

PARTS & SERVICE NEWS

REF NO.	A920089
DATE	July 7, 1992

SUBJECT: INTRODUCING WATER COOLED TYPE TURBOCHARGER TO SA6D170 ENGINE

PURPOSE: To introduce a water cooled type turborcharger to SA6D170 engine

APPLICATION: WA700-1 (SA6D170 Engine) Wheel Loaders, Serial Nos. 10001 thru 19999

DESCRIPTION:

1. Introduction

If the engine is stopped after machine operation, without allowing the appropriate low idle cool down period, the turbocharger bearing section temperature will rise quickly resulting in damage to center shaft and bearing.

This **PARTS & SERVICE NEWS** introduces a water cooled type turbocharger which has been developed for SA6D170 engine. The new turborcharger is capable of preventing the temperature rise in the bearing section even in the condition as described above.

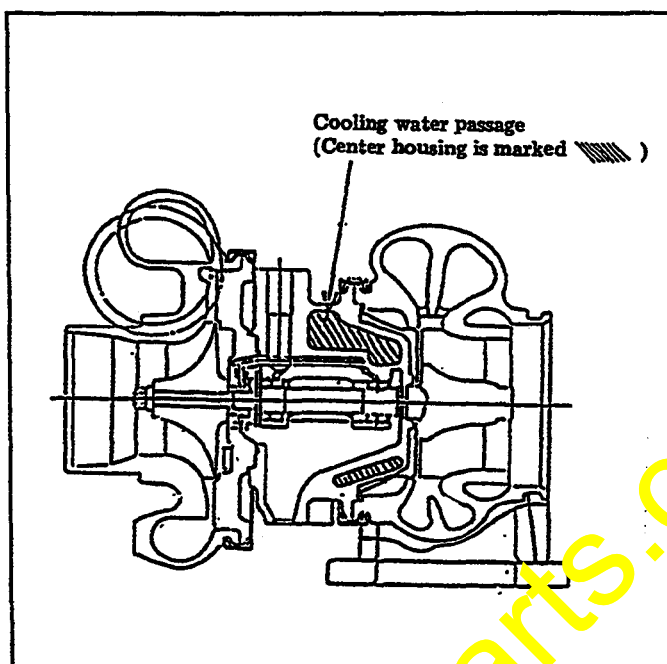
2. List of parts required:

Part No.	Part Name	Q'ty	Remarks
6162-84-8600	TURBOCHARGER	1	
6162-84-8700	TURBOCHARGER	1	
6162-63-8660	CONNECTOR	2	
6162-63-8670	CONNECTOR	1	
6162-63-8690	PLATE	1	
6162-63-8651	PLATE	4	
6162-53-8731	FLANGE	2	
6164-62-8540	GASKET	8	
6164-52-8620	GASKET	2	
02010-0632	BOLT	16	
02010-70644	BOLT	4	
01643-31032	WASHER	20	
6162-53-8760	HOSE	1	
6162-53-8770	TUBE	1	
6162-53-8780	TUBE	1	
6164-52-8290	GASKET	2	
02010-70638	BOLT	4	
01643-31032	WASHER	4	

Part No.	Part Name	Q'ty	Remarks
6162-13-5040	TUBE	1	
144-874-7470	SPACER	1	
6162-63-8680	CONNECTOR	1	
6162-63-8740	HOSE	1	
07206-31216	EYE BOLT	2	
07005-01612	GASKET	4	
07214-50813	CONNECTOR	2	
6162-54-8120	HOSE	1	
6151-53-8280	CLAMP	1	
01010-31045	BOLT	1	
01643-31032	WASHER	1	
07213-51217	CONNECTOR	1	
6162-63-8750	TUBE	1	
6162-63-8820	CLAMP	1	
6162-63-8860	PLATE	1	
01010-31025	BOLT	1	
01010-31020	BOLT	1	
01643-31032	WASHER	2	
6162-63-8870	PLATE	1	
6354-81-6930	SPACER	1	
6354-81-4490	SPACER	2	
6162-63-8820	CLAMP	4	
6128-11-4820	BOLT	1	
01010-30850	BOLT	2	
01010-31020	BOLT	1	
01643-30823	WASHER	3	
01643-31032	WASHER	1	
09483-40402	HOSE	1	
09483-60450	HOSE	2	
07281-00259	CLAMP	6	
6162-63-8780	ADAPTER	1	
417-823-1460	SPACER	1	
6162-63-8850	NIPPLE	1	
01011-31010	BOLT	1	
01011-31015	BOLT	1	
01643-31032	WASHER	2	
6151-11-4450	HOSE	2	
6151-11-4410	HOSE	2	
6162-14-5390	COVER	2	
02895-67075	O-RING	4	
6151-11-5710	GASKET	2	
6162-54-8860	HOSE	2	

