https://truckmanualshub.com/

CUKUROVA
BACKHOE LOADERS

880

OPERATION AND MAINTENANCE MANUAL

CE

ÇUKUROVA

https://truckmanualshub.com/

ÇUKUROVA
BACKHOE LOADERS

880

OPERATION AND MAINTENANCE MANUAL

PART NO: 204160033R01

ÇUKUROVA MAKİNA İMALAT VE TİC.A.Ş.
ŞAHİN MAHALLESİ SAİT POLAT BLV. NO:326 PK.61
33470 TARSUS / MERSİN / TURKEY
TEL: 00 90 324 6162678
FAX: 00 90 324 6163220

ISSUE DATE: 02/2012

https://truckmanualshub.com/

INDEX

Index..... 1
Foreword..... 3
Information to the operation and maintenance manual..... 4
Information to the vehicle..... 6
Machine information..... 7
Technical properties..... 7
Main Components..... 10
Positions of the machine..... 12

SAFETY INFORMATION
Safety information..... 13
General safety information..... 14
Crushing and burn prevention..... 14
Fire and explosion prevention..... 15
Machine start up safety..... 15
Engine start up and operating safety..... 16
Machine operating safety..... 16
Machine parking safety..... 18
Machine transporting safety..... 18
Machine towing safety..... 18
Machine maintenance safety..... 18
Hydraulic lines and Hoses..... 20
Sign on the backhoe loader..... 22

CONTROL AND INSTRUMENTATION
Steps and Handles..... 31
Cab doors..... 31
Operator's seat..... 31
Starter Switch..... 33
Steering column tilting pedal..... 34
Brake Pedals..... 34
Engine accelerator pedal..... 34
Engine throttle lever..... 35
Parking brake lever..... 35
Travel direction control lever..... 35
Gear lever 35
Direction indicator,lighting, windshield control and horn lever 36
Front control panel 36
Side control panel - Controls 37
Side control panel - gauges and warning lamps..... 38
Loader attachment controls 40
Backhoe attachment controls 41
Stabilizer controls 42

ACCESSORIES
Cab interior light..... 43
Tape recorder..... 43
Beacon lamp..... 43
Rear View mirrors..... 43
Bottle holder..... 43
Battery master switch..... 44
Tool box..... 44
Windshield washer reservoir..... 44
Cigar lighter..... 44

OPERATING PROCEDURES
Pre-starting inspection..... 45
Engine oil level..... 45
Engine coolant level..... 45
Check fuel system..... 46

Hydraulic level..... 46
Brake fluid reservoir level..... 46
Machine start up safety..... 47
Engine start up and operating safety..... 47
Engine start up procedure..... 47
Engine shut down procedure..... 48
Machine operating safety..... 48
Backhoe attachment working position..... 50
Backhoe attachment travelling position..... 51
Operations with loader bucket..... 51
Road travelling function..... 52
Job site travelling function..... 52
Transporting the backhoe loader..... 53
Lifting the backhoe loader..... 54
Towing the backhoe loader..... 54
Parking the backhoe loader..... 55
Working in the water..... 55

LUBRICATION
General safety information..... 56
Lubricant and fuel chart..... 57
Lubricant and operating materials specifications 59
Lubrication chart..... 64
Diesel engine..... 65
Cooling system..... 66
Oil in the hydraulic system..... 68
The fuel system..... 69
Transmission..... 70
Front axle 72
Reduction gears 72
Rear axle..... 73
Brake fluid..... 74

MAINTENANCE AND ADJUSTMENTS
Machine maintenance safety..... 75
Hydraulic lines and hoses..... 77
During maintenance..... 77
Hoursmeter..... 78
Front and rear windshield washer reservoir..... 78
Dry air filter..... 78
Tyres..... 79
Engine alternator and fan belt..... 80
Hydraulic cylinders..... 81
Parking brake..... 81
Brake pedals..... 82
Engine valve clearence..... 82
Rops/fops cab..... 82
Replacing a backhoe and loader bucket tooth..... 82
Transmission..... 82
Battery 83
Welding..... 83
Machine cleaning..... 84
Engine troubleshooting..... 85
Maintenance chart..... 89

STORAGE
Preparing the machine for storage..... 91
Preparing the machine for work after a long period of storage..... 91

FOREWORD

This manual is primarily for the operator and the service engineers and contains information which is vital to the correct operation and proper maintenance of the CUKUROVA BACKHOE LOADER.

It includes:

Accident Prevention, Guidelines and Operating Instructions
Maintenance Instructions.

This Operation and Maintenance manual should be given to the OPERATOR and any other person, who might work on the machine. It is very important that should read the manual carefully before operating or working on the CUKUROVA BACKHOE LOADER and at regular intervals thereafter, for example:

- Operation, including installing and removing the attachments, trouble shooting during operation, cleaning, care, disposing of operating and auxiliary fluids,
- Maintenance work (maintenance, inspection, repair),
- Transportation.

The manual will make it easier for the operator to get accustomed to the BACKHOE LOADER and to prevent any problems due to improper handling.

All maintenance personnel should follow the operating and maintenance instructions and your BACKHOE LOADER will give you constant and reliable service with excellent performance, reducing repair costs and down time.

In addition to the operating and maintenance guidelines in this manual, additional local and national accident prevention guidelines and environmental regulations may be applicable and must be observed

The Operation and Maintenance Manual is part of the machine and should be left in the storage compartment of the operator's cab.

Note: We cannot honour any claims which could arise due to careless handling, improper operation, inadequate maintenance, use of unauthorized oils or lubricants, non-observance of the safety instructions, etc.

CUKUROVA reserves the right to cancel any warranty claims, service contracts etc. without prior notice if any other than Original CUKUROVA parts or parts sold by CUKUROVA are being used for maintenance and repairs.

This Operation and Maintenance manual contains all necessary information to operate and maintain your BACKHOE LOADER. However, should you need additional information or explanations, please contact CUKUROVA's Technical Documentation or Customer Service Department.

NOTE: CUKUROVA reserves the right to make any alteration without prior notice.

INFORMATION TO THE OPERATION AND MAINTENANCE MANUAL

ISSUE : .....

SERIAL NO : .....

This Operation and Maintenance Manual is valid for backhoe loaders from the following serial numbers:

We recommend that you fill in the following table as soon as you receive your backhoe loader. This will also be helpful when you order parts.

Serial No.:

Manufacturing Date:

Delivery Date: **../../..**

We reserve the right to make any technical changes compared to data and illustrations given in this manual.

Warranty and liability are subject to CUKUROVA's general business terms and conditions are not changed in any way by instructions in this manual.

Instructions and photos or drawings in this manual may not be reproduced, used for any reason and/or distributed without written permission from the publisher. All rights reserved.

Manufacturer: CUKUROVA MAKINA IMALAT VE TIC.A.S.
ŞAHİN MAHALLESİ SAİT POLAT BLV. NO:326 PK.61
33470 TARSUS / MERSİN / TURKEY
TEL: 00 90 324 6162678
FAX: 00 90 324 6163220

880 BACKHOE LOADER (4 WHEEL DRIVE)



INFORMATION TO VEHICLE

You should determine the model of the vehicle, serial number and manufacturing year while the spare parts demand and taking information.

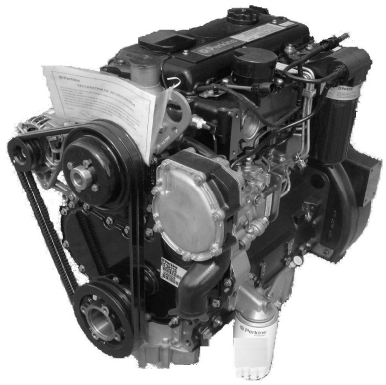
Vehicle





1- Model …….
2- Serial number ……..
3- Manufacturing year……

Engine



4- Model .....
5- Serial number .....

Serial numbers of components

Hydraulic pump ……..
Front axle ……
Rear axle…….
Loader control valve ……
Backhoe control valve ……..
Transmission .....……..

OPERATOR'S COMPARTMENT



Cabin serial number ……
Max weight of vehicle……..

MACHINE INFORMATION

These are backhoe loaders that are designed with operating weight 7.1 tons, rigid frame, bucket capacity of 0.19 m^3 and shovel capacity of 1.0 m^3.This machine is designed to dig and load in closed and open terrain.

WARNING: Because of exhaust gas, use the machine only in well ventilated areas.

TECHNICAL PROPERTIES

For 880

ENGINE

Make	PERKINS 1104C-44T
Engine type	4 Stroke diesel nat. aspirated
Engine power	68,5 kW/ 91,3 hp
Rated speed	2200 rpm
Displacement	4.4 L
Bore and stroke	105X127 mm
Max.torque	395 Nm

ELECTRICAL SYSTEM

Battery	12/105 V/Ah
Starter	3 kW

HYDRAULIC SYSTEM

Hydraulic pump	Gear pump
Max. flow	117 l/min
Max. press.	220 bar
Hydraulic oil filter	Full flow filter in return line with integrated fine filter area
Hydraulic oil cooler	Hydraulic and transmission oil cooler
Hydraulic controls	
Backhoe control	Mechanical levers
Loader control	Mechanical lever

TRANSMISSION

Make	Carraro
Type	Powershuttle
Travel speed	
1 st	5.8 / 5.8km/h
2 nd	9.3 / 9.3km/h
3 rd	21.4 / 21.4km/h
4 th	40 / - km/h

AXLES/BRAKES

Type	4WD
Make	Carraro
Axle oscillations	±8 degree on front axle
Rear axle	Electro hydraulic operated differential lock
Service type	Hydraulic wet multi-disc
Parking type	Mechanical control on rear axle

TIRES

Front 4WD-standard	12,5/80-18
Rear 4WD-standard	16,9-28

LOADER

Type	General purpose bucket
Shovel capacity	1 m³
Breakout force-lift	46.93 kN
Breakout force shovel max.	43.51 kN
Shovel width	2230mm
Lift to full height	3080 kg

BACKHOE

	Standard	**Optional**
Type	Standard boom	Telescopic boom
Max. bucket tear-out retract	44 kN**	
Dipper tear-out		
Retracted	30,3 kN**	

CAB

Cab	ROPS(ISO 3741) and FOPS(ISO 3449) type tinted safety glass giving total visibility, full opening rear-side windows, front and rear windscreen wipers

STEERING

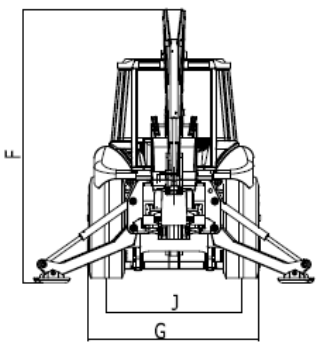
Steering type	2 wheel
Power steering	Hydrostatic
Outer front tyre clearance diameter	7,75 m
Without brakes	
Outer loader bucket clearance diameter	10,7 m
Without brakes	

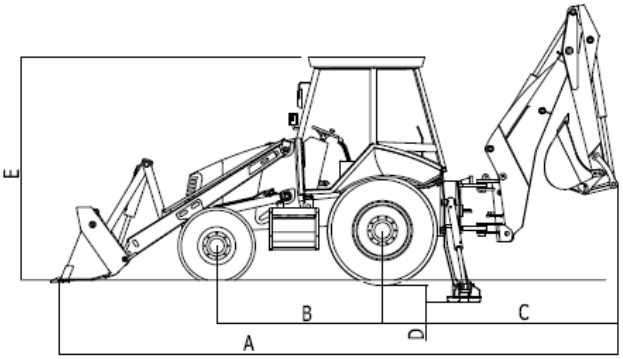
CAPACITIES

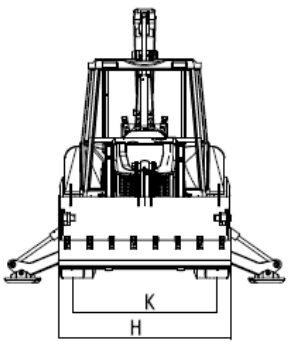
Engine oil (with filters)	8.4	l
Cooling system	23	l
Fuel tank	120	l
Hydraulic tank	85	l
Hydraulic system	125	l
Axle oil		
Front	9,1	l
Rear	17	l
Brake oil	0,4	l
Transmission oil	16	l

WEIGHTS

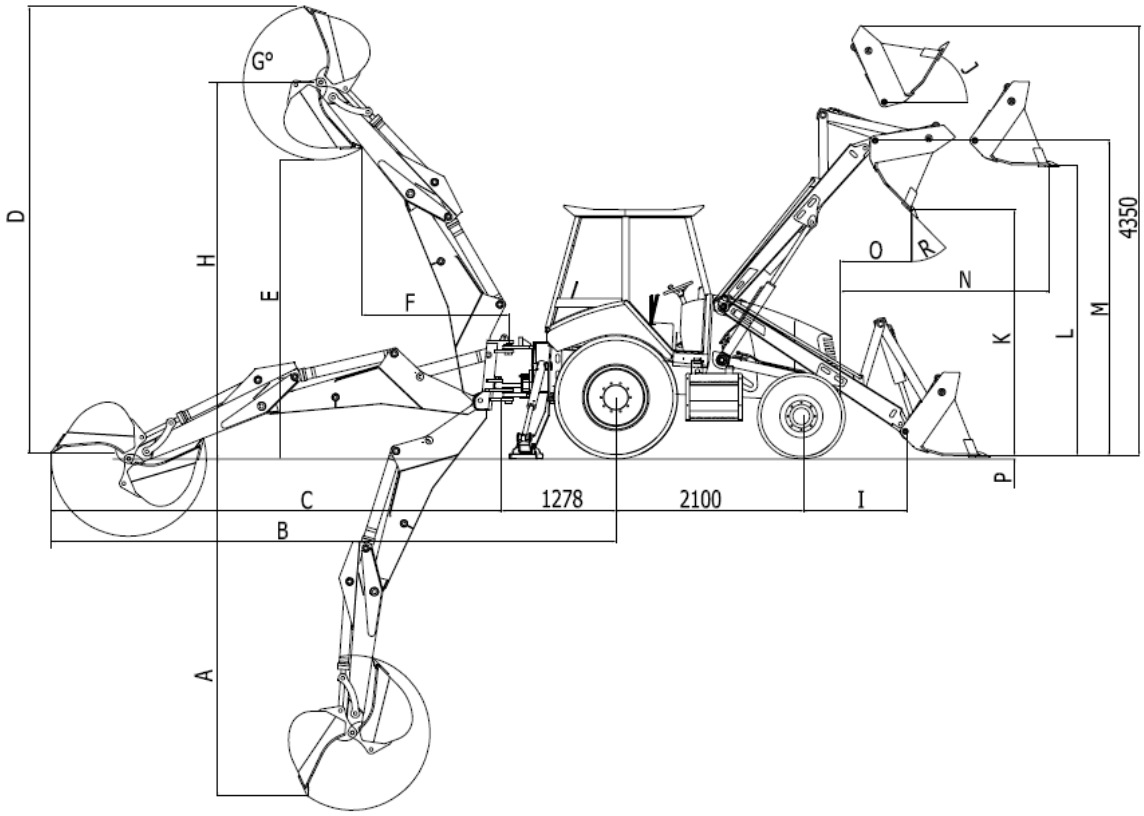
Operating weight	7100 kg







A- Overall machine length	7078 mm
B- Wheelbase	2100 mm
C- Rear wheel center – rear lever distance	3040 mm
D- Minimum machine height	206 mm
E- Cab height	2830 mm
F- Machine maximum height	3545 mm
G- Machine maximum width	2210 mm
H- Overall width- with bucket	2230 mm
J- Rear wheel track	1740 mm
K- Front wheel track	1870 mm



Backhoe Dimensions

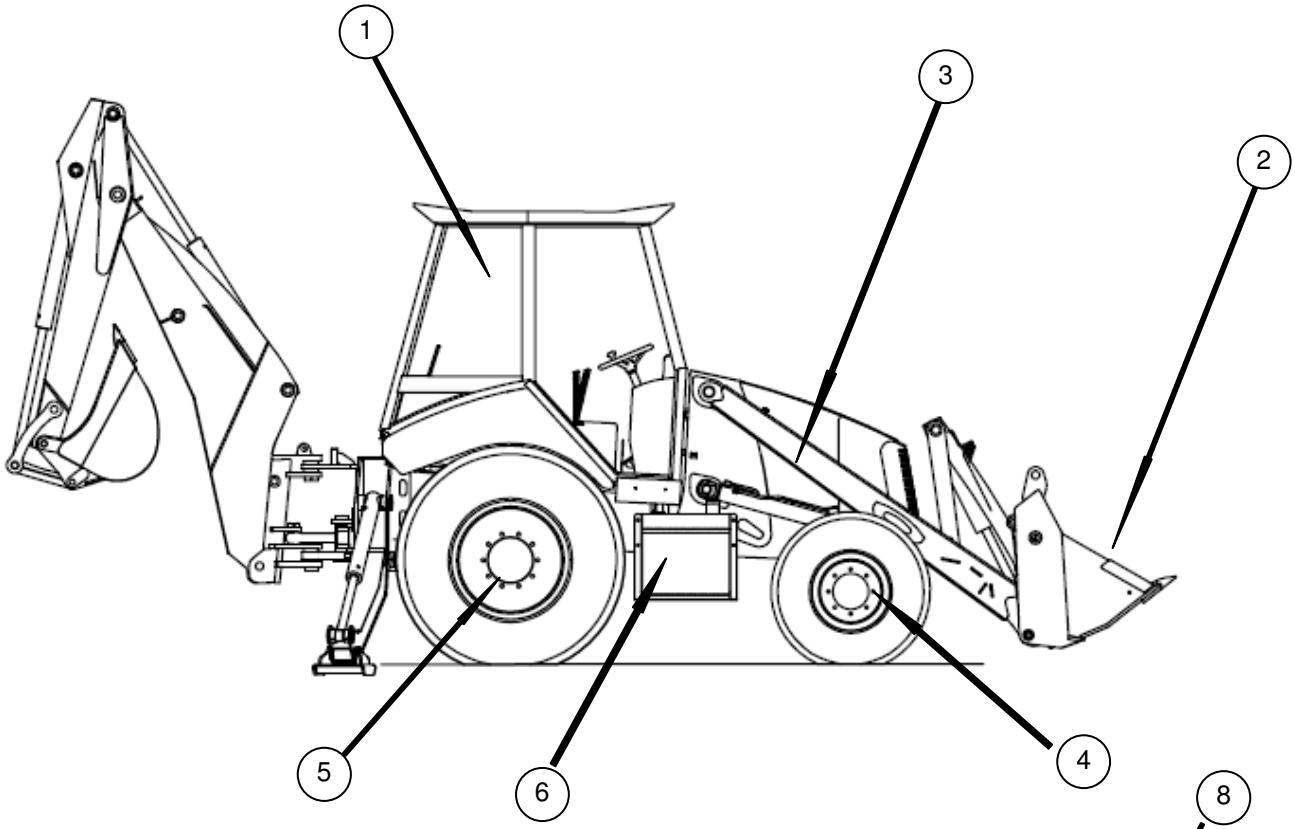
A- Max. digging depth:	4000 mm
B- Max. reach from rear axle centre	6440 mm
C- Max. reach from swing centre	5162 mm
D- Max. digging height	5015 mm
E- Max. dumping height	3275 mm
F- Loading reach	1775 mm
G- Bucket rotation angle	200°
H- Max. bucket hinge pin height	4150 mm

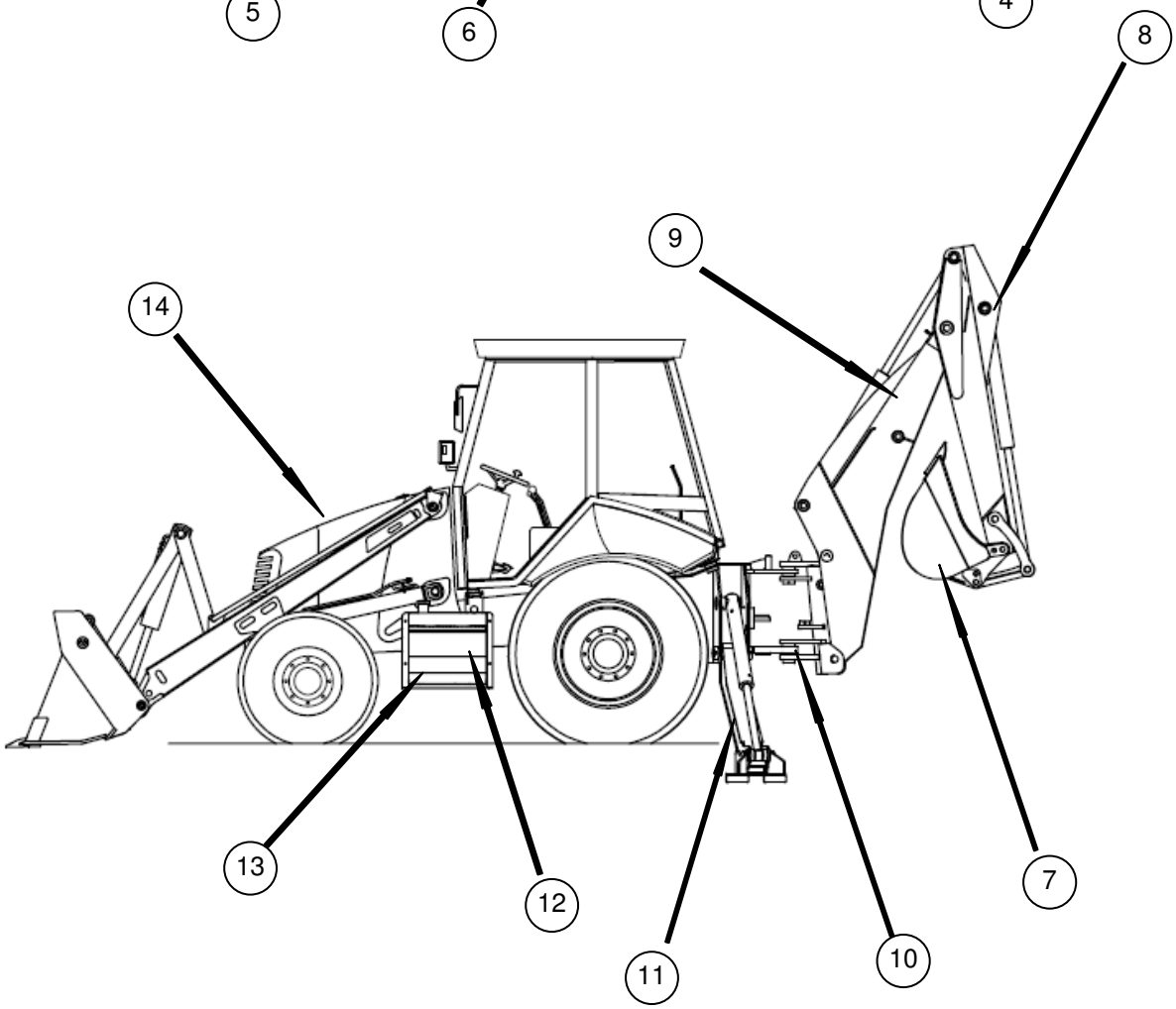
Loader Dimensions

I- Distance between hinge pin and front axle centre	1163 mm
J- Max. rollback angle, fully raised	59°
K- Dump height	2740 mm
L- Load-over height	3230 mm
M- Height to hinge pin	3500 mm
N- Max. reach at full height	1200 mm
O- Dumping reach	790 mm
P- Digging depth	100 mm
R- Dump angle	45°

https://truckmanualshub.com/

MAIN COMPONENTS





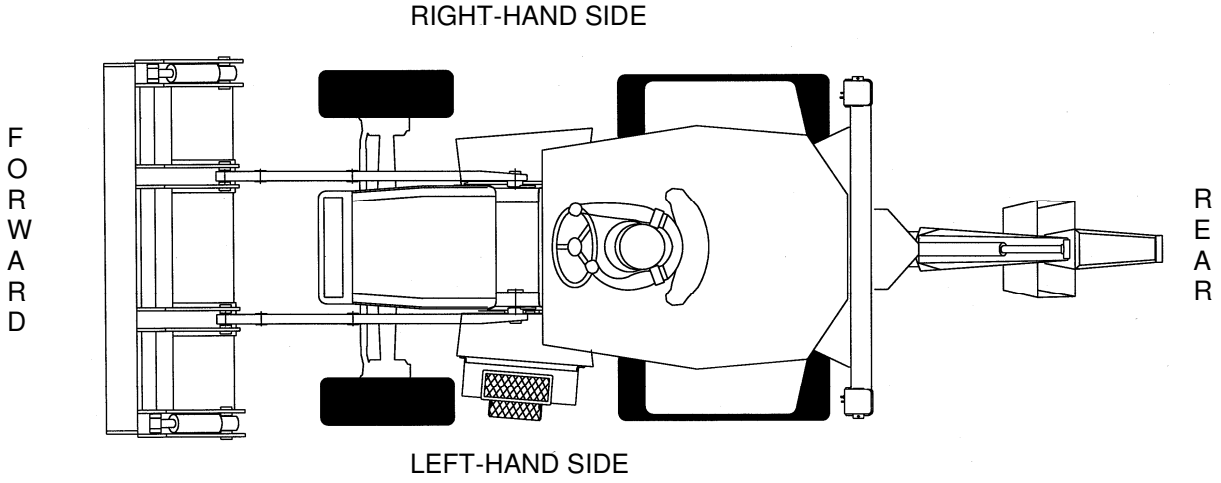
1. OPERATOR’S COMPARTMENT (WITH ROPS / FOPS)
2. LOADER BUCKET
3. LOADER BOOM
4. FRONT AXLE
5. REAR AXLE
6. FUEL TANK
7. BACKHOE BUCKET
8. BACKHOE STICK
9. BACKHOE BOOM
10. BACKHOE ATTACHMENT SIDESHIFT CARRIAGE
11. STABILISERS
12. HYDRAULIC OIL TANK
13. BATTERY BOX
14. ENGINE BONNET

https://truckmanualshub.com/

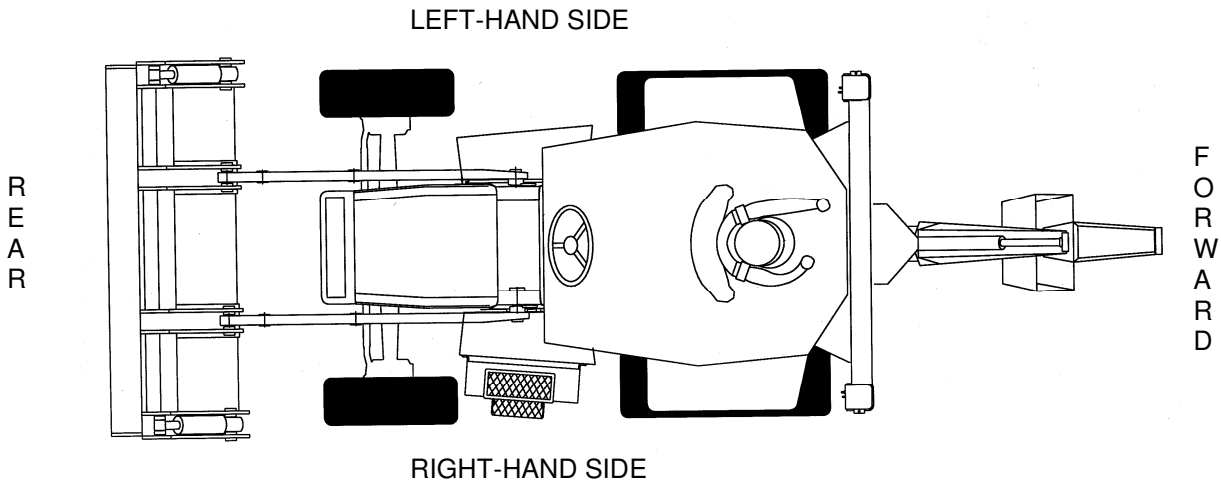
POSITIONS OF THE MACHINE

The terms right, left, front and rear are used referring to the operator seated on the driver seat for the loader and backhoe attachment position.

LOADER ATTACHMENT POSITION



BACKHOE ATTACHMENT POSITION



https://truckmanualshub.com/

SAFETY INFORMATION

The information given in this manual provides safe operation and maintenance of the machine and should be fully understood in order to prevent serious injury or death while working with the machine. Don't forget that your safety and the people around you depends on you. Therefore to develope your skill for the correct operation, inspection, lubrication and maintenance:

- You should read this manual carefully and familiarise yourself with the position of controls and of the operations that their movement causes. If you do not understand, you should consult a ÇUKUROVA branch.
- You should understand the warnings and operating procedures used in this manual and on the machine.
- You should understand the capabilities and limitations of the machine.

In this manual safety signs are classified according to the relative seriousness of the hazard situation by the use of the signal word. Two signal words are used: DANGER and WARNING. The signal word alerts you to the existence and relative seriousness of a hazard and it is essential that you understand these signal words fully.



DANGER: used for the situations presenting the most serious hazards and if not avoided, will result in death or serious injury.



WARNING: used for the situations presenting a lesser degree of risk of injury or death than those identified by the signal word DANGER and if not avoided could result in death or serious injury.

In addition to these instructions you must follow the safety regulations applicable to your work environment and job site and any federal, state and local safety requirements.

Keep this manual in good condition and store it in a compartment where you can easily reach it.

https://truckmanualshub.com/

GENERAL SAFETY INFORMATION

- Study the Operation and Maintenance Manual before operating or working on the backhoe loader, make sure that you have additional information for special attachements of your machine, read it and understand it!
- Allow only authorized personnel informed about the safety rules to operate, service or repair the backhoe loader, be sure to observe any minimum applicable age requirement.
- Allow only properly trained personnel to operate or work on the backhoe loader, make sure to clearly specify the person who is responsible for set up, maintenance and repairs.
- Make sure the operator knows his responsibility regarding the observance of traffic regulations and permit him to refuse any unsafe instructions given by a third person.
- Any person still in training should only operate or work on the machine under the supervision and guidance of an experienced person.
- Check and observe any person working or operating the backhoe loader periodically and check regularly, if they observe safety instructions and guidelines given in the Operation and Maintenance Manual.
- Wear proper work clothing when operating or working on the backhoe loader. Ring, watches, bracelets and loose clothings such as ties, scarves, unbuttoned or unzipped shirts and jackets are dangerous and could cause injury! Wear proper safety equipment, such as safety glasses, safety shoes, hard hats, work gloves, reflector vests and ear protection.
- Consult your employer or supervisor for specific safety equipment requirements and safety regulations on the job site.
- Do not carry tools, replacements parts or other supplies while climbing on or off the backhoe loader. Never use the steering column, control levers or joysticks as handholds.
- Never jump off the backhoe loader, climb on and off the backhoe loader using only the steps, rails and handles provided.
  When climbing on or off the backhoe loader, use both hands for support and face the machine.
- If needed, use the rear window or right door as an escape hatch.
- If no other guidelines are given, perform maintenance and repairs utilising the following precautions:
  - Park backhoe loader on firm and level ground. Rest the attachments on the ground.
  - Place all control in neutral position and engage park brake.
  - Turn the engine off and remove the ignition key.
- Before working on the hydraulic circuit, move all levers and pedals with the ignition key in contact position to release the hydraulic accumulator pressure and the remaining pressures in the different main circuits. In addition, relieve the pressure in the hydraulic tank as described in the Operation and Maintenance Manual.
- Make sure there is no leak in the hydraulic system and check the machine daily.
- Check the area where you will work before starting to work. Be certain that all safety systems operate properly.
- Secure all loose parts on the backhoe loader.
- Never operate the backhoe loader without a complete walk around inspection. Check if all warning decals are on the machine and if they are legible.
- Observe all danger and safety guidelines.
- For certain applications, the backhoe loader must be equipped with specific safety equipment. Use the backhoe loader only, if they are installed and functioning properly.
- Never perform any changes, additions or modifications on the machine, which could influence the safety, without obtaining written first permission from the manufacturer. This also applies to the installation and adjustment of safety devices and safety valves as well as to any welding on load carrying parts.
- Do not install any equipment or attachments made by other manufacturers or any which are not specifically authorized by CUKUROVA for installation without first obtaining the written permission from CUKUROVA. CUKUROVA will issue any required technical documentation for approved installations.
- Should the electrical circuit be modified or additional components be installed, so the modification must be performed according to the national standards and safety regulations. The installation must be certificated by an approved organization and a copy of the certification has to be sent to the CUKUROVA company.

