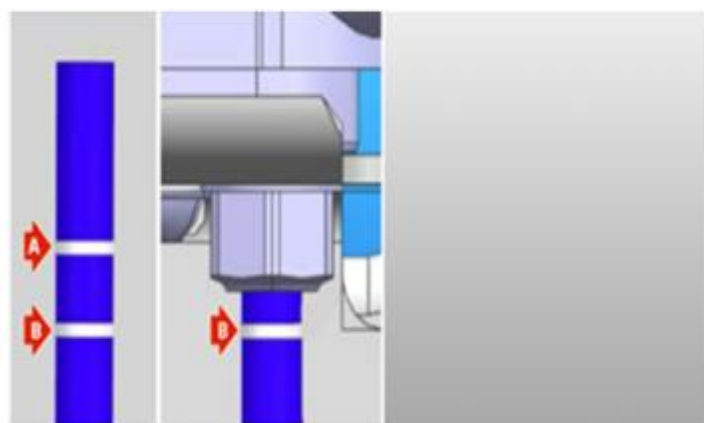
## Section 3: Air leakage check in the system

In this document, you can find the diagnostic guidelines to speed up the diagnosis to identify the potential source of Air leakage in the system.

### 1 – Front axle

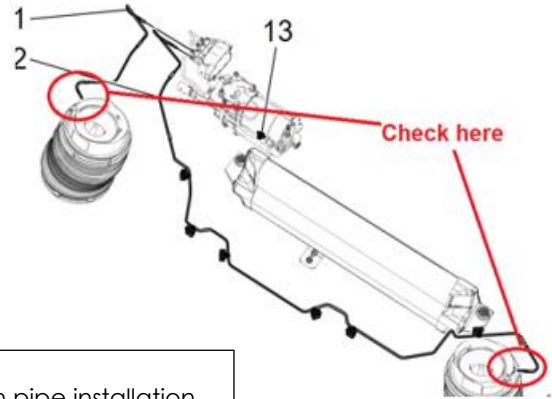
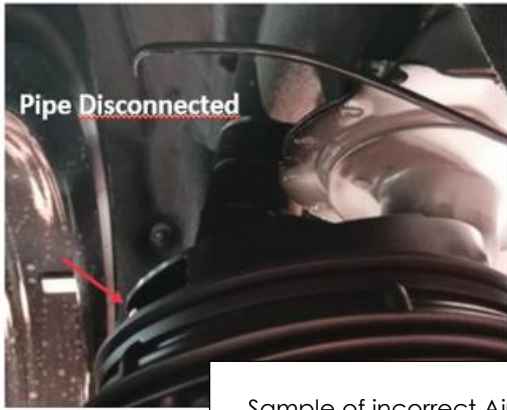


Sample of incorrect Air Suspension pipe installation on the front Air spring



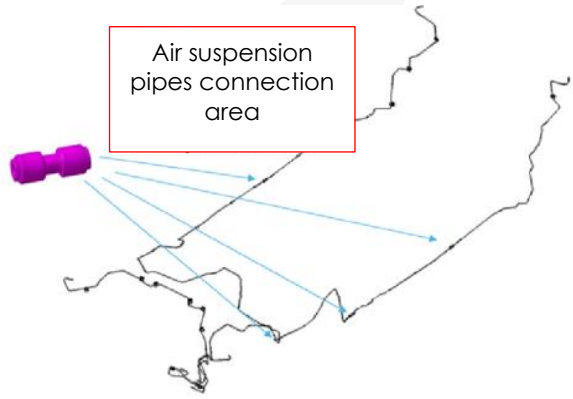
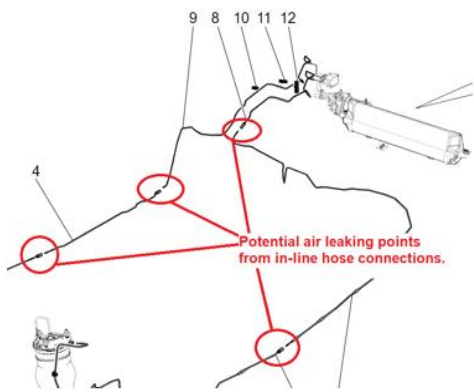
Correct layout to be ensured on the vehicle (points A and B)

