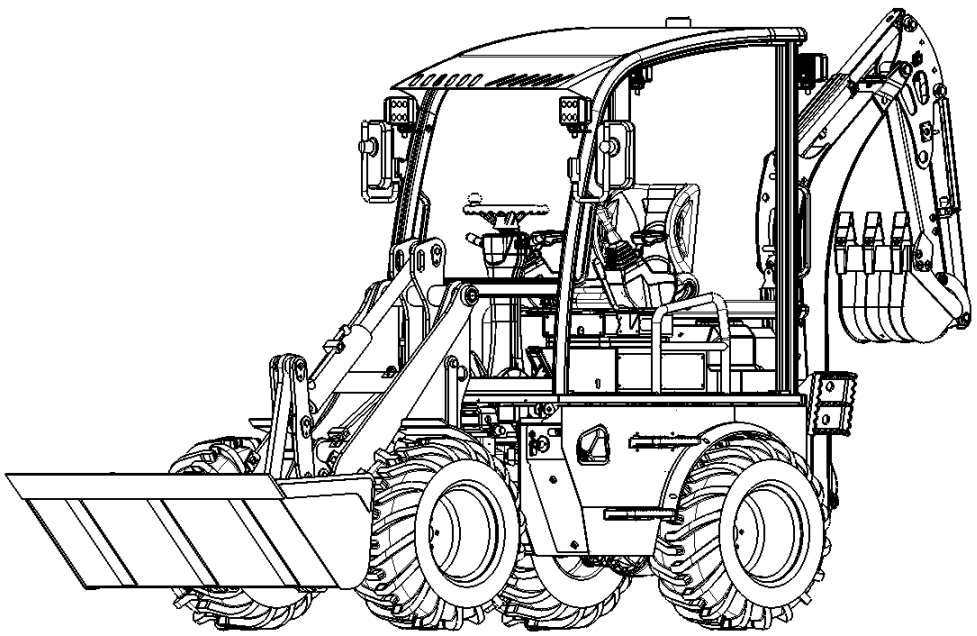
DIGGERKING

EARTH MASTER 490

OPERATOR'S MANUAL

DIGGERKING.COM.AU

Operation and Maintenance Manual



Please read this manual and fully understand its contents before operating, inspecting, or servicing this machine.

Important Safety Information

Most accidents related to product operation, maintenance and repair are caused by disregard of basic safety rules or protective measures. Potential hazards can be identified before an accident occurs to prevent mishaps. Relevant personnel must be aware of potential hazards, receive necessary training, and possess the skills to troubleshoot faults with tools.

Improper operation, lubrication, maintenance or repair work poses hazards that may result in fatal injuries. No operation, lubrication, maintenance or repair work shall be performed on the machine until you have read and fully understood all relevant instructions.

Safety precautions and warnings are provided in this manual and marked on the product. Failure to observe these warnings may lead to fatal injury to personnel.

All hazards are marked with "safety alert symbols" followed by signal words such as DANGER, WARNING and CAUTION. The warning label "WARNING" is shown as follows:

This safety alert symbol means:

ATTENTION! BE ALERT! YOUR SAFETY IS INVOLVED!

The hazard is explained by text or illustrations below the warning sign.

Operations that may cause machine damage are marked with "CAUTION" or "WARNING" labels on the machine and in this manual.

Digger King cannot anticipate every potentially hazardous working environment. Therefore, the warnings provided in this manual and on the product cannot cover all possible risks.

If you adopt any tool, procedure, working method, or operating technique not specifically recommended by Digger King, you are responsible for ensuring the safety of yourself and others. You must also verify that your chosen operating, lubricating, maintenance, or repair procedures will not damage the machine or create an unsafe condition.

The instructions, specifications, and illustrations in this manual are based on the latest information available at the time of publication.

Continuous improvements in machine design may result in minor changes not reflected in this manual. For the latest machine information or questions regarding content in this manual, please contact Digger King.

Do not use this machine for any application outside its specified capacity or not listed in this manual.

Due to varying safety regulations in different countries and regions, consult an authorized Digger King dealer before modifying, adding to, or altering the machine in any way.

Unauthorized modifications may result in serious injury or death. Any person who makes unauthorized alterations to the machine shall be solely responsible for the resulting consequences.

Contents

Foreword 3

Machine Components 4
Location of Identification Plates 6

Safety Information

Location and Explanation of Safety Signs 7
General Safety Precautions 13
Prevention of Crushing or Cutting 15
Prevention of Burn Injuries 16
Fire and Explosion Protection 16
Fire Extinguishers and First Aid Kits 17
Lightning Injury Prevention 18
Tires 18
Precautions for Attachments 18
Safe Machine Operation 19
Schedule for Periodic Replacement of Safety-Critical Parts 26

Application and Key Technical Specifications

Applications 27
Key Technical Specifications 28

Operation Manual

Preparation Before Operation 32
Daily Inspection 32
Machine Controls and Instruments 33
Starting the Engine 46
Operating the Machine 47
Machine Transportation 50
Machine Lifting 51
Machine Storage 51

Maintenance Manual

Maintenance Guidelines 53
Break-in Period for New Machines 56
Periodic Maintenance 58
Fuel, Lubricating Oil and Grease 60
Important Maintenance Procedures
Routine Inspection 63
Diesel Engine System 63
Hydraulic System 68
Brake System 69
Lubrication System 71
Electrical System 67
Other Maintenance 72

Foreword

This manual contains many important instructions for the operation, lubrication, maintenance, inspection and adjustment of the machine, and constitutes a permanent and essential part of the machine.

This manual should be stored in a safe, clean location readily accessible to the operator for reading and use. Ensure the manual remains intact and undamaged. The manual shall accompany the machine at all times and not be separated from it when the machine is resold or leased.

Please read this manual carefully to ensure proper operation and maintenance of the machine, and to avoid potential personal injury or machine damage. The operator shall be proficient in the correct use of the machine and ensure safety at all times.

Do not use the machine for any purpose other than those described in this manual.If modification or installation of other special equipment is required for special needs, contact your dealer for confirmation. Otherwise, you shall be solely responsible for all consequences resulting from unauthorized alterations.

Digger King provides comprehensive three-guarantee warranty coverage for users who operate and maintain the machine in strict accordance with the instructions specified in this manual. However, the three-guarantee warranty shall become invalid and on-site repair services may be refused if the machine is misused or operated intentionally in manners not authorized by the manufacturer.

Only trained personnel or operators with relevant practical experience are permitted to operate the machine, while inspections and maintenance work shall be performed exclusively by qualified professionals.Accurately record the machine's model number, serial number, engine serial number and serial numbers of key components. In the event of machine theft, these numbers will be required for reporting the case to local judicial authorities and tracking the equipment. Your dealer will also need these numbers when you enquire about machine conditions or order spare parts. If this manual is kept inside the machine, please record all the correct identification numbers in a secure location separate from the machine.

Safety

The safety section sets forth fundamental safety precautions. In addition, it specifies the text content and mounting positions of all warning symbols and labels affixed to the machine.

Before operating this machine, or performing lubrication, maintenance and repair work, read and fully understand all basic safety precautions outlined in the safety section.

Operations

This chapter contains information regarding instruments, machine controls, work equipment levers, transportation and towing procedures. It serves as a reference for new operators and a review guide for experienced operators, and shall be kept on hand for frequent reading and study. Operators will be instructed on the proper procedures for inspecting, starting, operating and shutting down the machine through illustrated step-by-step descriptions.

The operating techniques described in this manual are fundamental. As operators gain greater knowledge of the machine and its performance characteristics, their operating proficiency and skills will improve.

Maintenance

The maintenance section provides guidance on machine protection. Illustrated step-by-step instructions are categorized by maintenance intervals. Maintenance tasks without specified intervals are listed under the "Miscellaneous" heading. Items under "Scheduled Maintenance" shall be performed in accordance with the detailed instructions that follow.

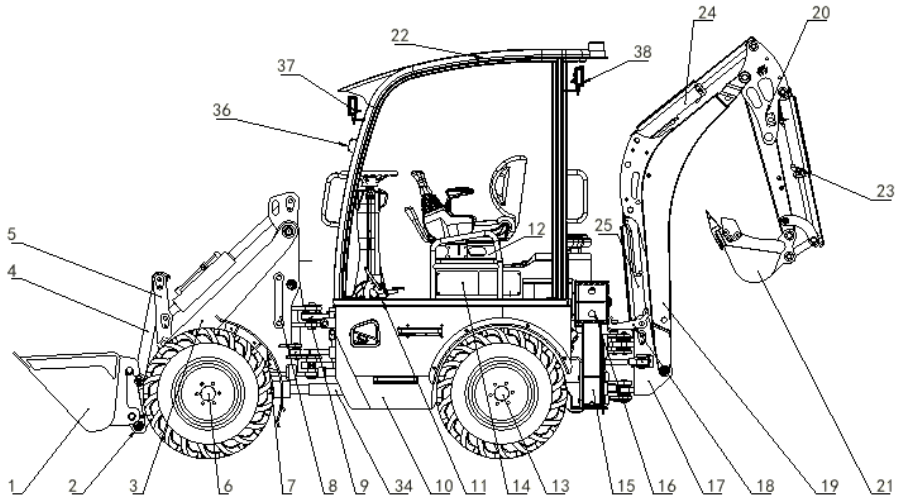
Maintenance Intervals

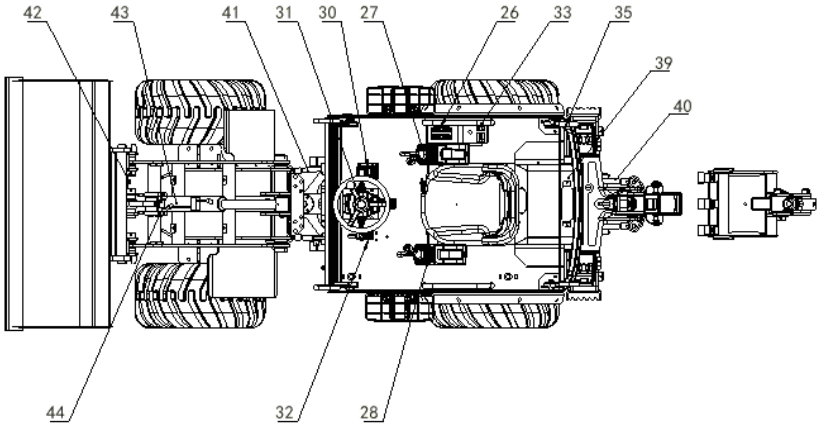
Use the hour meter to determine maintenance intervals. If scheduling maintenance based on a calendar (days, weeks, months) is more convenient and roughly consistent with the indicated operating hours, the calendar may be used in place of the hour meter. Recommended maintenance tasks shall be performed at whichever of the two time limits comes due first.

Machines operating under extremely severe, dusty or humid working conditions require more frequent lubrication and maintenance than specified in the Scheduled Maintenance section. All previously specified maintenance items shall be repeated during each service. For example, when carrying out the 500-hour maintenance service, complete all maintenance items listed for the 250-hour, 50-hour, and 10-hour/daily service intervals at the same time.

All data, diagrams and specifications contained in this manual represent the latest product information available at the time of publication. The Company reserves the right to make modifications without prior notice.

Machine Components





1	Bucket	12	Seat Bracket	23	Bucket Cylinder	34	Drive Shaft Assembly
2	Quick Coupler	13	Rear Axle Assembly	24	Stick Cylinder	35	Instruction Manual Storage Box
3	Lift Arm	14	Side Service Panel	25	Boom Cylinder	36	Rearview Mirror
4	Front Link	15	Outrigger	26	Outrigger Lever	37	Headlamp
5	Front Push Rod	16	Outrigger Pad	27	Right Armrest Box	38	Work Lamp
6	Front Axle Assembly	17	Rear Steering Knuckle	28	Seat Assembly	39	Rear Fan Housing
7	Front Fender	18	Locking Hook	29	Left Armrest Box	40	Swing Rear Cylinder
8	Articulation Lock Lever	19	Boom	30	Foot Throttle Pedal	41	Auxiliary Front Steering Cylinder
9	Articulated Mechanism	20	Stick	31	Steering Unit	42	Quick Hitch Cylinder
10	Frame Assembly	21	Bucket	32	Service Brake	43	Front Tilt Cylinder
11	Operator Platform	22	ROPS	33	Electronic Parking Brake Switch	44	Lift Cylinder

Machine and Component Model & Serial Number

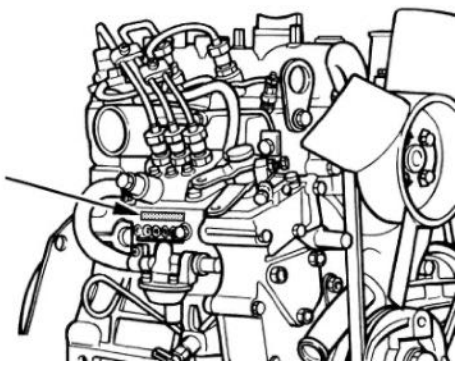
Manufacturer Name	Digger King Pty Ltd
Complete Machine Model	
Engine Model	
Engine Serial Number	

Note: Upon receipt of the machine, fill out the above form according to its actual configuration.

Location of Machine and Component Nameplates

Machine Nameplate

Engine



Safety Information

Safety Warning Symbols

Safety warning symbols appear on the machine, safety signs, this manual, or anywhere important safety information is provided. When you see this symbol, you must follow the instructions contained in the safety information and be alert to the risk of personal injury or death.

Safety Signal Words

The definitions of the safety signal words "DANGER", "WARNING" and "CAUTION" displayed on the machine are as follows:

DANGER: Indicates an imminently hazardous situation which, if not avoided, will result in death or serious personal injury.

WARNING: Indicates a potential hazard which, if not avoided, will result in death or serious personal injury.

CAUTION: Indicates a potential hazard which, if not avoided, may result in minor or moderate personal injury.

CAUTION also draws attention to safety matters regarding unsafe operations that may lead to personal injury. DANGER denotes the most severe hazardous conditions. Safety signs marked DANGER or WARNING shall be placed near specific hazard locations. General safety precautions are listed under CAUTION safety signs.

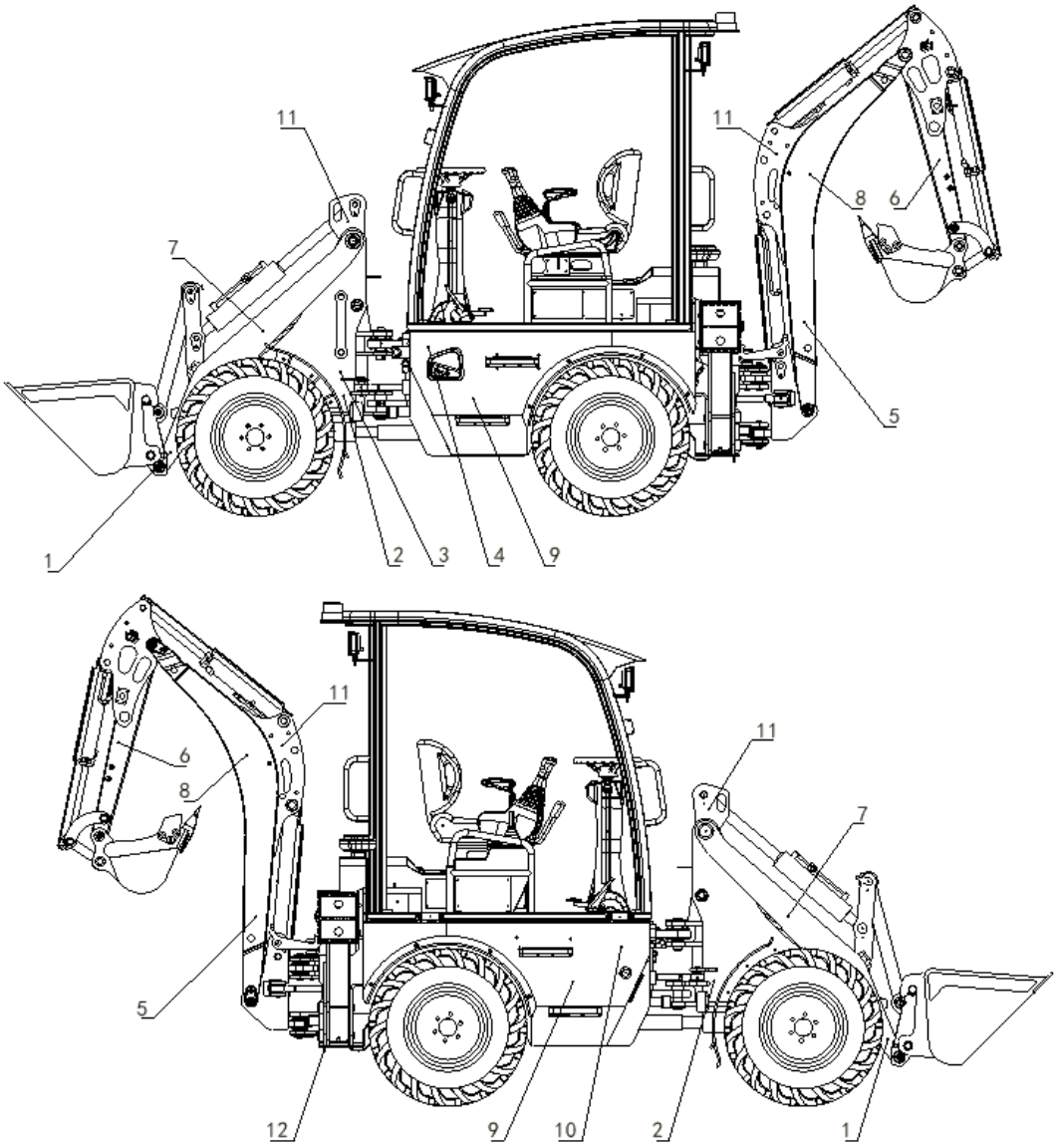
Location and Explanation of Safety Signs

The machine is fitted with several safety labels. This section describes their mounting positions and corresponding hazard explanations. Please take time to familiarize yourself with these safety markings.

