SERVICING

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1. SAFETY FIRST

⚠ SAFETY FIRST

- **This symbol, the industry's "Safety Alert Symbol", is used throughout this manual and on labels on the machine itself to warn of the possibility of personal injury. Read these instructions carefully.**
- **It is essential that you read the instructions and safety regulations before you attempt to repair or use this unit.**

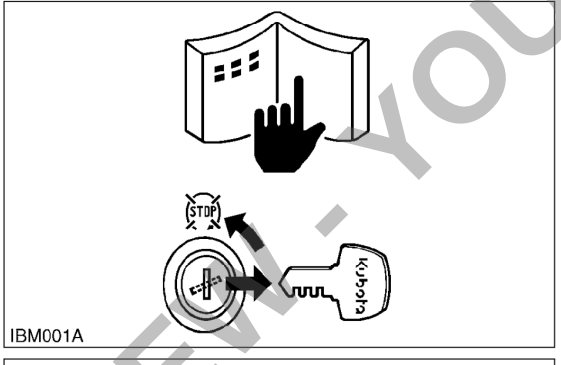
⚠ DANGER
- **Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.**

⚠ WARNING
- **Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.**

⚠ CAUTION
- **Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.**

■ IMPORTANT
- **Indicates that equipment or property damage could result if instructions are not followed.**

■ NOTE
- **Gives helpful information.**



IBM001A


IBM011A

BEFORE YOU START SERVICE

- Read all instructions and safety instructions in this manual and on your engine safety decals.
- Clean the work area and engine.
- Park the machine on a stable and level ground.
- Let the temperature of the engine decrease before you start a job.
- Stop the engine, then remove the key.
- Disconnect the battery negative cable.
- Hang a **"DO NOT OPERATE"** tag in the operator station.

START SAFELY

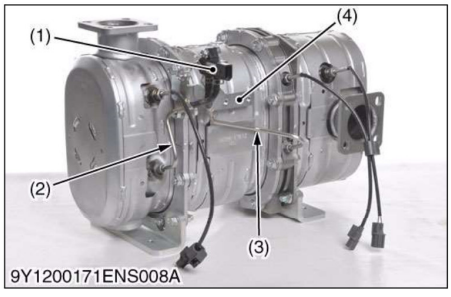
- Do not do the procedures below when you start the engine.
  - short across starter terminals
  - bypass the safety start switch
- Do not make unauthorized modifications to the engine. This can cause damage and decrease the engine life.

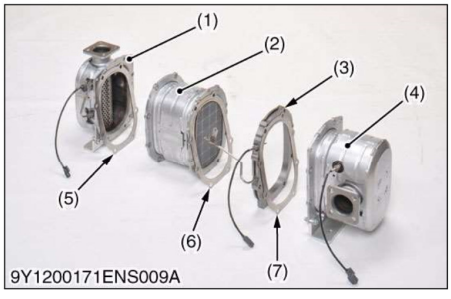
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[3] DISASSEMBLY OF DPF MUFFLER FULL ASSY

(1) V3800





Differential Pressure Sensor

1. Remove clamp, and disconnect tube from pressure pipe 1 (3).
2. Remove clamp, and disconnect tube from pressure pipe 2 (2).
3. Unscrew mounting bolts, and remove differential pressure sensor (1).
4. Unscrew fixed bolts of pressure pipe 1and 2.
5. Remove DPF stay 2 (4).

(1) Differential Pressure Sensor
(2) Pressure Pipe 2
(3) Pressure Pipe 1
(4) DPF Stay 2

DPF Filter Complete

1. Loosen all bolts attached to the DOC catalyst complete, DPF filter complete and DPF outlet body.
2. Remove all bolts, and separate DOC catalyst complete, DPF filter complete and DPF outlet body.

■ **NOTE**

- **When disassembling, make sure not to damage pressure pipe and exhaust temperature sensor.**
  If damaged, replace with new ones.
- **Take good care of the DOC catalyst complete (4), DPF collar (3), and DPF outlet body (1) so as not to get dust, water, oil, and shock on them during storage.**
  As the honeycomb in the DOC catalyst is ceramic, take special care to handle it.
- **Be sure to loosen the temperature sensor tightening nut or the differential pressure pipe tightening nut with crowfoot wrench to prevent the damage of the sensor or pipe. If it is still hard to loosen, apply the lubricant spray to threaded portion and soak it with lubricant.**

(1) DPF Outlet Body
(2) DPF Filter Complete
(3) DPF Collar
(4) DOC Catalyst Complete
(5) DPF Gasket
(6) DPF Gasket
(7) DPF Gasket

