WHEEL LOADER

SERVICE MANUAL

HL930I (India)

HYUNDAI

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II. Pictures and Parameters of Whole Machine

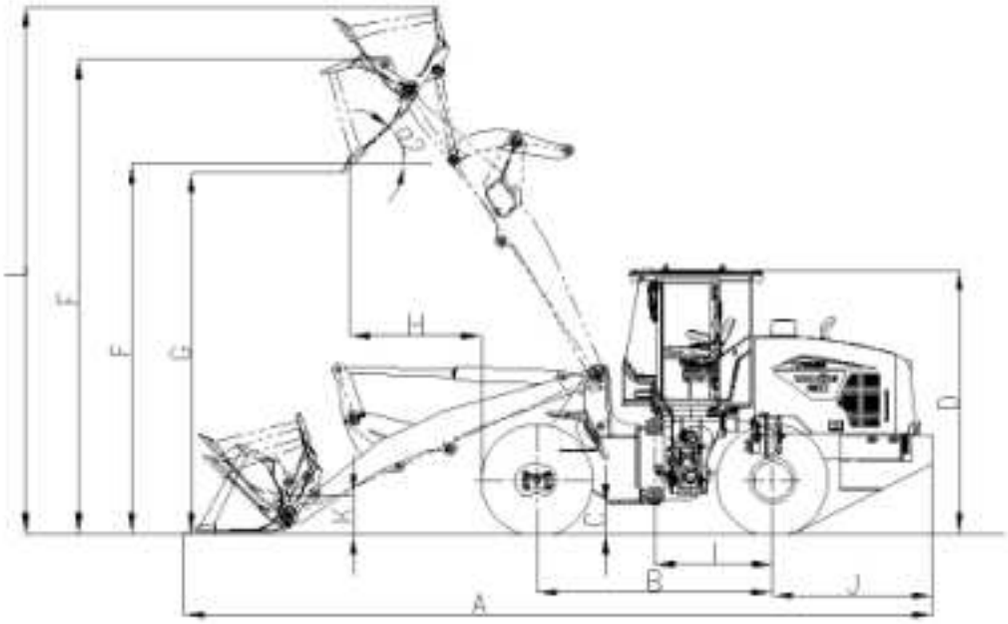


Fig. 2-01-01

Overall dimensions:

Code	Description	Dimension
A	Length of whole machine	7450mm
B	Wheel base	2850mm
C	Minimum ground clearance	355 mm
D	Maximum total height of main engine	3180mm
E	Height of pin shaft at maximum lifting	4040mm
F	Unloading height	3250mm
G	Distance from bucket teeth to the ground during unloading	3105mm
H	Rear dump distance	1000mm
I	Spacing between rear axle and articulated point	1425mm
J	Rear overhang length	1940mm
K	Height of transport position	400mm
L	Overall height at maximum lifting	5060mm
a2	Unloading angle	45°

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V. Main Components

Section 1 A/C System

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5.1.1 Main Composition and Parameters

5.1.2 Principle and Schematic Diagram of Cooling and Heating

5.1.3 Electrical Schematic Diagram

5.1.4 Installation Guidelines and Precautions

5.1.5 Maintenance Guidelines and Precautions

5.1.6 Analysis and Troubleshooting of Common Faults

5.1.7 Fault Detection Method

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5.7.4 Faults and Troubleshooting

(I) Insufficient driving force

Fault characteristics: The loader has normal pressure response in all gears, with sudden weakness during operation, but it runs normally on the road.

Possible cause: The axle shaft of the front or rear axle is twisted off, resulting in insufficient driving force.

Inspection steps or handling methods:

1. Remove the rear drive shaft first, and then start the engine and engage the first gear. If it cannot run, the front axle shaft is twisted off.

2. If it can still run after the rear drive shaft is removed, install the rear drive shaft and remove the front drive shaft. At this point, if the loader cannot run, the rear axle shaft is twisted off.

3. Alternatively, directly remove the front and rear axle wheel-hub end covers to check whether the axle shaft is twisted off.

Note: If the axle shaft is twisted off, clean the inside of the drive axle before replacing it.

(II) Abnormal noise from wheel hub during driving

Fault characteristics: When driving, the tires swing significantly from side to side,

and in severe cases, the loader shakes and even cannot travel.

Possible causes:

1. Excessive clearance or burn of wheel-hub bearing.

2. The wheel-hub gear has broken teeth.

3. The wheel-hub round nut is loose.

Inspection steps or handling methods: Disassemble the wheel hub for inspection and repair.

(III) Abnormal noise from main drive

Fault characteristics: The noise is more obvious when the machine runs in a straight line at high speed during deceleration.

Possible causes: loose bearing; excessive clearance or irregular meshing between driving gear and driven gear.

Inspection steps or handling methods:

1. Remove the drive shaft, grasp the input flange of the main drive with both hands, push and pull it up and down to see whether it swings obviously, or push and pull it in and out to check whether

there is obvious travel, so as to determine the noise is from the front or rear main drive.

2. Remove the main drive and check the bearing clearance on the driving spiral bevel gear, as well as the clearance between the support bearings of the left and right housing journals.

3. Check the meshing surface and clearance between driving spiral bevel gear and driven spiral bevel gear.

4. Disassemble the differential and check the bevel gear clearance.

Note: The installation must be carried out in strict accordance with the drive axle requirements corresponding to each model.