2 – Rear axle



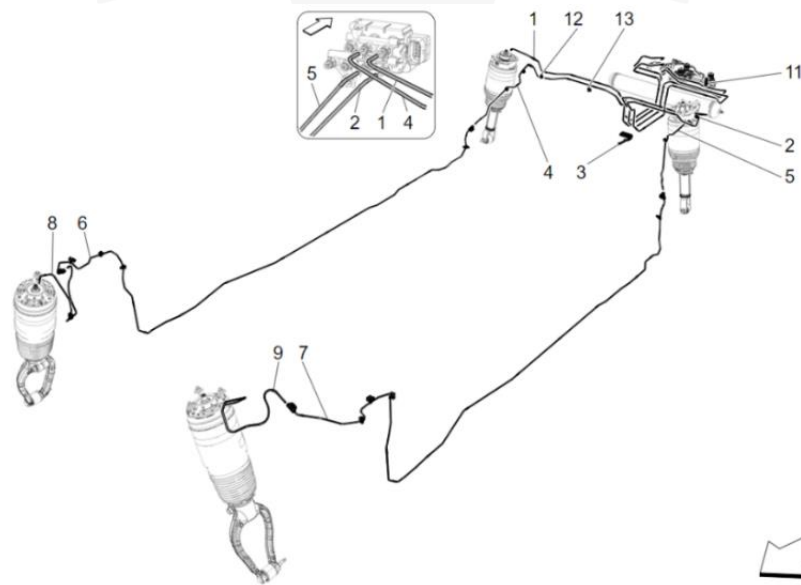
Sample of incorrect Air Suspension pipe installation on the Rear Air Spring

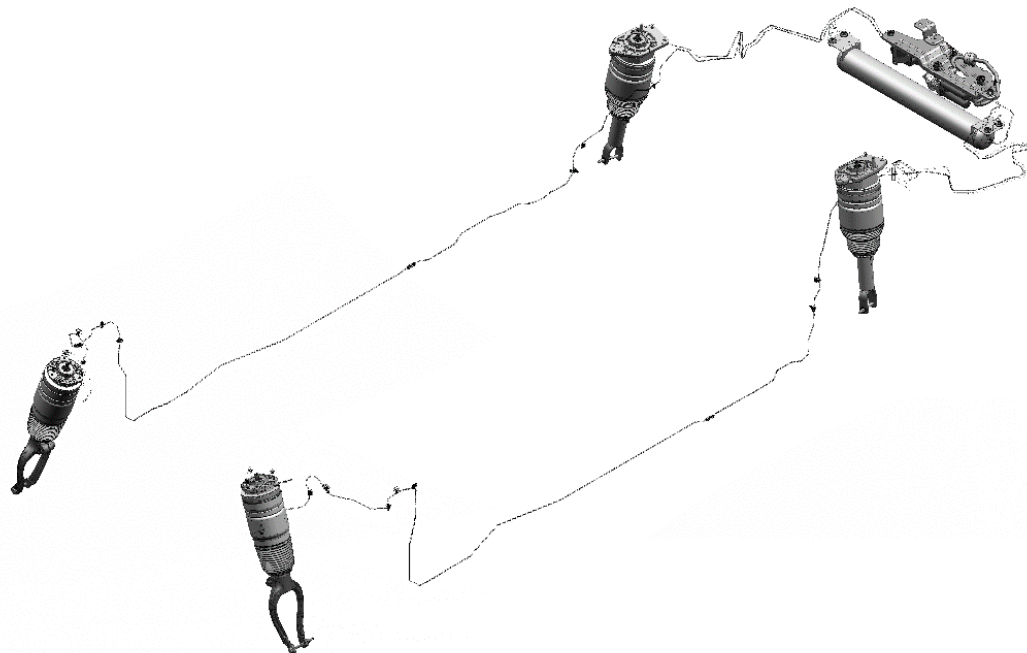
3a – Pipes connection area – Grecale (check the connections for at least 5-10 minutes with one of the products indicated at the end of this document)



3b – Pipes connection area – New GranTurismo (check the connections for at least 5-10 minutes with one of the products indicated at the end of this document)

Old configuration





For the New GranTurismo, follow the instructions related to inspection points and fill in the specific checklist that you find in the final section of this document.

