



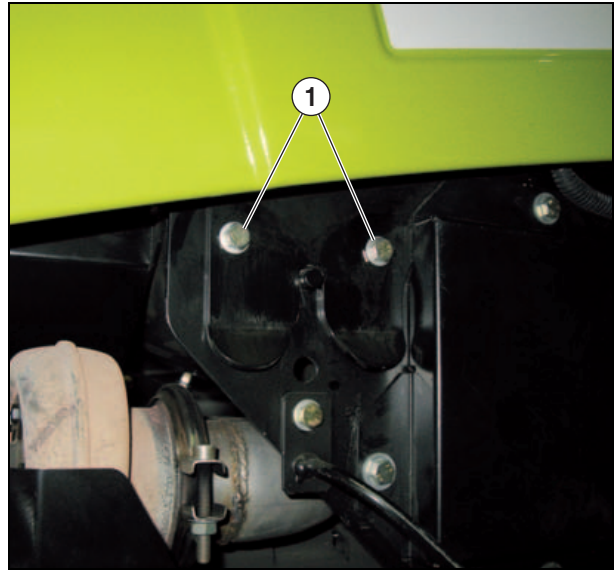
**CLAAS ARION 430-410
(Type A21) Tractor
Service Repair Manual**

Operation n° 1

- Remove the cover by removing the screws (1).

Operation n° 2

- Drain the coolant.
- Drain the engine oil.
- If option:
- Drain the A/C unit.



101msm74

Fig. 1

Operation n° 3

- Disconnect the battery.



101msm75

Fig. 2

Operation n° 4

- If option:
- Remove the frame of the front loader.



101msm76

Fig. 3

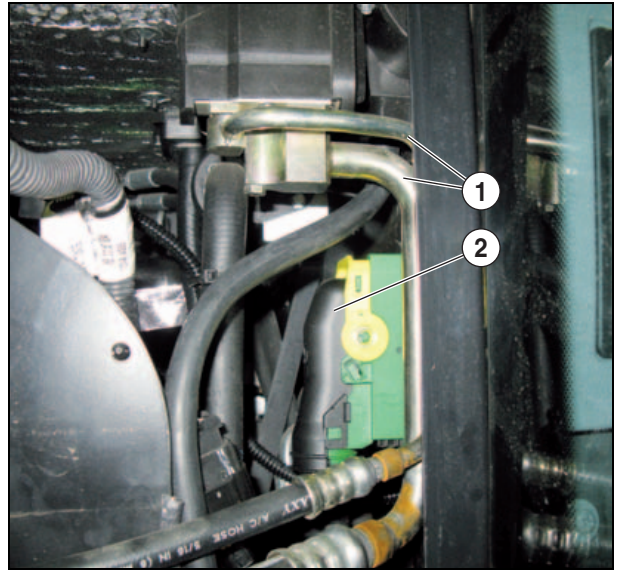
Operation n° 5

If option:

- Disconnect the (1) A/C lines.

Operation n° 6

- Disconnect the engine harness (2).

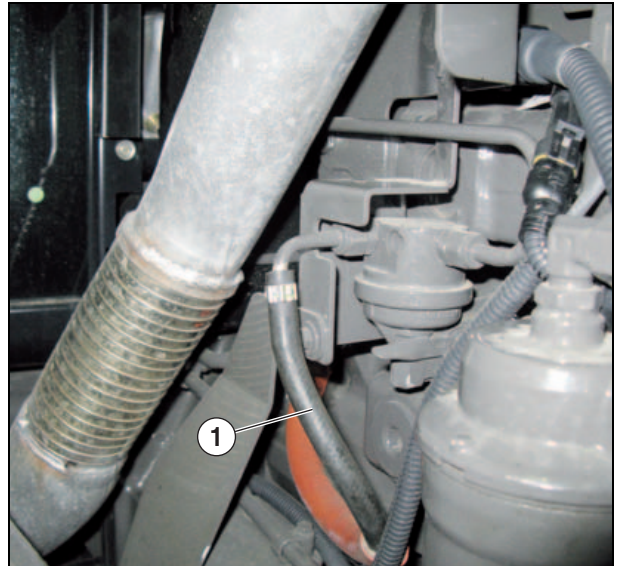


101msm77

Fig. 4

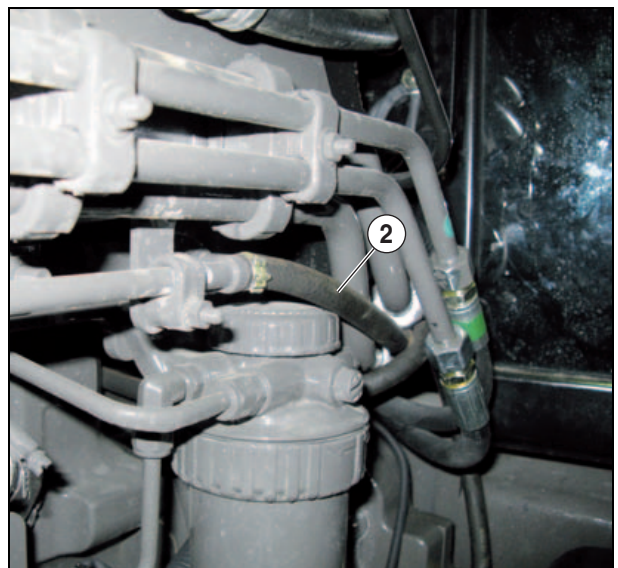
Operation n° 7

- Disconnect the (1), (2) fuel supply and return lines.



101msm78

Fig. 5



101msm79

Fig. 6

<https://www.ebooklibonline.com>

Hello dear friend!

Thank you very much for reading.

Enter the link into your browser.

The full manual is available for immediate download.

<https://www.ebooklibonline.com>

Operation n° 8

- Disconnect the transmission oil cooler lines (1).



101msm80

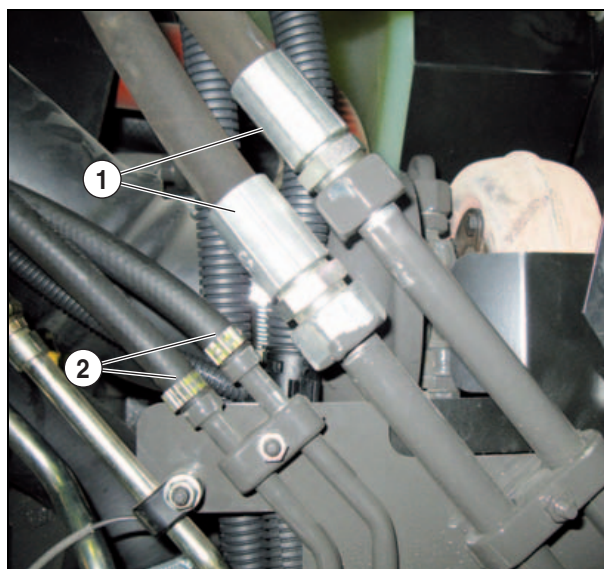
Fig. 7

Operation n° 9

- Disconnect the diesel fuel cooler lines (2).

