



## Service News

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### Alfa various models

10
07.14

**Version: MiTo 0.9 TwinAir, 1.4 MultiAir and Turbo MultiAir - Giulietta  
1.4 Turbo MultiAir**

**1036 0 000 AA UNIAIR-MULTIAIR MODULES**  
**Misfiring - Irregular operation of the engine - Engine control**  
**failure warning light on with DTC errors P030x and/ or P106x –**  
**P1524 – Network Information**



Cancels and replaces SN 10.07.14 of 09/05/2014.



The instructions and the checking procedures of this document are valid and can be applied to both UniAir and MultiAir modules. The references in the texts and in the pictures to cylinders 3 and 4 are for MultiAir modules only.

### CLAIMED FAULT

Engine irregular operation (misfiring, jerking, juddering, failed starting, power drop, engine running on 3 cylinders only, etc.) with switching-on of the engine control system failure warning light.

The analysis with the diagnosis equipment shows the presence of one or more of the following errors:

- P0300 – Misfiring (generic)
- P0301 – Misfiring cylinder 1
- P0302 – Misfiring cylinder 2
- P0303 – Misfiring cylinder 3
- P0304 – Misfiring cylinder 4
- P1061 – Signal for cylinder 1 UniAir/MultiAir module actuation solenoid valve
- P1062 – Signal for cylinder 2 UniAir/MultiAir module actuation solenoid valve
- P1063 – Signal for cylinder 3 MultiAir module actuation solenoid valve
- **P1064 – Signal for cylinder 4 MultiAir module actuation solenoid valve**
- P1524 – Spark plug fouling prevention function



The presence of error P1524 might involve a low oil pressure inside the module (UniAir or MultiAir).

### OPERATIONS AT THE DEALERSHIPS

Once the Customer's claimed fault is confirmed and one or more of the above DTC errors is found, before any replacement operation or disassembly of the module (UniAir or MultiAir), perform the checks listed in the Operating Cycle below.

In particular, if DTC errors are found, refer to the specific diagnosis procedures described in the dedicated section of the Service Manual, so that you can identify the cause for the fault more quickly, excluding those components that are working properly.

**The operation of the UniAir and MultiAir modules is guaranteed by the engine lubricating oil; use only the prescribed engine oil and comply with the engine oil change and oil filter replacement intervals as described in the Owner Handbook and in the Service Manual**



The use of lubricants having features different from the prescribed ones and the failed change of engine oil and replacement of oil filter described in the scheduled service coupons might damage the

**UniAir/ MultiAir modules and be not covered by the warranty.**

 For further control by FGA staff, print and keep the printouts of the diagnosis equipment with the required parameters.

