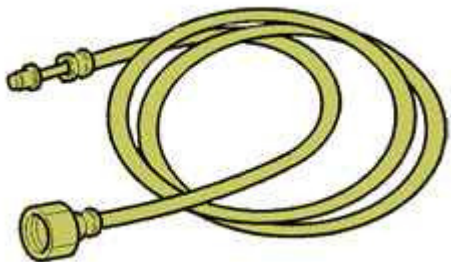
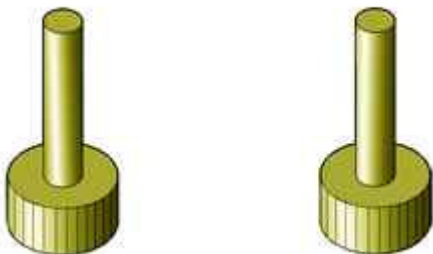


REMOVING - REFITTING : CYLINDER HEAD (ON THE VEHICLE)

URGENT : Observe the safety and cleanliness recommendations ⓘ .

URGENT : Wait at least one hour before carrying out any work on the exhaust line.

1. Tooling

tool	Reference	Designation
<p>[0141-T1]</p> 	[0141-T1]	Pipe with adapter for valve SHRADER
<p>[1520]</p> 	[1520]	Set of plugs for clip-on union

2. Removing

Place the vehicle on a 2 -post lift.

Drain the cooling system ⓘ .

CAUTION : Fit plugs at the inlet manifold air inlet.

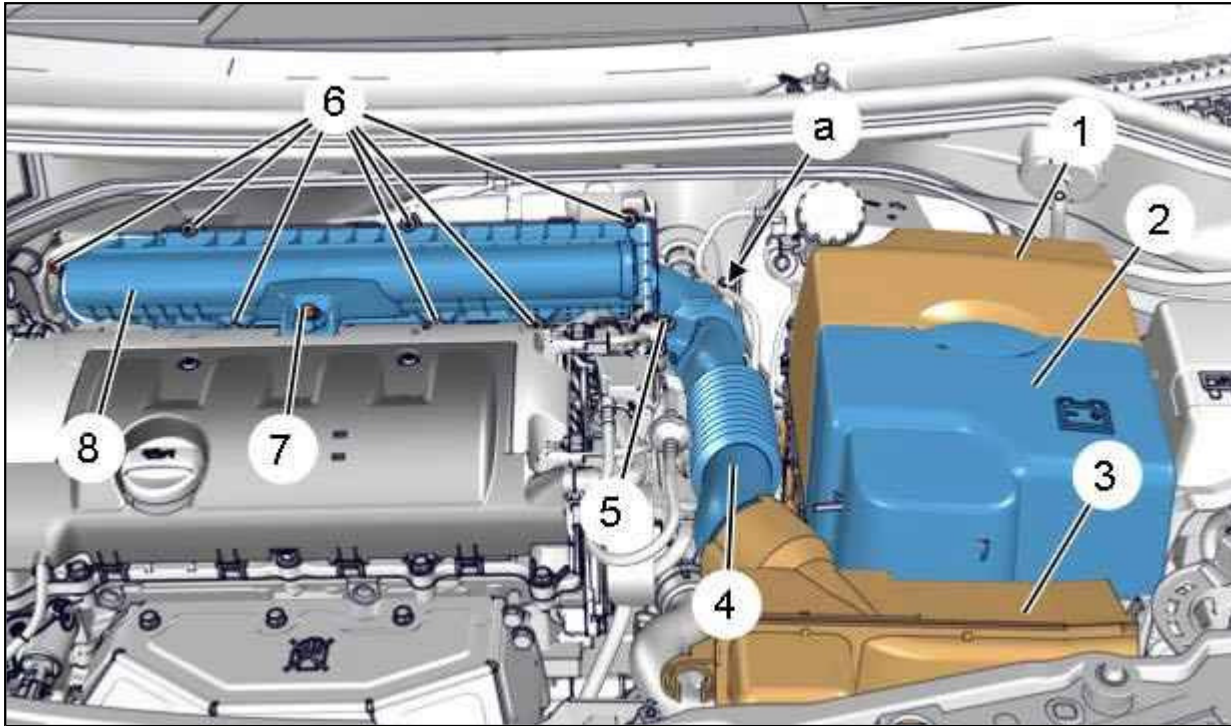


Figure : B1DM051D

Remove the battery style cover (2).

Disconnect the battery.

Remove the protective casing (1).

Unclip : The vacuum circuit pipe (at "a").

Remove :

- The air resonator (3)
- The (5) bolt
- The air entry union (4)
- The air filter cover bolts (6), (7)
- The air filter cover (8)

Unplug : The engine management ECU supply harnesses.

Remove :

- The engine management ECU
- The battery (/)

Unclip the supply harnesses (Battery tray).

Remove : The battery tray support.

