SEBE61800104

Shop Manual

KOMATSU®

12V170-1

DIESEL ENGINE

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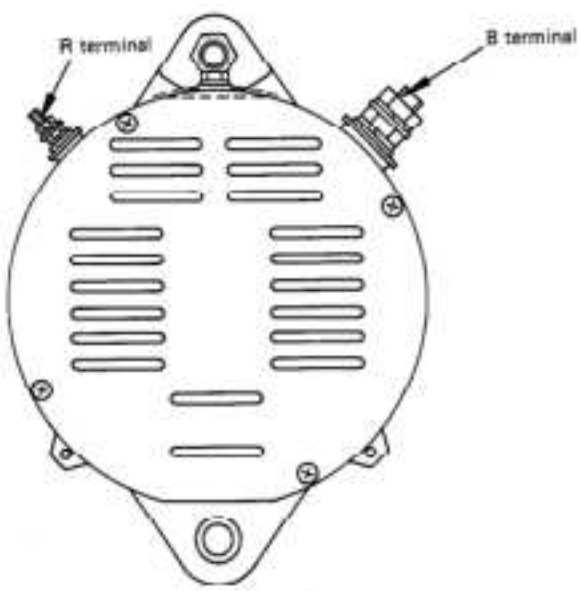
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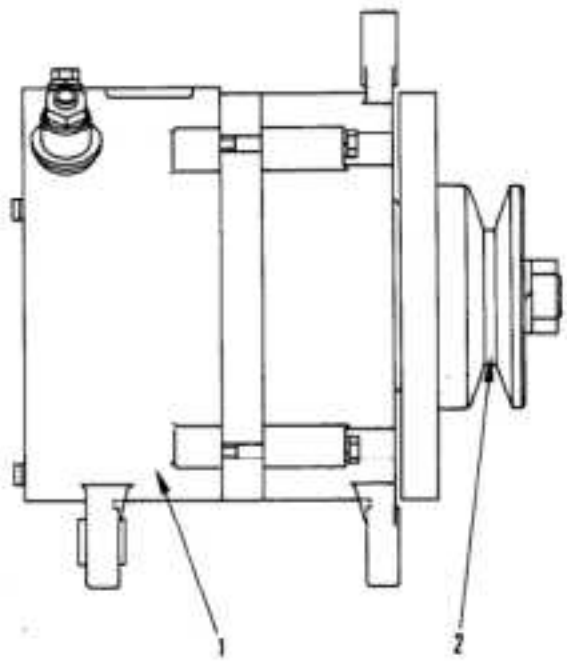
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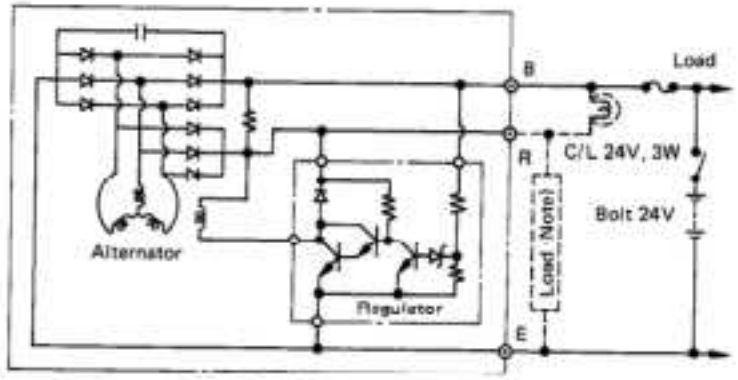
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ALTERNATOR WITH REGULATOR





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1. Alternator
2. Pulley

Model	Specifications	Pulley outside diameter (mm)	Weight (kg)
D575A-2 D575A-2SD HD1200-1 HD1200M-1	24V, 75A	95	12.5
EG1100-1	24V, 35A	118	18

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- **Example of troubleshooting when exhaust gas is black**

