SEN06502-11

Shop Manual

ENGINE

107E -3 SERIES

KOMATSU®

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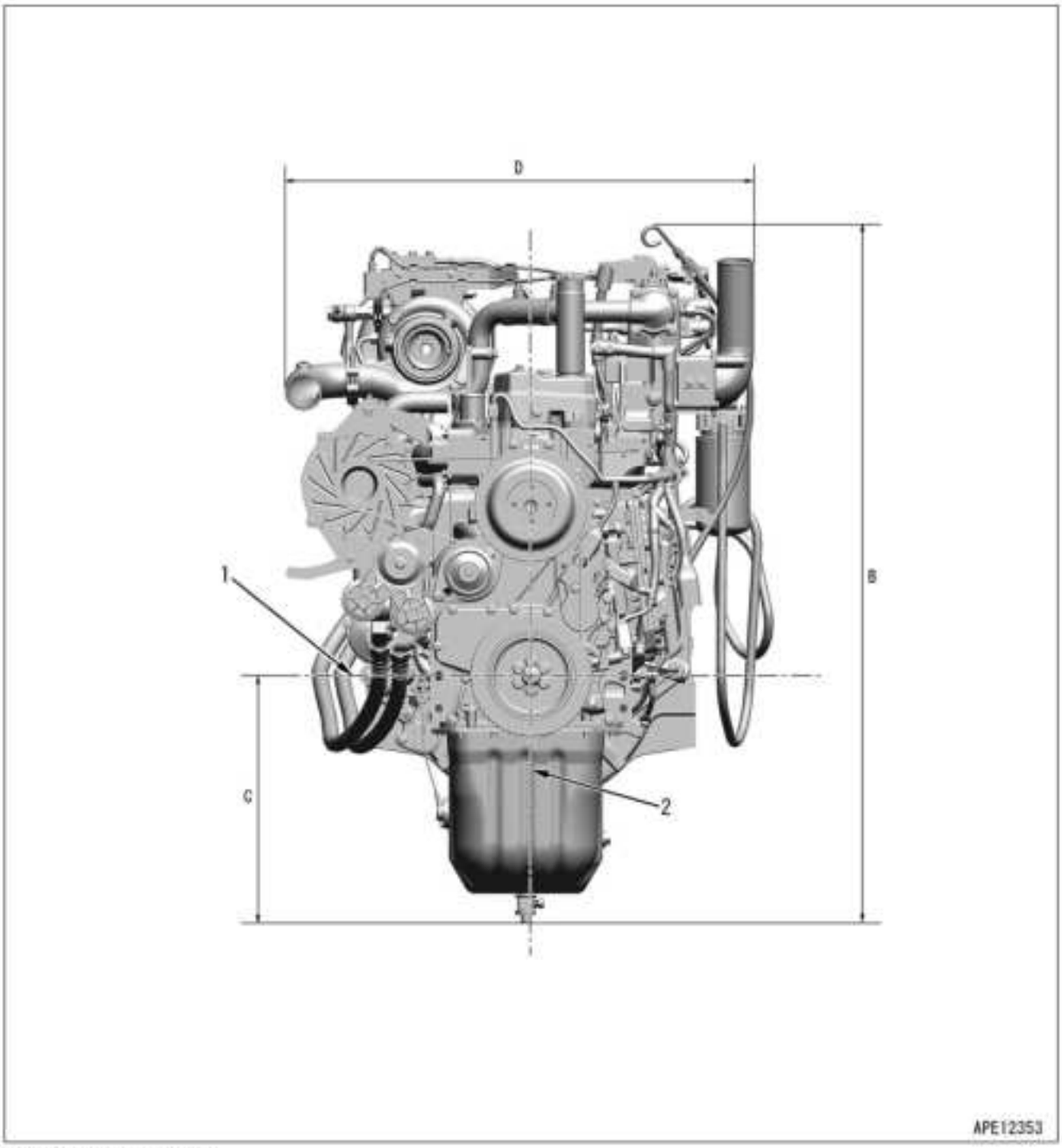
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Front view



1: Center of crankshaft
2: Center of cylinder
Dimension (B): 1211 mm
Dimension (C): 429 mm
Dimension (D): 812 mm

