

SERVICE MANUAL

E30C Mini Excavator

Part number 48175000

English
September 2017





SERVICE MANUAL

E30C Cab - TIER 4 final engine
E30C Canopy - TIER 4 final engine

Contents

INTRODUCTION

Engine.....	10
[10.001] Engine and crankcase	10.1
[10.102] Pan and covers	10.2
[10.106] Valve drive and gears	10.3
[10.101] Cylinder heads	10.4
[10.105] Connecting rods and pistons.....	10.5
[10.103] Crankshaft and flywheel.....	10.6
[10.216] Fuel tanks	10.7
[10.206] Fuel filters	10.8
[10.220] Throttle linkage.....	10.9
[10.218] Fuel injection system.....	10.10
[10.202] Air cleaners and lines	10.11
[10.254] Intake and exhaust manifolds and muffler	10.12
[10.400] Engine cooling system	10.13
[10.414] Fan and drive	10.14
[10.304] Engine lubrication system.....	10.15
Hydraulic systems.....	35
[35.000] Hydraulic systems.....	35.1
[35.300] Reservoir, cooler, and filters.....	35.2
[35.106] Variable displacement pump	35.3
[35.359] Main control valve.....	35.4
[35.357] Pilot system	35.5
[35.355] Hydraulic hand control	35.6
[35.356] Hydraulic foot control.....	35.7
[35.352] Hydraulic swing system	35.8
[35.353] Hydraulic travel system	35.9

<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>

[35.354] Hydraulic central joint	35.10
[35.736] Boom hydraulic system	35.11
[35.737] Dipper hydraulic system.....	35.12
[35.738] Excavator and backhoe bucket hydraulic system.....	35.13
[35.734] Tool quick coupler hydraulic system	35.14
[35.360] Hammer and rotating bucket hydraulic system	35.15
[35.739] Swing arm hydraulic system	35.16
[35.741] Dozer blade cylinders	35.17
Frames and ballasting	39
[39.103] Swing ring assembly	39.1
[39.140] Ballasts and supports	39.2
Tracks and track suspension	48
[48.130] Track frame and driving wheels.....	48.1
[48.100] Tracks	48.2
[48.134] Track tension units	48.3
[48.138] Track rollers	48.4
Electrical systems	55
[55.000] Electrical system	55.1
[55.100] Harnesses and connectors.....	55.2
[55.525] Cab engine controls.....	55.3
[55.201] Engine starting system	55.4
[55.301] Alternator.....	55.5
[55.302] Battery.....	55.6
[55.202] Cold start aid	55.7
[55.011] Fuel tank system	55.8
[55.014] Engine intake and exhaust system.....	55.9
[55.012] Engine cooling system	55.10
[55.013] Engine oil system	55.11

[55.512] Cab controls.....	55.12
[55.524] Cab controls (Lift arm, Boom, Dipper, Bucket).....	55.13
[55.518] Wiper and washer system.....	55.14
[55.404] External lighting	55.15
[55.405] External lighting switches and relays	55.16
[55.514] Cab lighting	55.17
[55.408] Warning indicators, alarms, and instruments	55.18
Booms, dippers, and buckets	84
[84.114] Boom pivoting support	84.1
[84.910] Boom	84.2
[84.912] Dipper arm	84.3
[84.100] Bucket.....	84.4
Dozer blade and arm.....	86
[86.110] Dozer blade	86.1
Platform, cab, bodywork, and decals	90
[90.150] Cab.....	90.1
[90.160] Cab interior trim and panels.....	90.2
[90.118] Protections and footboards.....	90.3
[90.120] Mechanically-adjusted operator seat.....	90.4
[90.100] Engine hood and panels	90.5
[90.105] Machine shields and guards	90.6



INTRODUCTION

Foreword - Important notice regarding equipment servicing

All repair and maintenance work listed in this manual must be carried out only by qualified dealership personnel, strictly complying with the instructions given, and using, whenever possible, the special tools.

Anyone who performs repair and maintenance operations without complying with the procedures provided herein shall be responsible for any subsequent damages.

The manufacturer and all the organizations of its distribution chain, including - without limitation - national, regional, or local dealers, reject any responsibility for damages caused by parts and/or components not approved by the manufacturer, including those used for the servicing or repair of the product manufactured or marketed by the manufacturer. In any case, no warranty is given or attributed on the product manufactured or marketed by the manufacturer in case of damages caused by parts and/or components not approved by the manufacturer.