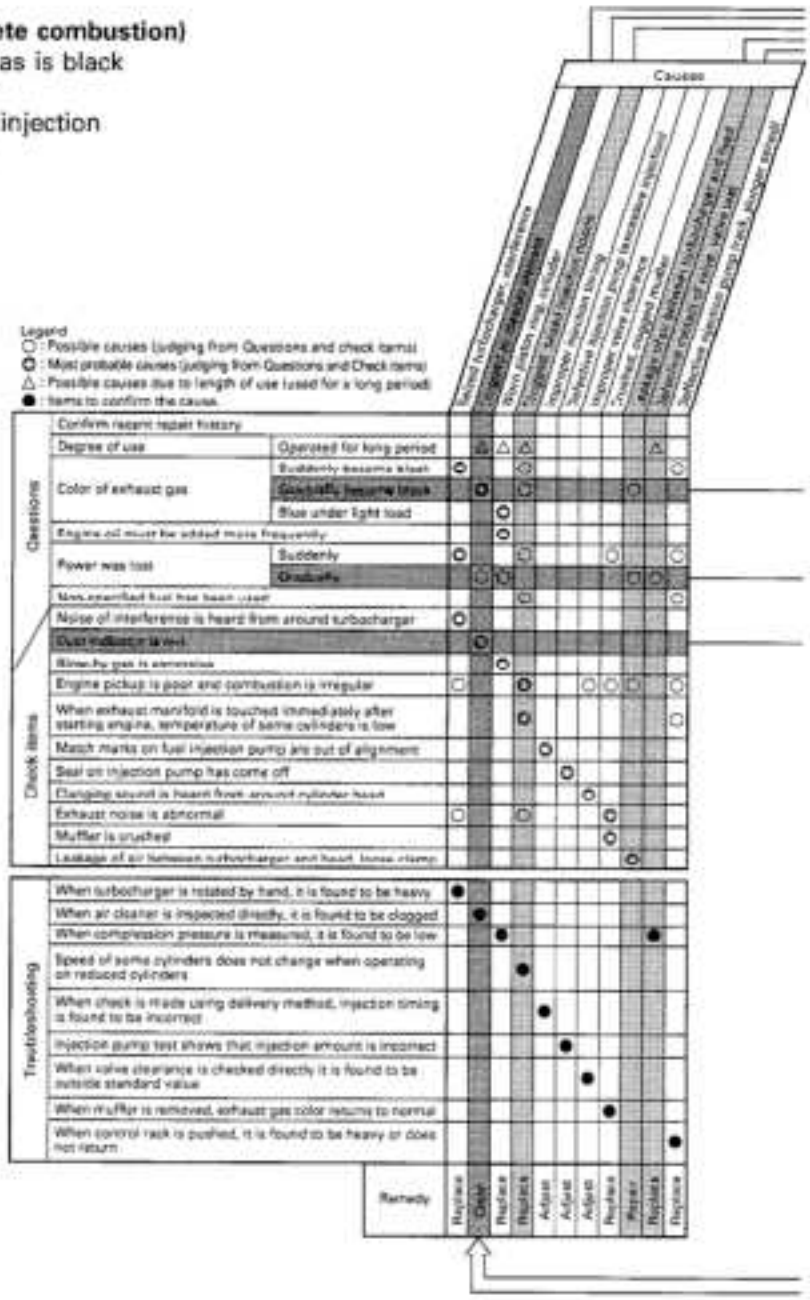
  Let us assume that [Clogged air cleaner] is taken to be the cause of black exhaust gas. Three symptoms have causal relationship with this problem: [Exhaust gas slowly became black], [Power slowly became weaker], and [Duet indicator is red].

  If we look from these three symptoms to find the causes, we find that there is a relationship with five causes. Let us explain here the method of using this causal relationship to pinpoint the most probable cause.

