

REMOVING - REFITTING : HIGH PRESSURE FUEL PUMP (DEMONSTRATION VIDEO)**ESSENTIAL : Observe the safety and cleanliness recommendations** .**1. Demonstration video**

Consult the videos available at the following URL addresses.

Type	Link
Preliminary operations	http://public.servicebox-parts.com/dtt/AP/Diag_AP/donnees/Depose-prealable-pompe-hp-dw10f/depote-prealable-pompe-hp-moteur-dw10f2.mp4
Removing	http://public.servicebox-parts.com/dtt/AP/Diag_AP/donnees/Depose-pompe-hp-dw10f/Depose-repose-pompe-hp-DW10F1.mp4

2. Special feature

CAUTION : Do not remove the fuel high pressure pump without having timed the camshaft pulley in the "fuel high pressure pump" position ; Risk of malfunction on refitting.

N.B. : This engine has 2 timing positions on the camshaft pulley.

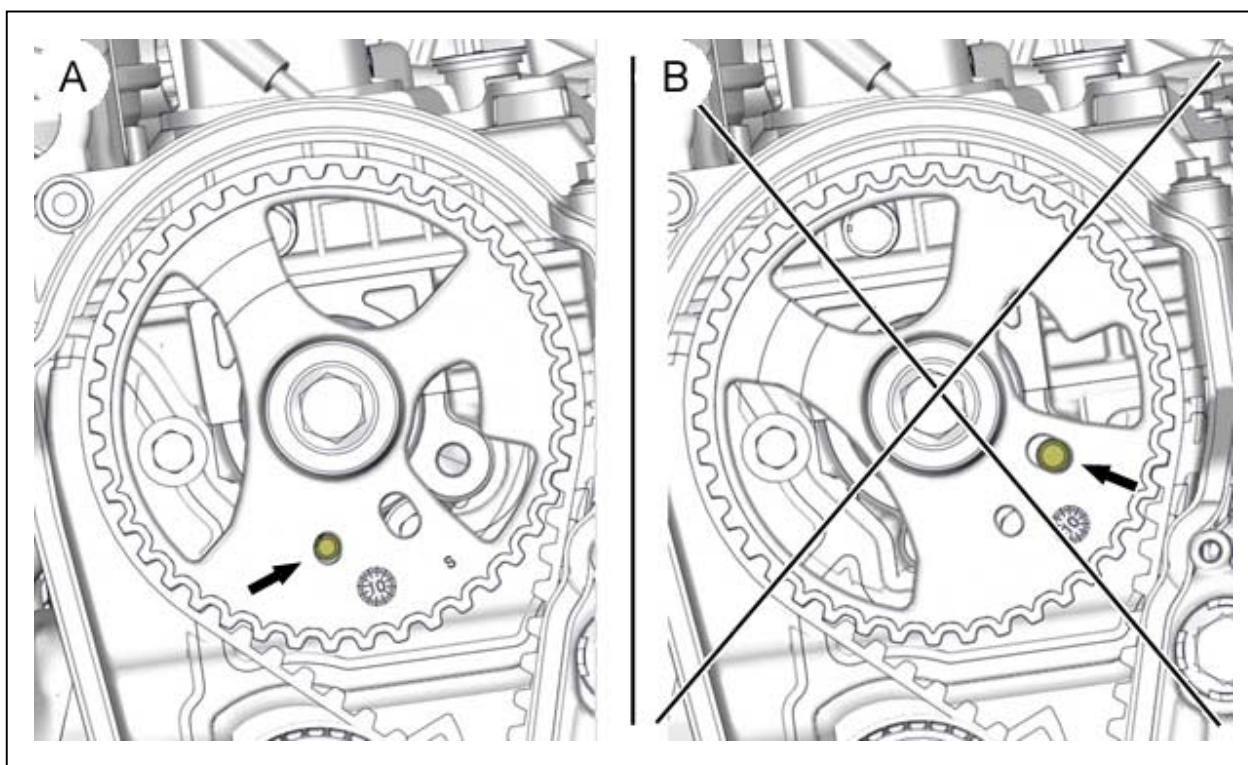


Figure : B1HG4SBD

"A" Timing in position "fuel high pressure pump"(diameter 6 mm).

"B" Timing in position "timing"(diameter 8 mm) ; Do not use.

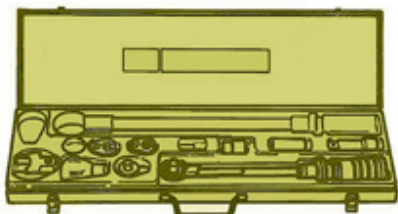
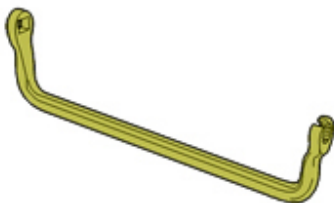
3. Parts which must always be replaced

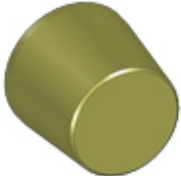
Description	Quantity
High pressure fuel pipe	1
Diesel injectors fuel return pipe	1
Seal	1
Upper timing cover bolt	3

4. Tooling

Workshop equipment :

- Leak detector
- Trolley jack
- Soft block
- 50 mm long stud M8 X 125

Tool	Reference	Description
[1603-ZZ]  Figure : E5AG06GT	[1603-ZZ] (*)	Tightening kit
[1617-J]   Figure : E5AB1KLT	[1617-J] (*)	Set of HDI plugs
[4704-T]  Figure : E5AB1KMT	[4704-T] (*)	Diesel injector tightening spanner
	[0188-H] [EN-52335]	Setting pin

[0188-H] [EN-52335] 		
Figure : E5AB2BBT		
[1621-C] [EN-52339-C] 	[1621] [EN-52339-C]	Additional DELPHI injection kit
Figure : E5AB2BCT	[1621-C]	High pressure fuel supply pump support
[1621-D] [EN-52339-D] 	[1621] [EN-52339-D]	Additional DELPHI injection kit
Figure : E5AB2BDT	[1621-D] [EN-52339-D]	Fitting cone
(*) Use standard workshop equipment if the special tool is not available		

5. Removing

Put the vehicle on a lift .

Remove the engine cover .