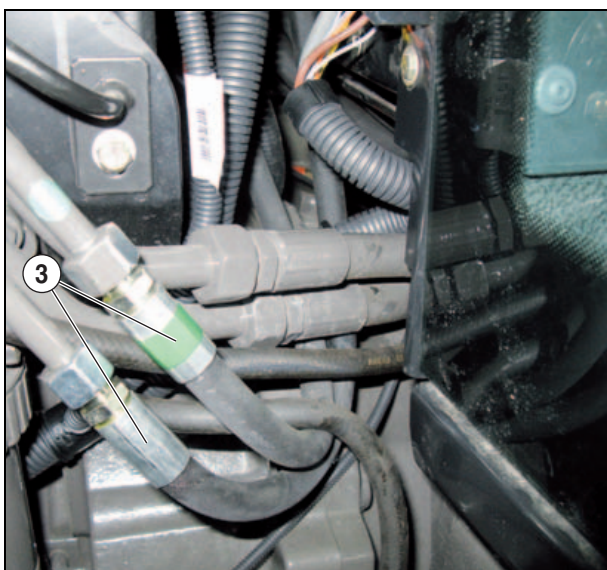
Operation n° 10

- Disconnect the steering lines (3).



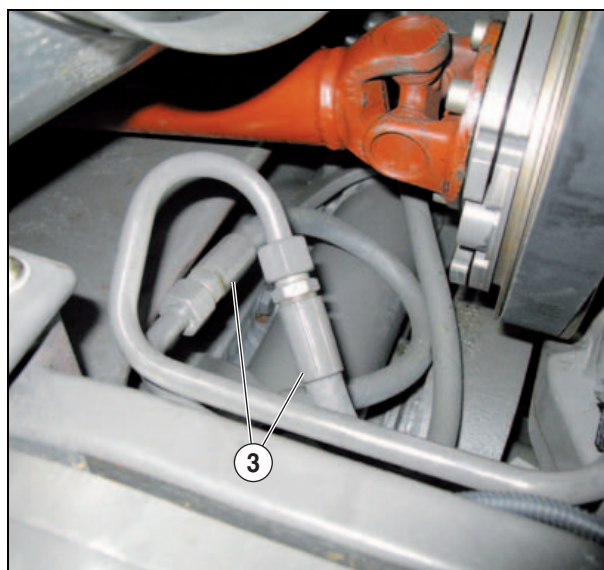
101msm81

Fig. 8



101msm82

Fig. 9

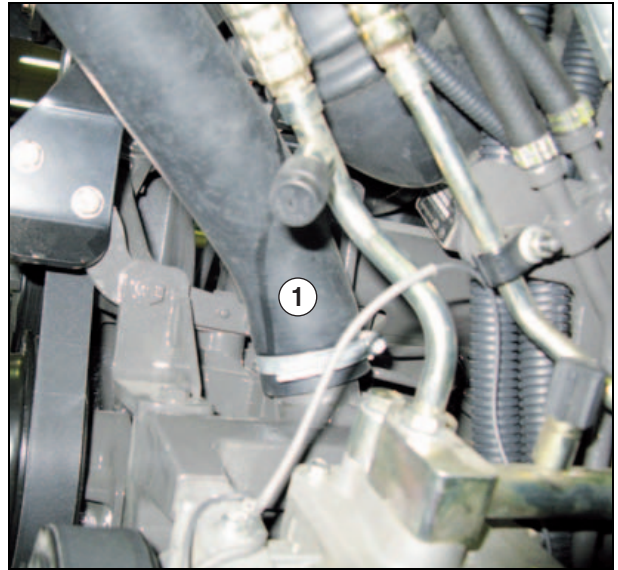


101msm83

Fig. 10

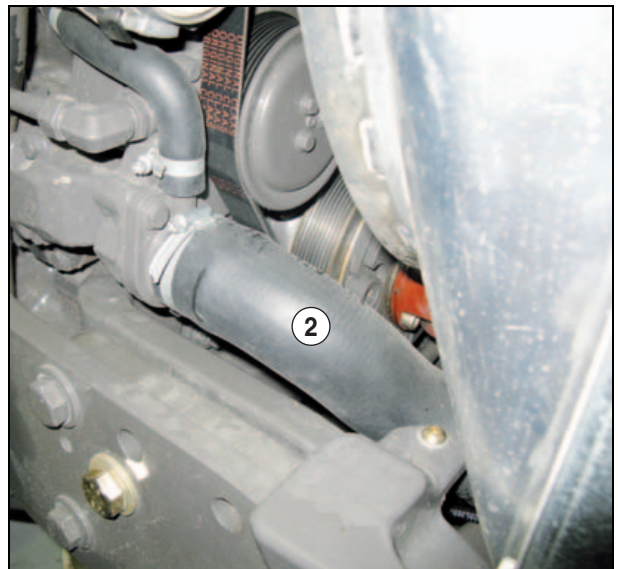
Operation n° 11

- Disconnect the hoses from the cooling radiator (1) and (2).



101msm84

Fig. 11

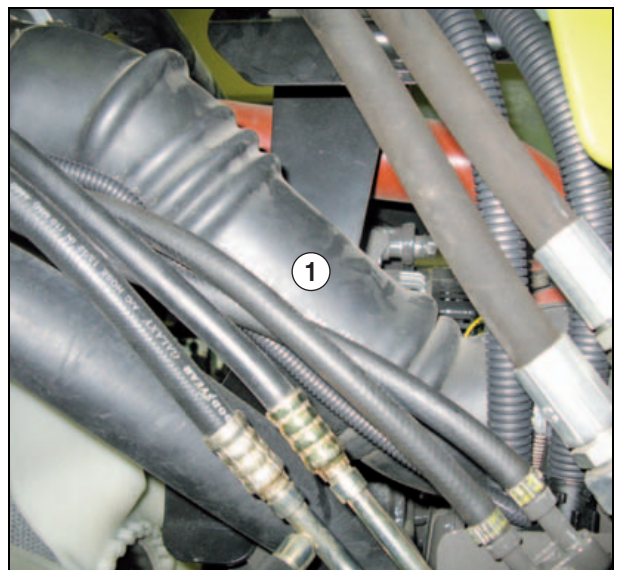


101msm85

Fig. 12

Operation n° 12

- Disconnect the (1) air intake hose.

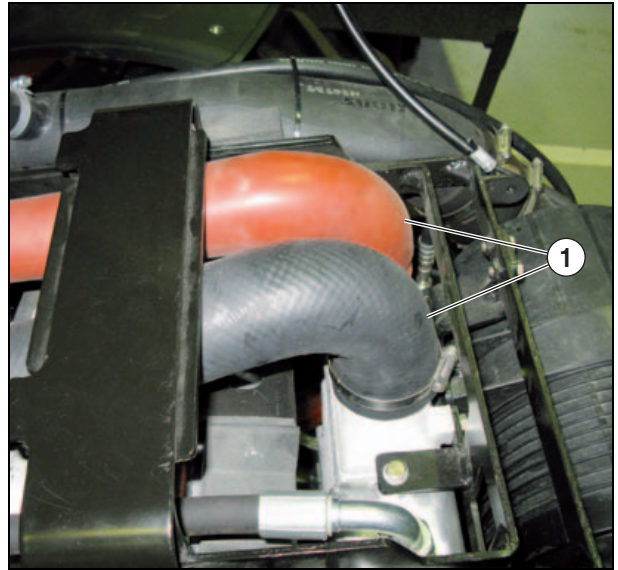


101msm86

Fig. 13

Operation n° 13

– Remove the hoses of the (1) air/air heat exchanger.