**4 – Air Valves Block pipes – disconnected or wrongly fitted (check the connections for at least 5-10 minutes with one of the products indicated at the end of this document)**



Check the air valves block pipes to ensure that there isn't any disconnected and/or wrongly installed line



Use soapy water to detect potential air leak through the system

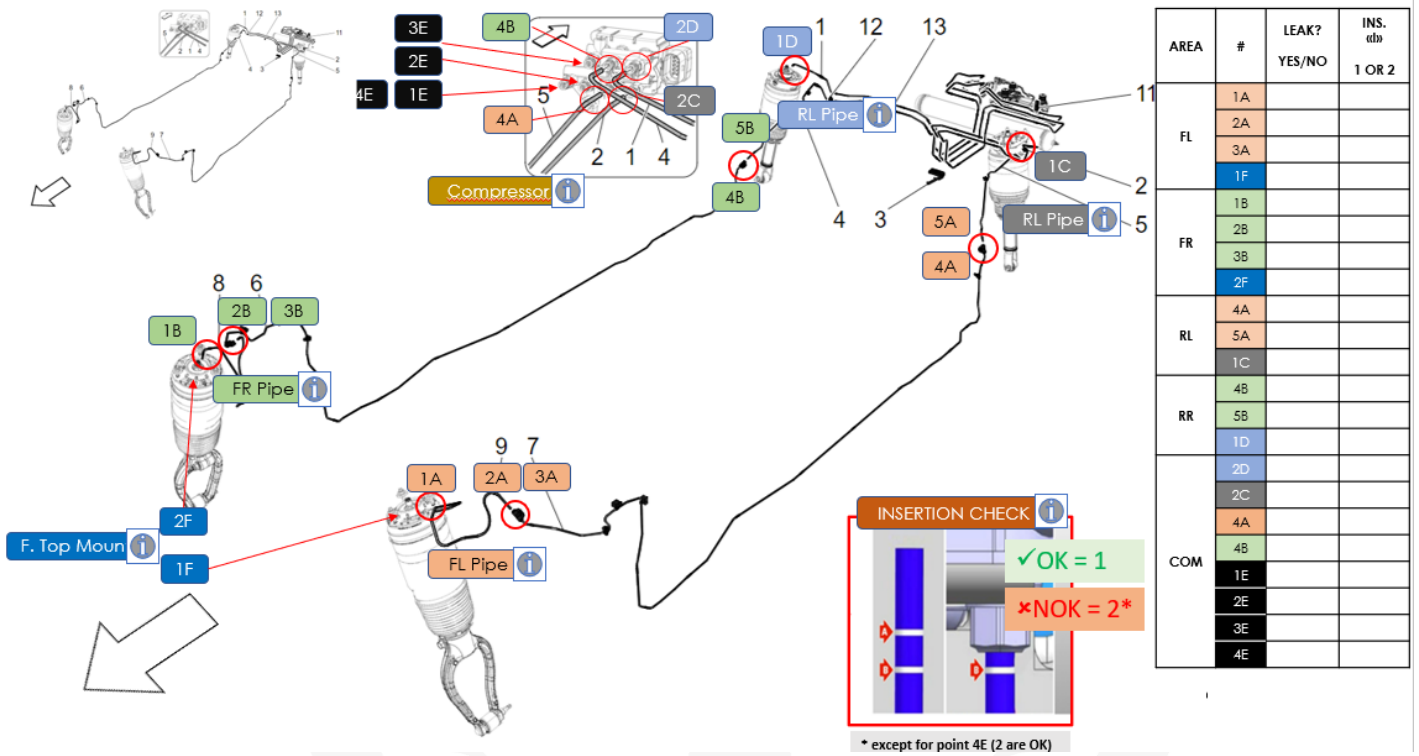
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To guarantee the correct investigation of the root cause of the problem, if you detect any leakage, it is requested to:

- Do not perform any repair operation
- Open a BOL as "SUPPORT REQUEST" reporting all diagnosis performed
- Indicate which component the anomaly was detected.
- Attach images/videos of the anomaly Maserati technical support will indicate the operations to be performed and the eventual parts that must be replaced and returned for analysis.