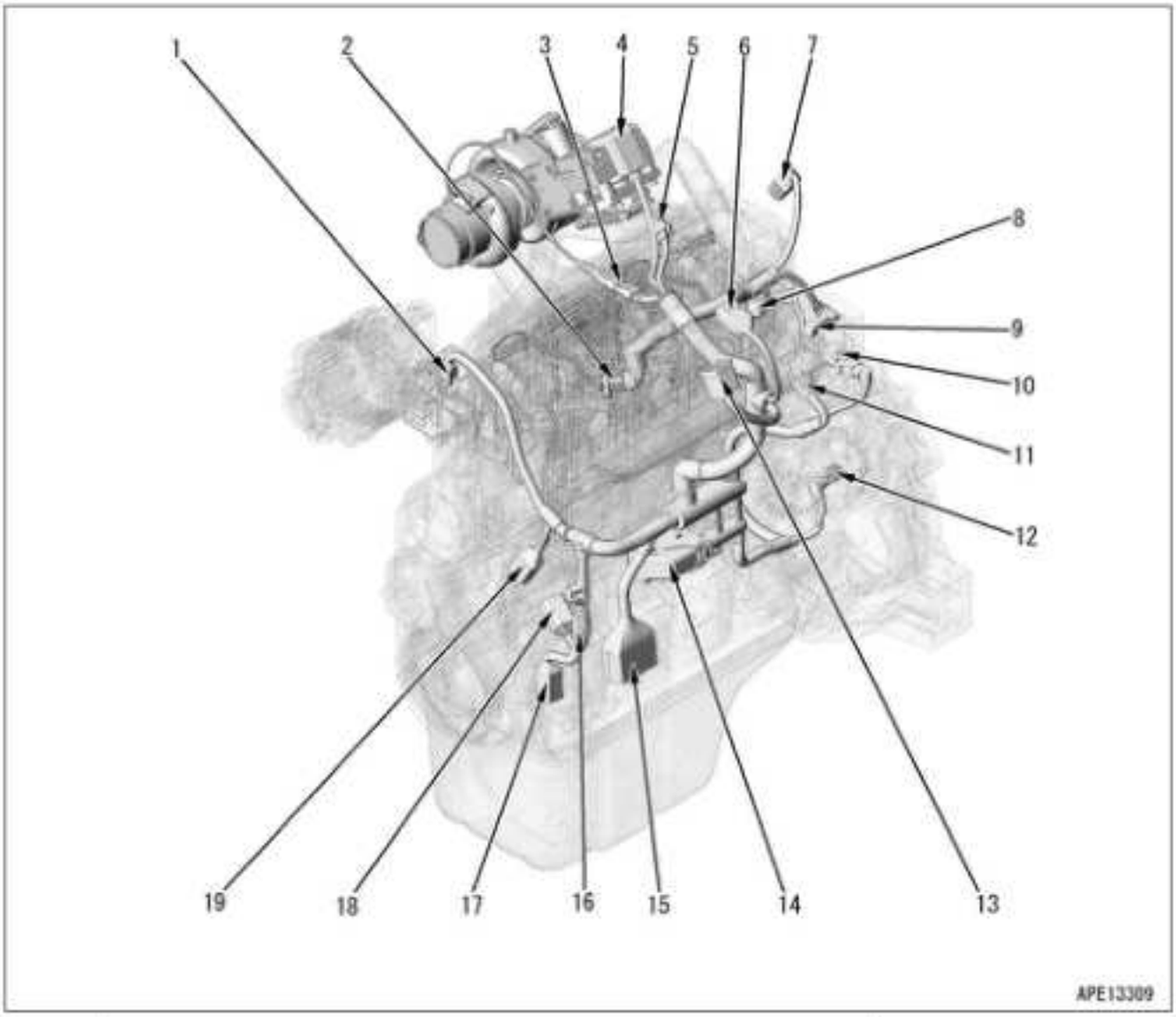
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STRUCTURE OF ENGINE WIRING HARNESS

REMARK

- Four cylinder engine is shown in this item.
- The shape is subject to machine models.