} Wear part

3. Structure of water cooled type turbocharger



4. General notes on modification

- 1) For tightening torques of bolts and taper plugs use standard torques unless other specified.
(See SHOP MANUAL)
- 2) Symbols used in the figures (for modification in this NEWS)
 - The parts that need to be installed newly are marked □.
 - The wear parts that need to be replaced during work to modify are marked ★.
- 3) Apply seal tape or sealant to the oil or water taper threads.

5. Installing the water cooled turbocharger

5.1 Disassembling

- 1) Remove the engine coolant by referring to OPERATION MANUAL. (Amount of coolant to be removed: 200 lit. approximately.)
- 2) Disassemble the intake and exhaust tubes on the turbocharger system as shown in Figs. 1 and 2 (on pages 5 and 6).
- 3) Remove the turbocharger lubricating oil tube as shown in Fig. 4 (on page 7).
- 4) Remove the turbocharger as shown in Fig. 3 (on page 6).

5.2 Assembling

- 1) Assemble the cooling water tube as shown in Figs. 5 and 6 (on pages 8 and 9) then install the turbocharger. (To install the turbocharger, see Fig. 3)
- 2) Install the turbocharger lubricating oil tube as shown in Fig. 4 (on page 7).
- 3) Install the intake and exhaust tubes on the turbocharger system as shown in Figs. 1 and 2 (on pages 5 and 6).
- 4) Install the cooling water tube between the turbocharger outlet and thermostat cover as shown in Fig. 7 (on page 10).

5.3 After the assembling work has been completed, reinstall the engine coolant in the radiator.

5.4 Test Operation

- 1) Make checks before starting the machine by referring to OPERATION MANUAL.
- 2) Start the engine and run it at low idling to see that no oil, water, or air leaks from any section, especially from the sections modified in this **NEWS**.

The parts that need to be newly installed are marked □.
 The wear parts that need to be replaced during the work to modify are marked ☆.

