

Wheel Loader L2-180 User Manual



1, Main technical parameters

Performance	Model	L2-180
	Rated loading	800kg

	Operation weight	2000kg
	Max. Shovel width	1180mm
	Bucket capacity	0.3cbm
	Max. grade ability	30°
	Min. ground clearance	200mm
	Wheelbase	1540mm
	Steering angle	49°
	Max. dump height	2167mm
	Load over height	2634mm
	Hinge pin height	2900mm
	Dinging depth	94mm
	Dump distance	920mm
	Overall dimension (L*W*H)	4300x1160x2150mm
	Min. turning radius over shovel	2691mm
	Min. turning radius over tyres	2257mm
	Track base	872mm
	Dumping angle	45°
	Function of leveling automatic	Yes
Engine Bi	Brand	XINCHAI or KUBOTA
	Model	XINCHAI 3B11X5 Euro 5 type or Japan Kubota
	Type	Vertical, in-line, water cooling, 3-cylinder
	Capacity	1.649 Litres
	Bore	88mm

	Rated power	18.5KW
	Optional engine	EURO5 XINCHAI or CAHNGCHAI EPA4/EURO5 KUBOTA/PERKINS
Transmission system	Type	Hydrostatic(Italy PWG brand)
	System pump type	Variable displacement piston (Italy PWG brand)
	Drive type	Independent wheel motors
	Classic angle oscillation	7.5 each way
	Max. speed	20km/h
Loader hydraulic	Pump type	Gear
	Pump maximum flow	42L/min
	Pump maximum pressure	200bar
Electric output	System Voltage	12V
	Alternator output	65Ah
	Battery capacity	60Ah
Tyre	Tyre model	10.0/75-15.3 or 31*15.5-15 or 400/60-15.5
Filling capacity	Hydraulic and transmission system	40L
	Fuel tank	45L
	Engine oil sump	7.1L

2, Operation of the loader

- (1) Every day, before start the loader, look around the loader for checking all the environment, to ensure all safety .
 Check instrumentation.;
 Check the liquid level of cooling liquid, fuel and oil.;
 Check the leakage, knot wear and damage of hose and steel pipe.;
 Make patrol inspection of the general phenomenon, sound, heat of the machine.;
 Check for loose or missing parts.

(2)
Every day, before you working ,check the cylinder, bots etc if lose grease . If so, need use the Grease gun to the places of the loader where need to put grease. This can keep the loader working good and not easy damage the parts .



(3) Joystick handle using way :



1. Move forward and lower the boom; Move back, raise the boom
2. To the left, retract the bucket; To the right, flip the bucket
- 3, Button front, loader forward; Button back, loader backward
- 4, Small handle : It control the quick hitch and 3rd or 4th functions (Accessories)

(4)Display Showing



(5) Hydraulic Accessories using way

Place the loader on a flat surface;

Machine tools are placed on the flat surface.;

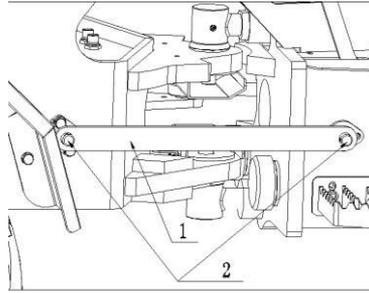
The tubing connects the loader and the machine tool (connected by quick coupling).;

Connect the hydraulic pipes on the connection on the loader tubes.



3, Safety Notice :

(1) Do not stand in this area. Do not place any objects, or it may cause property damage or serious injury or death.



(2) Improper operation may cause security incidents or even death. You can make operation only after quick-change pin and machine are connected firmly.

Note: After installing the appropriate tool on the unit, there is a valve in the quick change to control cylinder that controls the switch of cylinder. During the quick-change work, both sides of the pin extend.



Notice: Before installing the working tools, please check whether the axle holes in quick change and machine tools are damaged or worn to make sure quick change and machine can form smooth cooperation.

Connect the tubing first if the machine has a cylinder. After the connection of upper connecting shaft of quick change and the machine, close the machine to the maximum limit position, and the big arm at the lowest end. Extend the quick change cylinder to make close cooperation with the machine. Only attachments supplied along with the loaders are recommended.

(3) During storage

You should start the car once a month to run each system. Please add lubricating grease to each movement pin and transmission shaft so that the moving parts can be lubricated. Please also charge the battery.