(IV) Abnormal noise when the loader turns

Fault characteristics: The noise is more obvious when turning, and the steering is hard.

Possible cause: The differential is damaged.

Inspection steps or handling methods: Remove the main drive and disassemble it for repair.

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5.9.3 Removal and Installation

The specific details of transmission removal and installation are as follows:

(I) Position of transmission on the product

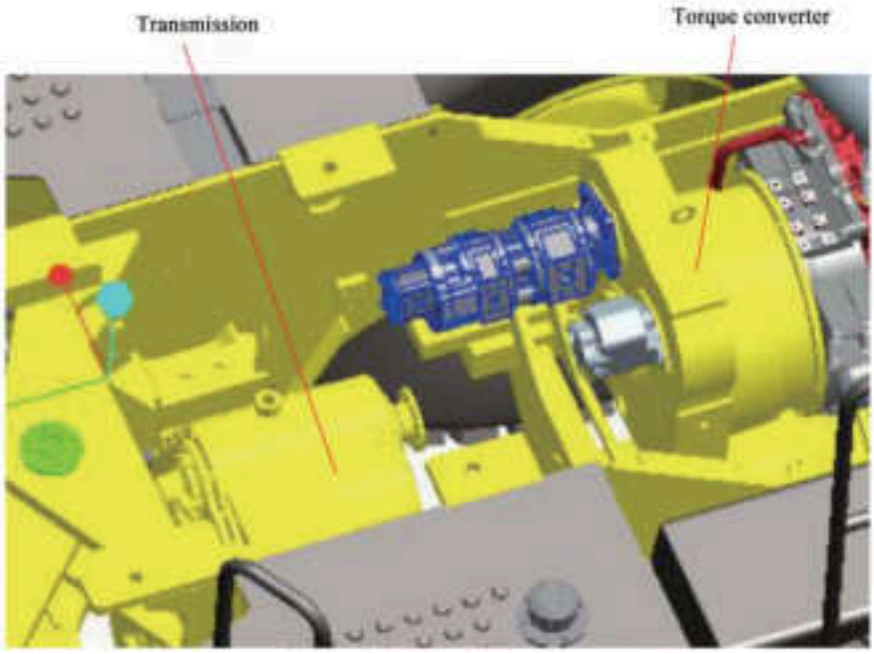


Fig. 5-09-05

The torque converter assembly and transmission assembly are connected through the upper drive shaft, and the front and rear output flanges of the transmission are connected with the front and rear drive axles through the drive shaft; the torque converter is connected to the diesel engine by internal hinge and external hinge.

(II) Disassembly steps

1. Remove the cab according to the following steps:

① Lift the cab with the traveling crane and lifting appliance. The rope shall be straightened, but not tightened.



② Remove the nylon self-locking nut, pin and washer.



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5.12 Steering Gear

5.12.1 Structure and Function

(I) Function

The control element of the vehicle steering system realizes the steering function of the vehicle through the steering wheel.

(II) Working Principle

The control/amplification rotary valve composed of the valve element, valve sleeve and valve body plays a dual role in controlling the oil flow direction and amplifying the flow. The cycloidal pin gear meshing pair composed of rotor and stator acts as a metering motor, which can ensure that the outlet oil quantity is directly proportional to the steering wheel angle. The pull pin and linkage shaft connect with the control/amplification rotary valve and rotor of cycloidal pin gear meshing pair, forming a mechanical feedback link. The return spring enables the valve element and valve sleeve of the control/amplification rotary valve to be strictly centered beyond the dead zone.

When the steering gear is in the middle position, the oil from the priority valve directly returns to the oil tank from the oil return port. When the steering gear deviates from the middle position with the rotation of the steering wheel, the oil from the priority valve is divided into two ways: part of oil (a small amount) flows through the control/amplification rotary valve to the cycloidal pin gear meshing pair to push the rotor to rotate with the steering wheel. The flow passing through the cycloidal pin gear meshing pair is proportional to the speed of the steering wheel. When the steering wheel rotates fast, the flow passing through the cycloidal pin gear meshing pair is large, and vice versa. Other oil flows directly to the steering cylinder through the control/amplification rotary valve to push the frame for steering. Its flow is controlled by a mechanical feedback link, which is formed by pull pin, linkage shaft connecting control/amplification rotary valve and rotor of cycloidal pin gear meshing pair. i.e., it is proportional to the speed of the steering wheel. When the steering wheel rotates faster, its flow will be larger and the steering will be faster, and vice versa.

5.12.2 Removal and Installation

1. Introduction to the position of steering gear on product



Fig. 5-12-01

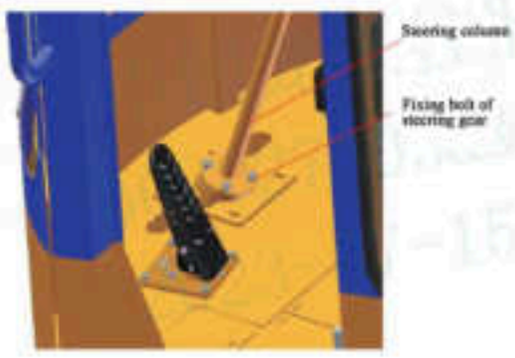


Fig. 5-12-02

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