The manufacturer reserves the right to make improvements in design and changes in specifications at any time without notice and without incurring any obligation to install them on units previously sold. Specifications, descriptions, and illustrative material herein are as accurate as known at time of publication but are subject to change without notice.

In case of questions, refer to your NEW HOLLAND CONSTRUCTION Sales and Service Networks.

Safety rules

Personal safety



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

Throughout this manual you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

Read and understand all the safety messages in this manual before you operate or service the machine.

 DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury.

 WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.

 CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.

Machine safety

NOTICE: Notice indicates a situation that, if not avoided, could result in machine or property damage.

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine or property damage. The word Notice is used to address practices not related to personal safety.

Information

NOTE: Note indicates additional information that clarifies steps, procedures, or other information in this manual.

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

Safety rules - General information

Cleaning

Clean the metal parts with cleaning solution that meets the standard and steam cleaning. (except for bearings)

After cleaning, dry well, and inject oil in all parts.

Also inject oil into the bearings after drying.

Inspection

When disassembling parts, check all the parts.

If there are any worn or damaged parts, replace them.

Inspect carefully to prevent initial breakdowns.

Bearing

Replace any loose bearings.

Air dry bearings before installing them.

Needle bearing

When inserting needle bearings, be very careful not to damage them.

Apply grease to the section where the needle bearing will be inserted.

Gear

Check that there is no wear and no damage.

Oil seal, O-ring, gasket

Always install new oil seals, O-rings, and gaskets.

Apply grease to sections where oil seals and O-rings will be inserted.

Shaft

Check that there is no wear and no damage.

Check the bearings and check for damaged oil seals on the shaft.

Service parts

Install NEW HOLLAND CONSTRUCTION genuine service parts.

When placing an order, check the parts catalog. It contains the NEW HOLLAND CONSTRUCTION genuine part numbers.

Any breakdowns arising from the installation of non-genuine parts are not covered by the warranty.

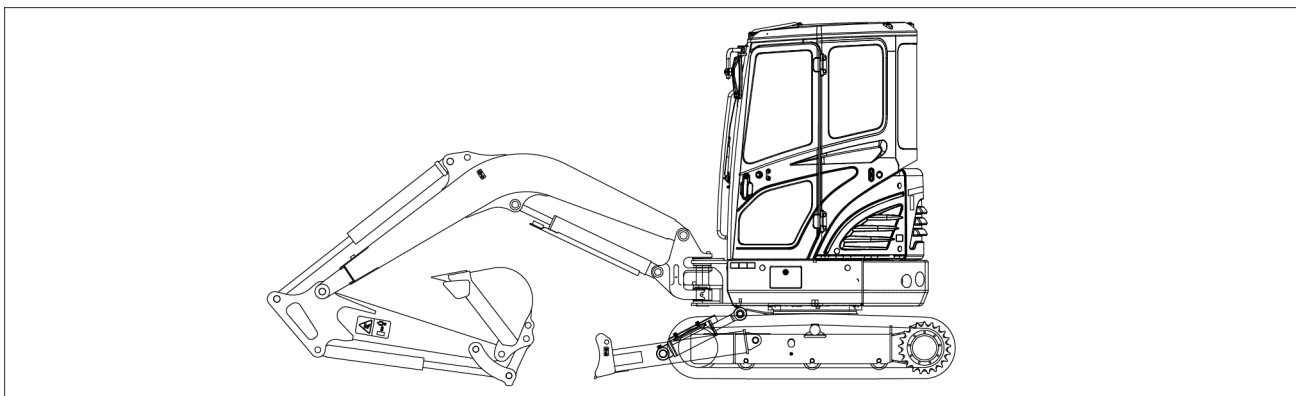
Lubricants (fuel, hydraulic oil)

Use the oil from the specified company or specified in the operator's manual or service Manual.