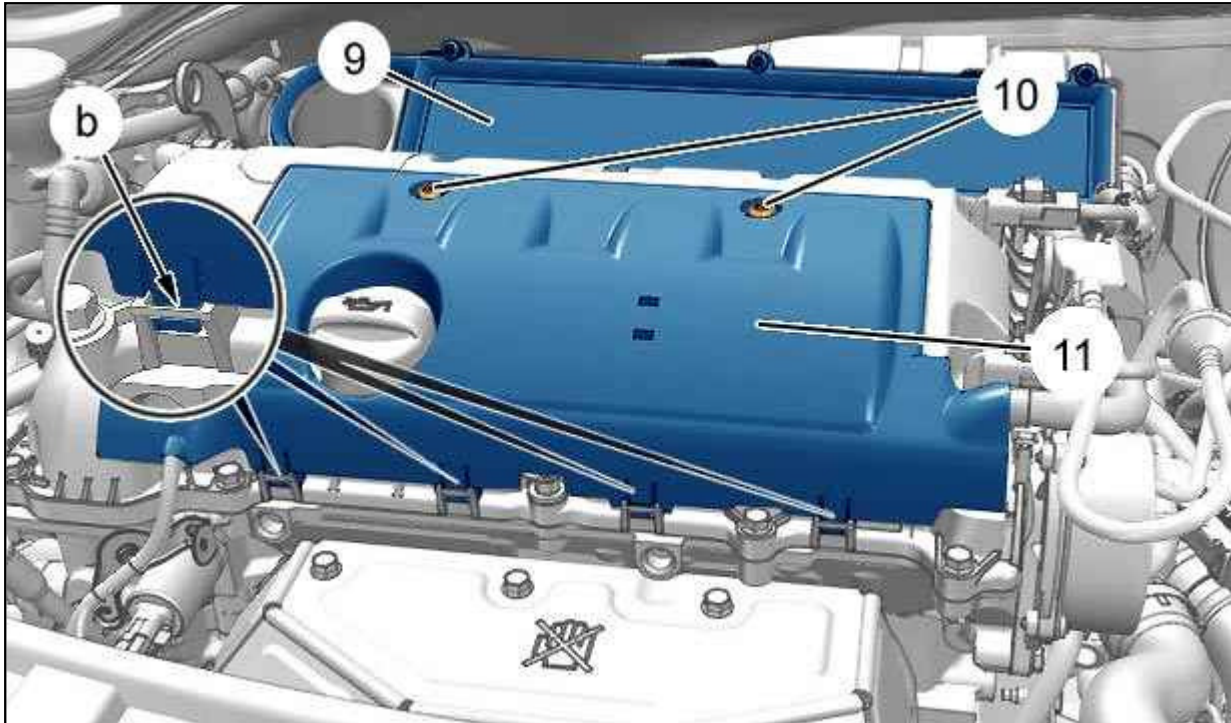


Figure : B1DG0RGD

Remove :

- The filter element (9)
- The mountings (10)

Unclip : The fixings of the engine cover (as "b").

Remove the engine style cover (11).

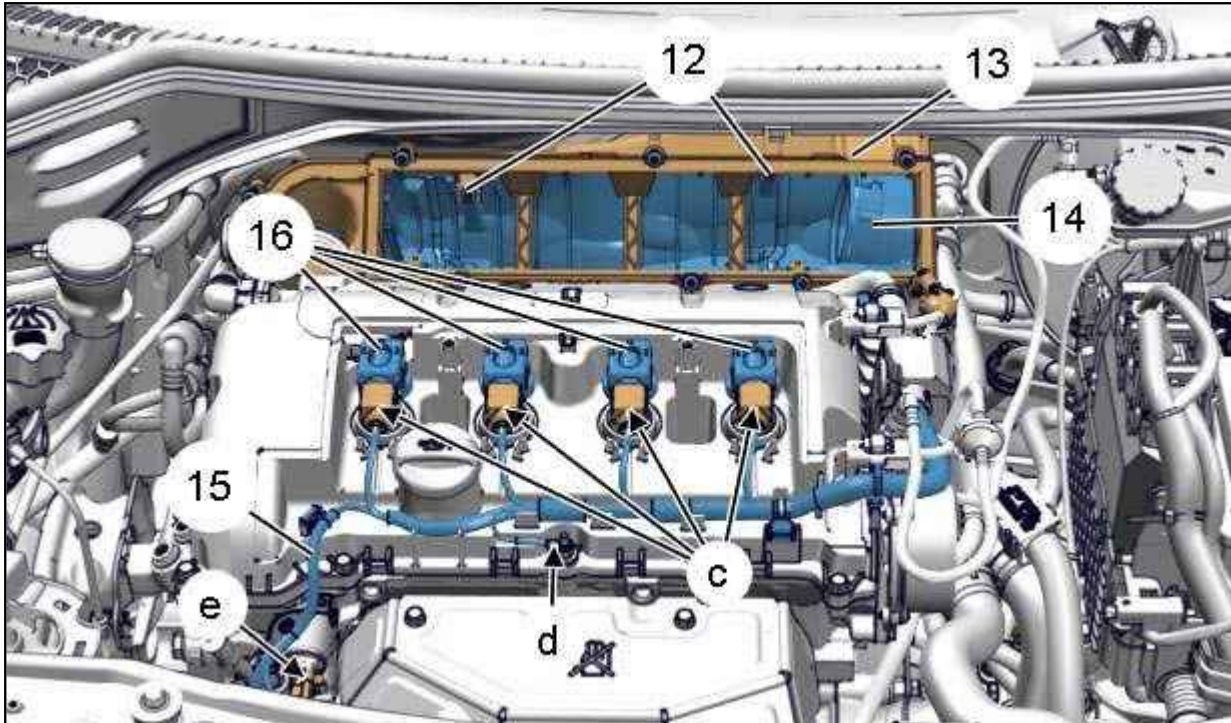


Figure : B1DM053D

Remove :

- The bolts (12)
- The intermediate mounting (13)
- The air filter housing (14)

Disconnect the power supply harness (at "d").

Unplug :

- The connector (as "e")
- The supply harnesses (Ignition coils) (at "c")

Release and move aside the electrical harness (15).

Remove :

