



SERVICE MANUAL INFORMATION

**SB-18-019 DTC P2458 WORKSHOP MANUAL
CORRECTION**

**GROUP: SERVICE MANUAL UPDATE
BULLETIN NO: SB-18-019
DATE: 9-5-2018
REF: SB-A-17-031**

SUBJECT VEHICLES: Conventional Trucks equipped with an J08E and COE Trucks equipped with an J05E.

The following is to inform you of the above caption. This service data should be attached to the relevant pages of the workshop manuals for maintenance and to use for servicing.

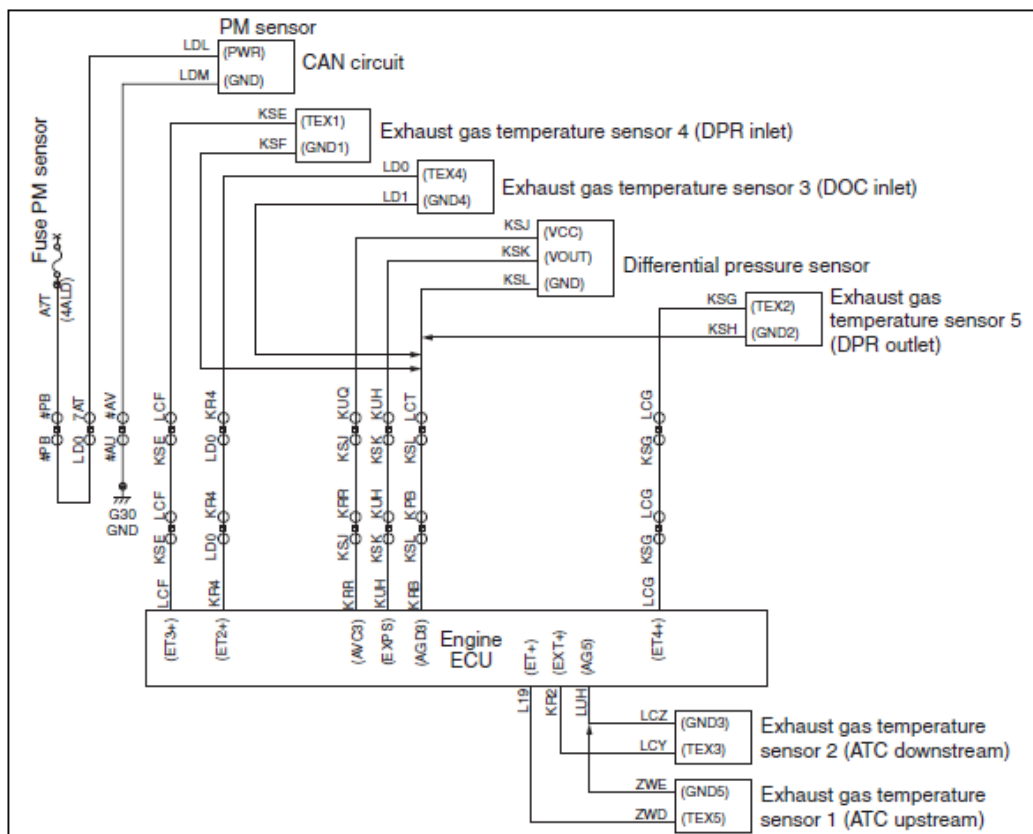
OVERVIEW:

Workshop manual correction of DTC P2458 and added cleaning carbon procedure to troubleshooting.



DTC: P2458

EN01H16F01030F03001179

P2458: Fault in manual regeneration
INFORMATION

SAPH16F010301330

1. Technical description

- The DPR performs PM regeneration by increasing DOC temperature using the engine warm up control.
- During a manual regeneration, warm up control is carried out by idle up, exhaust brake closing, VNT control, after injection, post injection and dosing valve injection.

<Description of malfunction>

- In a manual regeneration, the DOC and ATC temperatures do not increase to the post injection-enabled region even after the specified time.

2. DTC set condition

- DTC detection condition
 - Battery voltage is in the range of 10 V to 16 V.
 - The engine speed remains at 500 r/min or more.
 - DPR manual regenerating.
 - Do not detect the exhaust gas temperature sensor 4 (DPR inlet) of failure.

(2) Judgment criteria

- After a manual DPR regeneration is started, the DOC temperature is still below 200 °C (392 °F) and the ATC temperature is still below 230 °C (446 °F) even after 30 minutes.