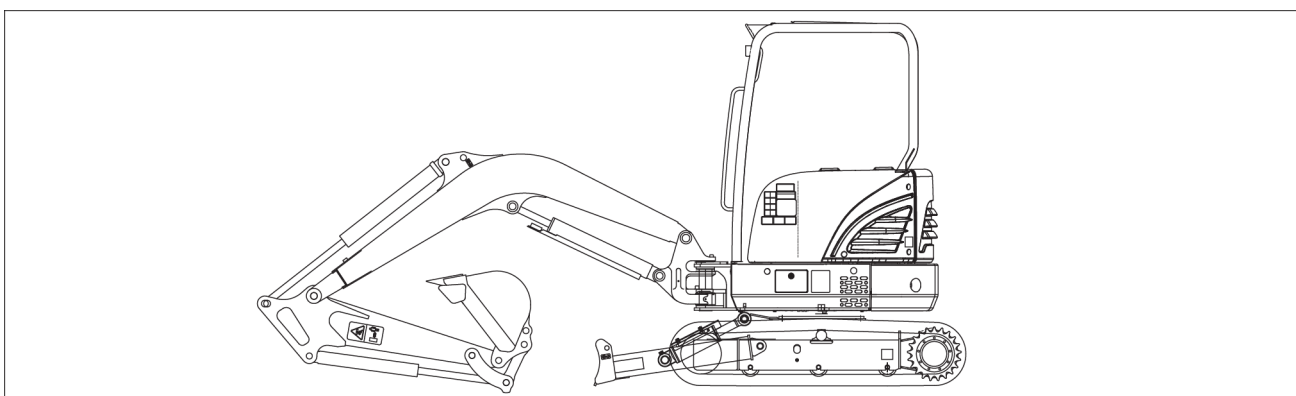
Any breakdowns arising from any fuel or hydraulic oil other than those specified are not covered by the warranty.

Product identification

Your machine is a hydraulic excavator. It consists of an undercarriage fitted with tracks and a swing bearing which supports the upper-structure frame. The upper-structure frame supports the attachment at the front end of the machine, plus the engine, hydraulics and the cab/canopy. When the operator works the controls, the engine-driven pump delivers hydraulic fluid to the control valves. The control valves distribute the hydraulic fluid to the various cylinders and hydraulic motors employed. A cooling system maintains the hydraulic fluid at normal operating temperature.



SMIL16MEX0363EA 1

Cab version

SMIL16MEX0629EA 2

Canopy version

When ordering parts, obtaining information, or seeking assistance, always supply your NEW HOLLAND CONSTRUCTION Dealer with the type and Product Identification Number (PIN) of your machine or accessories.

Write the following in the spaces below:

- Machine Type
- Machine PIN
- Machine year of manufacture
- Serial numbers of hydraulic and mechanical components