Before reusing

Replace the lubricating oil of engine, gearbox and drive axle, hydraulic oil, brake fluid and antifreezing solution.

Add lubricating grease to all movement pins and transmission shaft.

Before starting the machine, wipe the grease from the piston rod of the hydraulic cylinder.

(4) Protect the electrical components from contacting with water and water vapor.

Do not disassemble electrical components, such as sensors.

Use the recommended genuine spare. Parts.

(5) Avoid mixing oil:

Avoid the mixing oil of different brands. If you need to use different brands of oil, you must remove the old oil on the machine.

4, Maintenance Items:

1. Maintenance every 50 working hours

- ① Tighten the connecting bolts of the front and rear transmission shafts.
- ② Check the transmission oil level.
- ③ Check the oil level of the brake booster.
- ④ Check the tire pressure and damage.
- ⑤ Connect the transmission shaft, bogie frame pin, and other shafts of the front and rear carriages with lubricating

grease

⑥ Check the air filter element and replace it if necessary

2. Maintenance every 100 working hours

① Clean the dust and materials on the engine cylinder head, torque converter, and oil cooler.

② Check the liquid level of the battery and apply a thin layer of butter to the joint.

3. Maintenance every 250 working hours:

① Check the fixing bolts of the wheels and vehicles; ② Check the oil level of the front and rear axles; ③ Check the working device, front and rear frames, auxiliary frames, and all stress welds and fixing bolts for cracks and looseness; ④ Replace the engine oil (the normally using type in your area); ⑤ Check the tightness and damage of the fan belt of the engine generator; ⑥ Check and adjust the brake condition of the foot brake; ⑦ Turn the fan pulley Add lubricating grease to the tightening wheel and water pump ⑧ Tighten the engine cylinder head bolts, check and adjust the valve clearance

4. Maintenance every 500 working hours

① Tighten the bolts connecting the front and rear axles to the frame.

② The engine oil and oil filter must be replaced.

③ Clean and replace the transmission oil and oil filter.

④ Check and adjust the engine valve clearance.

⑤ Clean the diesel tank and oil suction filter element.

⑥ Disassemble and maintain the motor and generator.

5. Maintenance every 700 working hours

① Replace the transmission oil and oil filter. (The oil type can use the standard one in your area)

- ② Replace the engine diesel filter.
- ③ Check the tightness of the engine intake and exhaust pipes.
- ④ Replace the return filter screen of the hydraulic oil tank.

6. Maintenance every 1200 working hours

- ① Replace the front and rear axle gear oil.
- ② Replace the hydraulic oil and suction filter, and clean the oil tank.
- ③ Check the operation of the foot brake and parking brake.

5, Common problem solving

No.	Failure characteristics	Reasons	Method of faults exclusion
I	Strenuous steering	Oil temperature is too low Pilot oil blockage Incorrect pilot oil connection Low steering pump pressure Part of bolts are too tight of metering motor of full hydraulic steering gear.	Make warming before working Clean the pilot oil circuit Connect the pipes as specified Adjust the overflow valve pressure as specified Relax the bolts

II	Unstable vehicle steering	1. Insensitive flow control valve action	1. Repair or replace the flow control valve
III	Both left and right steering are slow	Pressure regulating valve leakage Insufficient steering pump flow The valve rod of flow amplifying valve can't move to the end	Repair or replace the flow amplifying valve Repair or replace the steering pump Adjust the pilot oil circuit pressure or replace the spring
IV	The vehicle is with one side of fast steering and one side of slow steering	1. The number of the two-end adjusting gasket of flow amplifying valve	1. Adjust the number of gasket of valve rod as required

V	The steering is normal in case of small steering resistance, while the steering is slow in case of great steering resistance	Great leakage of overflow valve seat of main chain circuit Great leakage of pressure regulating valve	Repair the valve seat or replace the seal ring Repair or replace valves and seals
VI	The vehicle does not turn when turning the steering wheel	Steering gear failure Overflow valve of pilot oil circuit is defective Overflow valve of main chain circuit is defective	Repair or replace the steering gear Overhaul the overflow valve of pilot oil circuit Overhaul the overflow valve of main chain circuit