101msm87

Fig. 14

Operation n° 14

– Remove the exhaust extension.

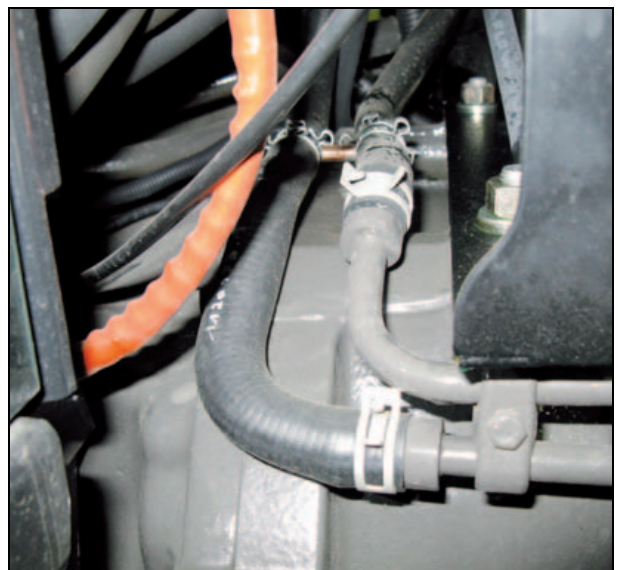


101msm88

Fig. 15

Operation n° 15

– Disconnect the two heater hoses.

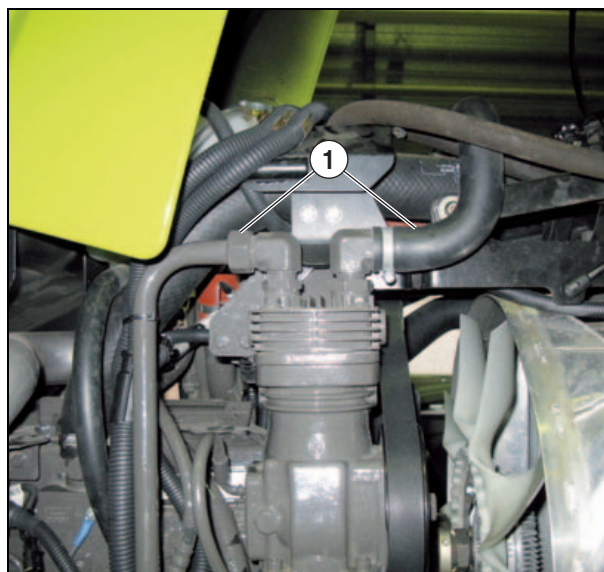


101msm89

Fig. 16

Operation n° 16

- Disconnect the air brake lines (1).

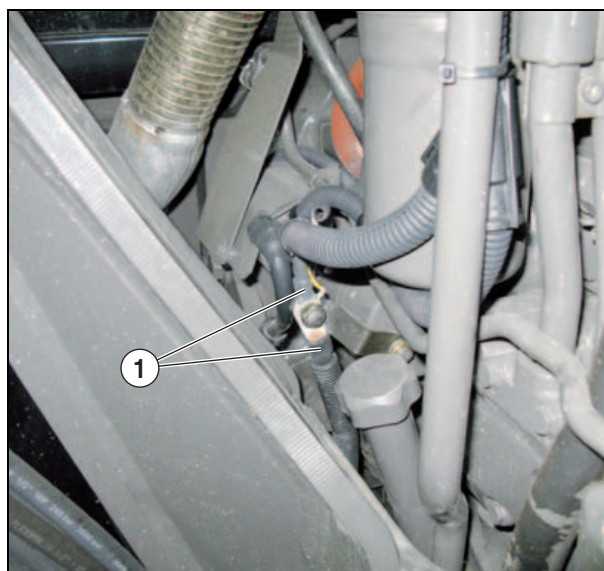


101msm90

Fig. 17

Operation n° 17

- Disconnect the starter wiring (1).



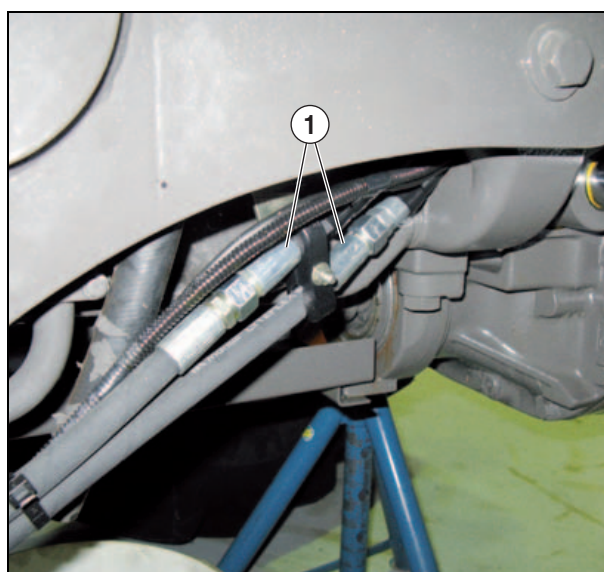
101msm91

Fig. 18

Operation n° 18

If option:

- Disconnect the (1) front lifting lines.



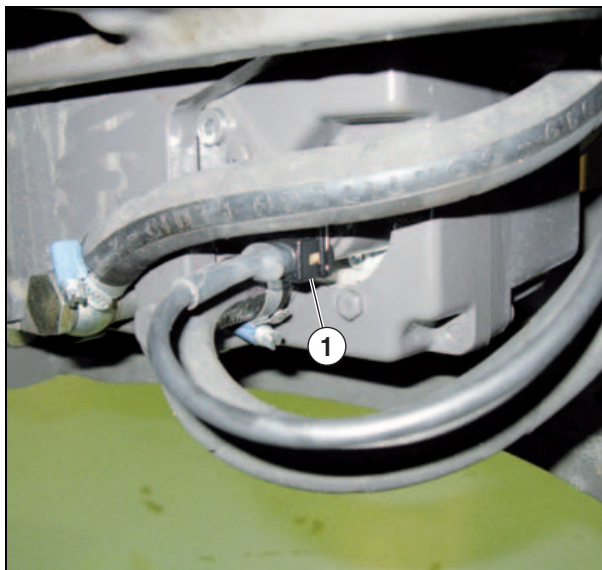
101msm92

Fig. 19

Operation n° 19

If option:

- Disconnect the front PTO harness (1).



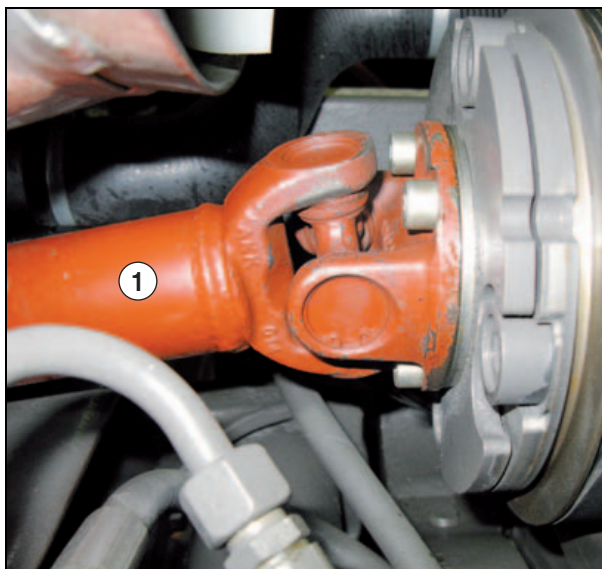
101msm93

Fig. 20

Operation n° 20

If option:

- Disconnect the (1) front PTO shaft.