S-7 Exhaust gas is black (incomplete combustion)

General causes why exhaust gas is black

- Insufficient intake of air
- Improper condition of fuel injection
- Excessive injection of fuel



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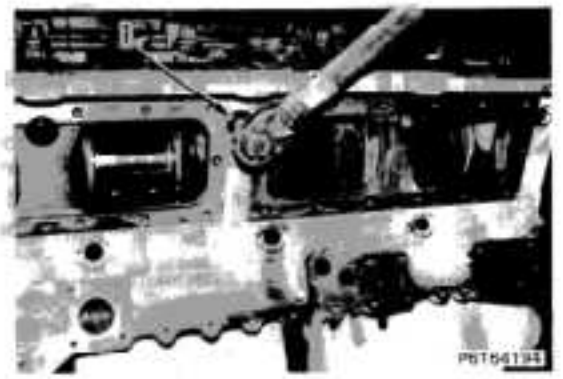
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15) Coat the thread and washer of the side bolt (1) with engine oil (SAE #30).
★ Tighten the side bolt as follows.

Side bolt:

Nm (kgm)

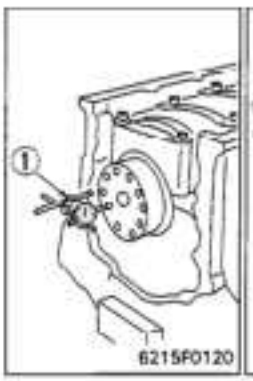
Step	Target	Range
1st	274.6 (28)	245.2—304.0 (25—31)
2nd	559.0 (57)	529.6—588.4 (54—60)
3rd	Loosen completely	
4th	186.3 (19)	156.9—215.7 (16—22)
5th	372.7 (38)	343.2—402.1 (35—41)
6th	559.0 (57)	529.6—588.4 (54—60)

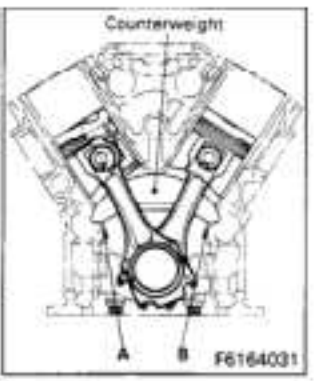


16) Measuring starting torque of crankshaft
i) Screw bolt in center bolt hole, and measure rotating weight of crankshaft.
★ Standard value:
Max.27.5 Nm (2.8 kgm)
★ Check that the crankshaft rotates smoothly.

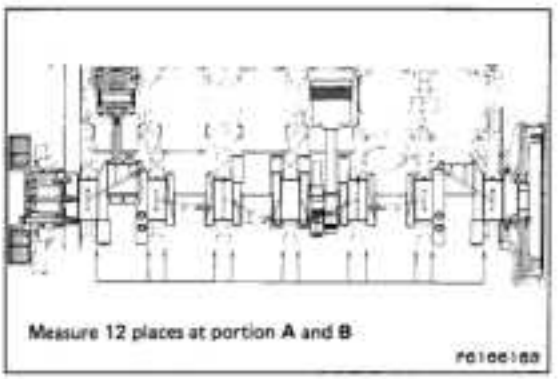


17) Measure end play of crankshaft with dial gauge (1).
★ End play: 0.140 — 0.32 mm
★ Lever the area between the counterweight bolts when measuring the end play.
★ If it is not within the standard value, adjust according to the maintenance standard.





18) Checking position of counterweight
1) Set the counterweight of the cylinder No. to be measured in the position shown in the diagram on the right.
2) When measuring, use a feeler gauge to measure the clearance between the side surface of the counterweight and the finished surface of the cylinder block at two positions, **A** and **B**, of the counterweight.
3) Measure the counterweight of the other cylinders in the same way.
Standard clearance: Min. 1.1 mm
Difference between dimensions **A** and **B**: Max. 0.6 mm



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