- The ignition coils (16)
- The sparking plugs

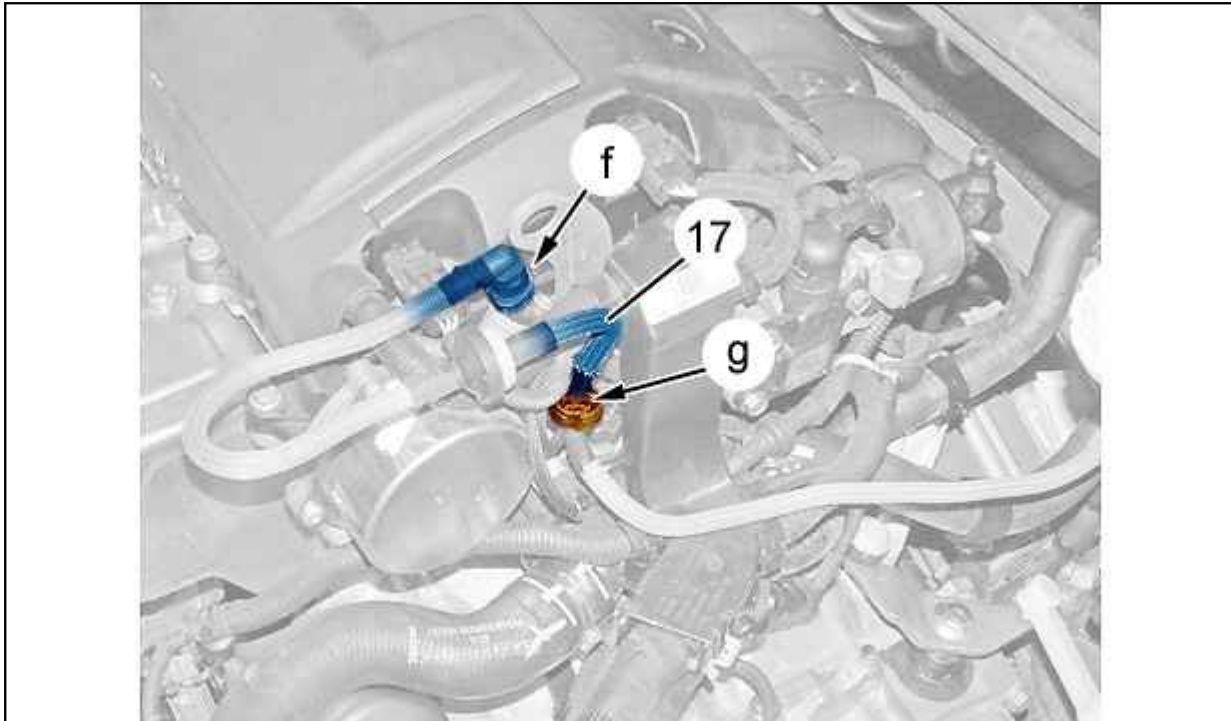


Figure : B1HM0CGD

Unclip : The vacuum circuit pipe (at "g").

Detach and move aside : The vacuum circuit pipe (17) (at "f").

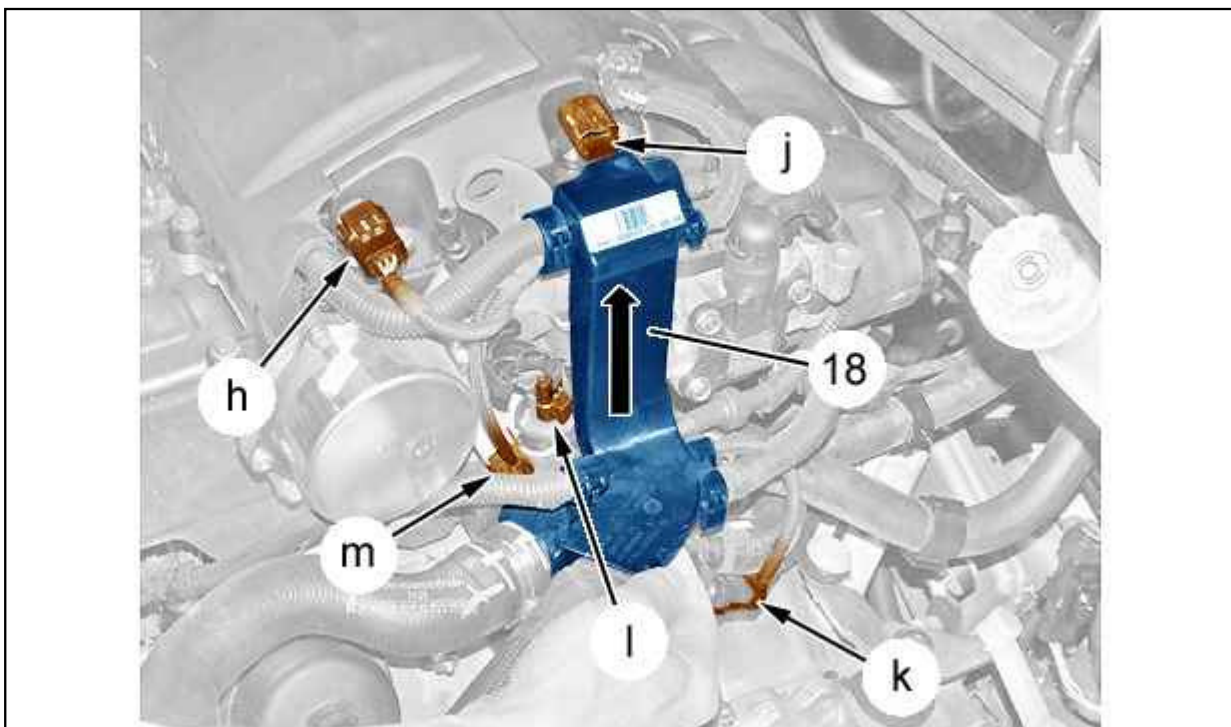


Figure : B1HM0CHD

Unplug :

- The connector of the exhaust camshaft position sensor (at "h")

- The connector of the inlet camshaft position sensor (at "j")
- The controlled thermostat supply connector (at "k")
- The temperature sensor connector (at "l")
- The oil pressure sensor connector (at "m")

Raise and move aside : The engine harness sheathing (18).

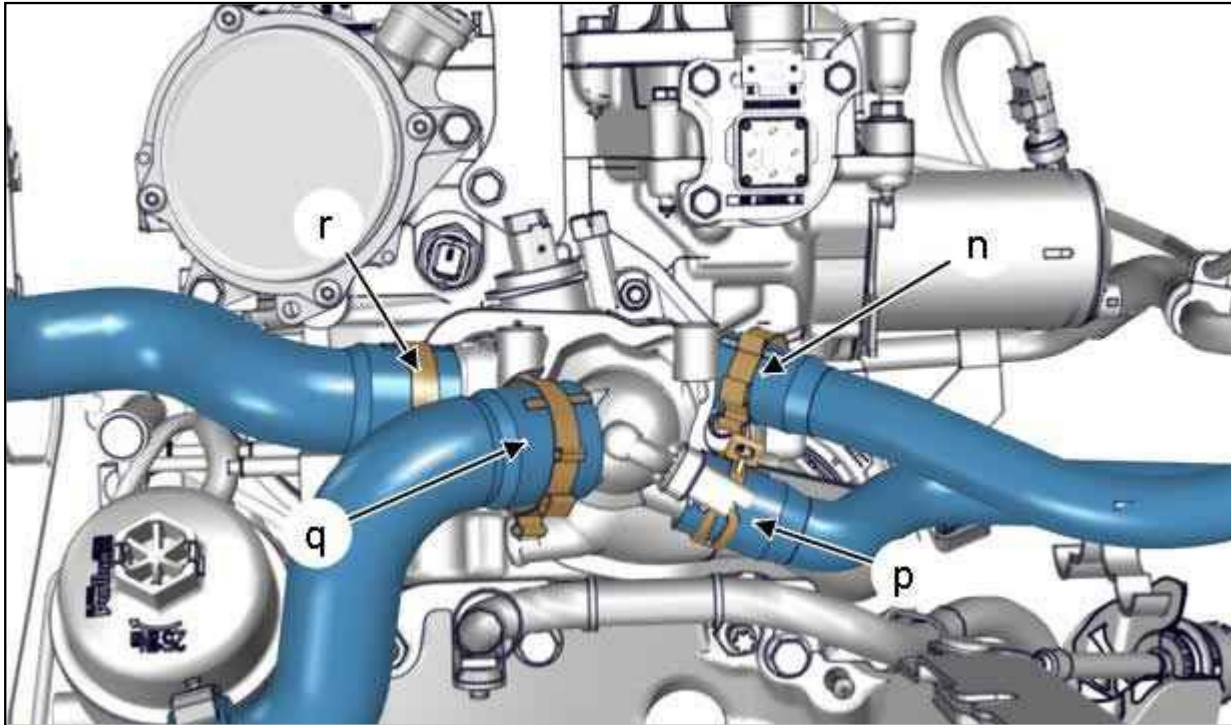


Figure : B1HM0CJD

Uncouple :

