



Z25

Operator's manual

广西玉柴装备科技有限公司

GUANGXI YUCHAI EQUIPMENT TECHNOLOGY CO., LTD.

These instructions belong with the vehicle

NOTES

General pages refer to all models mentioned in the header. Text that refers to particular models is marked correspondingly.

The machine Operating Manual must be observed.

CAUTION!

BEFORE STARTING THE VEHICLE THIS OPERATING MANUAL MUST CAREFULLY READ, UNDERSTOOD AND OBSERVED.

THE REGULATIONS AND LAWS VALID IN THE COUNTRY IN WHICH THE

VEHICLE IS OPERATED MUST BE OBSERVED. INOBSERVANCE COULD CAUSE INJURIES OR FATAL ACCIDENTS. THE REGULATIONS OF THE TRADE CO-OPERATIVE ASSOCIATIONS ARE LAW.

USE OF THE OPERATING MANUAL:

This operating manual is a guide for safe operation of the vehicle.

CAUTION!

!!! A RESPONSIBLE DRIVER IS A SAFE DRIVER !!!

Before you use the vehicle, read this operating manual carefully. The safety instructions contained herein must be observed. Read the safety instructions regularly so that you do not forget them.

These instructions belong with the vehicle and must be always available.

If you have any questions, please contact your dealer or your nearest YUCHAI representative.

USE OF THE VEHICLE:

Your wheel loader can be used for various types of work. A thorough knowledge of the operating controls and their functions is a precondition for a safe and efficient use.

This operating manual is not an instruction book for loading work.

New drivers must always be appropriately trained before starting or operating the vehicle.

Without an appropriate training an efficient operation of the vehicle is not possible. A risk of injury to the driver and other persons is also presented.

Operating Manual, Part A

Safety Instructions

Read Before Use



Z25

These instructions belong with the vehicle

1 General

1.1 Scope

These safety instructions apply to loaders, Hoftracs, dozers, diggers and special machines, that are referred to as **loader**. This includes their attaching parts.

1.2 Naming Definitions

Loader

In these safety instructions, are vehicles with attachment tools to loosen, scoop, transport and drop earth, stones and other materials, whereby, the transport of the load is mainly performed by moving the loader.

Dozer

In these safety instructions, are vehicles with attachment tools to loosen, move and level earth, stones and other materials, whereby, the material is not transported.

Digger

In these safety instructions, are vehicles with digging attachments that can loosen, pick up, transport and deposit earth, whereby, the loosening and picking up of earth is achieved through movement of the attachment.

Special Machines

In these safety instructions, are vehicles or equipment to load, move, transport or level earth or stones, whereby, according to its construction, this type of vehicle can only be used for special earth moving work.

1.3 Construction and Equipment

1.3.1 Identification and Marking

Every loader must have a durable identification plate with the following information on it:

- Manufacturer
- Year of manufacture
- Model number
- Type

On loaders that are centre-pivot steered, additional signs that contain the following information must be placed where they are clearly visible in the area of the centre-pivot:



CAUTION!

STANDING IN THE AREA OF THE CENTRE-PIVOT IS STRICTLY FORBIDDEN!

1.4 Operating Manual

An operating manual must be available for each loader. It must contain information for the safe operation of the vehicle, that is presented in a clear and easily understandable form. The instructions must be presented in the language of the country in which the vehicle is operated.

The operating manual must always accompany the vehicle, or, be available in the operating environment.

1.5 Prevention against Unauthorized Use

The use of unattended loaders must be prevented. This can be achieved by removing the ignition key or locking the vehicle.

1.6 Tubes and Pipes

Tubes and pipes on loaders must be installed so that eventual mechanical and thermal damage is avoided. **Tubes and pipes must always be inspected prior to using the vehicle.**

Tubes and pipes in the area of the driver and operating areas, must be installed or covered so that the driver cannot be injured if a tube or pipe bursts.

The existence and effectivity of this safety measure must be checked before every use.

1.7 Operation

Loaders may only be properly operated through observation of the manufacturer's operating manual.

1.7.1 Driver Requirements

Driving or servicing of loaders may only be performed by persons who:

1. Are 18 years of age.
2. Are physically and mentally fit.
3. Have been instructed on how to drive or service earth moving machinery and have proved their competence to the employer.
4. It is to be expected from, that they can reliably perform the tasks with which they have been entrusted.

They must have the permission of the employer to drive or service the loader.

1.7.2 Driving Licence Requirements for Loader

For driving on public roads:

**Wheel loaders with up to 20 km/h
maximum speed according to construction type**

do not require registration and can be driven with a class L driving licence. The only requirement is an operation permit, in which the vehicle is entered as a “self-driving working vehicle”. The operation permit is given by the vehicle registration office. **The operator is responsible to effect a corresponding policy of insurance.** He has to settle with the insurance company whether the wheel loader is insured via the company liability insurance or whether a separate liability insurance is required.

**Wheel loaders with over 20 - 25 km/h
maximum speed according to construction type**

May also be driven with a class L driving licence, however, they must be registered for road use. For this, an official number plate (green) and a vehicle third party insurance is required.

**Wheel loaders with over 25 - 40 km/h
maximum speed according to construction type**

Vehicles with up to 3.5 t permitted maximum weight are only allowed to be driven on open roads with a class B driving licence. Vehicles with over 3.5 t and up to 7.5 t permitted maximum weight are only allowed to be driven on open roads with a class C and class T driving licence.



CAUTION!

**DIFFERENT REGULATIONS MAY APPLY IN OTHER COUNTRIES!
PLEASE OBTAIN THE APPLICABLE INFORMATION BEFORE USING THE VEHICLE.**

2 Operation

1. The driver must restrict the vehicle speed to the applicable environmental conditions, so that the vehicle can be stopped at all times and cannot be turned over.
2. During vehicle movement, the driver must ensure at all times that the attachments remain as close to the ground as possible.
3. On particularly steep slopes and inclines, the load must be kept on the upward slope side of the vehicle.
4. Freewheeling (driving with the clutch depressed), is not permitted on downward slopes. On loaders without a load adjustable gearbox, the appropriate gear for the conditions is to be selected before driving a downward slope, and is not to be changed during the vehicle movement.
5. The driver must apply the seat belt at all times when operating loaders, dozers and diggers with roll protection.

6. Never drive backwards with the **accelerator fully depressed**, make sure that the speed is always appropriate to the prevailing conditions.
7. Operating the **drive-direction switch** during operation can lead to accidents. The loader will drive, without warning, in the opposite direction.
8. **Operating controls** are only allowed to be operated from the **driver's or operator's position**. Before leaving the vehicle, the driver must lower the load arm, set all control- valves to the neutral position and apply the brake.
9. The driver is only allowed to work with the loader when **no persons are present in the danger areas**.
10. The driver must display warning signs when a danger for persons is present.
11. The driver must be aware of soft ground, electrical cables (exposed and sub surface), gas and water pipes. He must mark the position of underground cables and pipes and leave sufficient distance between himself and exposed electrical cables and buildings.
12. Collapsing materials can cause accidents e.g. avoid loading in front of a high wall or digging below walls.
13. During vehicle **mounting and dismounting**, you must always face the direction of the vehicle. Make sure that foot steps and shoe soles are clean and dry. Do not jump from the vehicle. Do not hold on to vehicle levers, but instead, on to the vehicle handrails.
14. Incorrect **working clothes** can lead to injuries, as loose clothing can become caught on parts of the vehicle. You should always wear appropriate protective clothing during your work, this includes a protective helmet, overalls, ear protection and gloves.
15. Turn spotlights off when you drive on public roads to avoid blinding other road users.
16. Before driving on public roads you must make sure that the vehicle equipment (lighting equipment etc.) complies with the rules of the motor vehicle construction and use regulations, and, that the vehicle has a certificate to operate from the motor vehicle testing authority. With this certificate to operate, the vehicle is accepted as a self-driving working vehicle.

3 Guide

1. If the driver's vision is restricted in his working area due to influences on the working conditions (obstructions), he must be guided, or, the working area must be cordoned off.
2. Only reliable personnel are permitted to be employed as a guide. They must be trained in their tasks before beginning their responsibilities.
3. Hand signals must be established to enable good communication between the driver and guide. The signals are only to be given by the driver and guide.
4. The guide must be clearly visible at all times. He must remain within the driver's field of vision.

4 Transportation of Passengers

1. Drivers of loaders are only allowed to carry passengers in areas in which the transporting of passengers is permitted by the manufacturer.
2. Loaders may only be mounted or dismounted after permission has been granted by the driver and the vehicle has been brought to a halt.
3. Passengers are not permitted to be transported on the vehicle's working attachments.
4. Loader attachments may not be used as a platform.

5 Prevention against Tipping and Rolling Over

1. To avoid the danger of tipping over, earth moving vehicles must always remain at a safe distance from the edges of crumbling land, excavations, mounds and slopes. The employer, or his appointed deputy, must determine the safe distance from such danger areas according to the firmness of the underlying ground.
2. Earth moving vehicles must be secured against the danger of rolling or slipping when used in the vicinity of trenches, shafts, graves, slopes and banks.
3. Loaders are only permitted to be used in dedicated tipping areas, when installations in the tipping area are present that prevent the vehicle from running off or crashing.

6 Protection against Falling Objects

1. When a danger of falling objects is present, earth moving vehicles must be fitted with a resistant protective roof for the driver's or operator's positions.
2. When undertaking earth or rock movement in quarries or trenches, diggers are to be positioned so that the driver's position and access to the driver's position are not on the wall side of the vehicle.
3. For the transport of large bails, see page 22.

7 Operation in Enclosed Spaces

When loaders are operating in closed rooms, you must make sure that the room has a sufficient air flow (opening of windows and doors etc.) so that a good supply of breathable air is constantly present.

8 Actions on the Interruption of Work

1. Before leaving the driver's (operator's) position, the driver (operator) must ensure that:
 - the attachments are turned off and
 - unintentional movement of the vehicle is prevented through engaging the safety measures designed to prevent such movement.
2. If the driver leaves the vehicle, in addition to the requirements of paragraph 1 above, he must ensure that use of the vehicle by unauthorised persons is sufficiently prevented.
3. During breaks and on the cessation of work, the loader driver must ensure that the vehicle is on hard and even ground; in sloping areas the vehicle must also be prevented from rolling or slipping.
4. Never leave the vehicle in unsupervised areas. Accidents can be avoided through the erecting of warning barriers in public areas or when vision is reduced (e.g. at night).