CAUTION : Perform the operations that are required prior to a disconnection of the ancillaries battery .

Disconnect the ancillaries battery.

Remove :

- The under-engine protector
- The front right-hand wheel
- The front right-hand mudguard
- The ancillary drive belt protective cover
- **The low pressure fuel pipes support** 

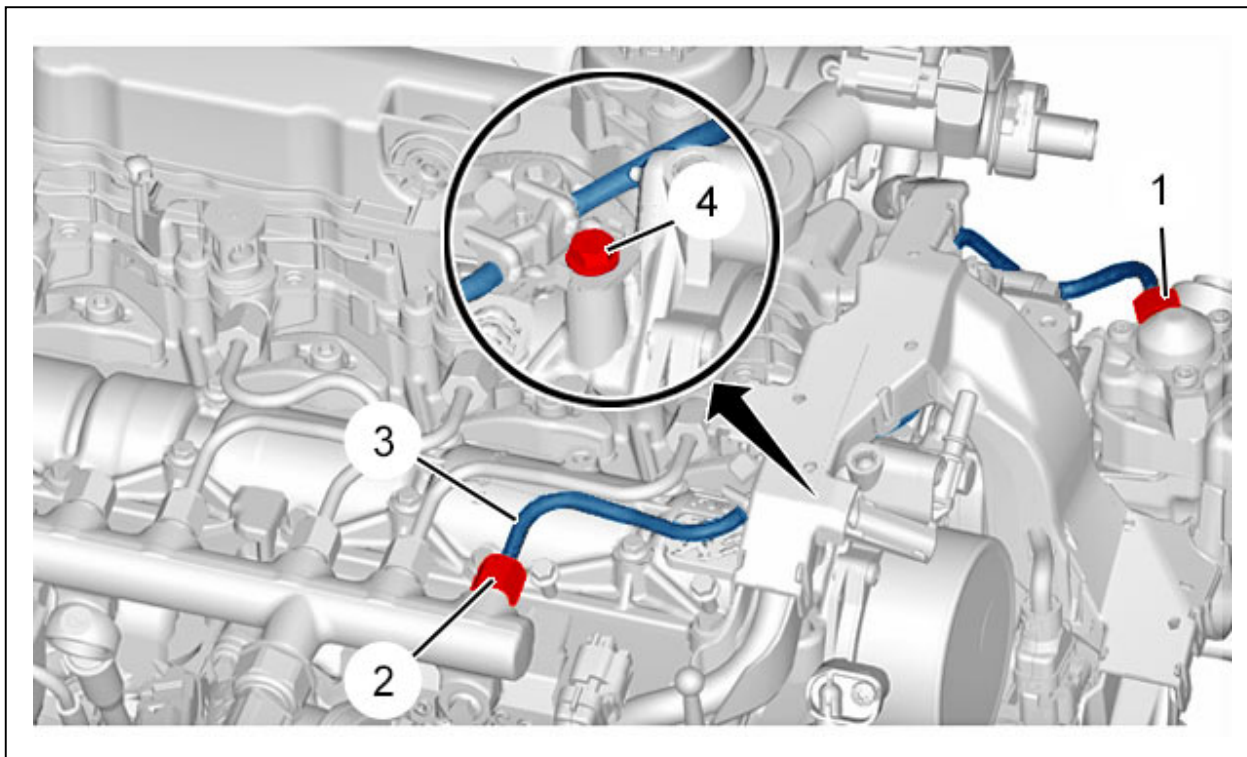


Figure : B1HG48ED

CAUTION : Clean the fuel high pressure unions before untightening .

CAUTION : Immediately plug the fuel unions using plugs [1617-J].

Remove the bolt (4).

Slacken :

- The high pressure fuel pipe (3) union (1)
- The high pressure fuel pipe (3) union (2)

Remove the high pressure fuel pipe (3).

5.1. Low pressure fuel pipes sheathing on upper timing cover (According to equipment)

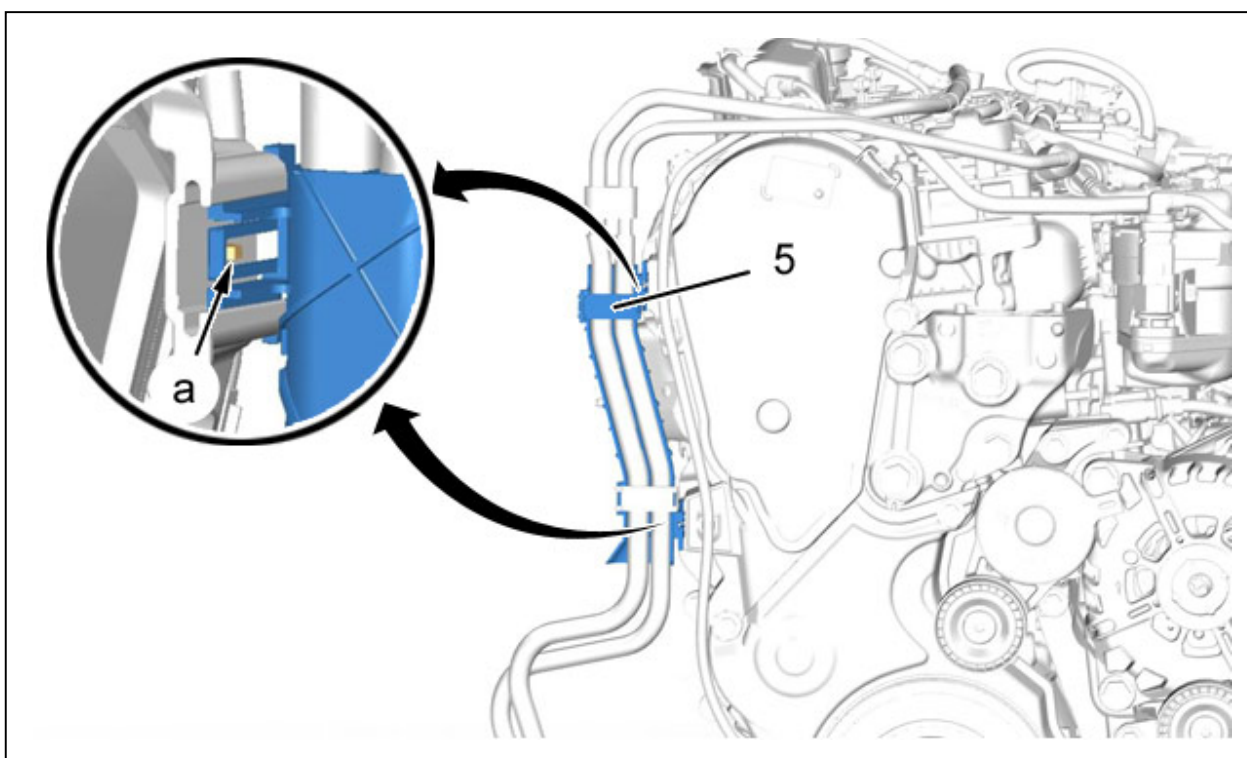


Figure : B1HG4BRD

Unclip the low pressure fuel pipes sheathing (5) from the upper timing cover (At "a").