- The inlet hose to the heater matrix (at "n")
- The pipe leaving the heater matrix (at "p")
- The radiator lower pipe (at "q")
- The radiator upper pipe (at "r")

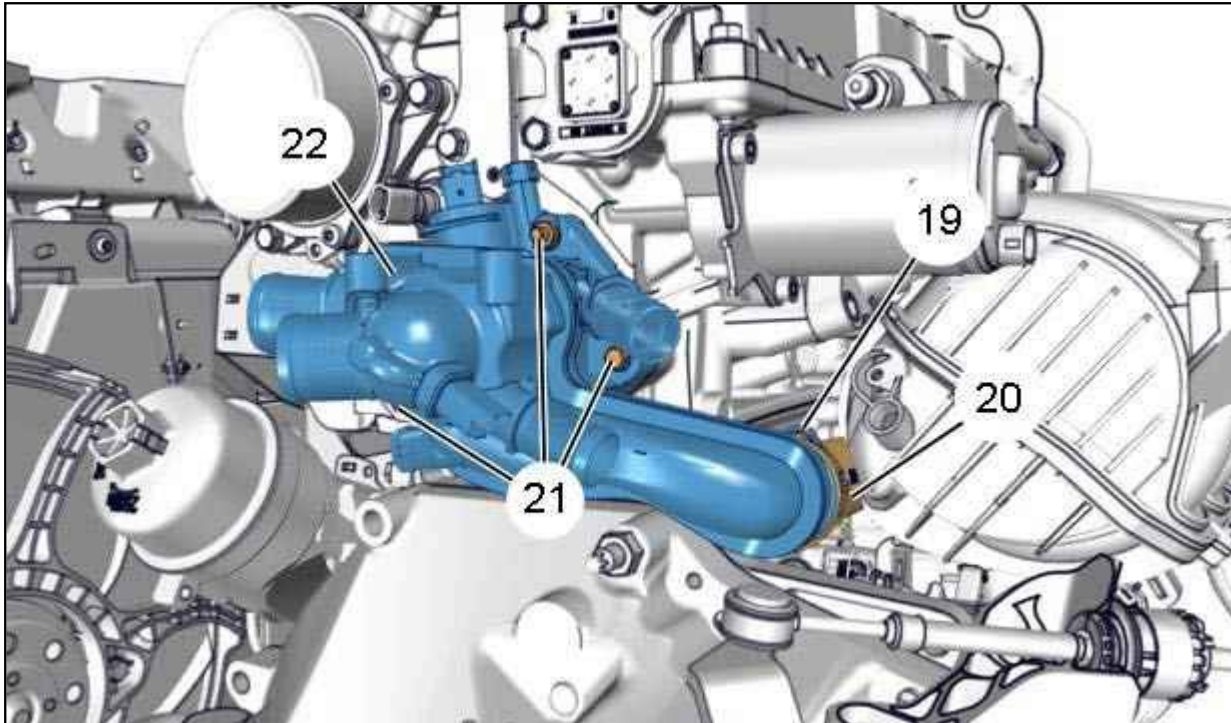


Figure : B1HM0CKD

Remove :

- The connecting clip (19) : Coolant outlet housing (22)/Intermediate pipe (20)
- The mountings (21)

Uncouple and remove : The thermostat (22) (Intermediate pipe (20)).

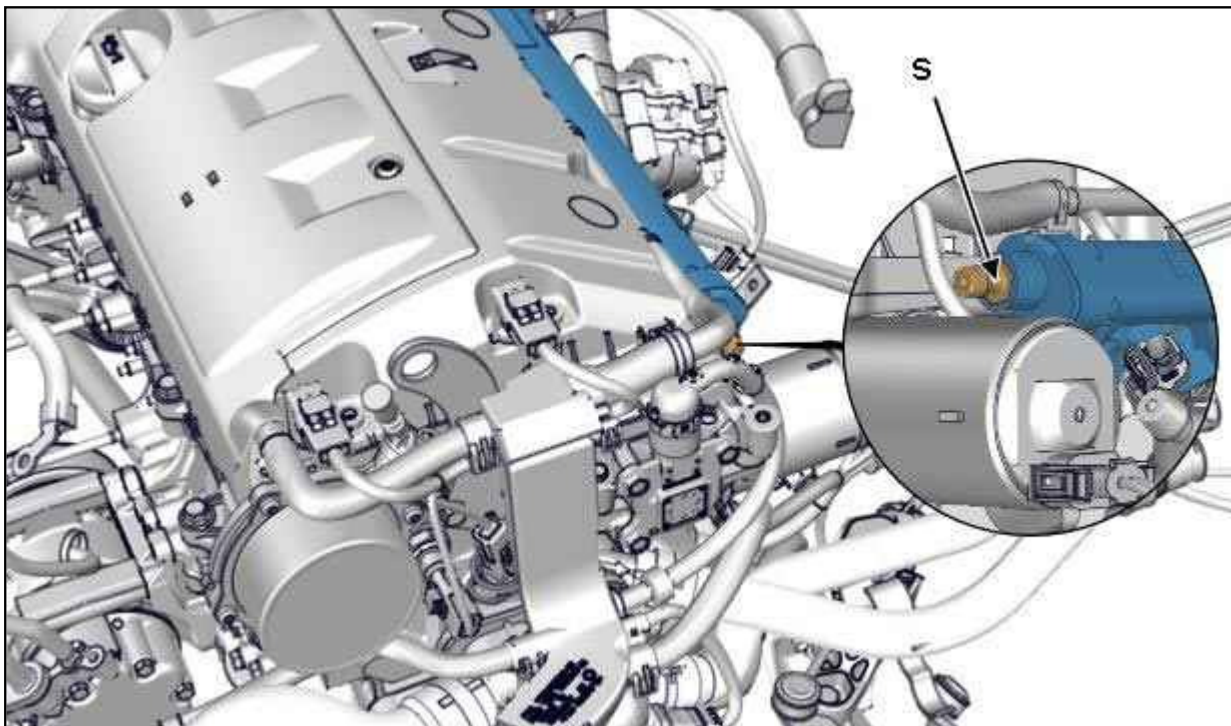





Figure : B1DM054D

URGENT : Drop the petrol pressure by connecting the end of the tool [141-T1] onto the valve SHRADER and collect the fuel in a receptacle (Connection of the tool at "s").