9 Installation, Service, Maintenance

9.1 Servicing

1. Loaders may only be loaded, transferred or removed in accordance with the operating manual and under the supervision of a qualified person who has been appointed by the employer.
2. Loaders must be sufficiently braked during installation work, servicing and maintenance.
3. The motor must be switched off before all servicing and maintenance work. This may only be contravened when the servicing or maintenance work cannot be performed without the motor being on.
4. Before any servicing and maintenance work on non-isolated electrical equipment is carried out, the loader's motor must be disconnected from the battery or starter motor to avoid an inadvertent starting of the motor.
5. Servicing and maintenance work may only be carried out when the working equipment has been prevented from moving through placing on the ground, supporting or equivalent procedures.
6. During servicing and maintenance work the centre-pivot joint must be locked. Standing in the area of the centre-pivot is strictly forbidden when the motor is running.
7. The circuit diagram must be observed when electrical parts are connected or disconnected. Incorrect connection can lead to damage.

9.2 Towing, Transporting

1. Loaders may only be towed with an approved tow bar or rope, together with suitable equipment for the connection of tow bars and ropes to the loader.
2. Drive slowly when towing. Persons are not permitted to stand in the area of the tow bar or rope.
3. Loaders are only permitted to be towed when the brake system and steering are fully functional.
4. During loading or transporting of loaders, aids are to be used to prevent the inadvertent movement of the loader. The loader is to be kept free from mud, snow and ice so that ramps can be negotiated without the danger of slipping.

9.3 Modifications and Welding Work

Technical modifications are not permitted to be undertaken by the vehicle operator without the express permission of the manufacturer. Some machine parts are made of cast-iron. Welded joints in cast-iron can lead to weak points or cracks.

9.4 Roll-over Protection Structure (ROPS)

The vehicle is equipped with a Roll-over Protection System (ROPS). Working with a damaged ROPS can lead to serious accidents. A modified or improperly repaired ROPS is also dangerous. After an accident, a ROPS is only to be repaired by an approved person.

The EC permits the delivery and operation of vehicles that do not have roll protection if accepted by the relevant employer's liability insurance association. This is entirely dependent on the type of terrain on which the vehicle is to be used. Before the removal of roll protection, or, before buying a vehicle without roll protection, the permission from the governing employer's liability insurance association must be obtained.

10 Monitoring

10.1 Control

1. The driver must check the correct function of the controls before every shift. He must also visually inspect the loader for any obvious faults.
2. The driver must check the correct function of the brake and the limit installation and limit warning device before using the hoist.
3. The driver must report any problems found to his superior, he must also inform his relief driver of any problems.
4. Where faults mean a deterioration of the operating safety of the loader, the loader is not to be operated until the problem has been cured.
5. You must perform the following checks when the vehicle has been standing for a long period of time. We recommend that you also carry out these checks after particularly long shifts.



CAUTION!

THE CHECKS HELPTO ENSURE THE FUNCTIONAL ABILITY OF THE VEHICLE AS WELL AS YOUR OWN SAFETY.

- Check the following items for cleanliness and damage:
- rods, cylinder, rod eye-ends, radiator
- handrails and footsteps
- Make sure warning signs are present
- Inspect the vehicle for signs of damage or missing parts
- Check working attachments for completeness
- Check rod eye-ends and joints for condition and rigidity
- Check all screws for security of attachment
- Check tire pressure

10.2 Testing

1. Loaders must be inspected by a trained person prior to first operation (commissioning), and, before being put into operation after major modifications.
2. Loaders should be inspected by a trained person (approved workshop) once a year. They should also be inspected at more regular intervals by an appropriately trained person depending on their operating conditions and prevailing circumstances.
3. The inspection results must be recorded in writing and kept at least until the next inspection.

11 General Safety Instructions

11.1 Attachments

Only use YUCHAI approved attachments for your vehicle.

Attachments may only be installed and operated after the applicable operating manual has been carefully read and understood.

Before use, it must be ascertained through practice, that the operating person is familiar with the attachments, the controls and their function.

Remember:



SAFETY FIRST



For all work, the appropriate tool must be used for the job to be carried out, for example, if too big a shovel is used for heavy materials, this could weigh down the equipment causing undue stress which will ultimately shorten the vehicle life.

Before disconnection, the working attachment must be lowered to ground level and supported against falling over. If this is not done, the attachment could tip over and cause serious injury. You must exercise particular care on slopes and inclines.

Machine/Steering Failure:

The machine must be immediately turned off after an motor or steering failure.

Machine:

The machine cover may not be removed when the motor is running.

Fires:

Electrical installation can cause explosions or fires. Avoid working in closed environments where inflammable materials, steam or dust is present.

Only park or leave the vehicle in a place that is secured against fire.

Battery:

Batteries that contain frozen electrolyte can explode when used or charged. Working with a frozen battery is strictly forbidden. Fully charged batteries cannot freeze.

Battery Gases:

Batteries give off gases that can explode. Keep all sparks and naked flames away from batteries. Closed rooms in which batteries are used or charged must have a sufficient supply of fresh air.

Never check the charged state by connecting the terminals together, always use approved test equipment instead.

Battery Connections:

The negative pole of the vehicle is connected to earth. When connecting the battery, the negative (-) cable is always connected last. When disconnecting the battery, the negative (-) cable is always disconnected first.

Hydraulic Oil:

A fine jet of hydraulic oil ejected under great pressure can penetrate the skin. Use a piece of card when you look for small leaks. If oil does penetrate the skin you must immediately seek the assistance of a doctor.

Hydraulic Pressure:

Hydraulic oil under system pressure can lead to serious injuries. Before the connection or disconnection of equipment the motor must be switched off and the lever selected to “pressure release of pipes”. Make sure that the motor cannot be switched on when a pipe is open.

Different high pressure pipes are used on YUCHAI vehicles. When demanding replacement pipes note the DIN (German Standard) number on the pipe or the connector.

Protection against Injuries by Metal Splinters:

You must wear protective glasses when driving bolts in or out. Flying metal splinters can cause serious injuries. Always use a soft face hammer or a brass drift.

Tire Condition

Exploding tires can cause serious injuries. Do not work with damaged, incorrect or worn tires.

Standing under Attached Parts

Standing under attachments is not permitted.

Before each operation, the attachment must be lowered and the brake applied.

12 Proper Use



WHEELLOADERS ARE NOT ALLOWED TO BE USED IN OPEN TERRAIN OR FOR CONSTRUCTION WORKS.

Loaders are not permitted to be used as towing vehicles for trailers or trailer equipment.

YUCHAI loaders are built in accordance with current technology and technical safety standards.

However, dangerous situations can still arise when using our vehicles. Therefore, our loaders and attachments are only to be used in a technically perfect condition. The safety regulations must be strenuously observed. When failures arise, the use of the vehicle and attachments is to be immediately ceased, the vehicle may only be used again once the problem has been cured.

According to the rules for the prevention of accidents of the agricultural trade-cooperative association vehicles that are used to stack large bales have to be equipped with protective devices against falling objects (VSG 3.1, paragraph 13).

Some of our vehicles are fitted with devices to prevent driving off or starting, which should never be immobilized. If these devices are faulty, the vehicle is not to be used until the fault has been cured.

Compliance with the operating and servicing instructions and the servicing regulations constitute proper use of the vehicle.

Loaders are to be used exclusively for the breaking up, loosening, loading, stacking, moving and distribution of bulk and unit loads.

Pallet forks are for the picking up, transportation, stacking and placing of unit loads and pallet materials.

Feed transport and **distribution appliances** are exclusively for the transportation, loading, and distribution of feed, silage and straw.

The **crocodile gripper** serves the safe transport of straw and dung and the breaking-up of compressed dung; as well as materials that could fall from a fork.

Other **special appliances** are to be exclusively used for the purpose for which they are designed.

Loaders are only permitted to be used on level ground, in yards, and - with the appropriate operating permission of the motor vehicle construction and use regulations - in suitable public areas. The maximum stable operating load must be observed.

CAUTION!

OPERATION IS STRICTLY FORBIDDEN ON SLOPES, OR, IF A DANGER OF TIPPING OR FALLING OBJECTS IS PRESENT.

A DANGER OF FIRE THROUGH SPARKS IS PRESENT WHEN OPERATING IN THE VICINITY OF FLAMMABLE MATERIALS (HAY, STRAW, PAPER ETC.). IN SUCH ENVIRONMENTS, HOFRAC AND WHEEL LOADERS ARE ONLY TO BE USED IN ACCORDANCE WITH THE PERTAINING LEGAL DIRECTIVES.

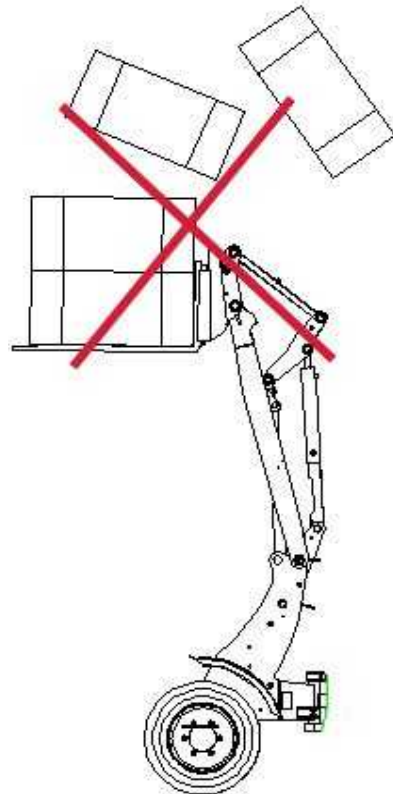
CAUTION

During the transportation of bails, **NEVER** transport more than one bail at a time. Falling bails can cause serious injuries.

You must work with great care at all times.

The manufacturer also offers special stacking equipment and safety appliances. These include:

- Round and oblong bail stackers
- Round and oblong bail stacking appliance cabin
- Driver's cabin
- Driver's protective cabin
- Bail protection bar (can be retro-fitted)



13 Warning Symbols – Symboles d'avertissement - Warnbildzeichen

SYMBOL/SYMBOLS/ SYMBOL	EXPLANATION/EXPLICATION/ERKLÄRUNG
	Stay clear of articulation area while motor is running. Stay away from the sweeping area when the engine is running. Do not stay in the bend area during operation.
	Attach support before getting into hazardous area. Put the support in place before entering a danger zone.

	Do not open or remove safety shields while motor is running. Do not open or remove the guards while the engine is running.
	Stay clear of raised boom and bucket. Stay away from the front loader lift arm working area. Do not stay in the working area of the front loader arm.