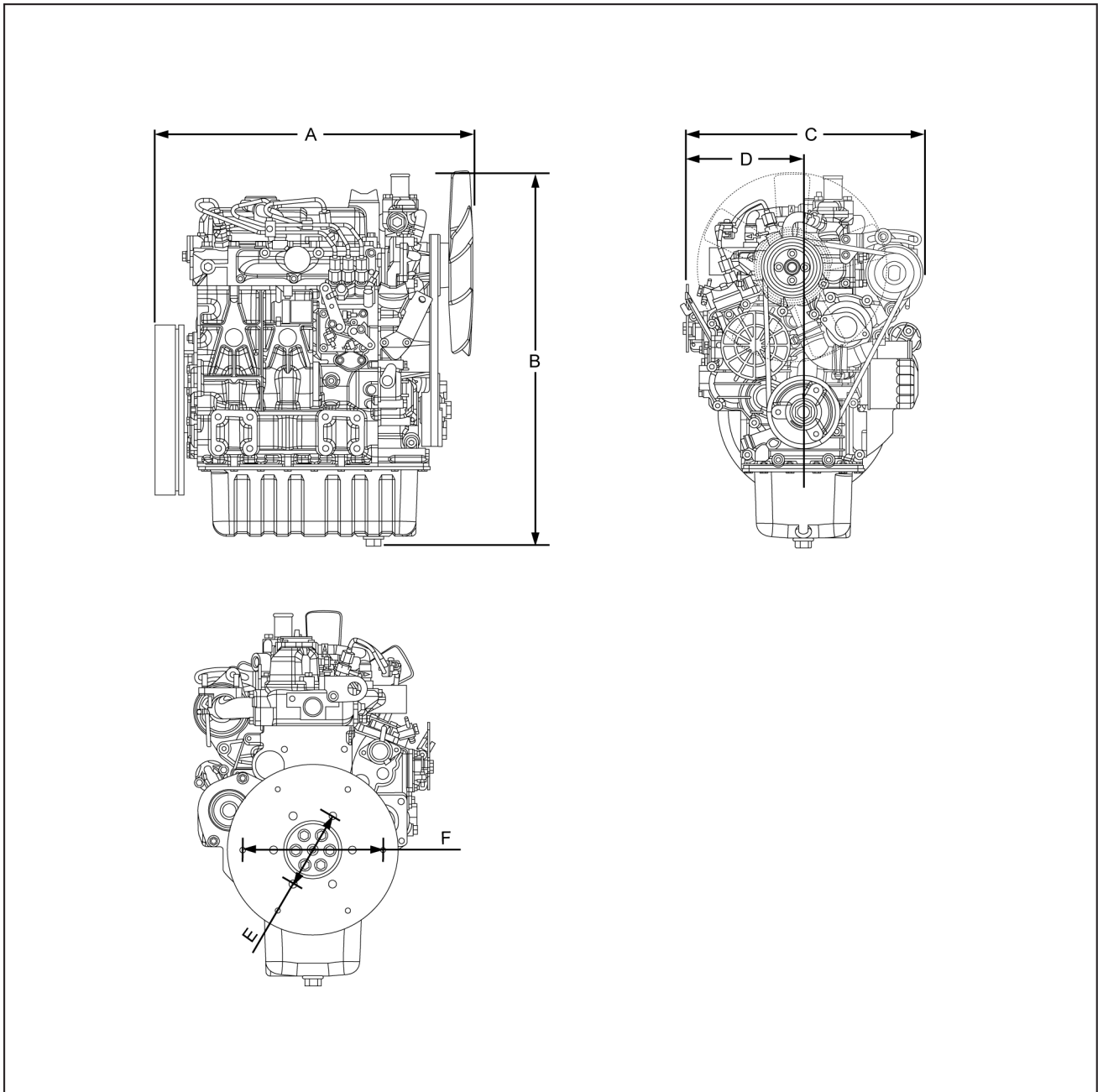


SERVICE MANUAL

Engine

**E30C Cab - TIER 4 final engine
E30C Canopy - TIER 4 final engine**

Engine - External view



SMIL16MEX0702GB 1

A	497.6 mm (19.59 in)
B	590.1 mm (23.23 in)
C	396.0 mm (15.59 in)
D	185.3 mm (7.30 in)
E	Ø125 mm (4.92 in)
F	Ø222.2 mm (8.748 in)

Engine - Remove

⚠ WARNING

Avoid injury!

Shut off the engine, remove the key, and make sure all machine motion stops before you service the machine.

Failure to comply could result in death or serious injury.

W1128B

⚠ WARNING

Chemical hazard!

Use caution when opening the quick coupler cap from the load port. There may be product left in the port.

Failure to comply could result in death or serious injury.

W1039A

⚠ WARNING

Crushing hazard!

The lifting systems must be operated by qualified personnel who are aware of the correct procedures to follow. Make sure all lifting equipment is in good condition, and all hooks are equipped with safety latches.

Failure to comply could result in death or serious injury.

W0256A

⚠ WARNING

Heavy objects!

Lift and handle all heavy components using lifting equipment with adequate capacity. Always support units or parts with suitable slings or hooks. Make sure the work area is clear of all bystanders.

Failure to comply could result in death or serious injury.

W0398A

⚠ WARNING

Burn hazard!

Before performing any service on the hydraulic system, you must allow it to cool. Hydraulic fluid temperature should not exceed 40 °C (104 °F).

Failure to comply could result in death or serious injury.

W0241A

⚠ WARNING

Escaping fluid!

Hydraulic fluid or diesel fuel leaking under pressure can penetrate the skin and cause infection or other injury. To prevent personal injury: Relieve all pressure before disconnecting fluid lines or performing work on the hydraulic system. Before applying pressure, make sure all connections are tight and all components are in good condition. Never use your hand to check for suspected leaks under pressure. Use a piece of cardboard or wood for this purpose. If injured by leaking fluid, see your doctor immediately.

Failure to comply could result in death or serious injury.