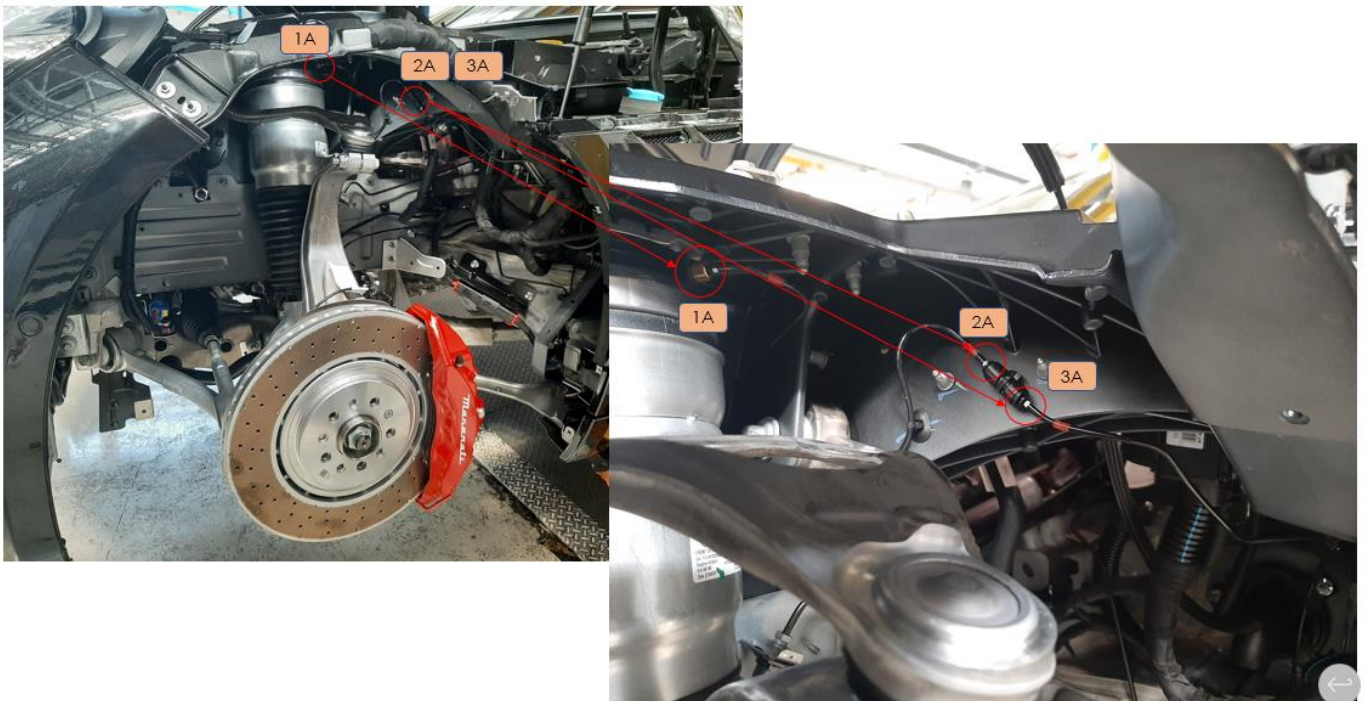
Maserati technical support will indicate the operations to be performed and the eventual parts that must be replaced and returned for analysis.