CRUSHING AND BURN PREVENTION

- Never work underneath the backhoe loader unless it is safely resting on the ground and / or is properly blocked and supported.
- Never use damaged or insufficent wire ropes, slings or chains. Always wear gloves when handling wire ropes.

- Never reach into bores during attachment installation or removal. Never align bores with fingers or hands. Use proper alignment tools when installing, changing or servicing attachments.
- Keep objects away from the radiator fan. Rotating fans will swirl and throw out objects, which can become very dangerous and cause severe injury to yourself and others.
- Avoid contact with any components containing coolant. At or near operating temperature, the engine coolant is hot and under pressure and could cause severe burns.
- Check the coolant level only after the radiator cap is cool enough to touch. Remove the radiator cap slowly to relieve pressure.
- Do not allow your skin to come in contact with hot oil or components containing hot oil. At or near operating temperature, engine and hydraulic oil is hot and can be under pressure.
- Always wear safety glasses and protective gloves when handling batteries. Keep sparks or open flames away!
- Never permit anyone to hand guide the bucket or grapple into position.
- When working in the engine area, make sure loader safety strut is installed.

FIRE AND EXPLOSION PREVENTION

- Always turn off the machine while refueling the backhoe loader.
- Never smoke or allow an open flame in refueling areas or where batteries are being charged, or where batteries or flammable materials are stored.
- Battery electrolyte can cause severe injury. If electrolyte touches your skin, wash the skin. If drunk by mistake,drink water or milk.
- Battery must be always full to prevent frozen electrolyte.
- Always start the engine as described in the Operation and Maintenance Manual.
- Clean the machine regularly and remove all debris which may cause a fire.
- Don't use flammable cleanser.
- Observe the following recommendations due to be protected from an explosion

    1. Disconnect the negative (-) cable first and reconnect it last.
    2. Never touch battery terminal with a metal object

- Check the electrical system regularly and frequently. All defects, such as loose connections, burnt out fuses and bulbs, burnt or damaged cables must be repaired immediately by an electrician or specially trained person.
- Before work in an area including flammable gas, throughly ventilate this area.
- Never store flammable fluids on the machine except in storage tanks intended for the backhoe loader's operation.
- Inspect all component, lines, tubes and hoses for oil and fuel leaks and / or damage. Replace or repair any damaged components immediately. Any oil, which escapes from leaks, can easily cause a fire.
- Be certain that all clamps , guards and heat shields are installed. These components prevent vibration, rubbing, chafing and heat build-up. Install tie wraps to fasten hoses and wires, as required.
- Cold start ether is extremely flammable. Use ether only in ventilated areas and as directed. Never use it near heat sources or open flames. Do not permit anybody to smoke.
- Know the location of the backhoe loader's fire extinguisher and be familiar with its operation. Make sure you know your local fire regulations and fire reporting procedures.

MACHINE START UP SAFETY

- Before backhoe loader start up, perform a thorough walk around inspection.
- Visually inspect the backhoe loader, look for loose bolts, cracks, wear, any leaks and any evidence of vandalism.
- Make sure you know all signals which may be indicated by an experienced person.
- Never start or operate an unsafe backhoe loader.
- Make sure all covers and doors are closed and locked and all warning decals are on the machine.
- Make sure there are no tools in the cabin.
- Make sure all windows, as well as inside and outside mirrors are clean, and secure all doors and windows to prevent any unintentional movement.
- Be certain that the area surrounding the backhoe loader is free of other personnel, and that no one is working on or under the backhoe loader before starting the engine.
- After entering the cab, adjust the operator's seat and controls, the inside and outside mirrors and the arm rests. Be certain that all controls can be reached comfortably.

- All noise protection devices on the machine must be functional during operation.

ENGINE START UP AND OPERATING SAFETY

- Before start up, check if all indicator lights and instruments are functioning properly; place all controls in neutral position.
- Before starting the engine, alert any nearby personnel that the backhoe loader being started by sounding the horn.
- Start machine only when seated in the operator's seat, and with the seat belt fastened.
- If you have no other instructions, start the engine as outlined in the Operation and Maintenance Manual.
- Check all indicators, gauges, warning devices and controls for their proper indication.
- Start and operate the engine only in a well ventilated area. If necessary, open doors and windows. Warm up the engine and hydraulic system to operating temperatures. Low engine and hydraulic oil temperatures can cause the backhoe loader to be unresponsive.
- Check that all attachment functions are operating properly.
- Move the backhoe loader slowly into an open area and check all travel functions for their proper operation, check travel brakes, the steering function as well as the turn signals and lights.

MACHINE OPERATING SAFETY

- Familiarize yourself with jobsite rules. Be informed about traffic and hand signals and safety signs. Ask who is responsible for signaling.
- Check your surroundings for any obstacles in the working and movement range, check the load carrying capacity of the terrain, and secure the job site to shield it from any public higway traffic.
- Always keep a safe distance from overhangs, walls, drop offs, and unstable ground.
- Be alert of changing weather conditions, bad or insufficient visibility and of changing ground conditions.
- Be alert for utility lines, check the location of underground cables, gas and water lines, and work especially careful in that vicinity. If necessary and / or if required, call local authorities to mark the location.
- Keep sufficient distance from electrical lines. When working in the vicinity of high voltage electrical lines, keep a proper distance to assure that the attachment does not come close to the lines.

  DANGER! You must inform yourself about safe distances.
- In case you do touch a high voltage line by accident, proceed as follows:
  - Do not leave the machine,
  - Move the machine, if possible, from the danger zone until you reach sufficient distance,
  - Warn any personnel in the vicinity not to come close to the backhoe loader and not to touch it,
  - Instruct or initiate someone to turn off the voltage,
  - Do not leave the machine until you are absolutely sure that voltage in the line, which had been touched or damaged, has been turned off!
- Before moving the machine, make sure that the attachments and equipment is secured properly to avoid accidents.
- Do not run the machine without the backhoe as this can affect the brake system and may cause serious accidents.
- Do not install front wheel weights unless necessary.
- Use the throttle lever while operating the backhoe or for maintenance.
- When travelling on public roads or highways, make sure you observe traffic regulations, and make sure that the machine meets federal and local public highway standards.
- Always turn on the lights if visibility is bad or if you are still working during dusk.
- Never allow other personnel on the backhoe loader.
- Operate the backhoe loader only while seated and with the seat belt fastened.
- Report any problems or needed repairs to your foreman or supervisor and make sure they are corrected immediately.
- Do not move the backhoe loader until you are certain that no one is endangered by moving the backhoe loader.
- Check the brake system before starting to work, as outlined in the Operation and Maintenance Manual.
- MAKE SURE THAT BRAKE PEDALS ARE LOCKED BEFORE ANY ROAD TRAVEL.
- Never leave the operator's seat while the machine is still moving.
- Never leave the machine unattended (within view of machine), with the engine running.

- Prevent any working movements, which could tip the machine over. If the backhoe loader begins to tip or slip on a grade, immediately lower the attachments. If possible, always operate the backhoe loader with the attachment positioned uphill.
- Always travel slowly on rough or slippery ground on slopes, and on loose soil.
- Activate 4 wheel drive switch when travelling on icy or slippery roads.
- Always travel downhill at permissible speed, so you don't loose control over the machine. The engine must run at nominal speed, use only the foot pedals to brake and slow down the machine.
- Never shift gear during down hill travel, always shift to a lower gear before traveling downhill.
- If the road is icy or slippery when travelling uphill or downhill, engage differential lock to prevent accidents.
- Before travelling on public highway, adjust steering column to the most upright position and slide operator's seat to the most forward position. Otherwise operator's field of view become restricted and an accident may occur.
- Engine RPM is adjusted and sealed in the factory. Do not try to readjust the engine RPM. This can cause serious accidents. Should this happen, consult CUKUROVA service personel.
- Never load over an occupied truck. Request that the driver leave the cab, even if a rock protection is installed.
- If operating in visually obstructed terrain or whenever necessary, have another person guide you. Always have only one person signal to you.
- Allow only experienced persons to attach loads or to guide operators. The guide must be visible by the operator and / or must be in voice contact with him.
- In case of a thunderstorm :
  - Lower the attachment to the ground and if possible anchor the digging tool into the soil.
  - Leave the cab and move away from the machine before the storm breaks out. Otherwise, you must stop the backhoe loader and keep inside the closed cab until the end of the storm.
- Auxiliary control units can have various functions. Always check their functions when starting up the machine.
- Inspect the machine for damage if the attachment has been swung into a wall or any other obstacles.
- Applications in which the attachment is to be used to strike the material being extracted are not permitted, even when working in a longitudinal direction.
- Repeated strikes against an object leads to damage to the steel structures and machine components.
- Please refer to your CUKUROVA dealer if special teeth for heavy-duty or special applications are required.
- Do not attach too large bucket or bucket with side cutters or that are during operations with rocky material. This would prolong the work cycles and may lead to damage to the bucket as well as further machine components.
- Do not lift the machine during operation. Should this happen, lower the machine slowly back to the ground.
- Do not let the machine fall heavily on the ground and do not hold it back with the hydraulics. This would damage the machine.
- An hydraulic hammer must be selected with particular care. When using a hydraulic hammer not permitted by CUKUROVA, steel structures or the other machine components can become damaged.
- Before beginning breaking tasks, position the machine on firm and level ground.
- Use a hydraulic hammer designed exclusively for breaking stone, concrete and other breakable materials.
- Only operate the hydraulic hammer in the longitudinal direction of the machine and with the rear windshield closed or with a protective grill.
- Ensure during hammer operation that no cylinder is entirely extended or retracted and that the stick is not in the vertical position.
- In order to avoid damage to the machine, try not to break stone or concrete while performing retraction and extension motions of the hydraulic hammer.
- Do not apply the hydraulic hammer uninterrupted for more than 15 secs. at a time to the same place. Change the breaking point. Too long uninterrupted operation of the hydraulic hammer leads to an unnecessary overheating of the hydraulic oil.
- Do not use the drop force of the hydraulic hammer to break stone or other materials. Do not move obstacles with the hydraulic hammer. Misuse of this nature would damage both the hammer and the machine.

- Do not use the hydraulic hammer to lift objects.
- While operating, if the operator has a problem, he must lower the attachments, engage the parking brake lever and remove the ignition key.Fix the problem immediately or inform the person who is authorized.

MACHINE PARKING SAFETY

- Park the backhoe loader only on firm and level ground.
  If it becomes necessary to park the machine on a grade, properly block and secure it with wedges.
- Lower the attachments to the ground and anchor the bucket lightly in the ground.
- Bring all operating levers in neutral position and engage the parking brake lever.
- Turn the engine off as outlined in the Operation and Maintenance Manual before you leave the operator's seat.
- Lock the machine, remove all keys and secure the backhoe loader against vandalism, or unauthorized use.

MACHINE TRANSPORTING SAFETY

- Use only suitable transporting and lifting devices with sufficient capacity.
- Park the machine on firm and level ground and block the wheels.
- If necessary, remove part of the attachments during transport.
- When loading the machine on a flatbed trailer or railroad car, be sure that the loading ramp incline is less than 30° and covered with wooden planks to prevent skidding.
- Remove all mud, snow or ice from the ramp components before moving up the ramp.
- Align the machine with the loading ramp.
- Have another person guide and signal the operator.
- Have blocks or wedges ready to block the machine, if necessary, to prevent the machine from rolling backwards. Be careful of crushing risks when handling and applying these wedges. Keep clear of wheels and do not attempt to chock or block the machine before its complete standstill.
- Release the hydraulic pressure, remove the ignition key, engage parking brake lever, close and lock the cab and close and secure all other doors and leave the machine.
- Carefully check out the transport route. Make sure that width, height and weight allowances are within the permitted limits.
- Check that there is enough clearance underneath all bridges, underpasses, utility lines, and in tunnels.
- During the unloading procedure, proceed with the same care and caution as during the loading procedure. Remove all chains and wedges. Start the engine as outlined in the Operation and Maintenance Manual. Carefully drive off the loading platform. Keep the attachment as close as possible to the ground level. Have another person guide and signal you.

MACHINE TOWING SAFETY

- Observe the correct procedure: check the index in your Operation and Maintenance manual and refer to the appropriate section: "Towing the Backhoe loader".
- Only tow the backhoe loader if absolutely necessary, for example to remove it for repairs from a dangerous job site.
- Be sure all towing and pulling devices such as cables, hooks, and couplers are safe and adequate.
- Make sure that the cable or the towing rod are strong enough. Be aware that any damage to the machine caused by towing is never covered by the manufacturer's warranty.
- Never allow anyone to stand near the cable when pulling or towing the backhoe loader.Keep the cable tight and free of kinks.
- Engage travel slowly, and do not jerk. With a slack cable, the sudden impact of the load being towed could snap and break the cable.
- Keep personnel out of area. If cable breaks while under stress, it could cause severe injury.
- During the towing procedure, keep within the required transport position, permissible, speed and distance.
- After the towing procedure is completed, return the machine to its previous state.
- Proceed as outlined in the Operation and Maintenance Manual when putting the backhoe loader back in service.

MACHINE MAINTENANCE SAFETY

- The machine must not be made unsafe when performing maintenance work. Never attempt maintenance procedures or repairs you do not understand.

- Check the Operator's and Maintenance Manual for service and maintenance intervals. Make sure you use only appropriate tools for all maintenance work.
- Refer to your Operator's and Maintenance Manual to see, who is authorized to perform certain repairs. The operator should only perform the daily / weekly maintenance procedures. The remaining work may only be performed by especially trained personnel.
- Use only replacement parts corresponding to the technical requirements specified by the manufacturer. This is assured by using only original CUKUROVA replacement parts.
- Always wear proper work clothing when maintaining the backhoe loader. Certain work may only be performed with a hard hat, safety shoes, safety glasses and gloves.
- During maintenance, do not allow unauthorized personnel to enter the maintenance area.
- Secure the maintenance area, as necessary.
- Inform the operator before any special or maintenance work. Make sure he knows the person, who is in charge of the work.
- If not otherwise noted in the Operation and Maintenance Manual, always make sure the backhoe loader is parked on firm an level ground and the engine is turned off and parking brake is engaged.
- During maintenance and service work, make sure you always retighten any loosened screw connections!
- If it is necessary to disconnect or remove any safety devices during set up, maintenance or repair, make sure that after completion of repairs, the safety devices are reinstalled and checked for proper function.
- Before any maintenance work and especially when working under the machine, make sure a "Do not operate' tag is attached to the starter switch. Remove the ignition key.

  After end of maintenance works or repair, restart the machine according to the instructions "Machine start up", in this manual.
- Before any repairs or maintenance work, clean any oil, fuel and / or cleaning substances from any fittings and connections. Don't use any harsh cleaners and use only lint free cloths.
- Use only nonflammable cleaning fluids to clean the machine.
- Any welding, torch or grinding work on the machine must be explicitly authorized. Written authorization is necessary for welding on load carrying structures. Before any using a welder, torch or grinder, clean off any dust and dirt and remove any flammable materials from the surrounding area. Make sure the area is sufficiently ventilated. Danger of Fire and Explosion!
- Before cleaning the machine with water or steam (high pressure cleaning) or other cleaning fluids, make sure that all openings, which, for safety and/ or functioning reasons should not be exposed to water / steam/ cleaners, are covered and / or masked off. Especially sensitive are electrical motors, control boxes and plug connectors.

  Remove all coverings and masking material after completing the cleaning procedure. Then check all fuel lines, engine oil lines and hydraulic oil lines for leaks, loose connections, chafing and / or damage. Fix any problems immediately.
- If you use a high pressure cleaner with steam or hot water to clean the machine, observe following recommendations:
  - the distance between the nozzle and the surface to be cleaned must be no less than 50 cm.
  - the water temperature should not exceed 60℃(140℉)
  - limit the water pressure to 80 bar maximum (1160PSI)
  - if you employ cleaning fluid, only use neutral cleaning agents such as customary car shampoos diluted to 2 or 3 percent maximum
- Never employ high pressure cleaning apparatus during the two first months following machine delivery or repainting.
- Observe all product safety guidelines when handling oils, grease, and other chemical substances.
- Make sure service fluids and replacement parts are disposed of properly and in an environmentally sound manner.
- When using hot service fluids, be very careful. (They can cause severe burns and injury!).
- Operate combustion motors and fuel operated heaters only in well ventilated areas. Before operating these units, check ventilation. In addition, always follow applicable local regulations.
- Never try to lift heavy parts. Use appropriate lifting devices with sufficient load carrying capacity. When replacing or repairing parts or components.make sure they are mounted very carefully on lifting devices, to prevent any possible danger. Use only suitable and technically sound lifting devices, make sure that lifting tackle, wire cables, etc. have adequate load carrying capacity.

Never position yourself, walk or work underneath suspended loads.

- Never use damaged lifting devices, or devices which are not sufficient to carry, the load. Always wear gloves when handling wire cables.
- Ask only experienced personnel to attach loads and guide and signal the crane operator. The guide must be within the visibility range of the operator and /or must be in direct voice contact with the operator.
- When working overhead, use appropriate and safe ladders, scaffolding or other working platforms designated for that purpose. Never step on parts or components on the machine when maintaining or repairing items overhead.
  When working high above ground, make sure you are fitted with ropes and appropriate safety devices which will prevent a possible fall. Always keep handles, steps, platforms and ladders free of dirt, snow and ice!
- When working on the attachments, for example when replacing the bucket teeth, makes sure the attachment is supported properly. Never use metal on metal support!
- Never work underneath the machine if it is raised or propped up with the attachment.
- ALWAYS USE SAFETY BAR WHEN LOADER BOOM IS RAISED.
- Only qualified, especially trained personnel may work on travel gear, brake and steering systems.
- Only qualified, especially trained personnel may work on the hydraulic system.
- Never check for leaks with your bare hands, always wear gloves. Fluid escaping from a small hole can have enough force to penetrate the skin.
- Never loosen or remove lines or fittings before the attachment has been lowered to the ground and the engine has been turned off. Then turn the ignition key to contact position, move all servo controls (lever and foot pedals) in both direction to release pressures. Then release the tank pressure as outlined in this Operation and Maintenance Manual.
- Always disconnect the battery cable before working on the electrical system or before any arc welding on the machine. Always disconnect the negative (-) cable first and reconnect it last.
- Check the electrical system regularly.
  Make sure that any problems, such as loose connections, burnt out fuses and bulbs, scorched or chafed cables are fixed immediately by an electrician or qualified personnel.
- Use only Original fuses with the specified amperage. Never use a different size or stronger fuse than the original fuse.
- On machines with electrical medium or high voltage systems:
  - If there is any problem with the electrical energy supply, turn the machine off immediately.
  - Follow established lockout / tagout procedures where applicable.
  - Any work on the electrical system may only be performed by a qualified electrician or qualified personnel under the guidance and supervision of an electrician, according to electro-technical regulations.
- If any work is required on any parts which carry current, use a second person to turn off the main battery switch, if necessary. Rope the work area off with a safety rope or chain, and set up warning signs. Use only insulated tools.
- When working on medium and high voltage components shut off the voltage and connect the supply cable to the ground and ground the components.
- Check all disconnected parts if they are truly free of current, ground them and close them off quickly. Insulate any close-by, current carrying parts.

HYDRAULIC LINES AND HOSES

- Hydraulic lines and hoses may never be repaired!
- All hoses, lines and fittings must be checked daily, but at least every 2 weeks for leaks and any externally visible damage! Any damaged sections must be replaced immediately! Escaping oil can cause injuries and fires!
- Even if hoses and lines are stored and used properly, they undergo a natural aging process. For that reason, their service life is limited. Improper storage, mechanical damage and improper use are the most frequent causes of hose failures.

  The service life of a hose may not exceed six years, including a storage period of not more than two years (always check the manufacturer's date on the hoses).
  Using hoses and lines close to the limit of ranges of permitted use can shorten the service life (for example at high temperatures, frequent working cycles, extremely high impulse frequencies, multi shift or around the clock operations).
- Hoses and lines must be replaced if any of the following points are found during an inspection:

- Damage on the external layer into the inner layer (such as chaff ings, cuts and rips);
- Brittleness of the outer layer (crack formation of the hose material);
- Changes in shape, which differ from the natural shape of the hose or line, when under pressure or when not under pressure, or in bends or curves, such as separation of layers, blister or bubble formation;
- Leaks;
- Non observance of installation requirements;
- Damage or deformation of hose fittings, which might reduce the strength of the fitting or the connection between hose and fitting;
- Any movement of hose away from the fitting;
- Corrosion on fittings, which might reduce the function or the strength of the fitting;
- Storage or service life has been exceeded.

When replacing hoses or lines, always use original replacement parts.

- Route or install the hoses and lines properly. Do not mix up the connections!
- Always take care to avoid torsional strain when installing a new hose. On high pressure hydraulic hoses, the mounting screws must be first mounted on both hose ends (full flange or half clamp) and tightened only thereafter.

  On high pressure hoses having one curved end, always tighten first the screws on the curved hose end and only then the screws on the straight hose end.

  Install and tighten the hose clips that may be mounted on the hose middle only when the both hose ends are already tightened.
- Always install hoses so to avoid any friction with other hoses and parts.

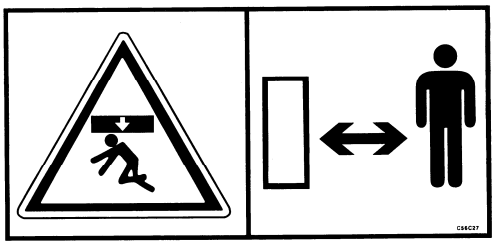
  We recommend to keep a distance between hose and other parts of at least one half of the hose outer diameter. Keep a minimum gap of 1/2 inch (1.2 cm) in any case.

  After mounting a hose connecting two parts that are movable relative to each other, check during the return to service that the hose is not rubbing fall full movement.

SIGNS ON THE BACKHOE LOADER

Keep a safe distance from the machine

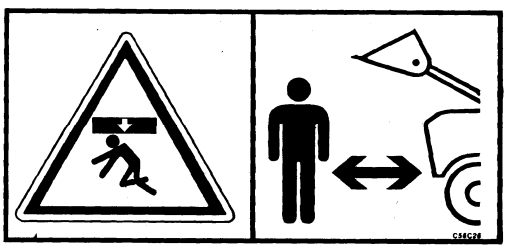




Part number: C56D73

Keep away from the loader boom

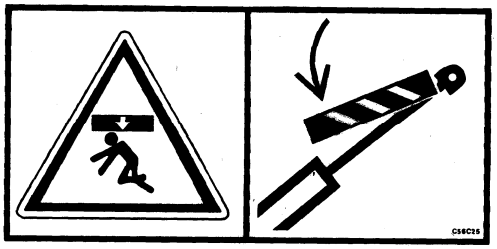




Part number: C56C26

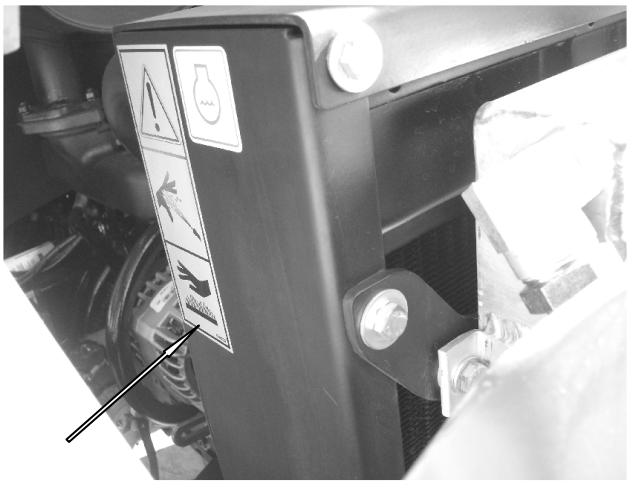
Install support strut





Part number: C56C25

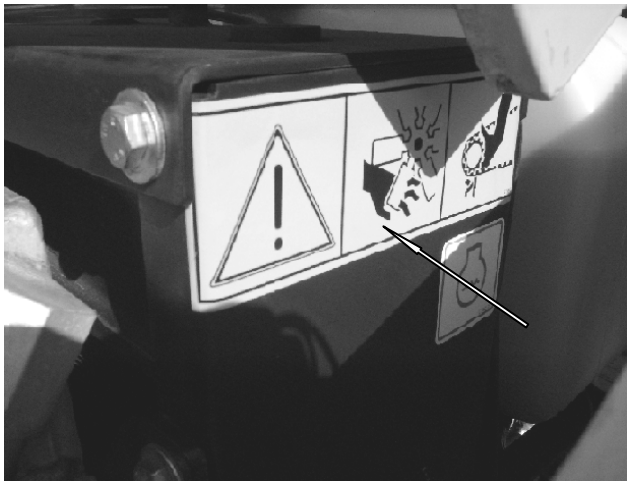
Radiator

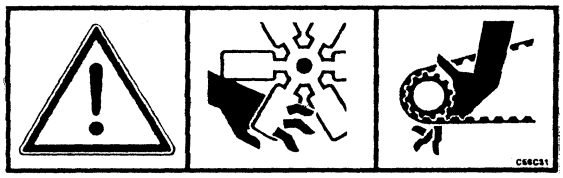




Do not touch the radiator when the cooling system is still hot.
Part number: C56C32

Fan



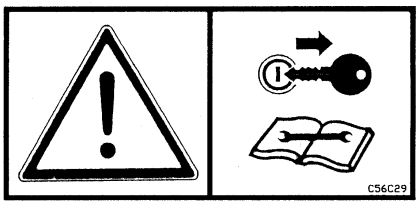


Do not carry out any operation on the fan when the engine is running.

Part number: C56C31

Maintenance work

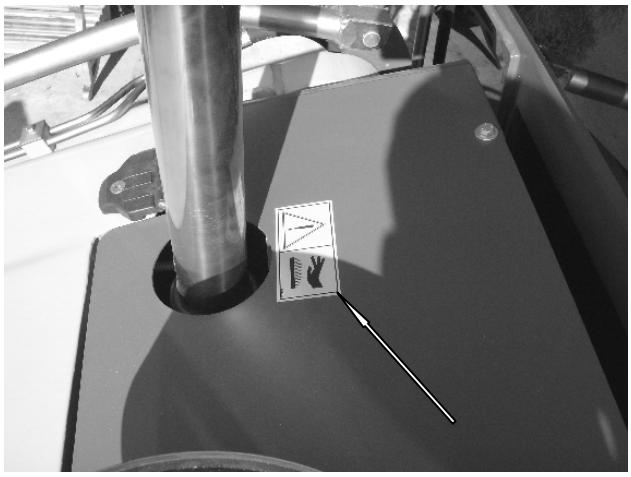




Do not carry out any maintanence operation without removing ignition key.

Part number: C56C29

Exhaust

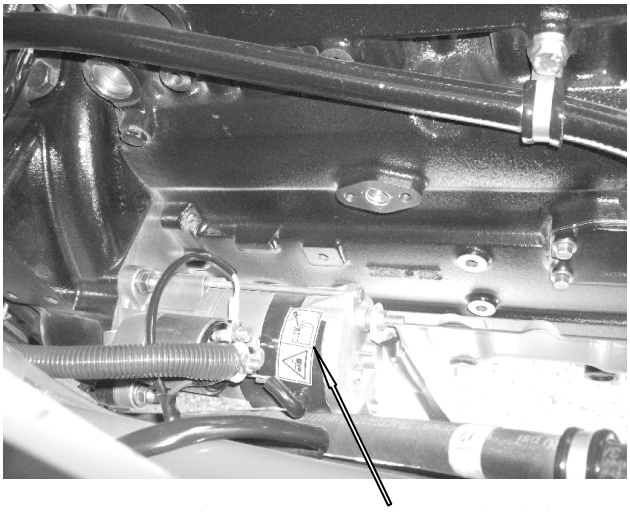


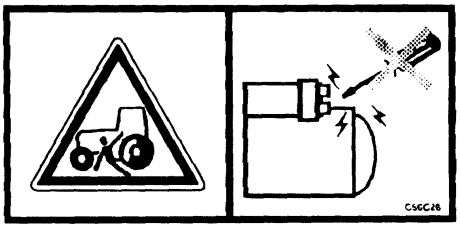


DANGER HOT EXHAUST

Part number: C56C33

Start engine

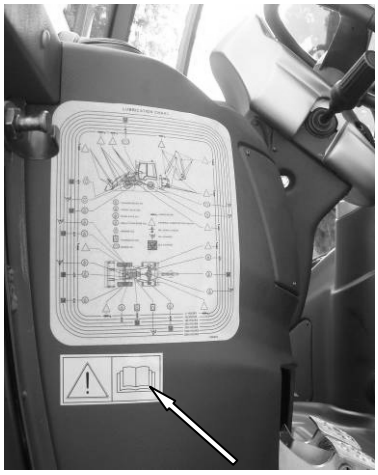




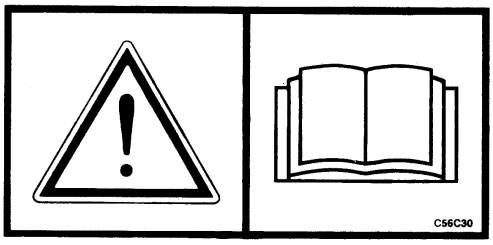
Do not start engine by any other means than with the starter key.

Part number: C56C28

Use operator's manual



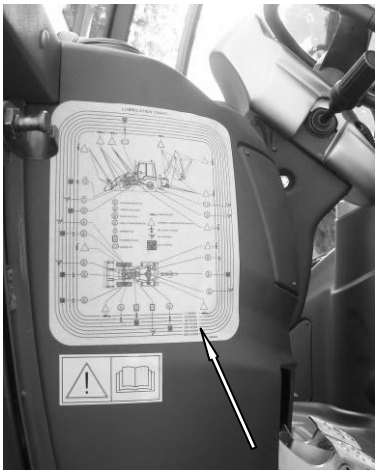


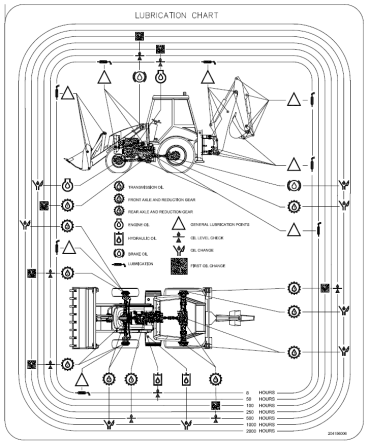


Read operator's manual.