VII	The vehicle self-rotates when the driver doesn't operate it.	Valve rod of flow amplifying can't back to the neutral position The fixing bolts of flow amplifying valve are too tight The end cap bolts of flow amplifying valve are too tight Improper cooperation of valve rod and valve port of flow amplifying valve	Repair the valve rod and reset the spring Loosen the bolts Loosen the bolts Repair or replace valve rod
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VIII	The steering wheel self-rotates when the driver doesn't operate it	Valve sleeve of full hydraulic steering gear is stucked. Leaf spring of full hydraulic steering gear is broken	Remove foreign material from the valve Replace leaf spring
IX	The car turns too fast at high speed	The flow control valve is not adjusted correctly Insensitive valve rod action of flow amplifying valve The two-end valve rod metering orifices of flow amplifying valve are blocked or in wrong position.	Adjust the gasket as required Repair or replace valve rod Clean or replace valve rod

X	Big steering pump noise, steering cylinder action	<p>There is air in the steering oil circuit</p> <p>Wearing steering pump, insufficient flow</p> <p>Some doesn't have enough viscosity</p> <p>In s u f f i c i e n t h y d r a u l i c o i l</p> <p>Incorrect setting pressure of overflow valve of control oil circuit</p> <p>Internal leakage of steering cylinder</p>	<p>Start the vehicle, make left and right steering for several times</p> <p>Replace the steering pump</p> <p>Change the oil by the correct brand</p> <p>Add enough hydraulic oil</p> <p>Adjust the overflow valve of control circuit as specified</p> <p>Repair the cylinder or replace the seal</p>
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No.	Failure characteristics	Reasons	Method of faults exclusion
I	The engine does not generate electricity or the voltage is low	The commutator is greasy or worn Disconnection of residual magnetism coil Disappearing of residual magnetism The engine belt is too loose	Clean the cloth with petrol or level it with 00 gauze Check the external magnetic field and check the magnetic circuit with the bulb Magnetize or replace the new engine Readjust it
II	The engine is overheating	The wearing is worn or lacks lubricating oil Short circuit in commutator or coil	Replace bearing or add lubricating oil Disassemble the engine to check the commutator and armature coils and remove the short circuit

III	The recharge or charge current of the engine is small	Short circuit or open circuit of engine field coil Pull-off connection of machine engine Falling off or over-transport of battery connection The engine drive belt is too loose	The engine magnetic field should be intact and the field coil resistance should be about 20 ohms Turn on the electric lock and do not start it, the positive pole of the engine should be 24V. 3&4. Make visual observation and fasten it
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IV	The battery charge current is too large for a long time	Serious power-lack batteries There are one or two cell short circuit damages in the batteries Engine negative ground wire is loose	Start the engine, check the battery voltage with a multimeter. If the charge current is too large while the voltage is below 25V, it's a battery problem. If the positive voltage of the engine is above 30V, you should check if the base of the negative pole of the engine is normal. Connect the negative pole of the voltmeter to the ground, and connect the positive pole to the negative pole of the engine. If the voltmeter shows voltage, it's open circuit of the ground electrode.
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V	There is no indication on the electrical sensing instrument	Instrument damage Sensor damage Engine or battery problem	Replace the instrument Replace the sensor Check whether the terminal voltage of the engine or the battery is normal
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VI	<p>The engine can't be started or it's difficult to start the engine</p>	<p>1.The battery is damaged or insufficient 2.The electric lock is damaged Bad contact or short circuit of circuit Electromagnetic switch or transmission fork of starting dynamo is damage The starting dynamo rotor is burned 6.The main power relay, starter relay or gear starting chain relay is damaged. 7. The lubricating oil is too thick</p>	<p>Replace the new battery or charge it Replace the electric lock Check and repair it Check whether the coil is intact, whether the contact point is smooth, whether the shifting fork moves well, whether the spring is broken and whether there is teeth scraping, and repair them. Replace the starter motor Replace the relay Replace the lubricating oil</p>
VII	<p>The engine can't be turned off</p>	<p>Poor contact or disconnection of circuit The flameout relay is damaged The flameout electromagnet is damaged</p>	<p>Check and repair it Replace the flameout relay Replace the flameout electromagnet</p>
VIII	<p>Lamps do not light</p>	<p>Circuit fault</p>	<p>Check switches, fuses, bulbs and circuits, and replace or repair them.</p>
IX	<p>The instrument indicates the maximum range</p>	<p>Meter The ground wire is loose</p>	<p>Re-tighten it or connect the ground electrode</p>