3. Reset condition

- DPR memory is reset by the diagnostic tool (HINO DX II).

4. Indication, warning or system control regulation when the DTC is set.

- MIL: OFF
- SVS light: ON

5. Symptoms on the vehicle when the DTC is set

<Symptoms on the vehicle due to backup control (fail safe function)>

- –

<Symptoms on the vehicle due to malfunction>

- Do not DPR regeneration.

6. Pre-inspection work

- Check that the battery voltage is in the normal range.

7. After-inspection work

- Clear all past DTCs.
- Check that no DTC is detected after test drive.

8. Estimated failure factors

- Soot clogging of the DPR dosing injector (fuel addition valve) housing. **ADD**

Drop in injection quantity of fuel injection system

Failure of VNT system

Exhaust gas temperature sensor 4 (DPR inlet):

- Loose/disconnected sensor or failure in sensing area (contamination, clogging or damaged)
- Abnormal resistance of sensor
- Failure in engine ECU sensor power supply

Exhaust gas temperature sensor 1 (ATC upstream)

- Loose/disconnected sensor or failure in sensing area (contamination, clogging or damaged)
- Abnormal resistance of sensor
- Failure in engine ECU sensor power supply

Exhaust brake

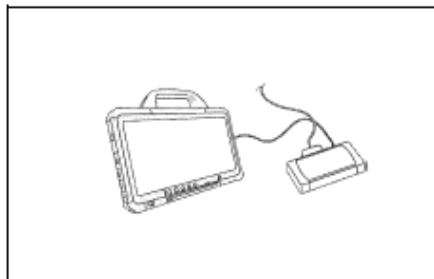
- Malfunction of exhaust brake
- Improper adjustment of exhaust brake (The difference between the injection quantities in active and inactive conditions is out of the standard)

Gas leaks in the middle of the exhaust system

Failure of coolant temperature sensor (low temperature stuck)

INSPECTION PROCEDURE: P2458

1 Check the DTC detected1 [HINO DX II]



SAPH16F010301331

1. Set the starter switch to the "LOCK" position.
2. Connect the vehicle to HINO DX II .
3. Set the starter switch to the "ON" position.
4. Select [Engine] and check if any DTC other than P2458 has been detected.

Have DTCs other than P2458 been detected?

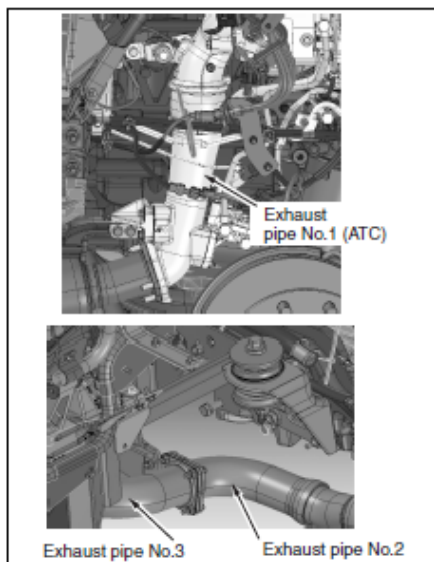
YES

NO

Go to diagnosis procedure of a related DTC.

Go to step 2.

2 Inspect the exhaust pipe



SAPH16F010301332

1. Check for exhaust pipe crack (between the turbocharger and DPR), exhaust gas leak (soot contamination) and improper coupling flange tightening.

Was any failure found?

ENGINE CONTROL SYSTEM (J08E)

YES

Repair of exhaust pipe (replace gasket, retighten), replace if needed.

NO

CHANGE

Go to step 3.

3

Inspect the aftertreatment fuel injector housing is for soot clogging.

CHANGE

1. Remove the aftertreatment fuel injector housing.

CHANGE

HINT

Refer to the section "AFTERTREATMENT FUEL INJECTOR, OVERHAUL, REMOVING THE AFTERTREATMENT FUEL INJECTOR" in the chapter "EXHAUST SYSTEM (J08E)" (S5-CJ08E15* or S5-UJ08E15*).

CHANGE

2. Clean the aftertreatment fuel injector housing.

HINT

Refer to the section "AFTERTREATMENT FUEL INJECTOR, OVERHAUL, CLEANING CARBON" in the chapter "EXHAUST SYSTEM (J08E)" (S5-CJ08E15* or S5-UJ08E15*).