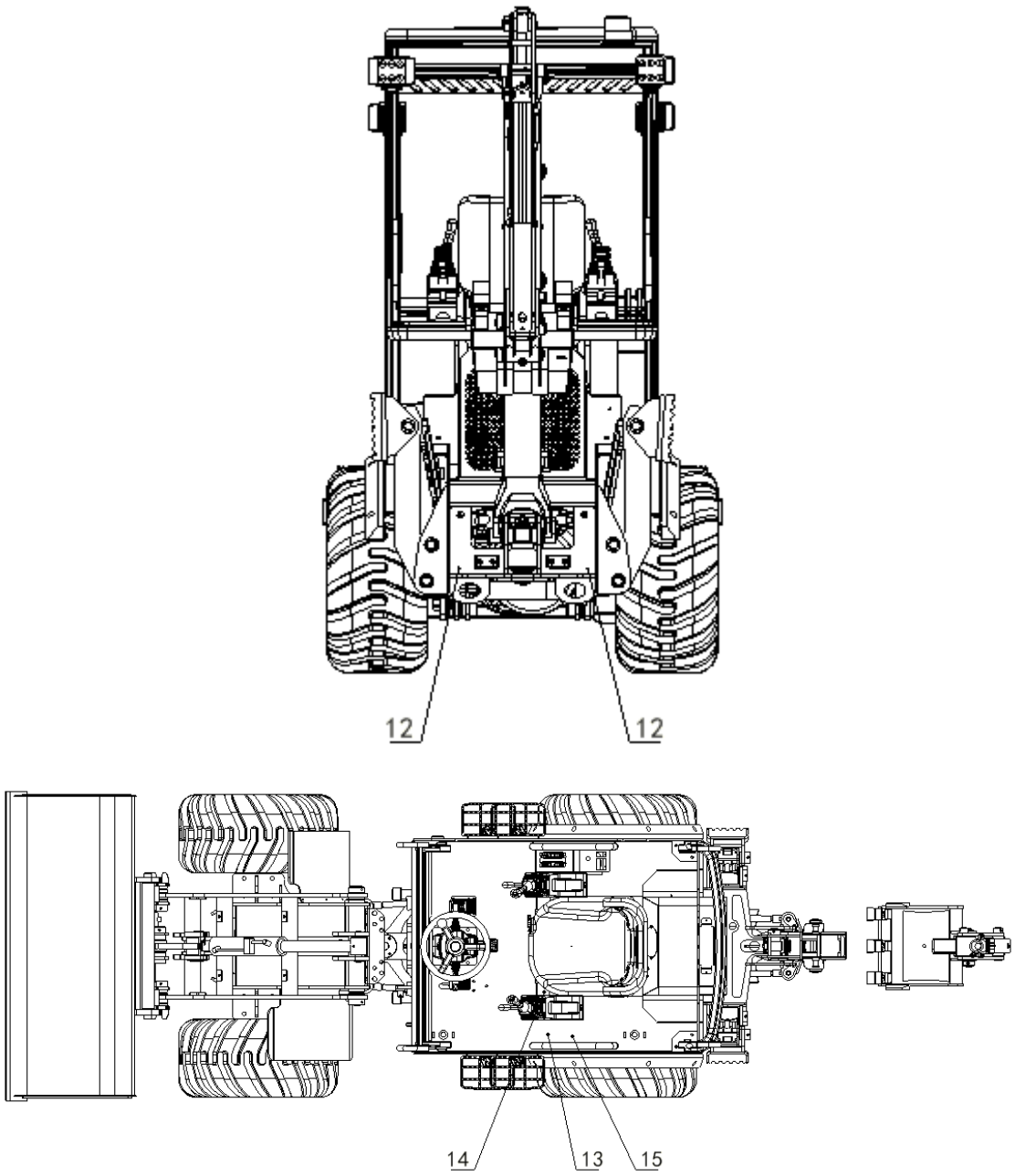
Ensure all safety labels are legible. If the text or graphics on any safety label cannot be clearly read, replace the label or clean it with a cloth and soapy water. Do not use solvents, gasoline or similar cleaners for cleaning.

Any safety label that is damaged, missing or illegible after cleaning must be replaced. When replacing a component with an affixed safety label, ensure a new safety label is applied to the replacement component in the correct position.

Safety Label Location Diagram



1	Warning Label	7	Model Label
2	Warning Label	8	Model Label
3	Warning Label	9	Model Label
4	Instruction Label	10	Instruction Label
5	Warning Label	11	Instruction Label
6	Warning Label	12	Instruction Label

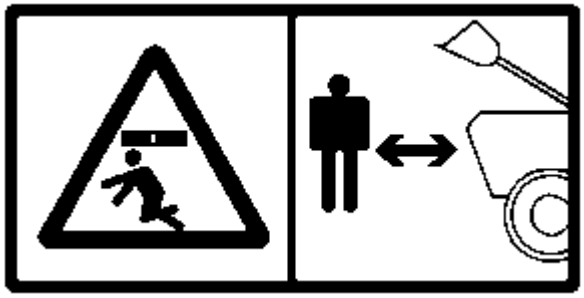
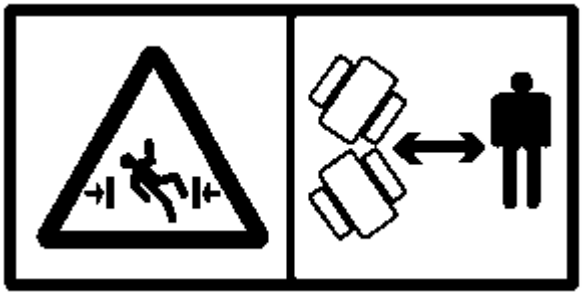
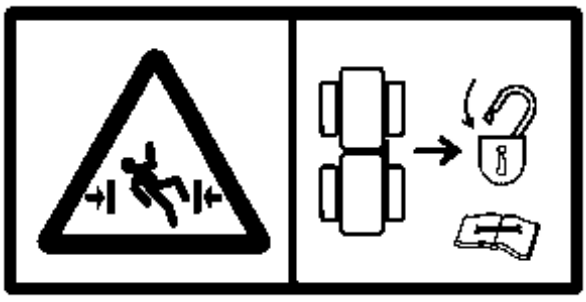
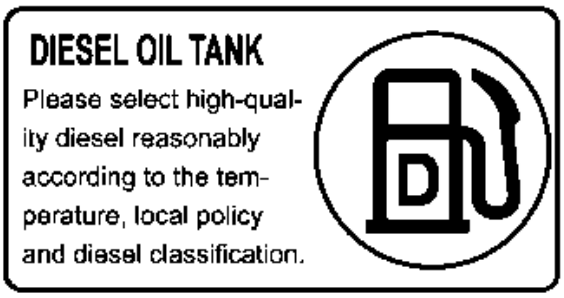


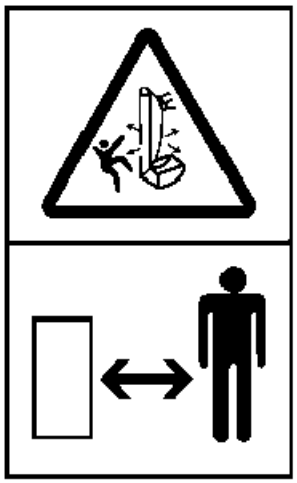
12 Instruction Label

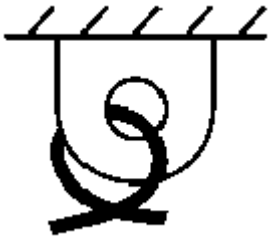
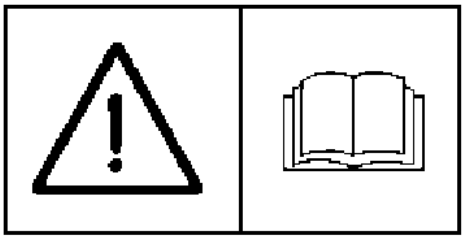
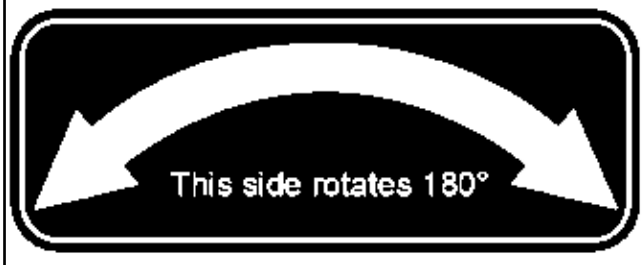
13 Warning Label

14 Instruction Label

15 Warning Label

1	Warning Label (Crushing hazard. Keep clear of raised loader arm or bucket.)	
2	Warning Label (Crushing hazard. Keep clear of vehicle articulation joint.)	
3	Warning Label (Lock vehicle body for parking to avoid crushing hazards.)	
4	Instruction Label (Diesel Refueling Instructions)	

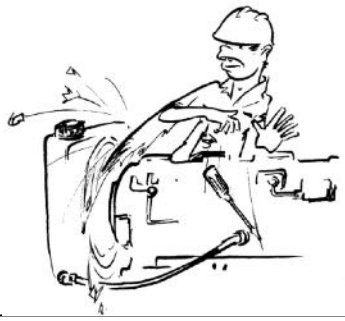
5	Warning Label (Keep all personnel clear of work area during operation.)	
6	Warning Label (Crush hazard. Keep Clear of Operating Machinery.)	
10	Instruction Label (Hydraulic Oil Filling Instructions)	
11	Instruction Label (Lifting Position Instructions)	

12	Instruction Label (Transport Securing Points Instructions)	
13	Warning Label (Preventing Burns)	
14	Instruction Label （Read and fully understand the operation manual prior to use.)	
15	Instruction Label （Seat Rotation Direction Instructions – Do Not Rotate in Reverse Direction)	

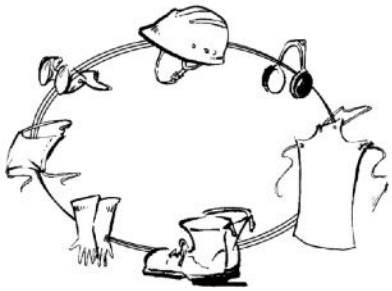
Read and fully understand all safety instructions; failure to comply may result in serious injury or fatal accidents.
Only trained and qualified personnel are permitted to operate and maintain this machine.

Do not operate the machine if you are feeling unwell, drowsy after taking medication, or under the influence of alcohol. Such conditions may impair your judgment and lead to accidents.
Before carrying out machine maintenance or repairs, attach a "DO NOT OPERATE" or equivalent warning tag to the start switch and operating lever.

Do not wear loose clothing, jewelry, or keep long hair uncovered. These items may get caught or entangled in control systems or moving parts, resulting in severe injury or death.



Wear hard hats, safety glasses, safety shoes, face shields and protective gloves when operating or maintaining the machine.



Goggles, safety glasses or face shields shall be worn to protect your eyes from high-pressure fluid hazards during battery maintenance, and from flying debris while the engine is running or tools are in use. A protective face shield must be worn when removing springs or elastic components, or adding acid to batteries. Wear a welding helmet or safety goggles when welding or cutting with a torch.

When working in high-noise environments, wear appropriate hearing protection such as earmuffs or earplugs to prevent noise-induced hearing damage.

Ensure all guards and covers on the machine are securely fastened in place. Keep the machine free of debris, oil stains, tools and unrelated clutter, especially on instrument panels, walkways and stair ladders. Stow loose items such as lunch boxes and tools properly.

When inspecting open fuel tanks and water tanks, prevent foreign matter from entering system components. Empty your pockets before removing any covers, and handle wrenches and nuts with extreme care.

Familiarize yourself with site hand signals and signal sources, and only accept signals from a single designated person.

Never store maintenance fluids in glass containers.

Comply with applicable laws and regulations when handling hazardous substances including lubricants, fuel, coolant, solvents, filters, batteries and other related materials.

Exercise caution when using cleaning agents. Do not use flammable materials such as diesel or gasoline for component cleaning, as they pose a fire hazard.

Report all faulty items requiring repair promptly.

Unauthorized personnel are prohibited from standing on or around the machine.

Modifications to the machine without prior approval from Digger King are forbidden. Digger King shall not be liable for any consequences arising therefrom.

Compressed Air

Compressed air can cause personal injury. Wear a face shield, protective clothing and safety shoes when cleaning with compressed air. The maximum pressure of compressed air used for cleaning shall not exceed 0.2 MPa.

High-Pressure Fluid

⚠ WARNING

Avoid scalding injuries caused by high-pressure hydraulic oil. Before inspecting or replacing hydraulic system pipelines, ensure that system pressure has been fully relieved. Hydraulic oil ejected under high pressure can cause severe skin damage upon contact.

Exercise caution when disconnecting hydraulic pipelines and couplings. Released high-pressure oil spray may cause sudden whipping movement of hoses.

Wear safety goggles and leather gloves when checking for leaks. Do not inspect leaks with bare hands. Use plates or cardboard to detect oil leakage.

Even a pinhole-sized leak of pressurized fluid can penetrate muscle tissue and result in serious injury or death. If you are struck by ejected high-pressure hydraulic oil, seek immediate medical attention.

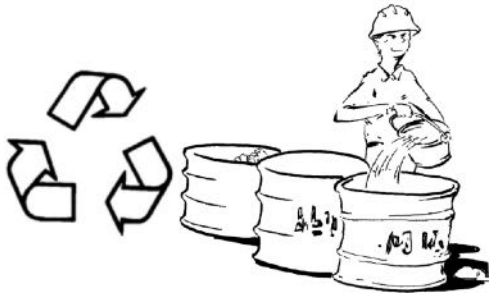
Safe Disposal of Waste Fluid

Improper disposal of waste fluids will harm the environment and ecosystems. Comply with local regulations when handling waste fluids.

All fluids spilled during machine inspection, maintenance, testing, adjustment and repair must be collected in containers.

Before opening any fluid chamber or disassembling any fluid-containing components, prepare suitable containers for collecting drained fluids in advance.

Use appropriate containers when draining fluids. Do not use food or beverage containers, as this may lead to accidental ingestion by others.



Precautions for Using Accumulators

Accumulators contain high-pressure nitrogen and are classified as hazardous goods. Read all the following requirements and operate accumulators properly.

All accumulators must be inspected prior to nitrogen charging. Gas charging is strictly prohibited for accumulators that meet any of the following conditions: without a nameplate; with illegible faded markings on the nameplate; incomplete or unidentifiable stamped marks; or with shell defects that compromise safe operation.

Only nitrogen shall be filled into accumulators. Oxygen, compressed air and all other flammable gases are forbidden to avoid explosion risks.

Charge nitrogen slowly to prevent rupture of the bladder.

Install the accumulator vertically with its gas valve pointing upward. Secure it firmly to the support bracket. Do not fix accumulators by welding.

Do not drill any holes on the accumulator. Keep all open flames and heat sources away from the unit.

No welding work shall be performed on accumulators.

As high-pressure vessels, accumulators shall only be replaced and serviced by qualified professionals.

Completely vent all internal gas before scrapping an accumulator.

Asbestos

Inhalation of asbestos dust poses a serious health hazard. This product does not contain asbestos. Digger King recommends the use of genuine Digger King spare parts. If you need to handle materials containing asbestos fibers, comply with the following guidelines:

- Never use compressed air for cleaning.
- Use water to suppress dust.
- Use a vacuum cleaner equipped with high-efficiency filtration.
- Do not grind materials containing asbestos dust.
- Operate machinery on the upwind side whenever possible.
- Comply with environmental protection regulations when handling asbestos.
- Take a shower after exposure to asbestos.
- Wear an effective respirator if required.

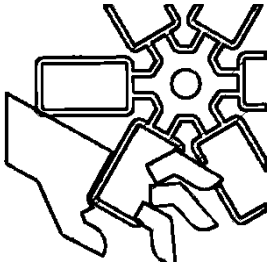
Prevention of Crushing or Cutting

Do not place hands, arms or any other body parts between moving components, such as between work equipment and cylinders, and between the machine body and work equipment.

When working under work equipment, properly support the unit. Never rely on hydraulic cylinders to hold up work equipment. Movement of control mechanisms or hydraulic line leakage may cause the work equipment to drop suddenly.

If guards need to be removed during maintenance, reinstall them completely after servicing.

Rotating engine fan blades present a shearing hazard to fingers. Maintain a safe distance or shut down the engine when performing maintenance.



Ensure the engine fan blades are free of foreign objects. Any tools or debris falling or forced into the fan assembly may be ejected or severed by the rotating blades.

Unless otherwise specified, no adjustments shall be performed while the machine is running or the engine is in operation.

If maintenance procedures must be carried out with the machine running, the machine shall never be left unattended. Assign a person to occupy the operator's seat, ready to shut down the engine at any time.

Do not use twisted or worn steel wire ropes. Wear gloves during handling and use.

When forcing out spring pins, ensure no personnel are nearby. Safety goggles must be worn to prevent eye injuries.

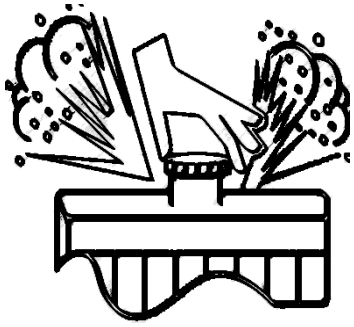
When striking objects with a hammer, take precautions to prevent flying debris from striking anyone.

Prevention of Burn Injuries

After the machine has been operating for a period of time, certain components will become hot. Carry out maintenance or inspection only after these components have cooled down.

Coolant

At operating temperature, engine coolant is extremely hot and under pressure. The radiator and all lines connected to it contain hot water or steam, which can cause severe burns upon contact.



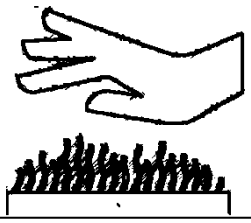
When checking the coolant level, shut down the engine and allow the radiator filler cap to cool sufficiently to be turned by bare hands.

Loosen the cooling system filler cap slowly to relieve pressure.

Coolant contains alkaline substances that may cause personal injury. Avoid contact with skin, eyes and mouth.

Oil

Hot oil and hot components may cause personal injury. Prevent hot oil and hot components from coming into contact with skin.



At operating temperature, the hydraulic tank is hot and under pressure.

Before opening the hydraulic tank filler cap, shut down the engine and let the cap cool enough to be loosened with bare hands.

Remove the tank cap slowly to relieve pressure in the hydraulic tank and prevent scalding from hot oil.

Relieve system pressure before disconnecting any hoses, fittings or related components.

Battery

Vapors emitted by batteries may cause explosions.

Do not smoke when checking the battery electrolyte level.

Electrolyte is acidic. Avoid any contact between electrolyte and your skin or eyes.

Safety goggles and protective gloves must be worn during battery inspection.

Fire and Explosion Prevention

All fuel oils, most lubricants, and certain coolant mixtures are flammable.

Fuel leaks onto hot surfaces or electrical components may result in fire.

Never smoke while refueling, within refueling areas, or near any flammable materials.

Clean and tighten all electrical connectors. Inspect wires daily for looseness or wear. Tighten loose power connections and repair or replace worn wires before starting the equipment.

Store fuel and lubricating oil in clearly marked containers to prevent access by unauthorized personnel.

Place oil-soaked rags and other combustible materials in shielded containers and keep them in safe locations.

Do not perform electric welding or flame cutting on pipelines containing flammable liquids. Thoroughly remove all flammable liquids from relevant parts prior to welding or cutting operations.

Clear away combustible accumulations such as fuel, lubricants and other debris on the machine.

Do not operate the machine near open flames.

Keep batteries away from open flames and sparks, and prohibit smoking in battery charging areas.

When using jump start for the machine, connect the positive (+) cable to the positive (+) terminal of the battery connected to the starting motor coil; connect the negative (-) terminal of the external power supply to the starter negative (-) terminal. If no starter negative terminal is available, connect it to the engine housing.

Never charge a frozen battery to avoid explosion hazards.

Ether

WARNING

It is prohibited to start the machine with ether.

Any attempt to start the engine with ether may cause severe engine damage or personal injury and fatal accidents.

Pipes, Hoses and Rigid Tubes

Do not bend or strike high-pressure pipelines. Do not install improperly bent or damaged rigid tubes and hoses on the machine.

Promptly repair loose or damaged fuel lines, lubrication lines, as well as rigid tubes and hoses of hydraulic systems. Fluid leakage may cause fires. Please contact authorized distributors of Digger King for repair or replacement services.

Replace the components immediately if any of the following defects are found.

- Joints Damage or leakage.
- Outer layer of hose worn or cracked with reinforcing steel wires exposed.
- Local bulging on hoses.
- Obvious torsion or flattening of hoses.
- Reinforcement steel wires embedded into the outer hose layer.
- Misaligned end fittings.

Ensure all pipe clamps, guard plates and heat shields are correctly installed to prevent overheating caused by vibration or friction with other components.

When disconnecting pipelines of the air conditioning compressor, keep open flames strictly away. Otherwise, toxic gas will be generated and cause poisoning hazards.

Fire Extinguishers and First Aid Kits

Fire extinguishers must be readily available. Read the operating instructions carefully and master the correct usage methods.

First-aid kits shall be kept on the worksite at all times. Inspect them regularly and replenish medicines when necessary.

All personnel must be familiar with emergency response procedures for fires and personal injuries.

Reserve contact numbers for doctors, emergency centers, fire stations and other relevant parties for emergency use. Post these numbers in designated visible positions to ensure all staff know the numbers and proper contact methods.

Inspect and maintain fire extinguishers regularly in accordance with the specifications stated on the instruction label.

Lightning Injury Prevention

Never attempt to board off or alight from the machine when lightning strikes nearby.

If you are inside the cab during a thunderstorm, stay inside. If you are on the ground, keep well away from the machine.