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4. DPF CLEANING PROCEDURE

[1] TO ENSURE SAFETY AND GOOD PERFORMANCE IN DPF CLEANING PROCEDURE

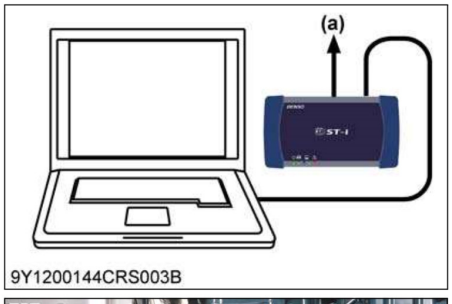
(1) Always work in the workshop equipped with a electric hoist (including mobile hoist).
(2) Put a product (engine) on a stable ground, and set the parking brake.
(3) As the DPF muffler full assy is hot just after the engine shutdown, make sure to start operation after it gets cool.
(4) Make sure not to let any foreign substances enter the opening section during the operation.
(5) Make sure not to damage the DPF muffler full assy by falling or impact as it contains a ceramic filter.

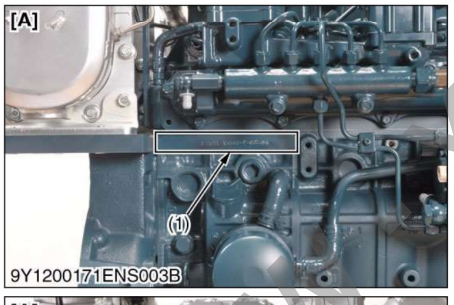
■ **IMPORTANT**

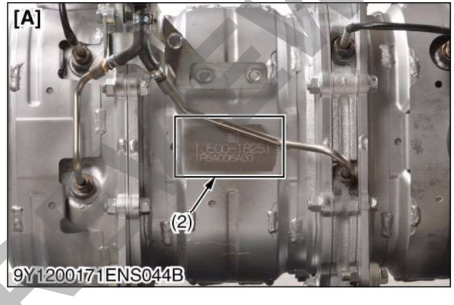
- **Since the DPF that was dropped or given a shock cannot be reused even if there is no damage outwardly, replace it with a new one.**

[2] SEPARATION OF DPF MUFFLER FULL ASSY

Follow the procedures below to separate DPF muffler full assy from a product (engine).



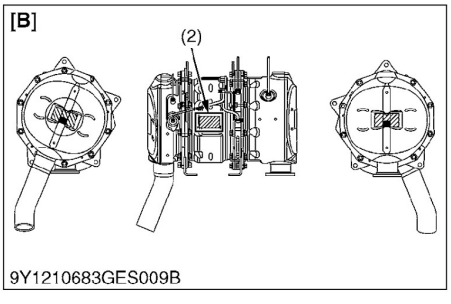




Prior Arrangement for Installation and Removal of DPF

1. Before removing the DPF muffler full assy from a product (engine), connect the diagnosis tool (Diagmaster), check the failure history (DTC), and save to the "Project" on the Diagmaster.
   Before removing the DPF for cleaning, keep the records of the engine serial number, DPF filter complete part number, DPF filter complete serial number, and engine operating time, which are required in preparing the DPF cleaning order form.
   Record the engine operating time by checking the “Hourmeter” on the data monitor of the diagnosis tool (Diagmaster).





(1) Engine Serial Number
(2) DPF Filter Complete Part Number / DPF Filter Complete Serial Number

(a) CAN Communication Connector (For Servicing)
[A] V3800
[B] V6108

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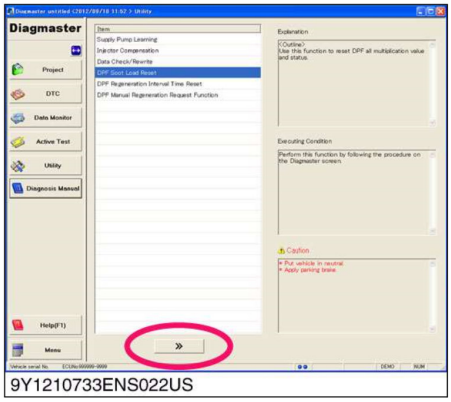
[12] RESETTING BY USING DIAGNOSIS TOOL