## OPERATION CYCLE

### CARRY OUT THE FOLLOWING PRELIMINARY CHECKS AND RESTORE THE CORRECT CONDITIONS

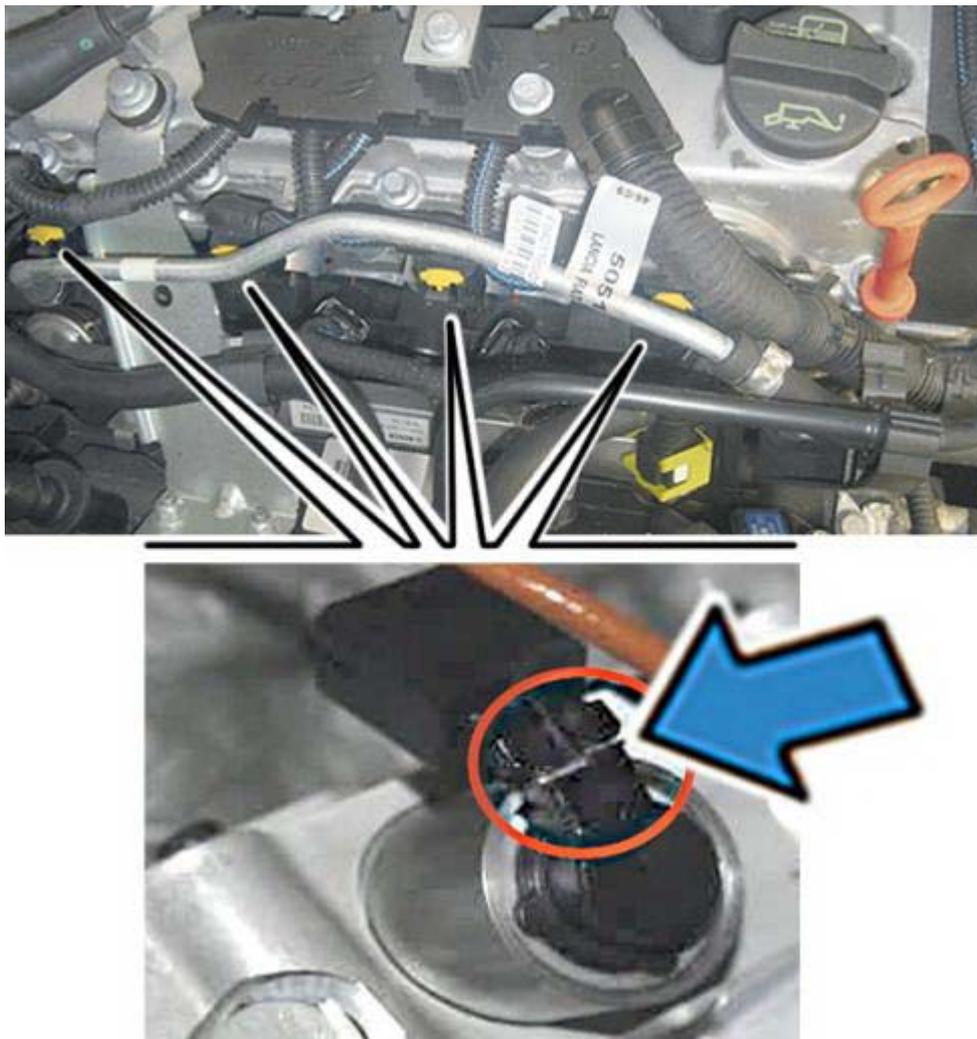
- Check level and quality (colour/appearance) of engine oil.
- Make sure that there are no oil or engine coolant leaks.

 If an excessive engine oil consumption is found (over 400 g every 1000 km), refer to the diagnosis procedure X005 of the Service Manual.

### CONNECT THE DIAGNOSIS EQUIPMENT AND CARRY OUT THE FOLLOWING OPERATIONS:

- Acquire the Powertrain Control Module parameters: error found and conditions causing their occurrence; print out the results.
- Make an activation test of the module (UniAir or MultiAir) solenoid valves using the active diagnosis, then print the results.
- If one or more solenoid valves do not operate, remove the engine sound-proofing cover (if present) (Op. 1016A10) and visually check the conditions of electrical connections. In particular, make sure that the solenoid valve gudgeon pin is not damaged (see example in detail of Fig. 1).
- Whenever possible, try to exchange the electrical connections between solenoid valves. Repeat the solenoid valve activation to find out if the failed activation is due to the control signal or to the solenoid valve.

Fig. 1





**DISCONNECT THE AIR CLEANER ASSEMBLY (OP. 1048A10) AND THE IGNITION COILS (OP. 5510C14), THEN PERFORM THE FOLLOWING OPERATIONS:**

- Using a torque wrench set to 1.8 daNm, try to tighten the spark plugs to prevent any insufficient tightening.
- Remove the spark plugs making sure that there are no irregular faults (too high effort, seizure, etc.).
- Check the conditions of each plug and, if faults are found, take a picture noting down the number of the cylinder it was removed from.



Fig. 7 at the end of Service News shows some kinds of spark plugs with normal wear and damage due to knocking or misfire.

