

SPECIFICATIONS - WHEEL LOADER LW170**IDENTIFICATION** - 2675.150.00.1**MARKING:** IW170

Oil pump flow rate (at 2300 rpm)
..... Front 99.6 lt/min.
..... Rear 32.6 lt/min.
Main pressure on the control valve 21 - 24 bar

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NG
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PREVIEW -

Fig. 3-2 HYDRAULIC BRAKING CIRCUIT SCHEMATIC



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Clutch engagement oil pressure: 21 - 24 bar (299 - 342 psi)
Opening pressure of safety valve: 7.2 bar (102 psi)

daNm Value of tightening torque

 Pressure test point

Note:

-  1 Threaded part : LOCTITE 572
-  2 Outer diameter: LOCTITE 572
-  3 Energising table of transmission control valve solenoid valves
 - = ENERGISED

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NUTS (ZNT)	SCREWS (ZNT/DEIDR)
Strength grade: 10 (R80)	Strength grade: 10.9 (R100)

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3.7 PARKING BRAKE

Parking brake manual disengagement (in case of emergency)



WARNING

If it is not possible to release the parking brake by means of the control knob following pump failure or for any other reason, disengage it manually through the parking brake release screw.



WARNING

Disengage the parking brake manually only if it is absolutely necessary. Namely, this should be done only when towing a failed loader to traffic-free areas. If the loader is on an incline, check that the wheels are securely blocked with wedges or stones prior to releasing the parking brake.

3.7.1 MANUAL RELEASE PROCEDURE

1. Remove the manual release bolt and nut (1) from the parking brake cover on the transmission housing.
2. Remove the plug (2) from the middle of the cover.
3. Insert the bolt (1) into the plug hole and screw it into the threaded hole at the centre of the brake piston (3), as shown in Fig. 3-10.
4. Screw the release bolt fully in to retract the brake piston (3) and release the brake disc.

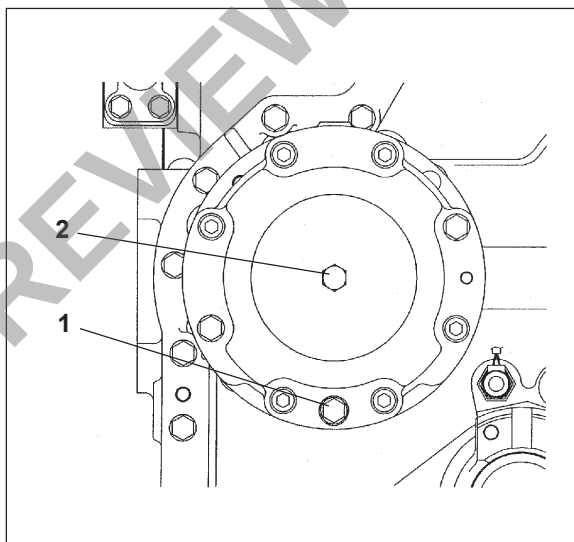


Fig. 3-10

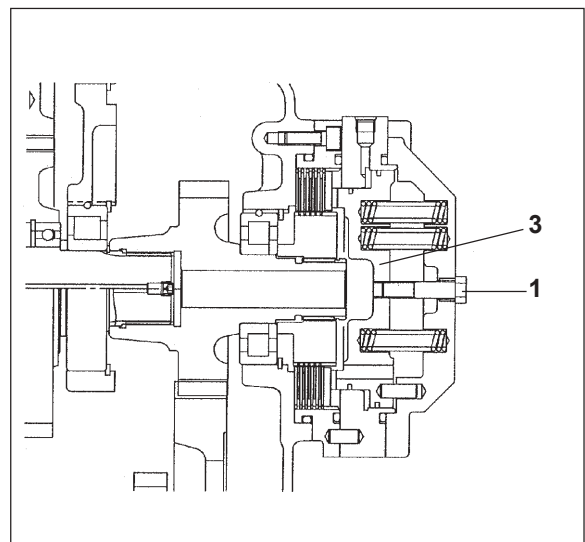


Fig. 3-11

Carefully read personal and machine SAFETY PRECAUTIONS (at the beginning of this manual)