W0178A

⚠ WARNING

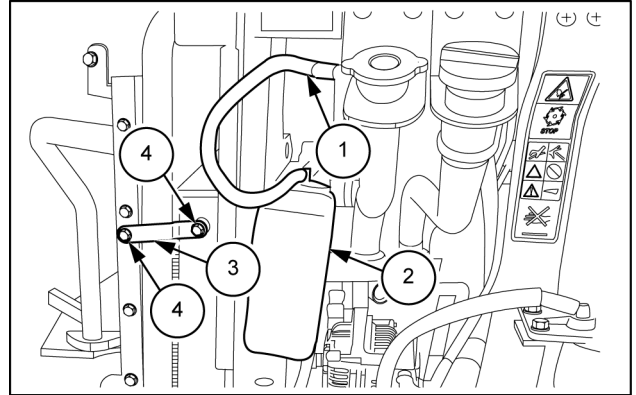
Chemical hazard!

When handling fuel, lubricants, and other service chemicals, follow the manufacturer's instructions. Wear Personal Protective Equipment (PPE) as instructed. Do not smoke or use open flame. Collect fluids in proper containers. Obey all local and environmental regulations when disposing of chemicals.

Failure to comply could result in death or serious injury.

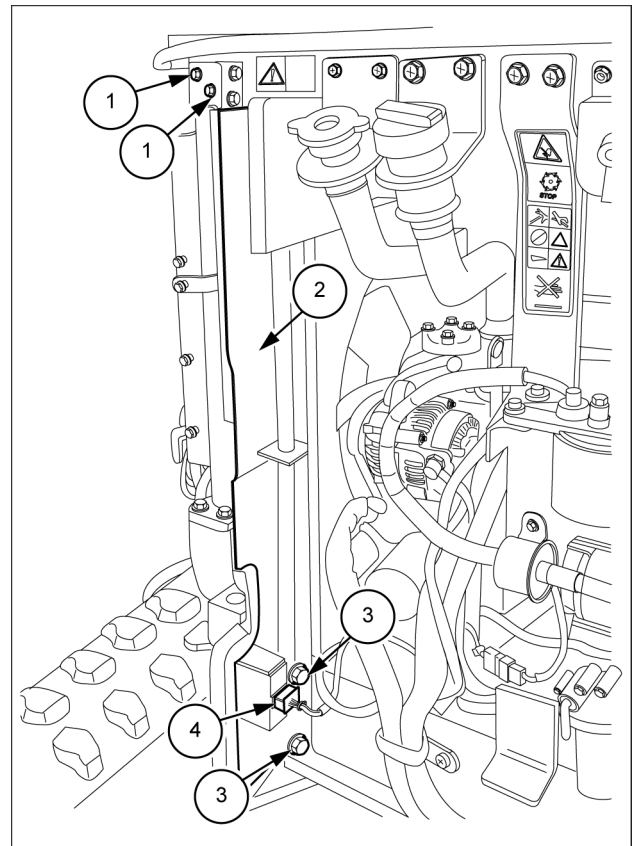
W0371A

1. Remove the counterweight (for details refer to **Counterweight - Remove (39.140)**).
2. Remove the battery (for details refer to **Battery - Remove (55.302)**).
3. Remove the platform (for details refer to **Operator seat base trim panel - Remove - Platform (90.160)**).
4. Drain the fuel.
5. Loosen the clamp to remove the hose (1) from the expansion tank (2).
6. Pull out the expansion tank (2).
7. Use a wrench [13 mm] to remove the bolts (4), then remove the bracket (3).



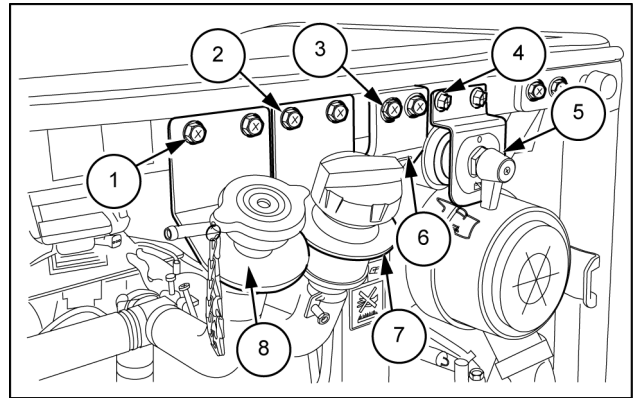
SML16MEX2843AB 1

8. Disconnect the electrical connector **CR-24 (3)** of the timer glow.
9. Use a wrench [13 mm] to remove the 2 bolts (1).
10. Use a wrench [17 mm] to remove the 2 bolts (4), then remove the bracket (2).



