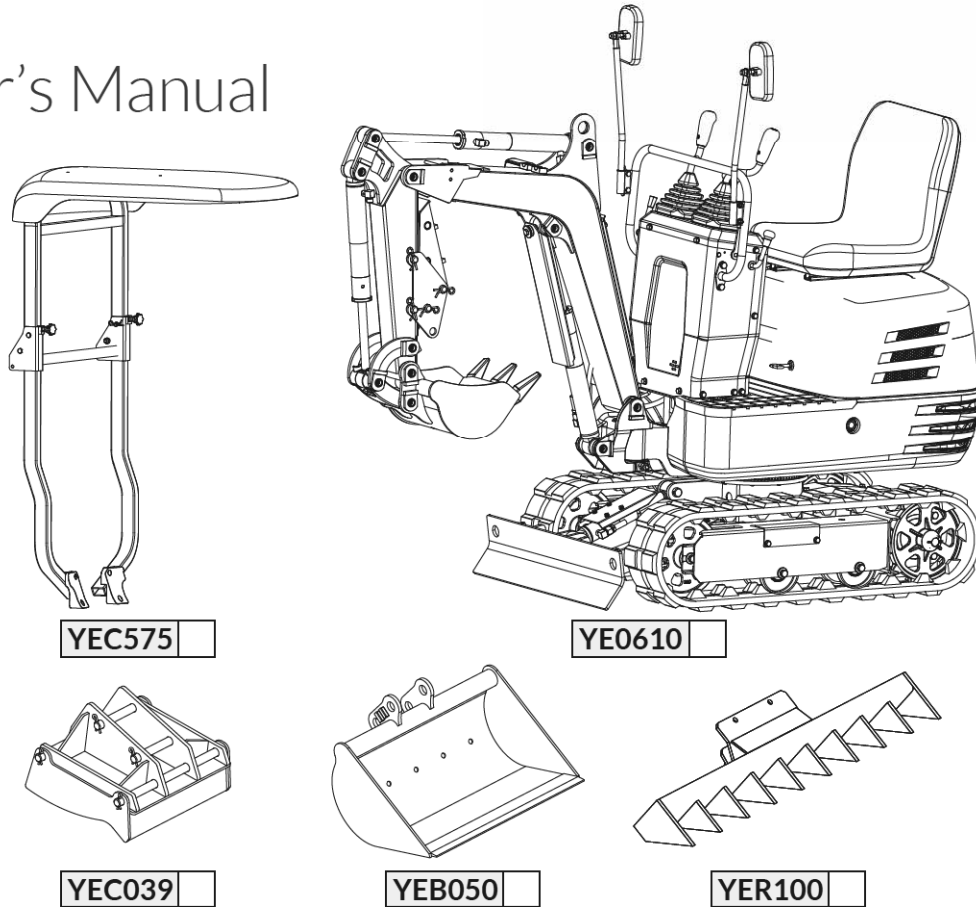




Mini Excavator

Operator's Manual



MODEL NUMBER

YE0610

Machine only

YE0610-575

With Attachment YEC575 Canopy

YE0610-003

With Attachment Combo YEP003 including YEC039, YEB050 and YER100

YE0610-575003

With YEC575 Canopy and Attachment Combo YEP003 including YEC039, YEB050 and YER100

SERIAL NUMBER

PURCHASE DATE

Both model number and serial number may be found on the main label. You should record both of them in a safe place for future use.

FOR YOUR SAFETY

READ AND UNDERSTAND THE ENTIRE MANUAL BEFORE OPERATING MACHINE

Your new YARDMAX® mini excavator offers professional quality construction, and is easy and safe to operate. With proper use and care, it is designed to give you many years of dependable service.

The new powerful and versatile YE0610 Mini Excavator with its optional attachments is what you need. The compact design offers incredible power for a variety of jobs. Whether digging in tight spaces, excavating foundations, or working on landscape projects – you can count on this micro excavator. It is gentle on landscaping while still being powerful enough to get the job done!

Discover the YARDMAX Advantage

At YARDMAX, we understand that land ownership definitely has its privileges, but it also comes with a great deal of responsibility. When duty calls and you need to respond, will you have what it takes to tame the great outdoors?