101msm94

Fig. 21

Operation n° 21

If option:

- Remove the front lift.



101msm95

Fig. 22

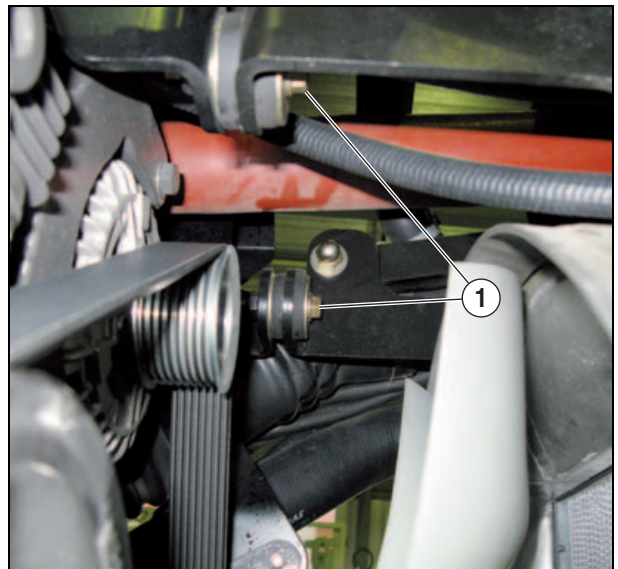
Operation n° 22

- Remove the housing and drive shaft.



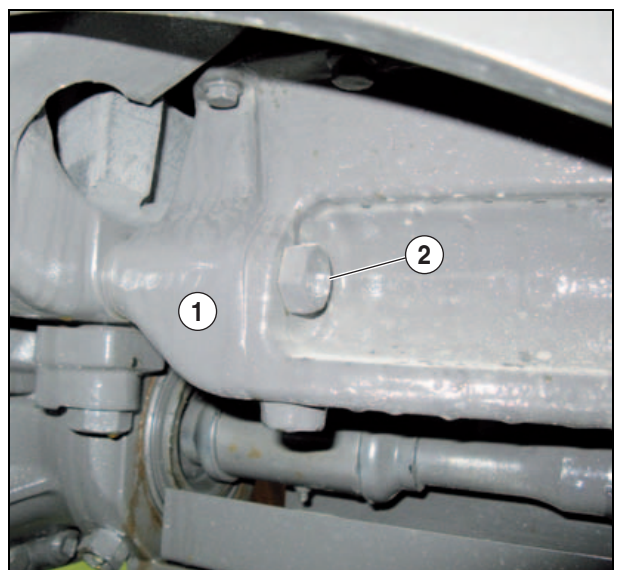
Operation n° 23

- Remove the screw (1) from the cooling radiator bracket.



Operation n° 24

- Fit a prop under the engine and under the frame.
- Disconnect the front frame (1) from the engine by untiightening the screws (2).

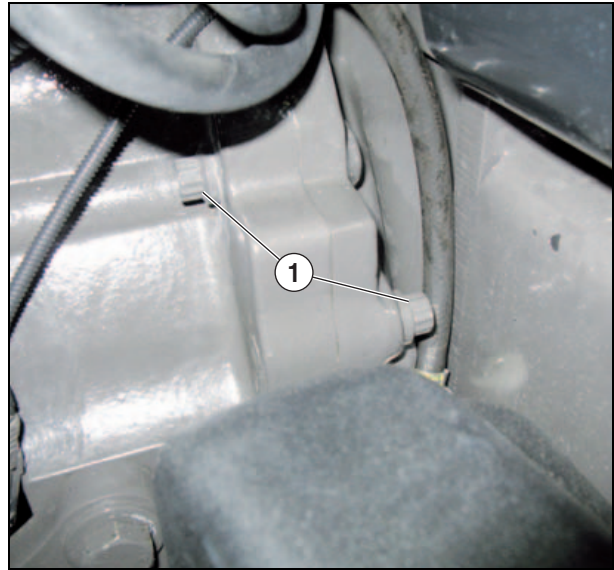


Operation n° 25

– Sling the engine on 4 points to balance the load.

Note: The engine has a weight of about 550 kg.

– Remove the screws from the (1) clutch casing.



101msm99

Fig. 26

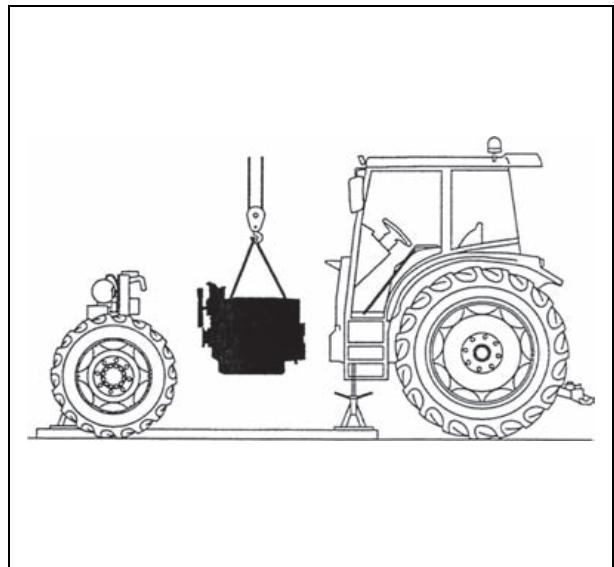
Operation n° 26

Important: Before removing the engine, check that all elements are disconnected properly.

– Removing the engine.

– Lay the engine on flat and clean ground.

– Remove all external engine elements (Starter, Alternator...).



101hsm05

Fig. 27

Refitting the complete engine

– Refit all external engine elements (Starter, Alternator...).

