WT5-101E3

CRAWLER LOADER

TL26

WORKSHOP MANUAL

SERIAL NUMBER
TL26 : 2620002～

TAKEUCHI
TAKEUCHI MFG.CO.,LTD.

FOREWORD

This manual is intended for persons who engage in maintenance operations, and explains procedures for disassembly and reassembly of the machine, check and maintenance procedures, maintenance reference values, troubleshooting and outline specifications, etc. Please use this manual as a reference in service activities to improve maintenance techniques.
Further, please be adviced that items contained in this manual are subject to change without notice due to design modifications, etc.

MACHINE FRONT AND REAR, LEFT AND RIGHT

The end where the bucket is mounted is the front and the end with the travel motors is the rear. Also the right and left sides of the operator when he is seated in the driver's seat are the right and left sides of the machine.

MACHINE SERIAL NUMBER

The machine serial number is stamped on the identification plate. When sending reports and inquiries, and when ordering parts, etc., be sure to include this number.

MANUAL CONTROL

Information on those to whom this manual is distributed is recorded in the ledger in the section in charge at this company, so please decide on a person to be in charge of it and control it. When there are updates or additions, etc., we will notify the person in charge.



I . GENERAL



II . SPECIFICATIONS



III. MACHINE CONFIGURATION



IV. HYDRAULIC UNITS



V . TROUBLESHOOTING



IV. ENGINE

I . GENERAL

FOREWORD

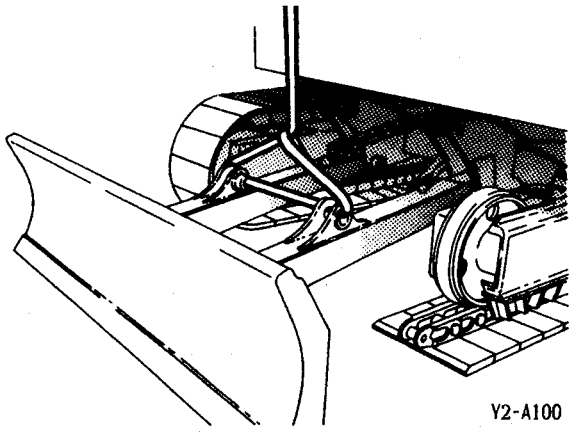
This section, GENERAL, summarizes the basic items which persons servicing the machine should be cautious about, and includes only those items which are essential for safe and correct operation. Please read this section thoroughly and apply it in maintenance operations.
Further, since the contents of this manual may change due to future revisions, if you have any opinions or observations concerning this manual, please notify the person responsible.

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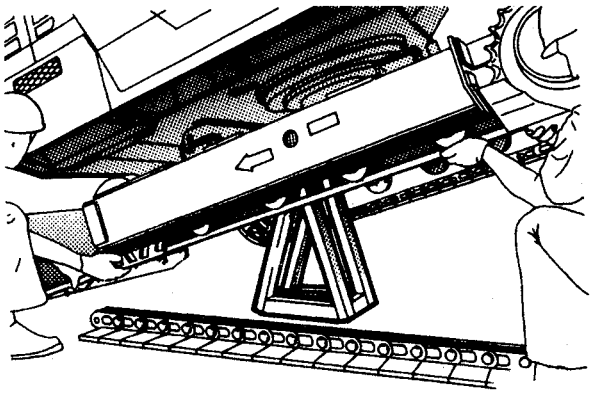
GENERAL CAUTIONS

1. Wear a helmet, safety shoes and work clothes.
2. Be sure to check equipment and tools, particularly equipment used for hoisting.
3. If more than one person is working together, decide the job and call sign and maintain good communications during operations.
4. Crane operation and hoisting should be done by persons with the proper qualifications.
5. Keep all persons from getting underneath a suspended load.
6. Before removing the installation bolts of heavy parts, support the parts by temporary hoisting a crane.



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7. If lifting a machine with a hoe attachment, etc. and going underneath it, be sure to supprt it with stands etc.



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8. When repairing the electrical system, disconnect the cables from the battery before beginning the operation.
9. When welding the machine, disconnect the battery first.
10. Maintain the standard tightening torques for piping and bolts, etc.
11. After completing repairs, run the engine at low speed, and conduct trial operation after filling it full with operating oil.