When looking for outdoor power equipment (OPE) to get the job done right, at the right price, YARDMAX delivers the perfect combination of performance and practicality. YARDMAX has a solution that's right for you.

MAX Performance, MAX Value, MAX Support

- ✓ Backed by decades of proven manufacturing expertise
- ✓ Enhanced design features come standard
- ✓ Engineered for the best user experience
- ✓ Quality metal parts are used instead of plastic
- ✓ A robust warranty supports all products
- ✓ Budget-friendly prices make it practical



Up for the job? YARDMAX is.

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**WARNING**

Carefully read through this entire operator's manual before using your new unit. Pay attention to all cautions and warnings.

This mini excavator is intended to be used by residential homeowners. Easy to start, easy to handle, making yard maintenance more convenient.

**WARNING****CALIFORNIA PROPOSITION 65 WARNING**

Cancer and Reproductive Harm. www.P65Warnings.ca.gov.

RECYCLING AND DISPOSAL

This marking indicates that this product should not be disposed with other household wastes. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or check with your local authority or local stores for advice of environmental safe recycling.

MODEL NUMBERS

Record the model and serial number as well as date and place of purchase for future reference. Have this information available when ordering parts or optional accessories and when making technical or warranty inquiries.

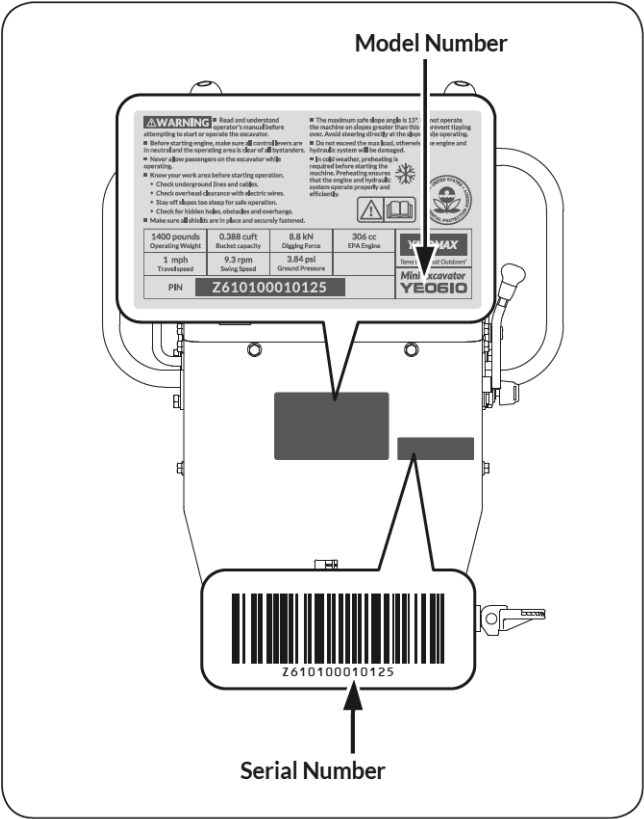


Figure 1

DISCLAIMER

Manufacturer reserves the right to discontinue, change, and improve its products at any time without notice or obligation to the purchaser. The descriptions and specifications contained in this manual were in effect at printing. Equipment described within this manual may be optional. Some illustrations may not be applicable to your unit.

SUPPORT

Have questions about your YARDMAX equipment? Call us at 844-927-3629 or 844-YARDMAX, email us at support@yardmax.com, or contact us via your favorite social media site.