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SAFETY PRECAUTION INFORMATION

UNSAFE OPERATING PRACTICES AND IMPROPER USE OF THE MACHINE AND ITS ATTACHMENTS ON THE PART OF THE OPERATOR OR SERVICE TECHNICIAN CAN RESULT IN INJURIES. OBSERVE THE FOLLOWING SAFETY PRECAUTIONS AT ALL TIMES:

- 1. FOR SERVICING, THE MACHINE SHOULD BE ON LEVEL TERRAIN, ENGINE STOPPED WITH THE WHEELS BLOCKED OR THE ENTIRE MACHINE SOLIDLY SUPPORTED WITH THE WHEELS OFF THE GROUND BEFORE SERVICING ANY COMPONENT OF THE DRIVETRAIN.**
- 2. FOR SERVICING UNDER THE MOVABLE EQUIPMENT, SUCH AS OPERATOR'S SEAT, ENGINE HOODS, ETC. MOVE THE EQUIPMENT ASSEMBLY TO THE LATCHED POSITION AND SECURELY LATCH.**
- 3. DO NOT OPERATE THE MACHINE UNLESS ALL MOVABLE EQUIPMENT IS LATCHED IN THE OPERATE POSITION.**
- 4. DO NOT SERVICE THE MACHINE WITH A RAISED HYDRAULIC EQUIPMENT UNLESS THE HYDRAULIC EQUIPMENT IS RESTING ON LOCK PINS OR CYLINDER LOCKING TOOLS OR FIXTURES.**
- 5. DO NOT SERVICE THE MACHINE WITH THE ENGINE RUNNING UNLESS THE MACHINE IS PROPERLY AND SECURELY SUPPORTED WITH ALL FOUR WHEELS OFF THE GROUND.**
- 6. USE CAUTION WHEN SERVICING THE UNIT AROUND MOVING PARTS.**
- 7. DO NOT TILT ANY MOVABLE EQUIPMENT WITHOUT PROPER INSTRUCTION.**
- 8. DO NOT TILT ANY MOVABLE EQUIPMENT WITHOUT USING THE PROPER TOOLS.**
- 9. REINSTALL ALL SHIELDS REMOVED FOR SERVICE.**
- 10. NEVER LOOSEN ANY HYDRAULIC CONNECTIONS BEFORE RELIEVING THE PRESSURE IN THE HYDRAULIC SYSTEM.**
- 11. WEAR EYE PROTECTION SUCH AS GOGGLES, ETC.**
- 12. WEAR EAR PROTECTION SUCH AS EARPLUGS, ETC. WHEN YOU FEEL THE NOISE LEVEL IS UNCOMFORTABLE.**
- 13. IF ANY SERVICING OR ADJUSTMENTS REQUIRE THE BATTERY TO BE DISCONNECTED, DISCONNECT THE (-) NEGATIVE GROUND CABLE.**
- 14. WHEN SERVICING ELECTRICAL COMPONENTS, DISCONNECT THE (-) NEGATIVE GROUND CABLE.**
- 15. IF AN ELECTRONIC EQUIPMENT REQUIRES REMOVAL FROM THE DASH AREA OR THE MACHINE, DISCONNECT THE (-) NEGATIVE GROUND BATTERY CABLE. THIS WILL SHUT OFF POWER TO THE ELECTRICAL SYSTEM AND PREVENT DAMAGE TO THE ELECTRICAL SYSTEM.**
- 16. IF WELDING IS REQUIRED ON THE MACHINE, DISCONNECT THE (-) NEGATIVE GROUND CABLE. FAILURE TO DISCONNECT THE BATTERY MAY RESULT IN DAMAGE TO THE ELECTRICAL SYSTEM, MONITORING SYSTEM AND/OR OTHER ELECTRICAL COMPONENTS.**
- 17. IF WELDING IS REQUIRED ON AN ATTACHMENT, REMOVE THE ATTACHMENT FROM THE MACHINE.**

TO THE OWNER:

The warranty coverage that is extended to your machine is explained in the Warranty and Limitation of Liability form. Your dealer will provide you with a copy of the warranty and retain a copy which you have signed. After you read the warranty, ask your dealer to explain any points that you may not understand.