5.2. Removing (Continued)

CAUTION : Do not place the jack directly on the oil sump ; Risk of damage.

Support the engine using a jack and a soft block .

Remove the right-hand engine mounting .

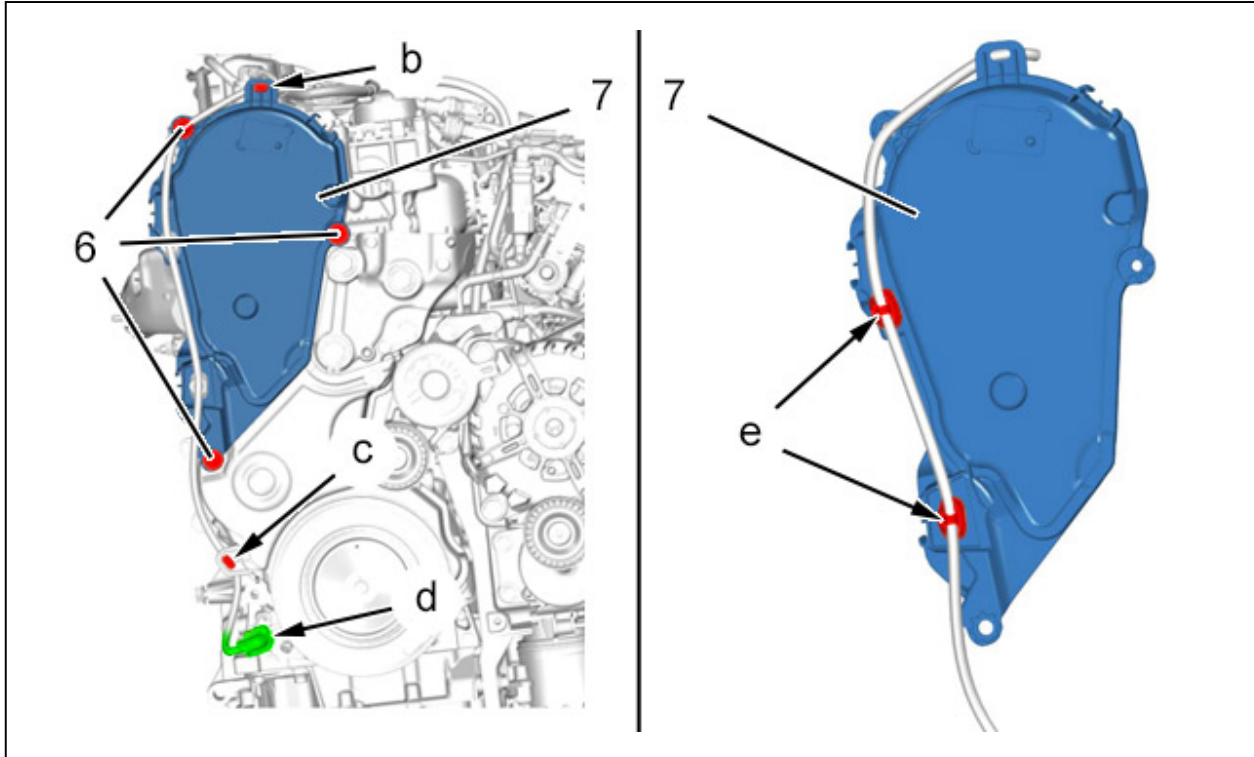


Figure : B1HG4BSD

Unclip the low pressure fuel pipes from the upper timing cover (7).

Disconnect the connector of the engine speed sensor (At "d").

Unclip the electrical harness (At "b" and "c").

Remove the bolts (6).

Detach the upper timing cover (7).

Unclip the electrical harness (At "e").

Remove :