SPECIFICATIONS

Model #		YE0610	YE0610-575	YE0610-003	YE0610-575003
Operating Weight		1432 pounds	1573 pounds	1544 pounds	1674 pounds
Standard Bucket	Volume	0.388 cuft			
	Width	11.42 inch			
Digging Force (Bucket)		1.98 kip			
Engine		306 cc, Gas			
Starting		Key-type Starter Switch and Shutdown			
Swing speed		9.3 rpm			
Travel speed		1 mph			
Gradeability		15°			
Ground Contact Pressure		26.5 kPa			
Boom Swing	Left	70° (L)			
	Right	70° (R)			
Track Shoe type		Rubber Crawler			
Pump Capacity		2.19x2 gal/min			
Hydraulic reservoir		3.17 gal			
Hydraulic Pressure		17.5 Mpa			
Parking Brake		Hydraulic Lock Type			
Sound pressure level at the operator's station (LpA)		82.5dB, K=4dB			
Vibration value	Arm	7.12 ft/s ² , K=0.5			
	Whole body	25.1 ft/s ² , K=0.5			
Attachment YEC575		No	Yes	No	Yes
Attachment Combo YEP003	YEC039 Claw	No	No	Yes	Yes
	YEB050 Grading Bucket	No	No	Yes	Yes
	YER100 Rake	No	No	Yes	Yes



NOTE

The machine specification varies with different models. Some illustration may not be applicable to your unit. Everything is subject to the actual item.

SYMBOLS

The instruments and operation elements have been marked with a series of symbols in order to simplify the operation of your excavator. These symbols represent important information about the production or instructions on its use.



DANGER
WARNING
CAUTION



Read these instructions carefully.



Wear eye protection.



Wear hearing protection.
Wear hearing protection.



Wear safety helmet.



Wear protective gloves.



Wear safety footwear.



Use barriers or signal persons to ensure vehicles and pedestrians stay clear. Use a signal person in crowded areas or when visibility is poor, ensuring constant communication with clear hand signals.



Operate controls only from the operator's seat.
Failure to follow this warning can result in serious injury.



Do not place your hands between the console and the boom. Avoid from the connections between fixed and movable parts as there is a risk of entrapment.



Keeping bystanders clear of moving parts. Such as the moving arm and bucket can caused hurts in the working radius. Do not stand near them.



Oil temperature rises during operation.
Stay away from the tank surface as boiling oil may splash and cause burns.



Be aware of hydraulic oil leaks.
A broken or leaking hydraulic oil pipe can cause fluid to escape, which may puncture skin and lead to blood poisoning.



Do not touch hot areas – they can cause severe burns.



Prevent fires. Handle fuel safely:



Store flammable fluids away from fire hazards. Never refuel machine while smoking or when near sparks or flame.



Be prepared if a fire starts. Keep a first aid kit and fire extinguisher handy.



Keep all bystanders at a safe distance. Avoid working near or over people with raised attachments or loads.



Operate with Awareness:

Always check for people or objects around the machine before moving or operating.



Clear all personnel from the area before driving. Use a signal person when visibility is limited and communicate intentions clearly.



Keep away from all rotating parts.



Rotating parts can crush or cut. Always switch the machine off before inspecting or servicing it.



Prevent Burns and Exhaust Risks:

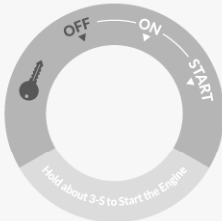
Keep away from the exhaust vent and the rear of the platform. Exhaust gas can cause burns. Do not block the heat vents, fan cooling system.



Operate engines only in well-ventilated areas. Engine exhaust fumes can cause sickness or death.



Do not open the cap while the machine is running, shut off engine. Only remove filler cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.



ENGINE ON/OFF/START SWITCH The engine switch has three positions. OFF - engine will not start or run. ON - engine will run. Start - engine will ignite



Stop engine before maintenance.

No Riders Allowed. Only the operator should be on the machine. Riders face serious risks like falling, getting caught in machinery, or being hit by debris. Riders can block the operator's view and compromise safety.



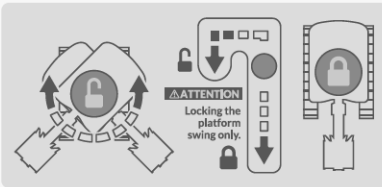
Avoid unexpected machine movement. Start engine only while sitting in operator's seat. Ensure that all controls and working tools are in proper position for a parked machine. Never attempt to start engine from the ground. Do not attempt to start engine by shorting across the starter solenoid terminals.



