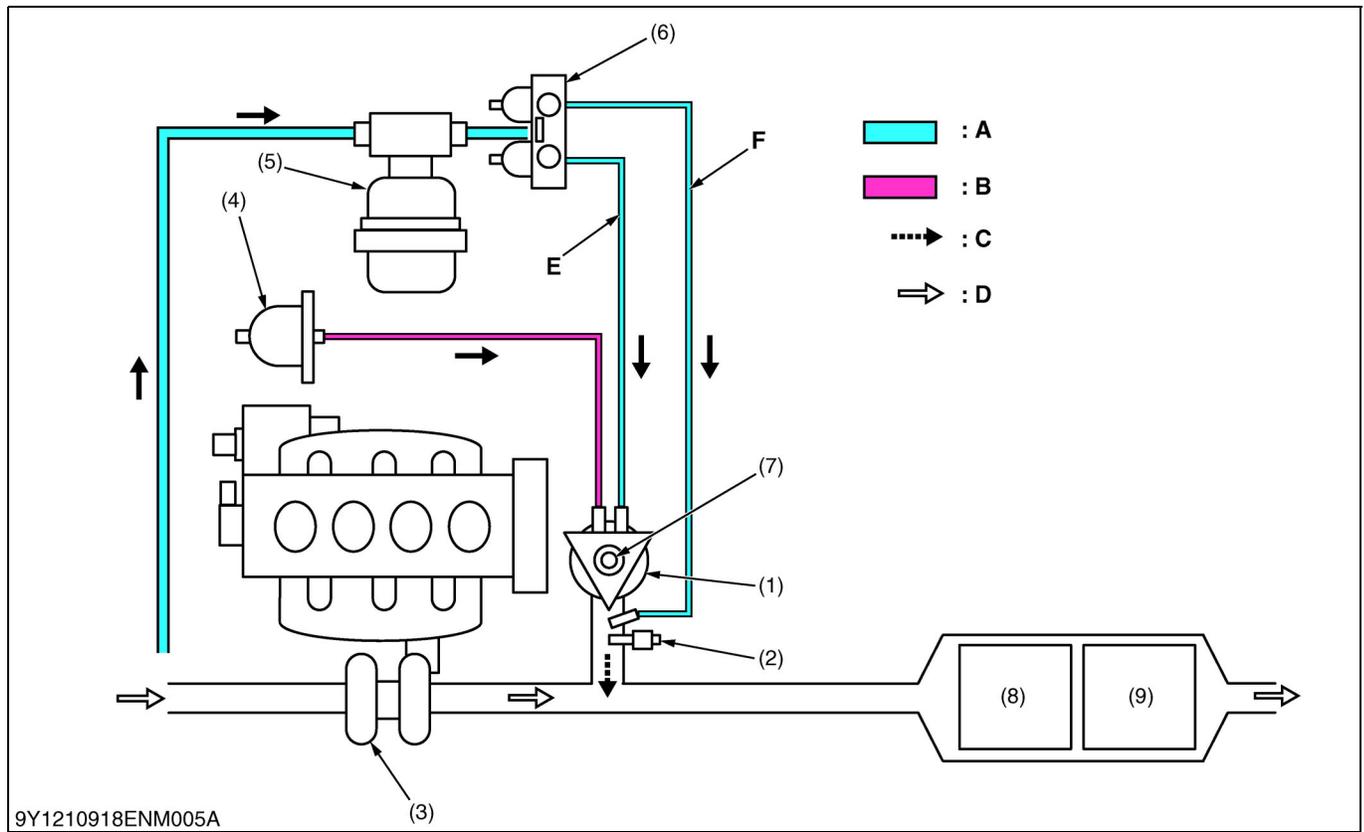


# 2. REFORMER AND AFTER TREATMENT DEVICES

## [1] REFORMING MECHANISM



- |                     |                                     |                        |                         |
|---------------------|-------------------------------------|------------------------|-------------------------|
| (1) Reformer        | (6) Air Valve                       | <b>A:</b> Air          | <b>D:</b> Exhaust Gas   |
| (2) Burner Glow     | (7) Heater Glow                     | <b>B:</b> Fuel         | <b>E:</b> Primary Air   |
| (3) Turbocharger    | (8) Diesel Oxidation Catalyst (DOC) | <b>C:</b> Reformed Gas | <b>F:</b> Secondary Air |
| (4) Doser Fuel Pump | (9) Diesel Particulate Filter (DPF) |                        |                         |
| (5) Air Blower      |                                     |                        |                         |

The reformer (1) is a Diesel Particulate Filter (DPF) regeneration device that is not dependent on the combustion method.

Fuel "B" and air (primary air "E") are supplied to the reformer (1) which has reforming catalyst. Fuel "B" and primary air "E" reacts and generate reformed gas through reforming catalyst and heat from the heater glow (7). The reformed gas "C" generated in this manner is mixed with exhaust gas "D" and reaches the Diesel Oxidation Catalyst (DOC).

If the exhaust temperature (DOC In) is higher than 250 °C (482 °F), the reformed gas "C" makes exothermic reaction with the DOC, raises the exhaust temperature (DPF In) above 550 °C (1022 °F) so that the Particulate Matter (PM) can be removed through combustion.

If the exhaust temperature (DOC In) is lower than 250 °C (482 °F), reformed gas is ignited by using burner glow (2) ("Low Temperature Ignition") so that the exhaust temperature (DOC In) is above 250 °C (482 °F). In this situation the secondary air "F" is supplied to the reformed gas "C" in order to increase the amount of oxygen to assist ignition.

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