3. Reinstall the aftertreatment fuel injector housing.

CHANGE

HINT

Refer to the section "AFTERTREATMENT FUEL INJECTOR, OVERHAUL, MOUNTING THE AFTERTREATMENT FUEL INJECTOR" in the chapter "EXHAUST SYSTEM (J08E)" (S5-CJ08E15* or S5-UJ08E15*).

Please see attachment file (CLEANING CARBON.pdf).

Was any failure found?

YES

CHANGE

If excessive carbon buildup has removed from the exhaust pipe, fuel injector housing, or aftertreatment fuel injector, clear the DTC and reset for normal DPR regeneration. If problems persist, go to step 4.

NO

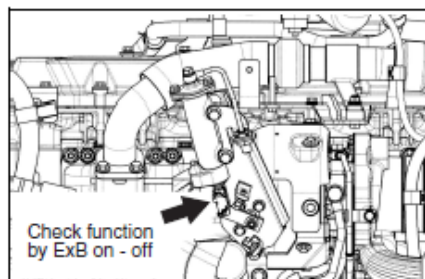
Go to step 4.

HINO



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4 Inspect the exhaust brake valve

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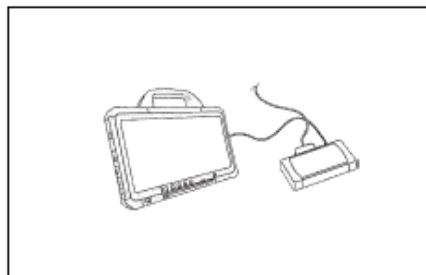
1. Check the exhaust brake valve for unease and sticking.

Was any failure found?**YES**

Clean the exhaust brake valve.
Replace if necessary.
After cleaning or replacement, go to step 5.

NO

Go to step 5.

5 Inspect the fuel injection quantity [HINO DX II]

SAPH16F010301334

1. Warm up the engine. (Coolant temperature: 80 °C {176 °F} or more)
2. Turn OFF the devices that place load on the engine, such as the air conditioner.
<Inspection procedure>
(1) Select [Engine] on the screen of HINO DX II.
(2) Select [Data monitor Setting] and [Active test Setting].
(3) Select [Target rpm] from [Active test Setting] and set the engine revolution to 980 r/min.
(4) Select [Injection quantity] from [Data monitor Setting].
(5) Turn ON/OFF the exhaust brake switch, and check the difference between the injection quantity of the injector while the exhaust brake is working and the injection quantity when the exhaust brake is not actuated.

Measurement conditions	Standard values
• Engine revolution: 980 r/min • Engine coolant temperature: 80 °C {176 °F} or more • Turn OFF the air conditioner, and other devices that place load on the engine.	10 – 14 mm ³ /st

Is the measured value within the standard values? (There shall be a change in the injection quantity between while the exhaust brake is working and when it is not actuated.)

YES

Go to step 6.

NO

Adjust the butterfly opening of the exhaust brake.

6 Inspect the exhaust gas temperature sensor 4 (DPR inlet)

1. Inspect the exhaust gas temperature sensor 4 (DPR inlet) for improper installation.
2. Check the sensing area of the exhaust gas temperature sensor 4 (DPR inlet) for dirt, clogging, and damage.

Was any failure found?

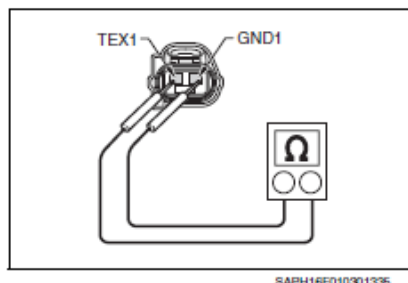
YES

Clean the sensing area and install the sensor properly.
If damage is found, replace the sensor.

NO

Go to step 7.

7 Inspect the exhaust gas temperature sensor 4 (DPR inlet) unit



1. Disconnect the exhaust gas temperature sensor 4 (DPR inlet) connector.
2. Use the electrical tester to measure the resistance between the terminals of the exhaust gas temperature sensor 4 (DPR inlet).

Measurement conditions	Tester connections	Standard values
Starter switch: LOCK	Exhaust gas temperature sensor 4 (DPR inlet) TEX1 – GND1	20 °C {68 °F}: 13.7 – 29.8 kΩ 50 °C {122 °F}: 7.13 – 13.7 kΩ 80 °C {176 °F}: 4.1 – 7.13 kΩ

Do the measurements meet the standard value?

YES

Go to step 8.