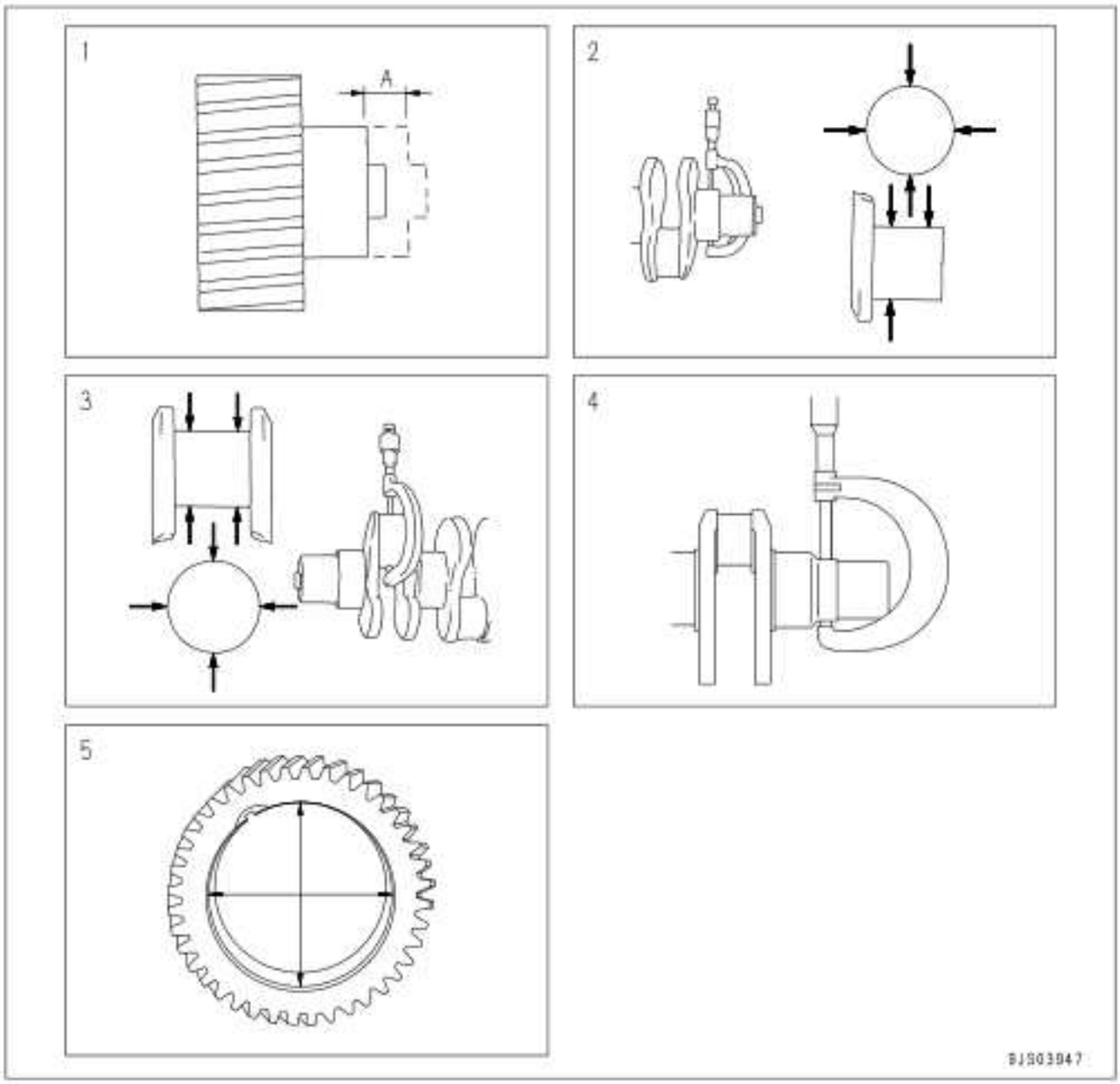
General view



No.	Connector	Connector label
1	Coolant temperature sensor	COOLANT TEMP
2	Injector wiring harness #1 and #2	INJECTOR CYL 1 & 2
3	VGT seppd sensor	TURBO SPEED SENSOR
4	VGT actuator	VGT ACTUATOR
5	Terminating resistor	RESISTOR CAN B
6	EGR gas orifice temprerature sensor	EXHAUST GAS TEMPER-ATURE
7	Exhaust manifold pressure sensor	EXHAUST PRESSURE
8	Injector wiring harness #3 and #4	INJECTOR CYL 3 & 4