- With cold engine and warm engine (after an activation of the radiator fan), check the cylinder compression (Op. 0520G15) and that the measured values are not too different.
- With a suitable wrench, place the spark plugs in their housings and tighten them to the prescribed torque of 1.8 daNm ( $\pm 0.2$  daNm).
- With cold idling engine and warm idling engine (after an activation of the radiator fan) and at 4500 rpm, check the engine oil pressure (Op. 0520G42) and check if these values correspond to those listed in Table 1.
- Refit all the components removed.

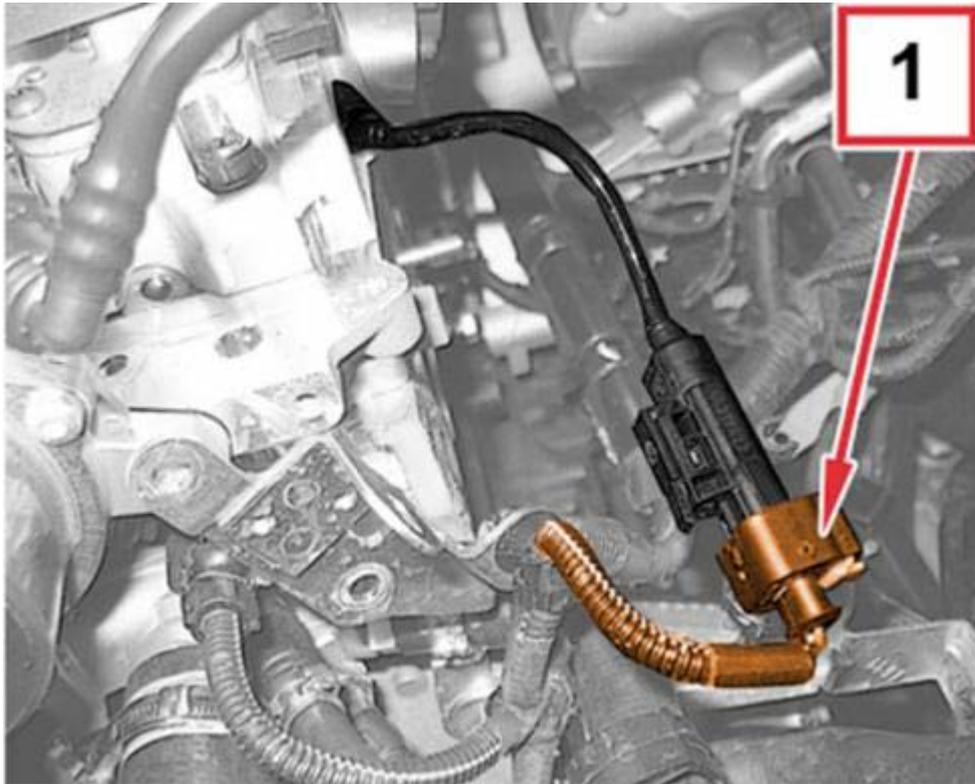
**Table 1**

Condition		Engine oil pressure
With cold engine	Idle speed	From 0.8 bar when warm to 6 bar when cold
With warm engine	Idle speed	
	4500 rpm	

**CHECK CONNECTION OF THE OIL TEMPERATURE SENSOR**

- Check the integrity of the cable and of the electrical connection (1 – Fig. 2) of the module (UniAir or MultiAir) oil temperature sensor.