Remove :

- The inlet manifold (/)
- **The petrol injectors** 
- **The exhaust catalytic converter manifold** 
- **The timing chain** 

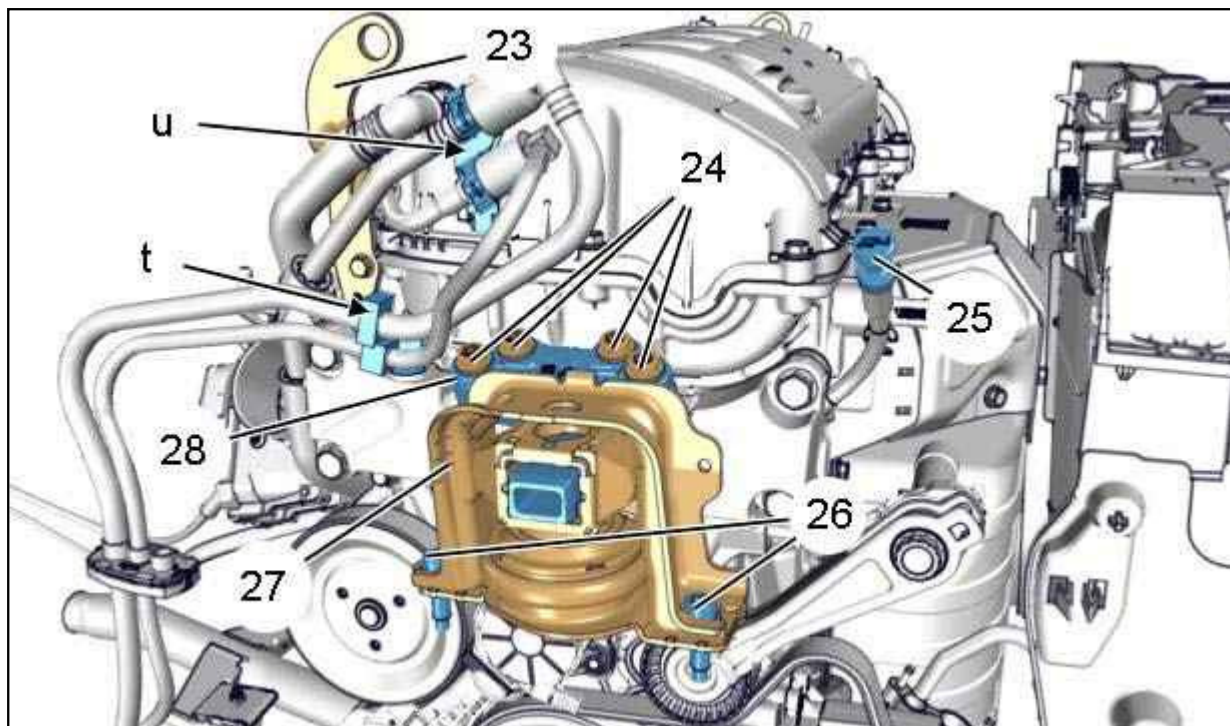


Figure : B1BM0HVVD

Take the weight of the engine by means of the sling hook (23) ; Using a workshop crane.
Support the engine under the sump .

Remove :

- The dipstick (25)
- The bolts (24)
- The bolts (26)
- The engine mountings (27), (28)

Unclip : The fuel pipes (at "t", "u").

Uncouple and close : The fuel pipes (/); Using tool [1520].

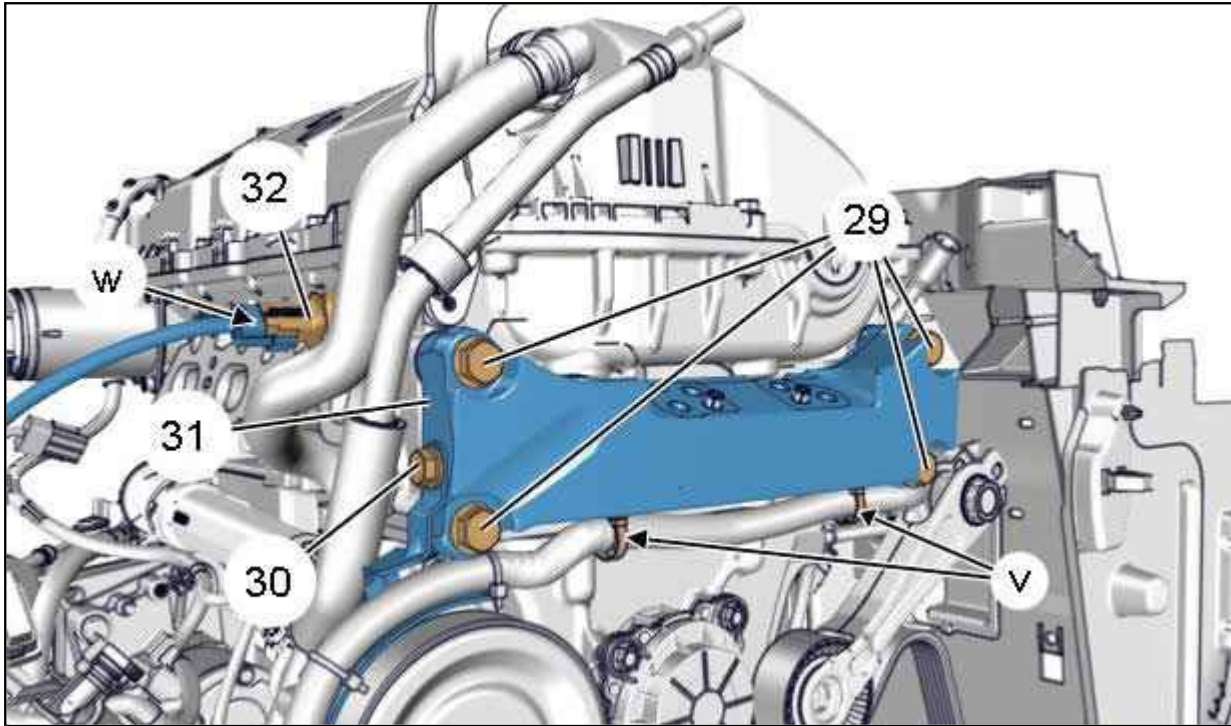


Figure : B1BM0HWD

Remove the bolts (29), (30).