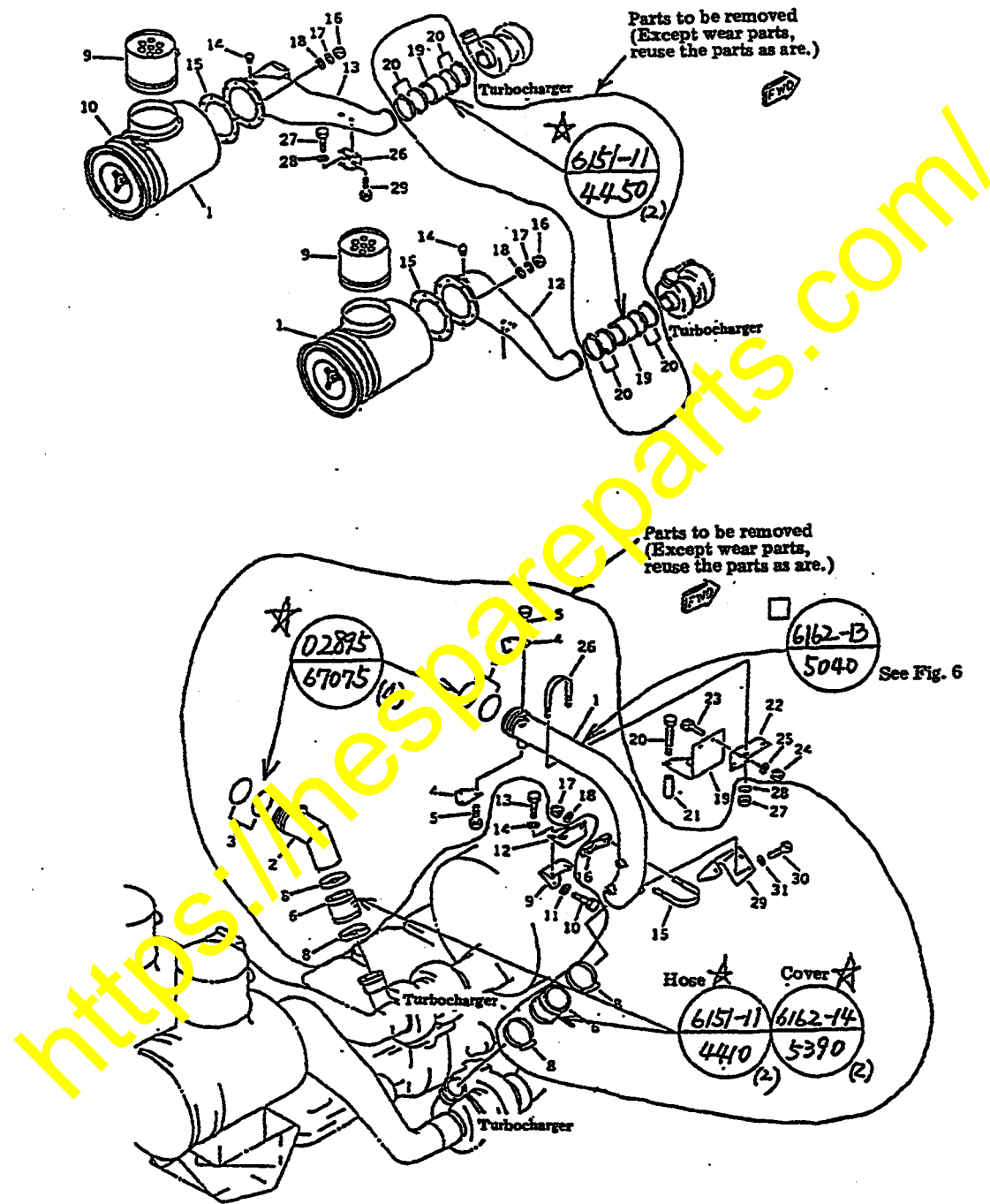


Fig. 1 Intake and exhaust tubes on turbocharger system (1 of 2)

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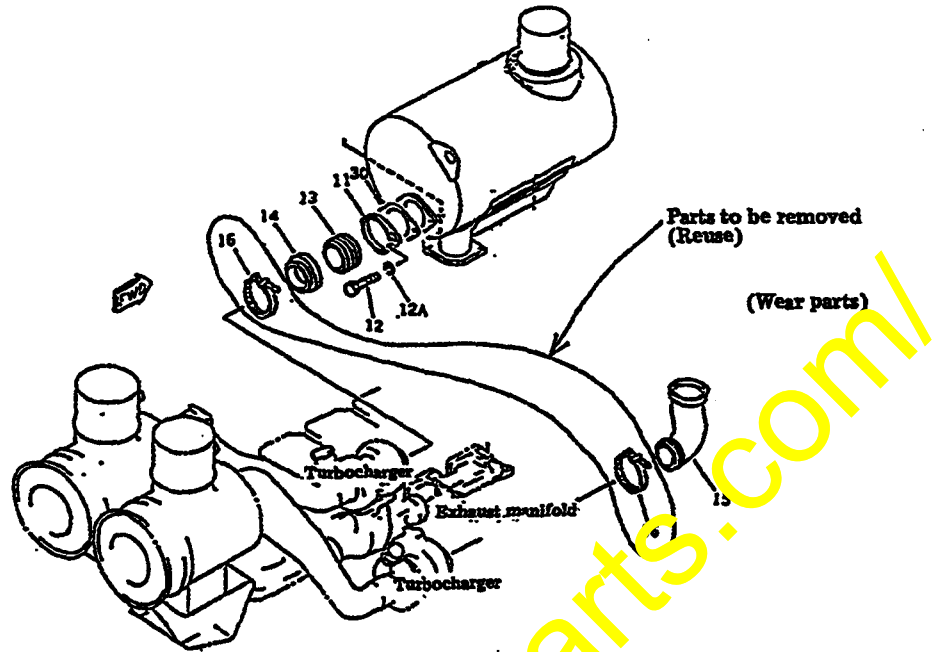