- The upper timing cover (7)
- The crankshaft pulley cover

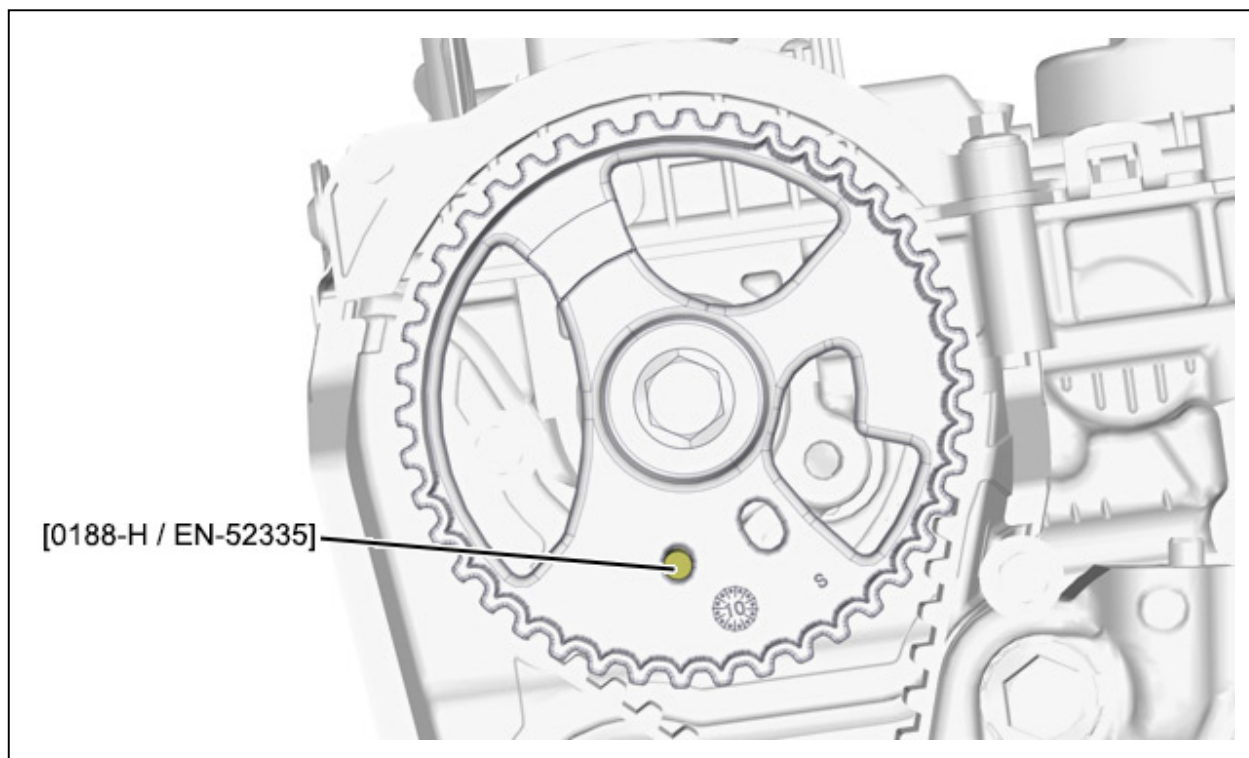


Figure : B1HG6BHD

Turn the engine by the crankshaft pulley bolt just into the timing position "fuel high pressure pump" "A".
Peg the camshaft ; Using the tool [0188-H / EN-52335].

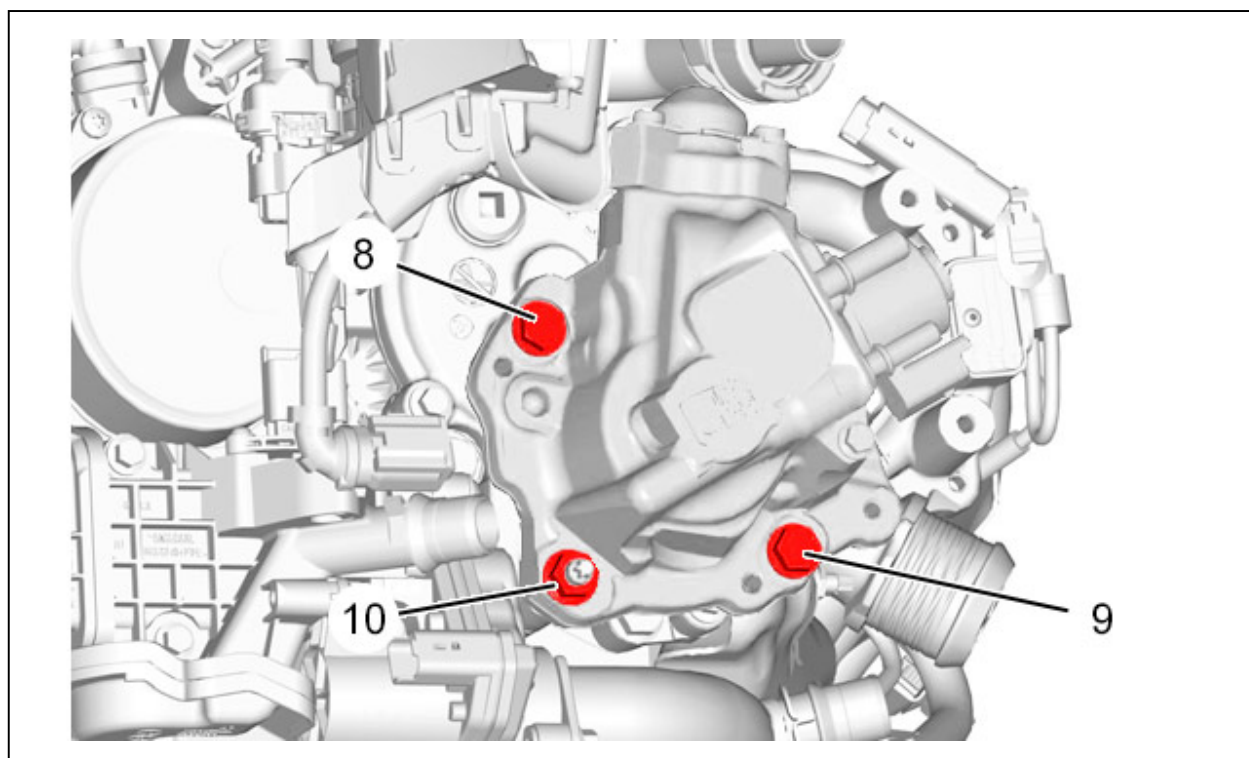


Figure : B1HG7H1D

Remove :

- The bolts (8), (9)
- The nut (10)