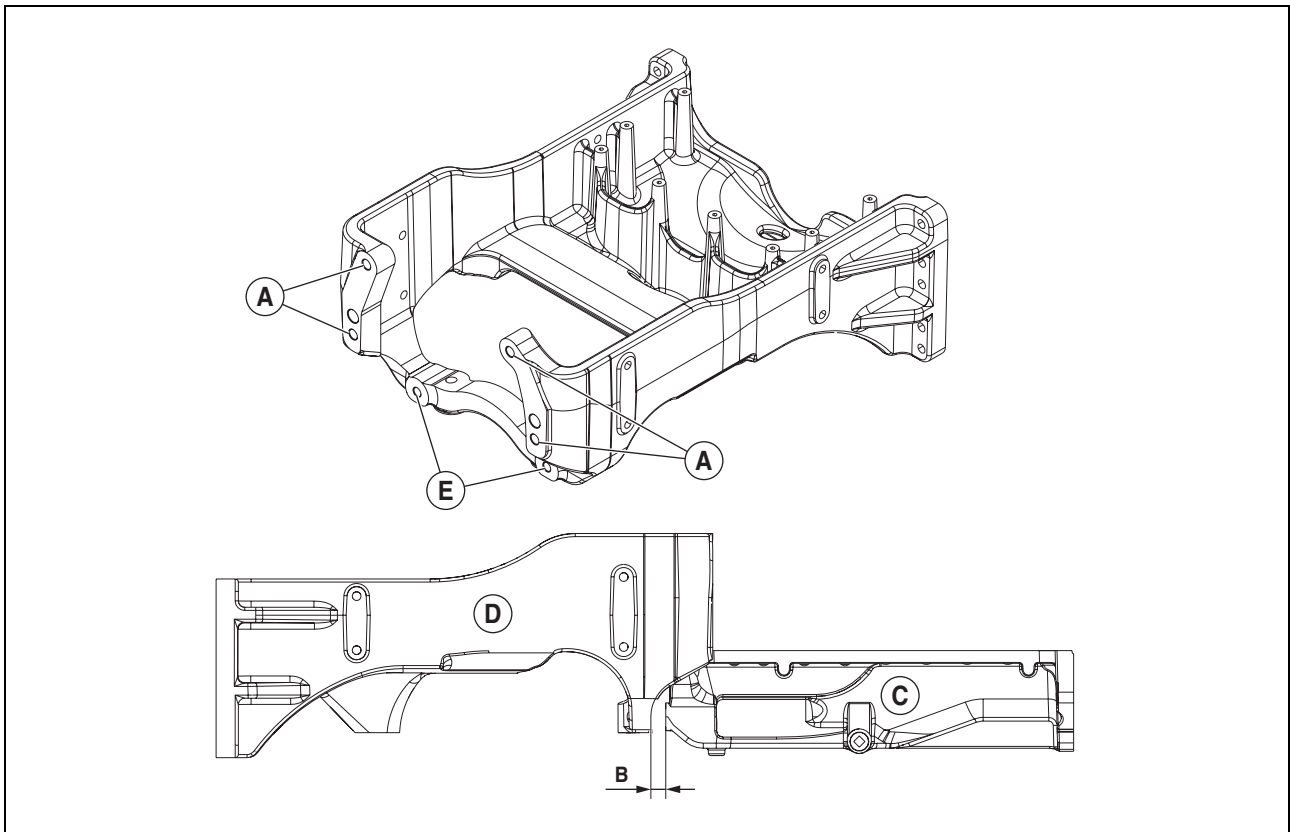
– Refit the engine elements and controls by performing the above operations in reverse sequence.

– Fill the A/C unit (see chapter 12 40).

– Fill the engine and the cooling circuit with oil (see operating manual).

– All tightening torques of the front chassis on the engine and the engine on the clutch casing are in part "03 00".

Blocking between the motor oil casing/front axle chassis



- Assemble the front axle chassis onto the engine block.
- Tighten the 4 oiled nuts (A) at a torque of 21 daN.m.
- Measure the gap (B) on both sides between the motor oil casing (C) and the front axle chassis (D).

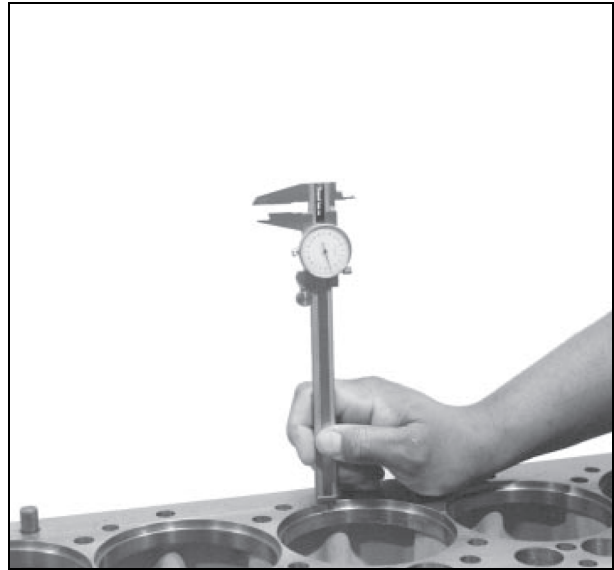
- Untighten the 4 nuts (A) and fit the number of shims matching the play (B) + 0,10 mm.
- Tighten the 4 nuts (A) at a torque of 21 daN.m.
- Tighten the 2 lower screws (E) at a torque of 32 daN.m.

Measuring liner flange depth inside the block

– Measure the liner flange depth inside the block and compare the two values with those specified. If the values do not comply, thickness shims are available.

Values indicated:

Depth in the block5,952 - 5,988 mm



121hsm39

Fig. 1

Measuring the liner flange

– Measure the thickness of the liner flange. If the values do not comply, thickness shims are available.

Values indicated:

Thickness.....6,022 - 6,058 mm



121hsm40

Fig. 2

Measuring parting surface flatness and center distance between the parting surface and the crankshaft bearing

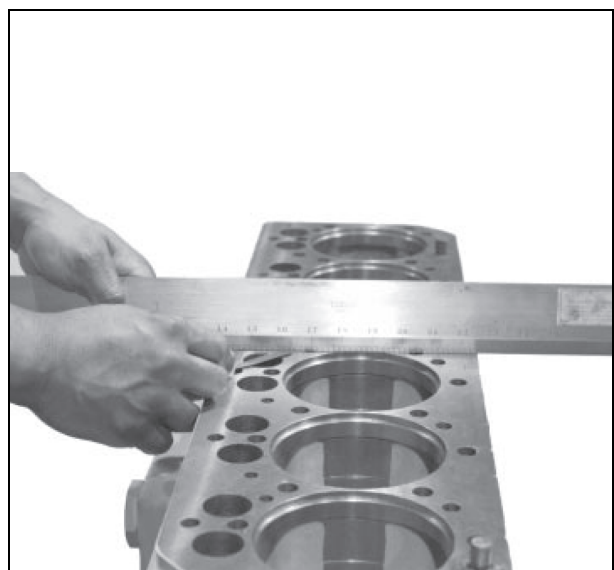
Values indicated:

– Maximum acceptable straightness error over the entire length or width 0,08 mm

– Maximum acceptable straightness error over the entire length of 150 mm 0,025 mm

– Maximum ripple depth 0,012 mm

– Center distance between the crankshaft bearing and the upper plate of the cylinder block 337,896 - 337,972 mm



121hsm41

Fig. 3

Removing the flywheel cover

- Remove the starter motor.

Warning: The flywheel housing weighs about 20 kg. Apply handling precautions.

- Withdraw the screws attaching the flywheel housing to the cylinder block and those attaching the housing to the sump.
- Removing the flywheel casing.

Reassembling the engine flywheel casing

- Inspect and clean the contact surfaces of the cylinder block and flywheel cover. Remove any sealing compound or material applied previously.

Note: Do not apply a sealing compound on the gasket or the contact surfaces of these covers.

- Fit a new camshaft O-ring (A) and on the gasket (B).
- Apply a continuous 2 to 4 mm layer of Loctite (518) on the flywheel cover. See illustration.
- Apply the seam at the center of the contact surfaces (except between screws 2 and 8) and fully circle the screws (except screw Nr.11).

Important: Tighten the screws in the sequence and at the torque specified, within 10 minutes after assembling the parts.

- Fit the flywheel housing onto the cylinder block, and tighten the screws at the values specified.