Fig. 2 Intake and exhaust tubes on turbocharger system (2 of 2)

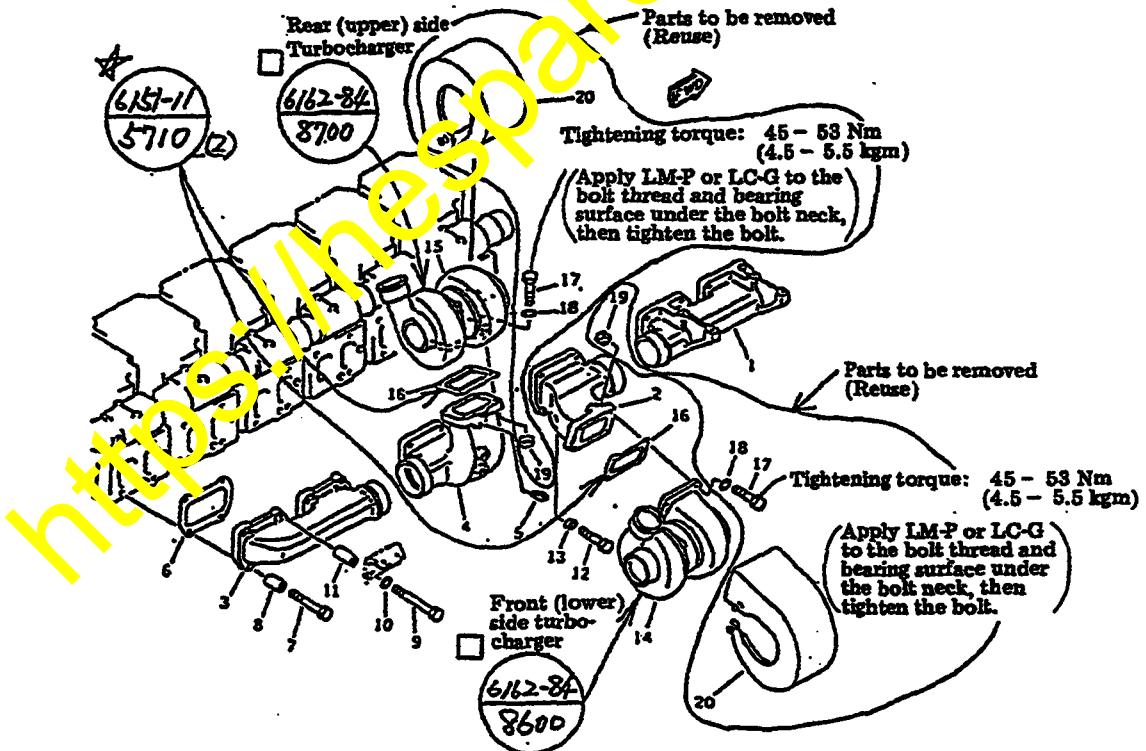