Lithium battery pack



Warning:

- The lithium battery pack contains chemicals and is highly corrosive. Do not disassemble or damage it by yourself.
- When charging, it will cause explosion in case of open fire, so keep away from open fire.
- External force impact or shock shall be avoided.

1. Storage requirements

- The lithium battery pack should be stored in a dry, clean and well ventilated environment at 5~25 °C. They should be free from direct sunlight and at least 2 m away from the heat source. If the ambient temperature is too high, the performance of the battery will be greatly affected.
- It shall not be placed upside down or horizontally, and shall not be subjected to any mechanical impact and heavy pressure.
- The storage period at room temperature is 3 months. If the battery will not be used for more than 3 months, it shall be guaranteed to recharge once a month.

2. Charging requirements

- Slow charging input voltage and current AC 220V, 15 A. Fast charging input voltage and current AC 380V, 33 A.
- Please use a special charger and charge according to the instructions.
- Please turn off the manual power switch of the machine before charging.
- If it is necessary to stop charging during the charging process, press the charger pause button first, and then pull out the charging gun.
- When the lithium battery power is lower than 20%, please charge it in time.
- It is recommended to fully charge the battery at least once a week during normal use.
- When the battery is not used for more than 3 months, it shall be guaranteed to recharge once a month.

3. Other matters

- When the vehicle stops for more than 6 hours, the lithium battery will enter the sleep state and need to be restarted, so please turn off the manual power switch of the machine.

Precautions



Warning: to prevent accidents, please note:

- Do not use lithium batteries in an environment above 55°C or below - 25°C.
- Do not flush the lithium battery box directly.
- Do not place heavy objects or conductors on the surface of the lithium battery box.
- Do not overcharge or charge under over voltage.
- Do not impact the lithium battery box with external force.
- Keep children or other animals away from the lithium battery box.
- To prevent damage to the internal components of the battery pack, please do not disassemble the lithium battery pack unless authorized by the battery pack manufacturer.

Note:

When repairing the electrical system or carrying out welding operation, turn off the manual power switch of the whole machine to prevent electric shock.

Abandoned batteries should be disposed of in accordance with local regulations.

Operating Manual, Part B

Description and Operation



Z25

These instructions belong with the vehicle

14 OPERATING LEVERS AND INSTRUMENTS

14.1 Operating Lever

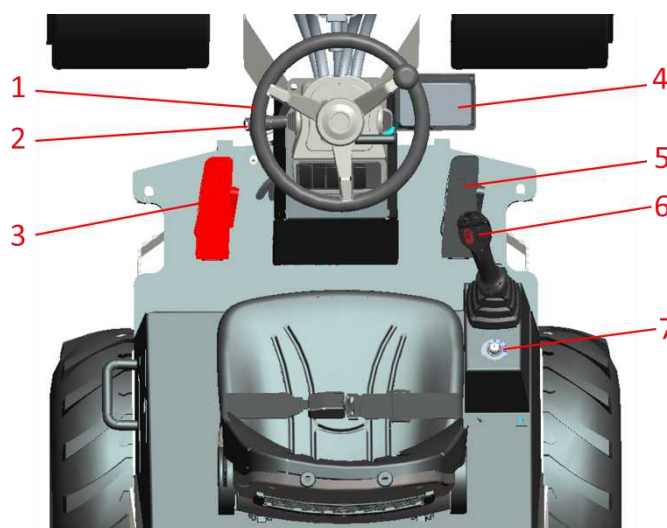


Fig. B-1

- 1 ----Steering wheel turning knob
- 2 ----Light control lever
- 3 ----Brake pedal
- 4 ----Monitor
- 5 ----Accelerator pedal
- 6 ----Operating lever for load arm/drive
- 7 ----Start switch

14.2 Multifunction Lever

The multifunction-lever is mounted on the operating lever . The load arm is operated by moving the lever, the drive is selected by operating the switch.



Fig. B-2

2 ----Drive Switch

- Push the switch forward to select the forward drive direction.
- Push the switch rearward to the neutral position to select the neutral drive direction.
- Push the switch rearward to select the rearward drive direction.
- Change into neutral position by pushing the rocker switch forward again.

4 ----Operating Switch for additional hydraulic equipment

- To operate the "hydraulic connection of the load arm/hydraulic locking of the quick change system".
During normal operation, the three-way cock remains in the "Locking" position, so that the tool attachments can be coupled or uncoupled from the driver's position. The three-way cock is only moved if hydraulically operated tool attachments are to be used.

1 and 3 ----Reserve switch

- The switch for reserve function.



CAUTION!

OPERATING THE DRIVE-DIRECTION SWITCH DURING FAST DRIVE CAN CAUSE ACCIDENTS. THE VEHICLE WILL DRIVE SUDDENLY IN THE OPPOSITE DIRECTION. CONSULT A QUALIFIED PERSON BEFORE DRIVING THE VEHICLE FOR THE FIRST TIME.

WHEN YOU DRIVE THE VEHICLE FOR THE FIRST TIME, CHOOSE A LARGE, FLAT AREA.

14.3 Lever for Load Arm

The operating lever (Fig. B-1) operates the load arm and other tool attachments.

The single movements are executed as follows:

- rearward position - to raise the load arm
- forward position - to lower the load arm
- to the right side - to extend the shovel
- to the left side - to retract the shovel

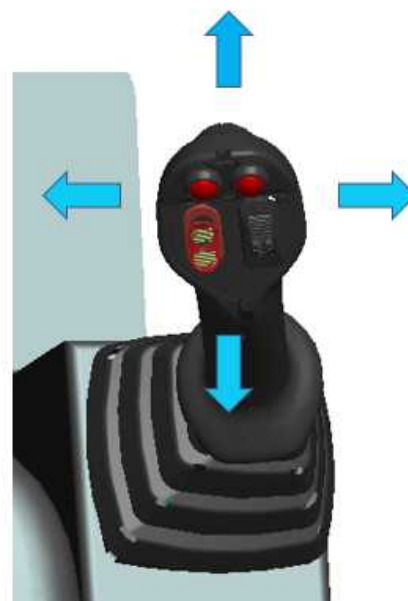


Fig. B-3

For combined movements, the lever can be moved between the four main positions. For example, to raise the shovel, pull the lever rearward and then push the lever to the left side to retract the shovel.

The working speed is dependant on the RPM of the motor speed.

The lever is returned to its neutral position from each position by a return-spring.

14.4 Monitor

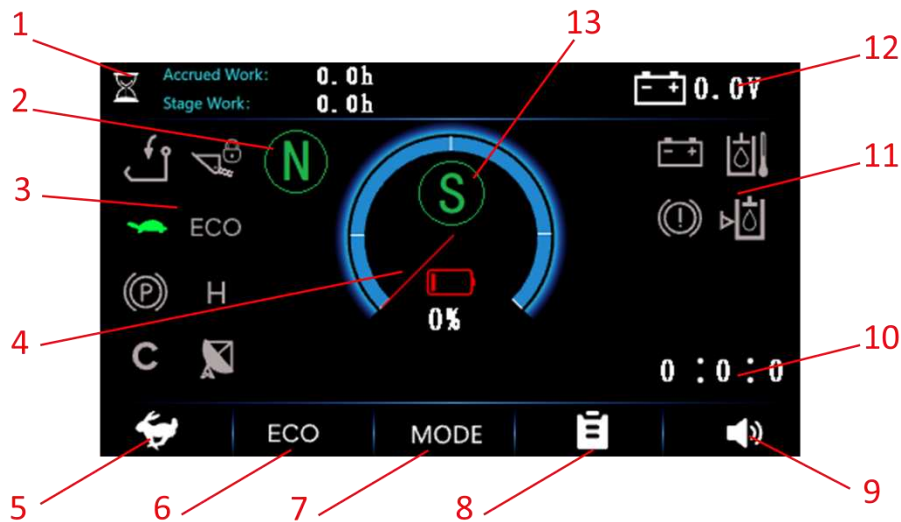


Fig. B-4

- 1 ----Timing of working hours
- 2----Driving mode display
- 3----Status display area
- 4----Power display
- 5----Travel speed switch
 - Switching between high and low speeds
- 6---- ECO mode
 - ECO mode will stop the main pump operation after a certain period of work pause to save energy, and there may be a lag when starting again.
- 7----Working mode switch
 - mode I low working speed; mode S standard working speed; mode H high working speed.
- 8----System menu
 - System settings
- 9----Alarm
 - Turn on or off the alarm sound
- 10----Clock
- 11----Warning display area
- 12----Voltage display
- 13----Working mode display

15 MECHANIC QUICK CHANGE SYSTEM FOR TOOL ATTACHMENTS

The vehicle is equipped with a hydraulic quick change system, for different tool attachments, as standard. This allows the driver to make a quick and uncomplicated coupling and de-coupling of the attachments from his position.



Fig.B-5

15.1 Coupling

Drive towards the tool attachment and push the quick change system of the vehicle into the receptacle of the attachment. Then lift the load arm and retract the attachment. Press the switch(4 Fig. B-2) to lock the quick change system. Make sure that the pin cylinder has been locked correctly.

15.2 Attachments

Before connecting the hydraulic tubes of attachment, relief the pressure by following the steps below:

Pull the handle to the position(Fig. B-6).

Manipulate on the monitor:“Menu”→“User settings”→“Feature settings ”→“Pressure relief mode setting”→“Pressure relief mode”

Pass the hydraulic tubes through the eyes provided therefor on the attachment and the load arm, to the hydraulic connection. Remove the protective cap of the hydraulic rapid action coupling and make sure that the connections are clean. Plug the rapid action coupling into the connections of the additional hydraulic equipment. Put the protective caps together to prevent them from getting dirty. Check the hydraulic system of the tool attachment and the hydraulic rapid action.



Fig.B-6



A FINE JET OF HYDRAULIC OIL EJECTED UNDER GREAT PRESSURE CAN PENETRATE THE SKIN. DO NOT USE YOUR FINGERS WHEN LOOKING FOR SMALL LEAKS. DO NOT MOVE YOUR HEAD TOO CLOSE TO THE SUSPECTED SPOT. USE A PIECE OF CARD AND INSPECT IT FOR OIL. IF OIL DOES PENETRATE THE SKIN IMMEDIATELY CONSULT A DOCTOR.

16 OPERATION

16.1 Before Getting into the Vehicle

Observe the daily maintenance schedule (see part C, Maintenance/Trouble Shooting). Do not hold on to the levers when getting in the vehicle.



ATTENTION! ONLY GET IN THE VEHICLE FROM THE LEFT SIDE.