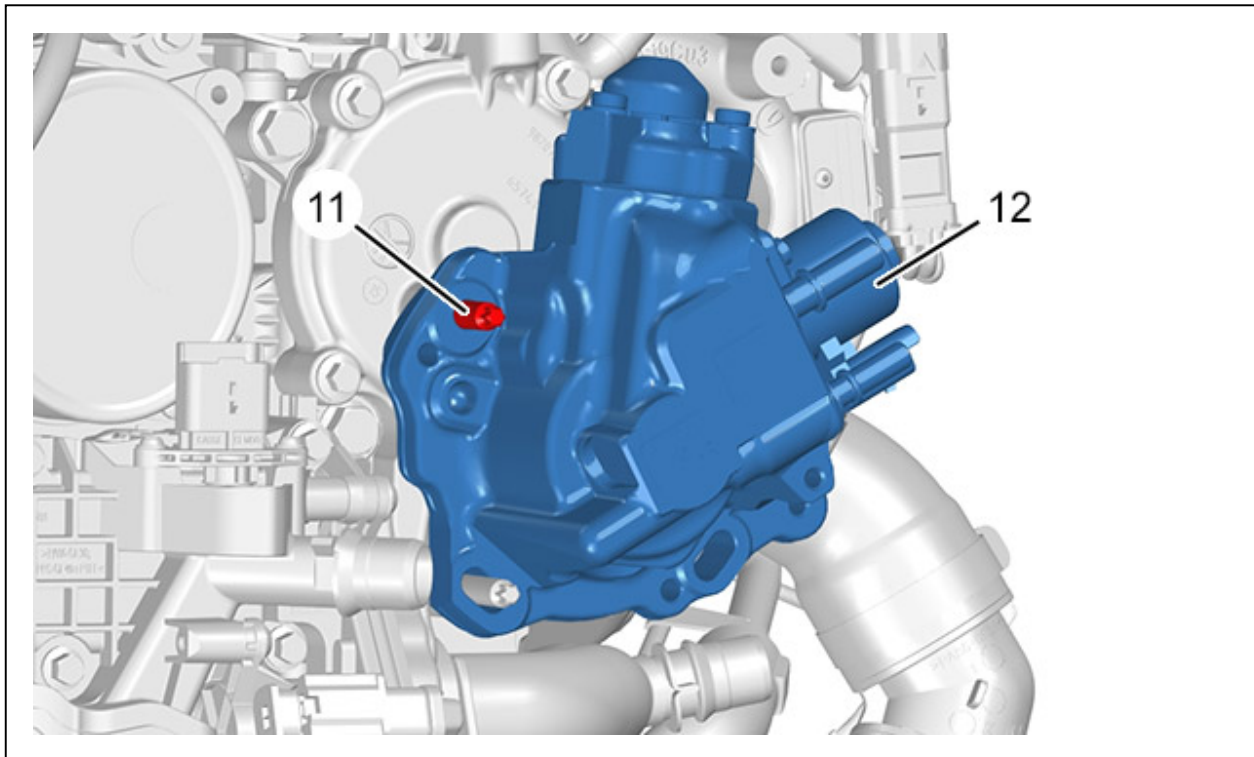


Figure : B1HG7H4D

CAUTION : Remove the high pressure fuel pump (12) without any rotation.

Fit the stud M8 X 125 (11) in place of the bolt (8).

Carefully move the fuel high pressure pump (12) aside ; Using a flat screwdriver(if necessary).

Unclip the cooling circuit pipe from the high pressure fuel pump (12)(depending on equipment).

Remove the fuel high pressure pump (12).

6. Preparation (If re-used)

CAUTION : Clean the gasket face ; Using a degreaser index "N1" ⓘ .

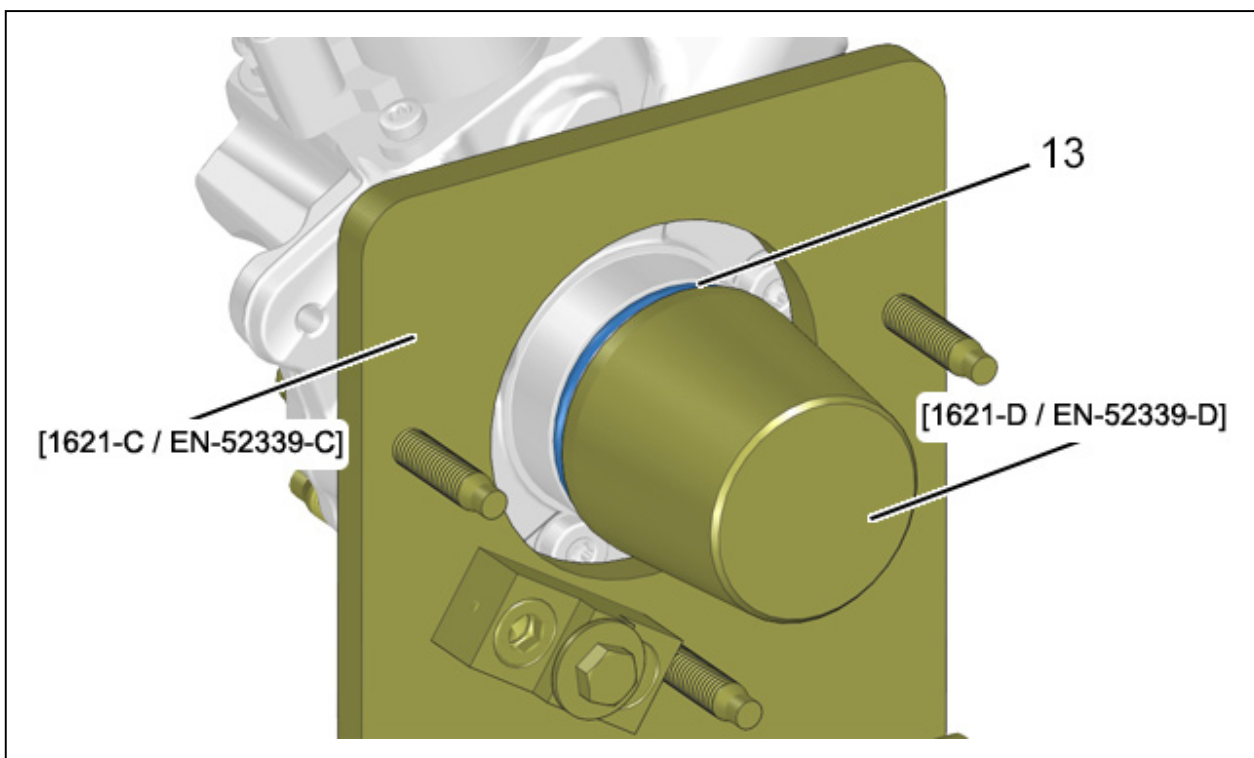


Figure : B1HG7H7D

Fit the fuel high pressure pump (12) on its support [1621-C / EN-52339-C].

CAUTION : Do not use abrasives or sharp tools on the joint faces.

Lubricate and refit the seal (13)(new) ; Using the tool [1621-D / EN-52339-D].

Remove the fuel high pressure pump (12) from its support [1621-C / EN-52339-C].

7. Refitting

CAUTION : Observe the tightening torques.

Tightening torques :

- **Engine** ⓘ
- **Engine - gearbox assembly mountings** ⓘ
- **Wheels** ⓘ

CAUTION : If replacing the high pressure fuel pump, retrieve and refit the engine cooling circuit hose fixing bracket(according to equipment).