The machine was designed to power and propel itself. It is intended to move material in the normal and customary applications.

Do not modify or alter or permit anyone else to modify or alter this machine or any of its components mechanical function with first consulting an authorized New Holland Construction dealer. If you have any questions regarding machine modifications, contact New Holland Construction, 245 E. North Ave., Carol Stream, IL 60188.

Your safety and the safety of those around you depend upon the care and good judgment you use while operating this equipment. Read the safety precautions carefully.

After you have operated the machine for 50 hours, take your machine and this manual to your selling dealer. He will perform the factory recommended 50-hour service. You will be responsible for the cost of lubricants, fluids, filters and other items replaced as part of normal maintenance. Prior to taking the machine to your selling dealer for service, it is recommended that you contact them to determine any other charges for which you may be responsible.

All data given in this book is subject to product variations. Dimensions and weights are approximate only and the illustrations do not necessarily show machines in standard condition. For exact information about any particular machine, please consult your New Holland Construction dealer.



CAUTION: THIS SYMBOL IS USED THROUGHOUT THIS BOOK WHENEVER PERSONAL SAFETY IS INVOLVED. TAKE TIME TO READ AND FOLLOW THE INSTRUCTIONS. BE CAREFUL!

CAUTION: PICTURES IN THIS MANUAL MAY SHOW PROTECTIVE SHIELDING OPEN OR REMOVED TO BETTER ILLUSTRATE A PARTICULAR FEATURE OR ADJUSTMENT.

BE CERTAIN, HOWEVER, TO CLOSE OR REPLACE ALL SHIELDING BEFORE OPERATING THE MACHINE.

IMPROVEMENTS

New Holland Construction is continually striving to improve its products. We reserve the right to make improvements or changes when it becomes practical and possible to do so, without incurring any obligation to make changes or additions to the equipment sold previously.

In graph of fig. 2.21, it is possible to note how the pressure changes with and without accumulator. The engagement time of 1st speed t_2 is distinctly lower than time t_1 without accumulator. This translates into an almost constant availability of the power during gearshifting, preventing unwanted backing of the machine, under the operating conditions described above.

The accumulator operates, also, in the same manner during normal gearshifting (from 2nd to 1st, from 2nd to 3rd).

Operation

1. When the 2nd gear is engaged, pressurised oil flowing out the control valve flows through the check valve, to the 2nd speed clutch pack and into the accumulator.
2. When from the 2nd gear the operator shifts to another speed, pressurised oil is discharged through an orifice, so that the oil pressure in the 2nd speed clutch decreases gradually.

2nd SPEED CLUTCH ACCUMULATOR (LW190)