CAUTIONS DURING DISASSEMBLY AND ASSEMBLY

1. Clean the machine before disassembly operation.

2. Before disassembly, check the machine conditions and record them.
   - Model, Machine Serial Number, Hourmeter
   - Reason for Repairs, Repairs History
   - Dirtiness of Filters
   - Fuel and Oil Conditions
   - Damage to each parts, etc.

3. To make reassembly operations easy, make matching marks at the necessary points.

4. Clean all disassembled parts and new parts, then arrange them in the proper sequence.

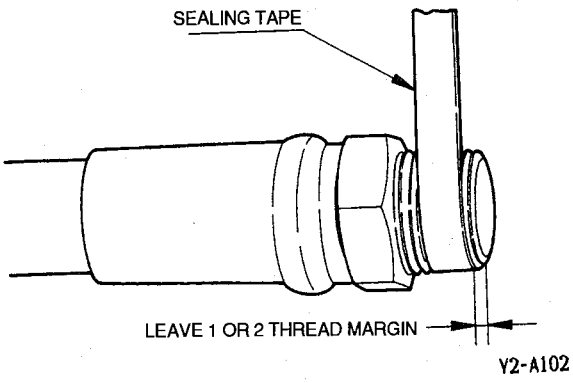
5. Be sure to replace all seals and cotter pins, etc. with new parts.

6. Keep parts which should not come in contact with oil and water separate from parts with oil on them.
   - Electrical Parts, Rubber, V-Belts, etc.

7. When installing bearings, bushings and oil seals, as a rule, use a press. When a hammer, etc. is used, it leaves bruises.

8. Wipe all joining surfaces clean so that there is no dirt or dust adhering to them.

9. Wrap seal tape from the front end, Wrapping it tight and leaving 1 or 2 threads bare, Overlap the tape by about 10mm.

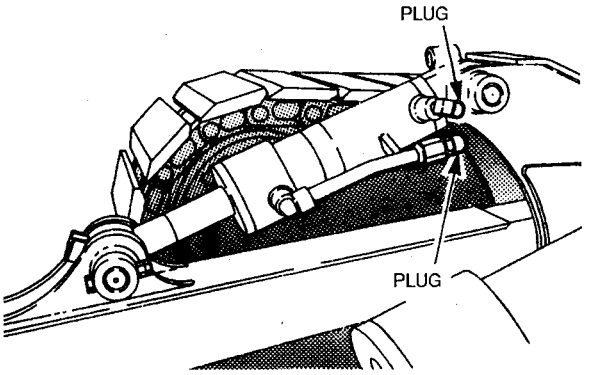


CAUTIONS DURING REMOVAL AND INSTALLATION OF THE HYDRAULIC UNITS

1. Make sure that the hydraulic oil's temperature has dropped.

2. To prevent a loss of flow of the hydraulic oil, the residual pressure in the piping should be bled out.

3. Be sure to install caps or plugs on all openings in the hydraulic unit to prevent dirt from getting into the unit throught the openings.



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4. It is easy to mistake hydraulic oil adhering to the hydraulic unit for an oil leak, so wipe the unit off thoroughly.

5. Be sure that no damage is done to the plating on the rod in the hydraulic cylinder.

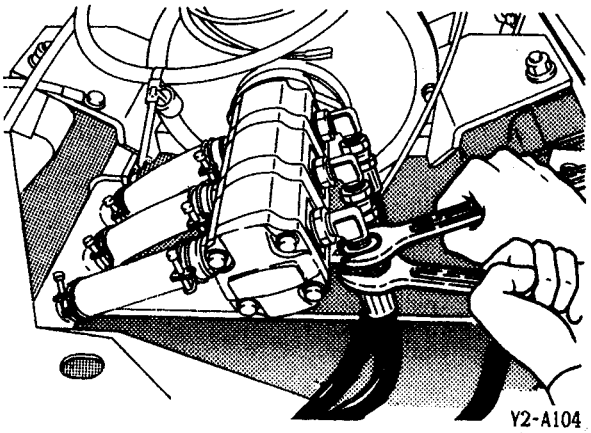
6. As a rule, removal and installation of the hydraulic cylinder should be done with the rod fully retracted.

7. When removing and installing the hydraulic cylinder, be sure to bleed out the air.
(See the item in "IV. Hydraulic Units, Cylinder".)