Horn Button



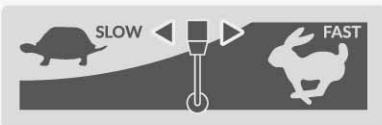
Lamp



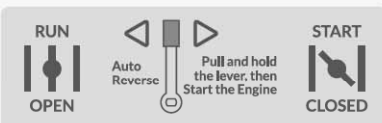
Instruct user to lock or unlock the swing frame with the swing lock pin.



Step on the front of the pedal to swing the boom to left. Step on the rear of the pedal to swing the boom to the right.



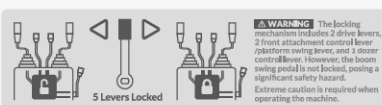
THROTTLE CONTROL The throttle control regulates the speed of the engine. The throttle control moves between Slow and Fast positions



Pull and hold the lever, then Start the Engine.



Pull back the black control lever to raise the dozer. Pushing the lever forward to lower the dozer.



The locking mechanism includes 2 drive levers, 2 front attachment control lever /platform swing lever, and 1 dozer control lever. However, the boom swing pedal is not locked, posing a significant safety hazard.

Extreme caution is required when operating the machine.

HOURS
1/10H
000000

⚠️ ATTENTION Always check the hour meter - Regular maintenance is required to keep the machine in proper working condition. Refer to the operating instructions for detailed maintenance schedules.

Battery Charging
 Battery-powered

⚠️ ATTENTION The Indicator light will be on before the engine starts (when the key is turned to "ON") and off at other times. If the excavator is not used for an extended period, charge the battery regularly to avoid power loss.

Always check the hour meter - Regular maintenance is required to keep the machine in proper working condition. Refer to the operating instructions for detailed maintenance schedules.

The indicator light will be on before the engine starts (when the key is turned to "ON") and off at other times. If the excavator is not used for an extended period, charge the battery regularly to avoid power loss.

⚠️ WARNING

- Read and understand operator's manual before attempting to start or operate the excavator.
- Before starting engine, make sure all control levers are in neutral and the operating area is clear of bystanders.
- Never allow passengers on the excavator while operating.
- Know your work area before starting operation.
 - Check underground lines and cables.
 - Check overhead clearance with electric wires.
 - Stay off slopes too steep for safe operation.
 - Check for hidden holes, obstacles and overhangs.
- Make sure all shields are in place and securely fastened.

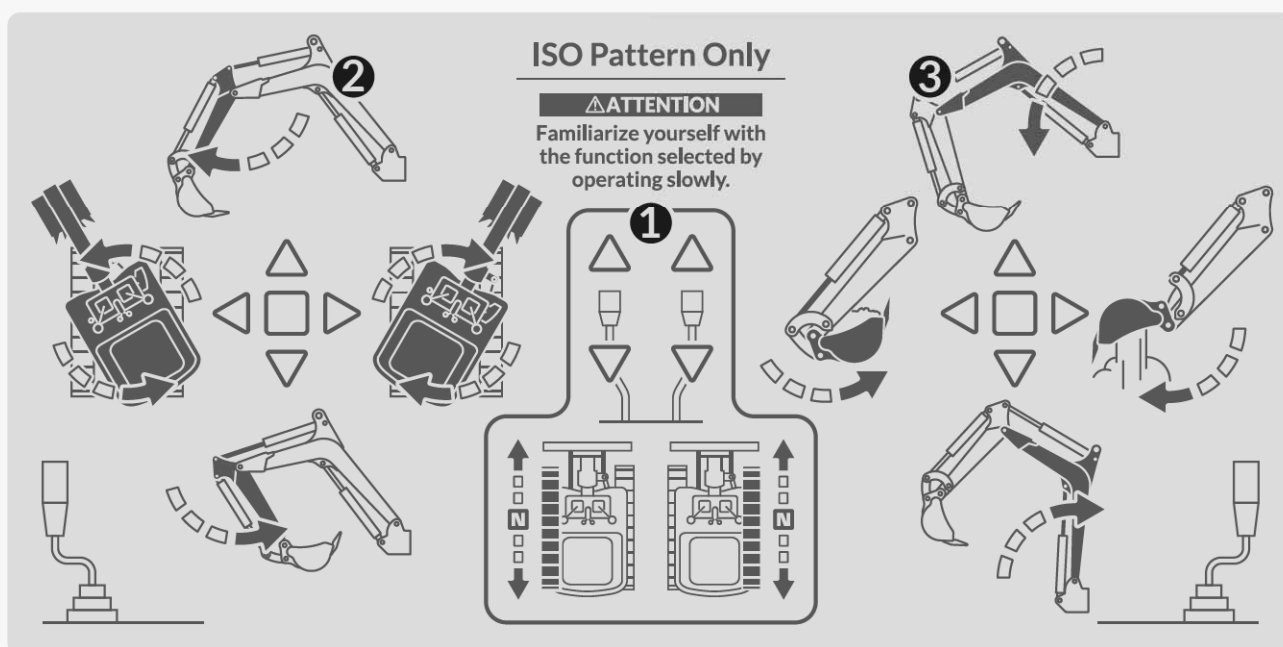
- The maximum safe slope angle is 15°. Do not operate the machine on slopes greater than this to prevent tipping over. Avoid steering directly at the slope while operating.
- Do not exceed the max load, otherwise the engine and hydraulic system will be damaged.
- In cold weather, preheating is required before starting the machine. Preheating ensures that the engine and hydraulic system operate properly and efficiently.