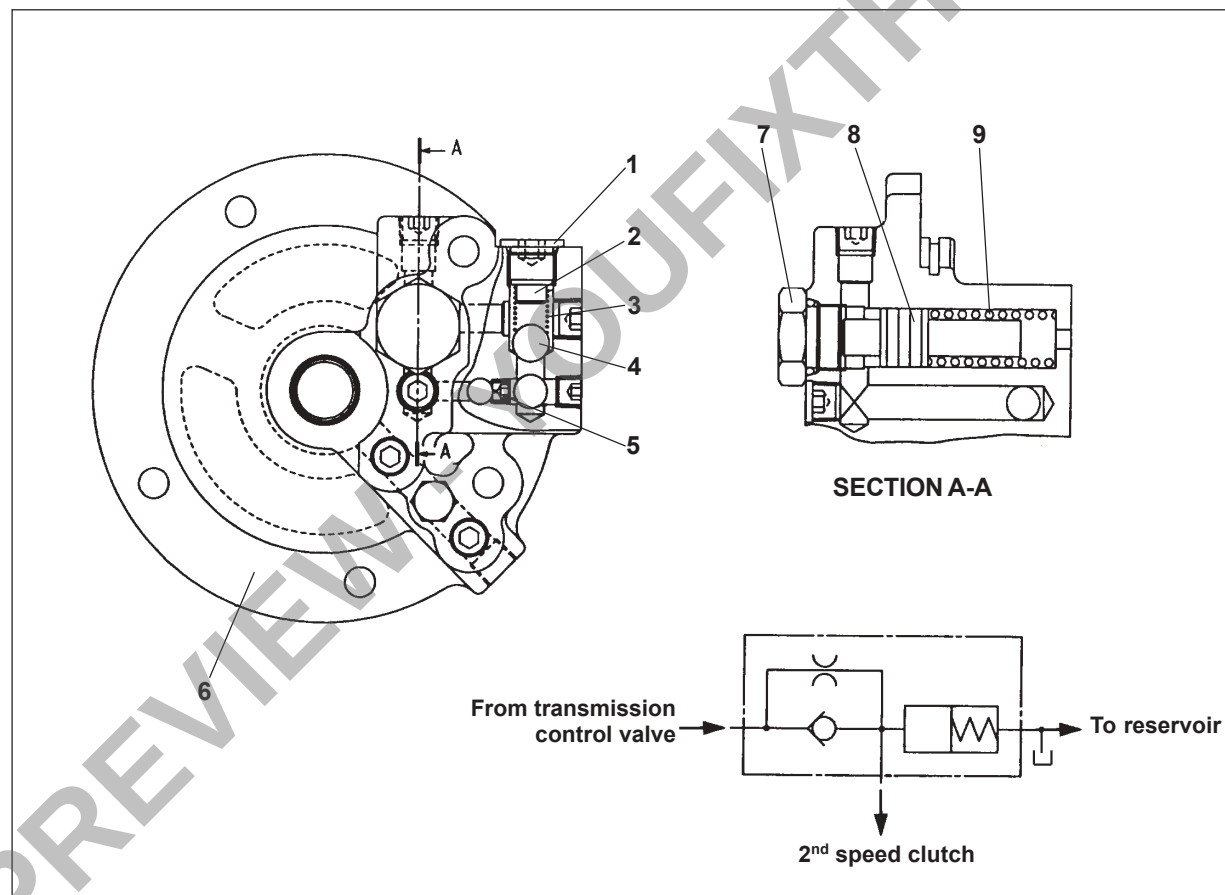


Fig. 2-22 1st - 2nd speed oil accumulator (LW190)

- | | | | |
|----|---------------------------|----|----------------|
| 1. | PLUG | 6. | ACCUMUL. COVER |
| 2. | ADAPTER | 7. | PLUG |
| 3. | SPRING | 8. | SPOOL |
| 4. | BALL | 9. | SPRING |
| 5. | 1.0 mm (0.039 in) ORIFICE | | |

4.1 GENERAL DESCRIPTION

Type: follower
 Mechanism: linkage chain
 Articulation angle of frames: 40° rightward and leftward
 Number of turns of steering wheel: 4.2
 Steering reduction unit: worm and balls
 Pressure setting: 206 bar (2980 psi)
 Flow setting: 75 lt/min (19.8 gpm)
 Steering pump: See "4.4 PUMP"
 Steering cylinder:
 Type: double acting piston
 Qty.: 2
 Cylinder stroke: 422 mm (16.6 in)
 Weight (per piece): 31 kg (68 lbs)

The loader is of the articulated frames type. The steering system uses two hydraulic cylinders controlled by a control valve, to which the steering wheel is connected through a set of rods, links and levers. The steering force is applied between the front and rear modules by a couple of cylinders powered by the steering valve.