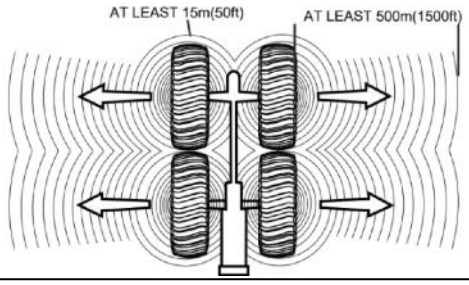
Tire

The maintenance, removal, repair and installation of tires and wheel rims require special equipment and professional skills. Therefore, it is recommended to entrust all related maintenance work to professional tire repair shops.

Inflatable tires may explode due to internal gas overheating and combustion. This is usually caused by heating or welding wheel rims, exposure to open flames, or excessive frequent braking, which leads to thermal expansion or combustion of internal gas.

A tire explosion is far more powerful than simple deflation. Tires, wheel rims and transmission parts can be ejected up to 500 meters away from the machine. Explosion force and flying debris may cause personal injury, fatal accidents and property damage.

Do not approach heated tires. Keep a minimum safe distance of at least 15 meters and stay outside the shaded danger zone (as shown in the figure).



It is recommended to inflate tires with dry nitrogen (N_2). If tires are originally filled with ambient air, nitrogen may be used to adjust tire pressure, as nitrogen is miscible with atmospheric gases. Nitrogen-filled tires reduce the risk of tire blowouts because nitrogen is non-combustible. In addition, nitrogen inhibits oxidation, thereby slowing rubber aging and preventing corrosion of wheel rim components.

Avoid overinflation. Proper inflation equipment and relevant operator training are mandatory. Improper equipment or incorrect operation may lead to tire rupture or rim damage.

Improper maintenance of tires and wheel assemblies may result in violent tire blowouts, whose explosive force can cause severe personal injury or fatalities. Only trained personnel equipped with proper tools and following standardized procedures are permitted to perform maintenance on tires and wheel rims.

Precautions for Attachments

Installation and commissioning shall only be carried out by qualified personnel. Operators must receive professional training and perform operation and maintenance strictly in accordance with the operating instructions supplied with the attachments.

Before installing or using spare attachments, read the relevant instructions, manuals and all attachment-related information contained therein.

Incorrect installation of attachments or optional accessories will not only create safety hazards, but also adversely affect machine operation and service life of the equipment.

Do not use any attachments not authorized by Digger King. Unauthorized attachments may trigger safety risks, hinder normal machine operation and shorten equipment service life.

Any modification to attachments without prior authorization is strictly prohibited; any consequences arising therefrom shall be borne solely by the user.

Digger King shall not be liable for any injuries, accidents or machine damage caused by the use of unauthorized attachments.

Safe Machine Operation

Accessing and Exiting the Machine

Before climbing on or off the machine, clean any oil stains and mud on handrails and steps. In addition, repair damaged components and tighten loose bolts.

Only mount or dismount the machine at positions equipped with steps and handrails.

When accessing or exiting the machine, face the machine, hold the handrail with hands and step on the steps. Maintain three-point contact at all times (two feet and one hand, or two hands and one foot).

It is strictly prohibited to jump off the machine.

Never mount or dismount the machine while it is running.

Under no circumstances shall any control lever be used as a handrail when accessing or exiting the machine.

Do not climb on or off the machine while carrying tools or other items. All required tools shall be hoisted onto the operator platform with a rope.

Know Your Machine

Be competent to operate all equipment fitted on the machine.

Familiarize yourself with the functions of all control systems, gauges and indicator lights.

Understand the rated load capacity, speed ranges, braking and steering performance, turning radius and maximum operating height clearance.

Bear in mind that rain, snow, ice, gravel and soft ground surfaces will alter the machine's working performance.

Study all safety labels affixed to the machine (DANGER, WARNING, CAUTION) and other identification markings.

Know Your Work Area

Survey your intended work area thoroughly in advance. Inspect the following items: slopes, open trenches, falling or overhead suspended objects, ground conditions (soft or hard), standing water and marshy areas, rocks and stumps, buried foundations, piles or wall lines, boundaries of buried waste or fill soil, holes, obstructions, mud and ice, traffic volume, heavy dust, dense smoke and thick fog, as well as the exact locations of buried or overhead utility lines including power, gas, telephone, water, sewage and other service pipelines.If necessary, contact utility companies to mark, shut off or relocate these utilities before commencing work.

Before Starting the Engine

Conduct a thorough inspection of the machine prior to work to ensure all systems are in proper operating condition. Clear all personnel from the area surrounding the machine.

Remove all mud and fine sand from your footwear before mounting the machine.

Inspect all structural components and covers for dents, deformation or damage. Verify that all safety guards including doors, shields and caps are correctly installed to prevent injury from moving parts. Repair damaged guards immediately.

Check the hydraulic system for oil leaks, and inspect hoses and steel pipes for wear.

Check all fasteners for looseness or missing pieces.

Inspect wiring harnesses for abrasion or fraying, confirm fuses are intact, and check that all connectors are tightly secured.

Verify that fluid levels in the engine and fuel system are within specification. Drain water and sediment from the water-oil separator in a timely manner.

Replace all damaged or missing parts, and perform required lubrication at all lubrication points specified in the periodic maintenance schedule.

Remove all loose objects from the operator's cab; loose items may interfere with controls and cause accidents.

Ensure all cab windows are clean and windscreen wipers function properly.

Adjust the seat to a suitable position, then inspect the seat belt and its anchorages for damage. Seat belts must be replaced after three years of service.

Confirm that all machine lighting systems are fully functional and that the work site has adequate illumination.

Starting the Engine

Never start the engine if a warning label marked "DO NOT OPERATE" is affixed to the control levers.

Start the machine only after confirming the operator is seated and has securely fastened the seat belt.

Before starting the engine, ensure the hydraulic control lever is in the hold position and the forward/reverse travel control buttons are set to neutral.
Sound the horn as a warning when starting the engine.

The engine shall only be started from inside the operator's cab. Never short-circuit the starter motor to start the engine. Bypassing the starting system in this manner will damage the machine's electrical system.

After starting the engine, check the pressure gauges, instruments and warning lights to confirm they function properly and all readings are within the operating range.

Inspect the machine and listen carefully for any malfunctions. If any faults or abnormalities are detected, shut down the machine immediately and rectify the faults before resuming any further operation.

Before Operating the Machine

No personnel shall be present on or around the machine, and fasten the safety belt securely.

Keep all windows, lamp covers and rearview mirrors clean; secure all doors and windows whether open or closed.

Adjust the rearview mirrors to provide optimal visibility from the operator's seat.

Remove all obstacles from the machine's travel path. Watch out for hazards such as overhead high-voltage power lines and ditches.

Verify that the horn, back-up alarm (if equipped) and all other warning devices function properly.

Machine Operation

Before driving the machine, always check the surrounding area for safety and confirm the correspondence between your intended travel direction and the travel pedals/control levers.

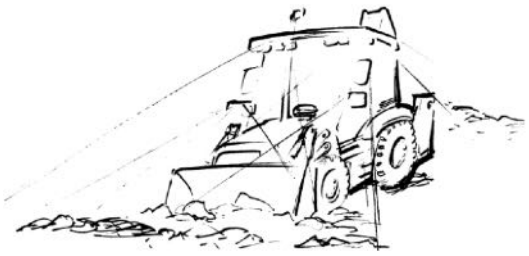
Maintain a proper posture while seated. Operating the machine while improperly seated or standing off the seat may lead to accidents.

No passengers are permitted on the machine.

Drive the machine slowly to an open area and verify that all control levers and safety guards operate properly.

If any defective conditions requiring repair are detected during operation (such as abnormal noise, vibration, strange odors, incorrect instrument readings, air leakage, oil leakage, etc.), report the faults immediately.

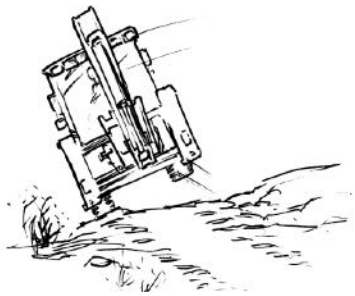
Dust, heavy rain, heavy fog and other conditions can impair visibility. Keep mirrors and lights clean and in good working order. Reduce travel speed and activate appropriate lights when visibility is poor.



When operating or driving the machine with poor visibility or in congested areas, a signal person must be assigned. Keep the signal person within sight and coordinate hand signals with them.

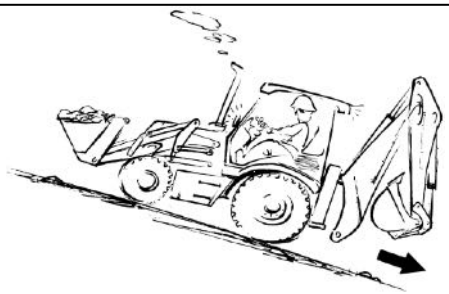
For traveling, adjust the height of the loader working attachment such that the lower boom pivot pin is 450 to 500 mm (17 to 20 inches) above the ground.

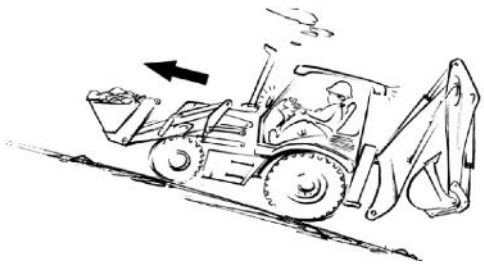
It is prohibited to dig with the bucket raised above the machine. Avoid working at cliff edges, embankments, beneath mounds, on ground with insufficient bearing capacity, or under overhangs to prevent collapse.



Avoid any conditions that may cause the machine to tip over. The machine is prone to tipping when working on hills, banks or slopes. It may also tip when crossing ditches, mounds or other unexpected obstacles.

When traveling on slopes, drive straight up or straight down the gradient. Do not turn or travel sideways across the slope to prevent the machine from tipping over.





When the machine begins to slide sideways downhill on a slope, unload the materials immediately and drive the machine down the slope.

To prevent machine tipping or damage to the working attachment caused by overloading, the load on the machine shall not exceed the specified maximum load capacity. Never operate the machine beyond its rated capacity under any circumstances.

This machine is designed only for specified operations. Performing any work beyond its operating scope will result in machine damage. Refer to the sections "Intended Use" and "Main Technical Specifications and Parameters" for approved operations.

Never attach lifting slings directly to bucket teeth for hoisting heavy loads.

Do not lift personnel using the loading or digging attachment. The bucket must not be used as an operator work platform, and no personnel shall ride on the bucket.

Prevent contact between the boom, arm and overhead obstacles.

When deep digging, avoid collision between the bottom of the boom, bucket cylinder hoses and the ground. The bucket shall only be used for excavation; it must not be utilized for breaking or rock chiseling operations. Prior to excavation, identify the locations of electrical cables, gas pipelines and water pipes, and mark the positions of all underground utilities.

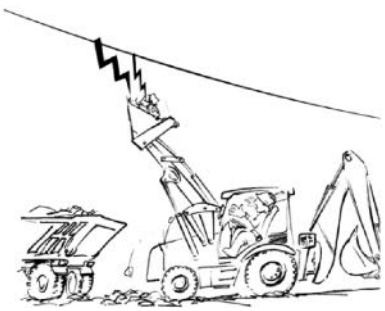
Do not excavate beneath overhanging cliffs or embankments. Collapse or landslide of the cliff/embankment edge may cause fatalities and injuries. During operation, keep the machine clear of overhangs and stockpile edges.

Exercise caution when working along riverbanks, under overhangs or inside buildings. Watch out for rock and earth slides, overhead hanging branches, and hazards caused by undercutting.

Never excavate directly beneath the machine, as this will result in undercutting. The machine may sink into the excavated pit and lead to accidents.

Take extra care when working near high-voltage power lines. If the machine is to be operated on a site where contact with power cables poses a risk, consult the power utility company before starting work and verify whether the planned work complies with applicable current regulations.

Contact with power cables may result in serious accidents, fatalities or severe injuries. No part of the machine shall be brought close to power lines. Check above the machine to ensure adequate clearance between power lines, the machine and the ground. Cut off the power supply if feasible; if power isolation is not possible, assign a signalman to provide guidance during operation.



If any machine component comes into contact with high-voltage power sources:

- Warn all personnel to stay clear of and refrain from touching the machine.
- If the contact can be broken, cease the operation that caused contact with the high-voltage supply and move the machine out of the hazardous area.
- If the contact cannot be disconnected, remain inside the machine until the power authority isolates the lines and notifies you that power has been cut off.
- In extreme emergencies such as a fire triggered by contact with high-voltage power that forces you to exit the machine, do not step off the machine one foot at a time. Jump clear of the machine with both feet together, keeping hands off the ground. Continue jumping with feet held together until you reach a safe distance away from the machine and power source.

Ensure the towing hitch has sufficient strength during transportation. The trailer shall only be connected to the drawbar and hinge joint. Under no circumstances shall any personnel straddle steel cables or similar fittings between the trailer and the towed machine.

Before towing the machine, confirm no personnel are present between the machine and the trailer. Align and connect the drawbar or towing pin of the towing equipment with the drawbar fitted on the machine.

Machine Parking

Park the machine on level ground free from risks of rockfall or landslide.

If the site is low-lying, ensure it is not susceptible to flooding. If parking on a slope is unavoidable, place chocks under the wheels to prevent unintended machine movement.

Do not park the machine on construction roadways. If parking in such areas is unavoidable, comply with local regulations: display flags during daylight hours, and install signal lights or flashing beacons at night to warn personnel and other vehicles.

After bringing the machine to a complete stop, lower the bucket to the ground.

Return all hydraulic control levers to neutral and shift the transmission control lever to the neutral position.

Engage the parking brake. Let the engine idle continuously for 5 minutes to allow gradual cooling.

Shut down the engine and remove the ignition key.

Turn the battery negative switch to the OFF position to prevent battery discharge caused by short circuits, stray current leakage through components, or circuit damage.

Lock all equipment with the ignition key when leaving the machine. Remove the key and keep it with you at all times.

Lower Working Equipment Before Stopping the Engine

Make sure no personnel are present around the machine before lowering the working equipment.

⚠ CAUTION

For machines fitted with electro-hydraulic control levers, the engine start switch must be set to the ON position to lower the working equipment. After the working equipment has been fully lowered, turn the engine start switch to the OFF position.

Move all control levers to the "LOWER" position to lower the working equipment onto the ground or trailer. The levers will automatically return to the "HOLD" position once released.

Store attachments and tools securely to prevent tipping, which could result in serious injury or fatalities. Keep children and bystanders away from the storage area.

Safe Machine Maintenance

Preparation of Work Area

Select a spacious, well-lit, well-ventilated, clean and flat area for repair work. Clean the work floor and wipe away fuel oil, lubricant and water. Spread sand or other absorbent materials on slippery ground. Keep the work area clean and dry.

Proper Support for Equipment

During operation, attachments or implements shall generally be kept at a low height from the ground.

If work must be performed above or beneath raised equipment or attachments, securely support the machine or attachments beforehand.

Equipment must be supported on sturdy load-bearing supports.

Do not work underneath equipment supported by only a single support point.

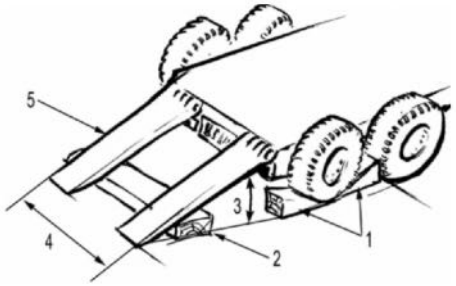
Machine Loading and Unloading

Comply with national and local regulations governing weight, length, width and height limits for cargo during transportation and loading/unloading.

Familiarize yourself with proper loading and unloading procedures.

Perform loading and unloading operations on level ground.

Chock the wheels of the transport vehicle with wheel chocks ① to prevent unintended movement.



1. Wheel Chock
2. Block
3. Angle (maximum angle shall not exceed 15°)
4. Distance Between Ramps
5. Ramp

Use ramps of appropriate size, sufficient strength, low gradient and proper height. Ensure the ramps are slip-resistant and free of mud, snow and ice.

Secure the machine with chains and shim blocks.

Keep bystanders clear of the work area.

Lock all working implements and place them in transport position.

Welding Operations

Only certified personnel are permitted to perform electric welding, and all welding work shall be carried out in areas equipped with appropriate facilities. Operators must comply with the following precautions during welding:

- Before welding on the machine, disconnect the main power switch and all connectors of the instrument system. Failure to do so will burn out components on the instrument panel.
- Remove paint from all welding areas to prevent the generation of toxic fumes.
- Avoid inhaling paint fumes.
- Do not weld near rubber hoses, electrical cables or pressurized pipelines.
- Wear protective goggles and protective clothing while welding.
- Ensure adequate ventilation at the welding workstation.
- Clear all flammable materials from the work area, and a fire extinguisher must be readily available on site.

Regular Machine Cleaning

To prevent potential personal injury or equipment damage, clean the machine regularly to remove accumulated grease, oil and debris. Keep the engine compartment, radiator, battery, hydraulic hoses, fuel tank and operator's cab clean at all times.

Wear non-slip safety shoes during cleaning to avoid slipping on wet surfaces.

When cleaning the machine with high-pressure water, avoid direct high-pressure jetting to prevent bodily injury and splashing dirt or sludge from getting into your eyes.

Do not spray water directly onto sensors, connectors or gauges of the electrical system. Water intrusion into the electrical system may cause dangerous operational malfunctions.

Schedule for Periodic Replacement of Safety-Critical Parts

No.	Periodically Replaceable Key Parts	Quantity	Replacement Interval
1	Hydraulic Tank Filter Element	2	2 Every 1 year or 2,000 hours (whichever comes first)
2	Fuel Hose (Fuel Tank—Diesel Primary Filter)	1	Every 2 years or 4,000 hours (whichever comes first)
3	Fuel Hose (Diesel Primary Filter—Fuel Transfer Pump)	1	
4	Fuel Hose (Fuel Transfer Pump—Diesel Secondary Filter)	1	
5	Fuel Hose (Diesel Secondary Filter—High-Pressure Fuel Pump)	1	
6	Fuel Hose (Fuel Return Hose)	1	
7	Hose Assembly (Pump to Main Control Valve)	2	
8	Hose Assembly (Suction Hose)	1	
9	Working Attachment Hose (Boom Cylinder Inlet & Outlet Hoses)	2	
10	Working Attachment Hose (Bucket Cylinder Inlet & Outlet Hoses)	2	
11	Working Attachment Hose (Arm Cylinder Inlet & Outlet Hoses)	2	
12	Safety Belt	1	3 Every 3 years or 6,000 hours (whichever comes first)

1. To ensure machine safety during operation, the user must periodically replace the parts listed in the table, as these components are critical for safety and fire prevention.
2. Materials of such parts degrade over time and are prone to wear and corrosion. In addition, it is difficult to accurately assess their condition solely through routine maintenance inspections. Therefore, these parts shall be replaced at specified intervals regardless of their apparent operating condition to guarantee reliable performance.
3. If any part malfunctions before its scheduled replacement interval, repair or replace it immediately.
4. If hose clamps used for securing hoses sustain any damage such as deformation or cracks, replace the clamps together with the hoses.
5. When replacing hoses, always replace O-rings, gaskets and similar sealing components at the same time.
6. Contact Digger King for replacement of safety-critical parts.

Application and Key Technical Specifications

Applications

This backhoe loader is a compact construction machine primarily designed for loading and unloading bulk materials. It is suitable for loading, bulldozing and excavation operations in infrastructure construction, road building and other projects, serving as a multi-purpose engineering vehicle.

This loader is general-purpose construction machinery and shall not be operated in environments with flammable and explosive substances, heavy dust or toxic gases.