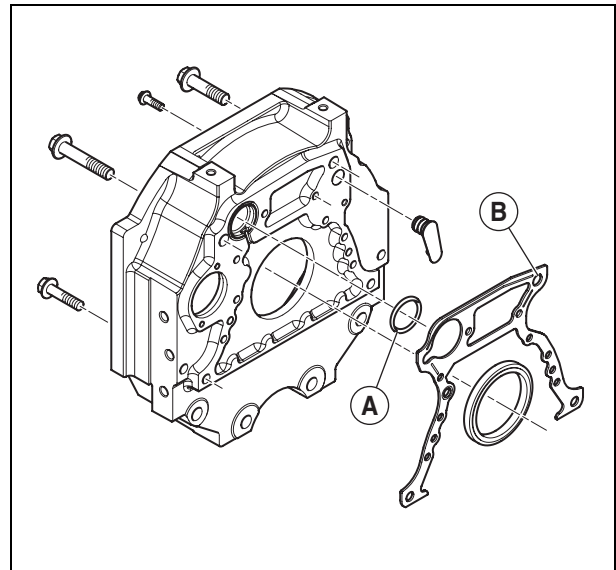
Values indicated:

Flywheel housing screw (1) to (8): 11 daN.m.

Flywheel housing screw (9) and (12): 13 daN.m.

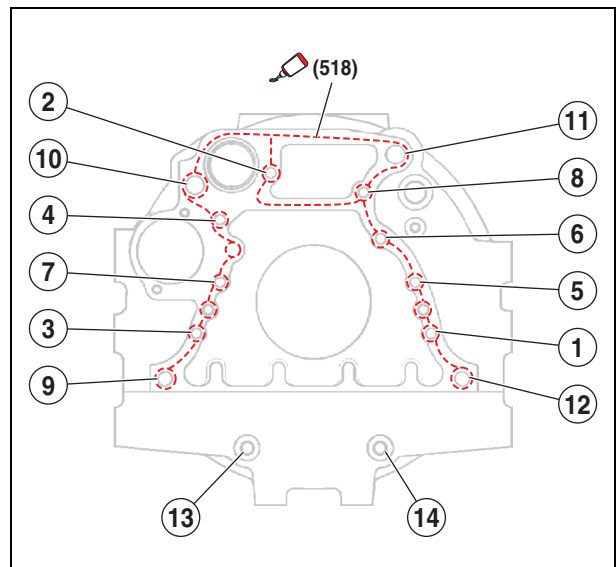
Flywheel housing screw (10) and (11): 53 daN.m.

Flywheel housing screw (13) and (14): 28 daN.m.



111msm15

Fig. 4

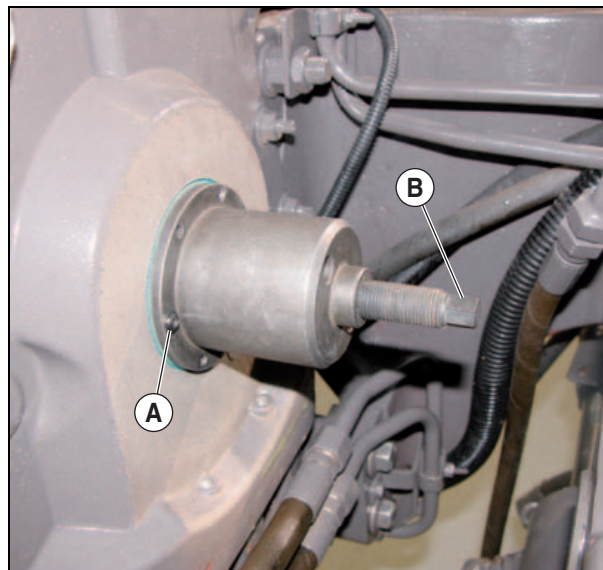


101msm0h

Fig. 5

Removing the front bearing gasket

- Fit puller n°60 0500 559 5.
- Using a drift punch, drill 3 2,5 mm holes at 120° using the tool base as guide.
- Screw 3 metal sheet screws (A).
- Tighten the pressure screw (B) and pull the gasket.
- Clean the crankshaft.



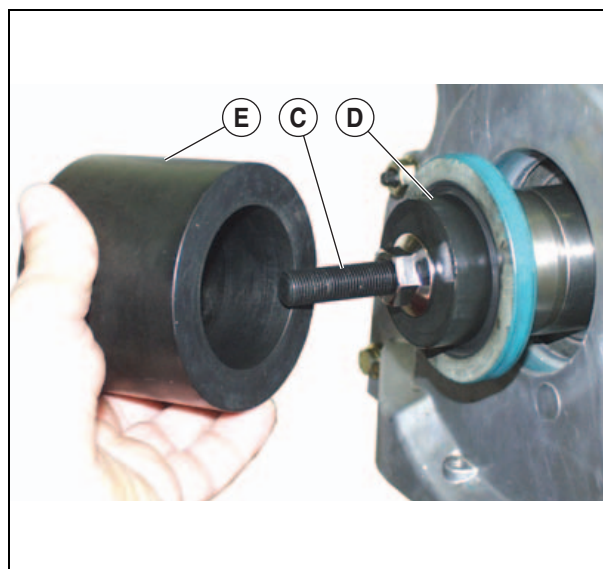
123hsm09

Fig. 6

Refitting the front bearing seal

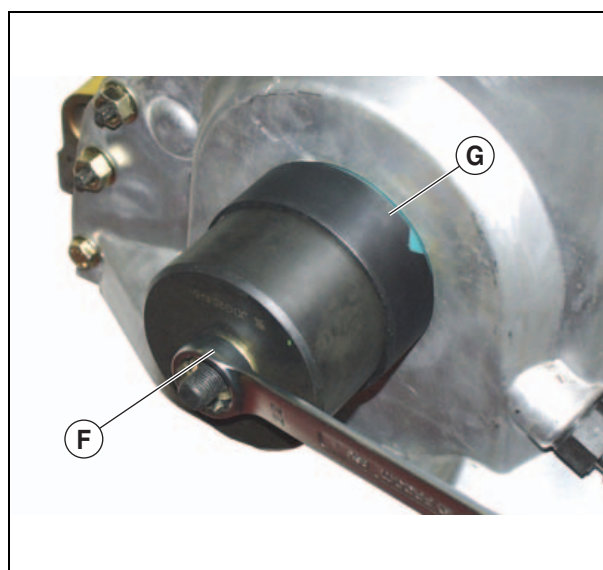
Important: To guarantee proper sealing, the external boundary of the crankshaft must be clean and dry.

- Fit the pressure screw (C) of tool n°77 1113 251 7 in the crankshaft shank.
- Fit the adapter (D) onto the pressure screw and tighten the nut.
- Apply a thin layer of oil on the gasket lips and position the gasket on the adapter.
- Fit the fitting tool (E) onto the adapter and the guide sleeve (G).
- Tighten the nut (F) fully until the gasket is flush with the timing cover.