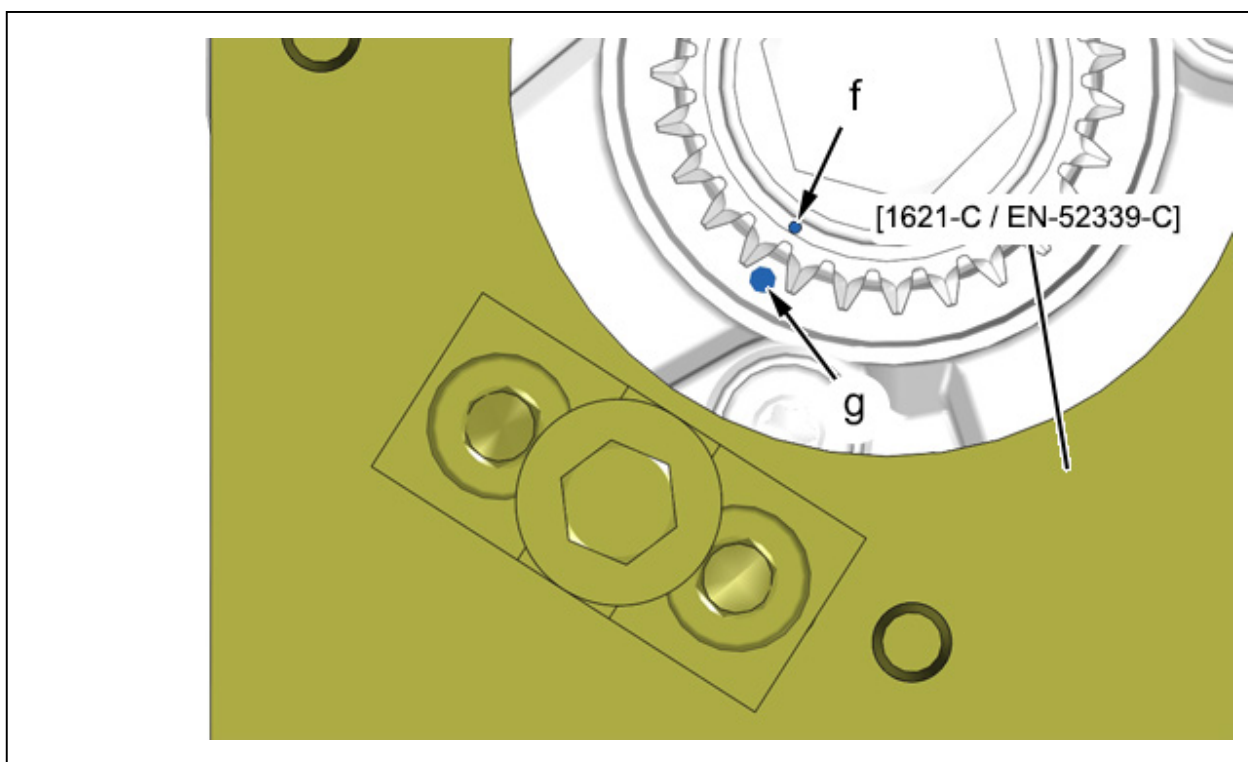


Figure : B1HG6BPD

Check the alignment of the marks "f", "g".

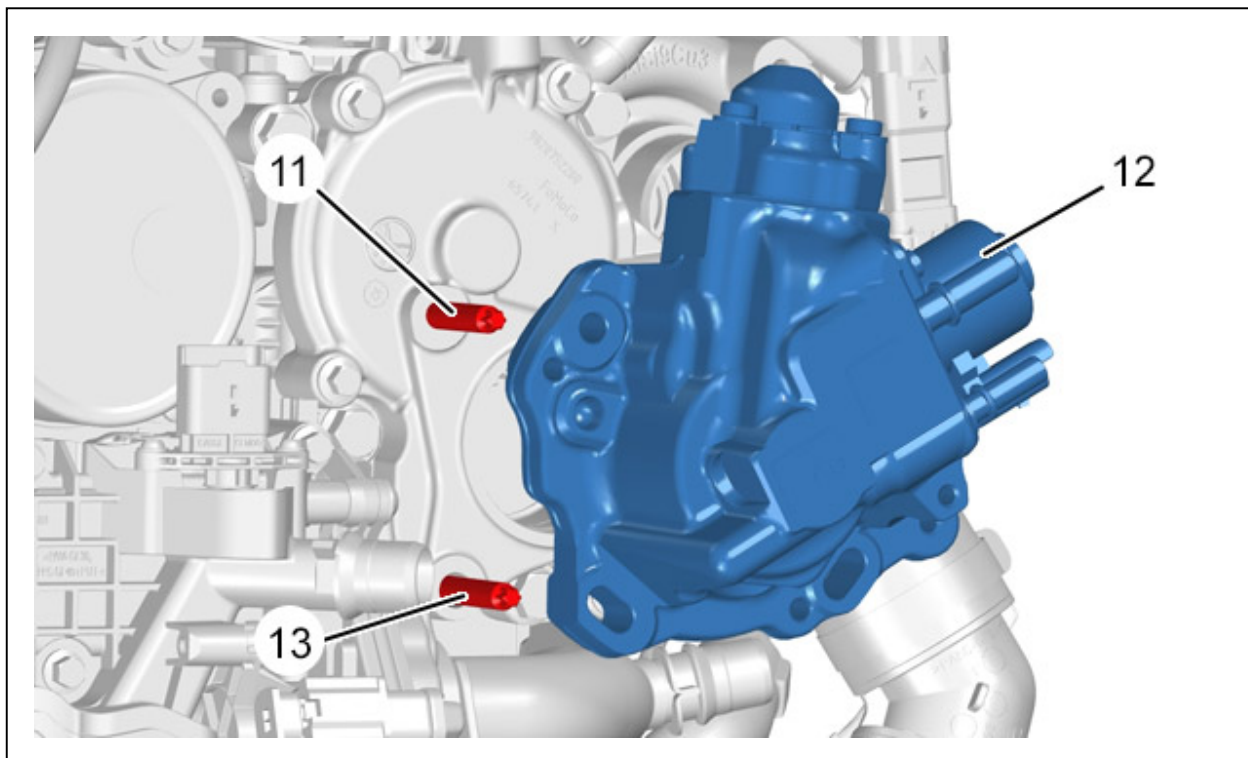


Figure : B1HG7HAD

CAUTION : Incorrectly refitting the high pressure fuel pump (12) may offset the marks "f", "g" : Risk of damage to the timing belt .