Part number: C56C30

Lubrication chart





Part number: 204156006

Bonnet lock





Part number: C56F54

Name and Address of Manufacturer



ÜRETICI FIRMANIN ADI VE ADRESI :
NAME and ADDRESS OF THE MANUFACTURER:

YAKABOYU KABIN&MAKINA SAN. VE TIC.LTD.STI.- ORGANIZE SAN.BOLGESI
ESKISEHIR- TURKIYE

KABIN NUMARASI :
IDENTIFICATION NUMBER :

204170048

MAKINA MODELI:
MACHINE MAKE/ MODEL :

ÇUKUROVA 880/880E/880CM/880S BACKHOE LOADER

MAX. MAKINA AGIRLIGI :
MAXIMUM MACHINE MASS :

8500 Kg

ROPS/ FOPS STANDART NUMARALARI:
INT. STANDARD NUMBER FOR ROPS / FOPS:

ISO 3471 / ISO 3449 LEVEL 2

ÇUKUROVA MAKINA IMALAT VE TIC. A.S.
MERSİN/TÜRKİYE

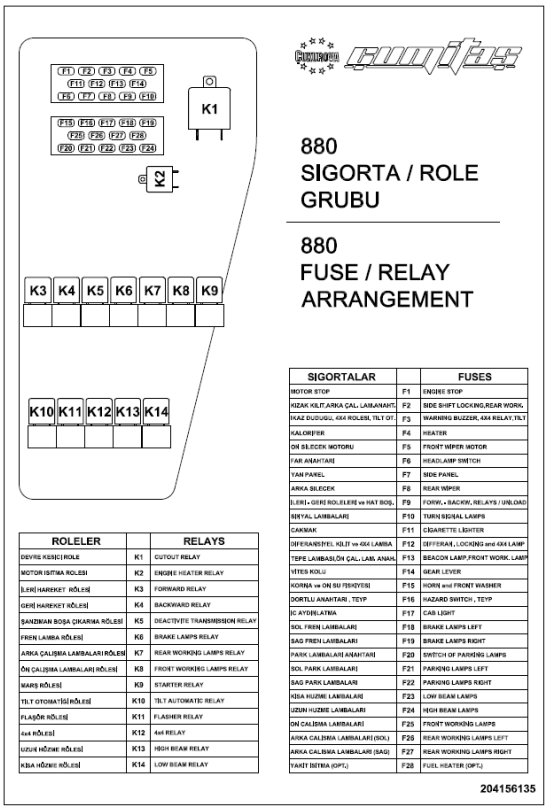
ÇUKUROVA

204156129

Part number: 204156129

Fuse / Relay Arrangement





ROLELER		RELAYS
DEVRE KESİCİ ROLE	K1	CUTOUT RELAY
MOTOR ISITMA ROLESI	K2	ENGINE HEATER RELAY
İLERİ HAREKET RÖLESİ	K3	FORWARD RELAY
GERİ HAREKET RÖLESİ	K4	BACKWARD RELAY
ŞANZIMAN BOŞA ÇIKARMA RÖLESİ	K5	DEACTIVITE TRANSMISSION RELAY
FREN LAMBA RÖLESİ	K6	BRAKE LAMPS RELAY
ARKA ÇALIŞMA LAMBALARI RÖLESİ	K7	REAR WORKING LAMPS RELAY
ÖN ÇALIŞMA LAMBALARI RÖLESİ	K8	FRONT WORKING LAMPS RELAY
MARŞ RÖLESİ	K9	STARTER RELAY
TİLT OTOMATİSİ RÖLESİ	K10	TILT AUTOMATIC RELAY
FLAŞÖR RÖLESİ	K11	FLASHER RELAY
4x4 RÖLESİ	K12	4x4 RELAY
UZUN HÜZME RÖLESİ	K13	HIGH BEAM RELAY
KISA HÜZME RÖLESİ	K14	LOW BEAM RELAY

SIGORTALAR		FUSES
MOTOR STOP	F1	ENGINE STOP
KIZAK KILIT,ARKA ÇAL. LAMB.ANAHT.	F2	SIDE SHIFT LOCKING,REAR WORK.
İKAZ DUDUĞU, 4X4 RÖLESİ, TİLT OT.	F3	WARNING BUZZER, 4X4 RELAY,TILT
KALORİFER	F4	HEATER
ÖN SİLECEK MOTORU	F5	FRONT WIPER MOTOR
FAR ANAHTARI	F6	HEADLAMP SWITCH
TAM PAREL	F7	SIDE PAREL
ARKA SİLECEK	F8	REAR WIPER
İLERİ - GERİ RÖLELERİ ve HAT BOŞ.	F9	FORW. e BACKW. RELAYS / UNLOAD
SİNYAL LAMBALARI	F10	TURN SIGNAL LAMPS
CAKMAK	F11	CIGARETTE LIGHTER
DİFERANSİYEL KİLİT ve 4X4 LAMBA	F12	DIFFERANZIAL LOCKING and 4X4 LAMP
TEPE LAMBASI,ÖN ÇAL. LAM. ANAH.	F13	BEACON LAMP,FRONT WORK. LAMP
VİTES KOLU	F14	GEAR LEVER
KORNA ve ÖN SU FISKİYESİ	F15	HORN and FRONT WASHER
DORTLU ANAHTARI , TEYP	F16	HAZARD SWITCH , TEYP
İÇ AYDINLATMA	F17	CAB LIGHT
SOL FREN LAMBALARI	F18	BRAKE LAMPS LEFT
SAG FREN LAMBALARI	F19	BRAKE LAMPS RIGHT
PARK LAMBALARI ANAHTARI	F20	SWITCH OF PARKING LAMPS
SOL PARK LAMBALARI	F21	PARKING LAMPS LEFT
SAG PARK LAMBALARI	F22	PARKING LAMPS RIGHT
KISA HUZME LAMBALARI	F23	LOW BEAM LAMPS
UZUN HUZME LAMBALARI	F24	HIGH BEAM LAMPS
ÖN CALISMA LAMBALARI	F25	FRONT WORKING LAMPS
ARKA CALISMA LAMBALARI (SOL)	F26	REAR WORKING LAMPS LEFT
ARKA CALISMA LAMBALARI (SAG)	F27	REAR WORKING LAMPS RIGHT
YAKIT ISITMA (OPT.)	F28	FUEL HEATER (OPT.)

Part number: 204156135

ROPS/FOPS



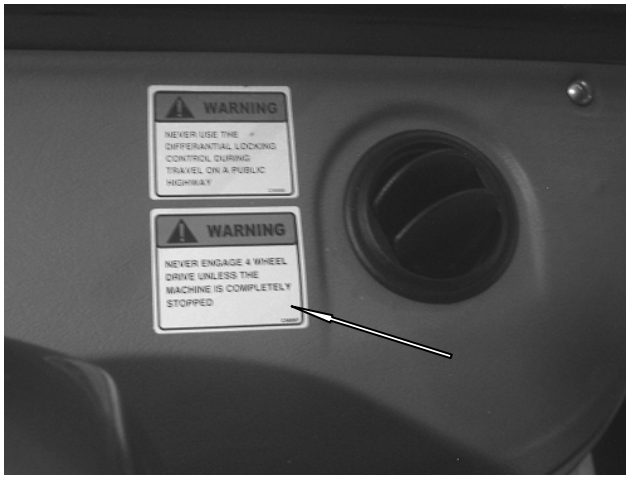
Part number: C56C60

Attachment lock



Part number: C56F68

4 Wheel drive



Part number: C56B87

Before operating backhoe



Part number: C56B90

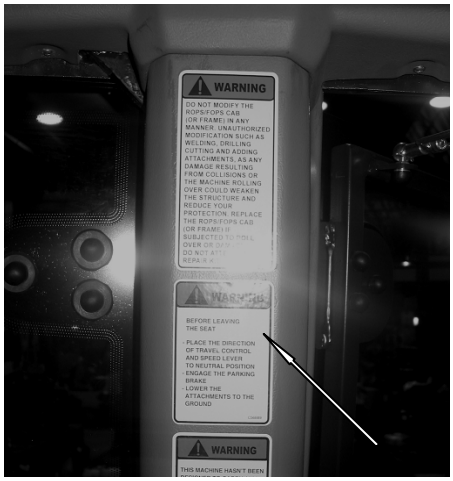
Differential lock

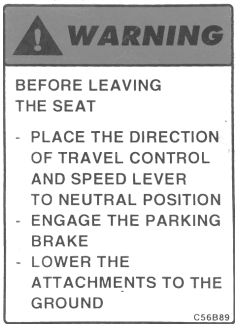




Part number: C56B85

Before leaving the seat

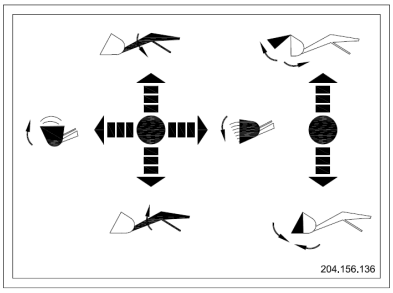




Part number: C56B89

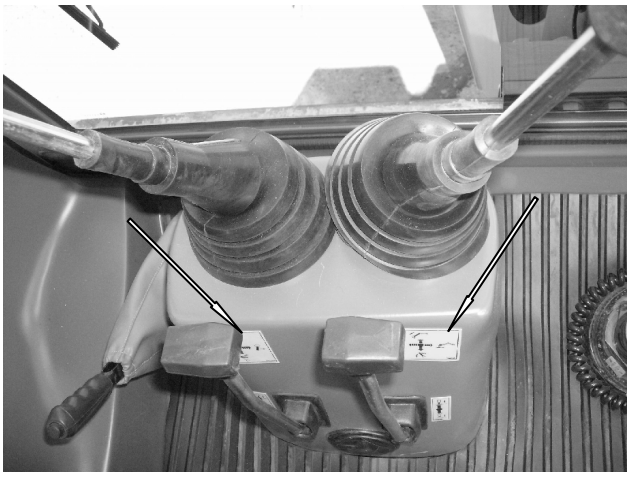
Loader lever controls

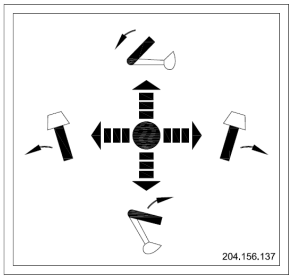




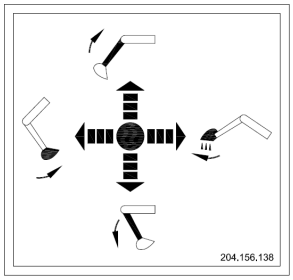
Part number: 204156136

Backhoe lever controls



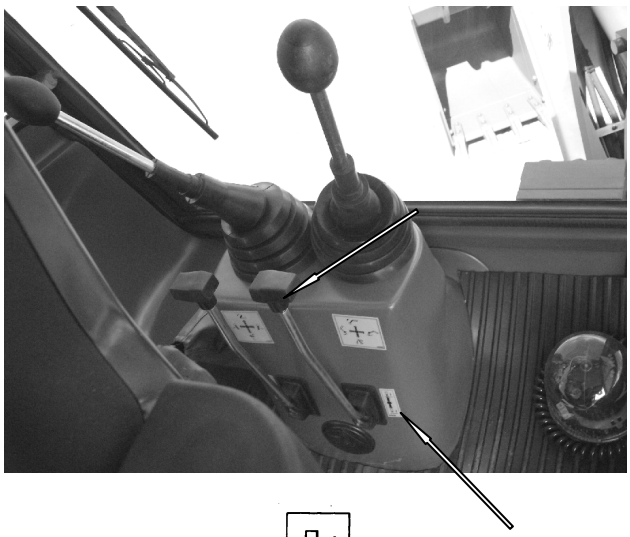


Part number: 204156137



Part number: 204156138

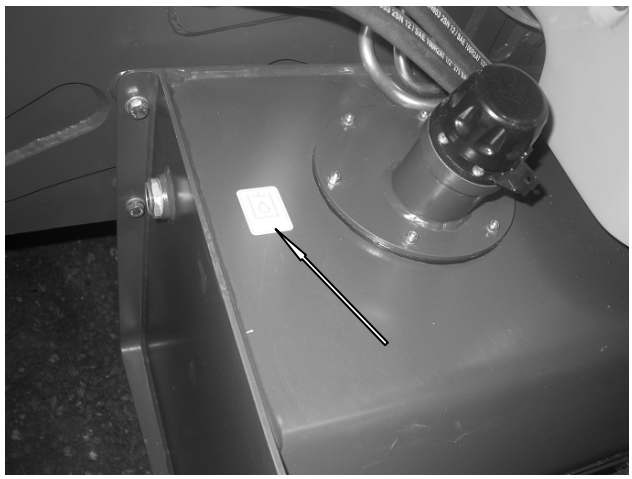
Stabilisers





Part number: C56D36

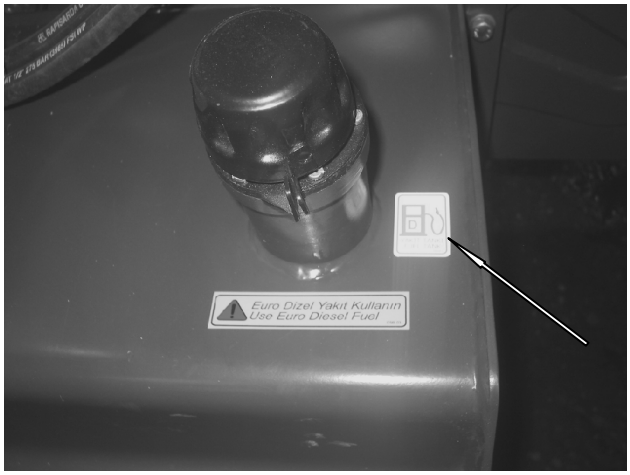
Hydraulic tank





Part number: C56B84

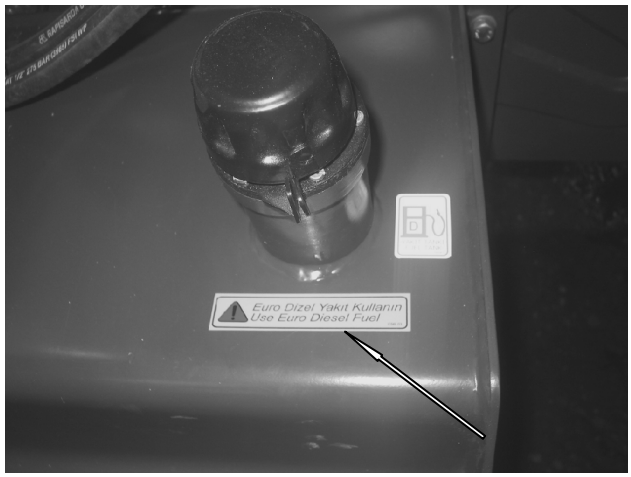
Fuel tank





Part number: C56B83

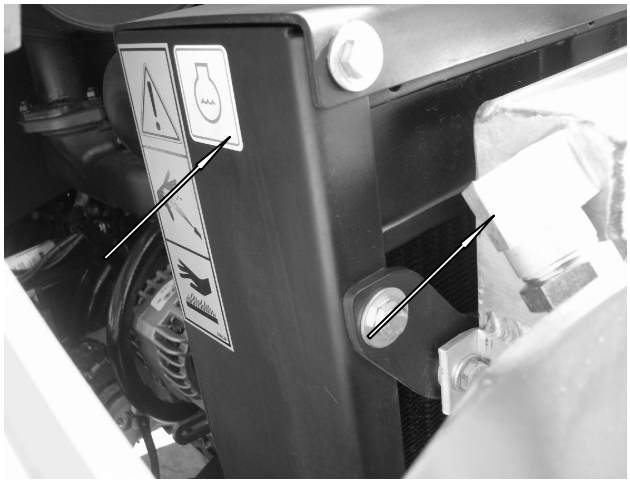
Euro Diesel Fuel

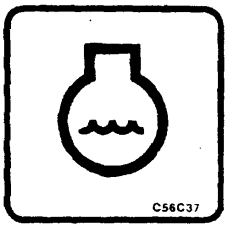




Part number: C56L03

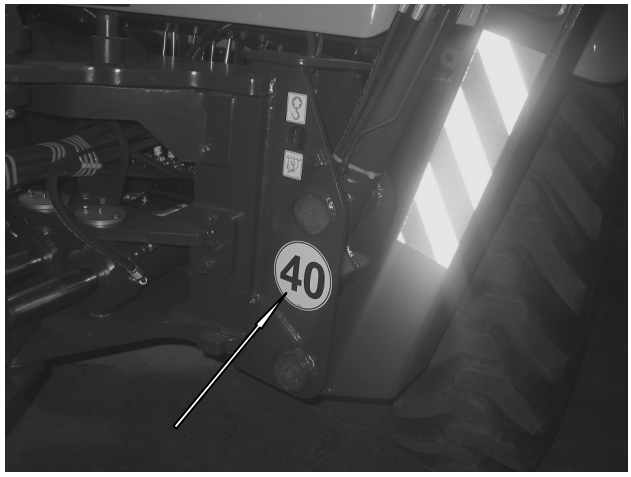
Engine coolant





Part number: C56C37

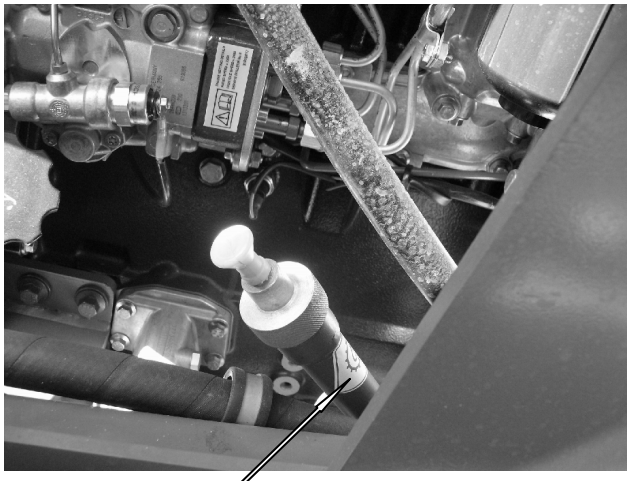
Maximum speed

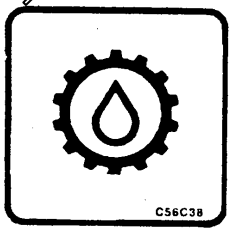




Part number: C56C46

Transmission oil

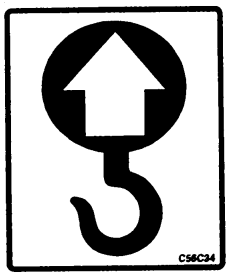




Part number: C56C38

Lifting points

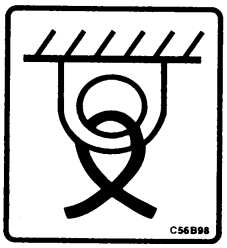




Part number: C56C34

Tie-down points

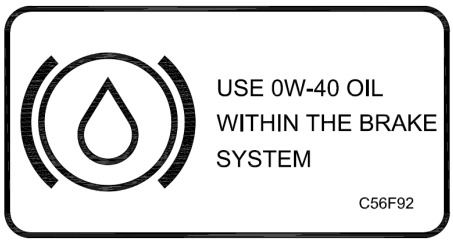




Part number: C56B98

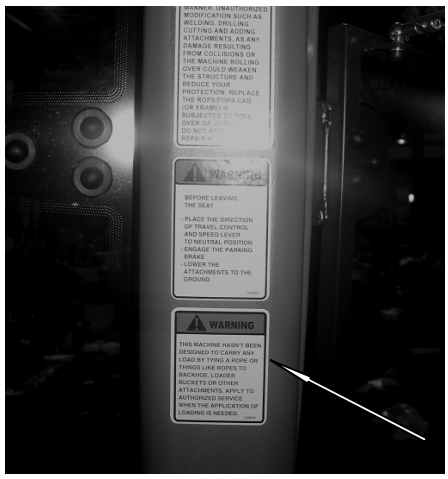
Brake fluid





Part number: C56F92

Don’t carry any load by tying a rope or cable

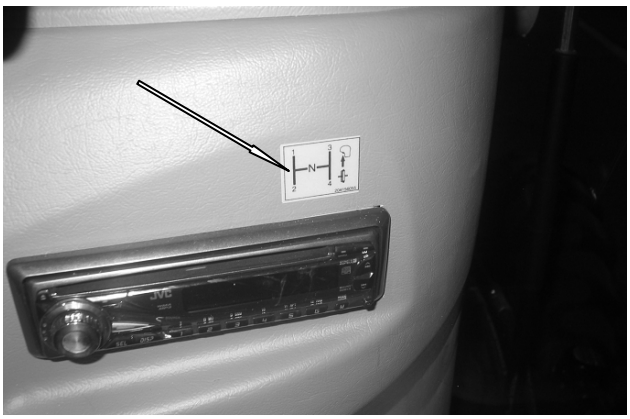


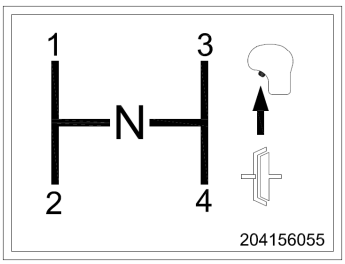


Part number: C56F53

NOTE: When you use this machine to carry any load, consult the service to put the safety valve. And don’t carry load more than 1000 kg.

Gear Lever





Part number: 204156055

https://truckmanualshub.com/

CONTROLS AND INSTRUMENTATION

STEPS AND HANDLES



Use only the steps and the handles while climbing on and off the backhoe loader.

WARNING: Never jump off the backhoe loader. While climbing on or off the backhoe loader, use both hands for support and face the machine. And never use the steering and levers for support.

WARNING: Always keep the steps and the handles free of dirt, snow and ice.

CAB DOORS



To open the doors use handle (2) from the outside and handle (1) from the inside.



Left door is used for climbing on or off the backhoe loader and the right door is used for emergency.

WARNING: Before traveling and operating, close the doors correctly.

OPERATOR'S SEAT

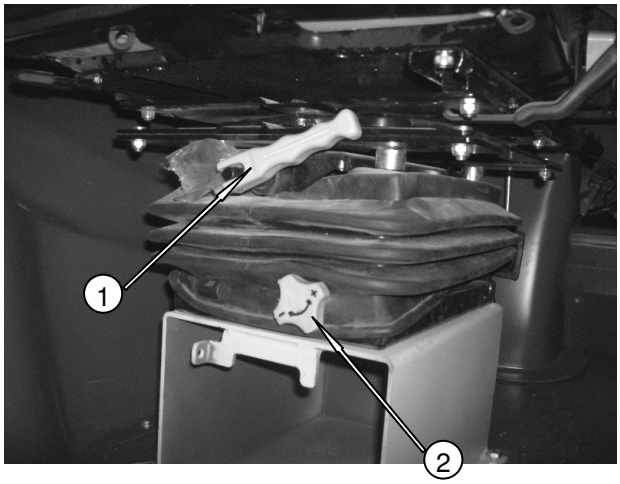
In order to obtain the best operation and comfort, the adjustment of the seat should be made correctly according to the height of the operator.

WARNING: Operate the backhoe loader only while seated and the seat belt fastened.

WARNING: After entering the cab adjust the operator's seat correctly and be certain that all controls can be reached comfortably.

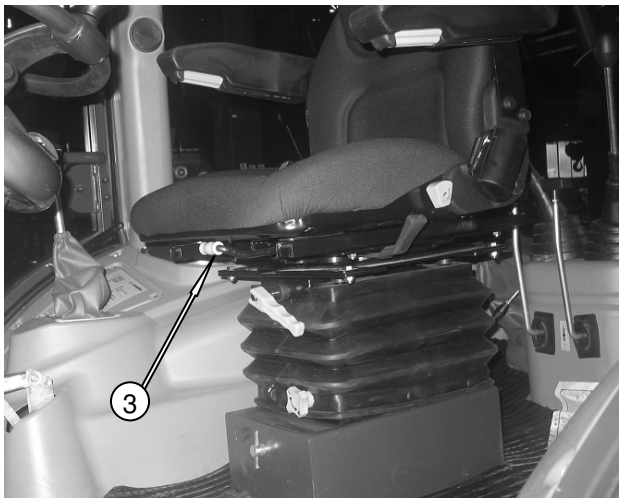
NOTE: Operator's seat meets the requirements according to ISO 7096:2000, EM5.

Adjustment:



Adjusting the weight to the driver's weight is done by turning lever 1 to clockwise and anticlockwise direction when the lever is turned to clockwise, the weight increases. Turn the lever until the gauge under the this lever shows "red" for thin operators.

Adjusting the operator's seat suspension is done by rotating the knob 2 to clockwise and anticlockwise direction. Rotate the knob to clockwise for short stroke.



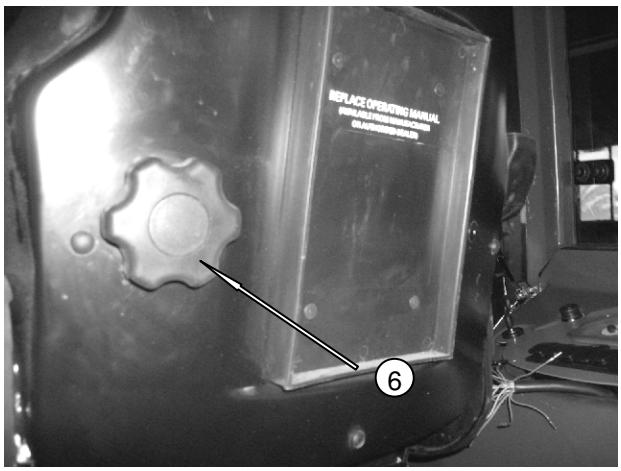
When button 3 is pushed down, the seat area moves forward- backwards. When the position you want is obtained, release the button.



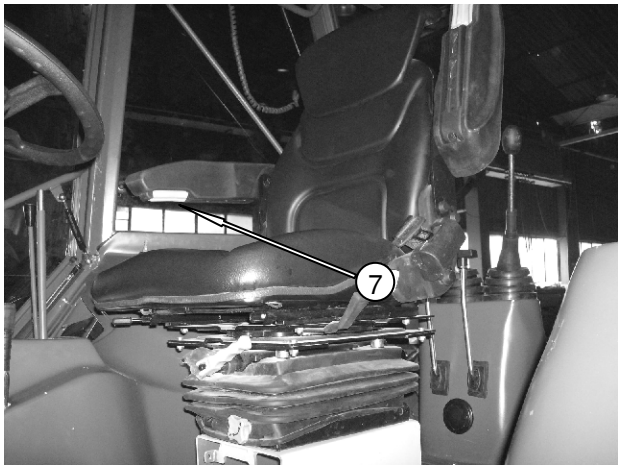
Use lever 4 for adjusting the direction of the seat to the loader and backhoe attachment position. When the lever is lifted, move the operator's seat to the desired position and the seat is locked automatically.



Adjusting the angle of the back rest is done with the button 5. When the button is pushed down, the back rest can move 90º forward, 32º backwards. Move the back rest to the desired angle then, release the button and lock the back rest.



Adjusting the lower back support in the back rest is done with the rotary switch 6. When the switch is turned the right, the waist cavity is filled.



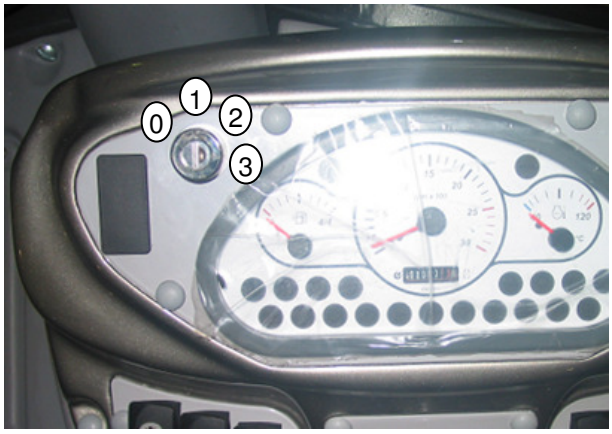
Adjusting the height of handle is done by rotating the switch 7.

WARNING: Before traveling on public highway, adjust steering column to the most upright position and slide operator's seat to the most forward position. Otherwise operator's field of view become restricted and an accident may occur.



The seat belt can be adjusted according to the operator's body.

STARTER SWITCH



It is located on the side control panel, it has four positions.

Position 0: Off
Position 1: Contact
Position 2: Pre-heat
Position 3: Start

https://truckmanualshub.com/

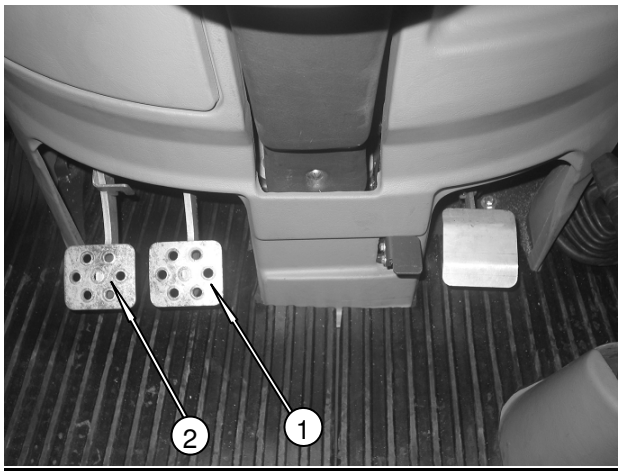
STEERING COLUMN TILTING PEDAL



It is located under the steering wheel. It is used for tilting the steering column forwards and backwards to obtain a good driving position for the operator.

- Press on the pedal.
- There are three position of steering column. Position the steering column.
- Release the pedal.

BRAKE PEDALS



They are located under the steering column. A pin (2) is used to lock the pedals (1) together. After locking, the two pedals can be used as one pedal. If they are unlocked, the right of the machine is braked by pressing the right brake pedal and the left of the machine is braked by pressing the left brake pedal.

To lock:

- Raise the pin.
- Slide it to right.
- Turn it downwards to lock the pedals.

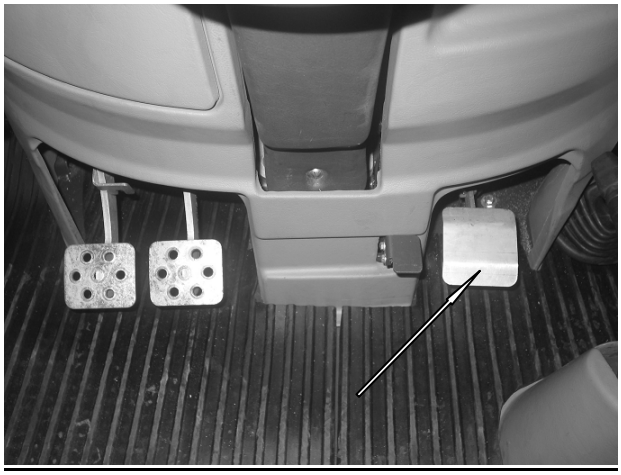
To unlock:

- Raise the pin.
- Slide it to left.
- Turn it downwards to unlock the pedals.

Note: Check the brake system before starting to work, as outlined in the Operation and Maintenance Manual.

DANGER: Lock the brake pedals together before any road travel or travel in third or fourth gear. Otherwise an accident may occur.

ENGINE ACCELERATOR PEDAL



It is located under the steering column. It is used for traveling and operating the loader attachment controls. Pressing the pedal increases the speed of the machine and releasing the pedal reduces the speed of the machine.

Note: Never use this pedal when working with the backhoe attachment controls.

WARNING: Before using the pedal, make that the throttle lever is in the minimum speed position

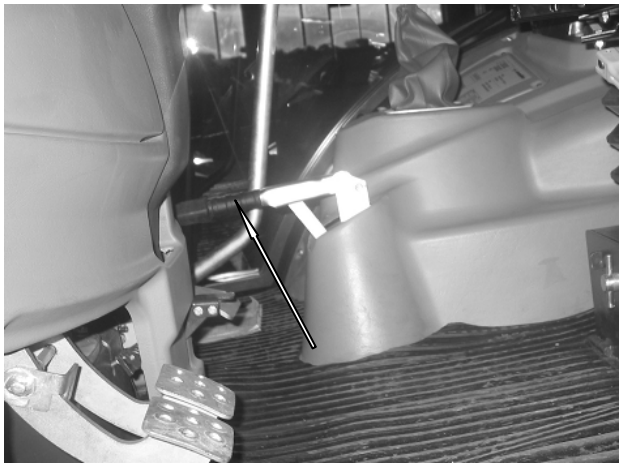
DANGER: Before traveling in reverse make sure that it is clear and nobody is in your way.

ENGINE THROTTLE LEVER



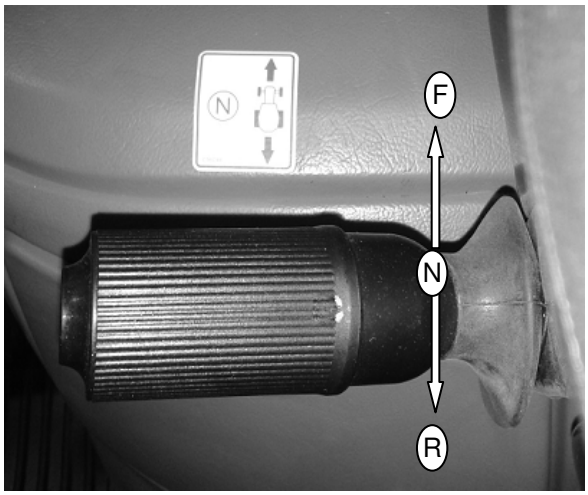
It is located to the left of the operator's seat when working with backhoe attachment. Pushing the lever forwards increases the speed of the engine, and pulling the lever backwards reduces the speed of the engine.

PARKING BRAKE LEVER



It is located to the right of the front panel on the floor. To engage the parking brake, pull the lever upwards.

TRAVEL DIRECTION CONTROL LEVER

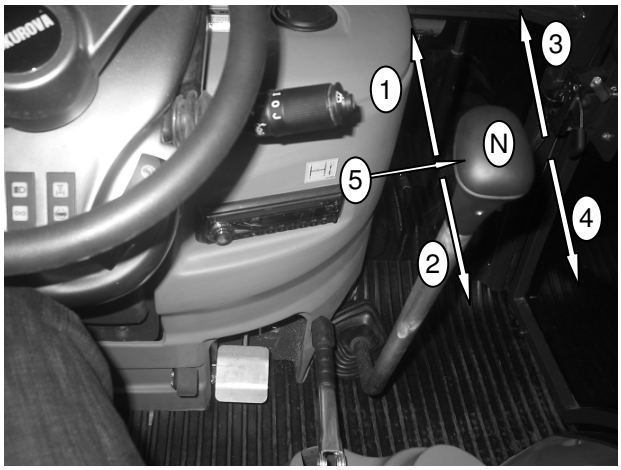


It is located to the left of the steering wheel; it is used to control of movement's direction.