Fig. 3 Turbocharger mount system

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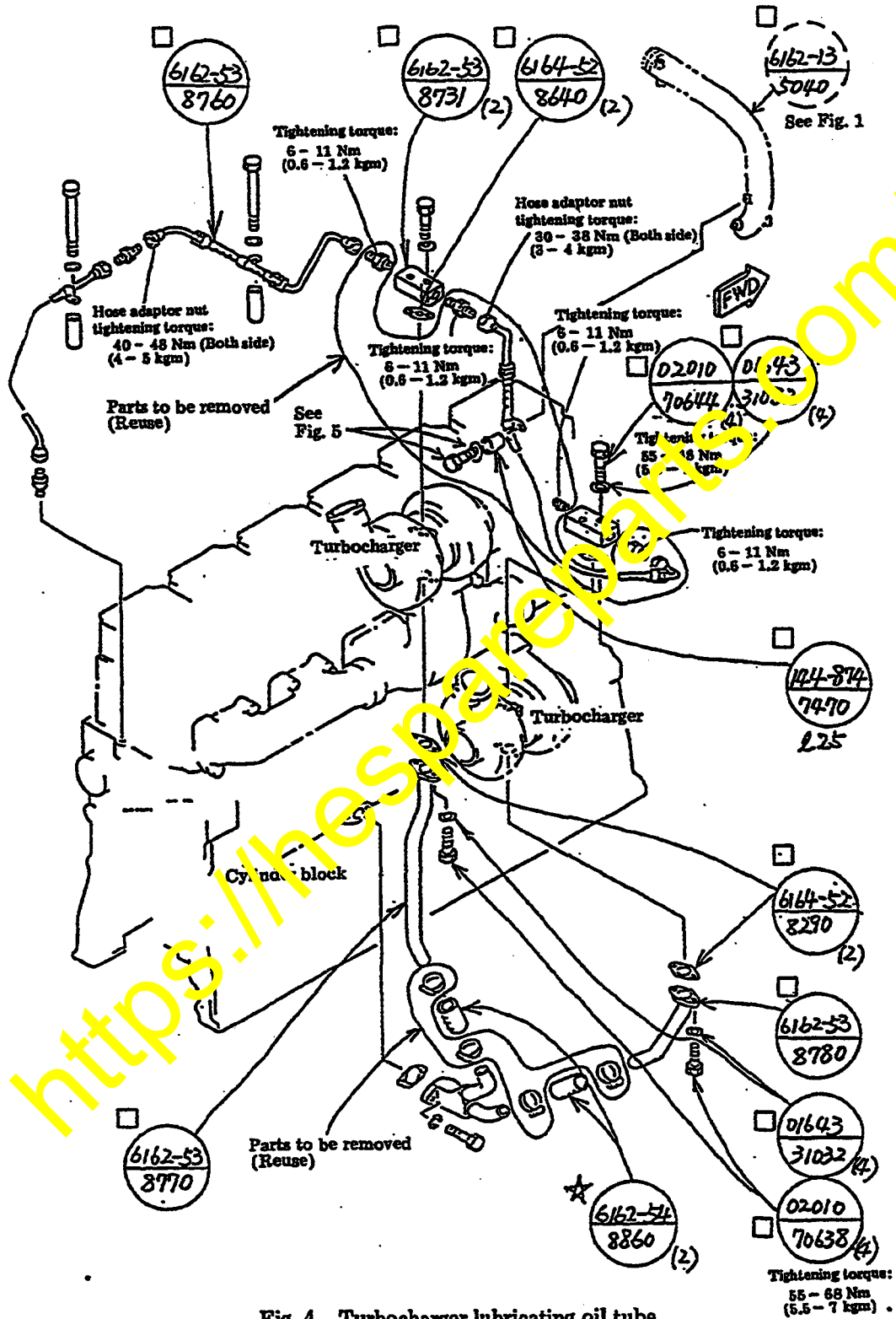