Operating Environment Requirements

1. Altitude: ⩽ 2000m
2. Ambient Temperature: -25 ℃ ~ 40 ℃
3. Wading depth: ⩽ 300mm

Prohibited Operations

1. Overloading the machine
2. Lifting heavy loads by attaching slings directly to bucket teeth

⚠ CAUTION

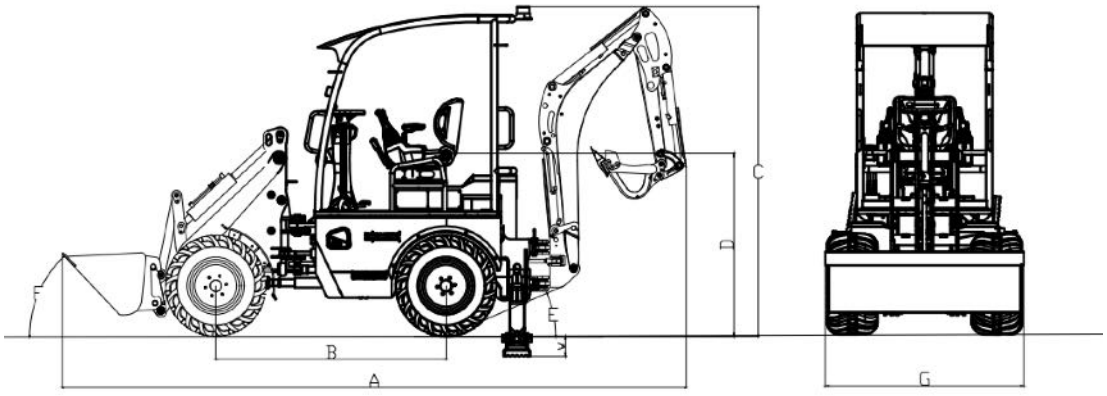
The preventive measures specified in this manual regarding operation, maintenance and safety operating procedures apply solely to the machine when used for its designated intended purposes. If the machine is operated outside the scope of application stipulated in this manual, Digger King shall bear no safety liability whatsoever, and all safety liabilities arising from such operation shall rest solely with the user. Under no circumstances shall any operation prohibited in this manual be performed.

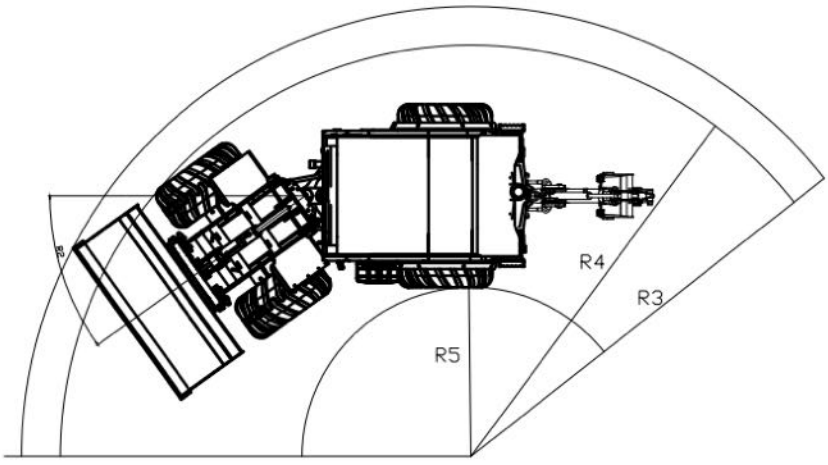
Key Technical Specifications

All rated operating capacities / lifting capacities of the machine are determined based on operation on a firm, level supporting surface. If the machine operates under conditions differing from the above reference conditions (e.g., working on soft, uneven ground or slopes), the operator shall take such conditions into account.

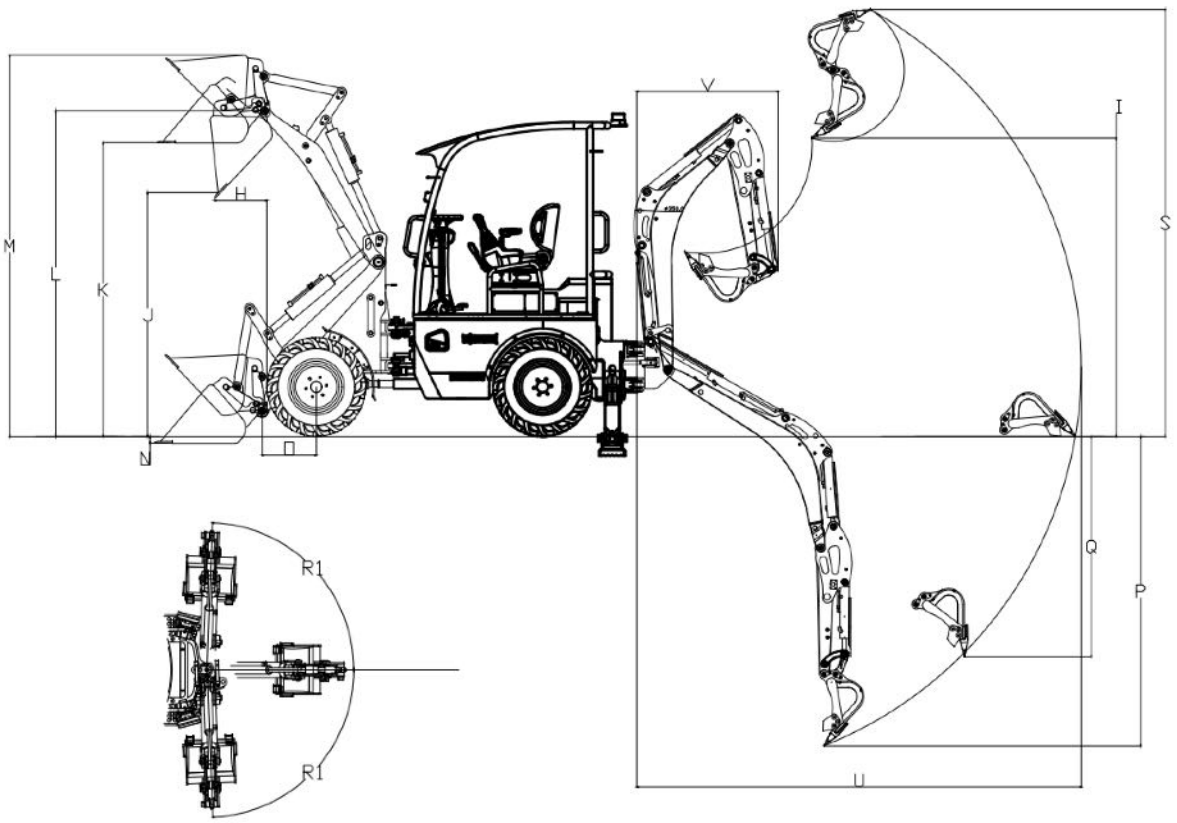
All dimensional data are measured with standard tires installed. For additional specifications of backhoe loaders, please contact Digger King.

Overall Dimensions of Earth Master 490





Overall Dimensions of Earth Master 490



Complete Machine		
	Operating Weight (kg)	2965
	Loader Bucket Capacity (m^3)	0.3
	Backhoe Bucket Capacity (m^3)	0.04
	Maximum Traction Force (kN)	14
	Maximum Breakout Force (kg)	800
	Travel Speed (km/h)	18
Engine		
	Manufacturer Model Number	Kubota
	Model	D1105
	Number of Cylinders	4
	Power (kW /rpm)	14.0/2200
	Torque (N・m /rpm)	70.3/1600
	Cooling System	Water-cooled
	Emission Standard	EPA Tier 4
	Displacement (mL)	1132
	Fuel Type	Diesel
Hydraulic System		
	Type	Piston Pump
	Flow Rate (L/min)	110
	Working Pressure (bar)	210
Braking System		
	Service Brake Type	Hydraulic Caliper Disc
	Parking Brake Type	Electronic Parking Brake
Fluid Capacities		
	Fuel Tank Capacity (L)	35
	Hydraulic Oil Capacity (L)	35
	Engine Oil Capacity (L)	5.1

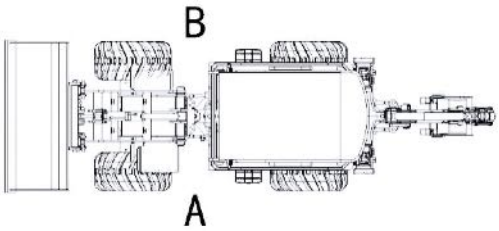
A Machine Overall Length (Standard Bucket)	4890mm
B Wheelbase	1800mm
C Overall Machine Height	2570mm
D Seat Height	1450mm
E Departure Angle	23.3°
F Approach Angle	46.7°
G Overall Machine Width	1550mm
H Working Distance	410mm
I Maximum Dumping Angle	53°
J Dumping Height	1940mm
K Flat Loading Height	2337mm
L Bucket Hinge Height	2590mm
M Total Working Height	3034mm
N Maximum Dozing Depth	50mm
O Center Shaft To Bucket Pin	432mm
P Maximum Digging Depth	2460mm
Q Maximum Vertical Digging Depth	1752mm
S Maximum Digging Height	3380mm
T Maximum Dumping Height	2340mm
U Maximum Digging Radius At Digging End	3350mm
V Minimum Swing Radius At Digging End	1190mm
W Rear Outrigger Depth	160mm
R1 Left/Right Swing Angle At Digging End	85°
R2 Rotation Angle	36°
R3 Horizontal Clearance Radius	3740mm
R4 Turning Radius	3420mm
R5 Inner Turning Radius	1400mm

Operation Manual

Preparation Before Operation

Directions

In this manual, the terms “Left (A)” and “Right (B)” refer to the operator’s left and right sides when properly seated in the operator’s seat. This rule applies whether the operator is facing the loading bucket (front) or the digging bucket (rear).



Accessing and Exiting the Machine

Clean oil stains or mud from handrails or steps before mounting or dismounting the machine. In addition, repair any damaged components and tighten loose bolts.

Mount or dismount the machine only at locations equipped with steps or handrails.

When mounting or dismounting the machine, face the machine, hold the handrails, step firmly on the steps, and maintain three-point contact (two feet and one hand, or two hands and one foot).

Do not jump from the machine.

Do not mount or dismount the machine while it is in operation.

Never use any control lever as a handhold when mounting or dismounting the machine.

Do not climb on or off the machine while carrying tools or other items.

Use ropes to hoist required tools to the operating platform.

Daily Inspection

To extend the service life of the machine, a thorough inspection around the machine shall be performed before mounting and starting the engine.

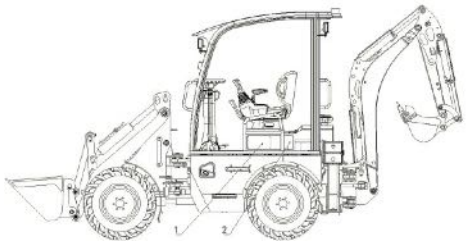
Check the area around and beneath the machine for loose bolts, accumulated debris, leaks of hydraulic oil or coolant, as well as damaged or worn parts.

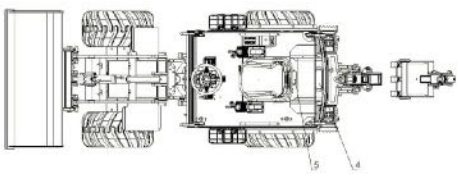
Inspect the condition of the working equipment and hydraulic components. Check all fluid levels.

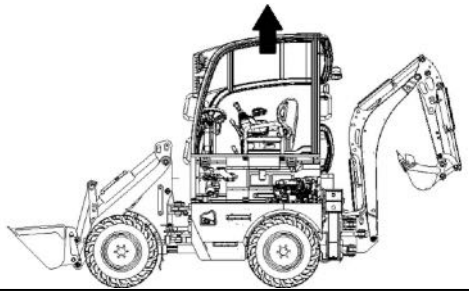
For detailed information on daily inspection, refer to Page 89, "Periodic Maintenance".

Service Doors

To facilitate vehicle inspection and maintenance, the machine is equipped with multiple openable service doors. The operator platform can also be removed by hoisting.







DANGER

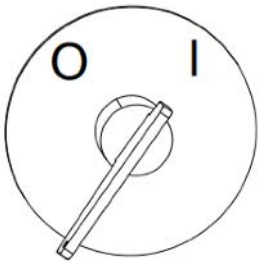
When performing platform tilting operations, strict safety precautions must be observed. Confirm that the roll cage is securely fastened, and the lifting height shall not exceed 60 cm.
Carry out all operations with due care; failure to do so may result in personal injury.

Machine Controls and Instruments

Battery Isolator Switch

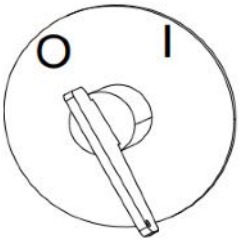
The battery negative isolator switch is located here.

With the machine shut down, turn the handle of the negative isolator switch clockwise to the ON position. When the isolator switch is engaged, its handle aligns with mark "I" on the switch panel, then close the service door.



OFF Position of Negative Isolator Switch

To cut off power to the vehicle's entire electrical system, turn the handle of the main negative isolator switch counterclockwise to the OFF position. When the negative isolator switch is switched off, its handle points to the "O" mark.



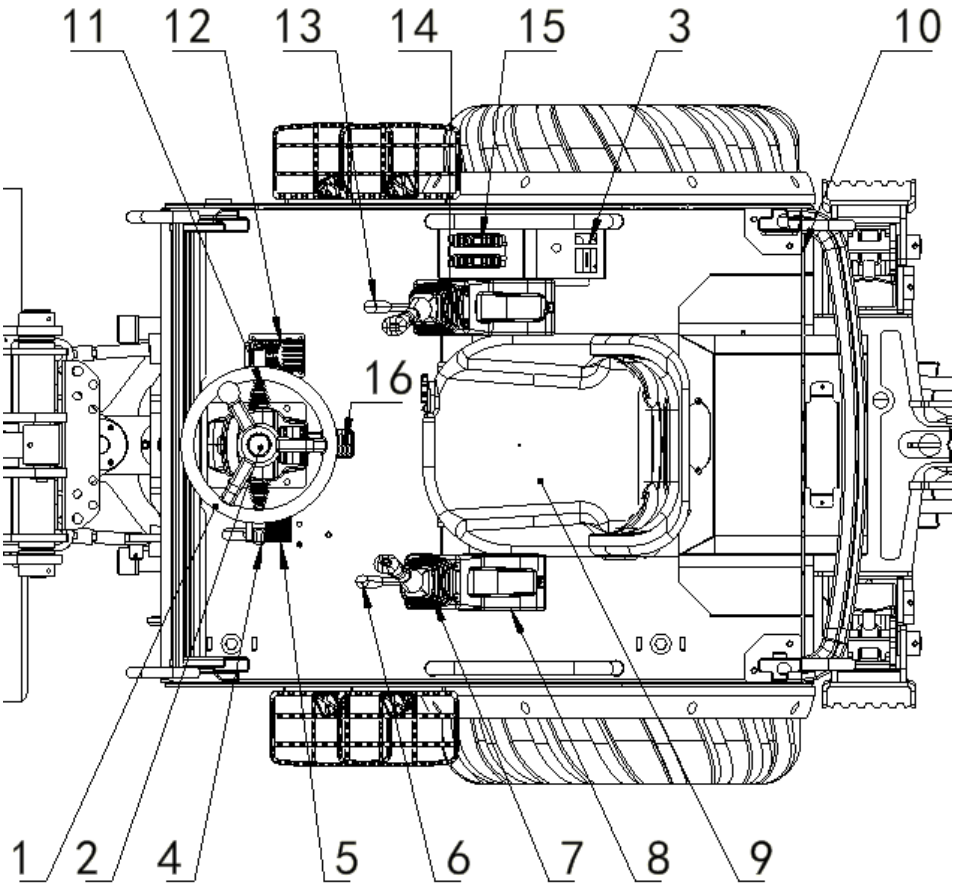
The negative isolator switch differs from the ignition switch. Turning off the negative isolator switch de-energizes the whole vehicle electrical system. By contrast, if only the ignition switch is turned off, the battery remains connected to the vehicle electrical system, and some electrical components will still function.

When carrying out maintenance work or if the machine will not be used for an extended period (one month or longer), turn off the negative isolator switch and remove the ignition key to prevent battery discharge.

WARNING

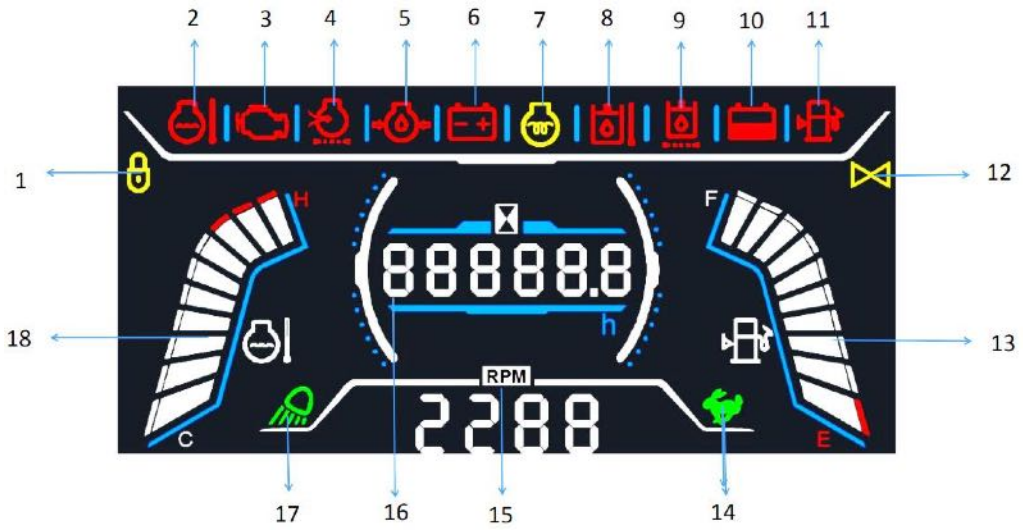
Do not turn off the battery negative isolator switch while the engine is running; otherwise, the complete vehicle electrical system will be damaged!

Machine control devices and instruments



1	Steering control assembly	10	Document storage bin
2	Steering control - horn button	11	Steering control - right lever handle
3	Foot-operated mechanical parking brake	12	Foot-operated travel pedal
4	Steering control - left lever handle	13	Right armrest box handle
5	Service brake pedal	14	Right pilot control handle
6	Left safety control lever	15	Outrigger control handle
7	Right pilot control handle	16	Steering angle control pedal
8	Left armrest box assembly		
9	Seat assembly		

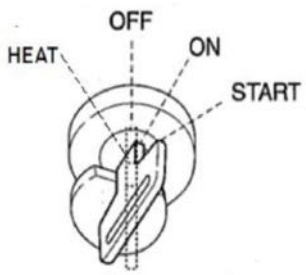
Warning Instrument Panel



No.	Function	Remark	No.	Function	Remark
1	Safety lock	Illuminates when >5V	10	System voltage	Reserved
2	Water temp alarm	Icon flashes when alarming	11	Fuel alarm	Icon flashes when alarming
3	Engine fault	Reserved	12	Plateau valve	Reserved
4	Air filter	Reserved	13	Fuel level gauge	Indicates fuel level
5	Oil pressure	After startup, ground icon flashes	14	High speed	Illuminates when >5V
6	Charging	Illuminates when <5V	15	Tachometer	Indicates RPM
7	Preheating	Illuminates when >5V	16	Hour meter	Displays working hours
8	Oil temp	Icon illuminates when alarming	17	Work light	Reserved
9	Oil filter	Reserved	18	Water temp gauge	Indicates water temperature level
Operating voltage: 8V-18V Instrument functions may vary depending on vehicle model version. The final right of interpretation belongs to Digger King.					