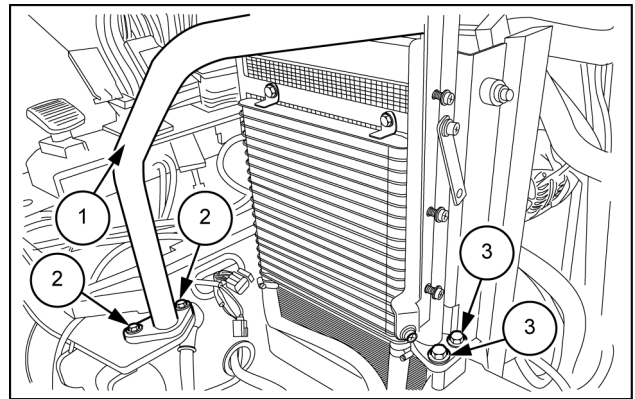
SML16MEX2844BB 2

11. Use a wrench [**13 mm**] to remove the 2 bolts (1) of the coolant filling hose bracket (8).
12. Use a wrench [**13 mm**] to remove the 2 bolts (2) of the engine oil filling hose bracket (7).
13. Use a wrench [**13 mm**] to remove the 2 bolts (3) of the bracket (6).
14. Use a wrench [**13 mm**] to remove the 2 bolts (4) of the battery connect and disconnect switch (5).



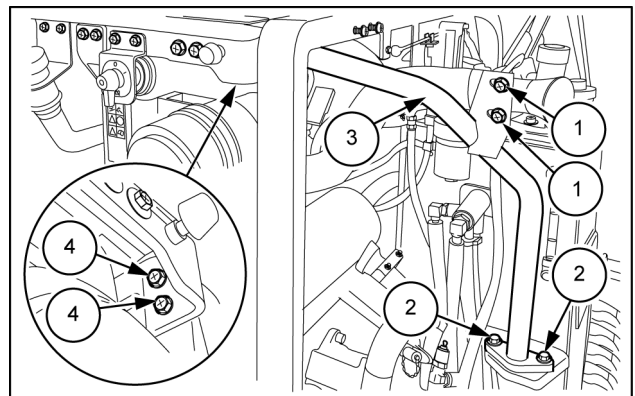
SMIL16MEX2845AB 3

15. Use a wrench [**19 mm**] to remove the 2 bolts (2) and the 2 bolts (3) of the cab support bracket (1).



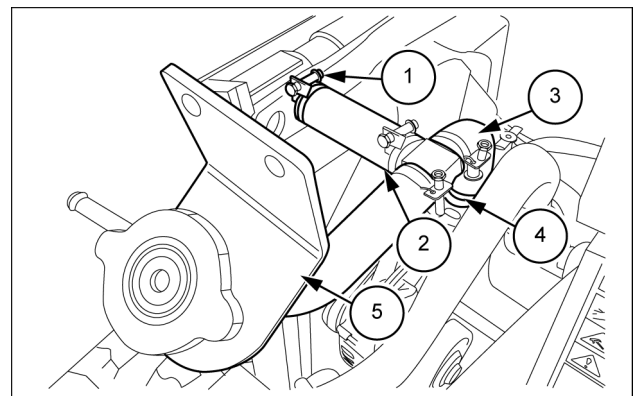
SMIL16MEX2846AB 4

16. Use a wrench [**13 mm**] to remove the 2 bolts (1) of the air cleaner inlet hose.
17. Use a wrench [**19 mm**] to remove the 2 bolts (2) of the cab support bracket (3).
18. Use a wrench [**13 mm**] to remove the 2 bolts (4) of the cab support bracket (3).
19. Remove the cab support bracket (1).