Unclip : The supply harness (at "v").

Remove the right side intermediate engine bracket (31).

Disconnect the connector (Solenoid valve (32) supply) (as "w").

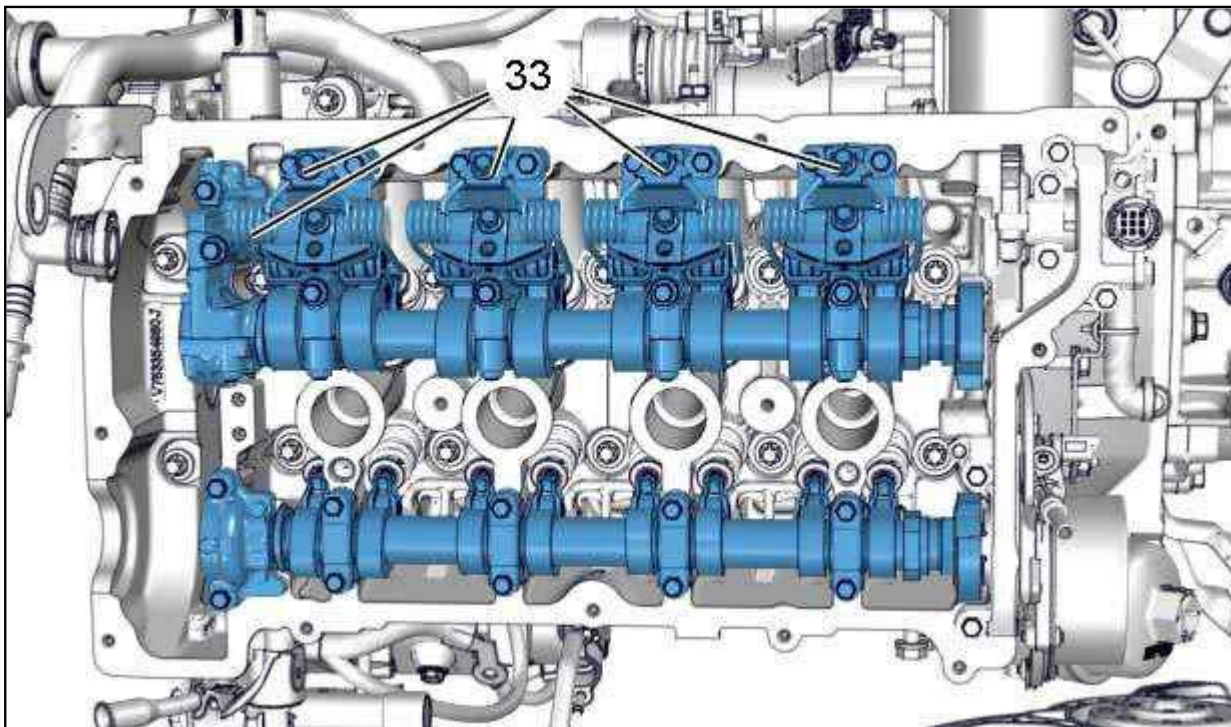


Figure : B1DM055D

URGENT : Danger : Any operation on the variable lift assembly (33) is prohibited without referring to the method for removing the camshafts; serious risk of injury.

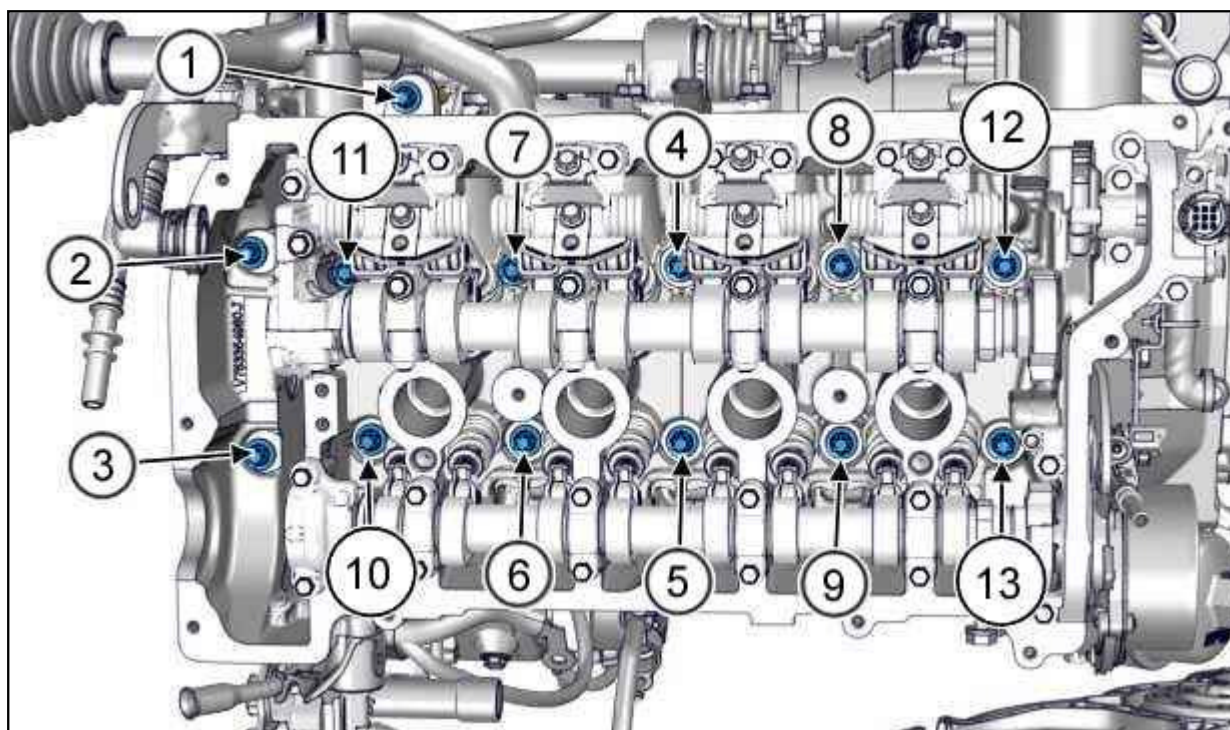


Figure : B1DG0RHD

Unscrew - Remove :

- The cylinder head bolts (/)(In the order from 1 to 3)
- The cylinder head bolts (/)(In the order from 4 to 13)

Remove :

- The cylinder head
- The cylinder head gasket

3. Refitting

N.B. : Clean the joint faces (Do not use a cutting or abrasive tool).