Start Switch

The start switch (also referred to as the ignition lock) is located on the right armrest control panel. It has four positions in a clockwise direction, as shown in the diagram below.



P — This position is currently not used on this machine.

OFF — The key can only be inserted into or removed from the start switch in this position. When in this position, the engine is stopped and the entire machine's power supply is cut off.

ON — This is the first position reached when the key is turned clockwise after insertion. In this position, the machine's electrical system is powered on and operates normally.

START — This is the second position reached when the key is turned clockwise after insertion. In this position, the starter motor receives power to start the engine. Once the engine has started successfully, release the start switch key immediately. This position does not self-hold; when released, the start switch automatically returns to the "ON" position.

HEAT — This is the second position reached when the key is turned counterclockwise after insertion. This position is used for auxiliary heating during cold starts. When the weather is cold, hold the key in this position to preheat the engine intake pipe. Do not hold this position for more than 15 seconds.

⚠ CAUTION

Before starting the engine, ensure that the battery cathode switch is in the ON position and that the left control handle is in the neutral position.

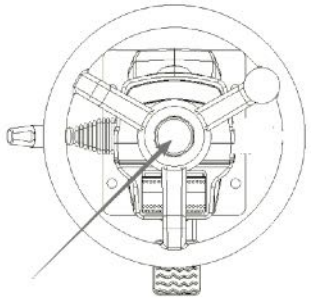
⚠ CAUTION

If the engine fails to start, the start switch must be turned to the "ON" position before attempting to start again. Failure to do so may damage the start switch!

⚠ WARNING

Each starting attempt must not exceed 20 seconds. A minimum interval of 2 minutes is required between start attempts, and no more than 3 consecutive start attempts are allowed. After 3 attempts, wait until the starter motor and the shut-off solenoid have fully cooled before attempting to start again. Failure to do so may reduce the service life of the battery and may also damage the starter motor!

Horn Switch



Front/Rear Working Mode Switch

The front/rear working mode switch is located on the right armrest. To operate, press the safety latch in the center of the rocker switch.

- Push to the right for loading mode.
- Push to the left for digging mode.

⚠ CAUTION

Before operating, ensure that the left control handle is in the neutral position.

Rear Work Light Switch

The rear work light switch is located on the right armrest.

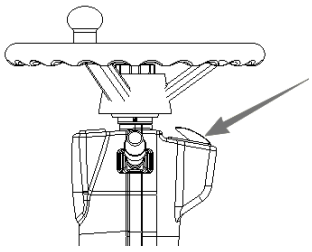
- Push to the right for OFF.
- Push to the left for ON.

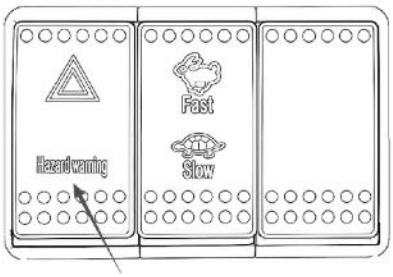
Hand Throttle Lever

The hand throttle lever is located on the right armrest.

Pulling the lever from front to rear gradually increases the throttle.

Hazard Warning Flasher

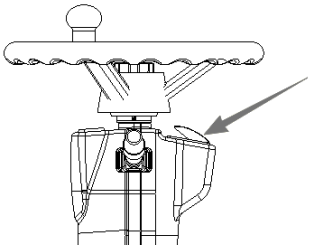


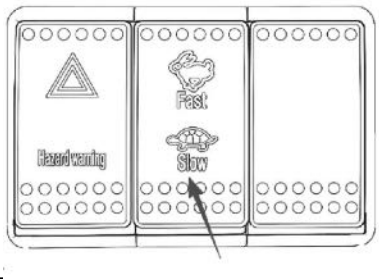


Located on the dashboard near the steering column.

When pressed, the turn signals flash simultaneously.

High/Low Speed Rocker Switch





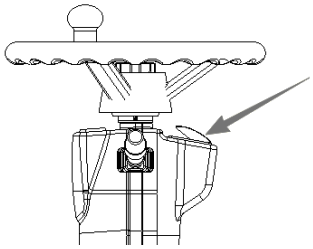
Located on the dashboard near the steering column.

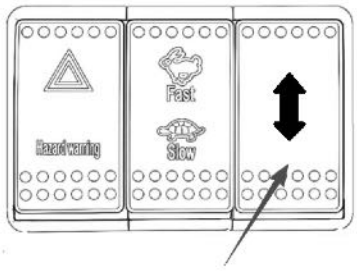
- Press forward to switch to high-speed driving mode.
- Press backward to switch to low-speed driving mode.

WARNING

Do not switch between high and low speed while the vehicle is in motion. Improper operation may result in vehicle damage and personal injury.

Auxiliary Oil Circuit Flow Control Rocker Switch





Located on the dashboard near the steering column.

- Press forward to switch to high flow mode for the auxiliary oil circuit.
- Press backward to return to normal/default mode.

WARNING

Do not switch to high flow mode for the auxiliary oil circuit when starting the vehicle. Improper operation may cause the vehicle to fail to start.

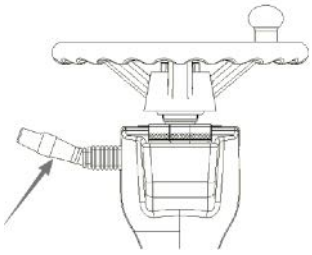
Steering Column Angle Adjustment Pedal

Located at the base of the steering column. Press the pedal while gripping the steering wheel, then push or pull the wheel forward or backward to adjust the tilt angle of the steering column.

⚠ CAUTION

Ensure the vehicle is stopped before making adjustments.

Light Control Lever

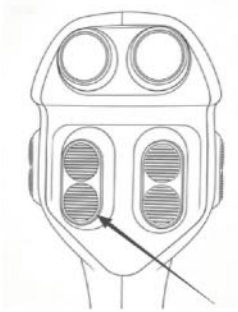


Located on the lower right side of the steering column.

Controls the vehicle lights by rotating and pushing/pulling the lever.

- Rotate – Three positions: O, Ⅰ, Ⅱ. Rotate forward to switch through: Off / Low beam / High beam.
- Push forward – Right turn signal.
- Pull backward – Left turn signal.
- Center position – Neutral (turn signals off).

Forward/Reverse Switch



Located on the right control handle, on the left side of the handle. Has three positions: Forward, Neutral, Reverse.

- Forward – Vehicle moves forward.
- Neutral – Vehicle does not move.
- Reverse – Vehicle moves backward.

⚠ WARNING

Using the forward/reverse switch without warning others may cause injury or death to the operator or nearby personnel. Please follow the specified procedure when using this function.

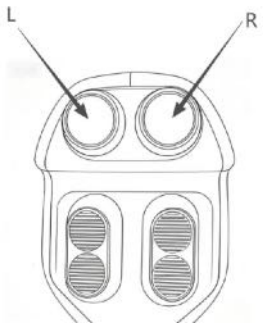
Before moving the vehicle, ensure that the rear outriggers have been fully retracted.

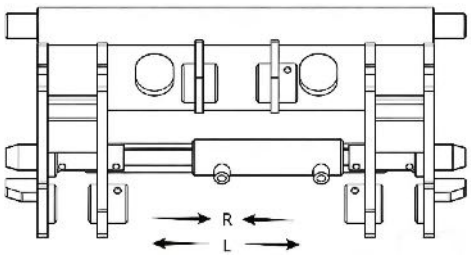
The vehicle must be completely stopped before switching between forward and reverse.

⚠ CAUTION

When operating in digging mode or leaving the machine, this control lever must be in the neutral position.

Quick Coupler Cylinder Extension /Retraction Control Buttons

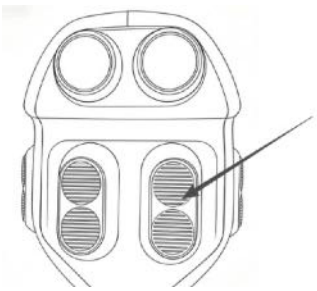




Located on the right control handle. Two buttons: L and R.

- L button – Cylinder extends, locking the attachment.
- R button – Cylinder retracts, unlocking the attachment.

Auxiliary Oil Circuit Button



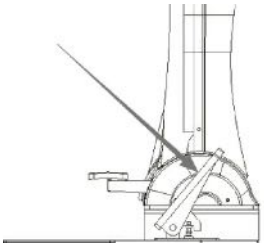
Located on the right control handle, on the right side of the handle. Has three positions: Forward, Neutral, Reverse.

- Forward – Auxiliary oil circuit ON.
- Neutral – No action.
- Reverse – No action.

CAUTION

Ensure the button is in the neutral position before starting the vehicle; otherwise, the vehicle may be difficult to start.

Travel Pedal



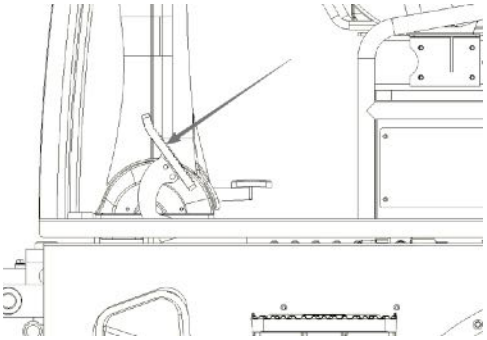
Located on the right side of the steering column, in front of the operator's seat.

Sit in the driver's seat, fasten the seat belt, start the engine, lower the left safety handle, confirm that the rear outriggers are fully retracted, press the forward/reverse switch on the right handle, and depress the travel pedal to move the vehicle forward or backward.

Service Brake Pedal

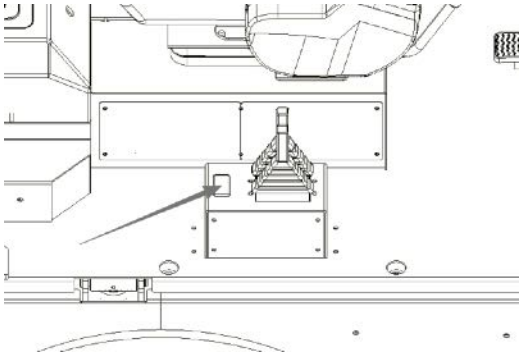
Located on the left side of the steering column, in front of the operator's seat to the left.

Labeled as the service brake pedal.



Electronic Parking Brake Button

Located on the left side of the seat.



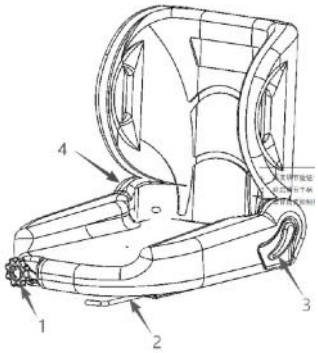
- Inner button – Press and hold for 8–10 seconds to engage the parking brake.
- Outer button – Press and hold for 8–10 seconds to release the parking brake.

Seat

CAUTION

This seat is equipped with a safety switch. After the vehicle is started, other operations can only be performed while seated in the seat.

Do not adjust the seat while the machine is running to avoid accidents.



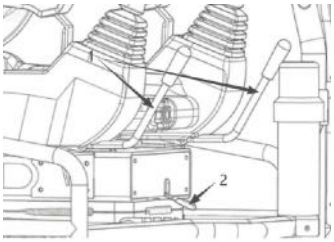
1. Height adjustment knob
2. Fore/aft adjustment handle
3. Backrest angle control lever
4. Seat belt

WARNING

Before starting the vehicle, the seat belt must be securely fastened.

Do not use a seat belt that is damaged or worn out. Do not use a seat belt that has been involved in an accident. Worn or damaged seat belts may break in the event of an accident, which could result in personal injury or death.

Seat Swivel Operation Handle



1. Left and right armrest handles — the left handle also serves as a safety control lever.
2. Seat swivel handle.

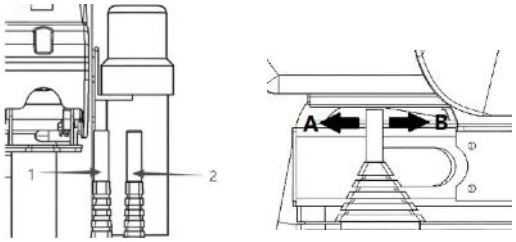
WARNING

To swivel the seat, stand on the left side of the vehicle, on the side where the turning indicator is located.

Before swiveling the seat, ensure the machine is stopped, the steering column is not tilted, and both left and right armrests are raised. Only then can the handle be lifted for operation.

Do not perform improper operations, as this may create safety hazards for nearby personnel and yourself.

Outrigger Control Levers



Located underneath the right armrest, used to operate the rear outriggers.

Handle 1 – Controls the left outrigger.

Handle 2 – Controls the right outrigger.

Direction A – Outrigger extends.

Direction B – Outrigger retracts.

⚠ WARNING

During outrigger deployment, any person or object beneath the outrigger may be crushed or damaged. Therefore, before extending the outriggers, ensure that no persons or obstacles are near the machine.

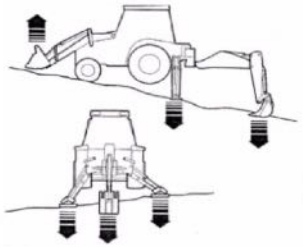
Before operating the outriggers, you must be seated in the operator's seat with the seat belt fastened.

When using the digging function, the outriggers must be deployed first; otherwise, the machine may shake severely. Each outrigger has its own control lever and can be operated independently.

Lower each outrigger so that the machine is level and the rear tires are not bearing weight. At the same time, the loader bucket must also be lowered to the ground to keep the machine level and stable.

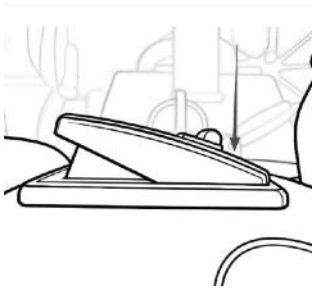
On steep slopes, it may be necessary to fully extend one or both outrigger cylinders to keep the machine level.

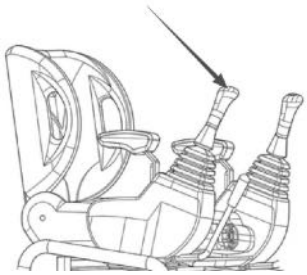
To fully extend one or both outrigger cylinders, position the digging bucket on the ground behind the machine at the center line. Slowly raise the loader bucket until it lifts off the ground. Apply downward pressure with the digging bucket. Lower the outrigger(s) to the desired position, then raise the digging bucket and lower the loader bucket back to the ground to keep the machine level.

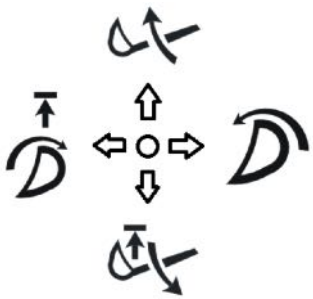


Loader Control Handle

The front/rear operation mode switch must be in the correct position to use the right control handle for loader operations.







	Loader arm raise
	Loader arm lower
	Loader bucket curl (close)
	Loader bucket dump (open)

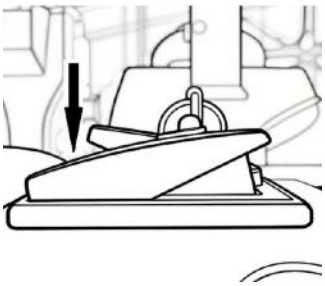
Excavation Control Lever

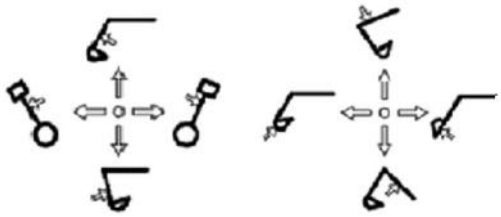
The forward/rearward operation switch must be in this position before the control lever can be used for excavation operations.

WARNING

Do not operate the excavation control lever from outside the cab, or you may be crushed.

Before operating, check that the surrounding area is safe.





	Boom up		Arm extends
	Boom down		Arm retracts
	Swing left		Bucket loads
	Swing right		Bucket dumps

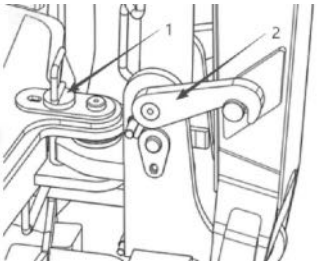
Boom and Swing Lock

During daily inspections, check that the boom lock is secure and reliable. If it does not function properly, a problem may exist (contact Digger King promptly).

⚠ WARNING

Follow the correct procedures exactly; failure to do so may result in serious injury to yourself or others.

Do not attempt to operate with the engine running.



1. Swing Lock Pin
2. Boom Lock Hook

Using the Swing Lock Pin

1. Lower the outriggers and loader bucket to support the machine and keep it level.
2. Rotate the excavating end to the desired position, aligning the hole in the swing support with the hole in the frame. Turn off the engine.
3. Remove the lock pin from its storage location and insert it into the aligned holes.
4. If necessary, return to the cab, start the engine, and re-align the two holes.

Releasing the Swing Lock Pin

1. Lower the outriggers and loader bucket to support the machine and keep it level.
2. Turn off the engine.
3. Remove the lock pin and return it to its storage location.

Using the Boom Lock Hook

1. Lower the outriggers and loader bucket to support the machine and keep it level.
2. Operate the machine so that the boom is positioned vertically to the rear of the machine.
3. Pull the control lever with your left hand to raise the boom to its upper limit.
4. Once the boom is fully raised, lift the safety handle, shut down the machine, and get off. Manually engage the lock hook so that it catches the boom lock pin.

Releasing the Boom Lock Hook

1. Lower the outriggers and loader bucket to support the machine and keep it level.
2. Operate the machine, pulling the control lever with your left hand to raise the boom to its upper limit.
3. Once the boom is fully raised, lift the safety handle, shut down the machine, and get off. Manually disengage the lock hook by flipping it backward to release the lock.

⚠ WARNING

If two people are performing the swing lock operation at the same time, ensure that the person operating the control lever is a qualified operator. Any operational error or abrupt manipulation may result in injury or death to the other person.

Starting the Engine

Pre-Start Inspection

Before starting the engine, walk around the machine and perform a visual inspection as described in the "Before Starting the Engine" section under "Safe Operation of the Machine" in the earlier safety instructions.

Before each engine start, ensure the following:

- No leaks of oil or coolant.
- All structural parts and covers are in place and in good condition.
- No personnel are near the machine.
- All electrical components function properly — all turn signals, brake lights, and work lights are operating normally.
- The operator platform is free of loose objects; if any are present, ensure they are secured.
- Adjust the rearview mirrors.
- Fasten the seat belt and sit correctly in the operator's seat.
- Adjust the seat to ensure comfortable operation of all controls.
- The parking brake is engaged.
- All attachments are in the locked position or resting flat on the ground.
- The forward/reverse control lever is in neutral.
- Ensure the hand throttle lever is at the lowest engine speed position.
- Do not attempt to start the machine if a "Do Not Operate" or similar tag is attached. Find out why the tag was placed and resolve the issue before starting.

Starting the Engine

Make sure you have read and will comply with all items listed under "Pre-Start Inspection" on this page.

Note: If the outside ambient temperature is very low, even below 0°C (32°F), turn the starter switch to the preheat position for 10–15 seconds to warm up the engine.

● Turn the starter switch to the START position and hold it.

Note: If the engine does not start within 20 seconds, release the switch. Wait two minutes (to allow the starter motor to cool) before attempting again.

● Once the engine starts, release the starter switch. The switch will automatically return to the "ON" position.

● Release the accelerator pedal to reduce engine speed.

After Starting the Engine

- Check all gauges and warning lights to ensure they are working normally and readings are within the operating range. If any gauge or warning light indicates an abnormality, stop the engine immediately.
- Slowly move each control to check for unusual noise or abnormal behavior. If anything is found, immediately lower all attachments and shut off the engine. Identify and resolve the problem before continuing operation.