16.2 Adjustment of the Driver's Seat

The driver's seat can be adjusted as required to prevent strains and fatigue. Adjust the driver's seat so that all operating levers are easy to reach and the pedals can be depressed completely when you are seated with your back against recline.

The following adjustments are possible:

- forward/ backward– adjustment [1]
Pull the lever up, adjust the seat, then push the lever down.
Make sure that the seat has completely engaged.
- backrest angle [2]
Pull the lever up, adjust the seat, then push the lever down.
Make sure that the seat has completely engaged.



CAUTION!

ALWAYS PUT ON THE SAFETY BELT WHEN OPERATING THE VEHICLE. EXCHANGE DAMAGED PARTS OF THE SAFETY BELT OR THE LOCK.

16.3 Safety Belt

16.3.1 Putting on the Safety

Belt Sit down correctly.

Pull the belt over your hips and engage the lock.

Do not adjust the belt too loose or too tight.

16.3.2 Detaching the Safety Belt

Press the button and remove the belt from the belt lock. Repair or replace damaged parts of the belt or the lock.

16.4 Battery disconnecting switch

The battery disconnecting switch is located beside the battery and is used to disconnect the complete electrical system from the battery. The battery needs to be switched off during charging and maintenance. We recommend to switch off the battery overnight to prevent a possible discharge of the battery or cable burning. If the switch head is pulled off, the switch can also be used as additional theft protection.



CAUTION!

THE BATTERY DISCONNECTING SWITCH MUST NOT BE SWITCHED UNDER LOAD. BEFORE INSERTING THE IGNITION KEY, THIS SWITCH MUST FIRST BE OPERATED. FOR SWITCHING OFF PROCEED IN REVERSE ORDER.

16.5 Before Switching on the machine

1. Apply the parking brake
After having parked the vehicle, the parking brake must always be applied.
Turn key left - position "off", the vehicle will automatically park.
Entering walking mode, pressing the accelerator pedal will automatically release parking.
2. Checks before starting the machine:
 - Walk round the vehicle (see "Before getting in").
 - Remove dirt and waste from the driver's cabin.



CAUTION!

THE OPERATING ELEMENTS OF THE VEHICLE MUST ALWAYS BE CLEAN AND DRY.

- Remove or fix all loose parts.
 - Check the driver's cabin for loose or missing screws, bolts etc. Insert or tighten, when necessary.
 - Verify the function of the following equipment:
lights, control lights, signal horn, indicators, all switches, direction indicator, hazard lights, screen washer and screen wipers.
3. Adjust the driver's seat.
 4. Put on the safety belt.
 5. Push the forward/reverse drive lever into the neutral position.
The machine can only be started, when the drive-direction lever is in the neutral (-0-) position.

16.6 Starting the machine

1. Before starting the machine, make sure that nobody is within the danger areas of the machine or the vehicle. After repair, check that all protective devices have been installed and all tools have been removed from the machine. Do not use any further starting aids (e.g. starting pilot). Danger of accidents!
2. Start the machine.
 - Insert the key - position “off”= no operating voltage
 - Turn key right - position “on”= Working
 - Turn key right - position “star” = Starting
 - Release the key as soon as the machine starts. The key returns to position “on”.



Fig. B-18

16.7 Preparation for Road Use



CAUTION!

BEFORE DRIVING ON OFFICIAL ROADS, MAKE SURE THAT THE VEHICLE CORRESPONDS TO THE APPROPRIATE REGULATIONS AND THAT THE DRIVER HAS A VALID DRIVING LICENCE.

1. Secure the tool attachments!
2. Attach the protective cover to the shovel.
3. The shovel must be empty and lifted into the transport position!
4. Check the lights!
Make sure that the headlights and the rotating light, if fitted, are in working order!
5. Set all hydraulic control valves to position O.
6. When driving on public roads the vehicle must have the corresponding certificates for road use (TÜV-certificate in Germany, equivalent in other countries!)
7. Lock the operating lever!

16.8 Departure (Z25)

Start the vehicle as described below.



OPERATING INSTRUCTIONS

AFTER HAVING RELEASED THE PARKING BRAKE, THE VEHICLE IS STARTED BY DEPRESSING THE ACCELERATOR PEDAL. THE VEHICLE MUST ALWAYS STAY UNDER CONTROL. WHILE DRIVING PAY ATTENTION TO OBSTACLES AND POSSIBLE DANGERS.

DO NOT PLACE YOUR FEET ON THE BRAKE INCH PEDAL.



CAUTION!

WHEN DRIVING, REGULATE THE MOTOR RPM WITH THE ACCELERATOR PEDAL ONLY. THE RPM MAY NOT BE ADJUSTED BY MEANS OF THE THROTTLE HANDLEVER.

1. Check the driver's seat and the safety belt

- Make sure that the safety belt is put on correctly.
- Make sure that the driver's seat is adjusted correctly.

a) Make sure that it is safe to drive off, then depress the drive Switch into the desired drive direction.

Drive Switch to the front = Forward drive

Drive Switch to the rear = Rearward

drive The vehicle starts smoothly.

b) By operating the drive Switch and the accelerator pedal the drive speed can be adjusted infinitely variable. To stop the vehicle depress the brake pedal and move the throttle pedal in the 0-position.

Drive slowly and monitor the steering and the brakes. Stop when steering or brakes are not working correctly. If in doubt, assume that there is a part or parts which are damaged.

2. Hydraulic overdrive

By operating the corresponding lever at the control valve for the lifting hydraulic the hydraulic overdrive is switched on. The tool attachment, however, cannot be lifted or retracted.

3. Stopping the vehicle

1. Decelerate
2. Move the drive Switch to the N-position.



CAUTION!

THE HYDRAULIC SYSTEM HAS ONLY A POOR BRAKE FUNCTION. ALWAYS USE THE SERVICE-FOOT BRAKE WHEN A HIGHER BRAKE FUNCTION IS REQUIRED.

4. Change of drive direction

1. Decelerate.
2. When the vehicle has almost stopped, move the drive Switch into the other drive direction.
3. Drive off.



CAUTION!

OPERATING THE THROTTLE PEDAL WHEN DRIVING CAN CAUSE FATAL ACCIDENTS OR PERSONAL INJURY.

5. Pushing operation

The more the accelerator pedal has been depressed, the higher is the pushing force. The maximum pushing force is achieved just before the tyres start to slip.



CAUTION!

VEHICLE TURNS QUICKLY OR VEHICLE EXTREME STEERING COULD CAUSING VEHICLE OVERTURNING.

16.9 Change of Drive Direction

1. Decelerate.
2. When the vehicle has almost stopped, move the drive-direction switch into the other position.
3. Depress the accelerator pedal.
It is not necessary to operate the Inch pedal at each change of the drive direction.

CAUTION!

OPERATING THE DRIVE-DIRECTION SWITCH AT A HIGH DRIVING SPEED CAN CAUSE FATAL ACCIDENTS OR PERSONAL INJURY. THE VEHICLE WILL DRIVE, WITHOUT WARNING, IN THE OPPOSITE DIRECTION.

16.10 Parking the Vehicle

- only in designated areas that are fire-protected
1. Stop the vehicle
 2. Lower the tool attachments onto the ground.
After having lowered the tool attachments onto the ground, continue until the attachments start to bear the weight of the vehicle.
 3. Stop the machine by turning the ignition key and remove the ignition key when you leave the vehicle.
 4. Switch off all switches that are not required.
Before leaving the vehicle, make sure that all switches have been switched off. If required, hazard warning lights and/or the parking light may be switched on.
 5. Remove the ignition key when you leave the vehicle.
 6. Getting out of the vehicle and securing the vehicle.
When getting out of the vehicle use the hand rails and the foot step.
 7. When parking on inclines use a wheel chock.

CAUTION!

BEFORE SETTING DOWN THE TOOL ATTACHMENTS, MAKE SURE THAT NO PERSONS ARE WITHIN THE DANGER AREAS AS THIS COULD CAUSE FATAL ACCIDENTS OR PERSONAL INJURY.

16.11 Charge the machine

Charging operation

The left: Fast charging

The right: Conventional charging



1. Turn the key to the position "off".
2. Connect the charging connector to the vehicle's fast charging port.
3. Turn on the input power of the charger.
4. The charger will automatically charge according to the preset parameters and charging mode.
5. After charging, the charger will stop automatically.
6. Disconnect the charger input power.
7. Unplug the charging connector.
8. Other matters shall be carried out according to the Operation Instructions of the charger.
9. Do not operate the machine while charging.

Note: 380VAC $\pm$ 15% (three-phase four-wire system) is adopted for fast charging, and the electric cabinet must meet the power demand of at least 32A.

The specification of slow charging wire must meet 2.5mm² and above, and grounding line is required in addition.

16.12 External discharge

External discharge operation

1. Use the specified inverter.
2. Connect the inverter to the power output interface.
3. Do not exceed the current and power limits of the output port and inverter.



16.13 Departure

OPERATING INSTRUCTIONS

PROHIBITION OF TRAILING.

TRAILING IS PROHIBITED AS IT MAY DAMAGE THE VEHICLE.



17 OPTIONAL ANCILLARY EQUIPMENT

17.1 Introduction

This part of the manual contains information on the optional YUCHAI ancillary equipment. Some of these are already installed on the vehicle. Contact the responsible representative when you are interested in further equipment.

Before installing, operating and servicing the equipment, read carefully the corresponding operating instructions of the manufacturer. Consult the responsible representative if you have any questions.

If the hydraulic system of your vehicle has to be modified for the use of ancillary equipment, consult our representative. The laying of hydraulic tubes has to be carried out by qualified personnel.



REMEMBER:

SAFETY FIRST

Use the appropriate tool for the job to be carried out. Do not use too big a shovel for heavy material, this could weigh down the equipment causing undue stress which will ultimately shorten the vehicle life.



CAUTION!

REMEMBER THAT SNOW, LOOSE MATERIAL, AND MUD ALTER THE GROUND CONDITIONS. GROUND SUBSIDENCE OR COLLAPSING MATERIALS CAN CAUSE ACCIDENTS.

17.2 Light Material Shovel / Earth Shovel

17.2.1 Safety

Observe the safety instructions and the maximum admissible load capacities (see technical data).



THERE ARE MANY DIFFERENT MATERIALS, EACH HAVING THEIR OWN SPECIAL PROPERTIES. USE THE LIGHT MATERIAL SHOVEL FOR LIGHT BULK MATERIALS, SUCH AS CORN, CONCENTRATED FEED STUFF ETC., AND THE EARTH SHOVEL FOR HEAVY BULK MATERIAL, SUCH AS GRAVEL, SAND ETC.