NO

Replace the exhaust gas temperature sensor 4 (DPR inlet).
Perform "After-inspection work" of INFORMATION section.

8 Inspect the exhaust gas temperature sensor 1 (ATC upstream)

1. Inspect the exhaust gas temperature sensor 1 (ATC upstream) for improper installation.
2. Check the sensing area of the exhaust gas temperature sensor 1 (ATC upstream) for dirt, clogging, and damage.

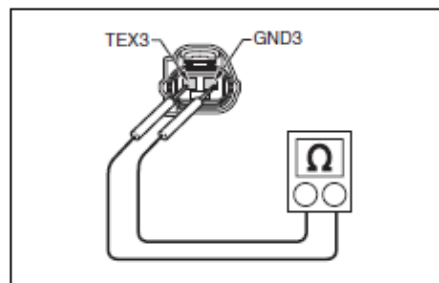
Was any failure found?

YES

Clean the sensing area and install the sensor properly.
If damage is found, replace the sensor.

NO

Go to step 9.

9 Inspect the exhaust gas temperature sensor 1 (ATC upstream) unit

SAPH16F010301336

1. Set the starter switch to the "LOCK" position.
2. Disconnect the exhaust gas temperature sensor 1 (ATC upstream) connector.
3. Use the electrical tester to measure the resistance between the terminals of the exhaust gas temperature sensor 1 (ATC upstream).

Measurement conditions	Tester connections	Standard values
Starter switch: LOCK	Exhaust gas temperature sensor 1 (ATC upstream) TEX3 – GND3	20 °C {68 °F}: 13.7 – 29.8 kΩ 50 °C {122 °F}: 7.13 – 13.7 kΩ 80 °C {176 °F}: 4.1 – 7.13 kΩ

Do the measurements meet the standard value?

YES

Go to step 10.

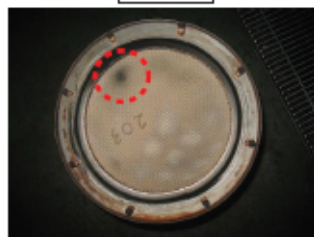
NO

Replace the exhaust gas temperature sensor 1 (ATC upstream).
Perform "After-inspection work" of INFORMATION section.

10 Inspect the DPR filter



Damage



Soot leakage

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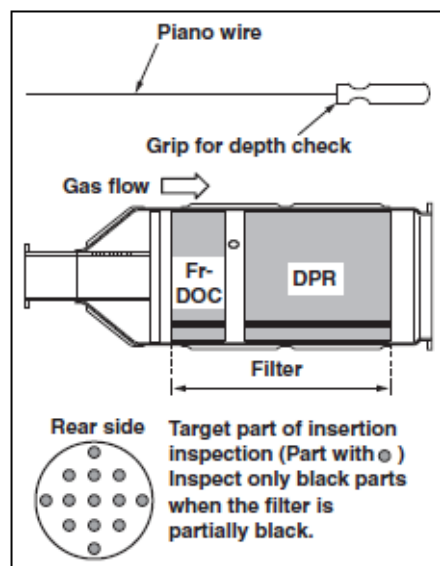
1. Remove DPR filter and check that there is no soot leaking at the rear edge of the DPR filter, no damage, and no other abnormality.

2. Insert the check probe from the rear surface to inspect the inside.

3. Check probe inserting depth.

Standard values

175 - 185 mm {6.890 - 7.283 in.}



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Was any failure found?



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YES

Replace the DPR filter and the PM sensor.
After replace, perform DPR manual regeneration.

NO

Go to step 11.

11 Inspect the coolant temperature sensor

1. Inspect the coolant temperature sensor for improper installation.
2. Check the sensing area of the coolant temperature sensor for dirt, clogging, and damage.

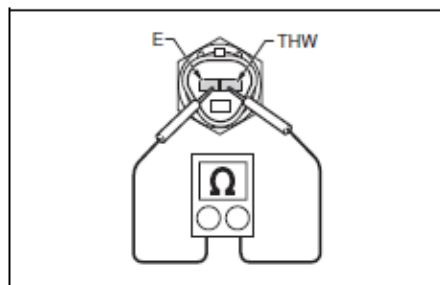
Was any failure found?

YES

Clean the sensing area and install the sensor properly.
If damage is found, replace the sensor.

NO

Go to step 12.

12 Inspect the coolant temperature sensor unit

SAPH16F010301339

1. Set the starter switch to the "LOCK" position.
2. Disconnect the engine coolant temperature sensor connector.
3. Use the electrical tester to measure the resistance between the terminals of the engine coolant temperature sensor.