Position (N): Neutral
In this position movement of the machine is not possible.
Position (F): Forward
After pushing the lever forward, the machine moves forward.
Position (R): Reverse
After pulling the lever, the machine moves reverse. And back up alarm will sound.

WARNING: Before traveling in reverse direction; make sure, it is clear and nobody is in your way.

GEAR LEVER



Position (1): First speed: select the first speed by pulling to the left and pushing the lever forward.
Position (2): Second speed: select the second speed by pulling to the left and pushing the lever the backwards.
Position (3): Third speed: select the third speed by pushing the lever to the right and forward.
Position (4): Fourth speed: select the fourth speed by pushing the lever to the right and backwards.

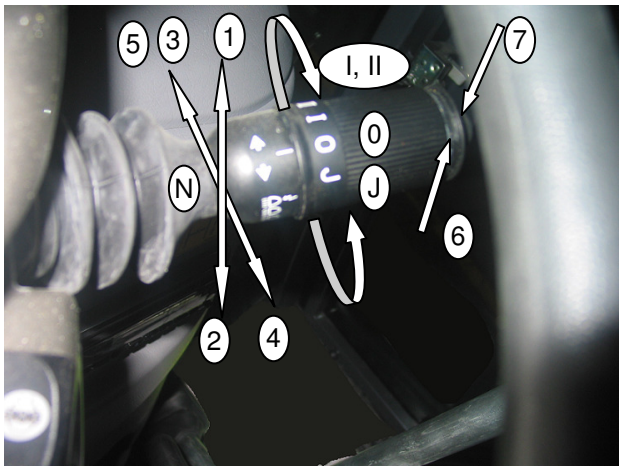
Note: while changing the gear, depress on the declutch switch (5) on the gear lever. This switch is de-clutching the transmission for as long as the switch is depressed.

Note: The buzzer will sound in the cab if the lever is activated when the parking brake lever is engaged.

WARNING: Bring the lever in neutral position before working with the backhoe attachment controls.

WARNING: Make sure that the lever is in neutral position before stopping or starting the engine.

DIRECTION INDICATOR, LIGHTING, WINDSHIELD, WIPER AND HORN LEVER



It is located to the right of the steering wheel; it has 4 positions for selecting the speed of the windshield wiper, 2 positions for lighting the direction indicator lamps, 3 positions for lighting the headlights, 1 position for windshield washer and 1 position for horn.

Position (N): The lever is in neutral position.
Position (0): The windshield wiper is off.
Position (J): After turning the lever forward, the windshield wiper works automatically.
Position (I): After turning the lever once in reverse, the windshield wiper works in first speed.
Position (II): After turning the lever once more in reverse, the windshield wiper works in second speed.

Position (1): After pushing the lever forward, left direction indicators and the indicator lamp on the front control panel light up.

Position (2): After pulling the lever toward the operator, right direction indicators and the indicator lamp on the front control panel light up.

Position (3): After pushing the lever up to the operator, low beam lights up.

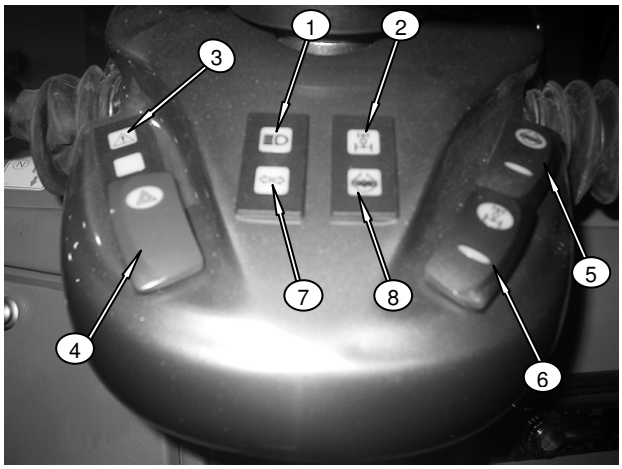
Position (4): After pulling the lever down to the operator, main (high) beam and the indicator lamp on the front control panel light up.

Position (5): After pushing the lever up to the operator completely, main beam flashes.

Position (6): By pressing the switch at the end of the lever, the front windshield washer is operated.

Position (7): By pressing the end of the lever, the horn is activated.

FRONT CONTROL PANEL



MAIN BEAM INDICATOR LAMP (1)

This indicator lamp lights up when head lights are on main beam.

FRONT DRIVE AXLE ENGAGEMENT INDICATOR LAMP (2)

This lamp lights up when front drive axle engagement switch is engaged.

WARNING LAMP (3)

This indicator lamp lights up when the warning lamps of the engine oil temperature- pressure, brake hydraulic level, parking brake, transmission oil pressure and air filter restriction light up.

HAZARD WARNING SWITCH (4)

After pressing the top of the switch, direction indicator lamps, parking lamps flash and the lamp on the switch light up.

FRONT DRIVE AXLE ENGAGEMENT SWITCH (5) (FOUR WHEEL DRIVE SWITCH)

Before pressing this switch, only the rear axle is engaged. After pressing the switch, the front drive axle is engaged, too. And the lamp on the control panel lights up.

WARNING: Do not use the third or fourth gear and do not work on hard ground when the front drive axle is engaged.

DIFFERENTIAL LOCKING SWITCH (6)

If there is an insufficient adhesion in the rear wheels differential lock is used. After pressing the switch, rear wheels get equal power and the lamp on the control panel lights up.

WARNING: Do not use the differential locking switch during road travel.

WARNING: Release the differential locking while turning or working on hard ground.

DIRECTION INDICATOR LAMP (7)

This indicator lamp flashes when the direction indicator lever is moved.

DIFFERENTIAL LOCK INDICATOR LAMP (8)

This indicator lamp lights up when the differential locking switch is activated.

SIDE CONTROL PANEL-CONTROLS



MASTER LIGHT SWITCH (1)



After pressing the top of the switch once, parking lamps, all the switch lamps, gauge lamps and the warning lamp on the gauge panel light up. When pressing the switch once more, the low beams light up if the head light lever is in low beam position or high beams light up if the head light lever is in high beam position. And when the high beam is active, the warning lamp on the front control panel lights up, too.

BEACON LAMP SWITCH (2)



After pressing the top of switch, rotating beacon is activated and both the lamp on the switch and on the indicator light up.

WARNING: Put the rotating beacons on the roof of the cab and connect the cable to the socket on the edge of the cab.

WARNING: Use the rotating beacons during road travel.

FRONT WORKING LIGHTS SWITCH (3)



After pressing the top of the switch, front work lamps and the lamp on the switch light up. It is used while working in poor light.

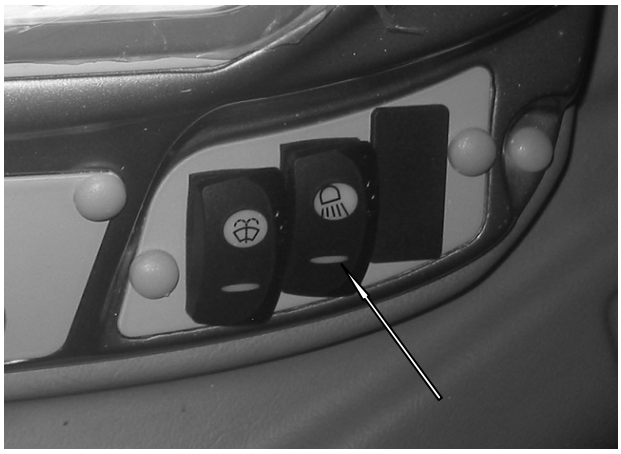
https://truckmanualshub.com/

REAR WINDSHIELD WIPER and WASHER SWITCH (4)



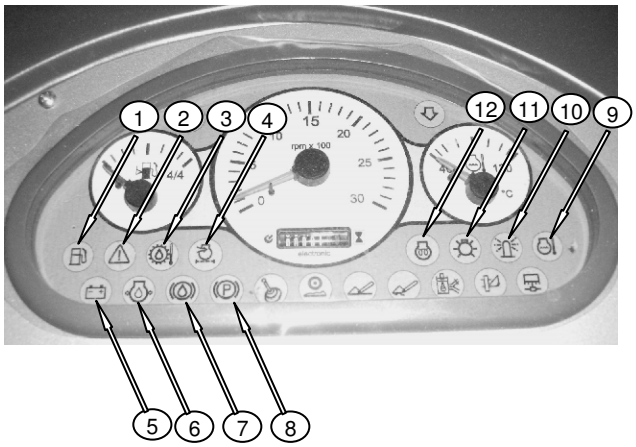
After pressing the top part of the switch once; the windshield wiper is on and pressing it twice; the windshield washer is on. After releasing the switch, the windshield washer is off and pressing the bottom part of the switch, the windshield wiper is off. When the switch is pressed, the lamp on the switch lights up.

REAR WORKING LIGHTS SWITCH (5)



After pressing the switch, rear working lights and the lamp on the switch light up.

GAUGES AND WARNING LAMPS (GAUGE'S PANEL)



FUEL LEVEL WARNING LAMP (1)

This indicator lamp lights up when the level of the fuel in the fuel tank is too low. When the tank is filled, this lamp turns off.

WARNING LAMP (2)

This indicator lamp lights up when the warning lamps of the engine oil temperature- pressure, brake hydraulic level, parking brake, transmission oil pressure and air filter restriction light up. When this lamp lights up, the buzzer sounds in the cab. When the problem is corrected, the lamp turns off.

TRANSMISSION OIL TEMPERATURE and PRESSURE WARNING LAMP (3)

This lamp lights up when the transmission oil temperature exceeds 120 ºC and the pressure of oil is too high, the warning lamp lights up and the buzzer sound in the cab. Stop working, turn the engine off, pull the parking brake lever, find and correct the problem.

AIR FILTER RESTRICTION WARNING LAMP (4)

This warning lamp lights up when the air filter becomes dirty. If the lamp lights up, clean and replace the air filter as soon as possible. When this lamp lights up, the buzzer sounds in the cab.

BATTERY CHARGE WARNING LAMP (5)

This warning lamp lights up when the starter key is moved to contact position and turns off as soon as the engine starts. If the lamp does not turn off, it means that the level of battery charge is too low and the battery must be charged immediately.

ENGINE OIL PRESSURE WARNING LAMP (6)
This warning lamp lights up if the starter key is moved to contact position and turns off as soon as the engine starts. When this lamp lights up, the buzzer sounds in the cab. If the lamp lights up during operation, the engine oil pressure is too low, stop working soon, turn the engine off, pull the parking brake lever, find and correct the problem.

BRAKE HYDRAULIC LEVEL WARNING LAMP (7)
This warning lamp lights up and the buzzer sounds in the cab when the level of brake hydraulic fluid decreases. If the lamp lights up during operation, stop working, turn the engine off, check the level of brake hydraulic fluid and if necessary add some fluid.

PARKING BRAKE INDICATOR LAMP (8)
This indicator lamp lights up when the parking brake is engaged. And the buzzer sounds to warn the operator in the cabin, too.

ENGINE COOLANT TEMPERATURE WARNING LAMP (9)
This warning lamp lights up with sound of buzzer when the position of the starter key is contact and turns off as soon as the engine starts. If the lamp does not turn off, it shows that the engine coolant temperature exceeds 105C˚.

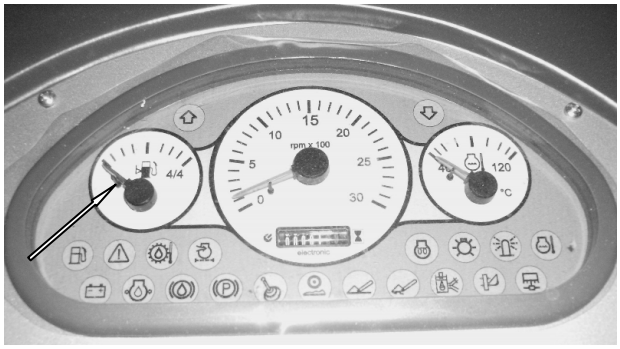
If the lamps lights up during operation, stop working soon, turn the engine off, pull the parking brake lever, find and correct the problem.

ROTATING BEACONS INDICATOR LAMP (10)
This indicator lamp lights up when the rotating beacons switch is activated.

MASTER LIGHT INDICATOR LAMP (11)
After pressing the master light switch, this indicator lamp lights up.

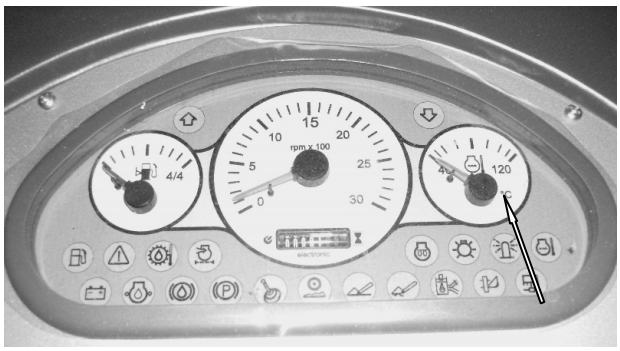
PRE-HEAT INDICATOR LAMP (12)
This indicator lamp lights up when the preheat action is activated.

FUEL LEVEL GAUGE



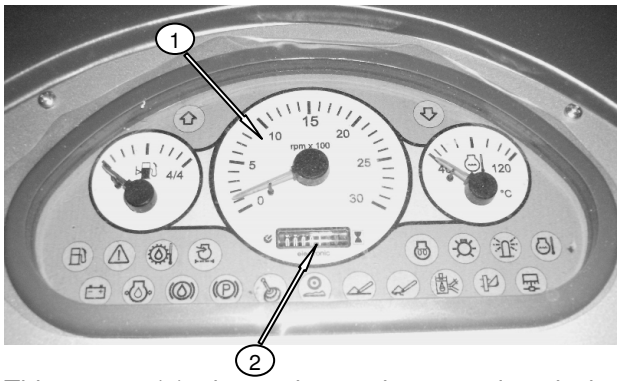
This gauge shows the level of the fuel in the fuel tank.

ENGINE COOLANT TEMPERATURE GAUGE



This gauge shows the temperature of the engine coolant. If the engine coolant temperature exceeds 105ºC, the warning lamp lights up and the buzzer will sound in the cab. Stop working, turn the engine off, find and correct the problem.

ENGINE SPEED GAUGE AND HOURMETER



This gauge (1) shows the engine speed and, the engine RPM can be set by using the engine throttle lever.
The hour meter (2) displays the hours for which the engine has been operated and also it enables the service intervals to be scheduled.

HEATER SWITCH (OPTIONAL)



The heater is used to heat the cabin. Turn the regulating knob between three positions to start the blower fan and its power. The temperature of the cabin can be adjusted by turning the knob.

BACKHOE BOOM SHIFT LEVER



By the time pulling the backhoe boom shift lever upwards, the backhoe boom is locked.

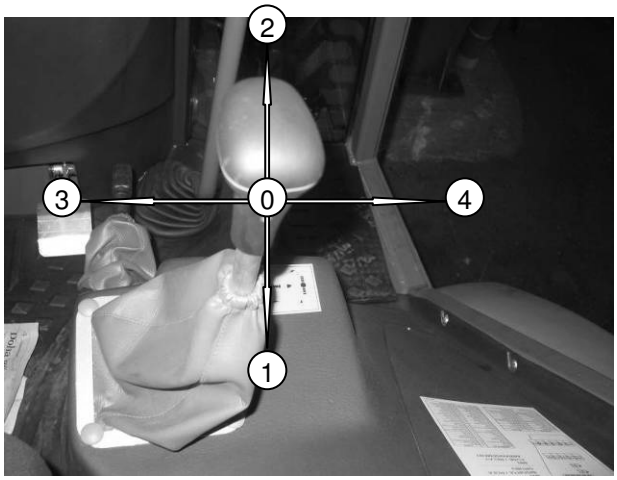
LOADER ATTACHMENT CONTROLS

WARNING: After entering the cab, adjust the operator's seat and controls, the inside and outside mirror and the arm rests. Be certain that all controls can be reached comfortably.

WARNING: Before operating the engine, make sure that all control systems are off, otherwise an accident may occur.

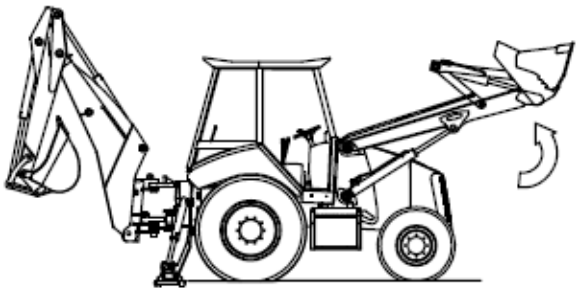
IMPORTANT: you must move the lever slowly, or the load may tip.

IMPORTANT: Before operating loader attachment controls, make sure that the backhoe side shift is locked.



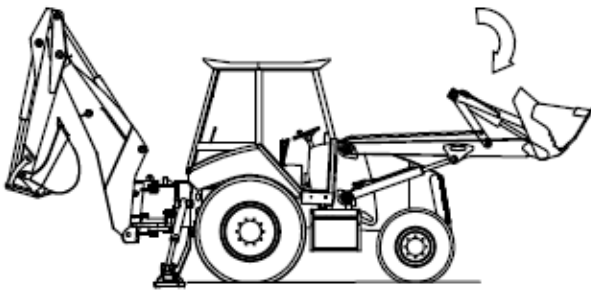
Position (0): When the lever is released, it automatically returns to neutral position and the movement of the loader boom and the bucket stops.

Position (1): When the lever is pulled backwards, the loader boom raises release to stop.

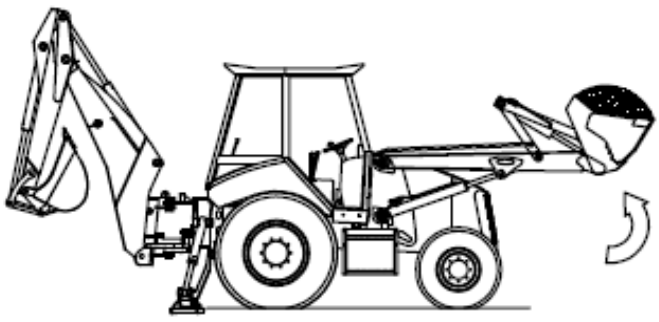


Position (2): When the lever is pushed forward, the loader boom lowers release to stop.

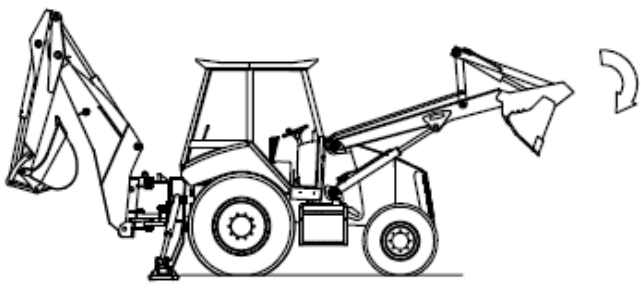
WARNING: Do not push the lever forward completely with the loaded bucket. Otherwise an accident may occur.



Position (3): When the lever is pushed to the left, the loader rolls back release to stop.



Position (4): When the lever is pushed to the right, the loader dumps release to stop.



https://truckmanualshub.com/

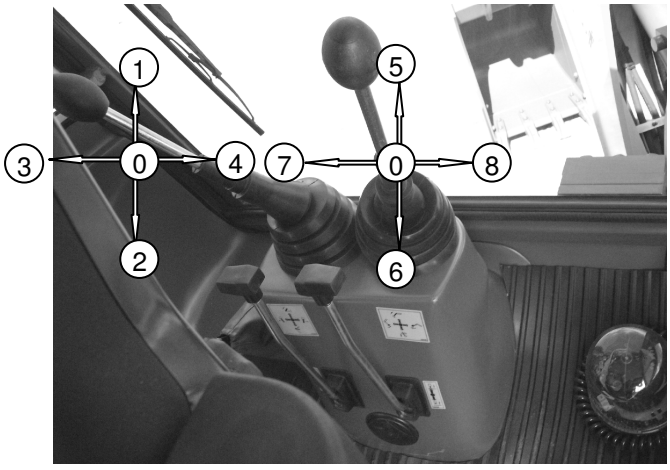
BACKHOE ATTACHMENT CONTROLS

WARNING: After entering the cab, adjust the operator's seat in backhoe attachment position. Be certain that all controls can be reached comfortably.

WARNING: Bring all operating levers into neutral position and engage the parking brake lever before working with the backhoe attachment controls.

WARNING: Before operating the backhoe attachment controls, lower the stabilizers to the ground.

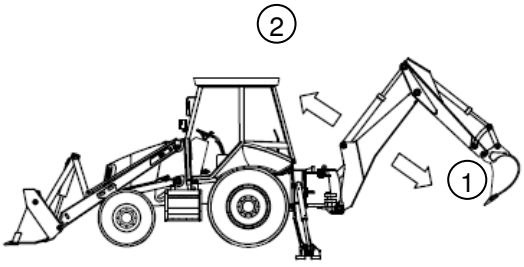
WARNING: Lift the stabilizers before operating the loader attachment and any road travel.



Position (0): When the lever is released, it automatically returns to neutral position and the movement of the backhoe attachment stops in the last position.

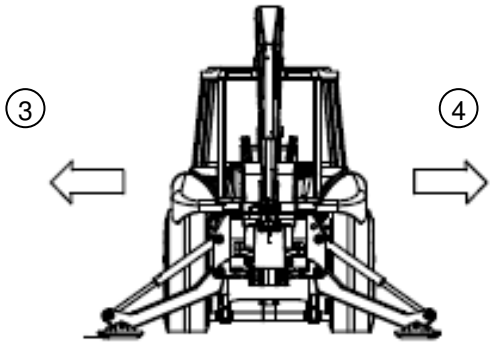
Position (1): When the lever is pushed forward, the backhoe boom lowers.

Position (2): When the lever is pulled backwards, the backhoe boom raises.



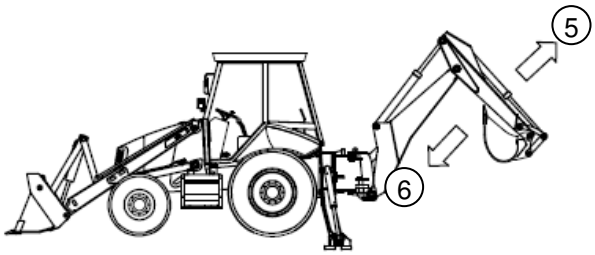
Position (3): When the lever is pushed to the left, the backhoe attachment swings to left.

Position (4): When the lever is pushed to the right, the backhoe attachment swings to right.



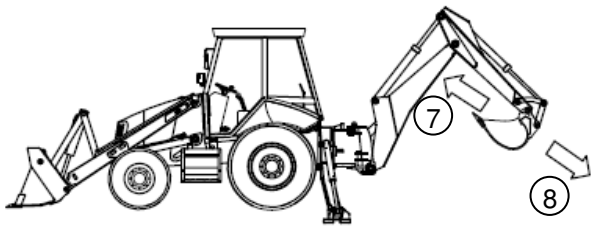
Position (5): When the lever is pushed forward, the stick raises (it extends).

Position (6): When the lever is pulled backwards, the stick lowers.(it retracts.)



Position (7): When the lever is pushed to the left, the backhoe bucket digs.

Position (8): When the lever is pushed to the right, the backhoe bucket dumps.





Note: Backhoe attachment control levers are locked by pulling the backhoe attachment lock lever (A) upwards.

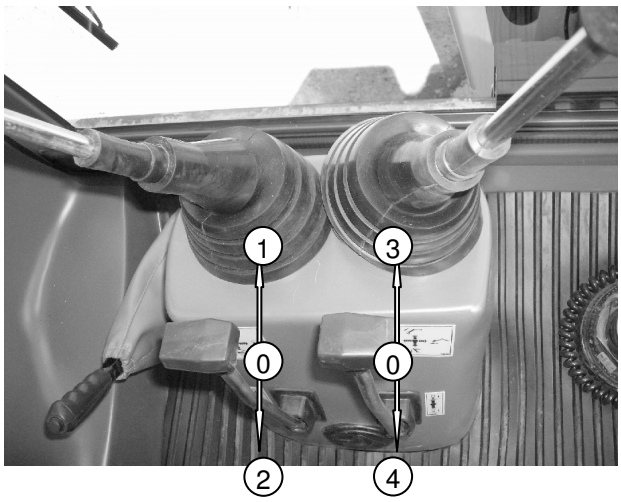
STABILIZER CONTROLS

WARNING: Bring all operating levers in neutral position and engage the parking brake before using the stabilizer controls.

WARNING: After entering the cab, adjust the operator's seat in backhoe attachment position. Be certain that all controls can be reached comfortably.

WARNING: Before operating the backhoe attachment controls, lower the stabilizers to the ground.

WARNING: Before any road travel, the stabilizers must be raised completely.



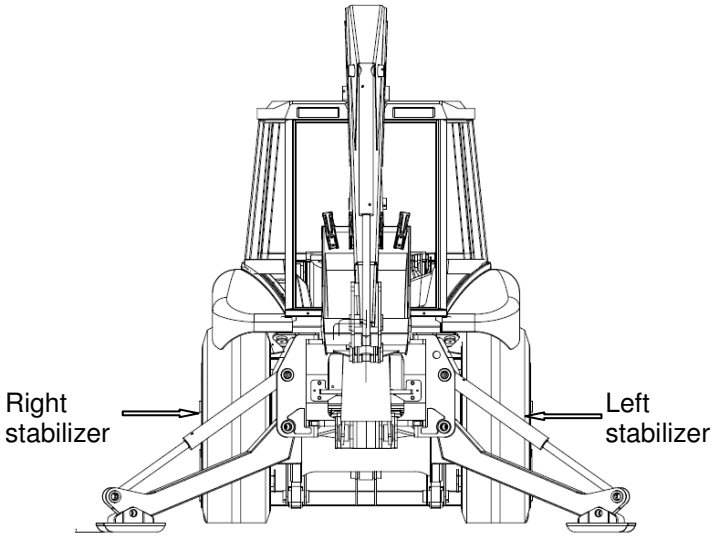
Position (0): When the lever is released, it automatically returns to neutral position and the movement of the left stabilizer stops in the last position.

Position (1): When the lever is pushed forward, the left stabilizer is lowered.

Position (2): When the lever is pulled backwards, the left stabilizer is raised.

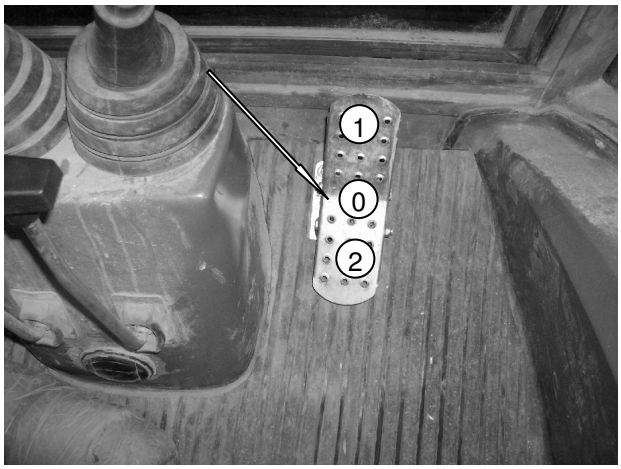
Position (3): When the lever is pushed forward, the right stabilizer is lowered.

Position (4): When the lever is pulled backwards, the right stabilizer is raised.

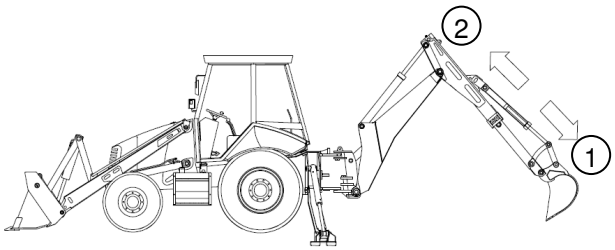


Note: Using the levers together raises or lowers the stabilizers at the same time.

TELESCOPIC DIPPER STICK CONTROL PEDAL (EXTENDABLE DIPPER- OPTIONAL)



Position (0): The extendable dipper is at neutral position.
Position (1): Pushing the pedal forward extends the telescopic stick.
Position (2): Pushing the pedal backwards retracts the telescopic stick.



ACCESSORIES

CAB INTERIOR LIGHT



This light is used to illuminate inside of the cab.

TAPE- RECORDER



BEACON LAMP



REAR VIEW MIRRORS



Adjust mirrors before driving the machine.

BATTERY MASTER SWITCH



Insert battery switch to connect the circuit. Remove battery switch before carrying out any maintenance work or after each working day.

TOOL BOX



This box is used to store the parts needed during servicing operations.

WINDSHIELD WASHER RESERVOIR



CIGAR LIGHTER



REAR ADJUSTABLE WORKING LIGHTS

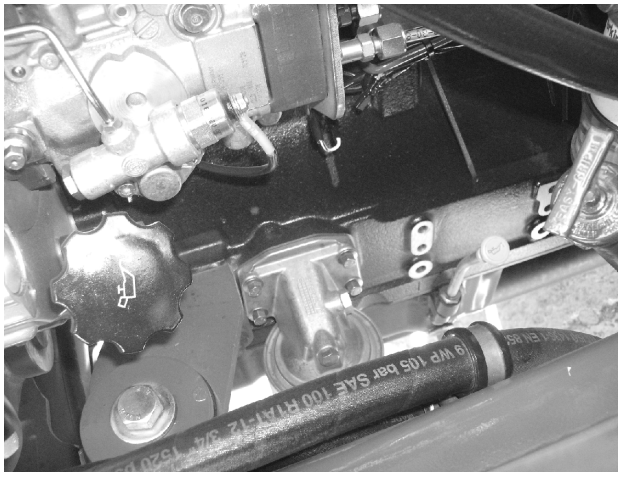


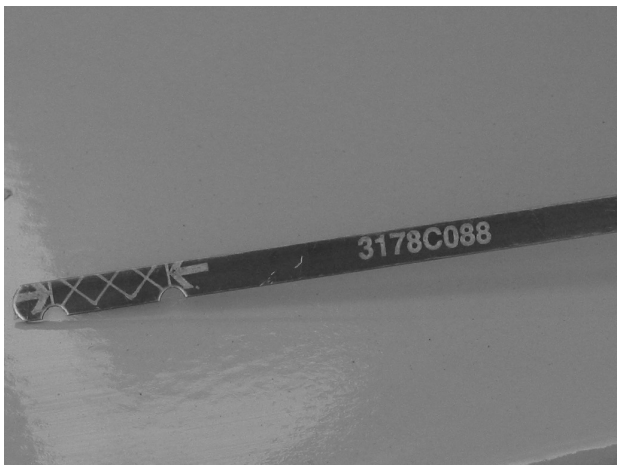
https://truckmanualshub.com/

OPERATING PROCEDURES

PRE-STARTING INSPECTION

ENGINE OIL LEVEL





Check the engine oil level with the machine on level ground. After engine shut down, allow 5 minutes for the oil to drain into the oil pan.

The oil level should not exceed the upper mark on the dipstick.

WARNING: The engine oil is very hot at or near operating temperature.

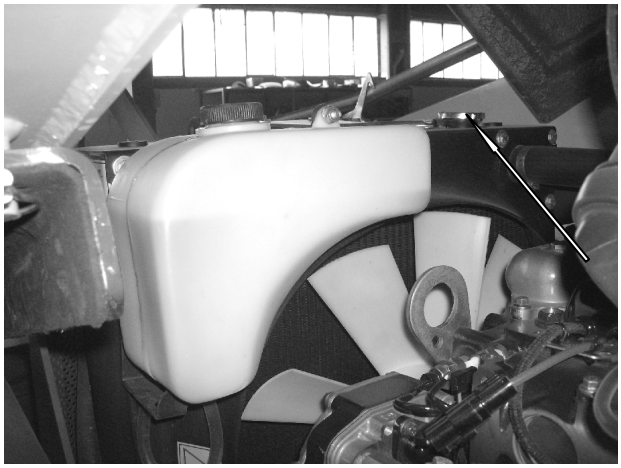
WARNING: Avoid contact with hot oil and components containing oil, since it could cause severe burns.