Operating the Machine

Preparation Before Travel

When operating the machine on roads or job sites, always comply with local regulations and safety rules regarding machine travel. Before traveling on public roads or on job sites, make sure you and the machine fully comply with local legal requirements.

⚠ WARNING

Before moving or transporting the machine, always ensure the swing lock is engaged and the boom lock hook is locked. Failure to do so may pose a danger to the operator or to nearby personnel and property.

Machine Travel Operation

Operating Precautions

Before traveling on roads or job sites, secure all excavation attachments in their proper positions. Lower the loading attachment or loaded material to an appropriate height to maintain machine stability and prevent the machine from catching on obstacles.

Select a gear that matches the work requirements. When the machine is carrying a load on soft ground or traveling up/down slopes, choose a lower travel speed to prevent the machine from overheating.。

While the machine is moving, keep it under control at all times. Stay alert for obstacles and potential hazards. Do not overspeed when going downhill; use the brake pedal to prevent overspeed.

Do not use the brake pedal as a footrest. The brake pedal is intended for slowing or stopping the machine — it must not be used as a footrest.

On soft ground or in deep, muddy conditions, travel at a low speed and keep the front wheels straight. Mud may cause the machine to become stuck.

Know the machine's fording depth. Know the depth of the surface you are traveling through. If the water or mud depth exceeds the machine's fording depth, water or mud may enter machine components. Ensure the water or mud depth does not exceed the undercarriage clearance.

Machine Startup

Secure all excavation attachments. Fully raise the outriggers, and raise the loader arm and bucket to approximately 260 mm (10 inches) above the ground.

1. Sit in the operator's seat and select the appropriate throttle setting. Use low range on job sites; high range may be used on flat, firm roads.
2. Lower the safety control lever.
3. Use the forward/reverse switch to select forward or reverse.
4. Release the parking lock and ensure it is fully disengaged.
5. Slowly release the brake pedal and depress the accelerator to gradually increase engine speed.

⚠ WARNING

Do not switch between forward and reverse while the machine is moving. Improper operation may cause damage to the machine.

Before traveling, always ensure the rear outriggers are fully retracted and secured in place.

Parking

Park the machine on dry, level ground where it will not cause any danger or damage. Engage the parking lock mechanism and ensure it is activated. Move the forward/reverse travel switch to neutral. Lower the work equipment to the ground and secure it. Raise the safety control lever and turn off the engine.

Remove the key, turn off the battery isolation switch, and lock the machine.

If the machine cannot be parked on level ground, ensure the parking brake is applied and the forward/reverse travel switch is in neutral. Release the brake pedal and check if the machine moves. If it does, choose another parking location.

If the machine does not move, lower the work equipment and outriggers to the ground. Turn off the engine, remove the key, and chock the wheels on the slope. Turn off the battery isolation switch and lock the machine.

Loading Operation

Loading from a material pile. Level the bucket and lower it to the ground. Drive the machine forward, forcing the bucket fully into the pile until it can no longer advance. Use the crowd and lift functions to increase the bucket's breakout force.

⚠ CAUTION

If the bucket loads a large amount of material in one pass, machine efficiency improves. If the bucket is not fully loaded in one pass, it is more efficient to dump the partial load and start again rather than continuing to try to fill the bucket.

Raise the bucket slightly and select reverse. Release the transmission disconnect switch and back away from the pile. Carry the loaded bucket low during travel to maintain machine stability.

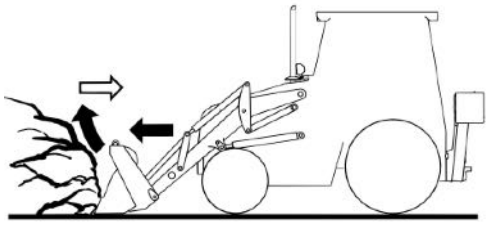
Position the machine near the truck or hopper and raise the loader bucket to a sufficient height. Tilt the bucket forward to dump the material into the truck or hopper. During this operation, the operator should closely monitor bucket movement and avoid contact between the bucket and the truck or hopper edges. After dumping, lower the loader bucket to a level position or to the desired digging position.

When penetrating the material pile, selecting the float position and keeping the bucket level allows the bucket to follow the ground contours as it advances.

⚠ CAUTION

Avoid overhangs. When loading material from a bank, be careful not to undercut it. Start loading from the lowest possible position and watch for sliding material. Do not touch or remove overhanging objects.

Slightly tilt the bucket backward and apply downward pressure. Drag the bucket backward, using the lower rear edge of the bucket to level ruts and holes, maintaining the work site ground.



Ditch Backfilling

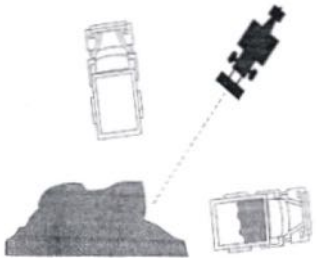
Position the machine at a 90° angle to the ditch. Use a similar motion as when loading from a bank. When the bucket is full, continue driving the machine forward to dump the material into the ditch. Repeat this process until the ditch is filled and mounded. If the front wheels sink into the ditch, lower the loader bucket to lift the front wheels. Once the front wheels are free, slowly tilt the bucket backward to push the machine backward. When the front wheels are on firm ground, select reverse and back away from the sunken area.

Drive one side of the front and rear wheels over the top of the mounded fill to compact the material. If a tire sinks at a point where fill is insufficient, add more material at that point. Use the lower rear cutting edge of the bucket to grade the backfilled ditch.

Site Cleanup

Keep the bucket flat against the ground, close to the surface. Apply slight downward pressure and rotate the bucket until it penetrates the ground to a depth of approximately 50 mm (2 inches). Maintain downward pressure and drive the machine forward. After the front wheels have passed the point of penetration, slightly raise the bucket to maintain a dozing depth of approximately 50 mm (2 inches). Continue the operation until the desired area has been cleaned, then stop.

V-Shaped Loading Method



As shown in the figure above, position the machine facing the material pile with the truck at a 60° angle to the machine's travel direction. Stop the machine at a distance of 12–15 m (40–50 ft) from the pile.

After the bucket is fully loaded, back the machine straight out to a distance of 12–15 m (40–50 ft) from the pile. Then, while turning toward the truck, drive forward and simultaneously raise the bucket. After dumping the material, back the machine to its original position and begin the next loading cycle.

Using the Excavating Attachment

Before using the excavating end, ensure the machine is on level, firm ground. If necessary, place pads under the outriggers to distribute the machine's weight over a larger area.

Drive the machine to the work area. Engage the parking lock and move the forward/reverse lever to neutral. Lower the loader bucket to the ground, keeping it in a level position.

Rotate the operator's seat to face the excavating end. Adjust the seat so that all controls can be operated conveniently and comfortably.

Before lowering the outriggers, ensure there are no obstacles in the way. Lower the outriggers until the machine is lifted off the ground. If the machine is not level, adjust the outriggers. Note that one or both rear wheels may not maintain contact with the ground.

Use the loader bucket to adjust the machine's fore-and-aft position. The bucket can be pressed down and tilted forward/backward to adjust the machine to the desired height.

Under certain working conditions, such as uneven ground, digging upward, or slope operations, it is recommended to place the loader bucket on the ground and apply slight downward pressure. This helps support the machine before lowering the outriggers. This method can also be used to support the machine when the outriggers are raised. Before performing this operation, the loader bucket must be raised or placed in the float position.

When the operator faces the excavating end, the left-hand manual throttle control lever can be used to increase engine speed. It is recommended not to operate the excavating bucket at engine idle speed to prevent stalling.

Set the manual throttle to an appropriate position so that the machine can work safely and efficiently.

Machine Travel Operation

Park the machine on level ground, and adjust the outriggers and loader bucket to level the machine. Lower and extend the excavating boom and arm to the starting digging position, with the bucket teeth at a 90° angle to the ground. If a trench requires a square bottom against a vertical wall, the maximum digging radius cannot be achieved at the start of digging.

Once the bucket teeth enter the ground, pull the bucket control lever to the crowd position, while simultaneously retracting the arm toward the machine. Continue to rotate the bucket until it is level with the ground and below the ground surface.

Use the boom raise control lever to keep the bucket approximately 50 mm (2 inches) below ground level. After the arm has completed its stroke, rotate the bucket to fill it, and raise the bucket.

Using only this digging motion offers three advantages: the load on the machine is reduced, the machine remains stable, and after the trench is dug, previous dig marks can be easily identified — the color of previously excavated ground will differ from normal ground.

Swing the boom, extend the arm, and position the bucket over the dumping point. If dumping into a truck or dumper, coordinate with the other operator and position both machines as close as safely possible. Swing the bucket to one side for dumping. Do not swing the excavating bucket over personnel or other machines.

Machine Movement During Digging

When a larger area needs to be excavated, drive the machine forward or use the hydraulic controls to adjust the position.

Ensure the steering control is set to straight forward travel and there are no obstacles. Slightly raise the loader bucket, and position the excavating bucket directly behind the machine, aligning the bucket pin with the machine centerline.

Slightly press the boom down to lift the rear of the machine off the ground. Use the arm extension function to move the machine forward. Simultaneously using the boom, arm, and bucket functions allows control of the machine's movement. Once in position, raise the excavating bucket off the ground, and adjust the outriggers and loader bucket to level the machine.

Stockpiling Spoil

When digging, ensure the dumping point is located away from the digging point. Considerations include, but are not limited to: the volume of excavated material, ease of backfilling, the reason for excavation, and access to the digging point.

Keep the dumping point away from the excavation to prevent material from rolling back into the trench. Ensure that there is always a level area on both sides of the excavation between the dig point and the dumping point. However, try not to place the dumping point too far from the excavation — maintain a safe distance. Do not pile material too high, to prevent material from rolling down. Sometimes it is necessary to use the back of the excavating bucket to compact the pile.

Replacing the Excavating Bucket

Replacement of buckets and attachments of various sizes is performed by the operator. Follow the instructions below when replacing.

Ensure the outriggers are lowered and supporting the machine's weight. Adjust the outriggers so that the bucket or attachment is level with the surface it is to be placed on.

Place the excavating attachment (bucket or other) flat on the ground. Press the right-hand quick coupler cylinder extend/retract button to retract the connecting pin. If necessary, start the engine and retract the bucket cylinder.

Adjust the machine position to suit the attachment to be installed. Install the attachment by following the reverse of the above procedure.

Before installation, ensure the attachment pins are clean, free of burrs, and undamaged. After installing the pins, install the retaining bolts and lubricate the pins.

Machine Transportation

Loading the Machine

⚠ CAUTION

When loading for transport, comply with national and local regulations regarding limits on material weight, length, width, and height.

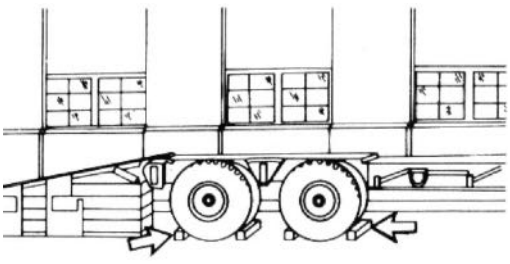
Before transport, survey the transport route for overhead clearance, width limits, and permissible load capacity. The total height, total width, and total weight of the machine once placed on the transport vehicle must not exceed applicable regulations.

Before loading, remove ice, snow, and any other slippery materials from the loading dock and transport vehicle. This will prevent slipping during loading and also prevent the machine from shifting during transport.

⚠ WARNING

Before moving the machine onto the trailer, ensure that the trailer and ramps are free of oil, grease, and ice. Also remove any oil, grease, and ice from the machine's tires to ensure the machine does not get stuck on the ramps. For information on the machine's minimum ground clearance, refer to the "Specifications" section.

Follow the steps below for loading:



1. Before loading, chock the wheels of the trailer or truck.

2. Ensure the ramps are of adequate length, width, and strength.

3. Ensure the ramps are properly positioned and securely fastened.

4. Position the loader bucket and excavating attachment as described in the "Preparation Before Travel" section.

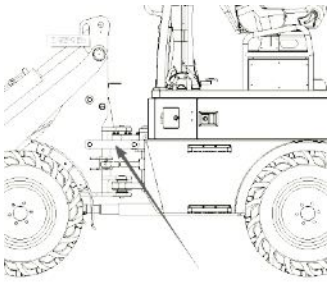
5. Carefully drive the machine onto the trailer.

6. Once the machine is in position and secure, release the boom lock and lower the loader bucket and excavating attachment. On machines with a center-mounted excavating attachment, lowering the outriggers can help prevent movement during transport.

7. Engage the parking brake lever.

8. Move the forward/reverse control switch to neutral.

9. Ensure the center articulation lock is engaged.

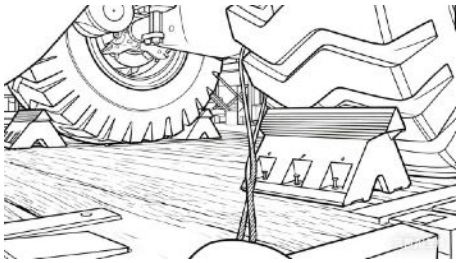


10. Check that the overall height after loading complies with regulations. Adjust if necessary.

11. Turn off the engine and move all switches to neutral or the "OFF" position. Remove the starter switch key.

12. Close and lock all doors, and remove the keys. Turn the battery disconnect switch to the OFF position.

13. Chock the machine's wheels and secure the machine with wire ropes/cables to prevent movement during transport.



Driving the Machine on Roads

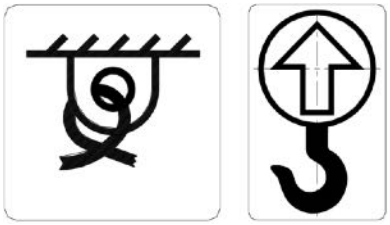
1. Before driving the machine on roads, consult the tire dealer for recommendations regarding tire pressure and speed limits.
2. When traveling long distances, stop for 20 minutes after every 10 km of travel to allow the tires to cool down.
3. Maintain proper tire inflation pressure. Refer to the tire inflation information.
4. Drive at a moderate speed. When driving the machine on roads, observe all speed limit regulations.

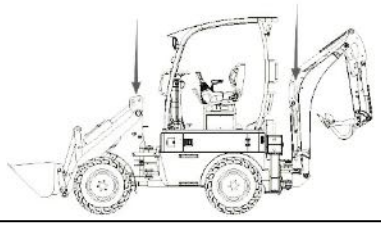
Machine Lifting

WARNING

Improper lifting and securing of the machine may cause load shifting and result in serious injury or death. Before lifting, install the front and rear frame articulation lock and ensure the steering head anti-rotation pin is inserted.

1. The lifting weight of this machine must be calculated against the maximum load capacity of the crane and lifting slings (refer to the total machine weight in the specifications section) to ensure safe lifting.
2. The four lifting slings on the rigging must be of equal length to ensure even load distribution on the four hooks during lifting.
3. Lifting point markings are located on both the front and rear frames of the machine.





4. The rigging must be securely attached to the lifting eyes marked with lifting symbols on the machine.

Machine Storage

Before Storage

1. Clean all parts of the machine, dry them, and store the machine in a dry warehouse. If the machine must be stored outdoors, park it on a concrete surface and cover it with a tarp.
2. Before storage, fill the fuel tank completely, apply grease to all moving pins and drive shafts, and replace the hydraulic oil.
3. Apply a thin coat of grease to exposed portions of hydraulic cylinder piston rods.
4. Turn off the main battery disconnect switch.
5. If temperatures may drop below 0°C (32°F), add antifreeze to the engine coolant, ensuring the antifreeze reaches the engine block and the air conditioning system evaporator. Alternatively, drain all water from the cooling system, including the water in the A/C system evaporator.

During Storage

1. Start the machine once a month and run each system. Apply grease to all moving pins and drive shafts to lubricate moving components. Also recharge the battery.
2. Before starting the machine, wipe off the grease from the hydraulic cylinder piston rods. After operation, reapply a thin coat of grease.
3. Apply rust preventive agent to areas prone to corrosion.

⚠ WARNING

To prevent injury or death, if using rust preventive agents indoors, periodically open doors and windows for ventilation to expel toxic fumes.

Before Recommissioning

1. Replace the lubricating oil in the engine, transmission, and drive axles, as well as the hydraulic oil, brake fluid, and antifreeze.
2. Apply grease to all moving pins and drive shafts.
3. Before starting the machine, wipe off the grease from the hydraulic cylinder piston rods.

⚠ CAUTION

If the loader has not been rust-proofed monthly during storage, consult your dealer.

Maintenance Manual

CAUTION

Please read and understand this manual carefully so that you can properly maintain and service this machine. Proper maintenance is essential for ensuring safety and extending the service life of the machine.

Maintenance Guidelines

Proper Maintenance Methods

Learn how to properly maintain your machine. Follow the correct maintenance and inspection methods described in this manual. If a problem occurs with your machine, repair it before operation or contact your dealer.

Check the Machine Every Day Before Starting

1. Check the instruments and gauges.
2. Check coolant, fuel, and oil levels.
3. Check hoses and tubes for leaks, kinks, wear, and damage.
4. Perform a walk-around inspection for unusual conditions, sounds, heat, etc.
5. Check for loose or missing parts.

Check the Service Hour Meter

The service hour meter determines when your machine requires periodic maintenance. The intervals in the periodic maintenance schedule are based on operation under normal conditions. If you operate the machine under severe conditions, you must perform maintenance at shorter intervals.

Perform Maintenance at Specified Intervals

Perform all recommended maintenance procedures described in the maintenance guidelines.

Maintenance Tips

1. Use recommended fuel and lubricants.
2. Do not adjust the engine control governor or hydraulic system safety valves.
3. Protect electrical components from contact with water and water vapor.
4. Do not disassemble electrical components such as sensors.
5. Use only recommended genuine Digger King parts.

Clean Oil and Lubricants

Use clean oil and lubricants, and keep oil or grease containers clean. Do not allow foreign matter to mix with oil or grease.

Check Drained Oil and Used Filters

After changing oil or replacing filters, inspect the old oil and used filters for metal shavings or impurities. If a large amount of metal shavings or impurities is found, report it to the supervisor and take appropriate action.

Welding Instructions

- Turn off the engine and disconnect the power supply.
- Do not continuously use a voltage greater than 200V.
- Connect the ground cable within 1 meter of the welding area. If the ground cable is placed near instruments, connectors, etc., malfunctions may occur.
- Avoid having seals or bearings between the welding point and the ground point.
- Do not use work equipment pin joints or areas around cylinders as ground points.

Preventing Objects from Falling Inside the Machine

- When opening inspection windows or tank filler ports for inspection, be careful not to drop nuts, bolts, or tools inside the machine. If such items fall into the machine, remove them immediately.
- Do not carry unnecessary items in your pockets — carry only items necessary for inspection.

Dusty Environments

When working in dusty environments, pay attention to the following:

- Check the air cleaner dust indicator to confirm whether it is clogged. Clean the air cleaner at shorter intervals than specified.
- Frequently clean the radiator core to prevent clogging. Frequently clean and replace the fuel filter.
- Clean electrical devices, especially the starter motor and alternator, to prevent dust accumulation.

Avoid Mixing Different Oils

Never mix oils of different brands or grades. If it is necessary to use a different brand or grade of oil, all old oil must be completely drained from the machine.

Hydraulic System – Bleeding

When hydraulic components have been repaired or replaced, or when hydraulic lines have been disconnected and reinstalled, air must be bled from the oil circuit.

Hydraulic Hose Installation

- When disassembling parts sealed with O-rings or gaskets, clean the mounting surfaces and replace the seals with new ones. Be careful not to forget to install O-rings and gaskets.
- When installing hoses, do not twist them or bend them into small-diameter loops. Doing so may damage the hose and significantly shorten its service life.

Select Fuel and Lubricants Suitable for the Ambient Temperature

Always use fuel and lubricants that are suitable for the ambient temperature conditions.