■ **IMPORTANT**

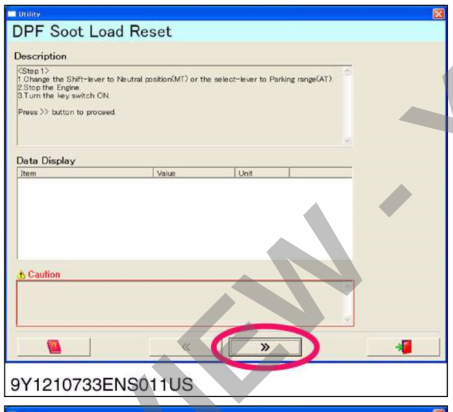
- **The engine ECU memorizes the quantity of soot and ash deposited in the DPF. So, the value needs to be reset by the "DPF Soot Load Reset", "DPF Regeneration Interval Time Reset" in the utility functions of the diagnosis tool (Diagmaster) immediately after the cleaning and replacement of the filter.**

Follow the procedure given below by connecting the diagnosis tool (Diagmaster) after installing the DPF muffler full assy to a product (engine).

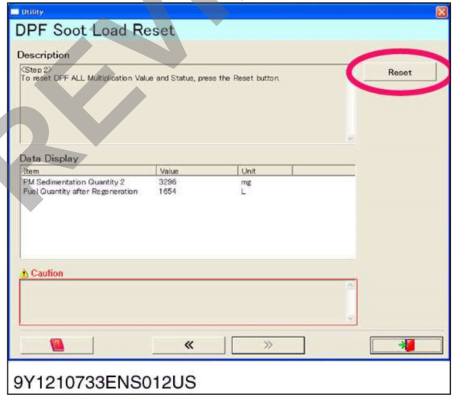
(1) In Case of Scheduled Maintenance for Every 3,000 Hours of Operation, or In Case of Heavy Soot Accumulation (P-Code:P3008, J1939:3701-0)



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9Y1210733ENS011US



9Y1210733ENS012US

Step1

1. Reset the value by "DPF Soot Load Reset" in the utility functions of the diagnosis tool.

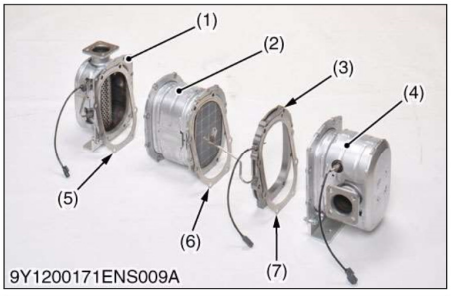
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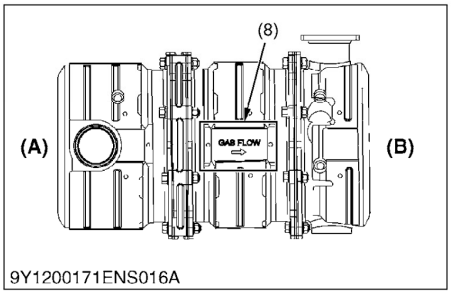
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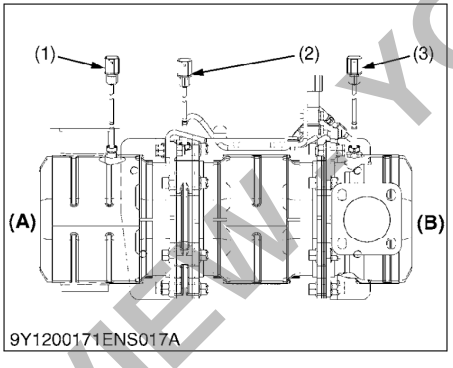
[10] ASSEMBLY OF DPF MUFFLER FULL ASSY

■ **IMPORTANT**

- **Visually check if there is no damage (ceramic crack or damage) with the cleaned and returned DPF filter complete.**







DOC Catalyst Complete, DPF Filter Complete and DPF Outlet Body

1. Replace the DPF gaskets (5), (6), (7) with new ones.
2. Clean the mounting surface of each flange.
3. Assemble the components temporary by arranging the DOC catalyst complete, DPF collar, DPF filter complete, and DPF outlet body.
4. Tighten all the bolts evenly with the specified torque.

