Model: 140B MOTOR GRADER 33C

Configuration: 140B MOTOR GRADER 33C00100-UP (MACHINE) POWERED BY 3306 ENGINE

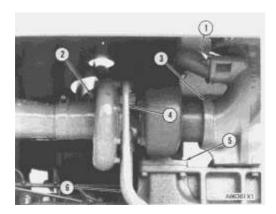
# Disassembly and Assembly 3306 VEHICULAR ENGINE FOR 140B MOTOR GRADER

Media Number -SENR7942-00 Publication Date -01/07/1982 Date Updated -12/10/2001

### Turbocharger

**SMCS** - 1052-11; 1052-12; 1052-15; 1052-16

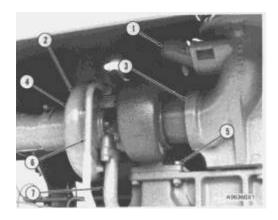
# Remove Turbocharger



- 1. Remove exhaust pipe.
- **2.** Disconnect tube (1) from exhaust elbow.
- **3.** Remove exhaust elbow (3) and coupling from the engine.
- **4.** Remove oil supply line (4) and return line (6).
- **5.** Loosen clamp (2) on the air inlet and the clamp on the turbocharger air outlet.
- **6.** Remove bolts (5) that hold the turbocharger to exhaust manifold.
- 7. Remove turbocharger, weight is 22 kg (48 lb.).

# **Install Turbocharger**

- 1. Inspect all seals and install new seals if needed.
- 2. Put 5P3931 Anti-Seize Compound on threads of turbocharger bolts and exhaust elbow bolts.



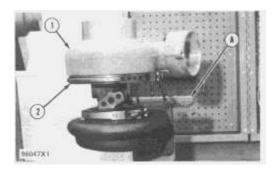
- 3. Put the turbocharger (2) in position on the exhaust manifold and install bolts (5).
- **4.** Tighten turbocharger bolts to a torque of  $55 \pm 5$  N·m ( $40 \pm 4$  lb. ft.).
- **5.** Install oil supply line (6) and return line (7).
- **6.** Install exhaust elbow (3) and the coupling. Install the exhaust pipe.
- 7. Connect tube (1) to exhaust elbow.
- 8. Tighten clamp (4) on the air inlet and the clamp on the turbocharger air outlet.

# Disassemble Turbocharger

Tools Needed		Α	В	C
9\$6363	Turbocharger Fixture Group	1	l	
956343	Fixture Assembly		1	
FT745	Modified Pliers			1

start by:

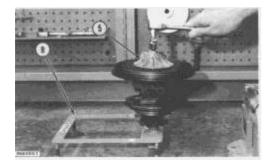
a) remove turbocharger



- 1. Put the turbocharger in position on tool (A).
- **2.** Put a mark on the compressor cover and housings for installation purpose.
- **3.** Remove "V" clamp (2) and remove compressor cover (1).



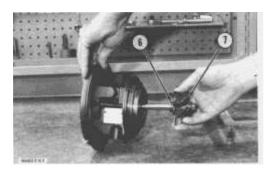
**4.** Remove "V" clamp (3) and remove shaft housing from turbine housing (4).



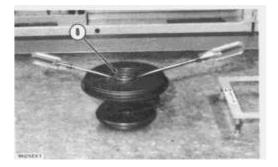
**5.** Put shaft housing in tool (B). Remove nut and compressor wheel (5) from the shaft.

#### **NOTICE**

When the nut is loosened, do not put a side force on the shaft.



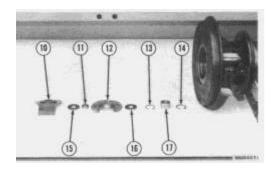
- **6.** Remove shaft housing from tool (B) and remove turbine wheel (7) and shaft from housing.
- 7. Remove seal ring (6) from the turbine wheel.



**8.** Remove snap ring and insert (8) from the housing.

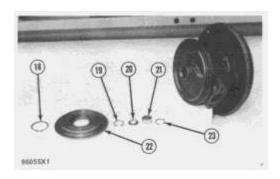


**9.** Push the sleeve (9) out of the insert. Remove the two seal rings from the sleeve.



**10.** Remove deflector (10), ring (15), sleeve (11), bearing (12), ring (16), snap ring (13), bearing (17) and snap ring (14) from the housing. Remove snap rings (13) and (14) with tool (C).

**NOTE:** Check the oil hole in bearing (12). If the oil hole is not open this will cause a bearing failure.

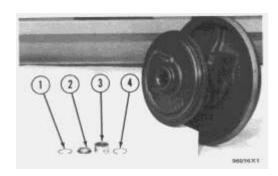


- 11. Turn the housing around and remove snap ring (18) and shroud (22).
- **12.** Remove snap ring (19), sleeve (20), bearing (21), and snap ring (23). Remove the two snap ring with tool (C).
- 13. Inspect all parts and install new parts as needed.

# **Assemble Turbocharger**

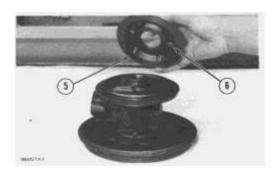
Tools Needed		A	В	С
FT745	Modified Pliers	1		-
9\$6343	Fixture Assembly	1	1	
986363	Turbocharger Fixture Group	<b>T</b>		1

1. Make sure all oil passages are open and clean. Put clean engine oil on all parts before assembly.



**2.** Install snap ring (4), bearing (3), sleeve (2) and snap ring (1). Install the two snap rings with tool (A).

**NOTE:** Install the snap rings with the round side toward the bearing.



- **3.** Install shroud (5) on the housing. Turn the shroud to make sure it is down on the housing even. The high part (web) (6) on shroud, will keep the shroud from turning on the housing after assembly.
- **4.** Install snap ring that holds the shroud in place.
- **5.** Install the bearing and two snap rings in the compressor end of the housing. Install the snap rings with tool (A).

**NOTE:** Install the snap rings with the round side toward the bearing.



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