Fig. 4 Turbocharger lubricating oil tube

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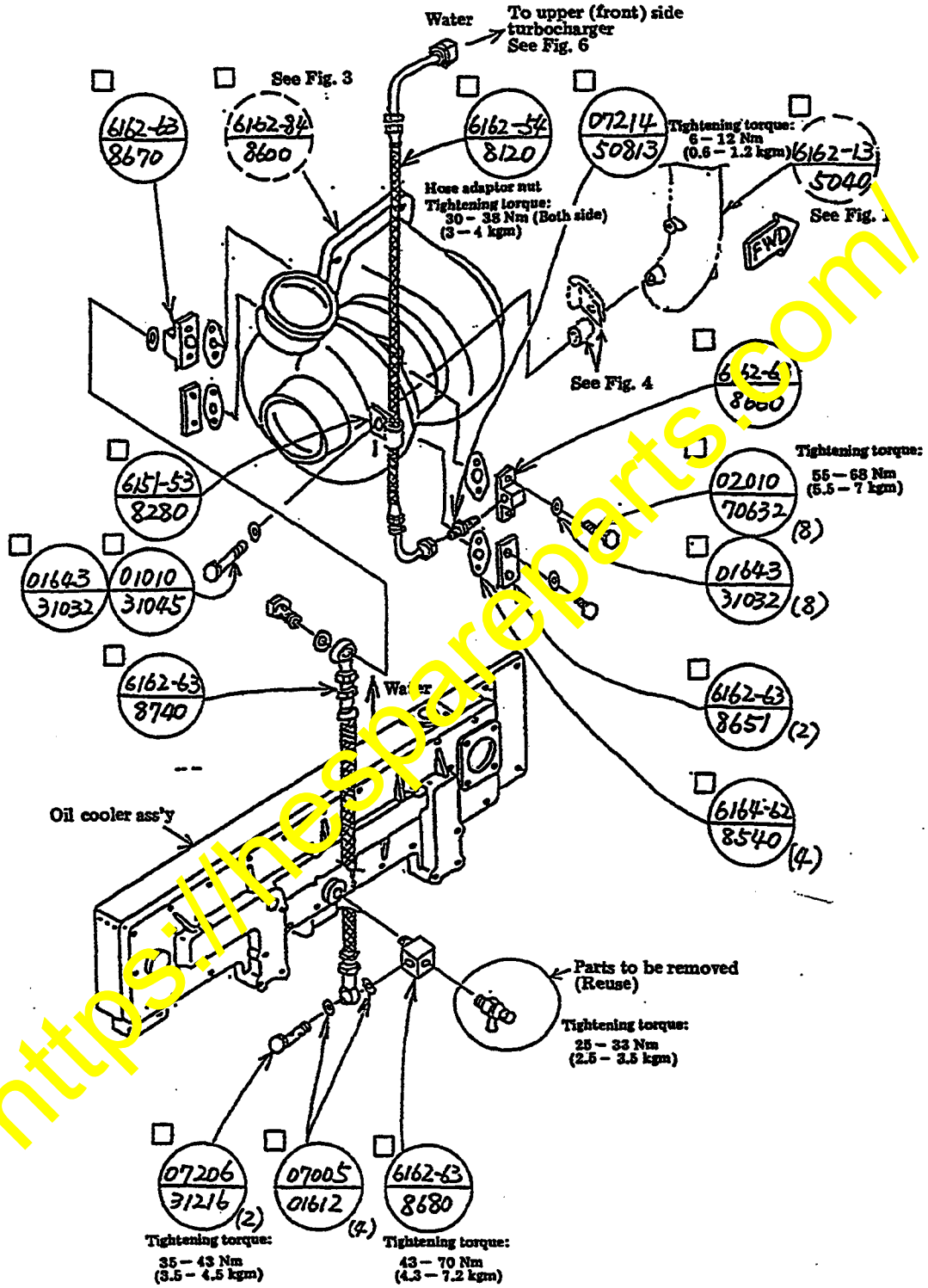


Fig. 5 Front (lower) side turbocharger cooling water tube

The parts that need to be newly installed are marked □.

The wear parts that need to be replaced during the work to modify are marked ☆.