# GranTurismo Inspection points



AREA	#	LEAK? YES/NO	INS. db 1 OR 2
FL	1A		
	2A		
	3A		
FR	1B		
	2B		
	3B		
RL	4A		
	5A		
	1C		
RR	4B		
	5B		
	1D		
COM	2D		
	2C		
	4A		
	4B		
	1E		
	2E		
	3E		
	4E		

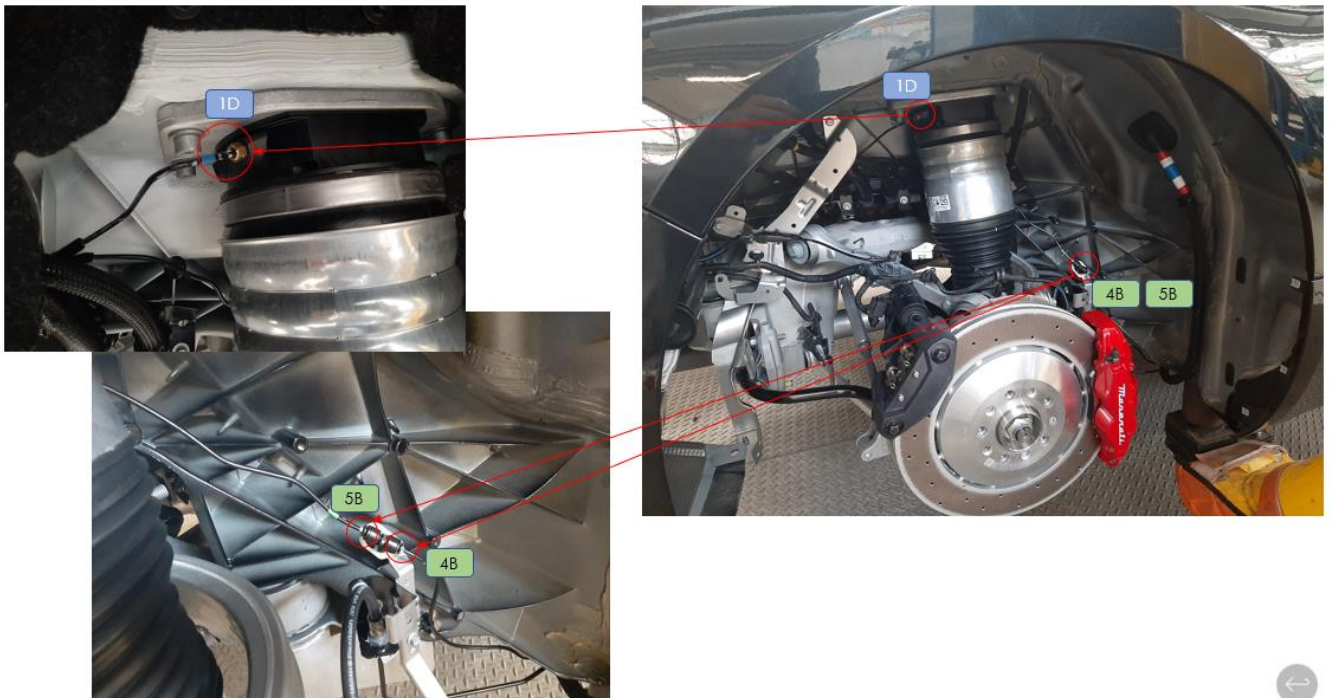
M189 - FL – Pipe connections



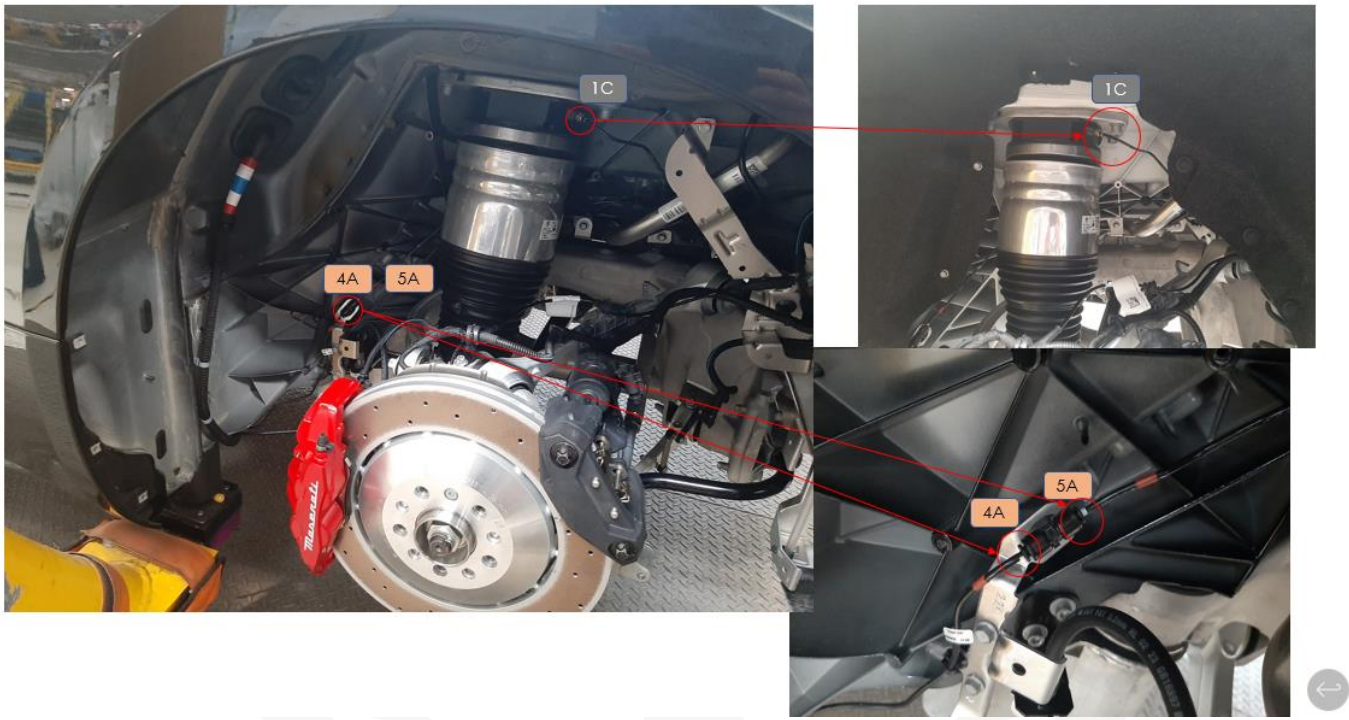
### M189 - FR – Pipe connections



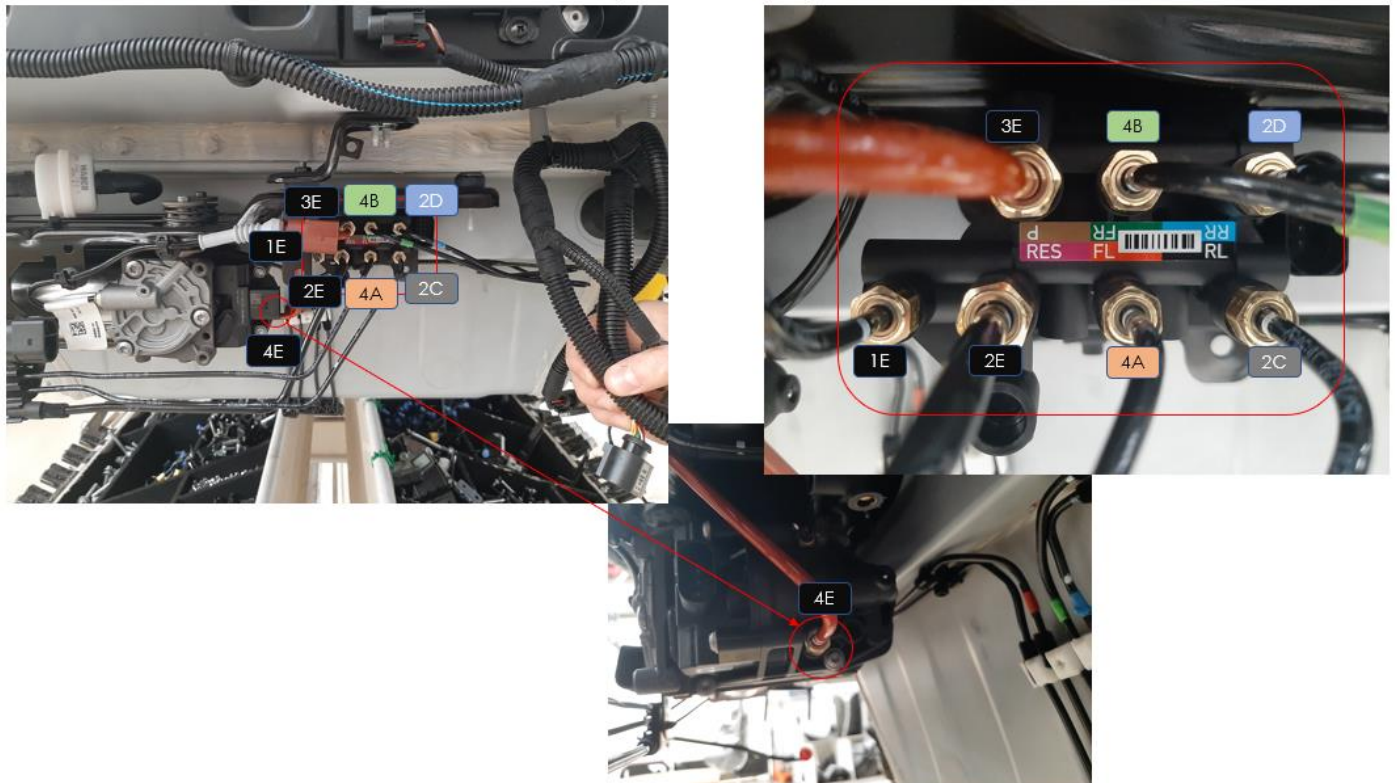