CAUTION : The M8 X 125 stud (11) must be present.

Refit the high pressure fuel pump (12) on the studs (11), (13) to guide it into its housing.

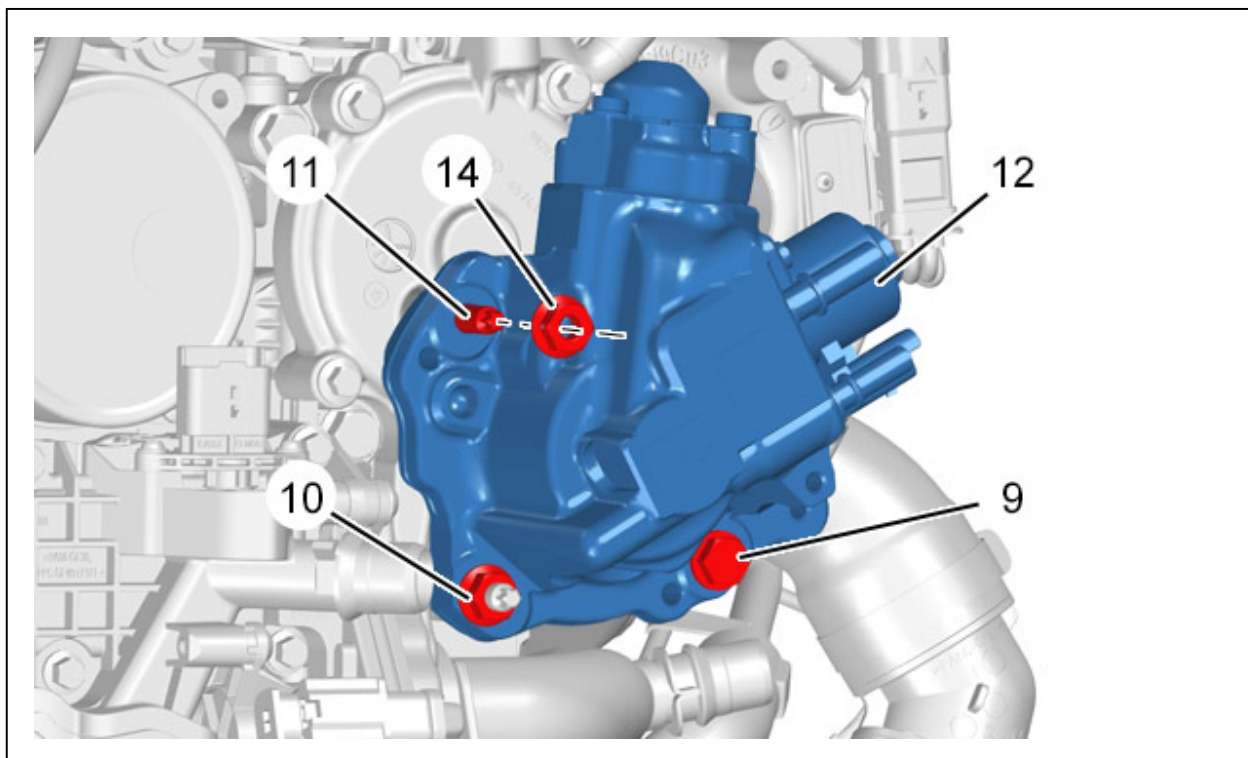


Figure : B1HG7HCD

Refit :

- The nut (14) on the stud (11)
- The bolt (9)
- The nut (10)

Tighten the fixings (9), (10), (14) to position the high pressure fuel pump (12) flush on its support .

Remove :

- The nut (14)
- The stud (11)

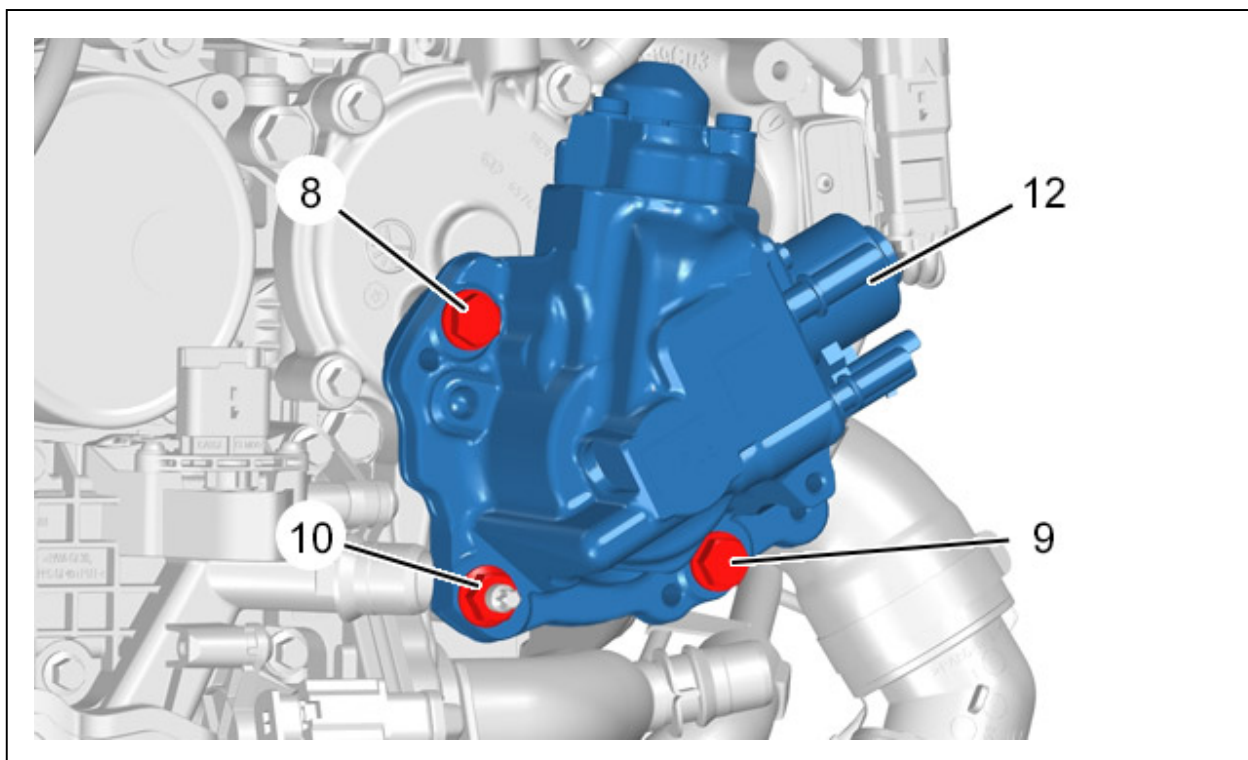


Figure : B1HG7HED

Refit the bolt (8).