CAUTION : The seal faces should not show any traces of impacts or scratches.

N.B. : Always renew after removal : The seals .

Proceed in the reverse order to removal.

Check the flatness of the cylinder head ($\pm 0,05$ maximum).

CAUTION : Always refit the cylinder head, camshafts and crankshaft in the setting position, tools in place (Refer to the relevant procedure : Checking the valve timing).

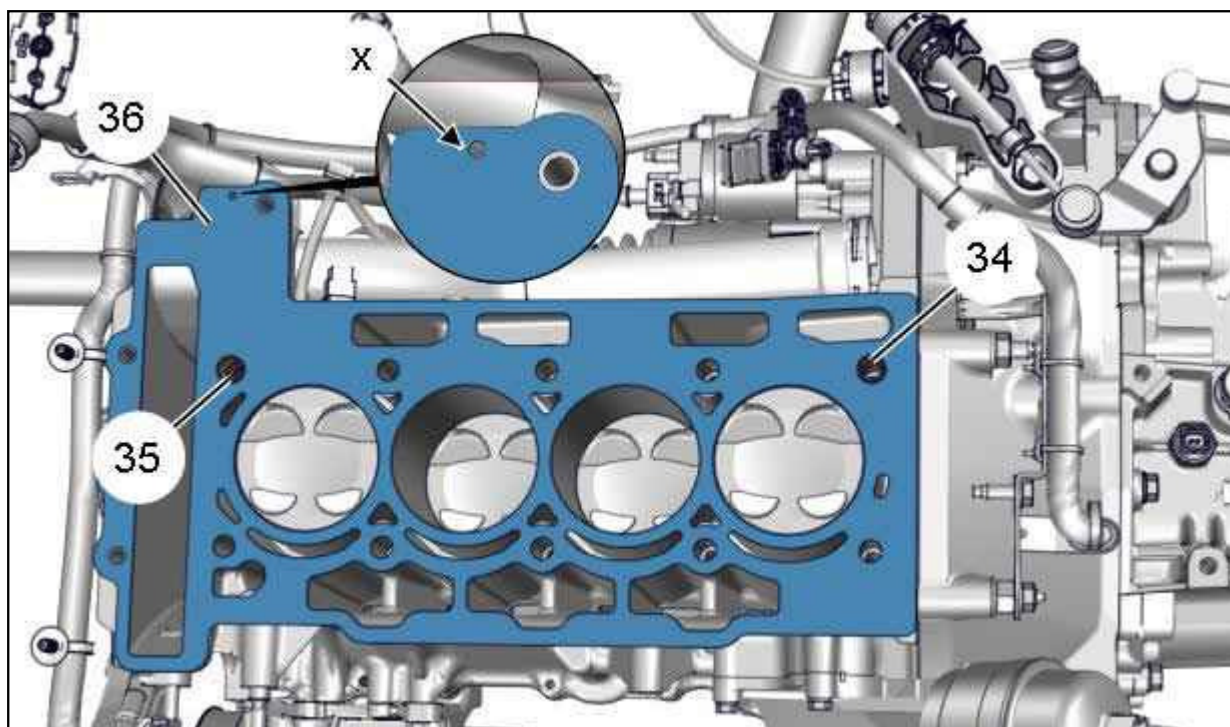


Figure : B1DM057D

Check the presence of the centralising bushes (34), (35).

Fit :

- The new cylinder head gasket (36) (Engine identification (as "x"))
- The cylinder head

CAUTION : The cylinder head is refitted with new bolts and washers .

CAUTION : Fit the cylinder head bolts coated with MOLYKOTE G RAPID PLUS E3 on the threads and under the bolt heads.

Refit and tighten : The cylinder head bolts (/)(In the order shown) ; **Tighten to the specified torque** ⓘ :

- The cylinder head bolts (/)(In the order from 4 to 13)
- The cylinder head bolts (/)(In the order from 1 to 3)

Connect the connector (Solenoid valve (32) supply) (as "w").

Refit the right intermediate engine mounting (31).

Clip in place : The supply harness (at "v").

Refit the bolts (29), (30) ; Tighten to the specified torque.

Fit :

- **The petrol injectors** ⓘ
- The inlet manifold (/)
- **The exhaust catalytic converter manifold** ⓘ
- **The timing chain** ⓘ

Reclip the fuel pipes (at "t","u").

Connect the fuel pipes .

Fit :

- The engine mountings (27), (28)
- The bolts (26) ; Tighten to the specified torque

- The bolts (24) ; Tighten to the specified torque
- The dipstick (25)

Take the weight of the engine by means of the sling hook (23) ; Using a workshop crane.
Remove : The shim under the sump.

CAUTION : Replace the coolant outlet housing seals (New seals).