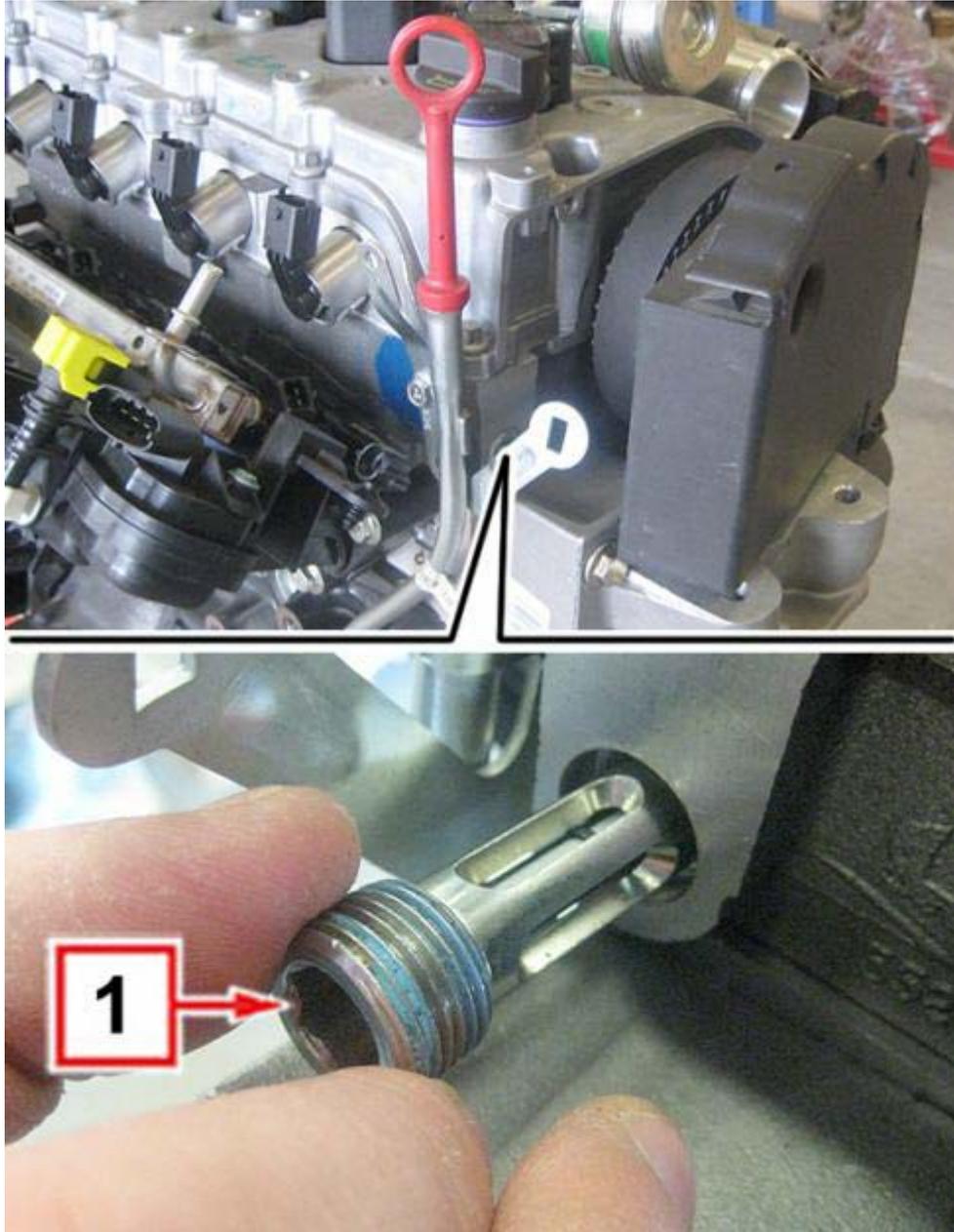
**Fig. 2**



#### CHECK THE CONDITIONS OF THE OIL FILTER ON THE TAPPET COVER

- Undo and remove the metal filter (Op. 1036B17 for the UniAir module - Op. 1036F22 for the MultiAir module).
- Make sure that there are no sludge and slug and that the filter (1 – Fig. 3) is not clogged.
- Use a suitable brush to clean the filter housing.