1400 pounds Operating Weight	0.388 cu ft Bucket Capacity	8.8 kN Digging Force	306 cc DPA Engine
1 mph Travel Speed	9.3 rpm Swing Speed	3.84 psi Ground Pressure	
PIN Z610100010125			

YARDMAX
Save the Great Outdoors!

**Mini Excavator
YE0610**

Machine parameter label



1. Pushing the both drive levers forward, moves the excavator forward, and vice-versa. The front of the excavator is the direction where the dozer is present. Only operate one side drive lever to change the direction when the excavator is stationary or travelling; Operate the left and right drive lever in opposite directions to achieve left and right spin turn.
2. Operation of the Arm and Unit Swing.
3. Operation of the Boom and Bucket.

POWER OUTLET
12V 120W

Power Outlet 12V, 120W



Tie down the excavator



3-Point Lifting



Noise - Sound Power Level



⚠ WARNING
Risk of electric shock, keep out of water and don't expose to rain when using. Overheating or other misuse may cause an explosion.

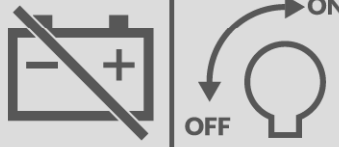
Do not reverse the positive and negative poles of the battery. Check before use, low battery will cause failure to start.

Risk of electric shock, keep out of water and don't expose to rain when using.

Overheating or other misuse may cause an explosion.

Do not reverse the positive and negative poles of the battery.

Check before use, low battery will cause failure to start.



⚠ WARNING When storing the excavator, turn off the segmented switch to prevent battery depletion. Charge and start the excavator at regular intervals to maintain battery health.

When storing the excavator, turn off the segmented switch to prevent battery depletion. Charge and start the excavator at regular intervals to maintain battery health.



⚠ WARNING Do not touch hot surfaces – there is a risk of burns. Hydraulic oil should only be checked or replenished after the excavator has been shut down. Refer to the operator's manual for hydraulic oil specifications.

Do not touch hot surfaces – there is a risk of burns. Hydraulic oil should only be checked or replenished after the excavator has been shut down. Refer to the operator's manual for hydraulic oil specifications.



⚠ WARNING Do not block the heat vents. Regularly lubricate and maintain the fan to ensure proper operation and extend its lifespan.

Do not block the heat vents. Regularly lubricate and maintain the fan to ensure proper operation and extend its lifespan.

Follow Safety Instructions & Wear Protective Equipment



- Read the instruction manual carefully before operating or repairing.
- Wear a safety helmet to protect your head from collisions or falling objects.
- Wear a mask to protect your respiratory system from dust.
- Protect your eyes from flying debris or metal by wearing goggles.
- Wear close-fitting clothing and appropriate safety gear for the job.
- Wear earmuffs or suitable hearing protection to prevent hearing loss from prolonged exposure to loud noise.