17.2.2 Installing the Load Shovel

See "Coupling of the Tool Attachments".

17.2.3 Operation

Practice using the load shovel before first application.

Depending on the experience of the driver, the work to be done and the type of material, certain deviations from these instructions may become necessary.

17.2.4 Operating Devices

The load shovel is operated with the operating lever (see operating instructions). Use extreme care when operating the load shovel.

When emptying the load shovel and to load other vehicles it is recommended to execute two movements simultaneously, e.g. lifting and extending or lowering and retracting. To do this the movements on the control lever must be superimposed (Fig. B- 35).

- 0 = neutral position
- 1 = lifting
- 2 = lowering
- 3 = retracting
- 4 = extending

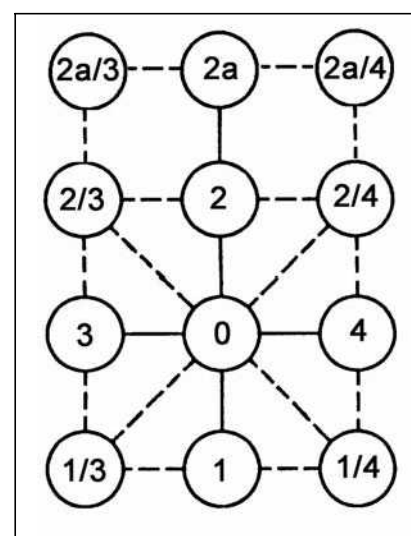


Fig. B-20

17.2.5 Working with the Load Shovel

To take up loose material, lower the load shovel and adjust the edge parallel to the ground.

Now drive towards the material to be loaded. The driving speed depends on the type of material and the working conditions.

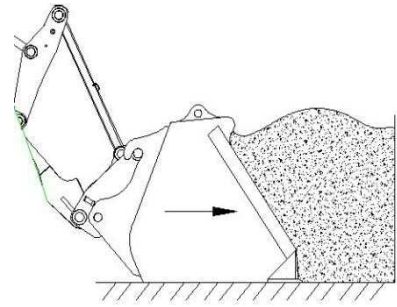


Fig. B-21

Lift the load arm slightly to load the front axle and to avoid a slipping of the tyres (also manually possible by "inching"). Retract the shovel when it is full.

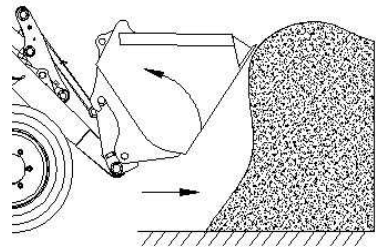


Fig. B-22

Retract the filled load shovel. Change the drive-direction and move the shovel in to the transport position to guarantee secure driving and steering.

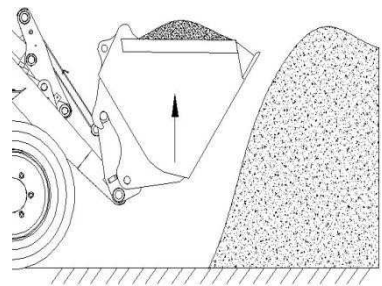


Fig. B-23

When loading material which the load shovel has difficulties penetrating, lift and lower the load shovel by operating the tipping operating lever.

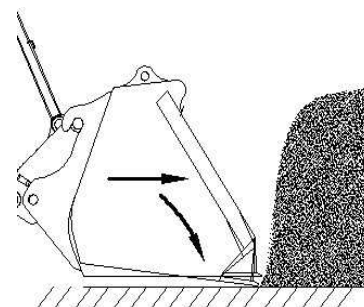


Fig. B-24

If the transport distance to the dumping place is relatively far, lift the shovel to a position where it does not touch the ground.

! CAUTION!

TRANSPORTING WITH A LIFTED AND FULLY LOADED SHOVEL IS DANGEROUS; THE LOWER THE POSITION OF THE SHOVEL, THE MORE FAVOURABLE THE DISTRIBUTION OF VEHICLE WEIGHT. THIS IS ESPECIALLY IMPORTANT WHEN TURNING OR DRIVING.

To take up soft material, lower the shovel onto the ground and extend it until a digging angle has developed. Drive forward so that the edge of the shovel penetrates the ground. Afterwards, reduce the tipping angle to cut an even layer of ground and to avoid a slipping of the tyres.

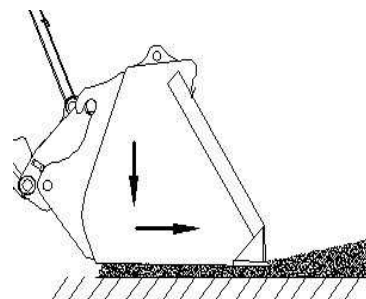


Fig. B-25

To take up hard material, lower the shovel onto the ground and extend until a digging angle has developed. When driving forward, press the shovel slightly downward, so that it penetrates the ground. Avoid an extreme slipping of the tyres. Then reduce the tipping angle, and, while driving forward, operate the tipping operating lever to lower and lift the shovel, and to load the front axle constantly.

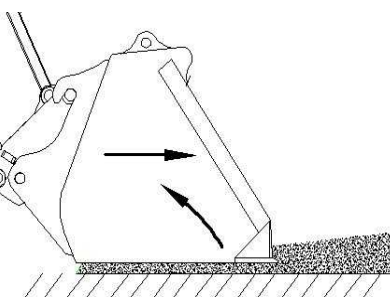


Fig. B-26

17.3 Crocodile Gripper

17.3.1 Safety

Observe the safety instructions as well as the maximum admissible load capacities (see technical data).

17.3.2 Working with the Crocodile Gripper

To guarantee stability, make sure that the crocodile gripper is always kept near to the ground. Tip the upper part of the crocodile gripper hydraulically downward.

Different tasks are possible with the crocodile gripper, such as: transport of silage fodder, loose hay, round bales, green fodder and farmyard manure, loading of towed vehicles and fertilizer spreader, mucking out of cow, pig and horse stables and many more.

The crocodile gripper is especially suited for the gripping of load material. In certain circumstances it can also be used to grip loose branches and smaller trunks or for feeding tasks.

17.3.3 Installing the Crocodile Gripper

See "Coupling of Tool Attachments".

After having attached the crocodile gripper with the quick change system, the additional hydraulic connection must be connected.

17.3.4 Operation

Practice using the crocodile gripper before first application.

17.3.5 Operating Element

The crocodile gripper is operated with the operating lever for the additional hydraulic equipment (see operating instructions). When working with the crocodile gripper operate the lever with extreme care.

18 TRANSPORT

1. Before loading the vehicle on a transporter, remove any dirt.
2. For further instructions on parking the vehicle on the transporter please refer to the chapter "Stopping and Parking". For transport, secure the vehicle correctly on the loading area. Lashing straps can be passed over the centre joint and the foot step. When handling by crane, lifting tackle is required.

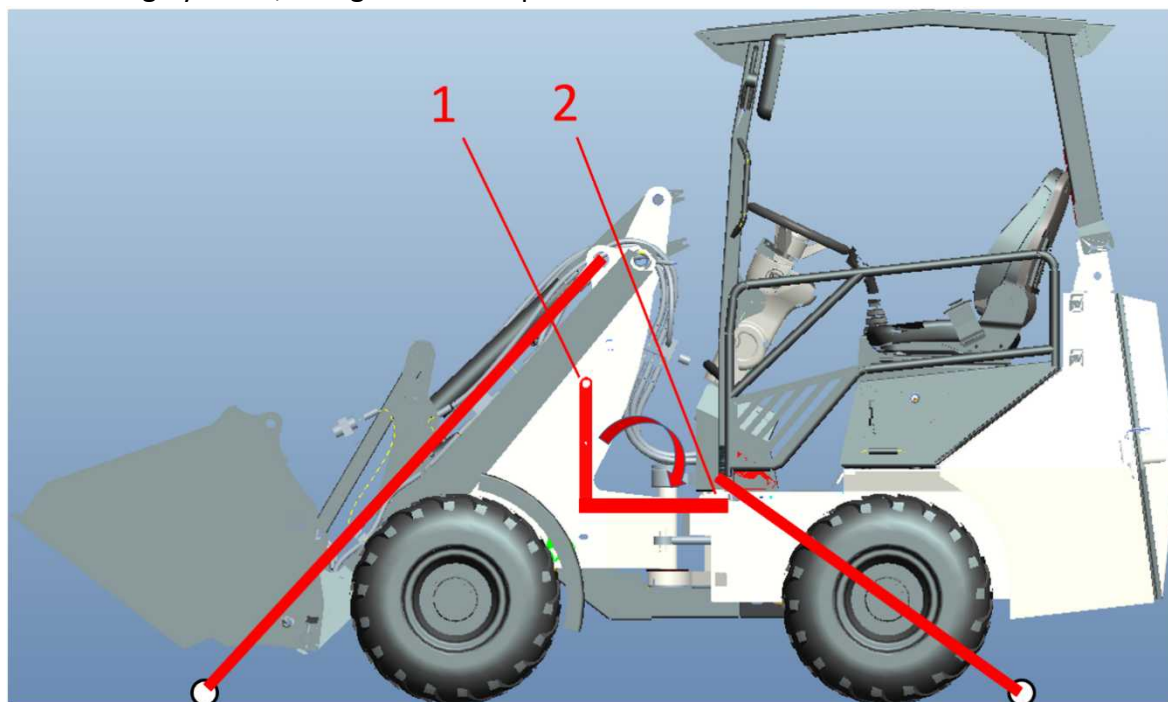


Fig. B-29



BLOCK THE CENTRE-PIVOT STEERING.

3. Blocking the centre-pivot steering:
 - The vehicle must be parked straight.
 - Loosen the locking pins (Fig. B– 29/1) and move the lever to the rear.
 - Secure the lever with the locking pin (Fig. B– 29/2) on the bolt provided therefore on the rear carriage.
4. To loosen the centre-pivot steering locking proceed in reverse order

19 TECHNICAL DATA

20.1

Loader capacity

- Operating weight: 1,880kg
- Tipping load in shovel, vehicle straight, load arm horizontal: 800kg
- Tipping load in shovel, vehicle at angle 58°, load arm horizontal: 500 kg
- Tipping load in pallet fork, vehicle straight, load arm horizontal: 520 kg
- Tipping load in pallet fork, vehicle at angle 58°, load arm horizontal: 320 kg

Admissible load capacity

- On uneven ground: 60% of the tipping load, vehicle at angle
- On even ground: 80% of the tipping load, vehicle at angle

(the operating weight, lifting forces, the tipping load etc. will change depending on the ancillary equipment and the tires used)

Capacities please refer to table “Capacities”, part C

- Hydraulic system incl. tank: 8 L

Hydraulic system

- Working hydraulic:

Flow rate: abt.36L/min.