Measurement conditions	Tester connections	Standard values
Starter switch: LOCK	Engine coolant temperature sensor THW – E	20 °C {68 °F}: 2.59 – 2.32 kΩ 80 °C {176 °F}: 0.326 – 0.310 kΩ

Do the measurements meet the standard value?

YES

Go to step 13.

NO

Replace the coolant temperature sensor.

ENGINE CONTROL SYSTEM (J08E)

13 Perform a basic engine check

1. Perform a basic engine check using the ENGINE BASIC INSPECTION SHEET. (Check the fuel injection amount, check the VNT activate.)

Was any failure found?

YES

Repair or replace the faulty part.
Perform "After-inspection work" of INFORMATION section.

NO

Go to step 14.

14 Check QR cord of fuel injector

1. Check the DX report.
2. Check the QR code of the fuel injector and make sure that the default code "80" is not entered.

(Example)

Troubleshooting report

VIN : 2AYNE8JV8H3S17244
 Work date: : 2018/03/20 08:32:52
 Operator : USAHMS010069
 Communication interface : DST-i
 DX2 version : 1.1.18.4

23 Engine shutdown setting identification Enabled Enabled

Injector correction information

No. Target	Manufacturer set value	At the end of work
158 Injector variation correction data #1	5D 80 80 80 80 80 80 80 80 80 80 80 80 00 5D	5D D8 F3 CA EB D3 F2 F1 DE E3 E1 DF ED 00 69
159 Injector variation correction data #2	5D 80 80 80 80 80 80 80 80 80 80 80 80 00 5D	5D F1 F3 DF E8 DC F0 EF E3 E5 E5 D6 E3 00 7D
160 Injector variation correction data #3	5D 80 80 80 80 80 80 80 80 80 80 80 80 00 5D	5D EA FD ED F6 FA 00 07 F8 04 06 01 FD 00 AA
161 Injector variation correction data #4	5D 80 80 80 80 80 80 80 80 80 80 80 80 00 5D	5D EA F8 EF EB F4 18 FF 00 1F EC FD 0D 00 5B
162 Injector variation correction data #5	5D 80 80 80 80 80 80 80 80 80 80 80 80 00 5D	5D E8 F4 E7 F1 EF F7 04 F5 FC 03 F6 FD 00 4A
163 Injector variation correction data #6	5D 80 80 80 80 80 80 80 80 80 80 80 80 00 5D	5D F9 F8 EC EA F5 FB FD F4 FE E8 F6 FA 00 47

This is the default setting.

Correct

SAPR116FD10301340

NOTICE

If the QR code of the fuel injector is the default setting, the indication does not match the actual fuel injection, resulting in a manual regeneration fault of the DPR.



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ENGINE CONTROL SYSTEM (J08E)

ADD

Is the QR code the default?

YES

NO

Input the QR code of the fuel injector.

Go to step 15.

15

DPR manual regeneration

CHANGE

1. Perform DPR manual regeneration, and check succeeded.

Was DPR regeneration succeeded?

YES

NO

Procedure completed.

Replace the DPR filter and the PM sensor.
After replace, perform DPR manual regeneration.

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CLEANING CARBON

1. CLEANING CARBON

⚠ WARNING

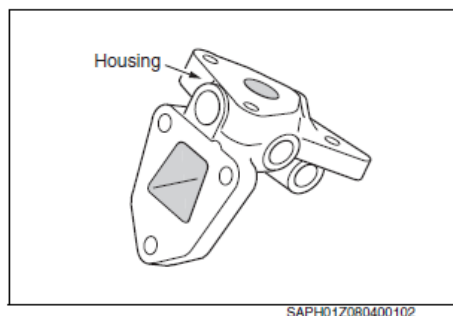
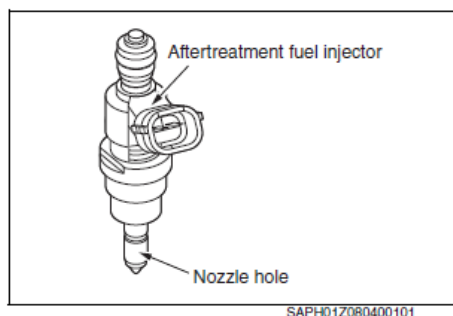
- The aftertreatment injector and housing will be cleaned with a strong alkaline carbon cleaner. Use of safety glasses, rubber gloves, and garment protection is mandatory. Avoid contact with eyes, skin, and clothing. Failure to protect your eyes and skin may result in serious burn injuries. Rinse with running water immediately if the carbon cleaner contacts your skin. If the carbon cleaner contacts your eyes, thoroughly rinse with running water and consult a physician immediately.
- Do not allow the carbon cleaner to contact resin parts, terminals, or the rubber O-ring on the aftertreatment injector. Immediately rinse the carbon cleaner off with water if it contacts these portions of the aftertreatment injector.