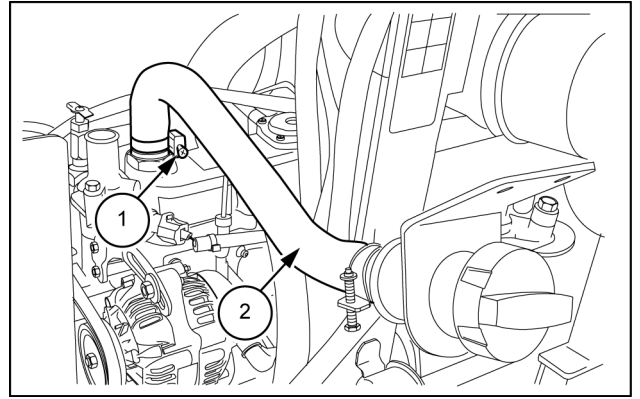
SMIL16MEX2847AB 5

20. Loosen the clamp (1) to remove the hose (2) from the radiator.
21. Loosen the clamp (4) to remove the hose (3) from the cylinder head cover.
22. Remove the coolant filling assembly (5).



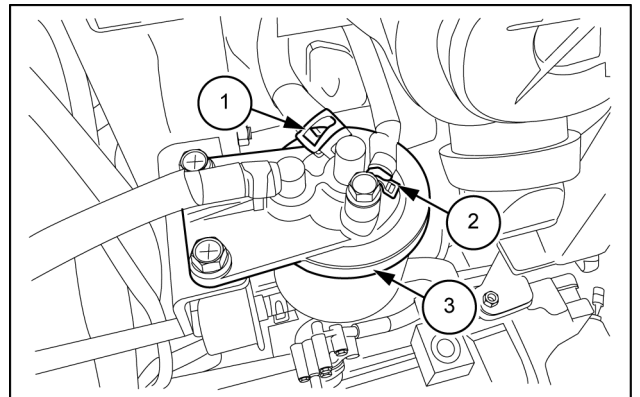
SMIL16MEX2848AB 6

23. Loosen the clamp (1) to remove the engine oil filling assembly (2) from the cylinder head cover.



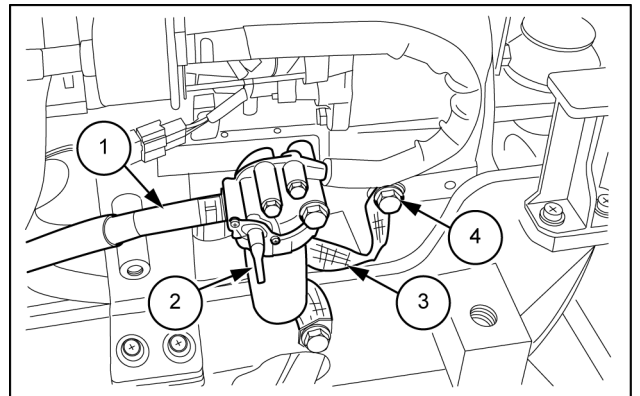
SMIL16MEX2849AB 7

24. Loosen the clamps and remove the fuel hoses (1) and (2) from the fuel filter support (3).



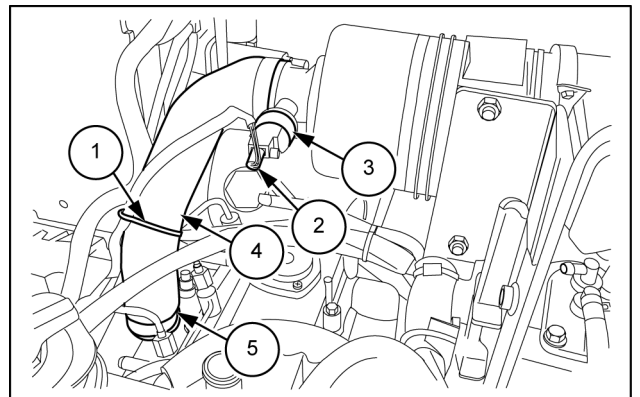
SMIL16MEX2850AB 8

25. Loosen the clamp and remove the fuel hose (1) from the fuel filter water separator (2).
26. Use a wrench [17 mm] to remove the bolt (4), and then disconnect the earth strap (3) from the engine.



SMIL16MEX2851AB 9

27. Cut the tie (1) and disconnect the electrical connector CD-10 (2) from the air cleaner pressure switch (3).
28. Loosen the clamp (5) to remove the hose (4) from the intake manifold.