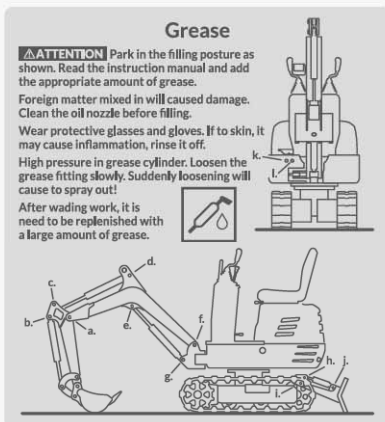
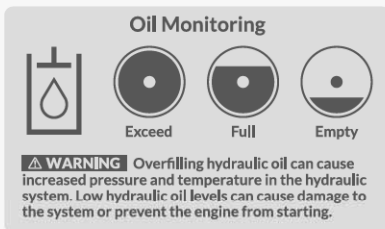
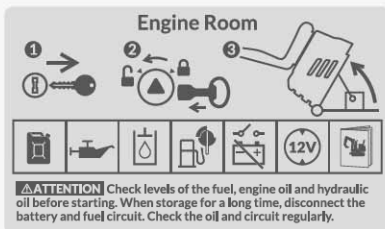
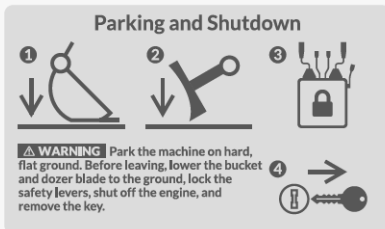
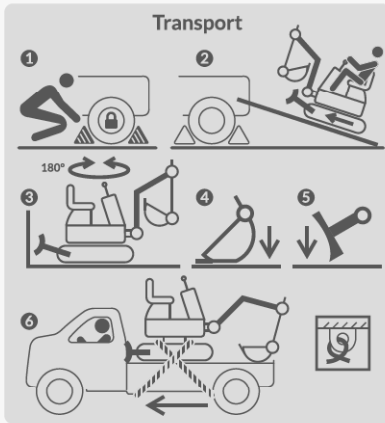
Read the instruction manual carefully before operating or repairing. Wear a safety helmet to protect your head from collisions or falling objects. Wear a mask to protect your respiratory system from dust. Protect your eyes from flying debris or metal by wearing goggles. Wear close-fitting clothing and appropriate safety gear for the job. Wear earmuffs or suitable hearing protection to prevent hearing loss from prolonged exposure to loud noise.

Moving Direction Control



⚠ ATTENTION Before moving, know the location of the dozer blade. The machine will travel in the direction of the dozer blade when the drive lever is pushed away from the operator.

Before moving, know the location of the dozer blade. The machine will travel in the direction of the dozer blade when the drive lever is pushed away from the operator.



Using 3-point Lifting way or ramp to load or unload the excavator.

Warning: Apply the parking brakes of the truck, and block the drive wheels from both sides.

Warning: use blocks or struts under the ramps and the truck bed.

Warning: Block the crawlers and tie down the excavator.

Warning: To avoid personal injury or death: After loading the machine on the truck, swivel the upper body around to the back of the truck and lock the swing frame with the swing lock pin. Lower the bucket and dozer onto the truck bed and then lock the boom with the lever before getting off. It is prohibited to operate the machine when operator stands on the ground.

Before moving, know the location of the dozer blade. The machine will travel in the direction of the dozer blade when the drive lever is pushed away from the operator.

Check levels of the fuel, engine oil and hydraulic oil before starting. When storage for a long time, disconnect the battery and fuel circuit. Check the oil and circuit regularly.

Overfilling hydraulic oil can cause increased pressure and temperature in the hydraulic system. Low hydraulic oil levels can cause damage to the system or prevent the engine from starting.

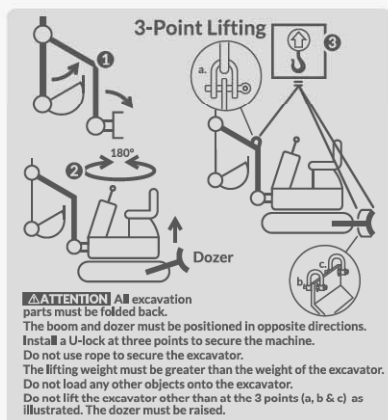
Park in the filling posture as shown. Read the instruction manual and add the appropriate amount of grease.