### M189 - RR – Pipe connections

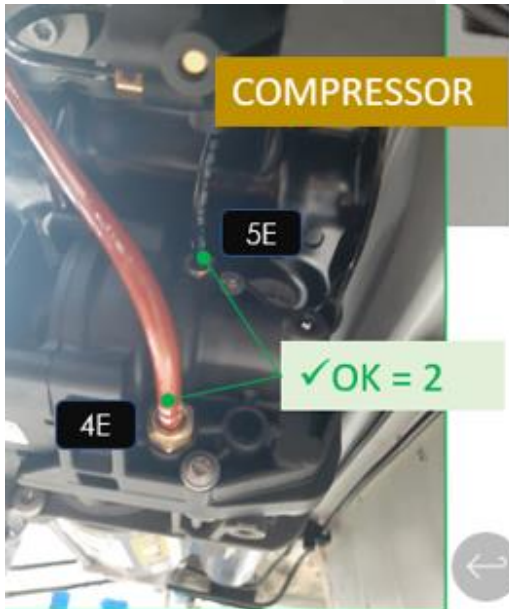
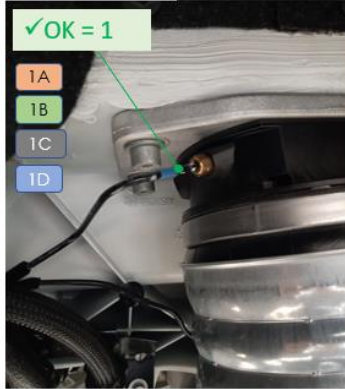
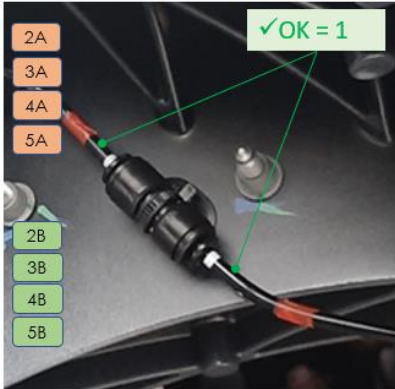
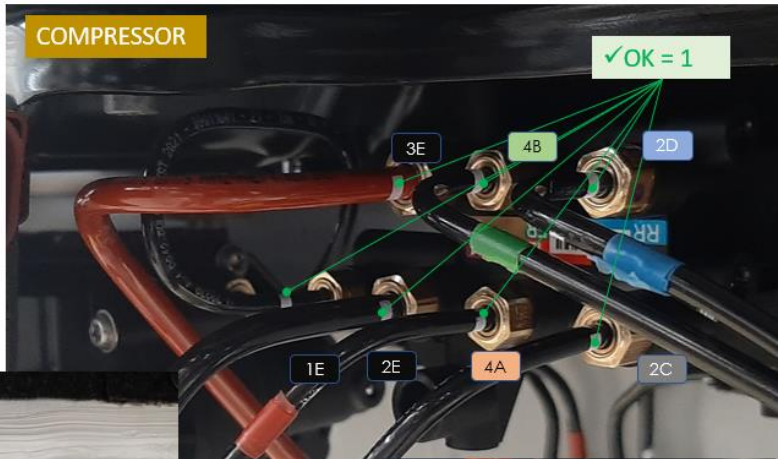
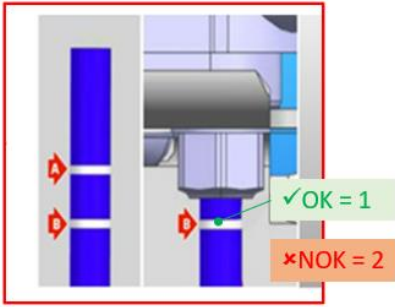