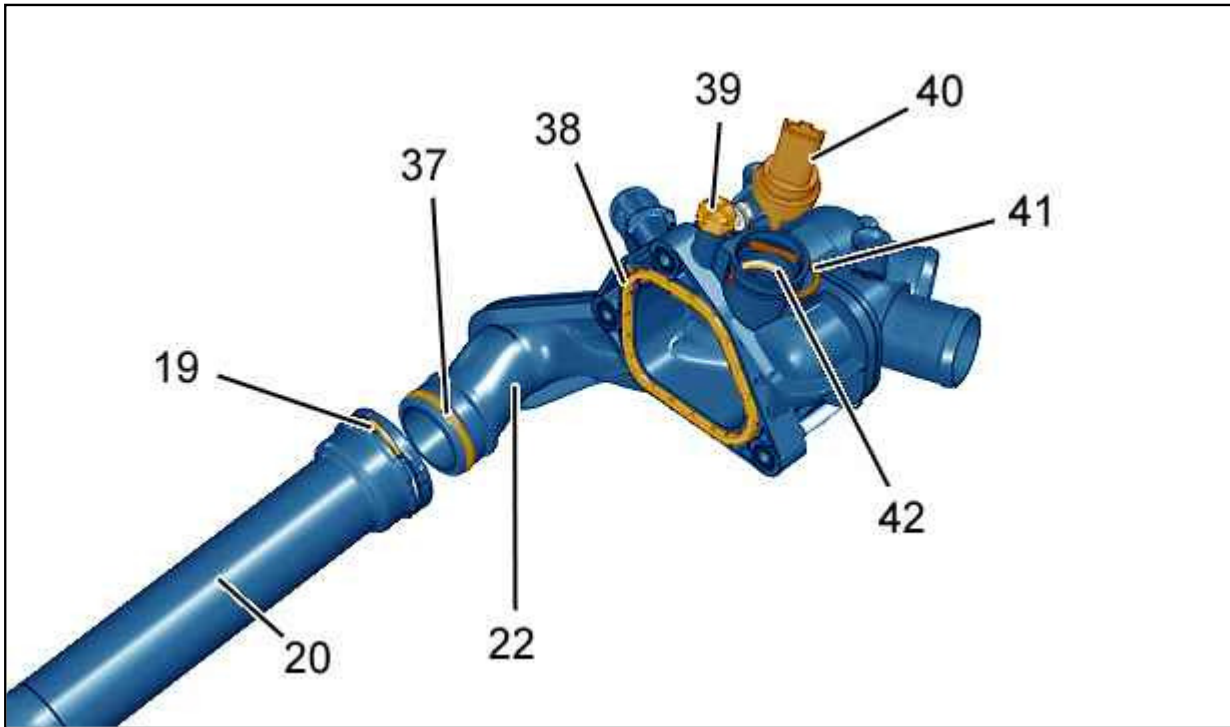


Figure : B1HM0CLD

Fit :

- The seals (37), (38) (On the coolant outlet housing (22))
- The bleed screw (39)
- Seal (42)
- The temperature sensor (40)
- The clip (41)

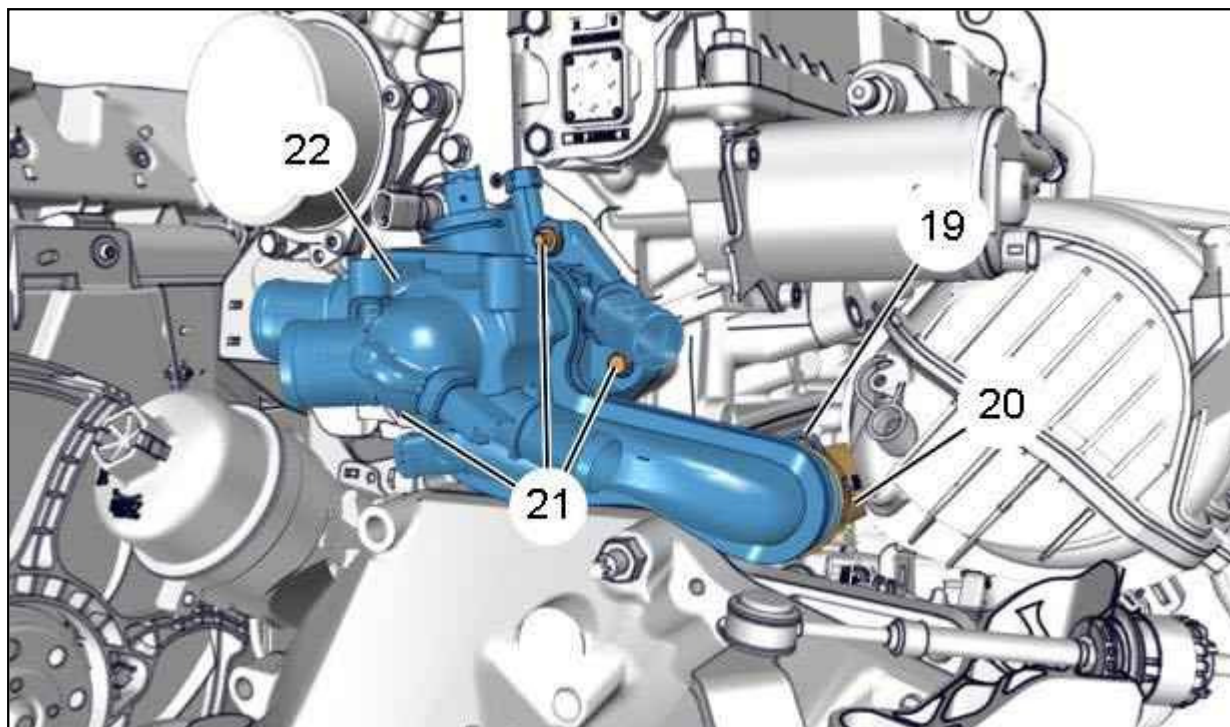


Figure : B1HM0CMD

Fit - Couple up : The thermostat (22) (On the intermediate pipe (20)).

Fit :

- The connecting clip : Coolant outlet housing (/) / Intermediate pipe (19)
- The mountings (21) ; Tighten to the specified torque

Couple up :

- The inlet hose to the heater matrix (at "n")
- The pipe leaving the heater matrix (at "p")
- The radiator lower pipe (at "q")
- The radiator upper pipe (at "r")

Fit : The engine harness sheathing (18).

Connect :

- The oil pressure sensor connectors (at "m")
- The temperature sensor connectors (at "l")
- The controlled thermostat supply connectors (at "k")
- The connectors (Inlet camshaft position sensor) (at "j")
- The connectors (Exhaust camshaft position sensor) (at "h")

Fit : The vacuum circuit pipe (17) .

Clip : The vacuum circuit pipe (17) (at "g").

Couple up : The vacuum circuit pipe (17) (at "f").

Fit :

- The sparking plugs ; Tighten to the specified torque
- The ignition coils (16)

Connect the connector (at "e").

Reconnect the power supply harness (at "d").

Connect : The supply harnesses (Ignition coils) (at "c").

Clip the harness (15).

CAUTION : Remove the plugs at the entry to the inlet air manifold.

Fit :

- The air filter housing (14)
- The intermediate mounting (13)
- The bolts (12)
- The engine style cover (11)

Clip : The engine style cover fixings (at "b").

Fit :

- The fixings of the engine cover (10)
- The filter element (9)
- The battery tray support

Clip the electrical harnesses to the battery tray.

Fit :

- The battery (/)
- The engine management ECU

Connect : The engine management ECU supply harnesses.

Fit :

- The air filter cover (8)
- The air filter cover bolts (6), (7)
- The air entry union (4)
- The (5) bolt
- The air resonator (3)

Fill and bleed the cooling system .

Clip : The vacuum circuit pipe (at "a").

Fit : The protective casing (1).

CAUTION : Perform the operations to be carried out following reconnection of the battery.

Connect the battery.

Refit the battery style cover (2).