Working pressure: 180bar

Drive (driving speed):

- 1. : 0-12km/h

Electrical system:

- Operating voltage: 96Volt
- Battery: 21.29kWh

Steering:

- Fully-hydraulic centre-pivot steering with double action cylinder
- Rotating angle: + 12°
- Steering hydraulic:

Flow rate: abt.30L/min.

Working pressure: 180bar

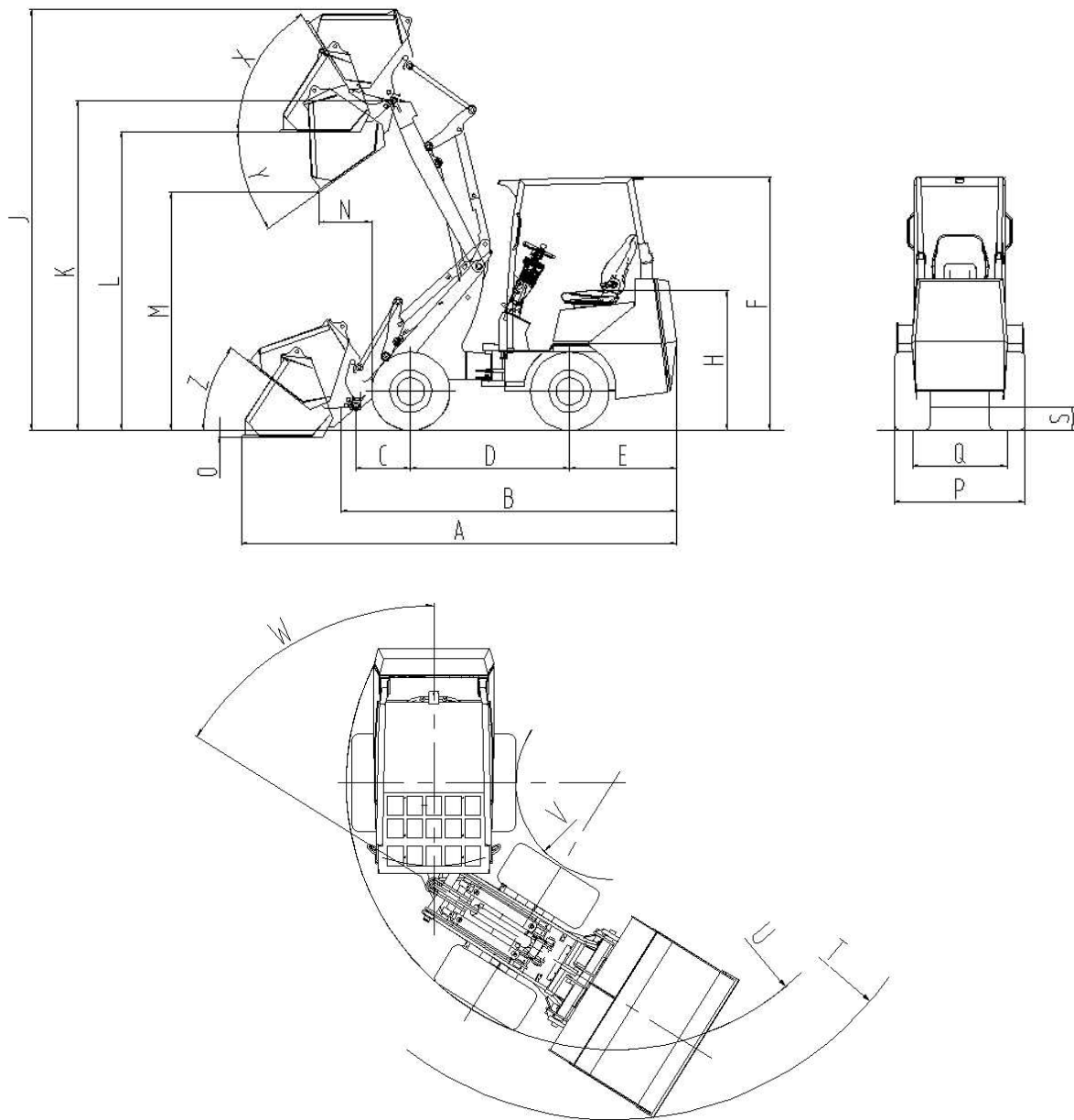
Noise rating:

–Z25

75dB

2\0.2 Dimensions

Fig. B-30



A Overall Length	3850	mm
B Overall Length (Without bucket)	3000	mm
C Axle Middle to Bucket Pin	461	mm
D Wheelbase	1345	mm
E Rear Overhang	904	mm
F Overall Height	2138	mm
H Seat Height	1178	mm
J Overall Operating Height	3547	mm
K Height of Bucket Pivot (Max.)	2781	mm
L Loading-Over Height	2518	mm
M Dumping Height	2007	mm
N Bucket to Front Wheel Distance (Dumping)	447	mm
O Digging Depth	55	mm
P Overall Width (Wide Tire/Narrow Tire)	1106/930	mm
Q Track Width (Wide Tire/Narrow Tire)	801/740	mm
S Ground Clearance	198	mm
T Min. Radius External	2268	mm
U Radius at the Outer edge	1796	mm
V Inside Turning Radius	653	mm
W Inclination Angle	58	°
X Rollback Angle at Max.Lifting Height	57	°
Y Dumping Angle (Max.)	35	°
Z Rollback Angle (on the ground)	38	°

Operating Manual, Part C

Maintenance / TroubleShooting



Z25

These instructions belong with the vehicle

21 GENERAL

21.1 Securing the vehicle

Before any maintenance or repairs, the vehicle must be secured as described below:

1. Park the vehicle on even and load-carrying ground.
2. Put the tool attachments on the ground.
3. Block the centre-pivot steering.
4. Shut off the motor.
5. Withdraw the key from the ignition switch.
6. Secure the vehicle against rolling away by blocking the wheels.
7. Disconnect the batteries before working on the electrical system or before welding.

21.2 Safety Support of the Load Arm



CAUTION!

A LOAD ARM HAVING BEEN LIFTED CAN DROP SUDDENLY AND CAUSE SEVERE INJURIES. BEFORE MAINTENANCE AND REPAIR, SECURE THE LOAD ARM WITH A SUITABLE SUPPORT.

21.3 General Safety Check

1. Check the steel parts for damage and note eventual damages of the enameling for subsequent repair.
2. Make sure that all pivot pins are in their correct position and secured by the locking devices.
3. Check condition and correct position of the step and straps.
4. Check the windows for cracks and replace damaged windows.
5. Check condition and correct position of the shovel teeth.
6. Check all spreader disks for damage.
7. Check the tires for damage and penetration of sharp-edged objects.
8. Make sure that all warning signs are mounted. If necessary, attach new warning signs.

22 MAINTENANCE

Correct and regular maintenance is precondition for a consistent optimal vehicle performance.

Only use YUCHAI original parts

A vehicle that is not correctly maintained represents a danger for your employees.

Keep your vehicle in an operative and efficient condition through regular maintenance and lubrication. The service intervals are dependant on the operating hours and the daily work to be carried out. The operating time counter has to be read regularly to define the maintenance intervals. When maintenance is due, the vehicle may not be used. Any malfunctions must be repaired immediately and carefully. The first service after 30 operating hours should be carried out by a YUCHAI dealer or one of our representatives.



CAUTION!

MAINTENANCE SHOULD BE DONE BY PERSONS WHO HAVE RECEIVED AN APPROPRIATE TRAINING. SECURE THE VEHICLE BEFORE STARTING MAINTENANCE. LOWER THE LOAD ARM AND PARK THE VEHICLE ON EVEN GROUND. SHOULD IT BECOME NECESSARY TO LIFT THE LOAD ARM DURING MAINTENANCE, THE SAFETY SUPPORTS MUST BE INSTALLED.

22.1 Maintenance Intervals

The intervals indicated refer to average operating conditions and loads. Different maintenance intervals must be observed in hours or in months, which ever comes first. The intervals indicated are based on the quality of the operating materials specified in this manual.

22.1.1 Daily Maintenance



DAILY SERVICE (PERFORM DAILY OR AT LEAST EVERY 10 OPERATING HOURS)

- Clean the vehicle
- Check for general damage
- Check the hydraulic oil cooler for cleanliness
- Check the level of the hydraulic oil
- Check the hydraulic system
- Check the condition of the tires and the tire pressure
- Check, that all screws are tight
- Check the wheel nuts
- Check the safety belt
- Check the instruments and control lights as well as the acoustic warning devices
- Check the electrical system
- Check the foot brake
- Check the hydraulic steering
- Check the function of the hydraulic devices
- Check the ancillary equipment
- Check the lubrication of all pivot pins
- Lubricate according to lubrication chart
- Lubricate the tool attachments
- Lubricate centre joint
- Lubricate pivot pin of steering cylinder
- Check that all screws of the ROPS structure are tight

22.1.2 Weekly Maintenance

NOTE:

WHEN CHECKING THE HYDRAULIC OIL LEVEL, THE VEHICLE MUST BE PARKED ON EVEN GROUND AND THE LOAD ARM BE LOWERED.



CAUTION!

WEEKLY SERVICE (PERFORM WEEKLY OR AT LEAST EVERY 30 - 50 OPERATING HOURS)

- Check the ancillary equipment
- Check the piston rods of the hydraulic cylinders
- Check the position of pipes and tubes
- Check the position of the electric cables
- Lubricate the cardan shafts (universal joint)
- Lubricate all levers
- Lubricate all bowden cables and hinges
- Tighten all screws

22.1.3 Maintenance intervals

Warning: Before operating and maintaining the machine, it is necessary to follow the warnings in the manual to check whether all functions of the machine can be used normally. Untrained operators and incorrect operation will cause personal injury and death.

Items	Inspection and maintenance details	Maintenance period (total working hours)					
		10	50	100	500	1000	2000
Battery box	Check cables, connectors and terminals, and remove dust	▲					
Motor and its controller	Check whether the installation is stable and whether the connectors are fastened	▲					
Boom, cylinder	Lubricate with lithium grease lubricant		▲				
Tire	Check tire wear and tire pressure (except solid tire)	▲					
Seat belt	Check the use of the seat belt can be used properly. Remove the dust and debris from the parts	▲					
Safety signs	Replace the worn signs	▲					
Cab	Check the fastening of the nuts and gaskets, check the cab.	▲					
Work light	Check that the work lamp can be used properly	▲					
Hydraulic oil hoses and rigid pipes	Check the hydraulic oil level, refill as necessary, check for wear and leakage, and replace as necessary.	▲					
Pedal operation handle	Check for normal operation and repair if necessary	▲					
Tire nut	Check the tightness of the nuts	▲					
Travel reducer	Check wear and leakage, replace the gear oil	▲					
Hydraulic filter	Replace the filter					▲	
Hydraulic oil tank	Replace the hydraulic oil						▲

22.2.1 Tilting the Driver's Cabin



CAUTION!