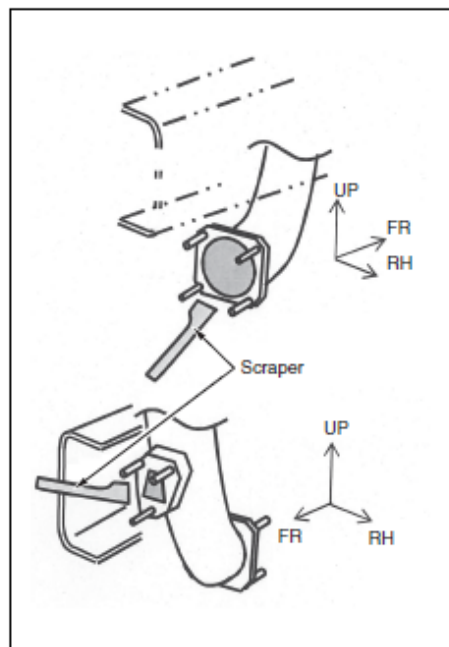
- (1) Spray the carbon cleaner on the nozzle tip of the aftertreatment fuel injector. Leave the carbon cleaner on the tip of the injector until the carbon is dissolved. Once the carbon is dissolved, rinse the injector tip with water then blow it dry using compressed air.

SST: Carbon Cleaner (S0826-E3065)

NOTICE

- DO NOT touch the tip of the injector nozzle with your hands. Do not wipe the nozzle with a rag or use a scraper to remove carbon from the nozzle tip.
 - DO NOT apply force to the electrical connector of the injector to avoid breakage.
- (2) Spray the carbon cleaner into the injector housing and allow it to soak until the carbon is dissolved. Rinse the housing with water then blow it dry using compressed air.

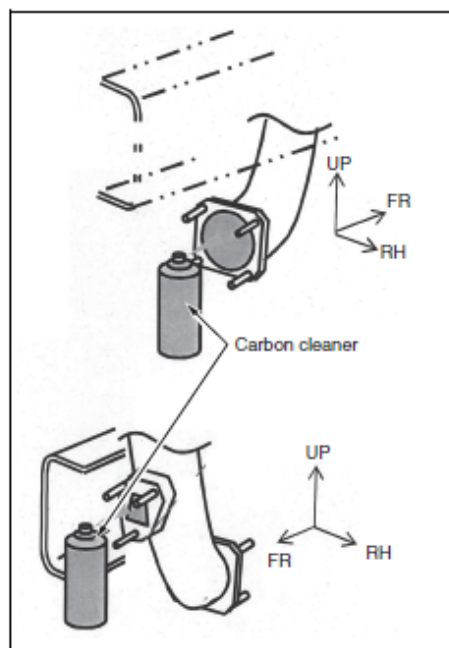




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2. CLEANING OF EXHAUST PIPE No.1 (ATC)

- (1) Remove the housing from the exhaust pipe No.1 (ATC).
Reference: FUEL SYSTEM (J08E), AFTERTREATMENT FUEL INJECTOR, OVERHAUL, REMOVING THE AFTERTREATMENT FUEL INJECTOR (Page EN04-58)
- (2) Remove the exhaust pipe No.2 from the exhaust pipe No.1 (ATC).
Reference: EXHAUST SYSTEM (J08E), EXHAUST PIPE AND MUFFLER UNIT, OVERHAUL, IMPORTANT POINT -DISMOUNTING (Page EN04-13)
- (3) Use a scraper to remove carbon buildup from all openings on the exhaust pipe No.1 (ATC).



SAPH01Z080400104

- (4) After removing the carbon, clean the inside of the exhaust pipe No.1 (ATC) using a carbon cleaner. Allow the carbon cleaner to soak until the carbon is dissolved. Rinse the cleaner off with water and blow it dry using compressed air. Reinstall the exhaust pipe No.1 (ATC), housing, and aftertreatment injector.