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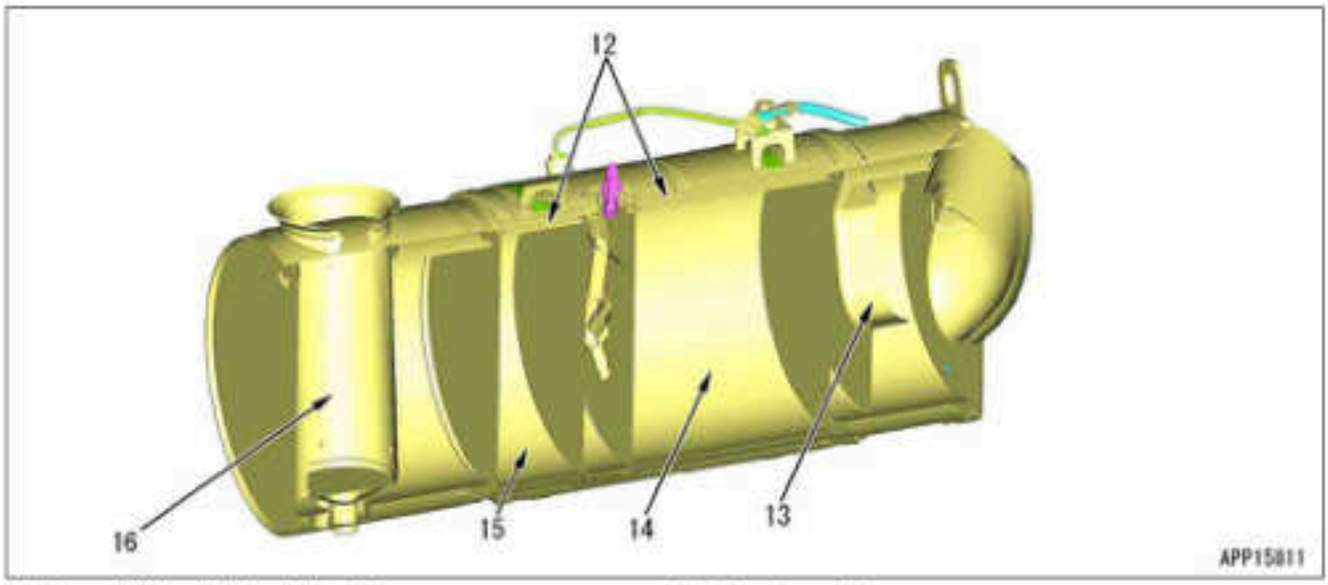
MAINTENANCE STANDARD OF CRANKSHAFT



Unit: mm

No.	Item	Criteria	Remedy
1	End play (A)	0.065 to 0.432	Replace thrust bearing or over size repair

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A: From AdBlue/DEF mixing tube
1: SCR body
2: SCR temperature sensor
3: SCR outlet NOx sensor
4: SCR outlet temperature sensor
5: Temperature sensor controller
6: Ammonia sensor
7: Hanger plate
8: water baffle
9: Water drain port
B: To exhaust pipe
10: Sensor table
11: Sensor table band
12: Catalyzer hold mat
13: Water dam
14: Downstream SCR catalyst and ammonia oxidation catalyst (integrated type)
15: Upstream SCR catalyst
16: Rectifier tube

