AIR CLEANER

FRG TYPE (CYCLOPACK TYPE)

FRG TYPE (RADIAL SEAL TYPE)

★ The shape may differ according to the machine it is mounted on.

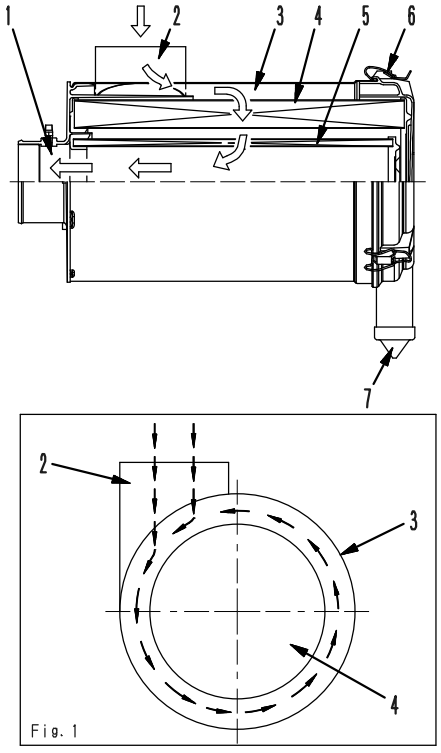


Fig. 1

SJE02088

1. Outlet
2. Inlet
3. Body
4. Outer element
5. Inner element
6. Latch
7. Vacuator valve

Engine	Machine model	Type	Actuator valve	No. of elements
SAA6D114E-2	PC300-7 WA380-5 GD655-3A,3C GD675-3A,3C CD110R-2	FRG (Radial seal type)	Automatic discharge	Inner element x 1, outer element x 1

Features (FRG type)

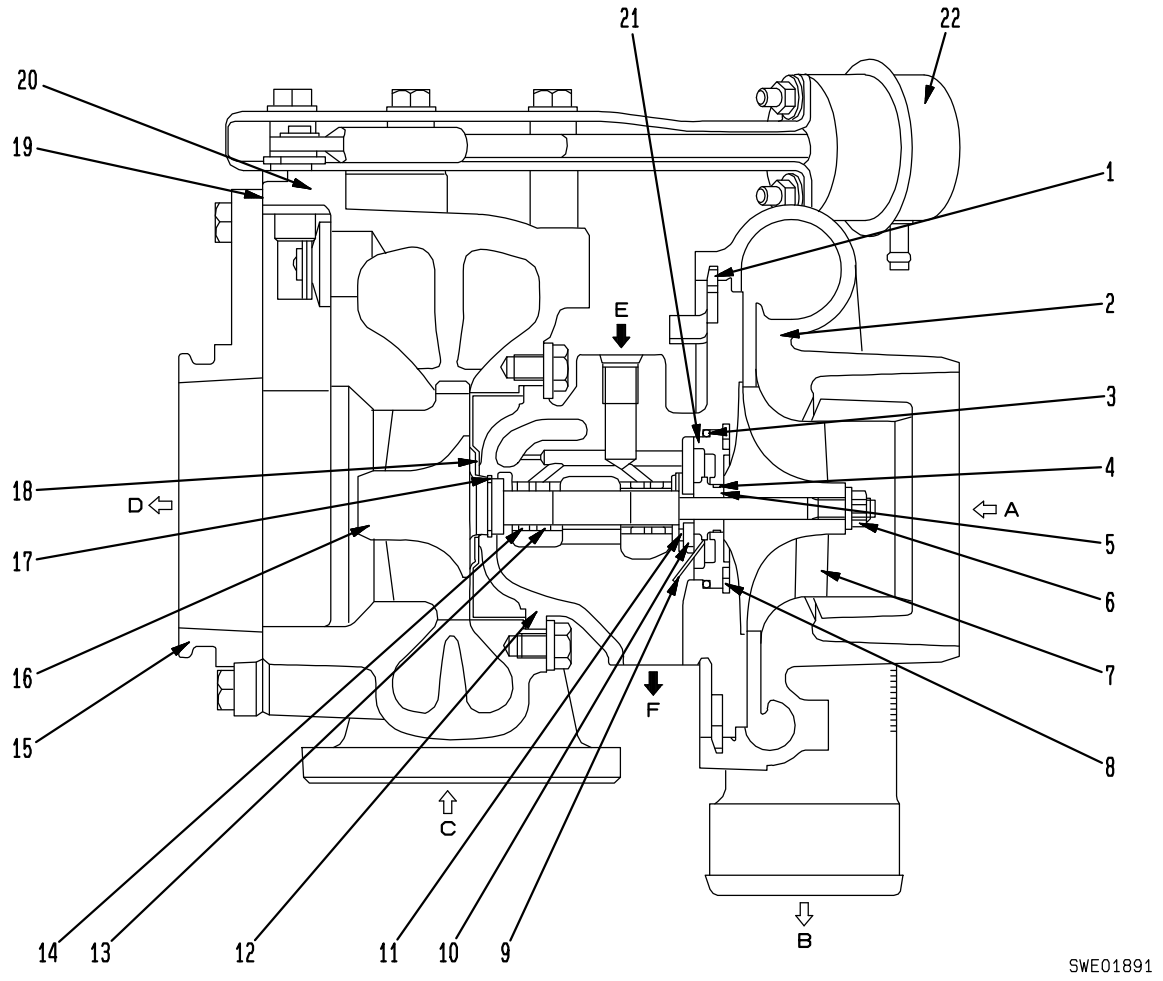
- Since this air cleaner is sealed in the radial direction, the reliability of the seal is high.
- To remove the cleaner element of the current air cleaner, the wing nut must be removed. The cleaner element of this air cleaner can be removed, however, by just undoing latch (6).
- The inlet is installed off the center of the air cleaner so that air will swirl and separate dust with centrifugal force as shown in Fig. 1.