CAUTIONS DURING REMOVAL AND INSTALLATION OF PIPING

1. When hydraulic hoses are installed, tighten them once to the prescribed torque, then loosen them slightly and retighten them to the prescribed torque.
   - Tighten the fittings after the installation surfaces fit snugly together.
   - Pieces wrapped with seal tape are exlcuded.

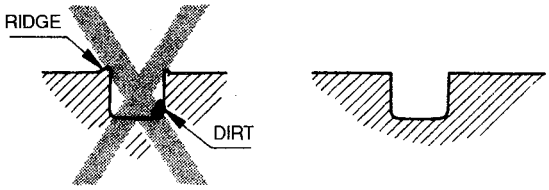
2. Use 2 spanners, each on an opposit side, to remove and tighten fittings so that the hoses or steel pipes are not twisted.



3. After installation of hydraulic hoses or steel pipes, apply the maximum working pressure 5 or 6 times and confirm that there is no leakage.

HANDLING OF SEALS

1. Clean the grooves for O-rings and if there is any ridge, etc, remove it.



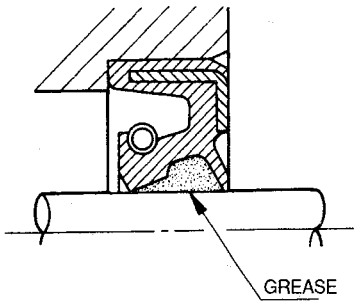
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2. Be careful not to twist O-rings. If an O-ring is twisted, remove the twist with the fingertips.

3. During insertion, be careful not to damage the seal.

4. Handling of Floating Seals
   - Wipe all oil off the O-ring and housing of the floating seal.
   - When assembling, apply a thin coating of gear oil to the contact surface of the housing.
   - After assembly, turn the seal 2 or 3 times to get it to fit snugly.

5. Apply grease to the lip of the oil seal.
   - This is to prevent wear when it is first started up after assembly.

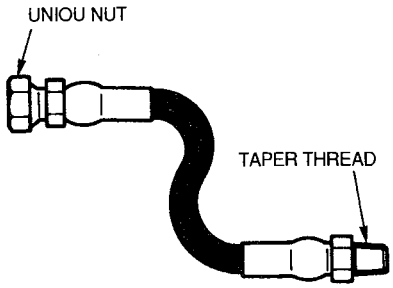


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TIGHTENING TORQUES

Hydraulic Hoses

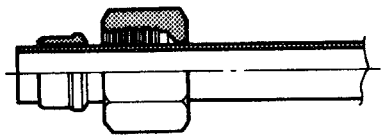
Hose Fitting Size	Torque			
	Union Nut (PF)		Taper Thread (PT)	
	kgf·m	ft-lb	kgf·m	ft-lb
1/8	$1.0^{+0.5}_{0}$	$7.3^{+3.5}_{0}$	1.2±0.12	8.7±0.8
1/4	$2.5^{+0.5}_{0}$	$18.1^{+3.5}_{0}$	3.0±0.30	21.7±2.1
3/8	$5.0^{+0.5}_{0}$	$36.2^{+3.5}_{0}$	5.5±0.55	39.8±3.9
1/2	$6.0^{+0.5}_{0}$	$43.4^{+3.5}_{0}$	9.0±0.90	65.1±6.4
3/4	$12.0^{+0.5}_{0}$	$86.8^{+3.5}_{0}$	15.0±1.50	108.5±10.7
1	$14.0^{+0.5}_{0}$	$101.3^{+3.5}_{0}$	20.0±2.00	144.7±14.3



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Bite Type Pipe Fitting for Steel Pipe

Pipe Outer Diameter (mm)	Torque	
	kgf·m	ft-lb
8	3.5±0.5	25.3±3.5
10	4.25±0.25	30.7±1.7
12	6.0±0.5	43.4±3.5
15	9.0±0.5	65.1±3.5
16	9.5±0.5	68.7±3.5
18	13.5±0.5	97.6±3.5
22	21.0±1.0	151.8±7.2
27.2	25.0±1.0	181.0±7.2
28	32.0±2.0	231.4±14.3
32	32.0±2.0	231.4±14.3
35	42.0±2.0	303.7±14.3



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