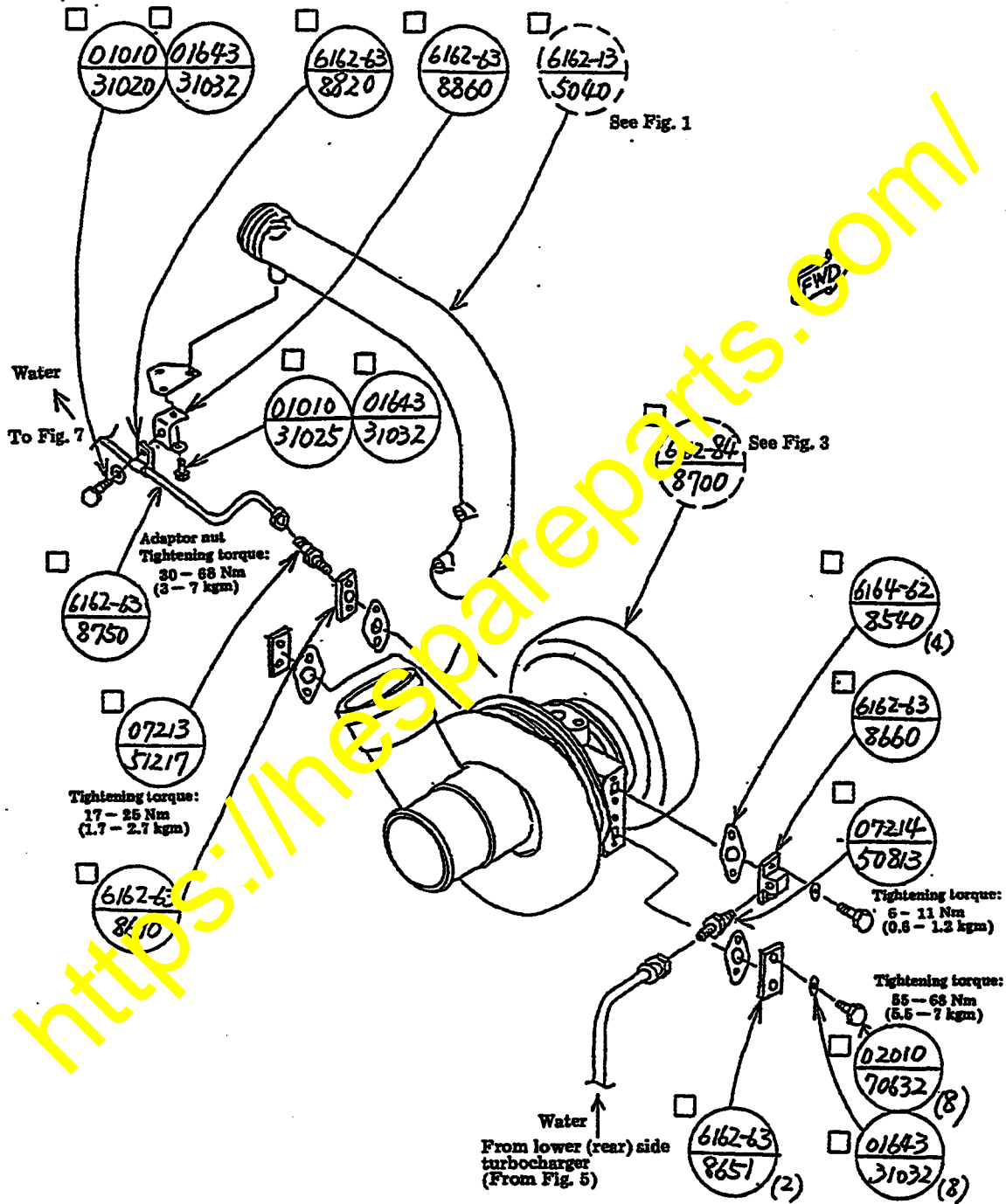


Fig. 6 Rear (upper) side turbocharger cooling water tube

The parts that need to be newly installed are marked □.

The wear parts that need to be replaced during the work to modify are marked ☆.