COOLANT LEVEL

WARNING: At or near operating temperature, the engine coolant is hot and under pressure.

WARNING: Avoid contact with components containing coolant,since it could cause severe burns.

WARNING: Check coolant level only after the cap of expansion reservoir is cool enough to touch. To check the coolant level, turn the reservoir cap slowly to relieve pressure.



When the coolant is cold, the coolant level should reach the lower end of the filler neck under the cap of the expansion reservoir.

The backhoe loader is delivered from the factory with a cooling system protection to -35 °C.
The proper antifreeze concentration (50% antifreeze) must be maintained all year long.

CHECK FUEL SYSTEM / FUEL LEVEL

The condensation in the fuel system must be checked daily.





Turn the plug on the water separator of the fuel filter, drain the condensation until fuel drains off and retighten the plug.

Check the fuel gauge on the side control panel before starting to work.

If the warning lamp lights up on the front and side control panel, only a little reserve of fuel remains in the tank.Refill the tank, if fuel level is low.

Notice:

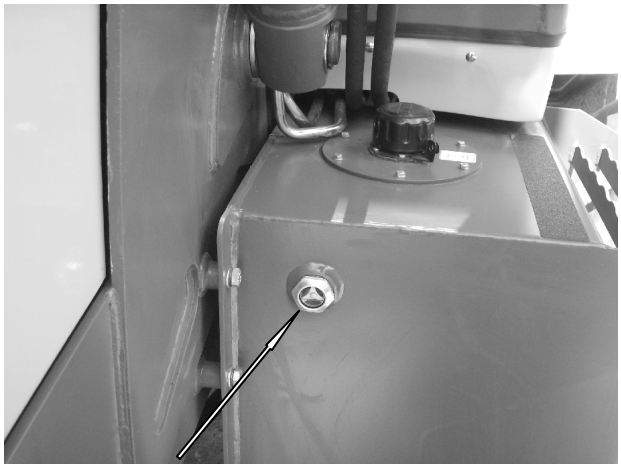
Since a high fuel level in tank reduces condensation inside the tank, the refueling should be done preferably at the end of the working day.

HYDRAULIC OIL

When checking the oil level or adding oil,

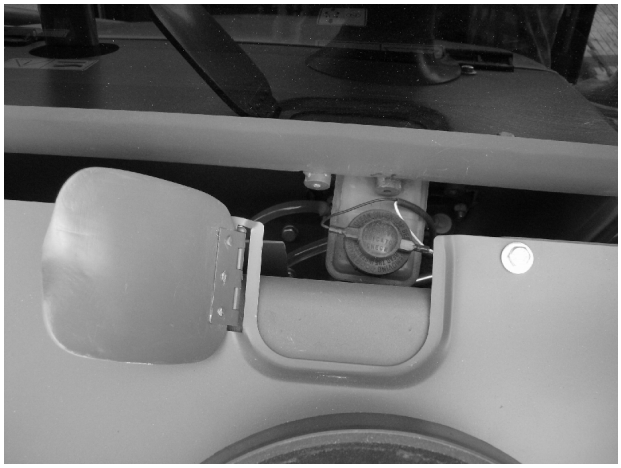
- Park the machine on level ground,
- Lower the loader bucket flat on the ground.
-
- Position the backhoe attachments to road travel position.
- Turn the engine off and wait a few minutes.

Check oil level in the hydraulic tank



The fluid level should be in the middle of the sight gauge space.If, in this position, the oil level is below the middle mark on the sight gauge, and oil has to be added through the oil filler until the oil reaches the middle mark.

BRAKE FLUID RESERVOIR LEVEL



Check the brake fluid level with the machine on level ground.

The oil level must be between the MIN. and MAX. mark on the reservoir.

https://truckmanualshub.com/

MACHINE START UP SAFETY

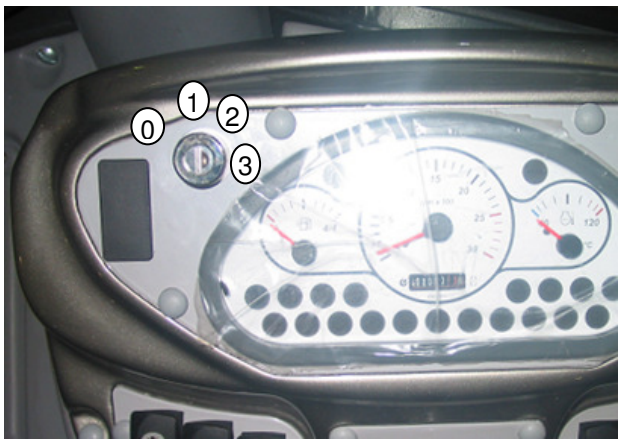
- Before backhoe loader start up, perform a thorough walk around inspection.
- Visually inspect the backhoe loader, look for loose bolts, cracks, wear, any leaks and any evidence of vandalism.
- Never start or operate an unsafe backhoe loader.
- Make sure all covers and doors are closed and locked and all warning decals are on the machine.
- Make sure all windows, as well as inside and outside mirrors are clean, and secure all doors and windows to prevent any unintentional movement.
- Be certain that the area surrounding the backhoe loader is free of other personnel, and that no one is working on or under the backhoe loader before starting the engine.
- After entering the cab, adjust the operator's seat and controls, the inside and outside mirror and the arm rests. Be certain that all controls can be reached comfortably.
- All noise protection devices on the machine must be functional during operation.

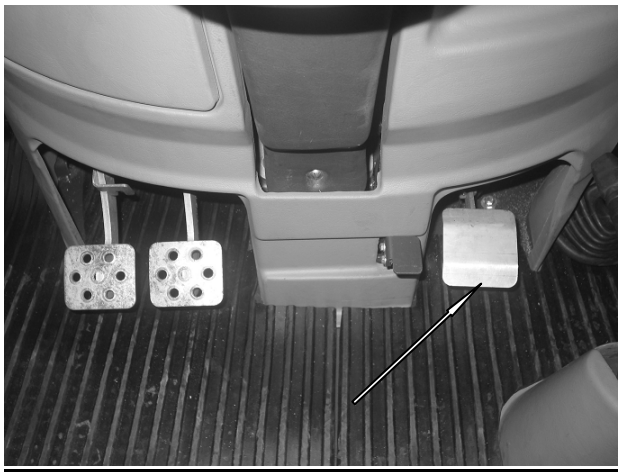
ENGINE START UP AND OPERATING SAFETY

- Before start up, check if all indicator lights and instruments are functioning properly, place all controls in neutral position.
- Before starting the engine, alert any nearby personnel that the backhoe loader being started by sounding the horn.
- Start machine only when seated in the operator's seat, and with the seat belt fastened.
- If you have no other instructions, start the engine as outlined in the Operation and Maintenance Manual.
- Check all indicators, gauges, warning devices and controls for their proper indication.
- Start and operate the engine only in a well ventilated area. If necessary, open doors and windows. Warm up the engine and hydraulic system to operating temperatures. Low engine and hydraulic oil temperatures can cause the backhoe loader unresponsive.
- Check that all attachment functions are operating properly.
- Move the backhoe loader slowly into an open area and check all travel functions for their proper operation, check travel brakes, the steering function as well as the turn signals and lights.

ENGINE START UP PROCEDURE

- Make sure that travel direction control lever and gear lever are in neutral position and parking brake lever is engaged.
- Make sure that engine throttle lever is in low idle position.
- Turn the key to contact position "1". Immediately after turning the system on, the display and the control unit will run through a self test, i.e. engine oil coolant temperature, engine oil pressure and alternator charge warning lamp on the front control panel should light up.





- Press the accelarator pedal down about a quarter of the way.

- Turn the key to pre-heat position "2". Immediately after turning the system to pre-heat position, the indicator lamp on the front control panel lights up. Acoording to the ambient temperatures hold the key in the pre-heat position about 10-30 seconds. Never hold the key in the pre-heat position for more than one minute.

- Turn the key to starting position “3”. As soon as the engine is running, release the key. The engine can not be cranked for more than ten seconds. If the engine does not start, repeat the starting procedure at one minute intervals to allow the starter motor to cool off.
After running the engine, coolant temperature, oil pressure and alternator charge warning lamp must turn off.



DANGER: Only run the engine if good ventilation is provided. Open the doors and windows, if necessary, to provide sufficient ventilation.

Note: Do not run the engine at idle for too long, since this may cause the formation of deposits in the oil. Whenever conditions of use and safety allow it, run the engine at maximum speed.

- Make sure that all indicators and indicator lamps, and all controls function properly after running the engine.
- Press the accelerator pedal, increase the engine speed slowly until the engine has reached operating temperature.

ENGINE SHUT DOWN PROCEDURE

- Place travel direction control lever and gear lever in neutral position.
- Apply parking brake.
- Reduce the engine speed to low idle and run the engine 1 minute at low idle.In cold weather,you must run the engine 3-5 minites at the low idle.
- Turn the key to “off” position.Remove the starter key.

Note: Do not suddenly turn the engine off when the engine is running at high idle.



WARNING: Do not turn the starter while the engine is running, this could damage the starter and the starter gear.

MACHINE OPERATING SAFETY

- Familiarize yourself with jobsite rules. Be informed about traffic and hand signals and safety signs. Ask who is responsible for signaling.
- Check your surroundings for any obstacles in the working and movement range, check the load carrying capacity of the terrain, and secure the job site to shield it from any public higway traffic.
- Always keep a safe distance from overhangs, walls, drop offs, and unstable ground.
- Be alert of changing weather conditions, bad or insufficient visibility and of changing ground conditions.
- Be alert for utility lines, check the location of underground cables, gas and water lines, and work especially careful in that vicinity. If necessary and / or if required, call local authorities to mark the location.
- Keep sufficient distance from electrical lines. When working in the vicinity of high voltage electrical lines, keep a proper distance to assure that the attachment does not come close to the lines.
DANGER! You must inform yourself about safe distances.
- In case you do touch a high voltage line by accident, proceed as follows:
  - Do not leave the machine,
  - Move the machine, if possible, from the danger zone until you reach sufficient distance,
  - Warn any personnel in the vicinity not to come close to the backhoe loader and not to touch it,
  - Instruct or initiate someone to turn off the voltage,
  - Do not leave the machine until you are absolutely sure that voltage in the line, which had been touched or damaged, has been turned off!
- Before moving the machine, make sure that the attachments and equipment are secured properly to avoid accidents.
- Do not run the machine without the backhoe as this can effect the brake system and may cause serious accidents.
- Use the throttle lever while operating the backhoe or for maintenance.
- When travelling on public roads or highways, make sure you observe traffic regulations, and make sure that the machine meets federal and local public highway standards.
- Always turn on the lights if visibility is bad or if you are still working during dusk.
- Never allow other personnel on the backhoe loader.
- Operate the backhoe loader only while seated and with the seat belt fastened.
- Report any problems or needed repairs to your foreman or supervisor and make sure they are corrected immediately.
- Do not move the backhoe loader until you are certain that no one is endangered by moving the backhoe loader.

- Check the brake system before starting to work, as outlined in the Operation and Maintenance Manual.
- Make sure that brake pedals are locked before any road travel.
- Never leave the operator's seat while the machine is still moving.
- Never leave the machine unattended (within view of machine), with the engine running.
- Prevent any working movements, which could tip the machine over. If the backhoe loader begins to tip or slip on a grade, immediately lower the attachments. If possible, always operate the backhoe loader with the attachment positioned uphill.
- Always travel slowly on rough or slippery ground on slopes, and on loose soil.
- Activate front drive axle engagement switch (4X4) when travelling on icy or slippery roads.
- Always travel downhill at permissible speed, so you don't loose control over the machine. The engine must run at nominal speed, use only the foot pedals to brake and slow down the machine.
- Never shift gear during down hill travel, always shift to a lower gear before traveling downhill.
- If the road is icy or slippery when travelling uphill or downhill, engage differential lock to prevent accidents.
- Before travelling on public highway, adjust steering column to the most upright position and slide operator's seat to the most forward position. Otherwise operator's field of view become restricted and an accident may occur.
- Engine RPM is adjusted and sealed in the factory. Do not try to readjust the engine RPM. This can cause serious accidents. Should this happen, consult CUKUROVA service personel.
- Never load over. an occupied truck. Request that the driver leave the cab, even if a rock protection is installed.
- If operating in visually obstructed terrain or whenever necessary, have another person guide you. Always have only one person signal to you.
- Allow only experienced persons to attach loads or to guide operators. The guide must be visible by the operator and / or must be in voice contact with him.
- In case of a thunderstorm :
  - Lower the attachment to the ground and if possible anchor the digging tool into the soil.
  - Leave the cab and move away from the machine before the storm breaks out. Otherwise, you must stop the backhoe loader and keep inside the closed cab Until the end of the storm.
- Auxiliary control units can have various functions. Always check their functions when starting up the machine.
- Inspect the machine for damage if the attachment has been swung into a wall or any other obstacles.
- Applications in which the attachment is to be used to strike the material being extracted are not permitted, even when working in a longitudinal direction.
- Repeated strikes against an object leads to damage to the steel structures and machine components.
- Please refer to your CUKUROVA dealer if special teeth for heavy-duty or special applications are required.
- Do not attach too large bucket or bucket with side cutters or that are during operations with rocky material. This would prolong the work cycles and may lead to damage to the bucket as well as further machine components.
- Do not lift the machine during operation. Should this happen, lower the machine slowly back to the ground.
- Do not let the machine fall heavily on the ground and do not hold it back with the hydraulics. This would damage the machine.
- An hydraulic hammer must be selected with particular care. When using a hydraulic hammer not permitted by CUKUROVA, steel structures or the other machine components can become damaged.
- Before beginning breaking tasks, position the machine on firm and level ground.
- Use a hydraulic hammer designed exclusively for breaking stone, concrete and other breakable materials.
- Only operate the hydraulic hammer in the longitudinal direction of the machine and with the rear windshield closed or with a protective grill.
- Ensure during hammer operation that no cylinder is entirely extended or retracted and that the stick is not in the vertical position.
- In order to avoid damage to the machine, try not to break stone or concrete while performing retraction and extension motions of the hydraulic hammer.

https://truckmanualshub.com/

- Do not apply the hydraulic hammer uninterrupted for more than 15 secs. at a time to the same place. Change the breaking point. Too long uninterrupted operation of the hydraulic hammer leads to an unnecessary overheating of the hydraulic oil.
- Do not use the drop force of the hydraulic hammer to break stone or other materials. Do not move obstacles with the hydraulic hammer. Misuse of this nature would damage both the hammer and the machine.
- Do not use the hydraulic hammer to lift objects.
- While operating, if the operator has a problem, he must lower the attachments, engage the parking brake lever and remove the ignition key fix the problem immediately or inform the person who is authorized.

NOTE: Release the hydraulic system pressure by pressing brake pedal down a few times.

NOTE: Even if engine stops, attachments can be lowered by using attachments control levers.

BACKHOE ATTACHMENT WORKING POSITION

WARNING: After entering the cab, adjust the operator's seat in backhoe attachment position. Be certain that all controls can be reached comfortably.

WARNING: Bring all operating levers in neutral position and engage the parking brake lever before working with the backhoe attachment controls.

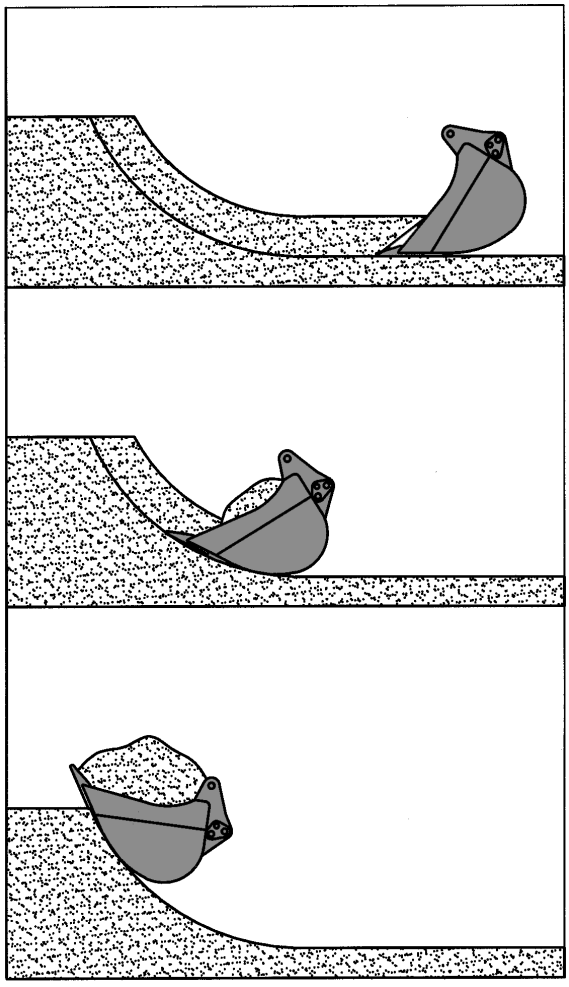
WARNING: Before operating the backhoe attachment controls, lower the stabilizers to the ground.

- Make sure that travel direction control lever and gear lever are in neutral position and parking brake lever is engaged.
- Start the engine.
- Level the loader bucket and lower it to the ground.
- Turn the seat to the backhoe attachment position and adjust if necessary.
- Make sure that the side shift is locked.
- By using engine throttle lever accelerate the engine at operating speed.The speed must be between 1500 to 1800 rpm.
- Lower the stabilizers to the ground.

The side shift

- To shift the backhoe attachment to the right or to the left;
  - To unlock the side shift press the side shift switch. After pressing the switch the indicator lamp lights up.
  - If you want to shift the backhoe attachment (which is at the right) to the left, lift the right stabilizer. At that time, the left stabilizer must be on the ground.
  - If you want to shift the backhoe attachment (which is at the left) to the right, lift the left stabilizer. At that time, the right stabilizer must be on the ground.
  - Lock the side shift at the desired position by pressing again the side shift switch. The indicator light must turn off.

Excavating position



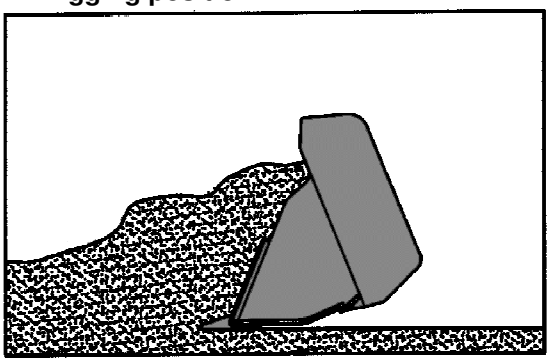
WARNINIG: Don't operate with the backhoe bucket in order to break big materials; otherwise, hydraulic failures may occur.

BACKHOE ATTACHMENT TRAVELLING POSITION

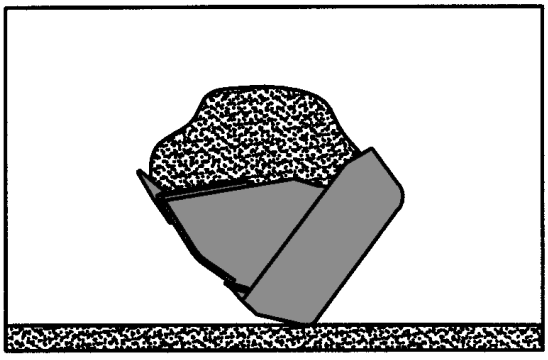
- Make sure that the travel direction control lever and gear lever are in neutral position and the parking brake lever is engaged.
- Make sure that the stabilizers are lowered and the loader bucket is adjusted that it is about 20-25 cm above the ground.
- Slide the side shift to the left completely (according to the loader position).
- Position the backhoe attachment to be parallel to the side shift.
- Lock the side shift, by pressing the side shift switch.
- Lock the backhoe boom shift by pulling the backhoe boom shift lever upwards.
- Raise the stabilizers, the buzzer will sound in the cabin if the stabilizers aren't raised enough.
- Adjust the engine throttle lever to the low RPM position.
- Lock the backhoe attachment by pulling the backhoe attachment lock lever towards up (the operator).
- Turn the seat to the loader attachment position.
- Release the parking brake.
- Make sure that the travel direction control lever and gear lever are in neutral position.
- Lift the loader bucket that it shouldn't be an obstacle for the operator's visual range.

OPERATIONS WITH LOADER BUCKET

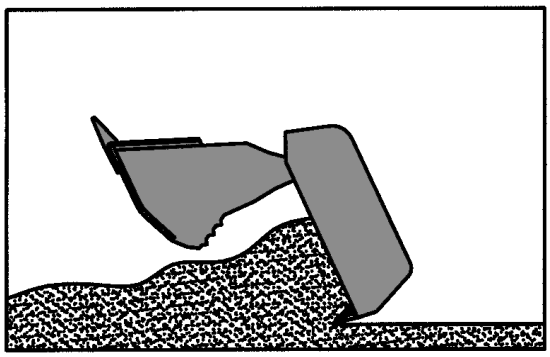
- **Digging position**



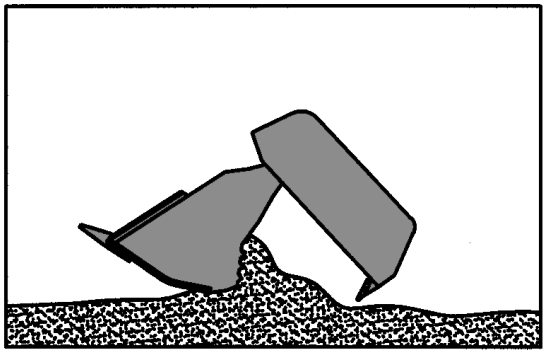
- **Loading position**



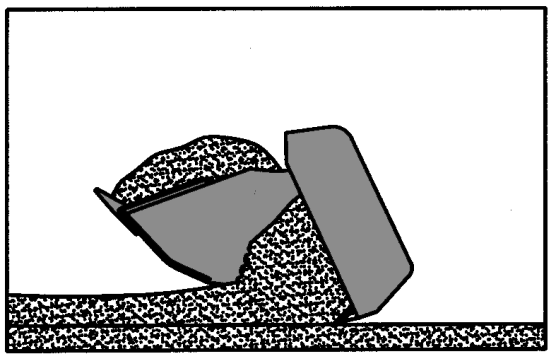
- **Dozer blade position**



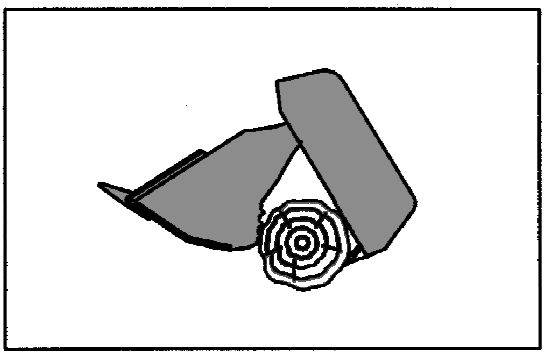
- **Grader position**



- **Filling position**



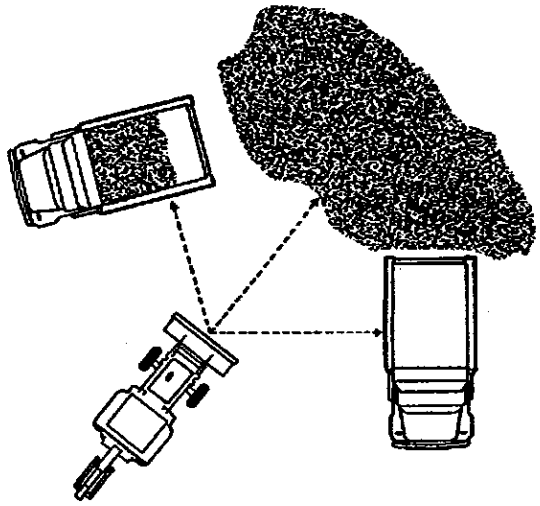
- **Handling position**



WARNING: Being on level ground is helpful to operate the machine easily.

WARNING: While operating the backhoe loader at the inclined terrain with a full bucket, keep bucket as low as possible.

WARNING: While operating the backhoe loader at the slippery or inclined terrain,travel slowly.otherwise accidents may occur.



ROAD TRAVELLING FUNCTION

When travelling with backhoe loader, some procedures should be followed to provide safety.

WARNING: When travelling on public roads or highways, make sure to observe traffic regulations, and make sure that the machine meets federal and local public highway standards.

WARNING: Check all indicators, gauges, warning devices and controls for their proper indication before travelling on the road.

WARNING: Start machine only when seated in the operator's seat, and with the seat belt fastened before travelling on the road.

WARNING: Adjust backhoe attachment to road travel position before travelling on the road.

- Make sure that travel direction control lever and gear lever are in neutral position and parking brake lever is engaged.
- Adjust the operator's seat to the backhoe attachment position correctly.
- Run the engine
- Lower the stabilizers to the ground.
- Retract the extendible stick and lock it by placing the pin to the locking hole.
- Slide the sideshift carriage to the right.
- Position the backhoe attachment parallel to the machine.
- Retract the backhoe attachment completely.
- Swing the backhoe attachment completely to the left.
- Raise the stabilizers, the buzzer will sound in the cab if the stabilizers are not raised enough.
- Make sure that all covers and doors are closed and locked.
- Reduce the engine speed to low idle speed.
- Turn the seat to the loader attachment position and adjust if necessary.
- Raise the loader attachment about 20-25 cm above the ground and roll back the loader bucket.
- Stop the engine and engage parking brake.
- Place the loader bucket tooth-cover.
- Position the mirrors correctly.
- Lock the two brake pedals.
- Start the engine.
- Make sure that the front drive axle is disengaged.
- If necessary press the rotating beacons switch to activate it. After pressing the switch the indicator lamp lights up.
- Press the brake pedals down and release the parking brake.
- Move the travel direction control lever forward and select the first speed by using the gear lever
- Release the brake pedals press the accelerator pedal down for controlling the engine speed.

JOB SITE TRAVELLING FUNCTIONS

WARNING: Check all indicators, gauges, warning devices and controls for their proper indication before travelling on the job-site.

WARNING: Start machine only when seated in the operator's seat, and with the seat belt fastened before travelling on the job-site.

- Make sure that the engine throttle lever is in the low idle position.
- Make sure that the stabilizers are completely raised, the buzzer will sound in the cab if the stabilizers are not raised enough

- Make sure that all covers and doors are closed and locked.
- Adjust the operator's seat and fasten the seat belt.
- Make sure that the travel direction control lever and gear lever are in neutral position.
- Start the engine.
- Raise the loader attachment about 18-20 cm above the ground and roll back the loader bucket.
- Press the brake pedals down and release the parking brake.
- Move the travel direction control lever and gear lever forward or reverse and select the engine speed by using gear lever.
- Release the brake pedals press the accelerator pedal down for controlling the engine speed.

NOTE: This machine's max. Operation incline is 24°

WARNING: Before you travel in reverse make sure that it is clear and nobody is in your way.

WARNING: While operating ,make sure that the front drive axle is engaged.(4x4 is on.)

WARNING: During operation on the inclined terrain in vertical position against the inclination, lower the loader bucket to the ground.

WARNING: Don't operate the backhoe loader without observing the following recommendations:

- Under 57,000 voltages: your distance from electric cables shouldn't be less than 3.5 meter.
- Above 57,000 voltages: your distance from electric cables should not be less than 5.5 meter.

TRANSPORTING THE BACKHOE LOADER

Safety procedure

- Use only suitable transporting and lifting devices with sufficient capacity.
- Park the machine on firm and level ground and block the wheels.
- If necessary, remove part of the attachments during transport.
- When loading the machine on a flatbed trailer or railroad car, be sure that the loading ramp incline is less than 30° and covered with wooden planks to prevent skidding.
- Remove all mud, snow or ice from the ramp components before moving up the ramp.
- Align the machine with the loading ramp.
- Have another person guide and signal the operator.
- Have blocks or wedges ready to block the machine, if necessary, to prevent the machine from rolling backwards. Be careful of crushing risks when handling and applying these wedges. Keep clear of wheels and do not attempt to chock or block the machine before its complete standstill.
- Release the hydraulic pressure, remove the ignition key, engage parking brake lever, close and lock the cab and close and secure all other doors and leave the machine.
- Carefully check out the transport route. Make sure that width, height and weight allowances are within the permitted limits.
- Check that there is enough clearance underneath all bridges, underpasses, utility lines, and in tunnels.
- During the unloading procedure, proceed with the same care and caution as during the loading procedure. Remove all chains and wedges. Start the engine as outlined in the Operation and Maintenance Manual. Carefully drive off the loading platform. Keep the attachment as close as possible to the ground level. Have another person guide and signal you.

Loading procedure

- Carefully align the machine with the loading ramp.
- Place a block or wedges behind the wheels of the trailer to block the trailers.
- Adjust backhoe attachment to road travel position, retract the attachments as far as possible and slide the side shift to the left.
- Raise the loader bucket about 18-20 cm above the ground.
- Select first speed from the gear lever and very carefully drive up to the ramp.
- Lower the loader attachment, stabilizers and rest the loader bucket on the bed of the trailer.
- Release the hydraulic pressure, remove the starter key, engage parking brake , close and lock the cab and close and secure all other doors and leave the machine.
- Carefully secure the attachments and the other parts with chains and blocks to the trailer to prevent any slippage or movement. (Place blocks behind and front of the stabilizers.)

- Tie the rope to tie-down points and tie the other end of rope to the tying points on trailer.
- Turn the rear view mirrors inside.
- Carefully check out the transport route. Make sure that width, height and weight allowances are within the permitted limits.

Unloading procedure

- During the unloading procedure, proceed with the same care and caution as during the loading procedure. Remove all chains and wedges. Start the engine as outlined in the Operation and Maintenance Manual. Carefully drive off the loading platform. Keep the attachment as close as possible to the ground level. Have another person guide and signal you.

LIFTING THE BACKHOE LOADER

- Be sure all lifting devices such as, hooks, slings, and lifting points are safe and adequate and that they can take the weight of the machine.
- The lifting points are shown on the machine by decals.
- Using any other lifting points may not take the weight of the machine and can cause accidents.
- Adjust backhoe attachment to road travel position and retract the attachments as far as possible before lifting the backhoe loader.
- Keep personnel out of area.

TOWING THE BACKHOE LOADER



The vehicle being towed:

- Set the parking brake to off.
- Adjust the travel direction control lever and gear lever to neutral position.
- Tie the cable to the tie point to the front weight.
- Turn on the hazard warning by pressing the hazard warning switch.

The vehicle towing the backhoe loader:

- Turn on the hazard warning by pressing the hazard warning switch.
- Tow the backhoe loader with the first speed.
- Don’t jerk suddenly.

IMPORTANT: The speed of vehicle towing the backhoe loader should be 10 km/h and towing distance shouldn’t be more than 2 km.

WARNING: While travelling downhill, run the engine in first gear.

Note: While travelling downhill or climbing uphill, the max.angle of inclination is 30°.

Don’t travel at jobsite where inclination angle is more than 30°.

The backhoe loader should not be towed until absolutely necessary. If it is possible carry out the repair work at the location without towing the machine.
Towing is always the responsibility of the operator.

DANGER: Never allow anyone to stand near the cable when pulling or towing the backhoe loader.Keep the cable tight and free of kinks. Pull the cable slowly. The cable could snap and break if it suddenly jerked.

- Only tow the backhoe loader if absolutely necessary, for example to remove it for repairs from a dangerous job site.
- The vehicle should have enough capacity for towing the machine.
- Observe traffic regulations while towing.
- Be sure all towing and pulling devices such as cables, hooks, and couplers are safe and adequate.
- Make sure that the cable or the towing rod is strong enough. Be aware that any damage to the machine caused by towing is never covered by the manufacturer's warranty.
- Engage travel slowly, and do not jerk. With a slack cable, the sudden impact of the load being towed could snap and break.
- Keep personnel out of area. If cable breaks while under stress, it could cause severe injury.
- During the towing procedure, keep within the required transport position, permissible speed and distance.
- After the towing procedure is completed, return the machine to its previous state.
- Proceed as outlined in the Operation and Maintenance Manual when putting the backhoe loader back in service.

https://truckmanualshub.com/

PARKING THE BACKHOE LOADER

- Park the backhoe loader only on firm and level ground.
  If it becomes necessary to park the machine on a grade, properly block and secure it with wedges.
- Lower the attachments to the ground and anchor the bucket lightly in the ground.
- Bring all operating levers in neutral position and engage the parking brake.
- Turn the engine off as outlined in the Operation and Maintenance Manual before you leave the operator's seat.
- Lock the machine, remove all keys and secure the backhoe loader against vandalism, unauthorized use, and any attractive nuisance.