### M189 - RL – Pipe connections



### M189 – Compressor – Pipe connections





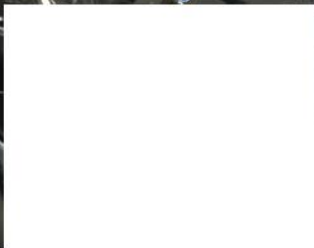
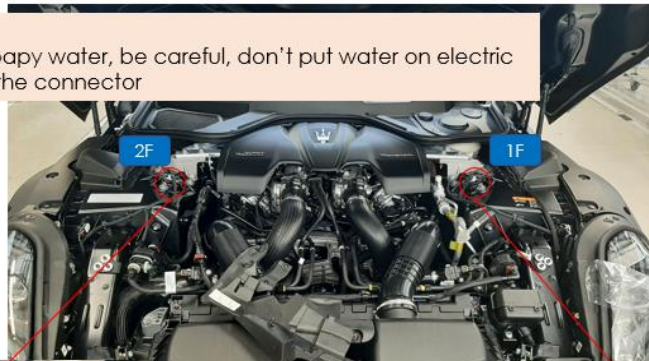
## M189 – Compressed air tank – Pipe connections



### M189 – Front Top Mount

**NOTE:**

When check on top mount with soapy water, be careful, don't put water on electric connector and don't disconnect the connector



## Products to be used when inspecting for any leakage in the air suspension system.

- LEAK TRACING POWDER OR EQUIVALENT

### EXAMPLES:



## WARRANTY CLAIM INFORMATION

### Codes to be used to claim the labor costs under warranty.

Use the following codes to request the labor costs under warranty depending on the check performed:

- **Section 1:** 6.24.000.A for both models (0.85 hours)
- **Section 2:** 6.24.000.B for both models (in this case the time will automatically differ depending on the model: 1.6 hours for Grecale – 2.3 hours for GranTurismo).

# Air Suspension Checklist (MAS004471)

Fill in the checklist related to the inspection points

AREA	#	LEAK? YES/NO	INS. « 1 » 1 OR 2
FL	1A		
	2A		
	3A		
	1F		
FR	1B		
	2B		
	3B		
	2F		
RL	4A		
	5A		
	1C		
RR	4B		
	5B		
	1D		
COM	2D		
	2C		
	4A		
	4B		
	1E		
	2E		
	3E		
	4E		
	5E		
	Compressed air tank		