Check Electrical Wiring

⚠ WARNING

If a fuse blows frequently or there are signs of a short circuit in the electrical system, immediately identify the cause and repair it. Contact Digger King.

Keep the top surface of the battery clean.

- Check fuses for damage or incorrect capacity. Check for signs of open circuits or short circuits in the wiring. Also check terminals for looseness and tighten any loose connections.
- Pay special attention to the wiring for the battery, starter motor, and alternator.
- For investigation and correction of the cause, contact Digger King.

Check the Instruments

Check that all instruments are functioning properly. Check that all lighting equipment, indicator lights, horn, and wipers are working correctly. If any abnormality is found, contact Digger King.

⚠ CAUTION

Before starting the engine, ensure that no person other than the operator is on or near the machine. Always keep the machine under the operator's control.

Preparation Before Maintenance

Before performing maintenance, park the machine as described below:

1. Park the machine on level ground.
2. Lower the bucket to the ground.
3. Reduce the engine speed to idle and run for 3 minutes.
4. Raise the safety control lever.
5. Turn the starter switch to OFF and shut down the engine. Remove the key from the switch. (If maintenance must be performed with the engine running, do not leave the machine unattended.)
6. When no work is being performed on the machine, attach a "Do Not Operate" tag to the right control lever.

Break-in Period for New Machines

The break-in period for a new machine plays an important role in extending the service life of the machine, eliminating potential faults, and preventing the occurrence of major failures. After purchasing this machine, the user must operate and maintain the machine in accordance with the break-in provisions in this manual before putting the machine into normal use.

Break-In Requirements

1. The break-in period for a new machine is 100 hours.
2. After each startup, let the engine idle for 5 minutes first. The machine should start at a stable, low speed with low throttle, then gradually increase speed.
3. During the break-in period, both forward and reverse gears should be evenly distributed during operation.
4. Except in emergencies, avoid sudden starts, sudden acceleration, sudden steering, and sudden braking.
5. During the break-in period, it is recommended to load loose materials. Do not operate too aggressively. During the break-in period, the load weight must not exceed 70% of the rated load capacity, and travel speed must not exceed 70% of the rated maximum speed.
6. Pay attention to the lubrication of the machine. Replace or add lubricating oil and grease according to the specified intervals.
7. Frequently check the temperature of the front and rear axles, wheel hubs, parking brake, hydraulic oil, engine coolant, and engine oil. If overheating occurs, identify the cause and resolve it.
8. Check the tightness of bolts and nuts on all components.

Tasks to Be Performed After 8 Hours of Break-In Operation

1. Thoroughly check the tightness of bolts and nuts on all components, especially: diesel engine cylinder head bolts, exhaust pipe bolts, front and rear axle mounting bolts, rim nuts, diesel engine mounting bolts, and front/rear frame articulation joint bolts.
2. Check the tension of the fan belt and alternator belt.
3. Check the diesel engine oil level.
4. Check the hydraulic system and brake system for leaks. Check the connection and fastening of all control rods and throttle linkage rods.
5. Check the temperature and connections of electrical system components, the charging status of the alternator, and the operation of lights and turn signals.
6. Lubricate the work equipment pins every 10 hours (during the first 100 hours of operation).

⚠ CAUTION

When checking various fluid levels, follow the relevant operating procedures.

Tasks to Be Performed After Completing the 100-Hour Break-In Period

1. Loader arm — Lubricate
2. Excavating end — Lubricate
3. Front/rear articulation — Lubricate
4. Outriggers — Lubricate
5. Steering head — Lubricate
6. Engine oil — Replace
7. Engine oil filter — Replace
8. Oil filter element — Replace
9. Engine mounting bolts — Check

Tasks to Be Performed After the Break-In Period Is Completed

1. Thoroughly check the tightness of bolts and nuts on all components, especially: diesel engine cylinder head bolts, exhaust pipe bolts, front and rear axle mounting bolts, rim nuts, diesel engine mounting bolts, and front/rear frame articulation joint bolts.
2. Check the tension of the fan belt and alternator belt.

After the break-in period is completed, inspect, adjust, and lubricate all machine components. Clean the hydraulic oil return filter element and check the cleanliness of the hydraulic oil. Replace the return filter element if necessary.

Periodic Maintenance

CAUTION

Before performing any operation or any maintenance procedure, all safety information, warnings, and instructions must be read and understood.

Digger King requires that maintenance be performed according to whichever interval comes first — the service hour meter reading or the calendar time (daily, weekly, monthly, etc.).

Under extremely severe, dusty, or wet working conditions, more frequent lubrication than specified in the periodic maintenance schedule may be required.

When performing maintenance, the maintenance items listed in the preceding requirements should be repeated. For example, when performing the 500-hour or 3-month maintenance items, also perform the items listed for 250 hours or 1 month, 50 hours or weekly, and 10 hours or daily maintenance.

As Required

Air cleaner filter element — Clean/Replace

Fuel system — Fill

Every 10 Hours or Daily

Bucket teeth or cutting edges — Inspect

Engine oil level — Check

Engine coolant — Check

Air cleaner — Inspect

Brake fluid level — Check

Fuel pre-filter / Water separator — Drain

Hydraulic oil level — Check

Hydraulic oil — Add

Tires — Inspect

Loader arm — Lubricate

Excavating end — Lubricate

Outriggers — Lubricate

Steering head — Lubricate

General — Inspect

Brake pedal operation — Check

Parking brake — Check

Parking brake — Adjust

Seat operation — Check

Rearview mirrors and lights — Check

Boom lock — Check

Electronic control switches — Check

Every 50 Hours or Weekly

First, perform the inspection and maintenance items listed above.

Wire harness — Inspect

Exhaust smoke — Inspect

Hydraulic functions — Inspect

Wheel hub nuts/bolts — Inspect

After Initial 100 Hours (First Time Only), Then Every 6 Months or 500 Hours

First, perform the inspection and maintenance items listed above.

Engine oil — Replace

Engine oil filter — Replace

Battery — Inspect

Instruments and covers — Inspect

Safety decals — Inspect

Hoses — Inspect

Air cleaner — Inspect

Engine mounting bolts — Inspect

Oil filter element — Replace

After Initial 100 Hours (First Time Only), Then Every Year or 1000 Hours

First, perform the inspection and maintenance items listed above.

Hydraulic oil filter — Replace

Every Year or 1000 Hours

First, perform the inspection and maintenance items listed above.

Front axle oil — Replace

Rear axle oil — Replace

Engine valve clearance — Inspect

Every 2 Years or 2000 Hours

First, perform the inspection and maintenance

items listed above.

Hydraulic oil — Replace

Hydraulic system — Fill

Brake fluid — Replace

Coolant — Replace

Engine coolant — Fill

Fuel, Lubricating Oil, and Hydraulic Oil

Select fuel, lubricating oil, and hydraulic oil in accordance with the "Fuel and Lubricant Table."

- Use fuel and lubricating oil that are free of moisture. When changing or adding fuel, lubricating oil, or grease, take care to prevent dust from entering.
- Store fuel, lubricating oil, and grease in designated locations, and ensure that moisture and dust do not enter.

Fueling Precautions

- If the fuel filler port has a strainer, do not remove it when refueling.
- After refueling, always tighten the fuel tank cap securely.
- Do not fill above the specified fuel level.
- Do not use fuel to clean engine components.
- Use a non-flammable cleaning agent instead.

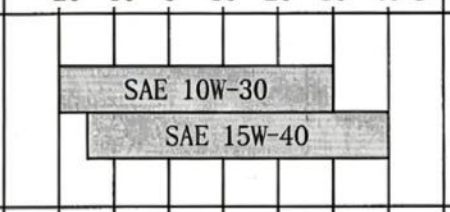
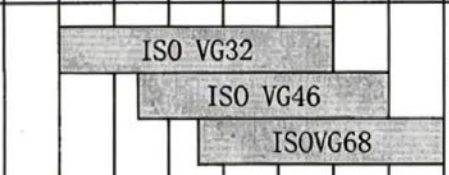
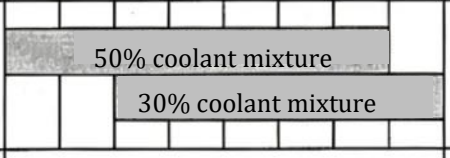
Fuel

Fuel Specifications

Diesel fuel must meet the following specifications. The table below lists several currently accepted diesel fuel specifications worldwide.

<table>
<tr><th>Diesel Fuel Specification</th><th>Region</th><th>Diesel Fuel Specification</th><th>Region</th></tr>
<tr><td>GB252</td><td>China</td><td>JIS K2204 Grade 2</td><td>Japan</td></tr>
<tr><td>ASTM D975
No.: 1-D,S15
No.: 2-D,S15</td><td rowspan="2">USA
Canada</td><td rowspan="2">ISO 8217DMX</td><td rowspan="2">International</td></tr>
<tr><td>Biodiesel
Biodiesel blend B5
ASTM D6751, D7467</td></tr>
<tr><td>EN590:2009</td><td rowspan="2">EU</td><td rowspan="2">BS2869-A1 or A2</td><td rowspan="2">UK</td></tr>
<tr><td>Biodiesel
Biodiesel blend B5
EN14214,EN590</td></tr>
</table>

Lubricating Oil

Part	Type	Selection by temperature	Replacement interval
Oil pan	Diesel engine oil API： CD grade ACEA：E-3、E-4 or E-5		First 50 hours, then every 250 hours
Hydraulic tank	Anti-wear hydraulic oil		Every 2000 hours ****
Cooling system	Cooling water (water + coolant)** SAE：J814C or J1034		Every 1000 hours
Travel reduction gear	Gear oil API：GL-4	SAE 90	First 250 hours*, then every 1000 hours。
Swing motor gear	Lithium grease EP-2 NLGI Grade 2	—	Every 50 hours
Slewing bearing			Every 50 hours。
Work equipment			Daily or every 10 hours。
Rod			As required

*: If travel time accounts for a high proportion of total operating time, replace the gear oil before the specified interval.

**: When water is needed, use tap water (soft water). Do not use well water or river water. When the outdoor temperature drops to 0°C (32°F) or below, add coolant (antifreeze). Determine the mixing ratio according to the coolant manufacturer's instructions.

***: The hydraulic oil replacement interval depends on the type of hydraulic oil being used. New machines are delivered filled with genuine hydraulic oil 46, and the hydraulic oil replacement intervals described in this manual assume the use of genuine hydraulic oil 46. When using ordinary anti-wear hydraulic oil, the hydraulic oil should be replaced every 2000 hours.

API Standard: American Petroleum Institute

ACEA Standard: European Automobile Manufacturers' Association

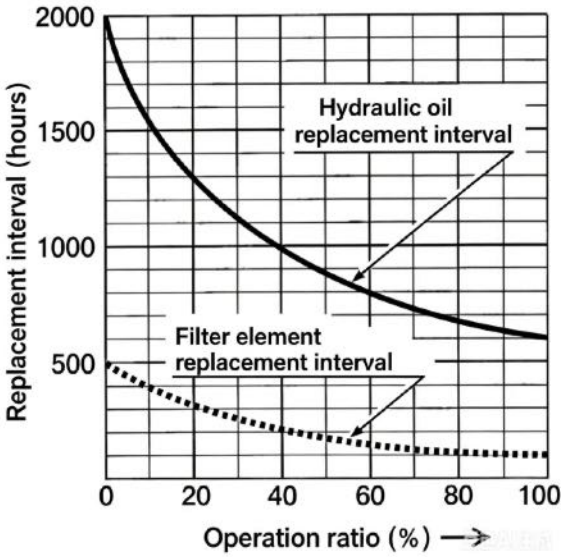
SAE Standard: Society of Automotive Engineers

Regular Hydraulic Oil Replacement

When using a hydraulic breaker, the hydraulic oil deteriorates faster than during normal excavation operations. It is essential to replace the hydraulic oil and the return oil filter element.

Failure to replace them in a timely manner may cause damage to the machine and the breaker's hydraulic system. To extend the service life of the hydraulic system, please replace the hydraulic oil and return oil filter element promptly according to the table below.

When replacing the hydraulic oil, be sure to clean the suction oil strainer.



Replacement Intervals (hours)

Item	Hydraulic oil	Filter element
First	—	25
Second	—	100
Scheduled	1200 (600)	200

Regular replacement of filters and filter elements, etc.

System	Item	Part Name	Replacement Time
Hydraulic System	Hydraulic return oil filter	Filter element	After the first 50 hours, then every 500 hours.
Hydraulic System	Breather		Every 1,000 hours.
Engine Lubrication System	Engine oil filter	Filter cartridge	After the first 50 hours, then every 250 hours.
Fuel System	Water separator filter	Filter element	Every 500 hours.
	Fuel filter	Filter cartridge	Every 250 hours.
Air Filter System	Air filter	Main (outer) element	Every 1,000 hours or after 6 cleanings (whichever comes first).
		Secondary (inner) element	Replace when replacing the main element.

Important Maintenance Procedures

Routine Inspection

CAUTION

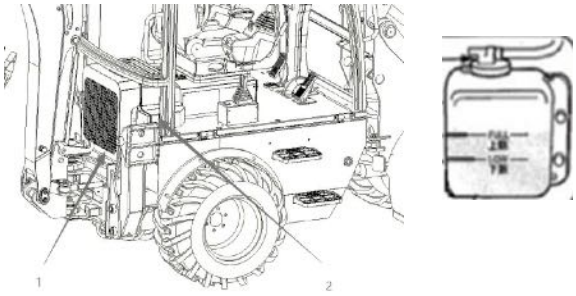
Closely observe the machine for any leaks. If a leak is found, locate the source and repair it. If you suspect or discover a leak, pay attention to frequent checks of fluid level changes.

Before starting the machine each day, inspect the following:

1. Check all hoses in the cooling system and hydraulic system for leaks. Repair any leaks and replace hoses as necessary.
2. Inspect the engine compartment. Remove any accumulated debris from the engine compartment. Clean accumulated debris from the radiator.
3. Check tires for any damage. Check that the vent cap is not missing.
4. Check the hydraulic oil tank, all hoses, and all rigid tubes for leaks. Also check all plugs, all seals, all fittings, and all grease fittings for leaks. Repair any leaks and replace hoses as necessary.
5. Inspect all working equipment, hydraulic cylinders, and linkages for wear and damage.
6. Ensure all doors, all access covers, and all guards are secure. Check access doors, covers, and guards for damage.
7. Inspect the platform and handrails. Remove any debris. Repair any damage or replace damaged parts. Check for loose bolts.
8. Check the air conditioning evaporator's air outlet and inlet—ensure there is no cotton yarn, waste paper, plastic film, or other debris that could easily block the air inlet.
9. Inspect the Rollover Protective Structure (ROPS) for visible damage. If damaged, contact Digger King for repair.
10. Check all lights. Replace broken bulbs and lamp lenses.
11. Check the instruments and indicator lights on the dashboard for damage. Replace any damaged parts.
12. Inspect the seat belt, buckle, and mounting fasteners. Replace any worn or damaged parts.
13. Adjust rearview mirrors and check windows. Ensure the driver's field of view is unobstructed.

Diesel Engine System

Engine Coolant – Check

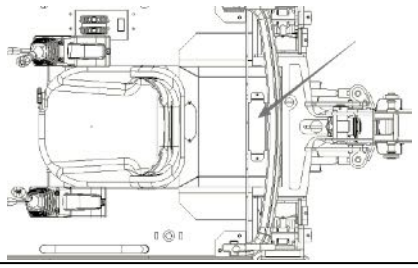


1. Open the rear cover (1).
2. Observe the coolant level in the expansion tank (2). When the engine and coolant have cooled, the level in the bottle should be between the "MIN" and "MAX" marks.

Note: If the coolant bottle is completely empty, open the radiator cap and check the coolant level in the radiator (see the "Radiator Filling" section under "Replacing Coolant" in this manual).

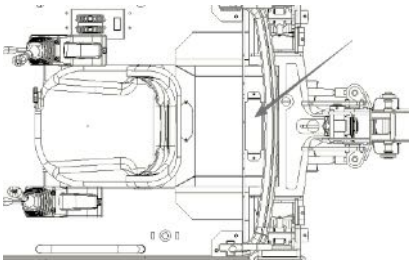
Note: If the coolant level is very low, check the engine cooling system for leaks and repair them. If no leaks are found but frequent refilling of coolant is required, contact your nearest Digger King dealer for assistance.

Engine Coolant – Filling



1. Open the service cover, open the rear cover, and open the radiator cap.
2. Fill with coolant and observe the coolant level in the expansion tank within service cover 2.
3. Start the engine, run it for a while to warm up the radiator, and continue filling coolant until the level in the expansion tank stabilizes.

Engine Coolant - Replacement

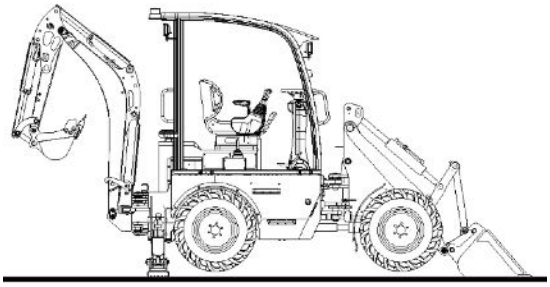


1. Open the service cover, then open the rear cover.
2. Connect a suitable hose to the drain port below the radiator and attach a collection container.
3. Open the radiator cap under the service cover, then open the radiator drain port until all coolant is drained from the radiator.
4. Close the drain port, add new coolant, and monitor the coolant reservoir level.
5. Start the engine and run it for a while to heat the radiator, then add more coolant until the coolant reservoir level stabilizes.
6. Dispose of waste fluid properly.

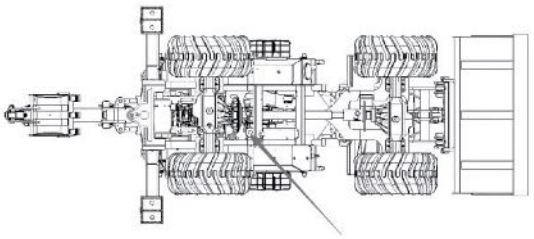
Fuel Filter - Replacement

⚠ CAUTION

Fuel leaking or spilling onto hot surfaces or electrical components may cause a fire. To prevent injury, shut down the engine before replacing the fuel filter or separator element. If any fuel leaks or spills, clean it up immediately.



1. Park the vehicle on a hard, level surface or over a pit, raise the dump bucket, deploy the outriggers, and shut down the engine.



2. Enter the pit, inspect under the vehicle, and locate the filter.
3. Place a suitable container beneath the filter.
4. Unscrew the filter and properly set aside the old filter.
5. Clean the filter base.
6. Install a new O-ring and then install the new filter.
7. Remove the container containing waste fluid and dispose of the fluid properly.
8. Install the service cover.

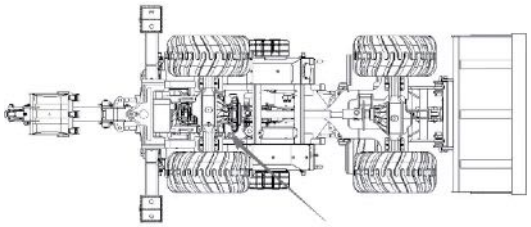
Note: When replacing the filter, prevent dust from entering the fuel system. Clean the area around the components to be removed.

Oil-Water Separator - Draining

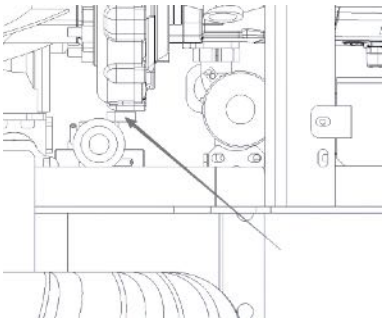
⚠ CAUTION

The oil-water separator is not a filter. It is used to separate water from fuel. If the liquid in the oil-water separator exceeds half its capacity, do not start the engine; otherwise, engine damage may occur.