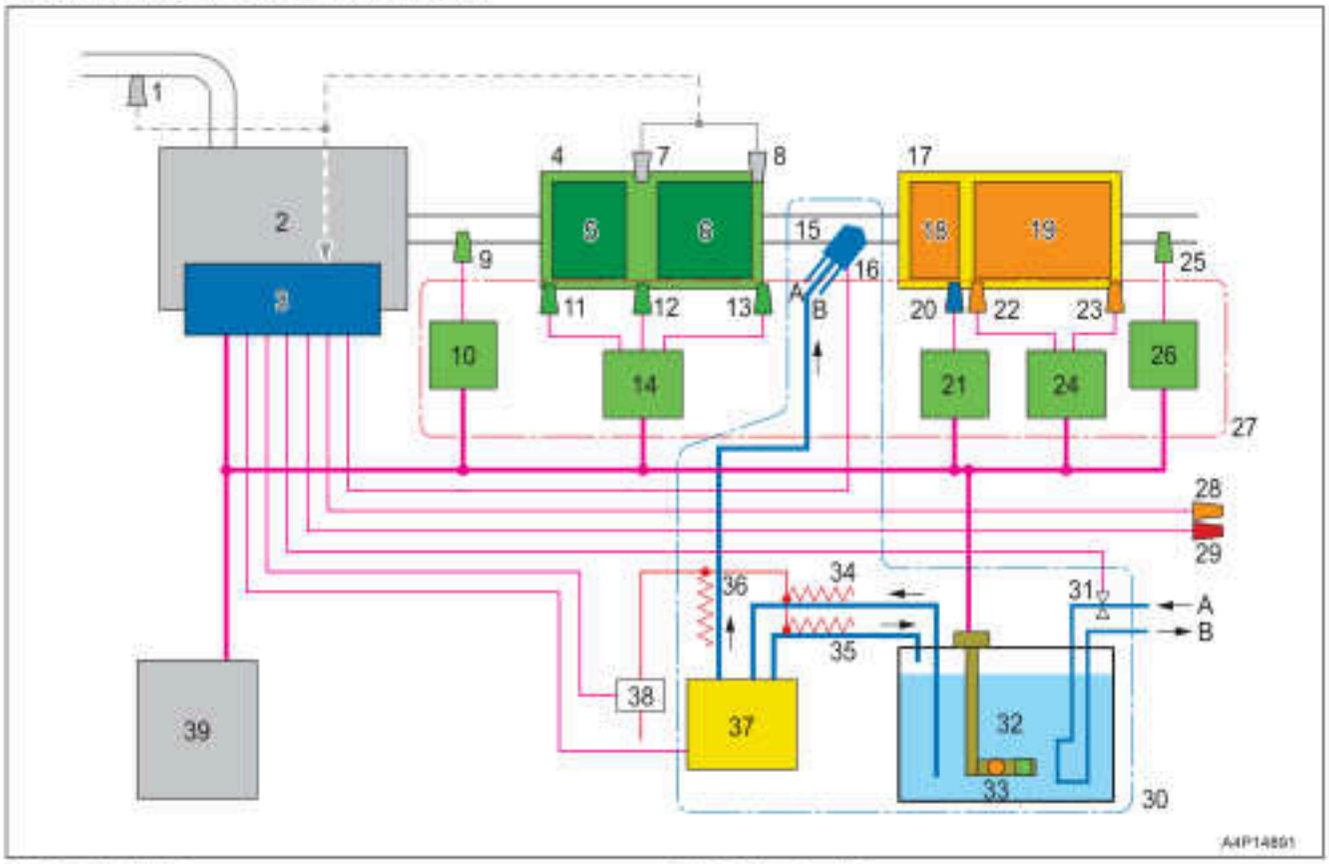
- SCR assembly consists of rectifier tube (16) equalizing the distribution of flow speed by leading exhaust gas, upstream SCR catalyst (15), downstream SCR catalyst, ammonia oxidation catalyst (14), and water dam which prevents rain water from entering into downstream SCR catalyst and ammonia oxidation catalyst (14) while exhausting gas.
- Ammonia oxidation catalyst (a part of 14) oxidizes ammonia to water and nitrogen with ammonia oxidation catalyst (a part of 14) to prevent ammonia which is supplied to SCR assembly from being released out because SCR catalyst (a part of 14, 15)cannot completely consume it.
- Each 1 piece of SCR temperature sensor (2), SCR outlet temperature sensor (4), ammonia sensor (6), and SCR outlet NOx sensor (3) are installed. These sensors are usable for various troubleshooting, such as they are used to control the feedback of denitration efficiency or they monitor that SCR catalyst properly functions or not.
- Rectifying tube (16) equalizes the distribution of exhaust gas flow speed.
- SCR catalyst (15, a part of 14) uses the ceramic honeycomb.
- The catalyzer holding mat (12) is made of a specific fiber and protects the ceramic catalyst against vibrations by the engine and the machine body. It also protects the outer periphery of SCR assembly against a heat transfer of the ceramics during operation.
- Water dam (13) is located at the upstream side of the outlet and prevents rainwater from entering into downstream SCR catalyst unit and ammonia oxidation catalyst (14).
- Water baffle (8) is located at the downstream side of the outlet and prevents rainwater at outlet from splashing over the detection part of NOx sensor.

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UREA SCR SYSTEM DIAGRAM

REMARK

Six cylinder engine is shown in the figure.



A: Coolant inlet

1: Mass air flow and temperature sensor

2: Engine

3: Engine controller

4: KDPF assembly

5: KDOC unit

6: KCSF unit

7: KDPF differential pressure sensor

8: KDPF outlet pressure sensor

9: Turbocharger outlet NOx sensor

10: Turbocharger outlet NOx sensor controller

11: KDOC inlet temperature sensor

12: KDOC outlet temperature sensor

13: KDPF outlet temperature sensor

14: KDPF temperature sensor controller

15: AdBlue/DEF mixing tube

16: AdBlue/DEF injector

17: SCR assembly

18: Upstream SCR catalyst

B: Coolant outlet

19: Downstream SCR catalyst and ammonia oxidation catalyst (integrated type)

20: Ammonia sensor

21: KDPF temperature sensor controller

22: SCR temperature sensor

23: SCR outlet temperature sensor

24: SCR temperature sensor controller

25: SCR outlet NOx sensor

26: SCR outlet NOx sensor controller

27: Smart sensor

28: Ambient temperature sensor

29: Engine room temperature sensor (*1)

30: AdBlue/DEF system

31: AdBlue/DEF tank heating valve

32: AdBlue/DEF tank

33: AdBlue/DEF tank sensor

34: AdBlue/DEF suction line

35: AdBlue/DEF return line

36: AdBlue/DEF pressure line

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