101msm22

Fig. 7

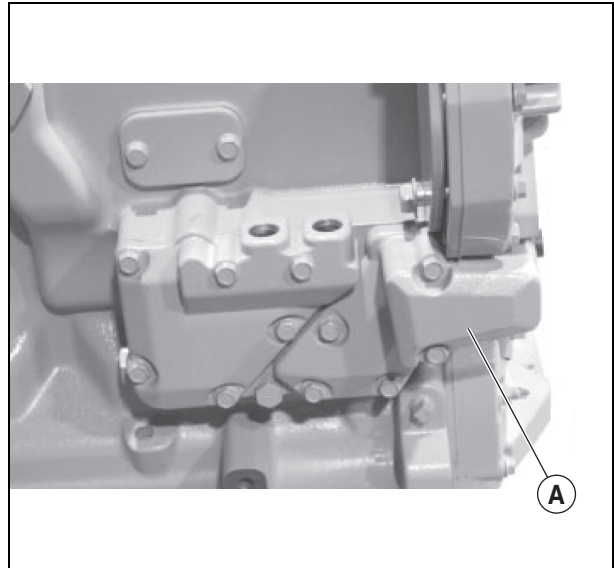


123hsm10

Fig. 8

Disassembly of the distributor casing

- Remove the engine oil casing.
- Remove the fan, the fan bracket.
- Remove the elbow (A) between the oil cooler and the water manifold.
- Remove the water pump pipes.
- Remove the crankshaft pulley.

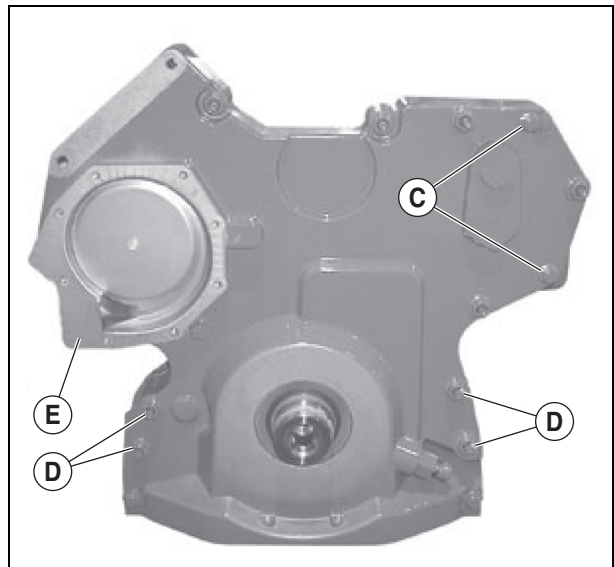


252hsm13

Fig. 9

Note: mark the position of the casing nuts and screws.

- Remove the nuts (D), screws (C), and screws (E) at the back of the front plate.
- Remove the timing casing.



252hsm14

Fig. 10

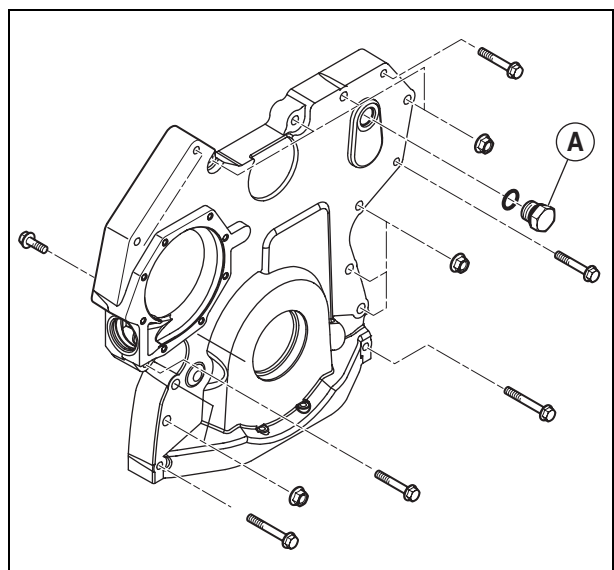
Refitting the timing cover

- Clean the parting surfaces.
- Fit a new gasket.
- Fit the timing cover and tighten the screws according to the sequence and torque specified (Refer to the part: "01 00").

Initial tightening: 2 daN.m.

Final tightening: 3,5 daN.m.

- Fit the cap (A) of the high pressure pump gear with a new O-ring.
- Tighten to 5 daN.m.



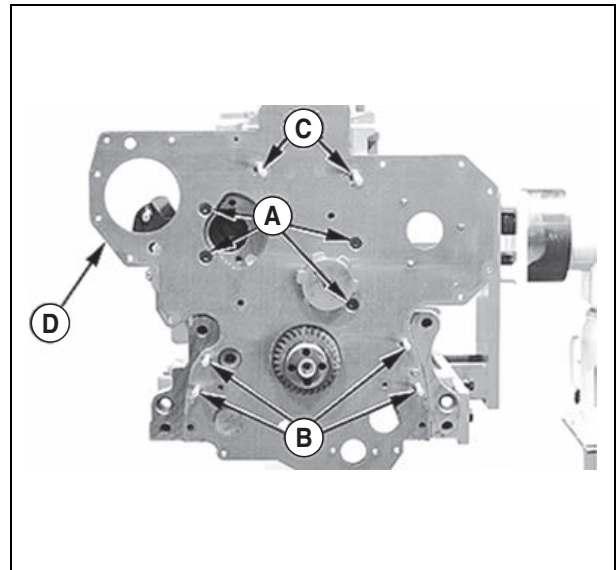
111hsm52

Fig. 11

Removing the front plate

Note: to be able to remove the front plate, first remove the timing gears.

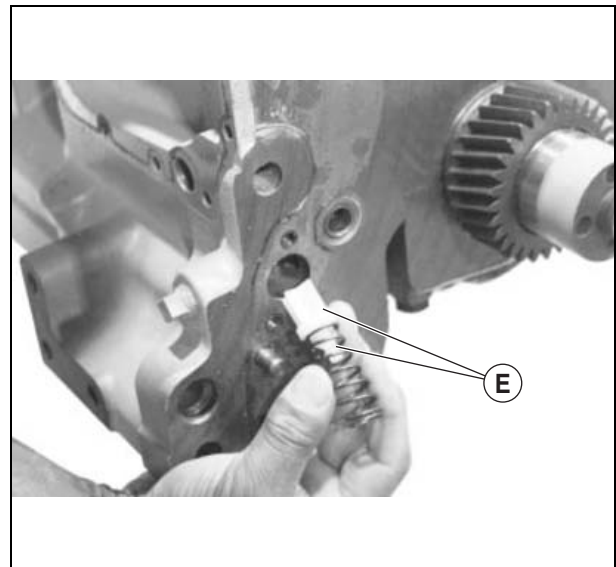
- Remove the 4 flush-head screws Torx® (A) from the front plate.
- Remove the 6 threaded studs (B) and (C).
- Remove the front plate (D).



111hsm16

Fig. 12

- Remove the oil by-pass valve and the spring (E).
- Remove the pin of the upper intermediate shaft and lower gear intermediate shaft.



111msm04

Fig. 13



Suggest:

For more complete manuals. Please go to the home page.