THE MOTOR COVER MUST NOT BE OPENED WHEN THE MOTOR IS RUNNING.

1. If necessary, the driver's seat must be slightly pushed forward.
2. Depress the lever to unlock the locking of the driver's seat
3. At the same time take the driver's seat by the lever and tilt it upwards.
4. When the driver's seat is completely tilted, it is secured by the rope .
5. Closing is done in reverse order.



22.3 Maintenance of the Hydraulic System

22.3.1 Description of the Hydraulic System (Z25)



CAUTION!

MAKE SURE THAT MAINTENANCE WORK IS DONE WITH EXTREME CLEANLINESS. DIRT OR WATER IN THE OIL MAY CAUSE PREMATURE WEAR OR COMPLETE FAILURE OF THE COMPLETE SYSTEM. ONLY USE AN APPROPRIATE HYDRAULIC OIL (SEE SELECTION CHART) OUT OF CLOSED CONTAINERS. BEFORE INSTALLATION, CLEAN THE INSIDE OF THE HYDRAULIC TUBES.

A hydraulic tandem gear pump is flange-mounted on to the motor. The pump supplies the steering and the lifting hydraulic. The oil flow to the hydraulic cylinders of the load arm or to the front hydraulic connection is controlled via the four-way control valve. The oil can also be supplied to the drive circuit by operating an additional lever (hydraulic overdrive). The oil return flow to the tank passes a return filter. The capacity of the hydraulic oil tank is indicated in the capacity chart. The oil temperature may not exceed 80° C. The oil level can be read on the oil level gauge.

22.3.2 Description of the Hydraulic System (Z25)

The working hydraulic of the loader is supplied by a hydraulic gear pump. The pump is flange-mounted on to the variable displacement pump and supplies the steering and the control valve of the load arm. The oil temperature may not exceed 80° C. The oil level can be read on the oil level gauge. Change the oil and replace the filter in accordance with the inspection schedule.

22.3.3 Oil Cooler (Z25)

The oil cooler is mounted on the back carriage. The electric fan is switched on via a thermal switch which is incorporated in the variable displacement pump, when the oil temperature has reached 45° C the switch turns the fan on.

If the hydraulic system gets too hot during longer road journeys or high ambient temperatures, check that the cooler is clean.

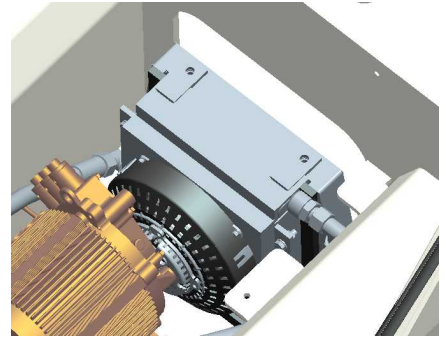


Fig. C-44

CAUTION!

PARK THE WHEEL LOADER ON AN EVEN SURFACE AND LOWER THE TOOL ATTACHMENTS ON TO THE GROUND. APPLY THE PARKING BRAKE. STOP THE MOTOR. OPERATE THE CONTROL LEVERS FOR THE TOOL ATTACHMENTS UNTIL ALL WORKING MOVEMENTS OF THE TOOL ATTACHMENTS ARE STOPPED TO RELEASE PRESSURE FROM THE HYDRAULIC SYSTEM. SECURE THE VEHICLE AS DESCRIBED IN CHAPTER “PARKING THE VEHICLE”.

CAUTION!

THE HYDRAULIC TANK CAN BE UNDER SLIGHT PRESSURE.

22.3.4 Hydraulic Oil Level

The level of the hydraulic oil shall be observed through the round oil leveler.

The hydraulic oil level shall be clearly seen on the round oil leveler, and the oil shall not be filled over much, otherwise the level can not be seen through the round oil leveler. Since this may cause damage to the hydraulic oil line or injection of oil. If the fuel is too full, stop the machine and drain the excess oil from the oil drain plug after the oil cools. If the oil gauge shows that the liquid level is too low or the liquid level is not visible, oil shall be refilled in time through the oil filler port on the top of the hydraulic oil tank.

22.3.5 Purge Filter (Z25)

A purge filter guarantees purging of the hydraulic tank when the hydraulic oil levels varies. The purge filter contains one filter cartridge to prevent the entrance of dust and dirt and the flowing out of oil. It can not be cleaned. Replace the complete purge filter after 1000 operating hours.

22.6.6 Changing the Hydraulic Oil



DANGER OF SCALDING BY HOT HYDRAULIC OIL. COLLECT THE HYDRAULIC OIL FLOWING OUT AND DISPOSE OF IT IN AN ENVIRONMENTALLY FRIENDLY WAY. READ AND OBSERVE "INSPECTION, MAINTENANCE, SAFETY". NEVER START THE MOTOR WHEN THE HYDRAULIC TANK IS EMPTY. SECURE THE VEHICLE FROM UNAUTHORISED USE.

1. Lower the tool attachments on the ground.
2. Stop the motor and apply the parking brake.
3. Put a container under the hydraulic tank. The capacity required is indicated in the capacity chart.
4. Loosen the purge filter.
5. Unscrew the drain plug at the bottom of the hydraulic tank.
6. Unscrew the cover. Clean the bottom of the tank and the inner surfaces with hydraulic oil or scavenge oil. Screw on drain plug.
7. Replenish hydraulic oil through the sieve below the purge filter until the upper mark of the oil level gauge. Screw on the purge filter and purge the complete system.

22.6.7 Purge of the Working and Steering Hydraulic

The hydraulic system must be purged after each hydraulic oil change, longer periods of non use or malfunctions of the hydraulic system.

Working Hydraulic

1. Check the oil level of the hydraulic tank and replenish if required.
2. Start the motor and run at idle speed for several minutes. Retract and extend the piston rods of all hydraulic cylinders several times.

Steering Hydraulic

1. Turn the steering wheel to the full extent in both directions while the motor is running.
2. Repeat the procedure until the steering can be operated perfectly without any noise.
3. After purging check the hydraulic oil level again and replenish oil if necessary.

22.7 Steering Mechanism

The vehicle is equipped with a centre-pivot steering combined with a self-aligning bearing that ensures that all four wheels make contact with the ground at all times. The centre joint must be lubricated daily with multipurpose grease

22.8 Track Widening

A track widening or equipping with twin tire s must be approved by the manufacturer.

22.9 ROPS

The vehicle is equipped with a roll-over protective structure (ROPS). Working with a ROPS that is not fitted or faulty may cause fatal accidents or serious injuries. A changed or improperly repaired ROPS is dangerous. When the ROPS has been damaged by an accident, the vehicle may only be used after repair and check of the ROPS by a qualified person.

Contact your YUCHAI dealer or one of our representatives. Ignorance of these instructions may cause fatal accidents or serious injuries.

1. Check the ROPS for damages.
2. Make sure that all screws are tight.
3. Check the torque of the screws. If necessary, torque screws.



IF THE ROPS IS TO BE REMOVED, SPECIAL INSTRUCTIONS HAVE TO BE OBSERVED.

22.10 Cleaning the Vehicle

As long as the vehicle is new (first three months) it should only be cleaned with a sponge. As the coating has not hardened completely, cleaning with a water jet may cause damage to the finish.

When you clean the vehicle pay particular attention to the underside. No mud may collect at the motor and the control-box. Make sure that the radiator grid is not clogged. The vehicle is splash- proof. Do not clean the dashboard, the generator, the compact connector or the radiator with a sharp water jet (high-pressure cleaner). Cover the multifunction-lever before cleaning.

22.11 Safety Belt

The safety belt must be replaced when it is damaged, worn or after an accident. Beyond that the safety belt should be renewed every three years.

Check the safety belt for fraying and elongation. Make sure that the seams are not damaged and check the function of the lock.

Make sure that the screws are fitted correctly and are tight.

22.12 Tire s and Wheels



CAUTION!

INFLATED TIRES WILL GET VERY HOT, EXPLODE AND CAUSE FATAL ACCIDENTS. DO NOT CUT OR WELD THE WHEEL RIMS. REPAIRS SHOULD BE DONE BY A TIRE OR WHEEL SPECIALIST.

22.12.1 Inflating the tire s

The following instructions refer to the inflation of the tire s after a drop in pressure. After a complete drop in tire pressure, this task should be undertaken by a trained tire mechanic with appropriate equipment.

1. Preparing the Wheel:
Check that the tire is correctly installed.
2. Preparing the Equipment:
Only use pressure supplied with a pressure regulator. Adjust the regulator to max. The recommend tire pressure above 1.38 bar. Use an air hose with self-locking pneumatic chuck and remote stop valve.
3. Inflation:
Make sure that the air hose is fitted correctly to the tire valve. Keep persons away. When inflating, stand behind the tire and inflate until the recommended pressure has been reached (see air pressure table).

22.12.2 Checking the Seat of the Wheels

When the vehicle is new, or, after having replaced one wheel, check the torque of wheel nuts every two hours until the value does not change. Make sure the wheel nuts are tight every day before using vehicle.

The correct torques are indicated in the chart below:

	Front Wheels	Rear Wheels
Wheel nuts M 10	20kgf.m	20kgf.m



CAUTION!

WHEN REPLACING A WHEEL BOLT, ALL BOLTS OF THE CORRESPONDING WHEEL MUST BE RENEWED, AS THE OTHER BOLTS MAY ALSO BE DAMAGED.

22.14 Maintenance of the brake system

Damaged brakes can cause fatal accidents. Therefore, have your brake system checked regularly by your dealer. During service, check the function of the brake system and adjust the brakes if necessary. Only continue to work with the vehicle after the fault has been corrected.

22.14.1 Brakes (Z25)

The vehicle is equipped with a foot brake and a auto-parking brake.

22.15 Lithium battery pack



Warning:

- The lithium battery pack contains chemicals and is highly corrosive. Do not disassemble or damage it by yourself.
- When charging, it will cause explosion in case of open fire, so keep away from open fire.
- External force impact or shock shall be avoided.