■ **NOTE**

- **Assemble the DPF filter complete in the right direction by referring to the arrow (8) on the side showing the flow of exhaust gas.**

Tightening torque	Mounting bolt (Catalyst Complete - Collar - Filter Complete)	49.0 to 55.9 N·m 5.00 to 5.70 kgf·m 36.2 to 41.2 lbf·ft
	Mounting bolt (Filter Complete - Body)	

(1) DPF Outlet Body
(2) DPF Filter Complete
(3) DPF Collar
(4) DOC Catalyst Complete
(5) DPF Gasket
(6) DPF Gasket
(7) DPF Gasket
(8) Arrow (GAS FLOW)
(A) Exhaust Inlet Side
(B) Exhaust Outlet Side

Exhaust Temperature Sensor (In the event of need for replacement)

When the exhaust temperature sensor is removed or has to be replaced because it is damaged, follow the procedure given below.

1. Clean the screw parts and apply anti seize agent (NEVER SEEZ made by Bostik, Grade: Pure nickel special grade).
2. Install the temperature sensor T0 (1), T1 (2), and T2 (3) from the exhaust inlet side (catalyst complete side) sequentially.
3. Install each exhaust temperature sensor with the specified torque.

■ **NOTE**

- **Anti seize agent is already applied to the screw parts of new exhaust temperature sensor.**
  So, it is not necessary to apply it when replacing new ones.

Tightening torque	Exhaust temperature sensor T0 Exhaust temperature sensor T1 Exhaust temperature sensor T2	25.0 to 35.0 N·m 2.55 to 3.56 kgf·m 18.5 to 25.8 lbf·ft

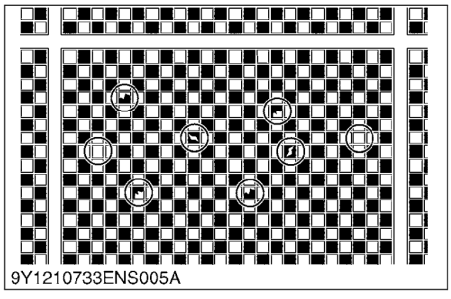
(1) Exhaust Temperature Sensor T0 (Black Connector, V3800:1J500-18500, V6108:1J520-18500)
(2) Exhaust Temperature Sensor T1 (Gray Connector, V3800:1J500-18510, V6108:1J520-18510)
(3) Exhaust Temperature Sensor T2 (White Connector, V3800:1J500-18520, V6108:1J520-18520)
(A) Exhaust Inlet Side
(B) Exhaust Outlet Side

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[4] JUDGMENT OF REUSE OF DPF FILTER COMPLETE BEFORE CLEANING

■ **IMPORTANT**

- **Before ordering to a cleaning contractor, follow the procedures below to make a judgment on whether the separated DPF filter complete is reusable.**


9Y1210733ENS005A

Judgment of Reuse by Service Dealer

1. Check to see that the surface of the removed DPF filter complete on the exhaust gas outlet side is not darkened.
2. Check whether there is no crack or loss of the sealing part of the cell holes on both ends of the filter (inlet side and outlet side).
   If the number of missing sealing parts exceeds the allowable limit, the filter complete cannot be reused even after cleaning.

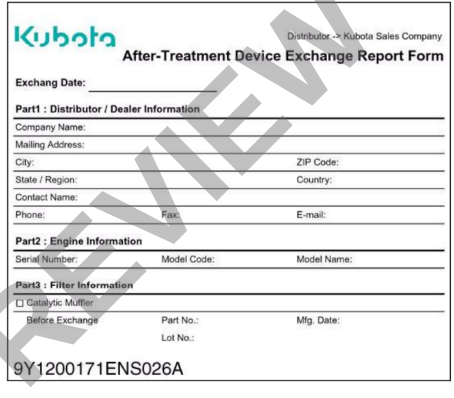
Number for judgment of non-reusability of filter	Allowable limit	V3800	Number of missing sealing parts: 15 or more
		V6108	Number of missing sealing parts: 30 or more

3. Check whether there is no crack and loss of the ceramics element.
   If there are any cracks or losses of the ceramics element, the DPF filter complete cannot be reused even if it is cleaned.
4. If it is judged that the DPF filter complete is not reusable, report the result of the evaluation to the customer that requested the filter cleaning, and replace the DPF filter complete with a new one.