Foreign matter mixed in will cause damage. Clean the oil nozzle before filling.

Wear protective glasses and gloves. If to skin, it may cause inflammation, rinse it off.

High pressure in grease cylinder. Loosen the grease fitting slowly. Suddenly loosening will cause to spray out!

After wading work, it is need to be replenished with a large amount of grease.



All excavation parts must be folded back.

The boom and dozer must be positioned in opposite directions.

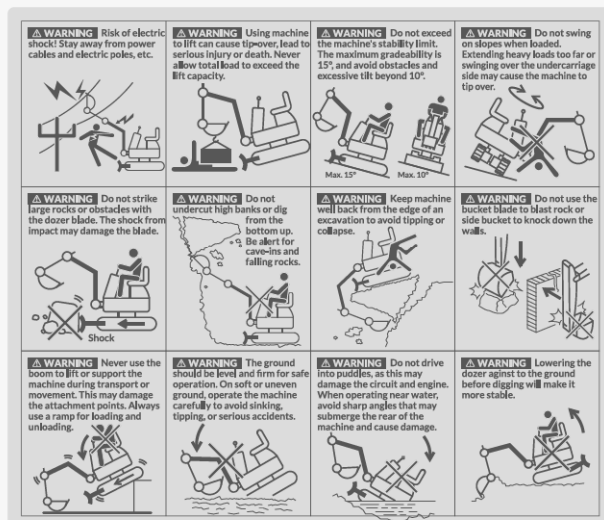
Install a U-lock at three points to secure the machine.

Do not use rope to secure the excavator.

The lifting weight must be greater than the weight of the excavator.

Do not load any other objects onto the excavator.

Do not lift the excavator other than at the 3 points (a, b & c) as illustrated. The dozer must be raised.



Risk of electric shock! Stay away from power cables and electric poles, etc.

Using machine to lift can cause tip-over, lead to serious injury or death. Never allow total load to exceed the lift capacity.

Do not exceed the machine's stability limit. The maximum gradeability is 15°, and avoid obstacles and excessive tilt beyond 10°.

Do not swing on slopes when loaded. Extending heavy loads too far or swinging over the undercarriage side may cause the machine to tip over.

Do not strike large rocks or obstacles with the dozer blade. The shock from impact may damage the blade.

Do not undercut high banks or dig from the bottom up. Be alert for cave-ins and falling rocks.

Keep machine well back from the edge of an excavation to avoid tipping or collapse.

Do not use the bucket blade to blast rock or side bucket to knock down the walls.

Never use the boom to lift or support the machine during transport or movement. This may damage the attachment points. Always use a ramp for loading and unloading.

The ground should be level and firm for safe operation. On soft or uneven ground, operate the machine carefully to avoid sinking, tipping, or serious accidents.

Do not drive into puddles, as this may damage the circuit and engine. When operating near water, avoid sharp angles that may submerge the rear of the machine and cause damage.

Lowering the dozer against to the ground before digging will make it more stable.

SAFETY

The definitions below give the level of severity for each signal word.



DANGER

This symbol points out important safety instructions.

This machine was built to be operated according to the safe operation practices in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. This machine is capable of amputating fingers, hands, toes and feet and throwing foreign objects. Failure to observe the safety instructions could result in serious injury or death.



IMPORTANT

Indicates that equipment or property damage could result if instructions are not followed.



WARNING

This symbol points out safety instructions. Read and follow all instructions before attempting to operate this machine. Failure to comply with these instructions may result in personal injury.



CAUTION

This symbol indicates a hazard, which, if not avoided, may result in minor or moderate injury.



NOTE

This information makes the product easier to use.

SAFE OPERATION

The best insurance against accidents is to abide by the safety regulations.

Read and understand this section carefully, before operating the excavator.

Every user, however experienced, should carefully read and understand this section and those of the attachments and accessories before taking the excavator into operation. The owner is obliged to inform the operators of these instructions in detail.