WARNING: Make sure that width, height and weight allowances are within the permitted limits. If not, put the necessary signs on.

WORKING IN THE WATER

- The ground under the water should be stable to not to drag the machine weight.
- The water level should not be higher than the center axis of the front wheel.
- Before working in the water, lubricate the machine.

https://truckmanualshub.com/

LUBRICATION

GENERAL SAFETY INFORMATION

It is very important that ail guidelines describing lubrication, checking the oil level, replacing the oil are strictly adhered to!

Regular maintenance increases the life of the backhoe loader and improves its reliability.

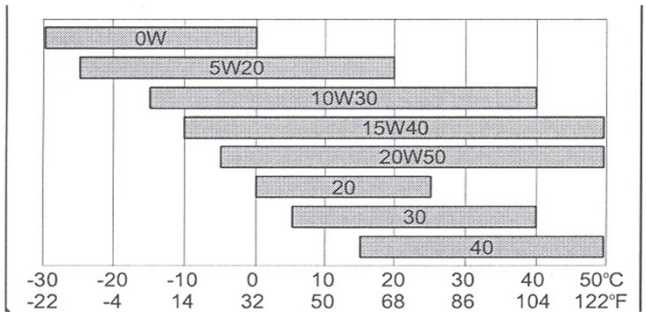
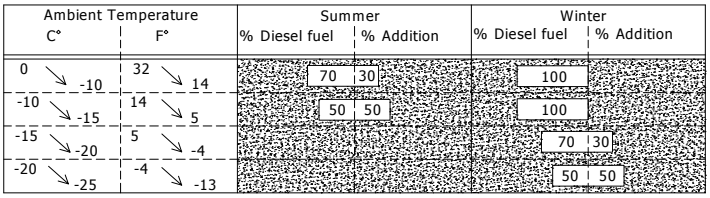
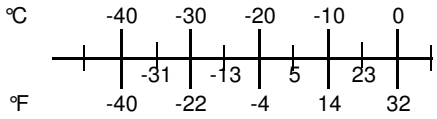
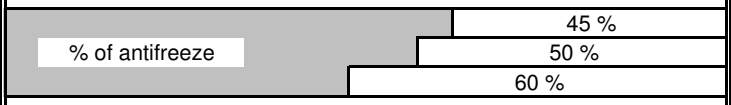
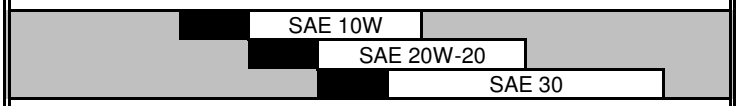
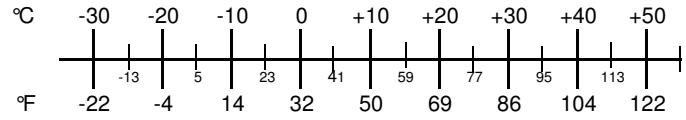
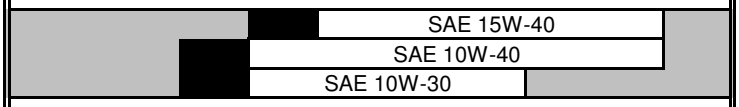
It is especially important to change the oil regularly and at the intervals noted in the maintenance schedule! Only use specified lubricants and oil!

When checking or replacing the oil, observe the following:

- Park the machine on level ground, if not otherwise stated, and turn the engine off.
- When working in the engine area, make sure the covers and side doors are secured.
- Only add fuel when the engine is turned off.
- Never smoke or allow an open flame in refueling areas.
- Cleanliness is especially important when changing engine, gear or hydraulic oil. Before removing fittings or plugs, make sure the surrounding areas are cleaned. When changing the oil, clean the fill and drain plugs.

IMPORTANT!
Be sure to drain oil into a suitable container and dispose of oil and filter cartridges properly.

LUBRICANT AND FUEL CHART OF 880

COMPONENTS	SYMBOL	VISCOSITY SAE DIN 51512 SPECIFICATION	QUANTITY
DIESEL ENGINE (TURBOCHARGED) LUBRICANT		 API CI-4/CH-4/CG-4/CF-4/CF/SL/SJ,ACEA E5/E3/B4/B3/A2	**8.4 liter** **2.2 US gal**
FUEL		Use only Diesel fuels with a sulfur content of less than 0,2% 	**120 liter** **31.38 US gal**
COOLANT		Ethylene glycol based antifreeze and anticorrosive mixture Protected to:  	**23 liter** **6.01 US gal**
HYDRAULIC SYSTEM		   Warming up the hydraulic system: 1. For temperatures 18 °F (10 °C) below the lower limits: Run the engine at half speed. Warm up the hydraulic system by fully actuating haydraulic cylinders and motors for short periods. Continue warm up for about 10 minutes or until operating temperatures are reached. 2. For temperatures below the limits listed under 1: Preheat hydraulic oil in the tank before starting the engine.	**In hydraulic tank** **85 liter** **22.22 US gal** **In hydraulic system** **125 liter** **32.68 US gal**

COMPONENTS	SYMBOL	VISCOSITY SAE DIN 51512	SPECIFICATION	QUANTITY
BRAKE		PO MAXIMA 10W-40	API SL/CF , ACEA A3/B3/B4	**0.4 liter** **0.11 US gal**
TRANSMISSION		MOBILFLUID 426	ATF-DEXRON II-D ATF-DEXRON III	**16 liter** **4.2 US gal**
FRONT AXLE AND REDUCTION GEAR		MOBILFLUID 426	API GL-4	**9.1 liter** **2.38 US gal**
REAR AXLE AND REDUCTION GEAR		MOBILFLUID 426	API GL-4	**17 liter** **4.44 US gal**
GREASE		CONSISTENCY 2 NLGI N°2 Grade MOBILUX EP 2	MULTIPURPOSE GREASE KP2k OR EP2 (Extreme pressure N°2 Grade)	
WINDSHIELD WIPER SYSTEM		Commercial windshield washing detergent or denaturated alcohol		

LUBRICANT AND OPERATING MATERIALS SPECIFICATIONS

NOTES ON LUBRICANT AND OPERATING MATERIALS CHART AND ON LUBRICATION SCHEDULE
The amounts indicated on the lubricant and operating materials chart and on the lubrication schedule are guidelines.
Check level in appropriate aggregate after every oil change or refill.

1) DIESEL ENGINE LUBRICANTS

Lubricant regulation for diesel engines is based on the following specifications and regulations:
API Classification : CI-4, CH-4, CG-4, CF-4 (American Petroleum Institute)
ACEA (CCMC) Classification : E5, E4, E3, E2
(Association desConstrticteurs Europeensde l'Automobile)

Intervals for Oil Change

- Oil and filter changes at:

– At 250 operating hours when using running in oil.

- Oil change depending on climate zone, sulphur content in fuel and oil quality according to sulphur chart below.

- If indicated operating hours are not reached, change engine oil and filter at least once a year.

Oil change intervals in operating hours:

		Turbo engine	
Working conditions	Sulphur content in fuel	Oil Quality	
		CG-4, CF-4, E2-96, D4	E3-96, D5, E4-98
>-10°C	< 0,2%	250 h	500 h
	> 0,2%	125 h	250 h
<-10°C	< 0,2%	125 h	250 h
	> 0,2%		125 h



DIESEL FUEL:

Authorized Diesel fuel specifications

Use only Diesel fuel with a sulfur content of less than 0,2 % and complying with one of the following standarts: DIN EN 590
ASTMD975-89a: 1-Dand2

The sulfur content in Diesel fuel should be less than 0.2%.
Higher sulphur contents influence oil change intervals and engine life.

Lubricity

By reducing sulphur content, the question of engine fuel lubricity arises. It has been clearly shown that engine fuels with the maximum allowable sulphur content (in Europe 0.05% by volume) can cause damage to the injector systems (especially in the case of distributor injection pumps).

Improving Diesel fuel fluidity in cold climates

Addition of regular gasoline or kerosene

When ambient temperature are below 0°C (32°F), Diesel fuels normally used during the summer may suffer a decline in fluidity due to paraffin separation. The same occurs if Diesel fuels normally used during the winter are used at temperature below -15°C (5°F).

Often, additive diesel fuel is on offer with operating temperatures down to -20°C (-4°F).

In order to prevent operating problems at these low temperatures, the Diesel fuel must be mixed with regular gasoline or kerosene.

Mixing regular gasoline should be considered at last resort, under no circumstances should the ratio of gasoline exceed 30%.

Never use super grade gasoline for mixing.

Ambient temperature		Summer		Winter	
°C	°F	% Diesel fuel	% Addition	% Diesel fuel	% Addition
0 ↘ -10	32 ↘ 14	70	30	100	
-10 ↘ -15	14 ↘ 5-	50	50*	100	
-15 ↘ -20	5 ↘ -4			70	30
-20 ↘ -25	-4 ↘ -13			50	50*

* If an additive of 50% is necessary, only use petrol (no normal gas).

Depending on the ratio of Diesel fuel to gasoline or kerosene, engine output may somethat decline.

Depending on the ambient temperature, add as little gasoline or kerosene as possible to the Diesel fuel.

Other Fuel additives (flow improvers):
Widely available flow improvers also enhance Diesel fuel ability to perform reliably in cold climate conditions. When using such flow improvers, follow the manufacter's recommendations closely.



ENGINE COOLANT - Specifications for anticorrosion and antifreeze protection

Using mixture of antifreeze and anti-corrosion with "DCA4" anti-corrosion additive.

To assure the protection from corrosion of the cooling system, the coolant must contain at least 50% corrosion / coolant mixture all year round. This protects the cooling system to about - 35°C (- 33°F).
When fluid is added to the coolant mixture, it must be assured that the mixture maintains a 50% antifreeze content.

Caution : The percentage of antifreeze should not exceed 60 % . A higher concentration would lead to reduced antifreeze and cooling properties.

In addition, the cooling system must contain DCA4 (DCA = Diesel Coolant Additive) from FLEETGUARD. The prescribed concentration is from 0.3 to 0.8 DCA units per liter of coolant (1.2 to 3.0 units per US Gallon).

The coolant must be changed every 2 years. Before adding new coolant, check the circuit for cleanness and if necessary flush it with water.

Using a mixture of water and DCA4 (without antifreeze and anticorrosion)

In certain circumstances, and if ambient temperatures are constantly above the freezing point, for instances in tropical regions, and if there are no corrosion or antifreeze fluids available, then a mixture of water and DCA4 additives may be used.

To maintain sufficient anticorrosion properties however, the DCA4 concentration of the coolant must in this case be about doubled in comparison with the one prescribed when using a mixture also containing antifreeze and anticorrosion, it equals a concentration from 0.6 to 1.6 DCA units per liter of coolant (2.4 to 6.0 units per US Gallon).

Important:

if employing a mixture consisting only of water and DCA4 additives :

- the use of coolant refiners (corrosion protective oils) is not authorized,
- the coolant change interval must be reduced to once a year.

Fresh water guidelines:

To mix the coolant fluid, only clean, preferably soft water should be used. Often, but not always, regular drinking water can be used. Sea water, brackish waters, sole water or industrial waste water may not be used.

Fresh water quality

Sum of alkalies (water hardness)	0,6 to 2,7 mmol/l (3 to 15°d)*	1° dGH (total hardness - Germany)
ph value at 20° C (68° F)	6,5 to 8,0	= 1,2° (English hardness)
Chloride - ion content	max. 80 mg/l	= 17.9 ppm (US hardness)
Sulfate - ion content	max. 80 mg/l	

https://truckmanualshub.com/

HYDRAULIC OIL

Hydraulic oil specifications

1. Mineral oils

For single viscosity oils: For multi viscosity oil :
Recommended and approved are engine oils, which conform to the following specifications and regulations: For single viscosity oils: Vickers I-286 S, M-2950-S, Denison HF-0, HF-1,2

2. Environmentally friendly hydraulic fluids (also called "BIO oils" -bio degradable oils-)

The "environmentally friendly hydraulic fluids" recommended by CUKUROVA are limited to synthetic ester based hydraulic fluids with a viscosity according to ISO VG 46.

Initial filling is performed ex works according to customer desires. The use of environmentally-friendly hydraulic fluids must be arranged with the CUKUROVA beforehand.

Organic oils should not be used due to their poor temperature consistency.

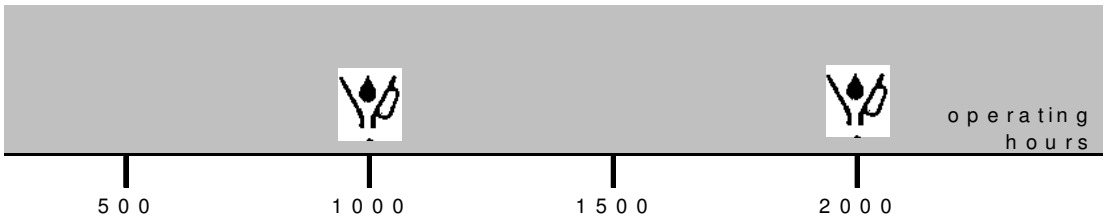
Note: It is absolutely necessary never to mix different brands of environmentally friendly hydraulic fluids or to mix fluids with mineral oils.

Hydraulic oil change intervals

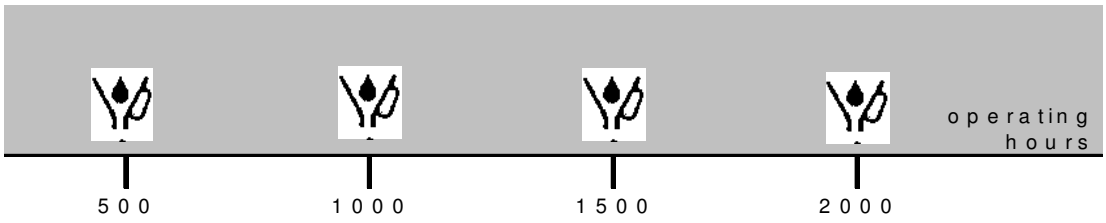
1. Oil changes in preset intervals

Note: Oil changes in preset intervals are only permitted for mineral oils. When using environmentally friendly hydraulic fluids, oil sample analysis reports must be used determine the time of the oil change.

a) In standard applications



b) In dust intensive applications



To limit the hydraulic oil contamination when working under extreme dusty conditions

On backhoe loaders working under very dusty conditions or with a hydraulic hammer attachment, the contamination of the hydraulic oil may be significantly increased.

In order to avoid any premature wear and failure of hydraulic components in consequence of this contamination reduce the oil change intervals as described above and, in addition, observe following recommandations:

- The tank return filter element(s) must be replaced every 1000 operating hours.
- The breather filter on the hydraulic tank must be replaced with a 75 µm fine breather filter.
- This 75 µm breather filter must be replaced every time the hydraulic oil is changed (every 1000 operating hours).



BRAKE OIL

Intervals for oil change:

- Brake oil changes every 1000 hours.



TRANSMISSION OIL

Lubricant regulations for transmission oils based on the following specifications and regulations:

ATF DEXRON II-D
ATF DEXRON III

Intervals for oil change:

- First oil change at: 100 operating hours
- First filter changes at: 100 operating hours.
- Further filter changes every 500 hours and oil changes every 500 hours (depending on climate zone and oil quality).



FRONT AXLE OIL

Front axle oils must meet the specifications API GL-4

Intervals for oil change:

- First oil change at: 500 operating hours.
- Further oil changes every 1000 hours.



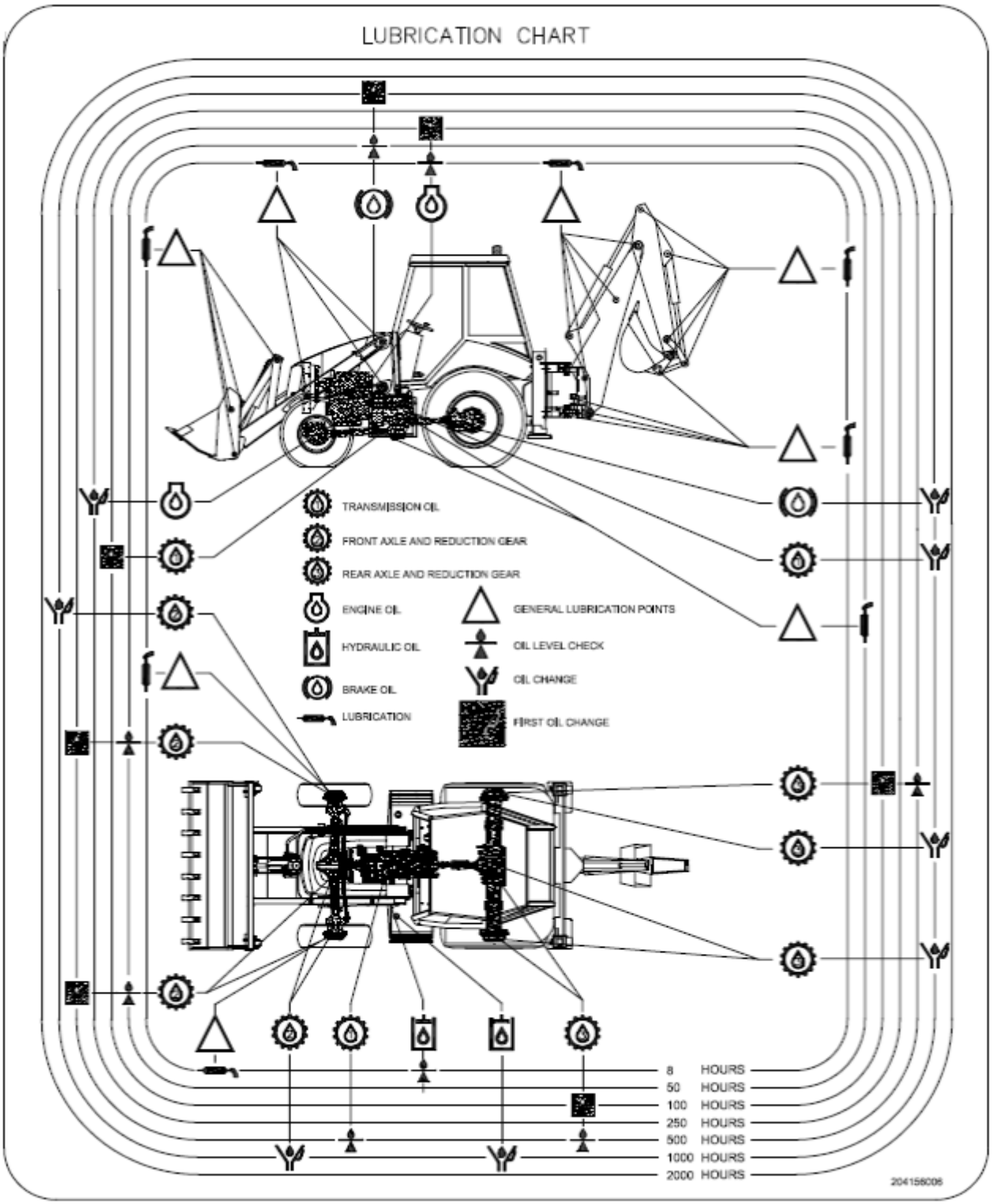
REAR AXLE OIL

Rear axle oils must meet the specifications API GL-4.

Intervals for oil change:

- First oil change at: 500 operating hours.
- Further oil changes every 1000 hours.

LUBRICATION CHART



DIESEL ENGINE

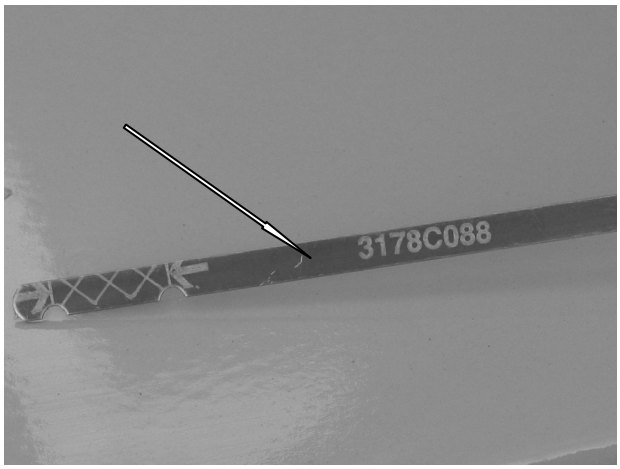
See Lubrication Chart for oil quality and oil quantities.

Maintenance Instruction

Checking oil level:.....every 8 hours or everyday
Interval for oil change:.....every 250 hours
(first and only interval..... 100 hours)
Capacity …….....8.4 liter
Interval for oil filter change.....every 250 hours
Oil type .....PO MAXIMUS
Turbo Diesel Extra 15W40

Checking the engine oil level





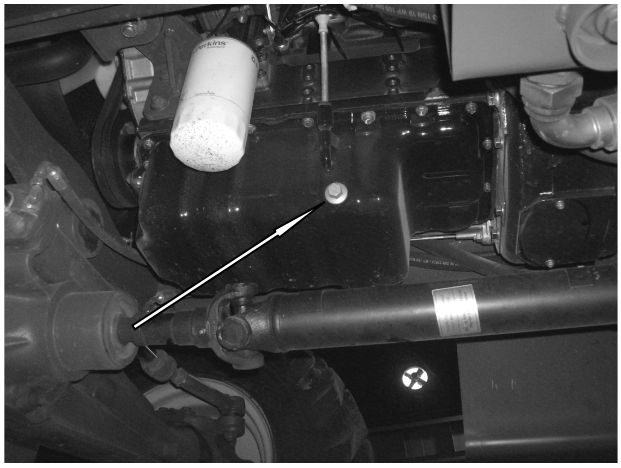
Park the machine on firm, level ground to check the engine oil level. Lift the loader attachment, place the safety bar and engage the parking brake .Turn the engine off and wait a few minutes for the oil to collect in the oil pan.Open the engine bonnet.
A few minutes later, remove the dipstick and clean it and place it.Remove the dipstick in order to check the oil level.
The oil should not exceed the upper mark on the dipstick. If the oil level is below the mark, remove the filler cap and add oil up to mark on the dipstick.

WARNING: The engine oil is very hot at or near operating temperature. Avoid contact with hot oil and components containing oil, since it could cause severe burns.

To drain the oil:

Maintenance Tools: combination wrench 16 mm

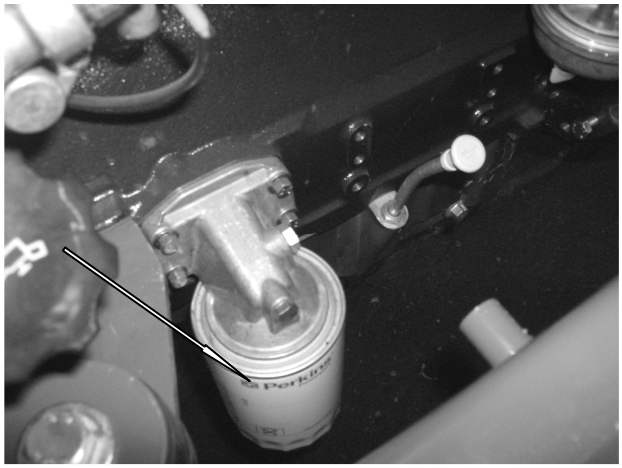
To change the oil, bring the engine to operating temperature.



Place an appropriate container under the drain plug, remove the drain plug and drain the used oil into the container.

To replace the oil filter element

Maintenance Tools: filter wrench



Remove the filter element by using the filter wrench.Clean the sealing surface on the filter mount. Grease the new filter sealing surface and place the new filter in the filter housing.

WARNING: Don’t use the filter wrench to place the new filter.

To add oil



Fill the engine with new oil to the upper mark of the dipstick.

Run the engine for few minutes and check for leaks and the level again. Close the engine bonnet.

COOLING SYSTEM

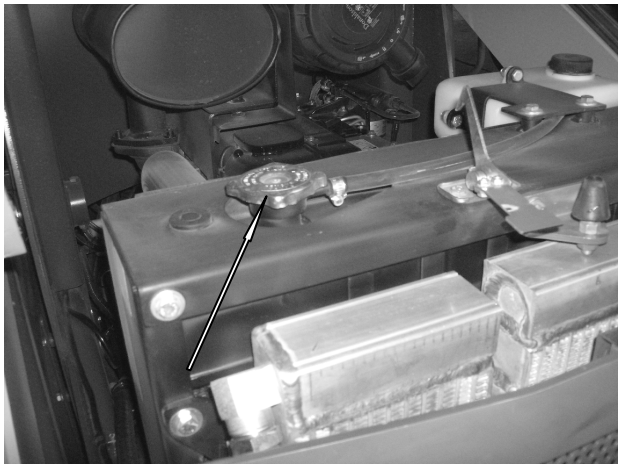
See Lubrication Chart for coolant quality and coolant quantities.

Maintenance Instruction

Checking the coolant level.....every 8 hours
Draining.....every 2000 hours
Capacity …….....25 liter
Thermostat Interval.....77℃ -82 ℃ (170℉-180℉)
Pressure of the radiator cap.....0.8 bar

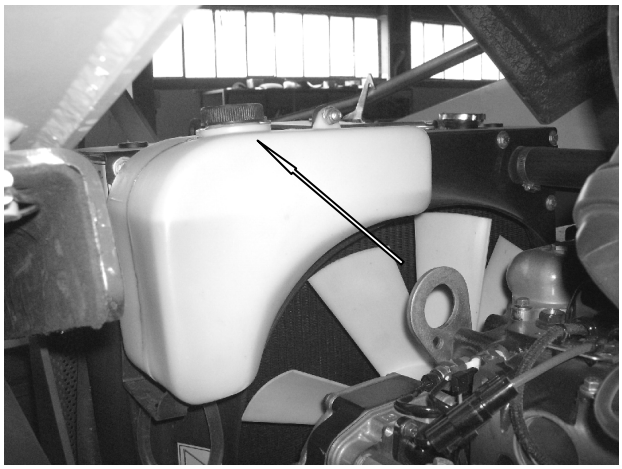
WARNING: At or near operating temperature, the engine coolant is hot and under pressure. Avoid contact with components containing coolant, since it could cause severe burns. Check coolant level only after the cap of radiator and coolant reservoir is cool enough to touch.

Checking the coolant level in radiator



Park the machine on firm, level ground to check the engine coolant level. Lift the loader attachment, place the safety bar and engage the parking brake lever. Turn the engine off. Remove the ignition key.
To check the coolant level in the radiator, turn the cap of the radiator. When the coolant is cold, the coolant level should reach the lower end of the filler neck under the cap of the radiator.If it is under it, add the proper coolant mixture.

Reservoir



To check the coolant level in the coolant reservoir, turn the cap of coolant reservoir slowly to relieve pressure.
When the coolant is cold, the coolant level should not exceed the upper level of the coolant reservoir If necessary, remove the radiator cap and add coolant until the level reaches the upper level on the coolant reservoir.

Antifreeze and corrosion protection of the coolant

Never add water to the warm engine. Add the proper coolant mixture to the cooling system on a year round basis, not just in the cold season.

The backhoe loader is delivered from the factory with a cooling system protection to -35℃ (this corresponds to about 50% antifreeze).

For the cooling system capacity: see lubrication chart.

Also the correct concentration of corrosion inhibitors inside the coolant must be maintained permanently. The concentration has to be checked after each important coolant make up, and at regular intervals if smaller coolant quantities are refilled frequently. If necessary, anticorrosion additives must be added to the cooling system.

If it is possible, use clean and soft water at the cooling system. Adding antifreeze to the coolant prevents damages of freezing. Anti-corrosion such as sodium benzoate or sodyum nitrite is adviced.At the coolant mixture, the rate of the antifreeze shouldn't be more than %50.

The proper coolant mixture should be like follows:

Min temperature^{o}C	-5	-10	-15	-20	-25	-30
The rate of antifreeze %	25	30	35	40	45	50
The rate of water %	75	70	65	60	55	50

Even if you don't need to prevent freezing, the coolant mixture is necessary in order to prevent corrosion. If you don't use the antifreeze, you should add the proper anti-corrosion to water. While adding the anti corrosion, you should observe recommendation of the manifucturer.

Changing the coolant

The coolant in the cooling system has to be changed at least every 2000 working hours.

Preferably keep the valves for the cab heating circuit closed when changing the coolant. If the coolant in the heating circuit has to be drained too, the heater core must be vented correctly when refilling the circuit. The water flow through the cab heater is possible only with ignition key in contact position.

To drain coolant:

Park the machine on firm, level ground to check the engine oil level. Lift the loader attachment; place the safety bar. Engage the parking brake lever. Turn the engine off. Remove the ignition key.

Unscrew the cover of the drain valve. Place an appropriate container under the drain plug, remove the drain plug and drain the used coolant into the container.

Important: In order to totally drain the coolant from the engine (also when the machine has not been used for a long period of time), the coolant also has to be drained from the cooling pump.

To clean the circuit and add coolant:

Fill the cooling system with clean water. Run the engine about 10 minutes to stir up possible rust or sediment. Stop engine and immediately drain water from the system before rust and sediment settle. Close all drain plugs.

Add coolant to the radiator tank and coolant reservoir through the filler plug.

Remove the loader safety bar and lower the loader attachment.

Important: Air must be expelled from cooling system when system is refilled. Loosen temperature sending unit fitting at rear of cylinder head or plug in thermostat housing to allow air to escape when filling system. Retighten fitting or plug after filling the cooling system.

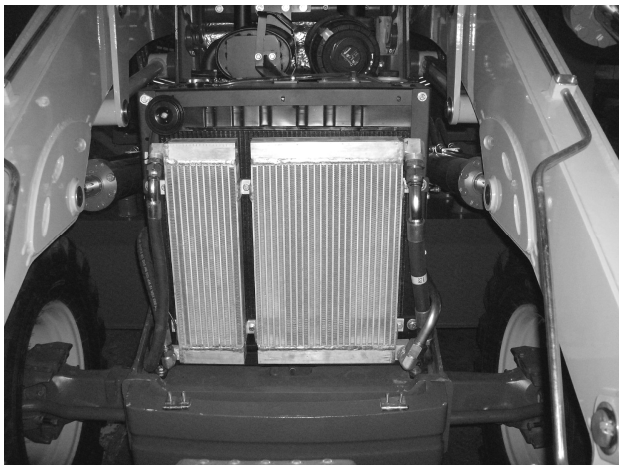
Start the engine, run it at low idle for about 30 seconds. This mixes the solution uniformly and circulates it through the entire system.

After running engine, check coolant level and entire cooling system for leaks.

Important: When adding coolant, make sure that the radiator tank if filled all the way to the top of the fitting, add coolant until the level does no longer drop (it is not possible to overfill the tank if the pressure relief valve is not removed).

To clean the oil cooler and the radiator

Maintenance Tools**:** combination wrench 13 mm, socket wrench 13 mm



For removing the dust on the oil cooler and raditor use compressed air. Protect your face when using compressed air.

For removing the mud on the oil cooler and radiator, use water.

See maintenance chart for cleaning intervals.

OIL IN THE HYDRAULIC SYSTEM

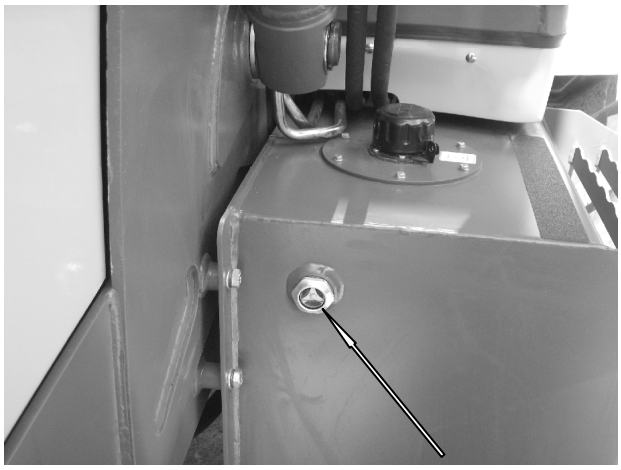
See Lubrication Chart for oil quality and oil quantities.