[5] PREPARATION OF "AFTER-TREATMENT DEVICE EXCHANGE REPORT FORM"

■ **IMPORTANT**

- **When replacing the DPF filter complete with a new one because the DPF filter complete cannot be reused, make sure to prepare the "After-Treatment Device Exchange Report Form" and to send the report form to KUBOTA sales company.**


Kubota

Distributor -> Kubota Sales Company

After-Treatment Device Exchange Report Form

Exchang Date: _____

Part1 : Distributor / Dealer Information

Company Name:
Mailing Address:
City: ZIP Code:
State / Region: Country:
Contact Name:
Phone: Fax: E-mail:

Part2 : Engine Information

Serial Number: Model Code: Model Name:

Part3 : Filter Information

☐ Catalytic Muffler
Before Exchange Part No.: Mfg. Date:
Lot No.:

9Y1200171ENS026A

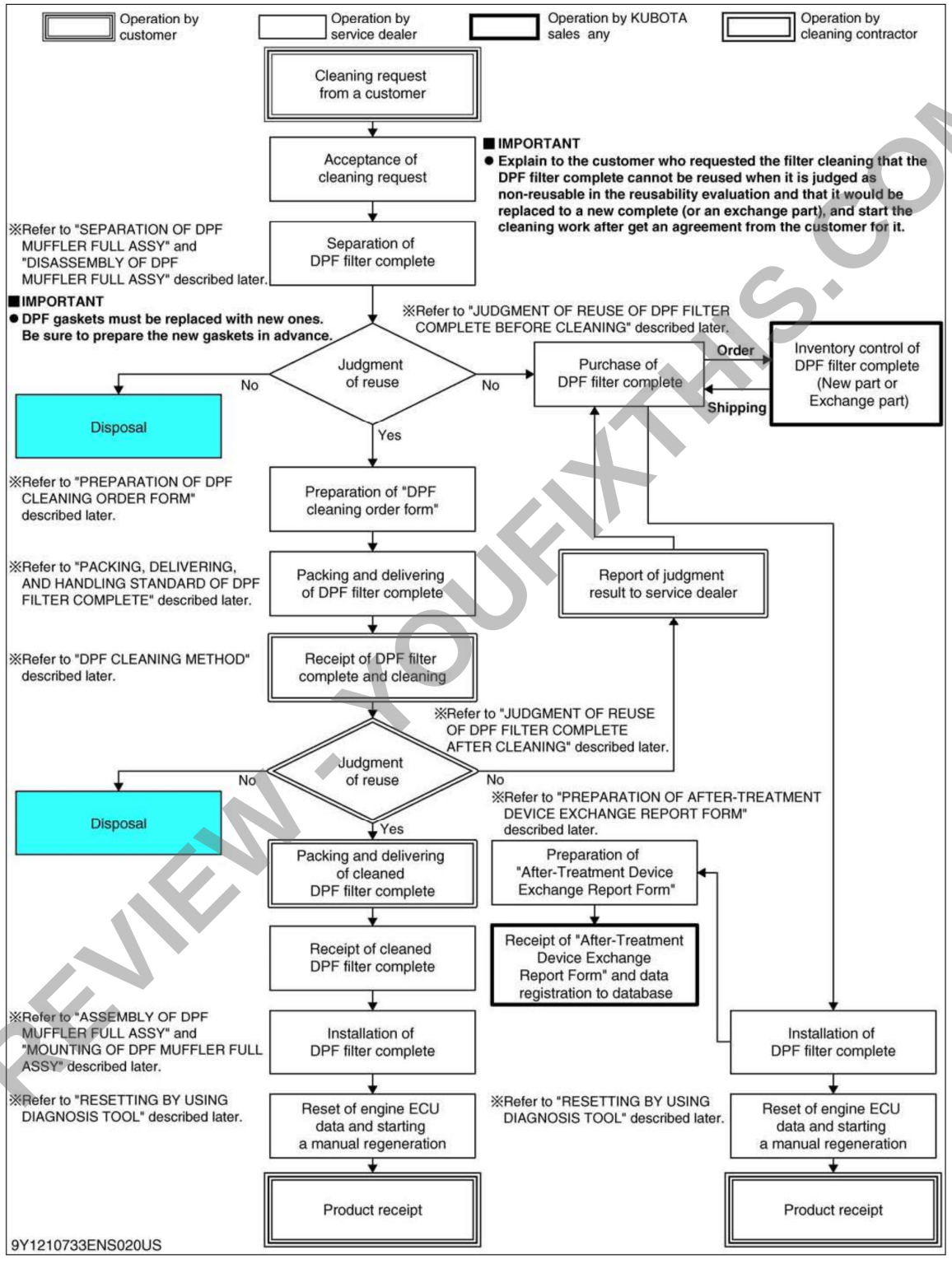
Preparation of "After-Treatment Device Exchange Report Form"

1. Fill out the attached form (After-Treatment Device Exchange Report Form).
2. Send the report form to a service representative of KUBOTA sales company.

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[1] CLEANING & RETURN FLOW (REFERENCE)



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