Note: The oil-water separator is in a fuel-suction state when the engine is running normally. Ensure the drain valve is securely closed to prevent air from entering the fuel system.



Park the vehicle on a hard, level surface or over a pit, raise the dump bucket, deploy the outriggers, and shut down the engine. Enter the pit, inspect under the vehicle, and locate the oil-water separator.



1. Place a suitable container beneath the oil-water separator.
2. Open the drain port and allow the liquid to flow into the container.
3. When the liquid flowing from the drain port becomes clean fuel, close the drain port. Tighten the drain port by hand only.
4. Dispose of waste fluid properly.

Engine Oil - Checking / Replacement

WARNING

After removing the drain bolt, oil may spray out. Hot oil and engine components can cause burns. Therefore, stand to the side when removing the drain bolt.

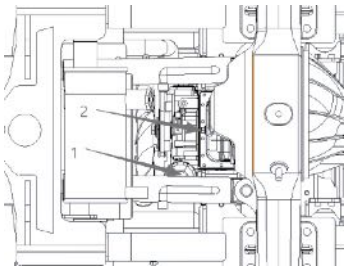
Before checking the engine oil level, shut down the engine.

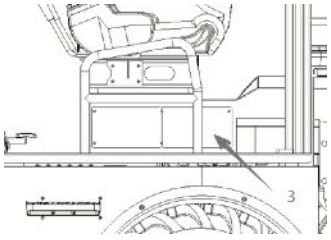
Ensure the engine is level or in its normal operating position to obtain an accurate oil level reading.

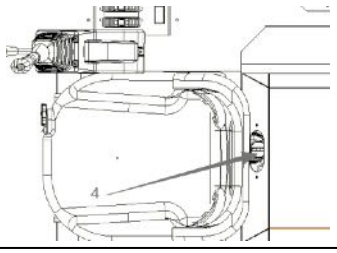
Note: After shutting down the engine, wait until the engine oil in the crankcase has fully drained back into the oil pan before starting the inspection.

WARNING

Operating the engine with the oil level above "MAX" may affect engine performance and reduce engine life.







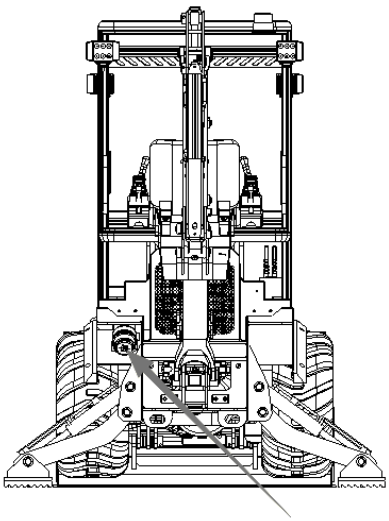
Engine Oil - Checking

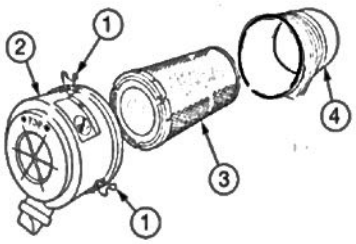
1. Shut down the engine properly.
2. Open the service door (3) and check the dipstick.
3. The oil level should be maintained between the "MIN" and "MAX" marks on the dipstick. Do not allow the oil level to exceed the maximum mark.

Engine Oil - Replacement

1. Perform this operation while the oil is warm.
2. Park the vehicle on a hard, level surface or over a pit, raise the dump body, deploy the outriggers, and shut down the engine. Enter the pit, inspect under the vehicle, and locate the drain plug (2) and the filter (1).
3. Open the service door (3) and place a suitable container beneath the drain plug (2).
4. Open the oil filler cap (4), then open the drain plug (2).
5. After the oil has finished draining, tighten the drain plug (2).
6. Add oil of the required grade. Add oil according to the method shown in the manual.
7. Remove the filter using a suitable tool.
8. Clean the sealing gasket contact surface on the mounting base. Ensure the threaded fitting on the mounting base is secure. Apply a coat of clean oil to the gasket surface. Note: Do not add oil into the filter before installation.
9. Install the oil filter, ensuring no contaminants enter the filter. Hand-tighten the filter to the mounting base according to the instructions on the filter. Do not overtighten.
10. Dispose of waste oil properly.

Air Filter - Replacement





WARNING

Stop the engine and wait for the machine to cool down before performing maintenance.

The engine, exhaust pipe, radiator, and many other parts of the machine are very hot immediately after the engine is stopped. Touching these parts may cause burns.

Important: Always install the filter element and dust cover securely. Otherwise, dust may enter the cylinders, leading to engine damage.

Important: Do not use a filter element with damaged pleats, gaskets, or seal rings.

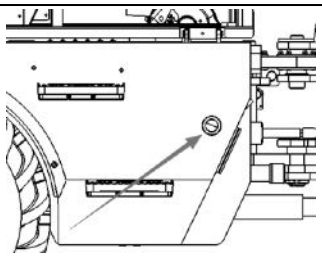
1. Stop the engine and open the service cover.
2. Locate the air cleaner and loosen latch (1).
3. Clean the inside of dust cup (2).
4. Remove filter element (3).
5. Cover the air inlet on the back of housing (4) with a cloth or tape to prevent dust from entering.
6. Clean the inside of housing (4).
7. Remove the cloth or tape used in step (5).
8. Install a new filter element.
9. Install dust cup (2) with the " ↑ TOP ↑ " mark facing upward, then fasten it with latch (2).
10. Close the service cover.

Hydraulic System

Hydraulic Oil Level - Checking

Park the machine on level ground as shown in the illustration below.

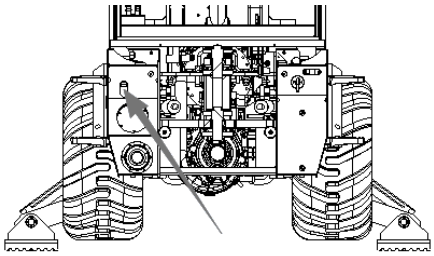
At this point, the hydraulic oil level should be visible through the sight glass on the side of the hydraulic tank.



Hydraulic Oil - Adding

With the engine off, clean the dust from around the hydraulic oil filler port, then open the hydraulic oil filler port. Add the specified hydraulic oil until the oil level appears in the sight glass. Reinstall the hydraulic oil filler cap securely.

Note: If hydraulic oil needs to be frequently added, check the hydraulic system for leaks. When the temperature changes or the machine is equipped with various hydraulic attachments such as breaker hammers and hydraulic shears, the hydraulic oil level may vary significantly.



Open the outer cover and locate the filler port.

Hydraulic Oil - Replacement

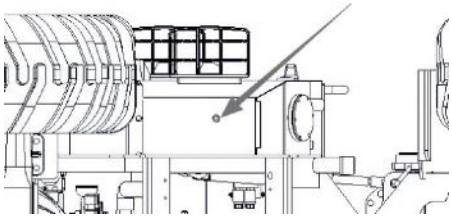
Perform this operation while the hydraulic oil is warm.

Retract the cylinder piston rods on the machine as far as possible. Position the excavator bucket to the dump position, extend the arm, and lower the boom.

Open the four-in-one bucket (if equipped) and position the loader bucket to the dump position. Lower the loader boom to the ground.

Turn off the engine, apply the parking brake, and remove the key.

Drain Plug



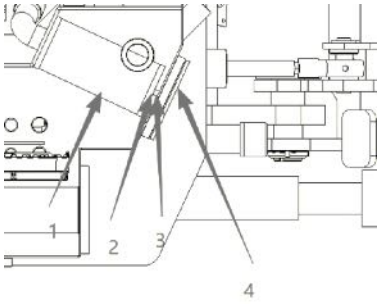
Prepare a suitable container to collect the waste oil. Clean the dust off the hydraulic tank. Open the drain plug at the bottom of the hydraulic tank.

Note: Do not open the hydraulic tank cap while oil is draining from the tank. The hydraulic tank cap contains a filter that filters the air entering the tank. If the cap is opened, dust from the air may enter the tank.

After the hydraulic oil has completely drained, tighten the drain plug. Dispose of waste oil properly.

Hydraulic Oil Return Filter Element - Replacement

With the engine turned off, clean the dust from the top of the hydraulic tank.Slowly remove the hydraulic tank cap to release any excess pressure inside the tank.



1. Return Filter Element
2. Spring
3. Nut
4. Cover Plate

Remove the cover plate, nut, spring, and washer from the side of the hydraulic tank.

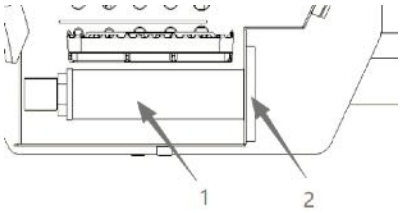
Use a wrench to remove the filter, and properly discard the old filter element.

Install a new filter element in the housing. The new filter element must be installed on a thin tube at the bottom of the housing; significant force may be required to install the filter element correctly.

Once the filter element is installed, reinstall the spring, washer, and cover plate. Tighten the retaining screws.

Check the oil level, and add hydraulic oil if necessary.

Hydraulic Oil Suction Filter Element - Replacement



After the hydraulic oil has been drained, remove the low-pressure oil hose (1), and remove the bolts securing the suction filter screen cover (2) at the bottom of the hydraulic tank.

Remove and discard the old suction filter screen, and replace it with a new one.

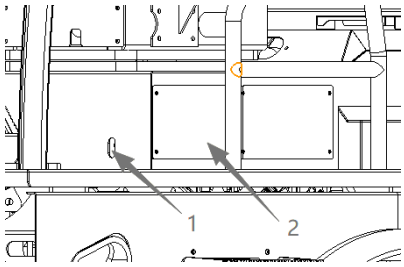
Install the filter screen cover, ensuring the seal ring/gasket is intact. Tighten the retaining bolts and connect the low-pressure oil hose.

Brake System

Brake Fluid Level - Checking

If necessary, clean around the filler cap to prevent dust from falling in when removing it.

Park the machine on level ground, and check the brake fluid level through the sight glass (1).



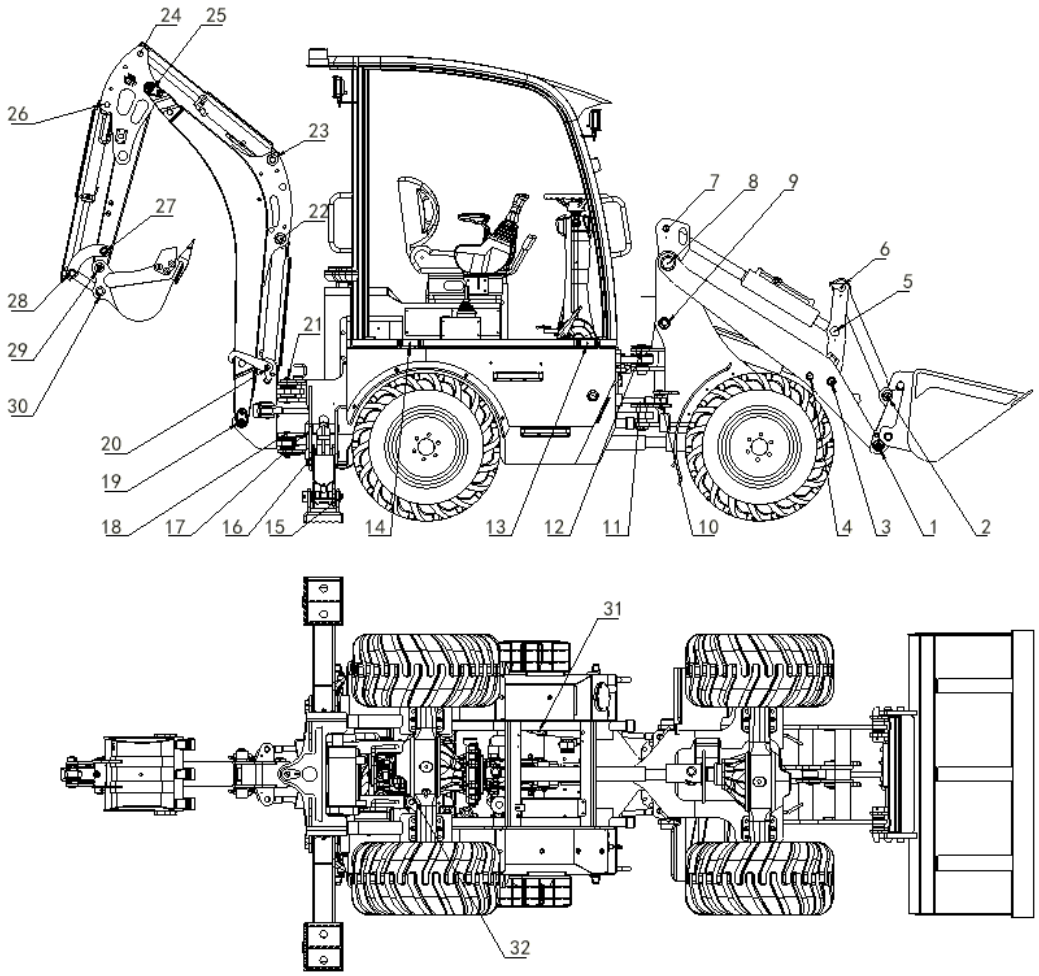
Brake Fluid Level - Adding

Park the machine on level ground, and check the brake fluid level through the sight glass (1).

Open the service opening (2) and add brake fluid to the brake fluid reservoir.

Note: The brake fluid should be international standard 10W-30 specification brake fluid.
If brake fluid needs to be added frequently, there may be a problem with the brake system. Contact Digger King for assistance.

Lubrication System



In the diagram above, all lubrication points are marked. Carefully check each lubrication point. After lubrication, please cover the protective caps. The machine must be lubricated regularly to ensure efficient operation and to extend the service life of the machine.

Be sure to lubricate the machine after washing it.

Before working under the machine, block all wheels with chocks.

Use a grease gun for lubrication. Generally, two pumps of the grease gun are sufficient. Note: Stop adding grease when grease overflows.

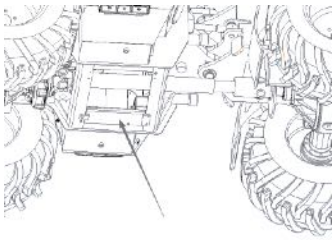
⚠ WARNING

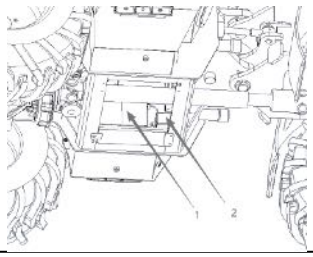
Before performing lubrication work near the machine, you must complete the following: if possible, lower the attachment to the lowest position, remove the starter key, and turn off the ignition lock. This prevents accidental engine starting, and ensure that the parking brake is engaged.

Electrical System

Battery - Inspection

Park the machine on level ground. Open the machine service cover to access the battery.





1、Battery

2、Fuse box

WARNING

The battery emits flammable gas, which may cause an explosion.

The battery and terminals may contain lead. Do not touch them with bare hands. Wash hands immediately after battery maintenance.

Do not smoke while checking the electrolyte level.

Electrolyte is acidic. If it comes into contact with your skin or eyes, you may be burned. If electrolyte contacts skin or eyes, flush immediately with clean water and seek medical attention.

Raise the boom and install the boom safety bar, or lower the boom to the ground. Then, engage the parking brake lever and stop the engine.

Check the condition of the battery terminals. If necessary, clean corrosion from the terminals with hot water.

Check the tightness of the terminals. Be careful not to cause a short circuit between the two terminals or between a terminal and the body.

Apply petroleum jelly or a special terminal anti-corrosion agent to the terminals to protect them.

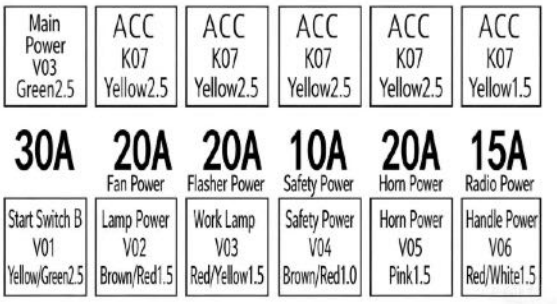
Wiring Harness - Inspection

Check the condition of all connectors and cables. Ensure the wiring harness is not pinched, caught, worn, or loose from its mounting. If damaged, repair promptly.

Electrical Switch - Inspection

Check all switches, lights, horns, alarms, etc. Repair any damaged components.

Fuse Box Details



Other Maintenance

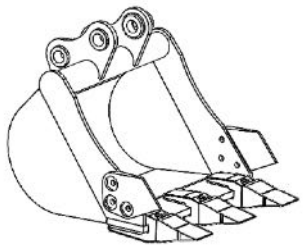
General - Inspection

Walk around the machine and check for leaks, hose damage, guard damage, and damage to lights or other safety components. Check for any other issues that may prevent normal machine operation.

Bucket Teeth or Edge Teeth - Inspection

Inspect the bucket teeth and cutting edges of the loader bucket and excavator bucket. Pay attention to the condition and wear level of the teeth and edges. Replace severely worn teeth and edges. Do not use a bucket with missing or loose teeth.

Tighten or replace loose teeth, and install missing teeth. Using a bucket with missing or loose teeth or edges will cause premature bucket wear.



Tires - Inspection

Check tires for visible damage or cracks. Watch for bulging or deformation. Ensure all tires are inflated and inspect the tire area to confirm uniform inflation pressure. If in doubt, use a gauge to check tire pressure. Do not operate the machine with cracked or damaged tires. Replace damaged tires.

Note: Be careful of tires and the compressed air inside them.

Seat - Inspection

Check the operation of the operator seat. Ensure the seat belt, suspension system, and all adjustment devices function properly. Do not operate the machine if the seat operation is faulty. (Refer to the Seat section in Machine Operation.)

Rearview Mirrors and Lights - Inspection

Check the condition and operation of rearview mirrors (if equipped) and lights. All damaged mirrors and lights must be replaced before traveling on roads.

Hydraulic Functions - Inspection

Start the machine, run it at low idle, and operate each hydraulic function individually. Note the following abnormalities:

- Cylinder drift (hydraulic cylinder moves when the control lever is in neutral)
- Cracks or leaks at seals
- Control lever is too tight
- Control lever does not return to neutral when released.
- Engine overloads when operating a specific function.

Any of the above conditions may be a sign of a problem. Contact Digger King for assistance.

Wheel Hub Nuts/Bolts - Inspection

For a new machine, check the torque of all wheel hub nuts every 2 hours until the torque remains stable.

For newly replaced tires, recheck and repeat the above steps until the torque remains stable.

Check daily for signs of loose nuts.

Note: Regardless of the cause, if one bolt is damaged, all other bolts must be replaced, as they may also be damaged.

Gauges and Covers - Inspection

Check the integrity of gauges, covers, and guards. Replace missing or damaged gauges, covers, and guards. Do not operate the machine if any gauges, covers, guards, or oil caps are missing or damaged.

Safety Decals - Inspection

Refer to the safety decal location diagram in this manual. Check for missing or illegible decals. Replace missing or illegible decals.

Hoses - Inspection

With the engine off and all work equipment lowered to the ground, inspect the hydraulic hoses for the following conditions:

Fitting damage or leakage.

Hose cover worn, aged, cut, or reinforcing wire exposed.

Localized bulging on the hose.

Obvious twisting or crushing of the hose.

Reinforcing layer wire embedded in the outer cover.

Replace the hose if any of the above conditions are present, or if the quality or service life of the hose is in doubt.

Note: Only use Digger King replacement hoses or hoses of equivalent quality standards.

Earth Master 490 Compact Loader Excavator

The information in this manual is subject to change without prior notice.

Digger King
103-109 Quarry Road, South Murwillumbah NSW 2484
1300 676 996