Maintenance Instruction
Checking hydraulic oil level…....every 8 hours or everyday
Changing hydraulic oil.....every 1000 hours
Capacity of hydraulic tank …….....85 liter
Oil type .....PO HYDRO OIL HD 46
Replacing the return filter.....every 1000 hours
(first and only interval to replacing the return filter…….... 100 hours)
Cleaning the suction strainer.....every 1000 hours
Cleaning the breather.....every 1000 hours
Replacing the breather filter.....every 1000 hours

When checking the oil level or adding oil,

- Park the machine on level ground,
- Lower the loader bucket flat on the ground.
- Position the backhoe attachments to road travel position.
- Turn the engine off and wait a few minutes.

Check hydraulic oil level



The fluid level should be in the middle of the sight gauge. Fill up if necessary.

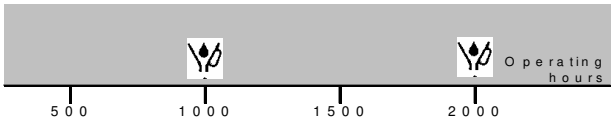
To drain oil

Maintenance Tools: combination wrench 22 mm

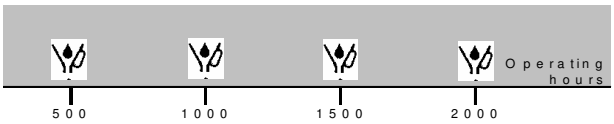


Place an appropriate container under the drain plug, remove the drain plug and drain the used oil into the container. The oil should be at operating temperature when draining.

Interval of changing the oil level at the normal condition

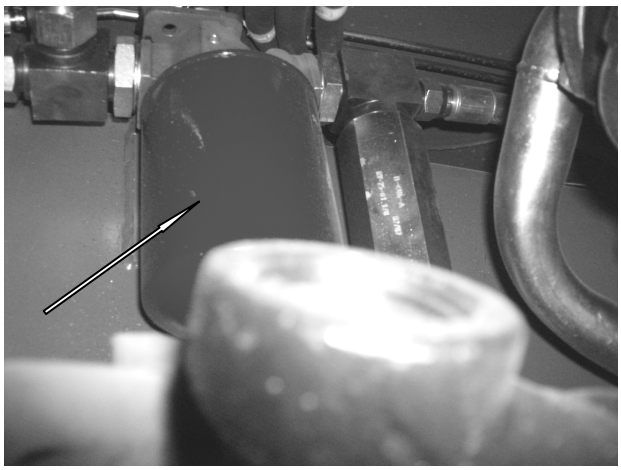


Interval of changing the oil level at the dusty condition



To replace the return filter

Maintenance Tools: Filter wrench



Remove the filter element by filter wrench. Clean the sealing surface on the filter mount. Lightly lubricate the seal with oil and tighten the new filter element, using both hands.

To clean the suction strainer



Maintenance Tools: combination wrench 10 mm, Screw driver

Remove the tank hydraulic pump intake hose flange by screw driver. Put the flange in a plastic bag to prevent it from becoming dirty. Remove the intake strainer by hand. After cleaning and drying the intake strainer, carefully install and tighten the strainer. Install the flange.

To add oil



Install the drain plug. Add oil through the filler cap, until the oil level reaches middle level on the sight gauge. Close the filler cap.

See lubricant chart for oil specifications and maintenance chart for oil change intervals.

THE FUEL SYSTEM

See Lubrication Chart for fuel quality and oil quantities.

Maintenance Instruction

Draining the contaminant from the fuel tank……...every 500 hours
Draining the contaminant (water) from the fuel filter..... every 250 hours
Replacing the fuel filter.....every 500 hours
Capacity of the fuel tank …….....120 liter

Ability of flow at the cold weather

You should add benzine (gasoline) or gas oil (kerosene) to the fuel regularly.
Falling ambient temperature under 0 C° causes the fuel flow poorly.
To prevent use, prefer the fuel with additive which is effective up to -20 ℃.
The rate of the benzine in the mixture souldn't be more than 30%.

Ambient temperature		Summer		Winter	
°C	°F	% Diesel fuel	% Addition	% Diesel fuel	% Addition
0 ↘ -10	32 ↘ 14	70	30	100	
-10 ↘ -15	14 ↘ 5	50	50*	100	
-15 ↘ -20	5 ↘ -4			70	30
-20 ↘ -25	-4 ↘ -13			50	50*

Never use super benzine for the mixture.
Adjust the rate of benzene (gasoline) or gas oil (kerosene) in the mixture by observing the ambient temperature.

To drain the contaminant from the fuel filter



Drain water from the fuel system daily. Place an appropriate container under the filter, unscrew the tap located under the filter and drain the water until fuel emerges, then retighten the drain plug.

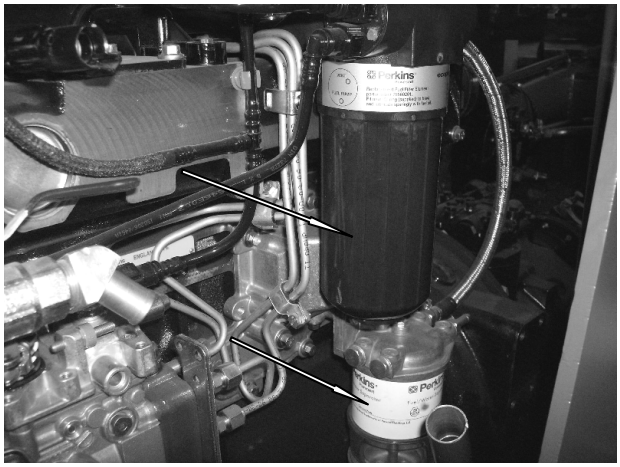
To drain the contaminant from the fuel tank

Maintenance Tools: combination wrench 22 mm



Place an appropriate container under the fuel tank, unscrew the drain plug one up two turns and drain the contaminant from the fuel tank then retighten the drain plug.

To replace the filter elements



Remove the fuel filter elements. Lightly grease the seal of the new filter elements and reinstall the elements. After that, bleed the fuel system.

To add fuel



Install the drain plugs. Add oil through the filler cap. Close the filler cap.

TRANSMISSION

See Lubrication Chart for oil quality and oil quantities.

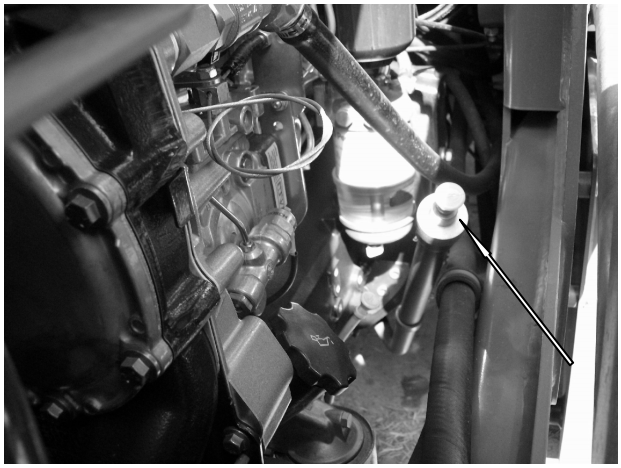
Maintenance Instruction

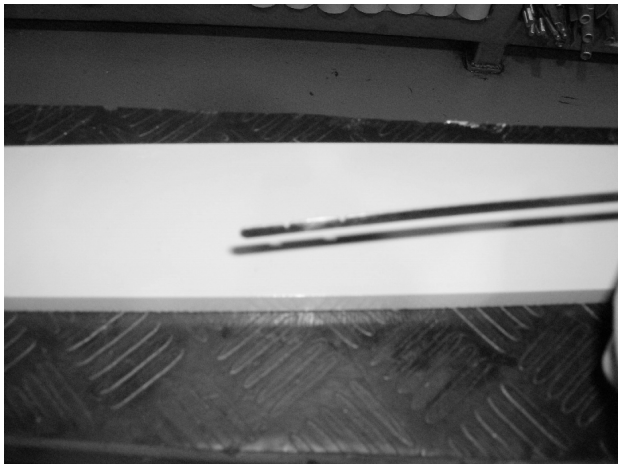
Checking oil level .....every 50 hours
Changing oil .....every 500 hours
(First and only interval.....100 hours)
Oil type .....MobilFuild 426
Capacity.....16 liter
Replacing the filter .....every 500 hours
(first and only interval.....100 hours)

When checking the oil level or adding oil,

- Park the machine on level ground
- Lift the loader attachments and place the safety bar
- Transmission in Neutral position ,,N"
- At engine idling speed about 1000 min^{-1}
- At operating temperature of the transmission (about 80℃)

Checking oil level

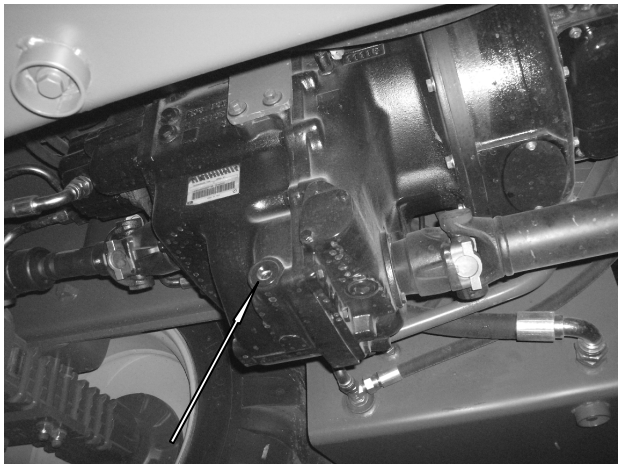




- Remove and clean the dipstick. Insert oil dipstick into the oil level tube until contact is obtained and take it out again. The level of oil should be between upper slot and below slot. If the level is under the lower slot, add oil. And replace the dipstick.

To drain oil

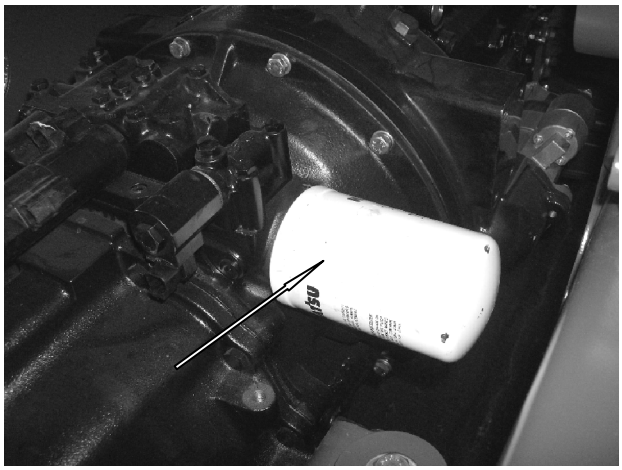
Maintenance Tools: extension bar 12,5 square drive



Place an appropriate container under the drain plug; remove the drain plug and filler cap. Drain the used oil into the container. Install the drain plug and filler cap.

To replace the filter elements

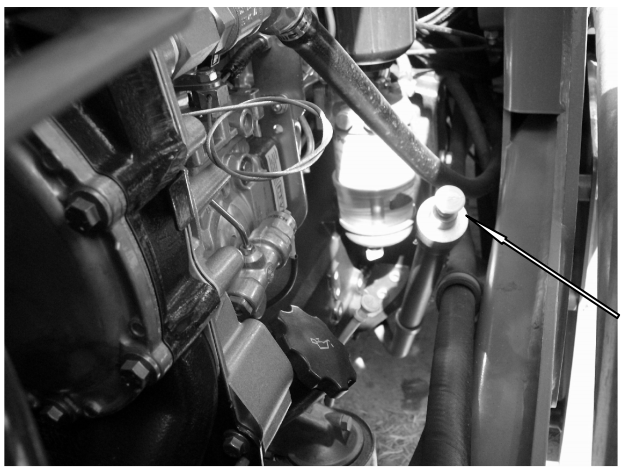
Maintenance Tools: filter wrench



Clean the surface of filter. Take care that no dirt or oil sludge can penetrate the circuit. Place an appropriate container under the filter. Remove the filter by using filter wrench. Lightly grease the seal of the new filter elements, screw filter in until contact with the sealing surface is obtained.

NOTE: While placing new filter do not use the filter wrench.

To add oil



Add oil through the filler neck, and then check the oil level. The level of oil should be between upper slot and below slot If necessary, add oil. Place the dipstick. Remove support and close the bonnet.

FRONT AXLE

See Lubrication Chart for oil quality and oil quantities.

Maintenance Instruction

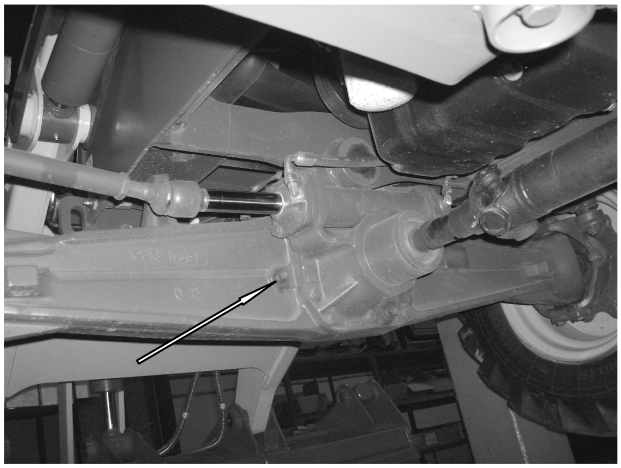
Checking oil level .....every 50 hours
Changing oil .....every 1000 hours (first and only interval.....500 hours)
Capacity (with reduction gears).....9,1 liter
Oil type..... MobilFuild 426

Front Drive Axle

When checking the oil level or adding oil,
- Park the machine on level ground.
- Turn the engine off.

To check front axle oil level

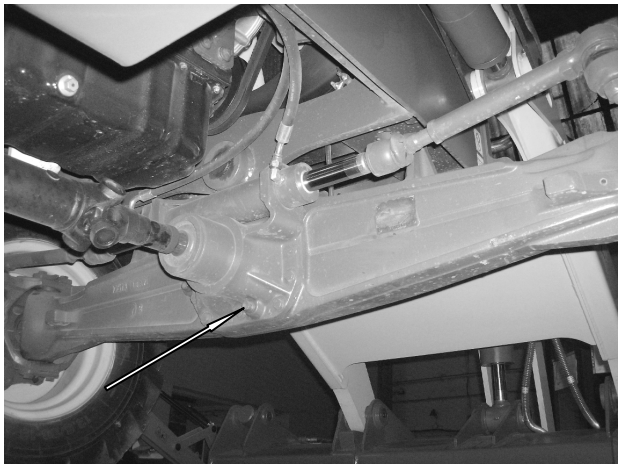
Maintenance Tools: combination wrench 17 mm



Remove the plug and check that the oil is level with the orifice. If necessary, fill up. Install the plug.

To drain oil

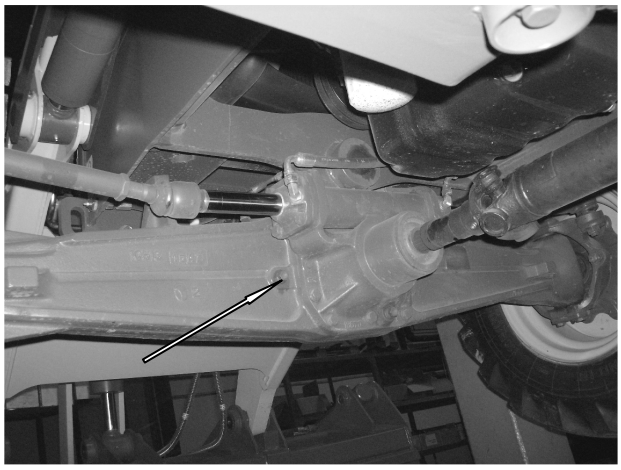
Maintenance Tools: combination wrench 17 mm



Place an appropriate container under the drain plug, clean the surface of plug. Remove the drain plug and drain the used oil into the container. Install the drain plug.

To add oil

Maintenance Tools: combination wrench 17 mm



Add oil until the oil is level with the orifice. Install the plug.

REDUCTION GEARS

See Lubrication Chart for oil quality and oil quantities.

When checking the oil level or adding oil,
- Park the machine on level ground.
- Make sure that the travel direction control lever and gear lever are in neutral position.
- Turn the engine off.

To check reduction gear oil level

Maintenance Tools: extension bar 12,5 square drive



- Park the machine that the level mark on the wheel is parallel to the ground. Remove the plug and check that the oil is level with the orifice. If necessary, fill up. Install the plug.

To drain reduction gear oil

Maintenance Tools: extension bar 12,5 square drive



Park the machine that the level mark on the wheel is the lowest position. Place an appropriate container under the plug, remove the plug and drain the used oil into the container. Install the plug.

To add oil

Maintenance Tools: extension bar 12,5 square drive



Park the machine that the level mark on the wheel is parallel to the ground. Remove the plug. Fill up and check that the oil is level with the orifice and install the plug.

Note: Repeat the same procedure for the other reduction gears.

REAR AXLE

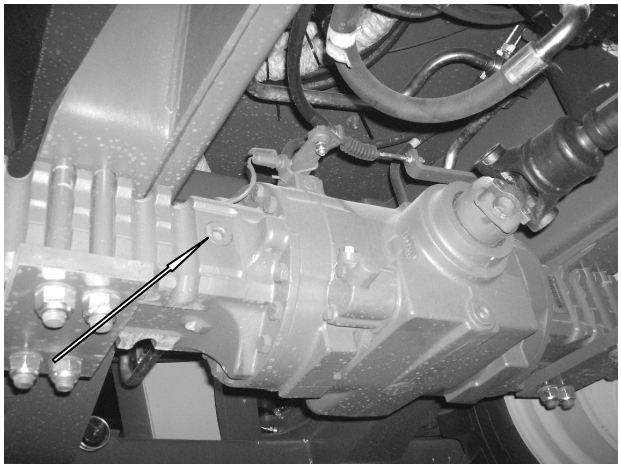
See Lubrication Chart for oil quality and oil quantities.

Maintenance Instruction
Checking oil level .....every 50 hours
Cleaning the rear axle breather .....every 50 hours
Changing oil .....every 1000 hours
(first and only interval.....500 hours)
Capacity (with reduction gears).....17 liter
Oil type..... MobilFuild 426

When checking the oil level, draining or adding oil,
- Park the machine on level ground.
- Turn the engine off.

To check rear axle oil level

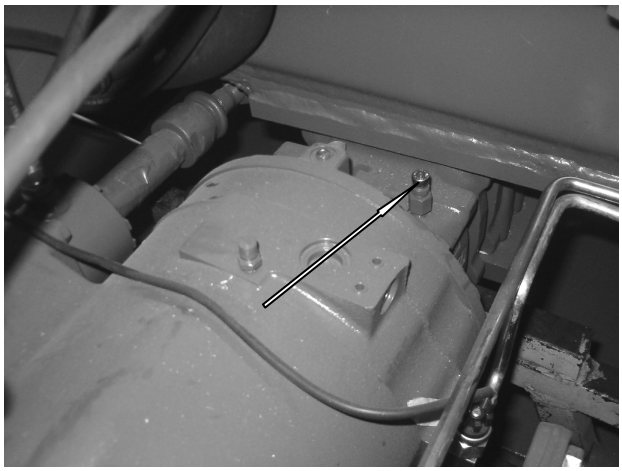
Maintenance Tools: extension bar 12,5 square drive



Remove the plug and check that the oil is level with the orifice. If necessary, fill up. Install the plug.

To clean the rear axle breather

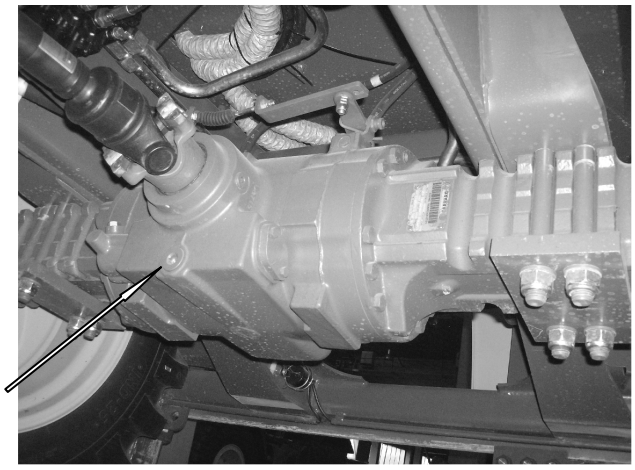
Maintenance Tools: combination wrench 14mm



Check the rear axle breather for contamination. Clean if necessary.

To drain oil

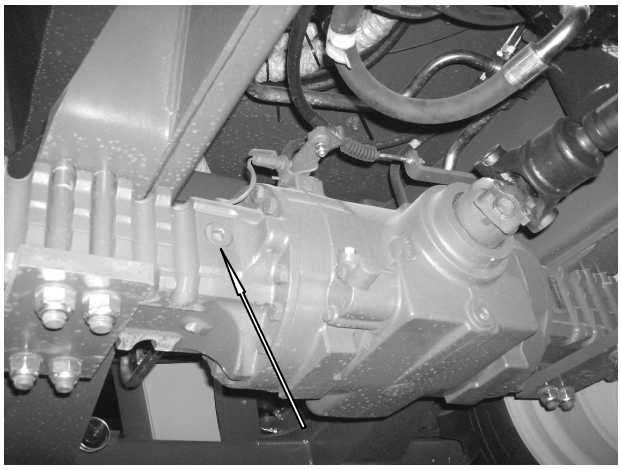
Maintenance Tools: extension bar 12,5 square drive



Place an appropriate container under the drain plug, remove the drain plug and drain the used oil into the container. Install the drain plug.

To add oil

Maintenance Tools: extension bar 12,5 square drive



Add oil until the oil is level with the orifice. Check the level and install the plug.

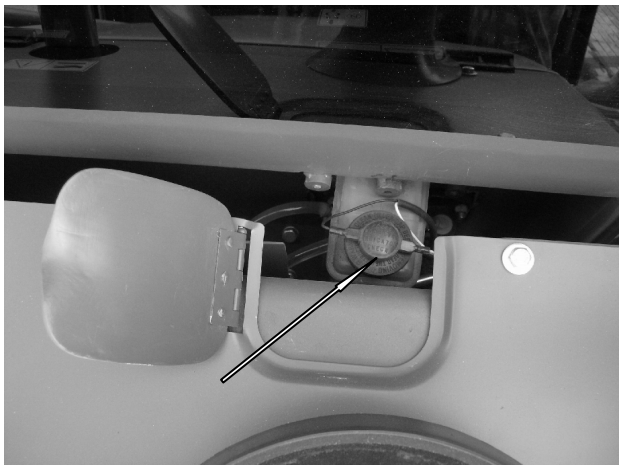
BRAKE FLUID

Maintenance Instruction

Checking oil level .....every 50 hours
Changing oil .....every 1000 hours
(first and only interval.....500 hours)
Capacity .....0,4 liter
Oil type .....PO MAXIMA 10W-40

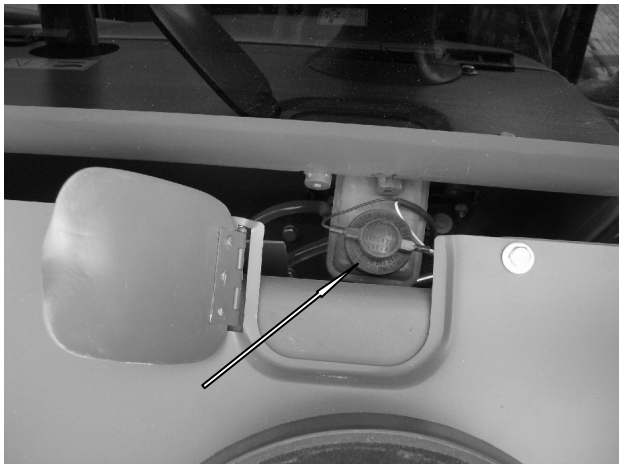
When checking the oil level, draining or adding oil,
- Park the machine on level ground.
- Turn the engine off.
- Engage parking brake.

Checking brake fluid reservoir level



The oil level should be between the MIN. and MAX. mark on the reservoir.

To add oil



Add oil through the filler cap. Install the drain plug and filler cap. Bleed the system.

To bleed the brake system

Lock the brake pedals. Loosen the bleeding screw. And press down until the pedal reaches end of the stroke. Hold the pedal end of the stroke and tighten the bleeding screw. Repeat this procedure until the oil flows form the bleeding screw without any air bubbles.

https://truckmanualshub.com/

MAINTENANCE AND ADJUSTMENTS

MACHINE MAINTENANCE SAFETY

- The machine must not be made unsafe when performing maintenance work. Never attempt maintenance procedures or repairs you do not understand.
- Check the Operator's and Maintenance Manual for service and maintenance intervals. Make sure you use only appropriate tools for all maintenance work.
- Refer to your Operator's and Maintenance Manual to see, who is authorized to perform certain repairs. The operator should only perform the daily / weekly maintenance procedures.
  The remaining work may only be performed by especially trained personnel.
- Use only replacement parts corresponding to the technical requirements specified by the manufacturer. This is assured by using only original CUKUROVA replacement parts.
- Always wear proper work clothing when maintaining the backhoe loader. Certain work may only be performed with a hard hat, safety shoes, safety glasses and gloves.
- During maintenance, do not allow unauthorized personnel to enter the maintenance area.
- Secure the maintenance area, as necessary.
- Inform the operator before any special or maintenance work. Make sure he knows the person, who is in charge of the work.
- If not otherwise noted in the Operation and Maintenance Manual, always make sure the backhoe loader is parked on firm an level ground and the engine is turned off and parking brake is engaged.
- During maintenance and service work, make sure you always retighten any loosened screw connections!
- If it is necessary to disconnect or remove any safety devices during set up, maintenance or repair, make sure that after completion of repairs, the safety devices are reinstalled and checked for proper function.
- Before any maintenance work and especially when working under the machine, make sure a "Do not operate' tag is attached to the starter switch. Remove the ignition key.

  After end of maintenance works or repair, restart the machine according to the instructions "Machine start up", in this manual.
- Before any repairs or maintenance work, clean any oil, fuel and / or cleaning substances from any fittings and connections. Don't use any harsh cleaners and use only lint free cloths.
- Use only nonflammable cleaning fluids to clean the machine.
- Any welding, torch or grinding work on the machine must be explicitly authorized. Written authorization is necessary for welding on load carrying structures. Before any using a welder, torch or grinder, clean off any dust and dirt and remove any flammable materials from the surrounding area. Make sure the area is sufficiently ventilated. Danger of Fire and Explosion!
- Before cleaning the machine with water or steam (high pressure cleaning) or other cleaning fluids, make sure that all openings, which, for safety and/ or functioning reasons should not be exposed to water / steam/ cleaners, are covered and / or masked off. Especially sensitive are electrical motors, control boxes and plug connectors.

  Remove all coverings and masking material after completing the cleaning procedure. Then check all fuel lines, engine oil lines and hydraulic oil lines for leaks, loose connections, chafing and / or damage. Fix any problems immediately.
- If you use a high pressure cleaner with steam or hot water to clean the machine, observe following recommendations:
  - the distance between the nozzle and the surface to be cleaned must be no less than 50 cm.
  - the water temperature should not exceed 60°C(140°F)
  - limit the water pressure to 80 bar maximum (1160PSI)
  - if you employ cleaning fluid, only use neutral cleaning agents such as customary car shampoos diluted to 2 or 3 percent maximum
- Never employ high pressure cleaning apparatus during the two first months following machine delivery or repainting.
- Observe all product safety guidelines when handling oils, grease, and other chemical substances.
- Make sure service fluids and replacement parts are disposed of properly and in an environmentally sound manner.
- When using hot service fluids, be very careful. (They can cause severe burns and injury!).

- Operate combustion motors and fuel operated heaters only in well ventilated areas. Before operating these units, check ventilation. In addition, always follow applicable local regulations.
- Never try to lift heavy parts. Use appropriate lifting devices with sufficient load carrying capacity. When replacing or repairing parts or components, make sure they are mounted very carefully on lifting devices, to prevent any possible danger. Use only suitable and technically sound lifting devices, make sure that lifting tackle, wire cables, etc. have adequate load carrying capacity.
  Never position yourself, walk or work underneath suspended loads.
- Never use damaged lifting devices, or devices which are not sufficient to carry the load. Always wear gloves when handling wire cables.
- Ask only experienced personnel to attach loads and guide and signal the crane operator. The guide must be within the visibility range of the operator and /or must be in direct voice contact with the operator.
- When working overhead, use appropriate and safe ladders, scaffolding or other working platforms designated for that purpose. Never step on parts or components on the machine when maintaining or repairing items overhead.
  When working high above ground, make sure you are fitted with ropes and appropriate safety devices which will prevent a possible fall. Always keep handles, steps, platforms and ladders free of dirt, snow and ice!
- When working on the attachments, for example when replacing the bucket teeth, makes sure the attachment is supported properly. Never use metal on metal support!
- Never work underneath the machine if it is raised or propped up with the attachment.
- Always use safety bar when loader boom is raised.
- Only qualified, especially trained personnel may work on travel gear, brake and steering systems.
- Only qualified, especially trained personnel may work on the hydraulic system.
- Never check for leaks with your bare hands, always wear gloves. Fluid escaping from a small hole can have enough force to penetrate the skin.
- Never loosen or remove lines or fittings before the attachments have been lowered to the ground and the engine has been turned off. Then turn the ignition key to contact position, move all servo controls (lever and foot pedals) in both direction to release pressures. Then release the tank pressure as outlined in this Operation and Maintenance Manual.
- Always disconnect the battery cable before working on the electrical system or before any arc welding on the machine. Always disconnect the negative (-) cable first and reconnect it last.
- Check the electrical system regularly.
  Make sure that any problems, such as loose connections, burnt out fuses and bulbs, scorched or chafed cables are fixed immediately by an electrician or qualified personnel.
- Use only Original fuses with the specified amperage. Never use a different size or stronger fuse than the original fuse.
- On machines with electrical medium or high voltage systems:
  - If there is any problem with the electrical energy supply, turn the machine off immediately.
  - Follow established lockout / tagout procedures where applicable.
  - Any work on the electrical system may only be performed by a qualified electrician or qualified personnel under the guidance and supervision of an electrician, according to electro-technical regulations.
- If any work is required on any parts which carry current, use a second person to turn off the main battery switch. Rope the work area off with a safety rope or chain, and set up warning signs. Use only insulated tools.
- When working on medium and high voltage components shut off the voltage and connect the supply cable to the ground and ground the components.
- Check all disconnected parts if they are truly free of current, ground them and close them off quickly. Insulate any close-by, current carrying parts.
- If a tyre becomes flat, it may cause serious accidents.Check the tyre pressure regularly by observing the model of the tyre (shape and thread pattern) and the ground under the tyre.

https://truckmanualshub.com/

HYDRAULIC LINES AND HOSES

- Hydraulic lines and hoses may never be repaired!
- All hoses, lines and fittings must be checked daily, but at least every 2 weeks for leaks and any externally visible damage! Any damaged sections must be replaced immediately! Escaping oil can cause injuries and fires!
- Even if hoses and lines are stored and used properly, they undergo a natural aging process. For that reason, their service life is limited. Improper storage, mechanical damage and improper use are the most frequent causes of hose failures.

  The service life of a hose may not exceed six years, including a storage period of not more than two years (always check the manufacturer's date on the hoses).
  Using hoses and lines close to the limit of ranges of permitted use can shorten the service life (for example at high temperatures, frequent working cycles, extremely high impulse frequencies, multi shift or around the clock operations).
- Hoses and lines must be replaced if any of the following points are found during an inspection:
  - Damage on the external layer into the inner layer (such as chaff ings, cuts and rips);
  - Brittleness of the outer layer (crack formation of the hose material);
  - Changes in shape, which differ from the natural shape of the hose or line, when under pressure or when not under pressure, or in bends or curves, such as separation of layers, blister or bubble formation;
  - Leaks;
  - Non observance of installation requirements;
  - Damage or deformation of hose fittings, which might reduce the strength of the fitting or the connection between hose and fitting;
  - Any movement of hose away from the fitting;
  - Corrosion on fittings, which might reduce the function or the strength of the fitting;
  - Storage or service life has been exceeded.

  When replacing hoses or lines, always use original replacement parts.
- Route or install the hoses and lines properly. Do not mix up the connections!
- Always take care to avoid torsional strain when installing a new hose. On high pressure hydraulic hoses, the mounting screws must be first mounted on both hose ends (full flange or half clamp) and tightened only thereafter.