Structure

- Air containing dust is sucked through inlet (2) tangentially and the dust is separated by the centrifugal effect of the guide vanes. Furthermore, more than 99.9% of the dust is removed by outer element (4) and clean air is sucked through inner element (5) and outlet (1) into the engine.
- The dust and water separated by the guide vanes flow along the inside wall of body (3) and enter evacuator valve (7), and then they are discharged automatically.

TURBOCHARGER

SAA6D114E-2



1. Retainer
2. Blower housing
3. O-ring
4. Piston ring
5. Slinger
6. Locknut
7. Blower impeller
8. Retainer
9. Baffle oil
10. Thrust bearing
11. Thrust collar
12. Center housing
13. Journal bearing
14. Retainer
15. Adapter
16. Turbine impeller
17. Piston ring
18. Shroud (heat shield)
19. Gasket
20. Turbine housing
21. Plate
22. Actuator

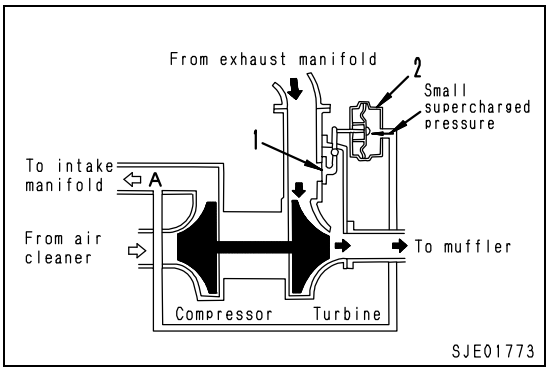
A. Intake inlet port
B. Air supply outlet port
C. Exhaust inlet port
D. Exhaust outlet port
E. Oil inlet port
F. Oil outlet port

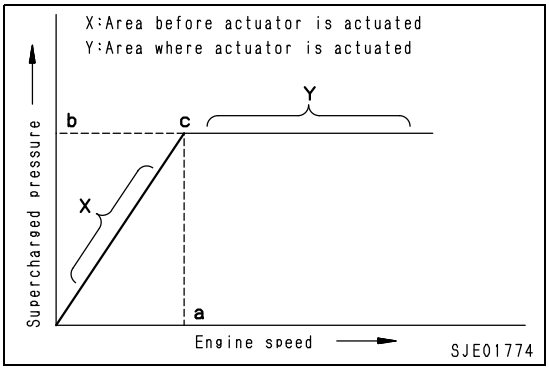
Specifications
Type: Holsett HX40W

Applicable exhaust temperature: Max. 700°C (inlet port)
Direction of rotation: Clockwise (as seen from blower)