The complete system includes:

- two gear pumps, one of which is used in case of

emergency;

- a steering valve with priority valve;
- two hydraulic cylinders;
- connecting pipes;
- steering box/steering column;
- steering wheel.

Also, the emergency steering circuit, besides the pump, includes a multiple check valve and a diverter valve.

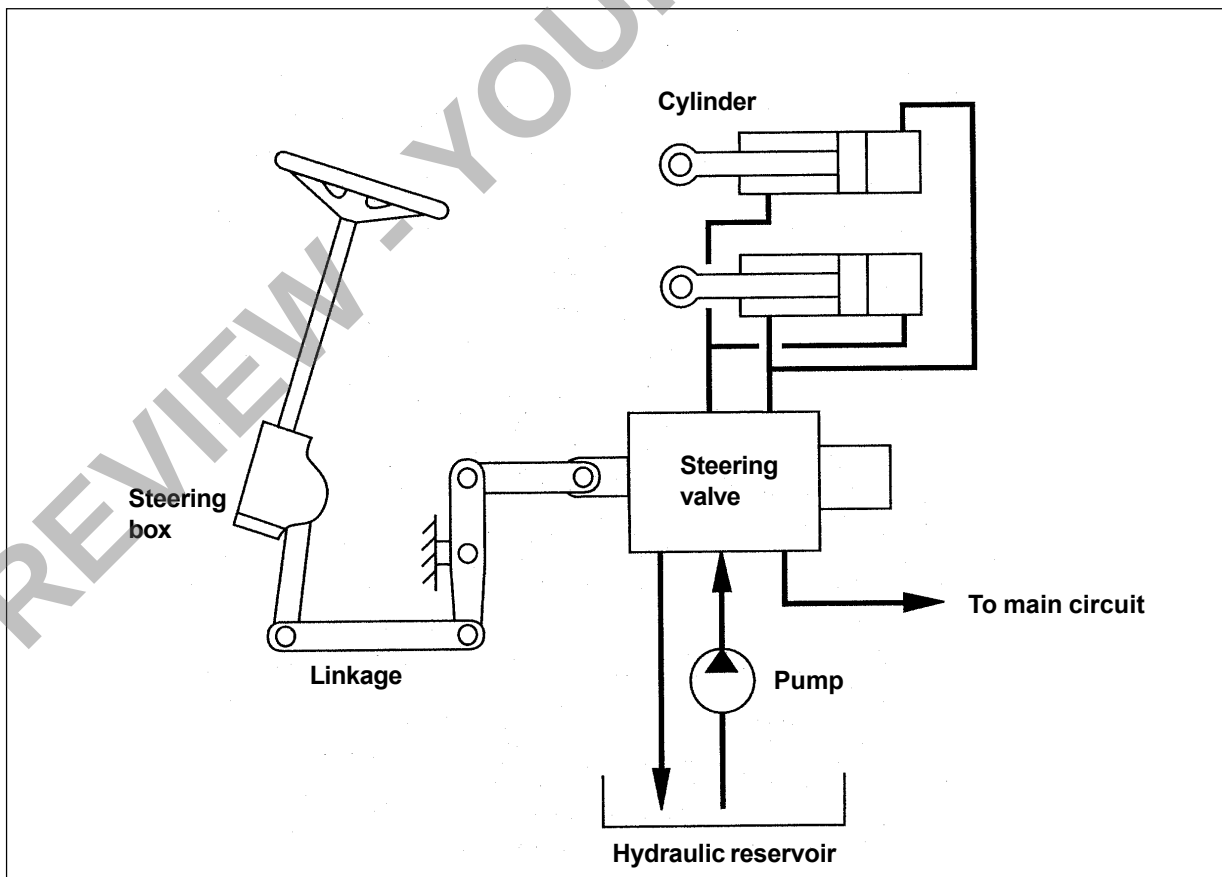


Fig. 4-1 Chained leverage steering system

6.7.6 INSTRUCTIONS FOR THE RESETTING OF ACCUMULATOR PRECHARGE

With tool applied to the accumulator connection proceed as explained below:

- Remove the cap and install the hose of the nitrogen bottle equipped with pressure reduction valve (V).