  On high pressure hoses having one curved end, always tighten first the screws on the curved hose end and only then the screws on the straight hose end.

  Install and tighten the hose clips that may be mounted on the hose middle only when the both hose ends are already tightened.
- Always install hoses so to avoid any friction with other hoses and parts.

  We recommend to keep a distance between hose and other parts of at least one half of the hose outer diameter. Keep a minimum gap of 1/2 inch (1.2 cm) in any case.

  After mounting a hose connecting two parts that are movable relative to each other, check during the return to service that the hose is not rubbing fall full movement.

DURING MAINTENANCE

Obey the service interval by checking the hourmeter everyday.park the backhoe loader on a level and firm ground by lowering the backhoe and the loader buckets until they touch the ground, before any maintenance work.
Perform all maintenance by stopping the engine and remove the ignition key. Wait to cool all systems, before any maintenance work.
Before lubricating, clean all fittings.

WARNING: Wrong maintenance and adjustments may cause serious accidents. If you don't understand how to do the maintenance, consult authorities in CUKUROVA branches.

WARNING: In case of using the backhoe loader attachments or moving the backhoe loader without the operator,serious accidents may occur. Follow these instructions carefully, before any maintenance work:

- Park the machine on a level ground.
- Lower tha loader and backhoe attachments until they touch the ground.
- Place the safety bar by removing the its pin while doing the engine maintenance.
- Stop the engine and remove the starter key.

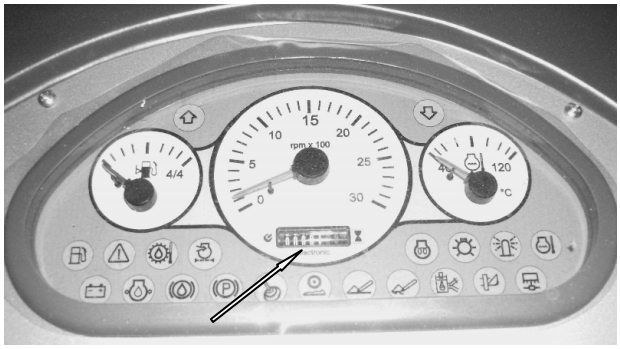
IMPORTANT: Reduce the maintenance interval while operating in hard conditions.

NOTE: you can see maintenance chart for all maintenance intervals.

https://truckmanualshub.com/

HOURMETER

Maintenance operations are programmed by observing the hourmeter.you always should observe the hourmeter for safety of maintenance interval and the machine yield.Perform all maintenance work regularly by obeying the operating and maintenance manual.



FRONT AND REAR WINDSHIELD WASHER RESERVOIR

Check the windshield washer reservoir level…….....every 8 hours or everyday



Check the level of winshield washer reservoir level. Do not operate the windshield washer when the reservoir is empty. In cold weather, prepare an antifreeze solution for windshield washer to prevent freezing of the water.

THE DRY AIR FILTER

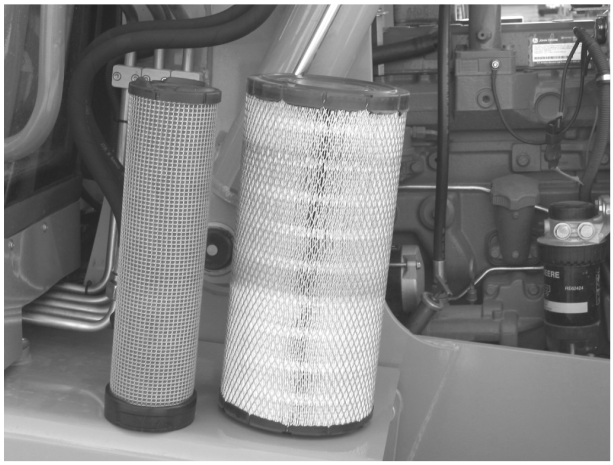
Maintenance Instruction

Cleaning the filter elements……..every 8 hours or everyday
Replacing the filter primary element.....every 500 hours
Replacing the secondary element.....every 500 hours

WARNING: If you operate the machine in dusty terrain ,you should reduce the maintenance intervals.

Engine air intake system





For maximum engine protection, the air intake system must be checked and serviced at regular intervals.

The air cleaner is designed to give maximum protection at longest maintenance intervals.
Maintenance consists of cleaning the primary element and replacing both the primary and secondary filter elements. We do not recommend cleaning the secondary element.

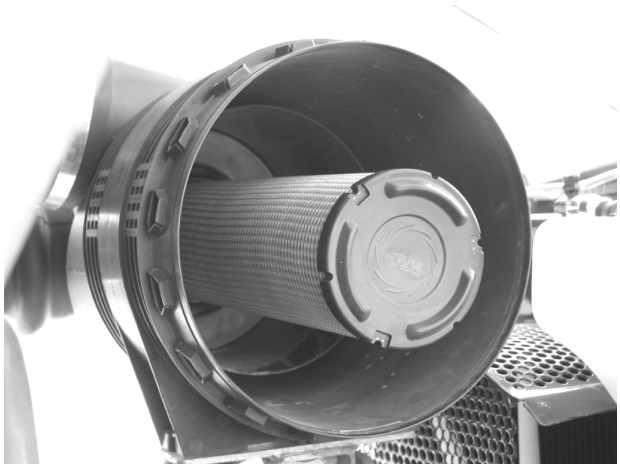
Always check air filter restriction lamps located on the side control panel.

At that time, the primary filter element must be replaced.

Seals between filter element and housing can be damaged if the filter element is removed too often.
Before installing the new elements, carefully clean the seal and the sealing surface of the filter housing.

Cleaning the primary element
If the primary element is dry;





Park the machine on firm, level ground. Lift the loader attachments, place the safety bar. Engage the parking brake. Turn the engine off .Remove the ignition key. Open the engine bonnet.

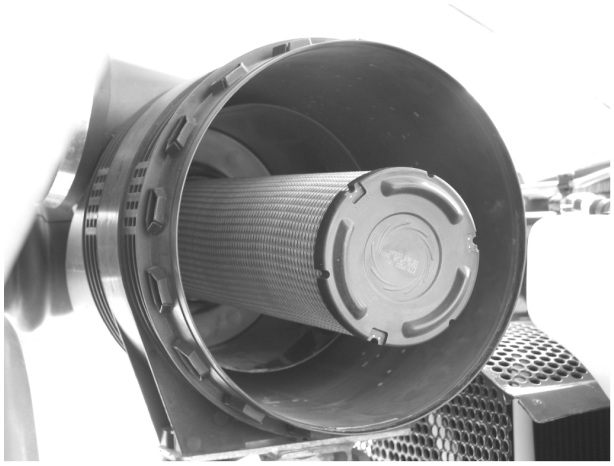
Remove the cover of air filter by opening the clips. Carefully remove the primary element. For cleaning, use low pressure compressed air until there is no more dust on the primary element. Compressed air pressure should not exceed the 7 bar.

WARNING: Protect your face when using compressed air, otherwise a serious accident may occur.

If the primary element is oily;
For cleaning, use warm water and dissolve a small amount of suitable non-soapy detergent in it, and put the filter element in this solution.

Shake it slowly and rinse it with clean water until the detergent and dust have been removed and water appears clear. Leave it to dry before installation.
WARNING: Never use compressed air when the filtering element is wet or moist.

Replacing the filter elements



After removing the filter elements, clean inside of the filter housing and the sealing surface with a damp rag. Do not direct compressed air into the housing. Carefully install the secondary element and then the primary element. Make sure that they are seated correctly. Install the cover and close it by fastening the clips.
Start the engine, run it at low idle and check that if the air filter restriction lamp turns off.
Remove the safety bar and lower the loader attachments.

TYRES

Maintenance Instruction
Checking the pressure of tyre .....every 50 hours
Checking the torque .....every 50 hours



Check the condition of tyres and observe the inflation pressures. Replace if necessary.

https://truckmanualshub.com/

Type of the tyres

	DIMENSION	PRESSURE	
Front 4WD - standard	12.5 / 80-18	3.7 bar	54 lbf/in^2
Rear 4WD - standard	16.9-28	2.6 bar	38 lbf/in^2

To replace a wheel

Maintenance Tools: socket wrench 27 mm for front wheels, socket wrench 30 mm for rear wheels, ratched handle 20 square drive, and torque wrench.

WARNING: Do not perform any welding operation near a tyre. First remove the tyre then make welding.

WARNING: If a tyre becomes flat, it may cause serious accidents. Check the tyre pressure regularly.

WARNING: When removing the tyre always use inflation cage and never face the tyre.

Park the machine on firm, level ground. Loosen the nuts from the tyre. Lift the machine above the ground by using loader attachments and stabilizers. Engage the parking brake.Turn the engine off. Place the blocks under the axle to provide safety. Take off the nuts and remove the tyre. Install a new tyre by carefully observing the orientation of the tread pattern. Install the nuts and adjust their torque. Remove the blocks. Start the engine and lower the machine.



Wheel nut torque settings

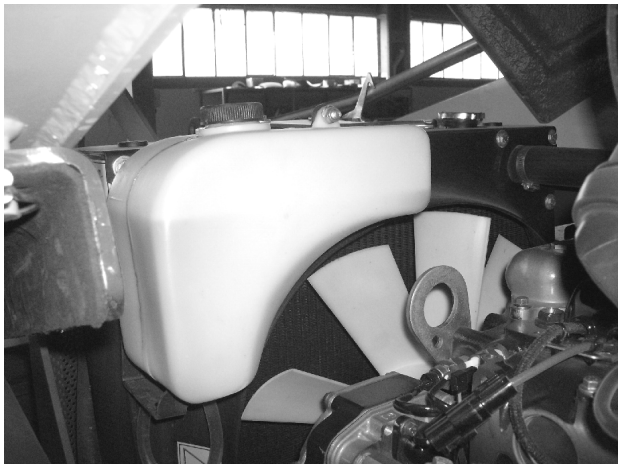


Check the torque of the tyre for correct torque value.

Front wheel nut ..... 300 Nm
Rear wheel nut ..... 300 Nm

ENGINE ALTERNATOR AND FAN BELT

Maintenance Instruction
Checking the fan belt .....every 50 hours



The belt tensioner is designed operate within the limit of hand movement. Depress the fan belt by hand. Check mounting bracket and the belt length. The length of the deflection should be 13-20 mm. Inspect belts for cracks, fraying, or stretched out. Replace new belt if necessary.

Replacing fan and alternator belt

Maintenance Tools: combination wrench 10-13 mm

Release tension on belt by loosening the bolts, and remove belt from pulleys. Install new belt, making sure belt is correctly seated in all pulley grooves. Apply tension to belt by tightening the bolts. Remove the safety bar. Lower the loader attachments.

https://truckmanualshub.com/

HYDRAULIC CYLINDERS



Important:

Before attempting to repair, replace or reseal hydraulic cylinders or any other components, contact your CUKUROVA dealer.

Clean the rod before checking then run the engine 5-10 minutes. Extend the rod, check whether there is some leaks or not.

ROD APPEARANCE	TEST	RESULT
Dry	When rubbing the rod with a paper if there is little stain on the paper	Normal
Little oily	İf the paper is suspended to the rod	Normal
Oily	İf the paper sticks the rod	Normal
Very oily and oozy	When the rod is extended, if oil appears on the rod	Consult CUKUROVA Branches
Oozy	When the rod is retracted, if oil droplets appears on the rod	

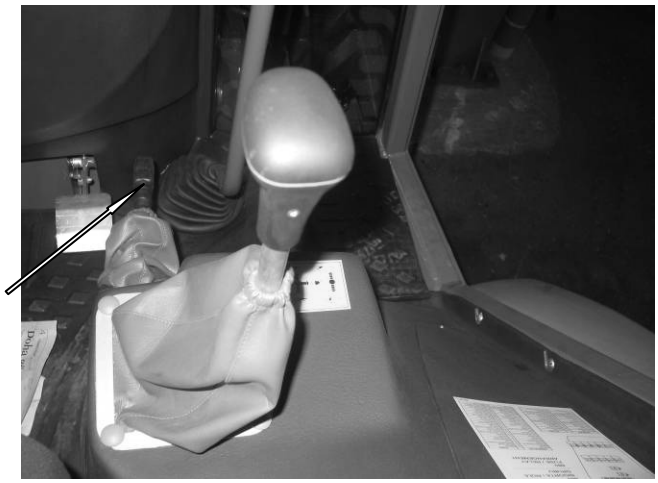
Piston rod preservation:

Corrosion is comparable to wear and tear. Therefore, if the machine is not being used for longer than 4 weeks or if the machine is transported by ship, the following should be done:

Park the backhoe loader in a way so that the piston rods are retracted as much as possible.
Lubricate all bearings, ball joints, hinges, exposed parts, cable connections and exposed cylinder rods with anti-corrosive grease. If the machine is used during certain working applications with only a short stroke, the cylinder should also be lubricated.
If the machine is transported by ship (sea water) or in the winter (road salt), the preservation of the piston rods must be rechecked after the machine has been loaded since the anti corrosive grease may have been removed by the wiper ring.

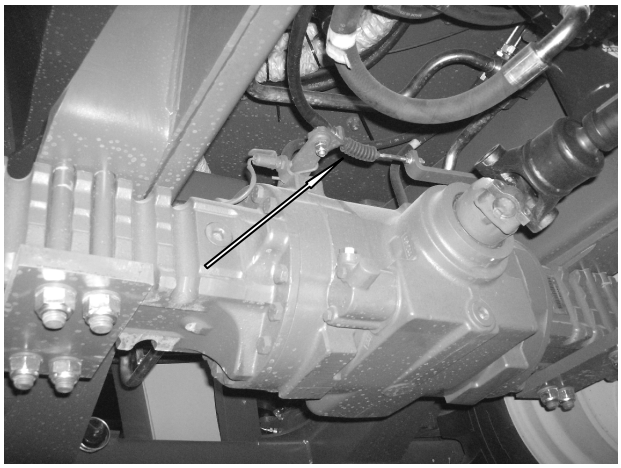
PARKING BRAKE LEVER

Maintenance Instruction
Checking of parking brake.....every 50 hours



Check the parking brake for proper function.
Engage the parking brake and start the engine. Select forward direction from the travel direction control lever and speed 3 from gear lever. The buzzer will sound in the cab. Press down the accelerator pedal to increase the engine speed. The machine must not move. If it moves:

- Park the machine on level ground.
- Check park brake cable
- If there is any extention the brake cable, tighten the cable.
- Then repeat the test.

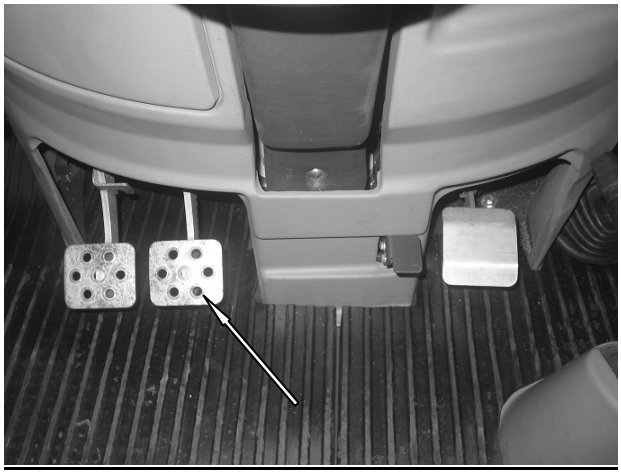


Note: After the cable is tightened a few times, check the brake mechanism. If there is any damage at the brake mechanism, consult the Cukurova service.

BRAKE PEDALS

Maintenance Instruction

Checking of brake pedals .....every 50 hours



Check the brake pedals for proper function. Lock the brake pedals and start the engine. Select forward direction and speed 2 from the gear lever. The buzzer will sound in the cab. Press down the accelerator pedal to increase the engine speed at maximum speed. Press down the brake pedals The machine must stop. If it does not stop, consult CUKUROVA service personnel.

ENGINE VALVE CLEARENCE

Maintenance Instruction
Checking of the engine valve clearance.....every 2000 hours.

Consult CUKUROVA service personnel.

ROPS/FOPS CAB

Maintenance Instruction
Checking of ROPS / FOPS..... every 250 hours.

Cab of the machine is equiped with protective structure ROPS in conformance with ISO 3471 and FOPS in conformance with ISO 3449.

- Check the tightness of the mounting bolts and bumpers. Tighten if necessary.
- Check if there is any rust or holes in the cab or cab components.
- Check the tigtness of operator's seat and seat belt mounting bolts. Tighten if necessary.

DANGER: Do not modify or remove the ROPS/FOPS cab in any manner. Unauthorized modification, such as welding, drilling, cutting and adding attachmentss, as well as any damage resulting from collisions or the machine rolling over could weaken the structure and reduce the protection.
Operating the machine without ROPS/FOPS cab can cause serious injury or death when the machine rolls over. Replace the ROPS/FOPS cab if subjected to roll over or damage. Do not attempt to repair it.

REPLACING A BACKHOE AND LOADER BUCKET TOOTH

Maintenance Instruction
Checking of torque..... .every 8 hours or everyday.
The bolt of bucket teeth .....205 Nm

Maintenance Tools: combination wrench 22 mm, socket wrench 22 mm, ratched handle 12.5 square drive, torque wrench



Check the bucket teeth regularly for wear. Greater force is needed to dig if bucket teeth are worn. Never work with a missing bucket tooth.

Remove the mounting bolts, remove the tooth. Replace a new tooth and install mounting bolts. Tighten the bolts for the correct torque 205 Nm.

TRANSMISSION

Maintenance Instruction

Checking of torque ..... every 250 hours

Check the tightness of the transmission mounting bolts for the correct torque value.

BATTERY

Checking of the battery
level……..every 8 hours or everyday
Checking of battery cable.....every 50 hours



- In order for the batteries to function properly, it is important to keep them clean at all times. The battery poles and cable clamps in particular should be cleaned regularly and then coated with acid resistant grease.
- Check the charged battery voltage before placing the battery in the battery box.The battery voltage should be 12.40 V and should be more than 12.40 V .If the voltage is less than 12.40 V, first charge it then place it in the battery box.
- At the temperature 27℃, dry charged batteries should be filled with sulfuric acid which of density should be 1,280 gr/cm^3 until max level or upper 1.5 cm than separator. Check the battery voltage after waiting half an hour. If the battery voltage is more than 12.40 V, electrolytic level of battery compartments are checked and are cleaned. In case of the voltage being less than 12.40 V, charge the battery and place it in the battery box.
- The battery water may decrease as the machine used. This may occur because of electrical problems, too. At that time add pure water into the battery and never use sulfuric acid instead of pure water.
- Before storing the battery in the battery box or another place, charge the battery completely.If charge level is low, charge the battery completely and store it in a cool and dry place. While storing the battery, never reduce the water level. After 3 months the storage begining date, check the battery voltage. Then check the battery voltage once a month. If the battery voltage is less than 12.40 V, charge it.

DANGER: Wear protective gloves and safety glasses when handling batteries!
Keep sparks and open flame away from battery.

Battery fumes are highly flammable and explosive.
Because of batteries including sulfuric acid, mount the battery which of poles are at top of the battery.
Batteries contain acid which should not be touched.
In case of contact, flush with water and get medical attention.
In order to prevent a fire, always disconnect the battery cable before working on the electrical system or before any arc welding on the machine.
Always disconnect the negative (-) cable first and reconnect it last.
While charging, explosive gas occurs. Therefore, don't approach to the machine with a cigar, or flame.

WELDING

Any welding on structural parts may only be done by CUKUROVA service personnel. If this rule is neglected, the warranty is voided.

Before welding repairs on other parts, always disconnect the battery. Always remove the negative terminal first and reconnect it last.

WARNING: Before welding, connect the ground cable as close as possible to the welding point, so the welding current will not run through the joints, gears, bushings, rubber parts and seals.

https://truckmanualshub.com/

MACHINE CLEANING

Maintenance Instruction
Checking and cleaning of the machine.....every 1000 hours.

WARNING: Before cleaning the machine with water or steam (high pressure cleaning) or other cleaning fluids, make sure that all openings, which , for safety and/ or functioning reasons should not be exposed to water / steam / cleaners, are covered and / or masked off. Especially sensitive are electrical motors, control boxes and plug connectors.

WARNING: Remove all coverings and masking material after completing the cleaning procedure. Then check all fuel lines, engine oil lines and hydraulic oil lines for leaks, loose connections, chafing and / or damage. Fix any problems immediately.

If you use a high pressure cleaner with steam or hot water to clean the machine, observe following recommendations:

- the distance between the nozzle and the surface to be cleaned must be no lower than 50 cm (20 inches)
- the water temperature should not exceed 60°C (140°F)
- limit the water pressure to 80 bar maximum (1160 PSI)
- if you employ cleaning fluid, only use neutral cleaning agents such as customary car shampoos diluted to 2 or 3 percent maximum.

Engine Troubleshooting

Symptom	Problem	Solution
Engine cranks but will not start	Incorrect starting procedure.	Verify correct starting procedure.
	No fuel.	Check fuel in tank and manual shut-off valve.
	Exhaust restricted.	Check and correct exhaust restriction.
	Fuel filter plugged or full of water. from filter.	Replace fuel filter or drain water
	Injection pump not getting fuel or air in fuel system.	Check fuel flow at supply pump or bleed fuel system.
	Faulty injection pump or nozzles. station for repair or replacement.	Consult CUKUROVA servicing dealer
Engine hard to start or will not start	Engine starting under load.	Disengage PTO.
	Improper starting procedure.	Review starting procedure.
	No fuel.	Check fuel tank.
	Air in fuel line.	Bleed fuel line.
	Cold weather.	Use cold weather starting aids.
	Slow starter speed.	See "Starter Cranks Slowly".
	Crankcase oil too heavy.	Use oil of proper viscosity.
	Improper type of fuel.	Consult fuel supplier; use proper type fuel for operating conditions.
	Water, dirt, or air in fuel system.	Drain, flush, fill, and bleed system.
	Clogged fuel filter.	Replace filter element.
	Dirty or faulty injection nozzles.	Have authorized servicing dealer or engine distributor check injectors.
	Injection pump shut-off not reset.	Turn key switch to "OFF" then to "ON".
Engine knocks	Low engine oil level.	Add oil to engine crankcase.
	Injection pump out of time.	Consult CUKUROVA servicing dealer
	Low coolant temperature.	Remove and check thermostat.
	Engine overheating.	See "Engine Overheats".
Engine runs irregularly or stalls frequently	Low coolant temperature.	Remove and check thermostat.
	Clogged fuel filter.	Replace fuel filter element.
	Water, dirt, or air in fuel system.	Drain, flush, fill, and bleed system.

Engine Troubleshooting

Symptom	Problem	Solution
	Dirty or faulty injection nozzles.	Have authorized servicing dealer or engine distributor check injectors.
Below normal engine temperature	Defective thermostat.	Remove and check thermostat.
	Defective temperature gauge or sender.	Check gauge, sender, and connections.
Lack of power	Engine overloaded.	Reduce load.
	Intake air restriction.	Service air cleaner.
	Clogged fuel filter.	Replace filter elements.
	Improper type of fuel.	Use proper fuel.
	Overheated engine.	See "Engine Overheats".
	Below normal engine temperature.	Remove and check thermostat.
	Improper valve clearance.	Consult CUKUROVA servicing dealer
	Dirty or faulty injection nozzles.	Have authorized servicing dealer or engine distributor check injectors.
	Injection pump out of time.	Consult CUKUROVA servicing dealer
	Turbocharger not functioning. (Turbocharger engines only.)	Consult CUKUROVA servicing dealer
	Leaking exhaust manifold gasket.	Consult CUKUROVA servicing dealer
	Defective aneroid control line.	Consult CUKUROVA servicing dealer
	Restricted fuel hose.	Clean or replace fuel hose.
	Low fast idle speed.	Consult CUKUROVA servicing dealer
Low oil pressure	Low oil level.	Add oil.
	Improper type of oil.	Drain, fill crankcase with oil of proper
High oil consumption	Crankcase oil too light.	Use proper viscosity oil.
	Oil leaks.	Check for leaks in lines, gaskets, and drain plug.
	Restricted crankcase vent tube.	Clean vent tube.
	Defective turbocharger.	Consult CUKUROVA servicing dealer
Engine emits white smoke	Improper type of fuel.	Use proper fuel.
	Low engine temperature.	Warm up engine to normal operating temperature.
	Defective thermostat.	Remove and check thermostat.

Engine Troubleshooting

Symptom	Problem	Solution
	Defective injection nozzles.	Consult CUKUROVA servicing dealer
	Engine out of time.	Consult CUKUROVA servicing dealer
Engine emits black or gray exhaust smoke	Improper type of fuel.	Use proper fuel.
	Clogged or dirty air cleaner.	Service air cleaner.
	Engine overloaded.	Reduce load.
	Injection nozzles dirty.	Consult CUKUROVA servicing dealer
	Engine out of time.	Consult CUKUROVA servicing dealer
	Turbocharger not functioning.	Consult CUKUROVA servicing dealer
Engine overheats	Engine overloaded.	Reduce load.
	Low coolant level.	Fill radiator to proper level, check radiator and hoses for loose connections or leaks.
	Faulty radiator cap.	Have serviceman check.
	Stretched poly-vee belt or defective belt tensioner.	Check automatic belt tensioner and belt tensioner.check belts for stretching. Replace as required.
	Low engine oil level.	Check oil level. Add oil as required.
	Cooling system needs flushing.	Flush cooling system.
	Defective thermostat.	Remove and check thermostat.
	Defective temperature gauge or sender.	Check water temperature with thermometer and replace, if necessary.
	Incorrect grade of fuel.	Use correct grade of fuel.
High fuel consumption	Improper type of fuel.	Use proper type of fuel.
	Clogged or dirty air cleaner.	Service air cleaner.
	Engine overloaded.	Reduce load.
	Improper valve clearance.	Consult CUKUROVA servicing dealer
	Injection nozzles dirty.	Consult CUKUROVA servicing dealer
	Engine out of time.	Consult CUKUROVA servicing dealer
	Defective turbocharger.	Consult CUKUROVA servicing dealer
	Low engine temperature.	Check thermostat.

Engine Troubleshooting

Symptom	Problem	Solution
Undercharged system	Excessive electrical load from added accessories.	Remove accessories or install higher output alternator.
	Excessive engine idling.	Increase engine rpm when heavy electrical load is used.
	Poor electrical connections on battery, ground strap, starter, or alternator.	Inspect and clean as necessary.
	Defective battery.	Test battery.
	Defective alternator.	Test charging system.
Battery uses too much water	Cracked battery case.	Check for moisture and replace as necessary.
	Defective battery.	Test battery.
	Battery charging rate too high.	Test charging system.
Batteries will not charge	Loose or corroded connections.	Clean and tighten connections.
	Sulfated or worn-out batteries.	Consult CUKUROVA servicing dealer
	Stretched poly-vee belt or defective belt tensioner.	Adjust belt tension or replace belts.
Starter will not crank	PTO engaged.	Disengage PTO.
	Loose or corroded connections.	Clean and tighten loose connections.
	Low battery output voltage.	Consult CUKUROVA servicing dealer
	Faulty start circuit relay.	Consult CUKUROVA servicing dealer
	Blown fuse	Replace fuse.
Starter cranks slowly	Low battery output.	Consult CUKUROVA servicing dealer
	Crankcase oil too heavy.	Use proper viscosity oil.
	Loose or corroded connections.	Clean and tighten loose connections.
Starter and hour meter functions; rest of electrical system does not function	Blown fuse	Replace fuse.
Entire electrical system does not function	Faulty battery connection.	Clean and tighten connections.
	Sulfated or worn-out batteries.	Consult CUKUROVA servicing dealer
	Blown fuse	Replace fuse.

https://truckmanualshub.com/

MAINTENANCE CHART

Maintenance interval	Service points	Part code	Quantity	grease	check	clean	drain	replace	Person Responsible
every	Loader attachment pivots			x					Customer
8 hours	Backhoe attachment pivots			x					Customer
daily	Front axle pivots			x					Customer
	Hydraulic circuit oil level				x				Customer
	Engine oil level				x				Customer
	Engine coolant level				x				Customer
	Indicator lights and gauges				x				Customer
	Air filter elements					x			Customer
	Bucket teeth for wear				x				Customer
	Battery level				x				Customer
	Windshield washer reservoir level				x				Customer
every	Rear cardan shaft joints			x					Customer
50 hours	Front cardan shaft joints			x					Customer
weekly	Brake fluid level				x				Customer
	Battery electrical cable				x				Customer
	Tyres pressure				x				Customer
	Tightening of the wheel nuts				x				Customer
	Parking brake				x				Customer
	Brake pedal				x				Customer
	Fan belt				x				Customer
first	Engine oil[1)]	157E23					□		Service
100 hours	Hydraulic return filter							□	Service
	Rear axle and reduction gear oil	C77A22					□		Service
	Front axle and reduction gear oil	C77A22					□		Service
	Transmission oil	C77A22					□		Service
	Transmission filter	C77AH22						□	Service
every	Engine oil[1)]	157E23					x		Service
250 hours	Engine oil filter	C01AJ75						x	Service
	Water separator bowl in the fuel filter	C01AP54					x		Service
	ROPS / FOPS cab				x				
	Bolts to sideshifts	204167027	12,9....900 Nm		x				Service
every	Front axle and reduction gear oil	C77A22			x				Service
500 hours	Rear axle and reduction gear oil	C77A22			x				Customer
	Rear axle breather	C77AJ56				x			Customer
	Transmission oil	C77A22			x				Customer
	Transmission filter	C77AH22						x	Service
	Brake oil	105157001					□		Service
	Fuel filter	C01AM73						x	Service
	Fuel tank	204119001					x		Customer
	Air filter elements	C01D89						x	Customer
every	Front axle and reduction gear oil	C77A22					x		Service
1000 hours	Rear axle and reduction gear oil	C77A22					x		Service
	Transmission oil	C77A22					x		Service
	Transmission mounting bolts				x				Service
	Hydraulic oil	157E02					x		Service
	Hydraulic oil strainer	C17C93				x			Service
	Hydraulic oil filter (return)							x	Service

Maintenance interval	Service points	Part code	Quantity	grease	check	clean	drain	replace	Person Responsible
every 1000 hours	Hydraulic breather					x			Customer
	Hydraulic breather filter							x	Service
	Brake oil	105157001	2 liter / 2 liter				x		Service
	Machine cleaning					x		x	Customer
per year-every 2000 hours	Engine coolant	L31704					x		Service
	Engine valve clearence				x				Service
If necessary	Tightening of bucket teeth				x				Customer
	Bucket teeth							x	Service
	Extendable dipper bearing pads							x	Service
	Engine alternator and fan belt	C01AT24						x	Service

NOTE:

☐ **first only interval**

x Repeat interval

STORAGE

PREPARING THE MACHINE FOR STORAGE

If the machine is not going to be used for a long period, it is useful to store the machine under a cover and take the following precautions:

- Clean the machine completely and paint the damaged parts of the machine.
- Grease all greasing points.
- Drain the fuel tank and add approximately 10 lt of special washing fuel. Run the engine for about 10 minutes until the residual normal fuel is eliminated. Fill the fuel tank with diesel fuel.
- Check the air filter, clean or replace if necessary.
- Drain the engine oil and replace the filter.
- Drain the cooling system and do not close the drain plugs. Put a label onto the control panel showing that "the cooling system is empty".
- Check the electrolyte level. Make sure that the battery is charged. Remove the battery and place it in dry place at room temperature.
- Place blocks under the axles to prevent tyre deformation.
- Lubricate shafts.
- Cover the exhaust with a cloth.
- Engage the parking brake.

PREPARING THE MACHINE FOR WORK AFTER A LONG PERIOD OF STORAGE

- Fill the cooling system with engine coolant.
- Fill the engine with oil and check the oil level.
- Replace the fuel filter, fill the fuel tank and bleed the fuel system.
- Replace the battery and make sure that it is charged.
- Check the hydraulic oil level.
- Check the transmission oil level.
- Check the front drive axle and reduction gears oil level.
- Check the rear axle and reduction gears oil level.
- Check the brake oil level.
- Use a speciel solvent to clean the hydraulic cylinder rods.
- Check the tyre pressures and tightness of wheel nuts.
- Check that the indicator and warning lights on the control panels work properly.
- Start the engine after removing the cloth on the exhaust.Run to the engine 20 minutes.