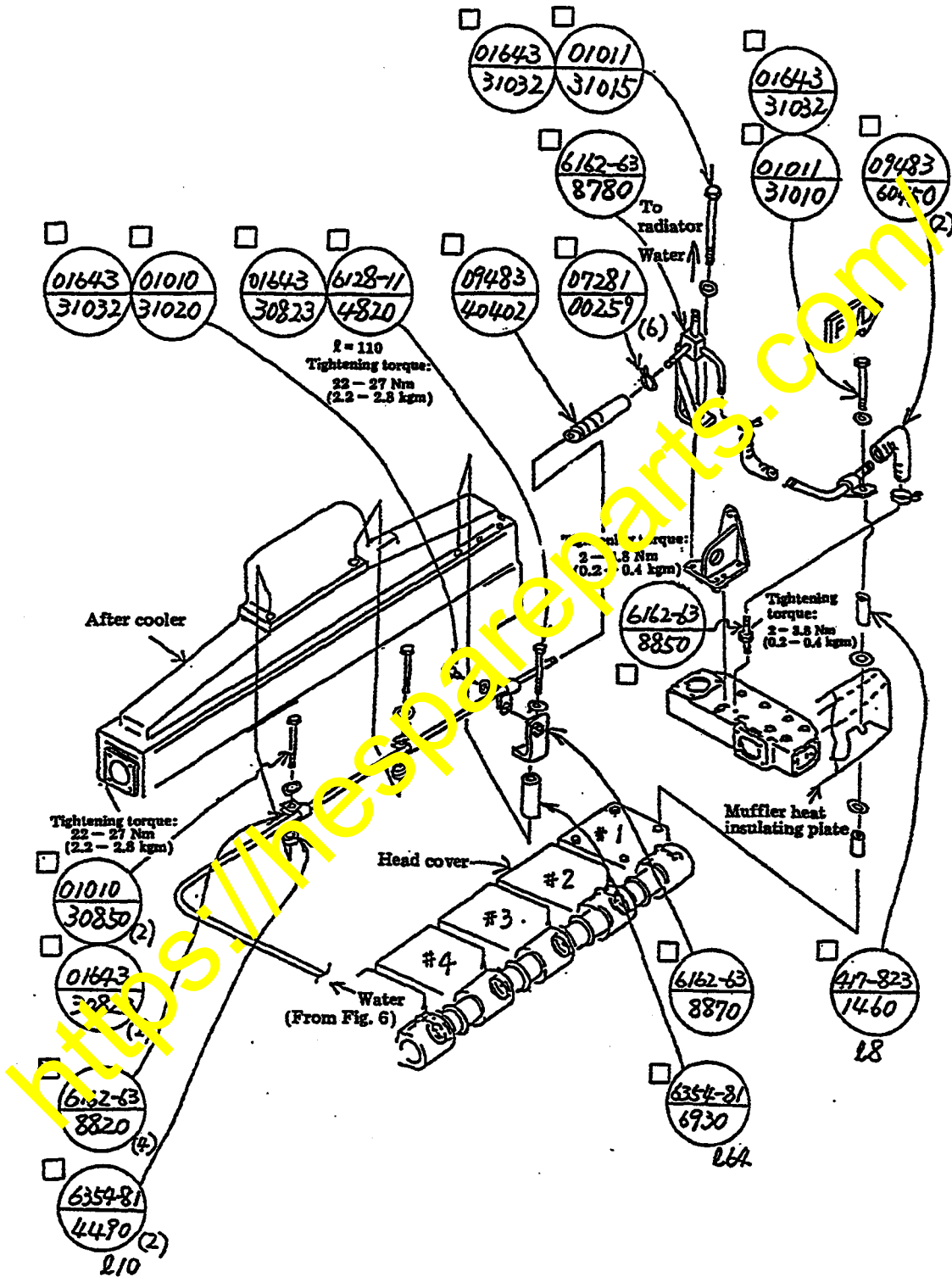


Fig. 7 Cooling water tube between upper (front) side turbocharger outlet and thermostat cover system