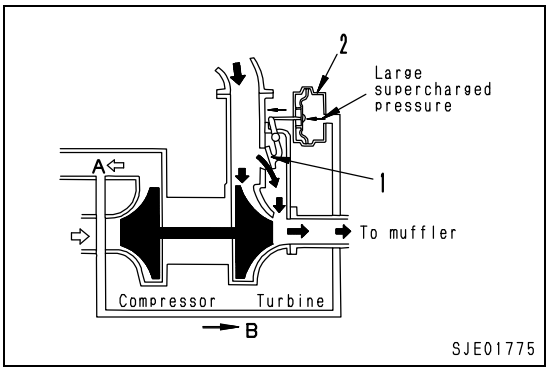
OUTLINE OF WASTE GATE VALVE

- This maintains a suitable supercharging pressure (set supercharging pressure) in order to prevent any excessive load on the engine by suppressing any supercharging above the necessary level from the compressor.
  In order to do this, waste gate valve (1) is installed in the exhaust circuit before the turbine. When supercharged pressure (A) near the compressor outlet port becomes high, if it exceeds the set pressure of the actuator (swing valve control (2)), waste gate valve (swing valve) (1) opens.
- Point **c** where engine speed a and supercharging pressure b intersect is the point where the waste gate valves start to open.





- Pressure (A) near the outlet port of the compressor passes through (B) and actuates actuator (2). Waste gate valve (1) opens, and part of the exhaust gas bypasses the turbine, so the output of the turbine drops and the set supercharging pressure is maintained.