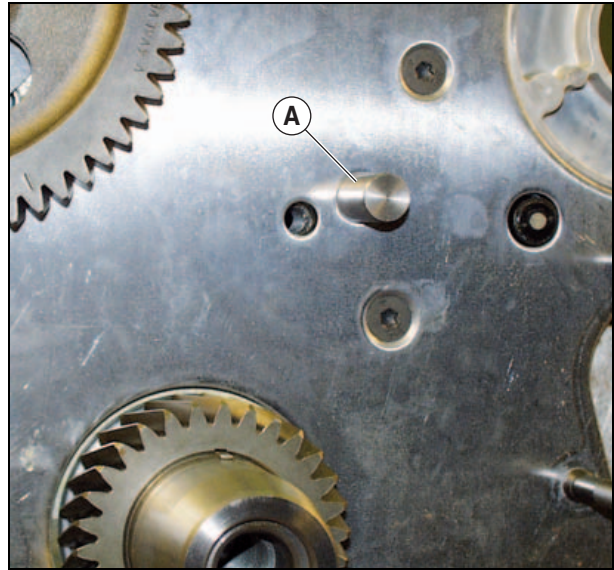
<https://www.ebooklibonline.com>

If the above button click is invalid. Please download this document first, and then click the above link to download the complete manual.

Thank you so much for reading

Reassembly of the front plate

- Clean the parting surfaces.
- Fit the pin (A) in the front plate flush with the rear surface.
- Fit the intermediate shaft of the lower idler gear.



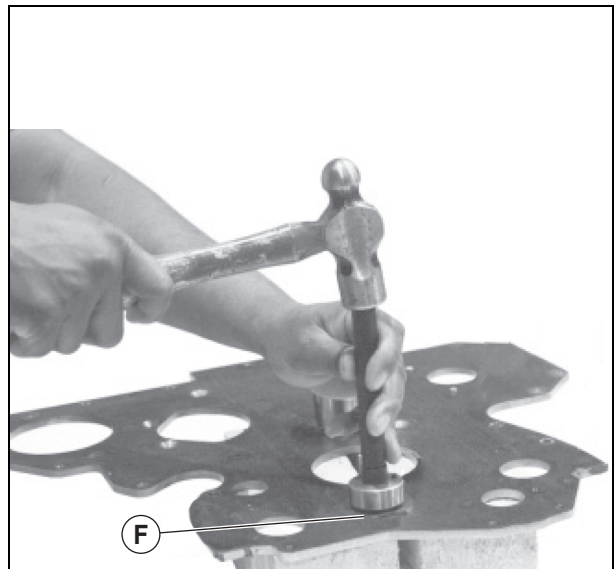
111msm14

Fig. 14

Note: Fit the stop washer (F) while turning mark "x" away from the gear (towards the plate).

- Check the length and compression of the valve spring:
 - Idle length: 51 mm.
 - Tension of the spring compressed by 29 mm: 8,78 daN.
- Fit the oil bypass valve.

Important: Ensure there is no oil, remnants of sealing compound or cleaning products on the cylinder block and the front plate.

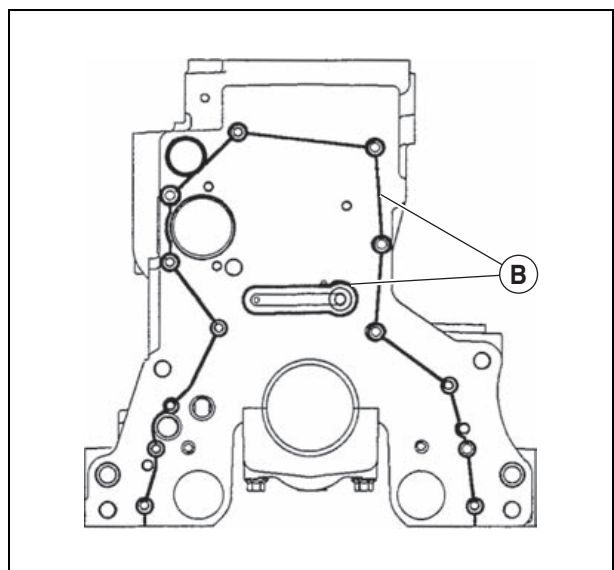


101msm0b

Fig. 15

- Apply a continuous seam (B) of Loctite (515) onto the cylinder block.
- Position the bead in the middle of the mating surfaces and all round the screw holes.

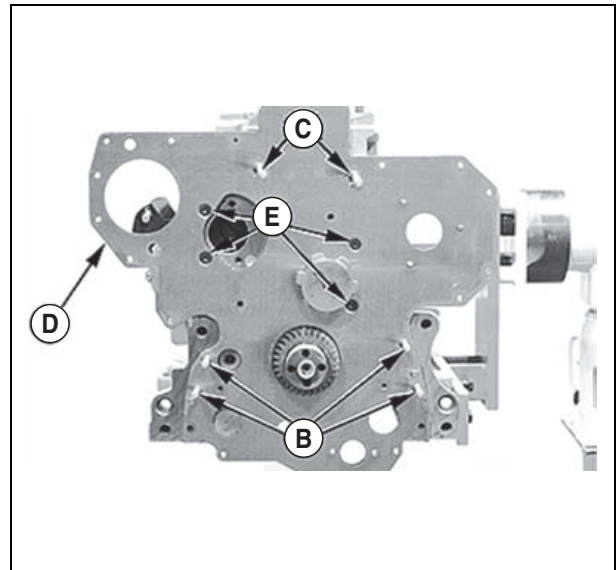
Important: Tighten the screws at the torque specified within 10 minutes after assembling the parts.



111hsm47

Fig. 16

- Install the front plate (D) and tighten the screws (E) at 2,5 daN.m and studs (B) and (C) at 3,5 daN.m.



111hsm48

Fig. 17

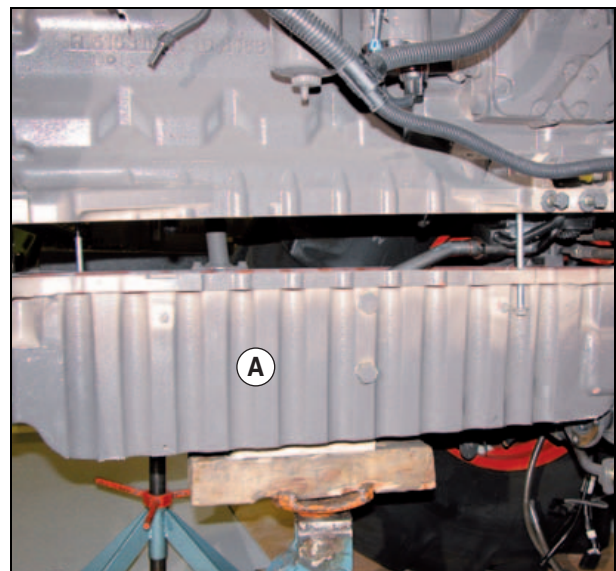
Removing the engine oil pan

Warning: The oil pan weighs about 40 kg. Apply any precautions required.

Note:

Remove the oil pan when:

- Changing the timing cover gasket.
 - Changing the flywheel cover gasket.
 - Accessing the crankshaft and piston rod.
 - Access to the oil pump.
- Remove the front axle linking shaft.
 - Support the engine oil pan using a lifting tool.
 - Loosen all the pan screws.
 - Remove the shims between the pan and the front axle frame, while marking them to be able to refit the same number of shims on the same side.
 - Remove the engine oil pan (A).



111hsm53

Fig. 18

<https://www.ebooklibonline.com>

Hello dear friend!

Thank you very much for reading.

Enter the link into your browser.

The full manual is available for immediate download.

<https://www.ebooklibonline.com>