SMIL16MEX2852AB 10



Suggest:

If the above button click is invalid.

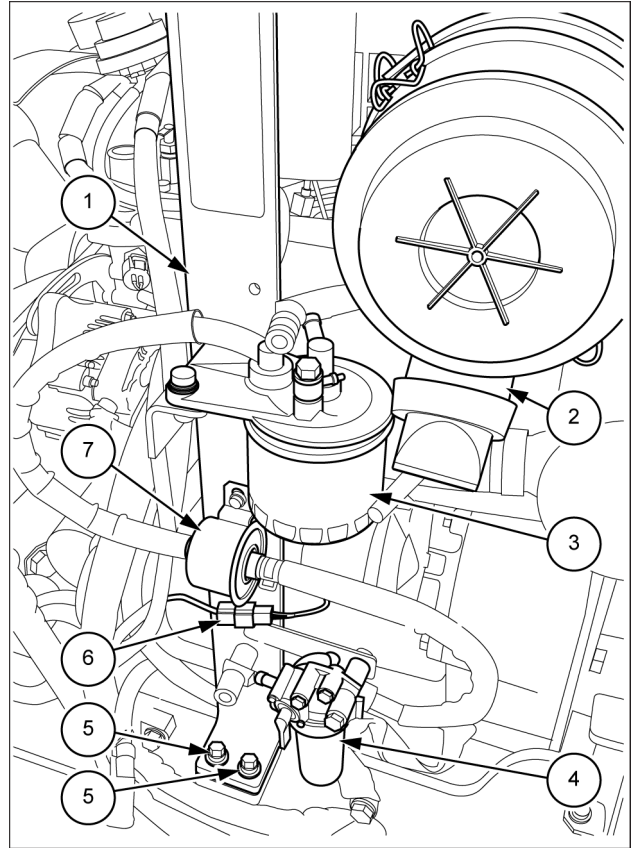
Please download this document

first, and then click the above link

to download the complete manual.

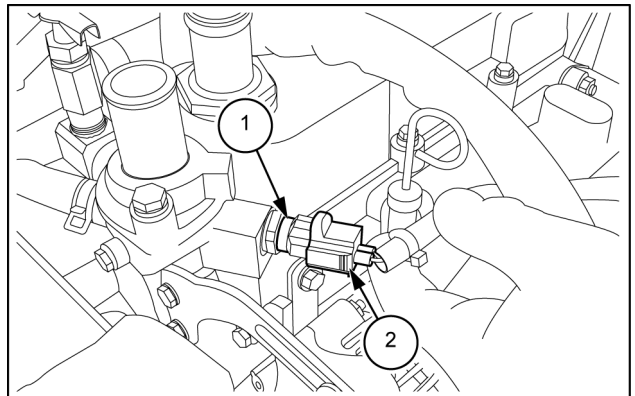
Thank you so much for reading

29. Disconnect the electrical connector **CN-145 (6)** of the electrical fuel feed pump (7).
30. Use a wrench [**13 mm**] to remove the bolts (5) of the bracket (1).
31. Remove the bracket (1) includes air filter (2), fuel filter (3), fuel filter water separator (4) and feed pump (7).



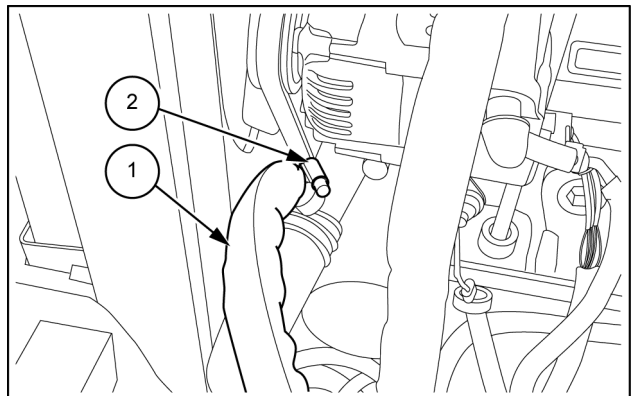
SMIL16MEX2853BB 11

32. Disconnect the electrical connector **CD-8 (2)** from the engine coolant temperature sensor (1).



SMIL16MEX2854AB 12

33. Loosen the clamp (2) and remove the cab heating hose (1).



SMIL16MEX2855AB 13

<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>