LUBRICATION OF TURBOCHARGER

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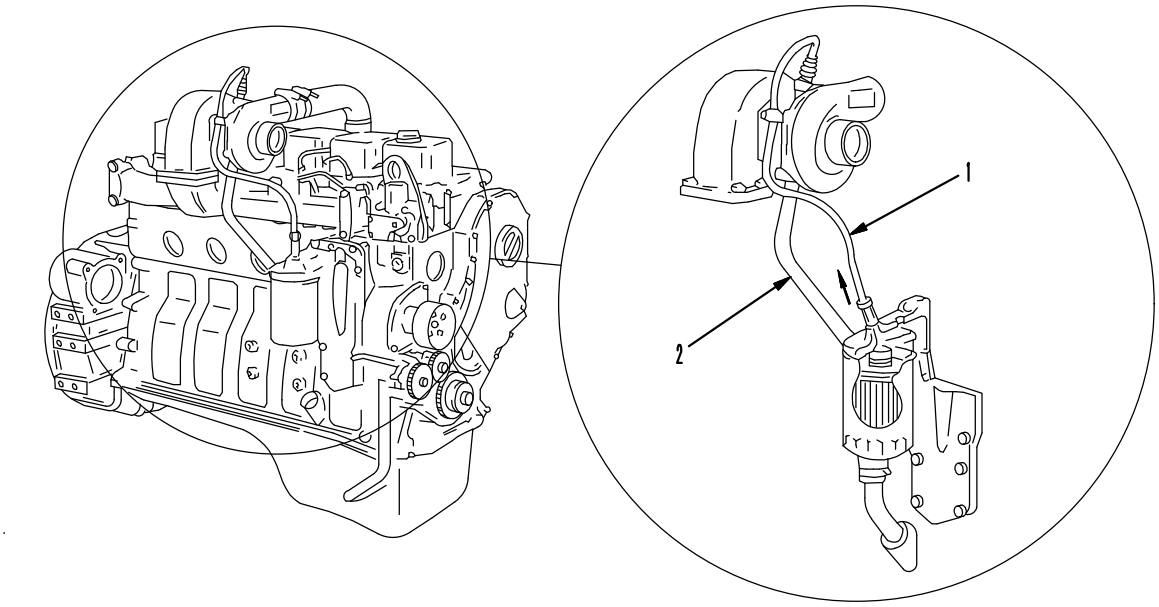
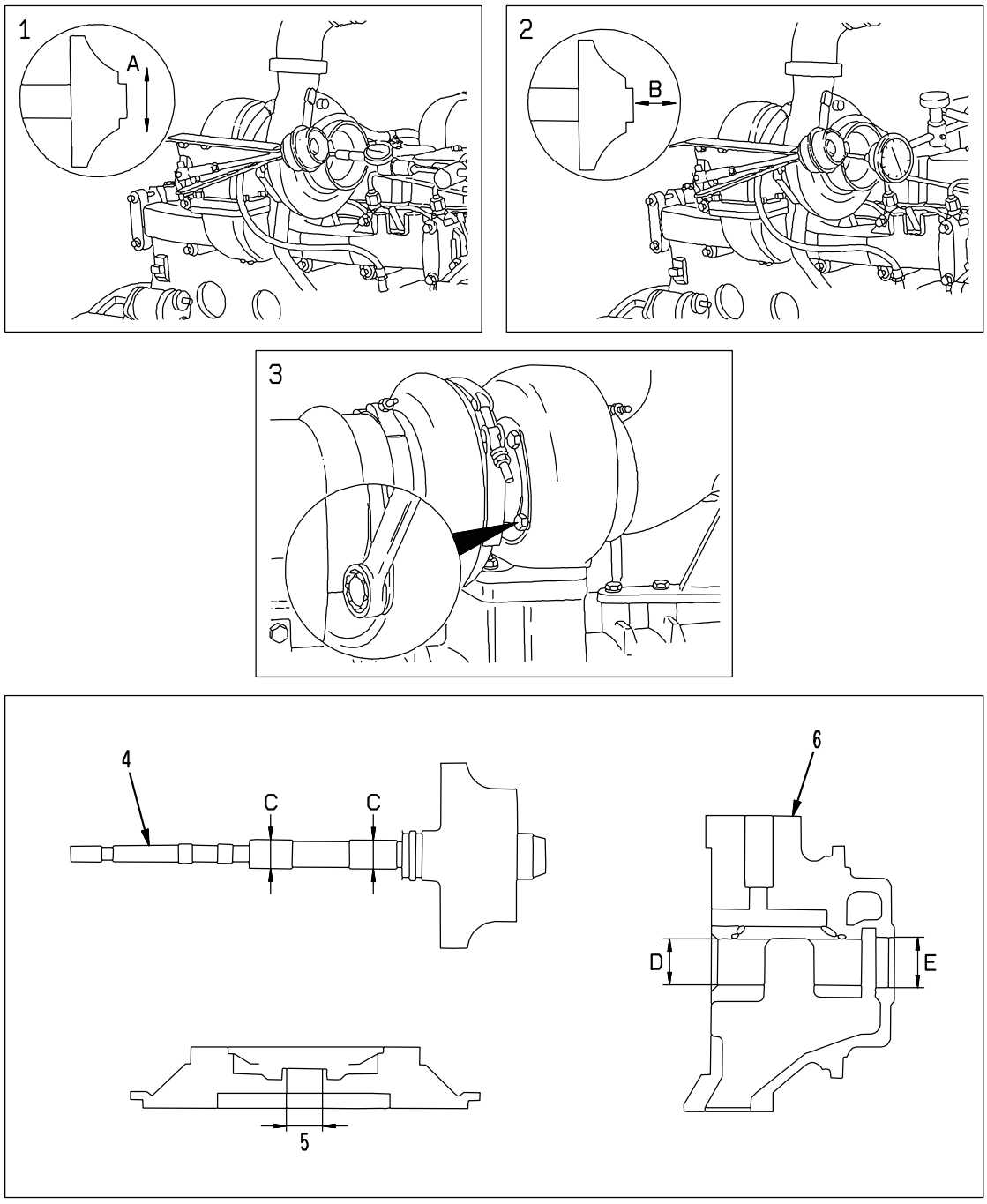


SJE01892

The oil filtered and cooled by the turbocharger is sent from the filter head through supply pipe (1). The oil then passes through return pipe (2) that is interconnected at the bottom of the turbocharger housing, passes through the fitting in the engine block, and returns to the oil pan.

TURBO CHARGER



SWE01893

Unit:mm

No.	Check item	Criteria		Remedy
1	Play in radial direction of rotor	A	0.33~0.50	Repair or replace
2	Play in axial direction of rotor	B	0.03~0.09	
3	ightening torque of turbine housing bolt	14Nm {1.4kgm}		Tighten
4	Outside diameter of wheel shaft	C	10.97~10.98	Replace
	Curvature of wheel shaft	Repair limit: 0.008 (total movement of indicator)		
5	Inside diameter of back plate	19.305~19.330		
6	Inside diameter of center housing	D	15.875~15.885	
		E	19.305~19.330	