1. Storage requirements

- The lithium battery pack should be stored in a dry, clean and well ventilated environment at 5~25 °C. They should be free from direct sunlight and at least 2 meters away from the heat source. If the ambient temperature is too high, the performance of the battery will be greatly affected.
- It shall not be placed upside down or horizontally, and shall not be subjected to any mechanical impact and heavy pressure.
- The storage period at room temperature is 3 months. If the battery will not be used for more than 3 months, it shall be guaranteed to recharge once a month.

2. Charging requirements

- Slow charging input voltage and current AC 220V, 15 A. Fast charging input voltage and current AC 380V, 33 A.
- Please use a special charger and charge according to the instructions.
- Please turn off the manual power switch of the machine before charging.
- If it is necessary to stop charging during the charging process, press the charger pause button first, and then pull out the charging gun.
- When the lithium battery power is lower than 20%, please charge it in time.
- It is recommended to fully charge the battery at least once a week during normal use.
- When the battery is not used for more than 3 months, it shall be guaranteed to recharge once a month.

3. Other matters

- When the vehicle stops for more than 6 hours, the lithium battery will enter the sleep state and need to be restarted, so please turn off the manual power switch of the machine.



Warning: to prevent accidents, please note:

- Do not use lithium batteries in an environment above 55°C or below - 25°C.
- Do not flush the lithium battery box directly.
- Do not place heavy objects or conductors on the surface of the lithium battery box.
- Do not overcharge or charge under over voltage.
- Do not impact the lithium battery pack with external force.
- Keep children or other animals away from the lithium battery pack.
- To prevent damage to the internal components of the battery pack, please do not disassemble the lithium battery pack unless authorized by the battery pack manufacturer.

22.16 Travel reducer

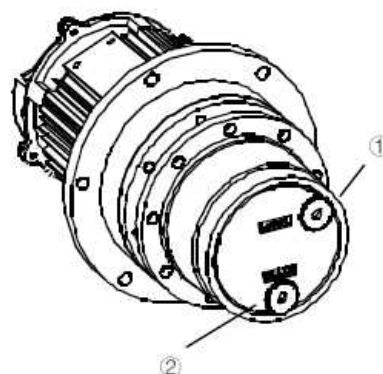
1. Check the lubricating oil level of the travel reducer and fill oil



Warning: The oil in the reducer will heat up shortly after the machine moves. After stopping the equipment, the travel reducer and oil are still at a high temperature, which can cause severe burns. Before operation, wait for the oil to cool down. Loosen the exhaust screw plug by two to three threads and release the air pressure in the box before removing the screw plug. It is dangerous to remove the plug quickly.

Check once every 250 hours.

- 1) Prepare an Allen wrench.
- 2) Park the excavator on level ground.
- 3) Rotate the travel reducer to make the two screw plugs on its outer end face reach the position shown in the figure, and then stop the machine.
- 4) Slowly open the plug ① after the oil cools down
- 5) Continue to unscrew the plug ① after the air pressure in the tank is released.
- 6) Check the position of the oil level, which should reach the lower edge of the plug hole.
- 7) If necessary, replenish the gear oil.
- 8) Clean the drain plug ① and reinstall it to the reducer.



2. Replace the lubricating oil (for each reducer)

Replace it after 2000 hours of operation, and the oil change interval is every 2000 hours (the capacity is about 0.35 L, heavy-duty vehicle adopts gear oil GL-5 or SAE80W/90).

- 1) Park the machine on a level surface.
- 2) Rotate the reducer so that the screw plug is in the position shown.
- 3) Drain the oil when the reducer oil is hot.

Note: Don't burn yourself by hot oil.

- 4) Loosen the plug ② and start to drain the oil thoroughly.
- 5) Tighten the screw plug ② again.
- 6) Add the specified lubricating oil from the oil filling hole ① until oil flows out from the oil level inspection hole ①.

3. Check the tightening torque of the travel reducer connecting bolts

Perform the first inspection after new machine works for 50 hours and then every 500 hours. Tighten the bolts connecting the reducer to the chassis and hub.

23 CAPACITIES AND OIL TYPES

24.1 Capacities

24.1.1 Z25

Item	Capacity (litre)	Specification	Maintenance period (total working hours)
Complete hydraulic system	16	Low temperature area: HS46+, General area: HMP46+	2000
Hydraulic tank	8	Low temperature area: HS46+, General area: HMP46+	2000
Travel reducer	0.35x4	Heavy-duty vehicle adopts gear oil GL-5 or SAE80W/90	2000

24 LUBRICATION SCHEDULE

Lubricate all lubrication points daily with water-resistant multipurpose grease.

Lubricate all movable parts, such as parking brake lever, foot pedals, bowden cables etc. with an oilcan!

NOTE:

MAKE SURE THAT ALL STEERING CYLINDER LUBRICATION NIPPLES ARE LUBRICATED!!!

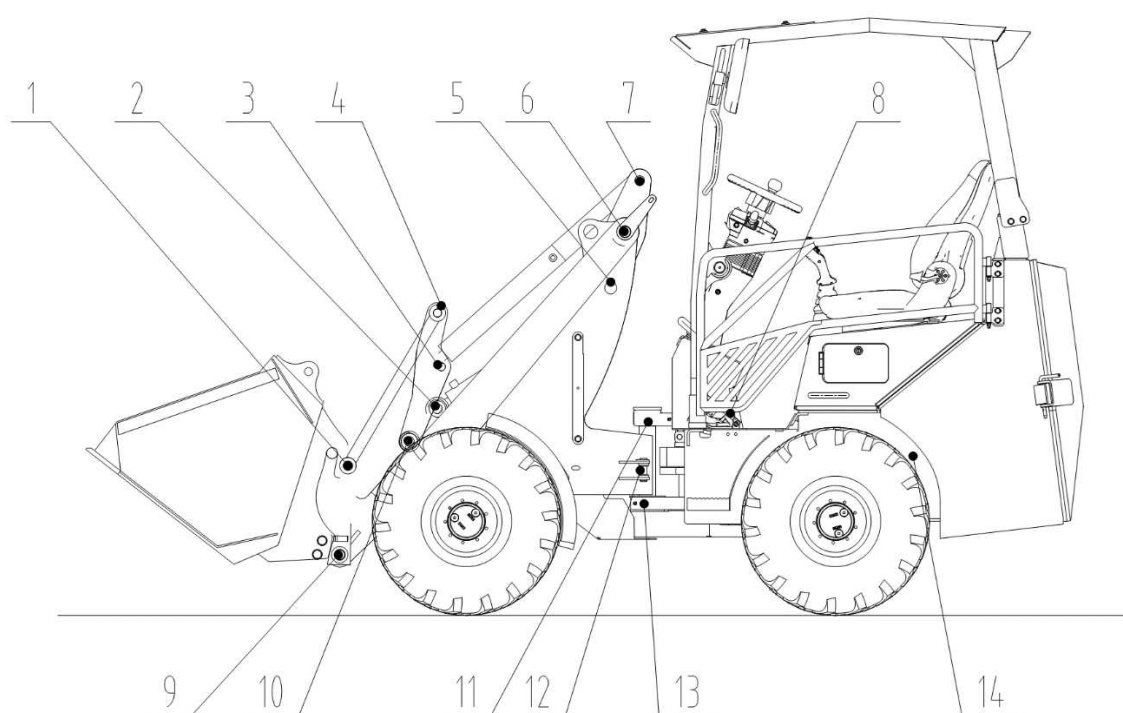


Fig. C- 54

Item	Lubricating Points	No. of Nipples
1	Front tow-bar	1
2	Front lifting cylinder	2
3	Front tipping cylinder	1
4	Rear tow-bar	1
5	Rear lifting cylinder	2
6	Bearing of load arm	2
7	Rear tipping cylinder	1
8	Accelerator pedal bearing	1
	The Z25 also with brake pedal bearing	1
9	Seat for tool attachments	2
10	Reversing lever bearing	1
11	Top centre joint bearing	2
12	Front steering cylinder	1
13	Bottom centre joint bearing	1
15	Rear steering cylinder	1

26 tire PRESSURE

Designation	PR	ET	Max. Admissible Air Pressure
10.0/75 - 15.3 AS-Farmer	8	+10	3,00
10.0/75 - 15.3 AS-Farmer	8	- 5	3,00
10.0/75 - 15.3 E3-Grader	8	+40	3,00
10 x 16.5	6	0	3,50
10 x 16.5	6	+30	3,50
10,5 / 80 - 18 Goodyear AS	10	0	3,75
11.5 / 80 x 15.3 AS-Farmer	8	+40	3,75
12 x 16.5	8	+40	aprox. 3,50
12,5 x 18	10	0	aprox. 4,00
15.0 / 55 - 17 AS-Farmer	10	0	3,75
15.5 / 55 R 18 SPG 7	14	0	4,00
15.5 / 70 x 18	18	0	aprox. 3,75
27 x 10.5 - 15 Dico	4	0	3,50
28 x 8.50 - 15 Dico	4	-10	2,50
27 x 8.50 - 15 Dico	4	+30	2,50
27 x 8.50 - 15 Dico	4	-40	2,50
29 x 12.50 - 15 T 411	4	-21	2,50
29 x 12.50 - 14 T 411	4	-5	2,50
4.50 - 14 AS Farmer	4	+26	3,50
7.00 - 12 AS Farmer	6	+45	2,70
7.00 - 12 AS-Farmer	4	+45	2,50
7.00 - 12 AS-Farmer	6	-40	2,70
7.00 - 12 AS-Farmer	4	-40	2,50
7.00 - 12 AS-Farmer	4	-21	2,50

27 ORDERING OF SPARE PARTS

When you order spare parts, please give the following information to guarantee a smooth handling of your order and delivery.

- YUCHAI vehicle type
- Vehicle and chassis identification number (see identification plate)
- Article number and nomenclature of the spare part
- Your address and telephone number (for eventual queries)
- Customer-number (if any)
- Name of the person placing order
- Mode of dispatch (please see below)

Please note that the illustrations in our spare parts lists may not always be a true representation of the corresponding original part. We reserve the right of modification for technical improvements.

Do not know the part number, YUCHAI shall prevail, to avoid wrong delivery. Parts which are not requested to be returned will be scrapped.

Please inform us of your address if you are a new customer, so that the correct processing of subsequent deliveries can be guaranteed. For initial orders, cash on delivery.

When free compensation is requested for special reasons, parts must be prepaid. When ordering, please do not forget to specify the desired delivery method:

- Overnight
- Parcel service
- Haulage

Use only original YUCHAI spare parts which have been produced in our works and guarantee an optimal installation and an excellent quality.



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