Tighten to the specified torque :

- The bolts (8), (9)
- The nut (10)

Clip the engine cooling circuit pipe to the high pressure fuel pump (12)(depending on equipment).

Remove the tool [0188-H / EN-52335].

Refit the crankshaft pulley cover ; Using rubber lubricant(index "G11") ⓘ .

CAUTION : Check the positioning of the crankshaft pulley cover by pulling moderately.

Clip the electrical harness (At "e").

Refit :

- The upper timing cover (7)
- The bolts (6)

Clip the electrical harness (At "b" and "c").

Reconnect the engine speed sensor connector (At "d").

Refit the right-hand engine mounting .

Remove the roller jack and the soft block.

Reclip the sheathing (5) of the low pressure fuel pipes to the upper timing cover (At "a")(depending on equipment).

Refit the high pressure fuel pipe (3) (New).

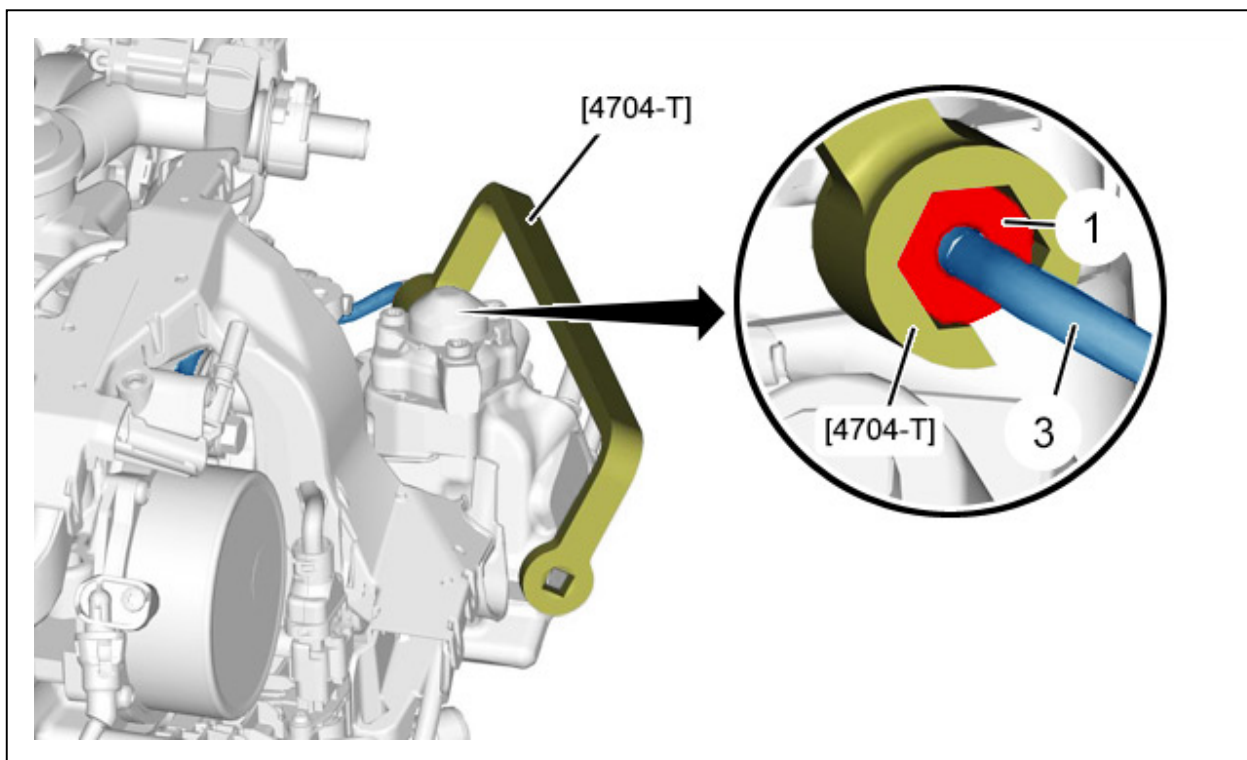


Figure : B1HG48LD

N.B. : Use tool [4704-T] on the union (1).

Tightening of the high pressure fuel pipe (3) unions (1), (2) ; Using the tools [4704-T], [1603-ZZ] :

- Tighten the high pressure fuel pipe (3) unions (1), (2) (Manually)
- Tighten the bolt (4) (Manually)
- Pre-tighten the high pressure fuel pipe (3) union (1) on the high pressure fuel pump (9)
- Pre-tighten the high pressure fuel pipe (3) union (2) on the fuel high pressure common rail
- Tighten the high pressure fuel pipe (3) union (1) on the high pressure fuel pump (9)
- Tighten the high pressure fuel pipe (3) union (2) on the fuel high pressure common rail
- Tighten the bolt (4)

Refit :

- **The low pressure fuel pipes support** ⓘ
- The ancillary drive belt protective cover
- The front right-hand mudguard
- The front right-hand wheel
- The under-engine protector

CAUTION : Perform the operations that are required following a reconnection of the ancillaries battery ⓘ .

Reconnect the ancillaries battery.

Prime the fuel circuit by turning the ignition key to the ignition positive position.

Return the vehicle to its wheels.

8. Check

Checking for leaks :

- Spray the leak detector product on the high pressure fuel unions
- Allow the product to dry
- Start the engine
- Check that there are no leaks
- Carry out a road test
- Check that there are no leaks
- Replace any defective parts(if necessary)

N.B. : Read the faults log ; Using the diagnostic tool.

Refit the engine cover .