WARNING - DANGER

To recharge accumulators use nitrogen only. Never and for no reasons use oxygen or other gases, since there is a great risk of explosions.

- With valve (D2) closed, open slowly the valve of the nitrogen bottle and check the filling pressure increment on the pressure gauge (M).

Important - The filling pressure must be at least 10% higher than the nominal value, considering that the pressure in the accumulator decreases when the compressed gas cools.

- Close the valve of the nitrogen bottle. Wait for about five minutes.

- Check on pressure gauge (M) that the filling pressure is 18 bar. If it is lower, repeat the operation.

If the pressure is higher, proceed as follows:

- Rotate slowly handle (D2) so as to make the nitrogen flow and re-close it.

- Check on pressure gauge (M) that the pressure is at the desired value, otherwise repeat the operation.

- Move handle (D1) so as to tighten screw (2) on the accumulator.

- Remove the filling rig.

- Tighten screw (2) to a torque of 1.1 daNm.

- Check that the accumulator is not leaking, using soapy water.

- Retighten the protective cap of the accumulator.

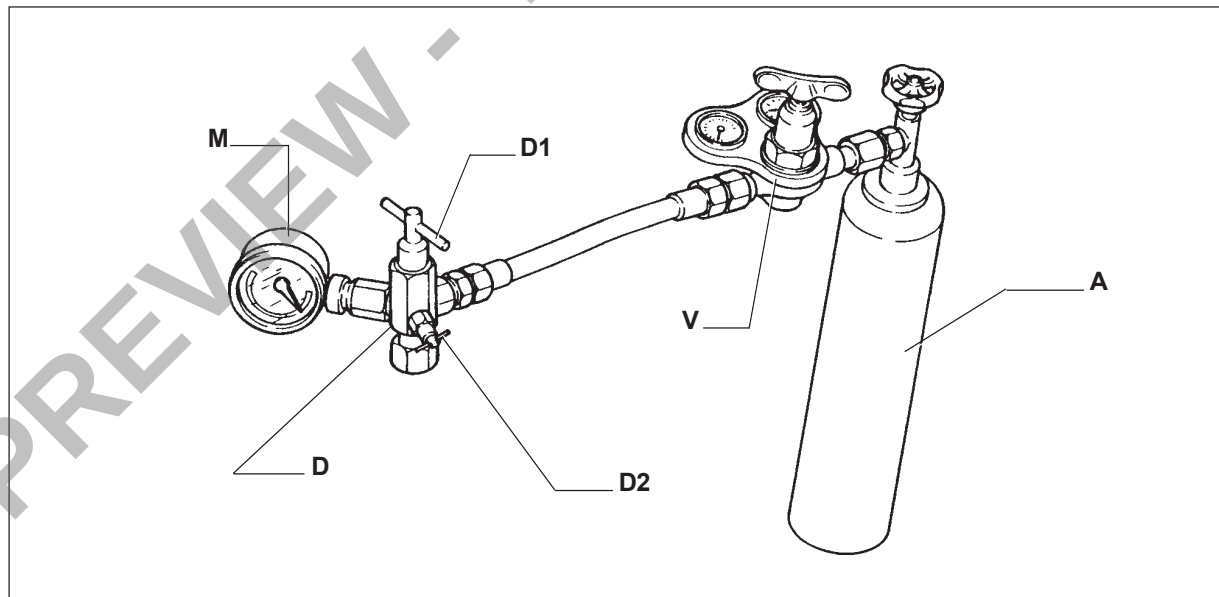


Fig. 6-35

A. Nitrogen bottle - D. Tool - D1. Handle - D2. Discharge valve- M. Pressure gauge.

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