Fig. 3



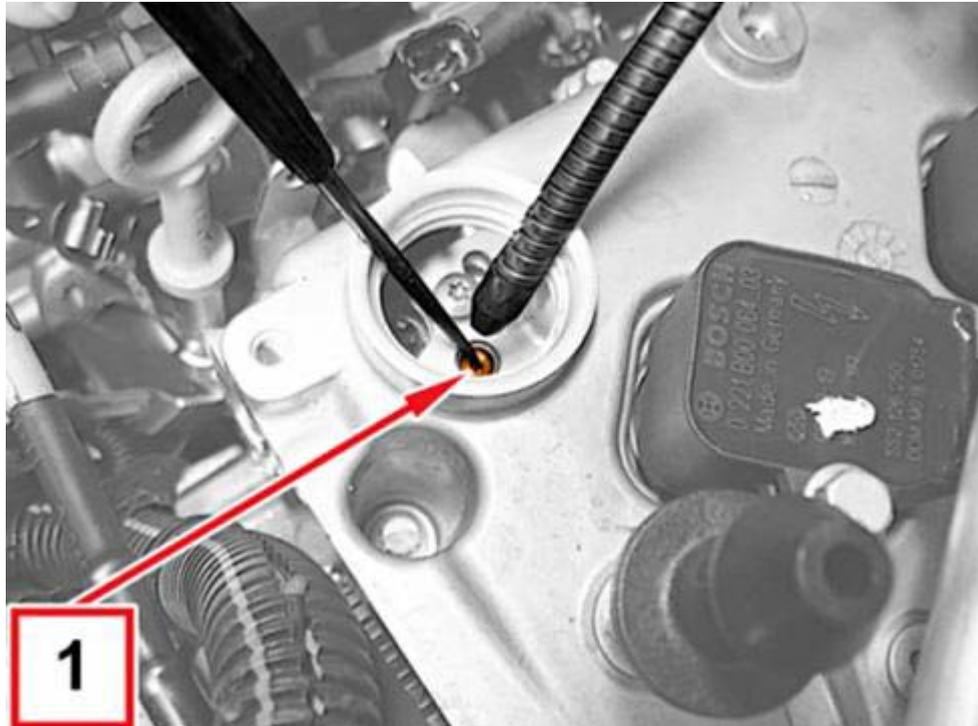
 If removed, the engine oil filter cannot be reused and must therefore be replaced with a new one.

#### CHECK/ RESTORE THE OIL LEVEL IN THE MODULE

- Undo the plug on the tappet cover; if oil flows out, the level is correct.
- If oil does not flow out, the module must be refilled: using a dedicated tool, slightly press on the valve ball (1 – Fig. 4), then pour in oil with a standard pump lubricator.

 The maximum quantity of oil (first filling) corresponds to about 80 cc for UniAir module and about 240 cc for MultiAir module.

Fig. 4



After a stop of about 12 hours, try to start the engine:

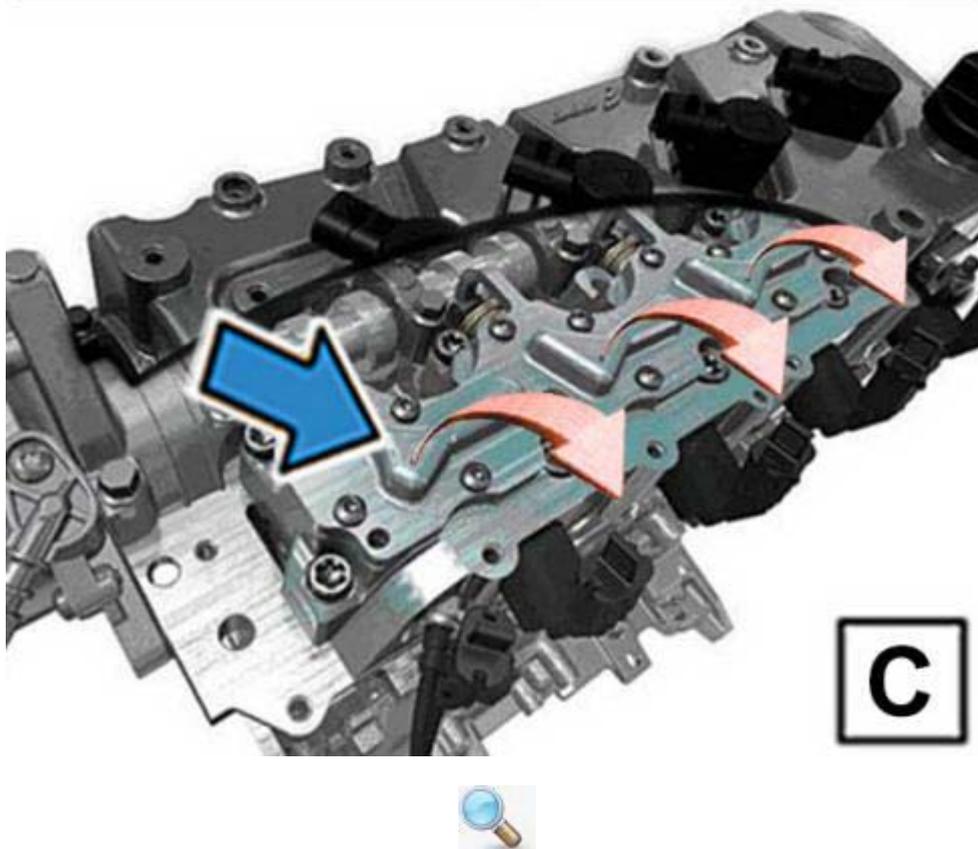
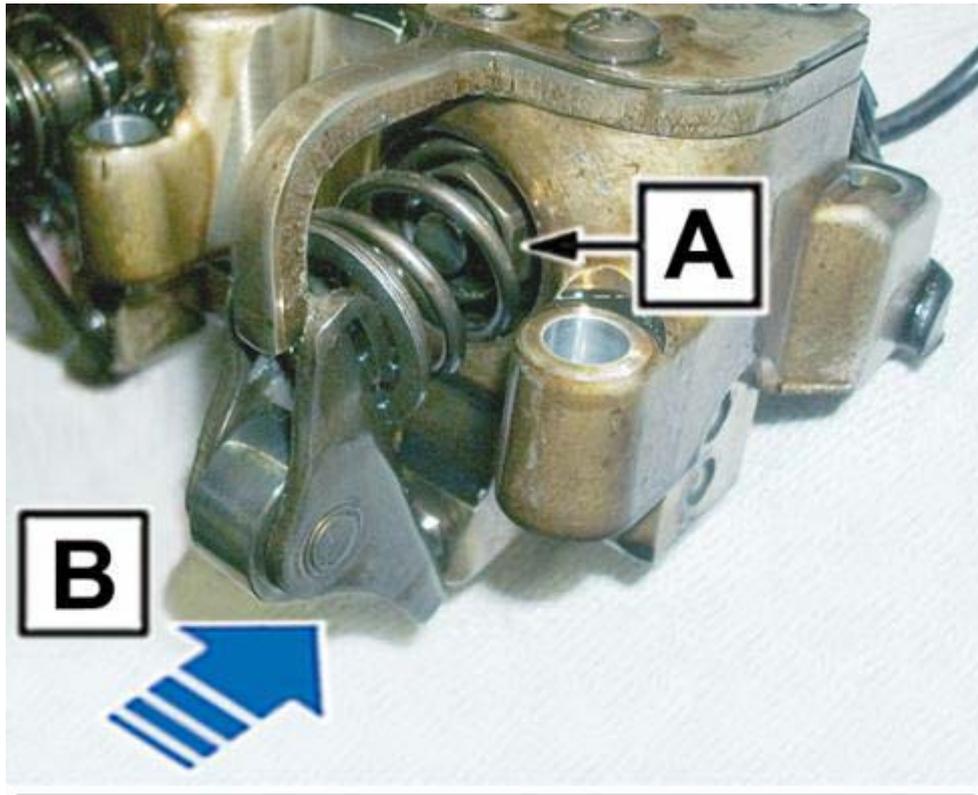
- if the vehicle starts properly, the fault was due to a low quantity of oil in the module (UniAir or MultiAir) only. Refit all the previously removed components and delete DTC errors with the diagnosis equipment.

#### CHECK OF ROLLER FINGERS AND PUMPING ELEMENTS

If the misfiring fault persists, remove the tappet cover (Op. 1016A20) and check the general conditions of the module (UniAir or MultiAir), then perform the following checks:

- Make sure that the roller fingers (Fig. 5) are properly connected and are not damaged.
- Check that the bushings of the pumping elements (A – Fig. 5) are tightened.
- Manually press the roller fingers (B) to compress the pumping elements and check if oil flows out from the upper holes (C).

Fig. 5



- If the misfiring fault persists, remove the module (UniAir or MultiAir) from the vehicle (Op. 1036B15 for UniAir module - Op. 1036F20 for MultiAir module) then working on bench check, by manually tightening clockwise (Fig. 6) without using wrenches or other tools and without forcing, that the tappet bushings are tightened enough.

 The module (UniAir and MultiAir) should NOT be disassembled.

Fig. 6

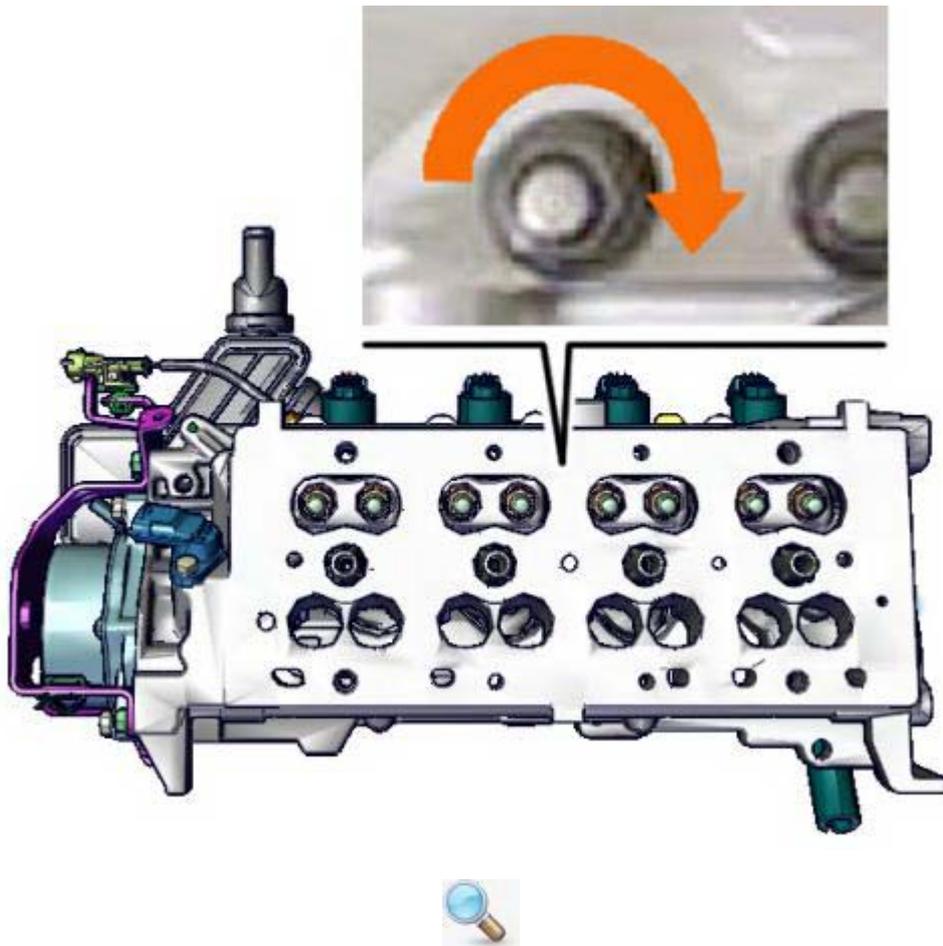


Fig. 7