1. BEFORE OPERATION

1. Make yourself acquainted with the excavator and be aware of its limits. Read this operator's manual carefully before starting the excavator.
 2. Obey the danger, warning and caution labels on the machine.
 3. Track width 690mm. Operate in the correct track.
 4. Do not use the excavator under the influence of alcohol, medication or other substances. Fatigue is also dangerous.
 5. Check the surroundings carefully before using the excavator or when attachments are being attached.
- The excavator is not intended to be used in a contaminated

environment.

- Neither the excavator as a whole nor its internal components are intended for use in potential explosive atmospheres.
- Pay attention to the overhead clearance with electric wires.

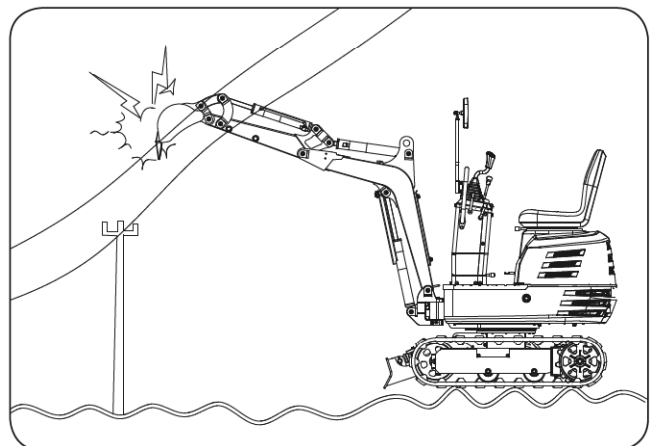


Figure 2

- Check for pipes and buried cables.
- Check for hidden holes, hindrances, soft ground and overhangs.

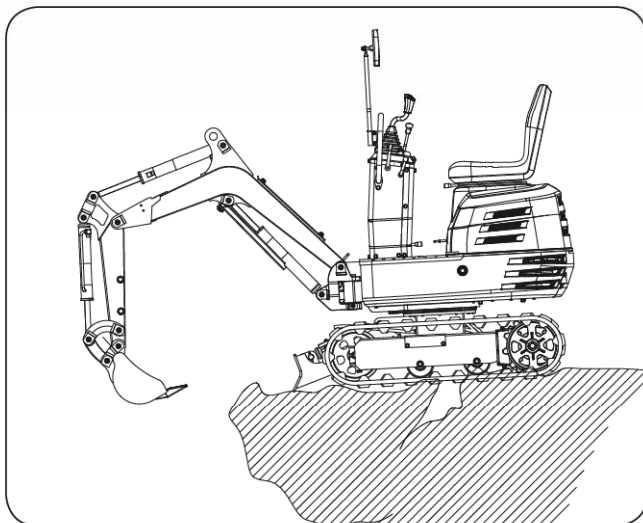


Figure 3

- During excavator use do not allow any persons within the working range.
- 6. Do not allow other persons to use the machine before having informed him on the exact operation and work instructions, and be assured that the operator's manual has been read and understood.
- 7. Do not wear baggy, torn or too large clothing when working with the excavator. Clothing can get caught in rotating parts or control elements which can cause accidents or injuries. Wear adequate safety clothing, e.g. safety helmet, safety shoes, eye protection, ear protection, working gloves, etc., as necessary and as prescribed by laws or statutes.
- 8. Do not allow passengers to get on any part of the excavator seat during operation.
- 9. Check mechanical parts for correct adjustments and wear. Exchange worn or damaged parts immediately. Check nuts and bolts regularly for tight fitment. (for details see "Care and Maintenance").
- 10. Keep your excavator clean. Heavy soiling, grease, dust and grass can inflame and cause accidents or injuries.
- 11. Use only authorized attachments.
- 12. Before starting the excavator, be absolutely sure that the excavator has been filled with fuel, lubricated, greased and undergone other maintenance work.
- 13. Do not modify the excavator, otherwise it could lead to unforeseen safety problems.

2. STARTING OF THE EXCAVATOR

1. Get into and out of the machine safely. Always face the machine.

Always use handrails and available steps and keep yourself well balanced. Do not hold any of the control levers and switches. Do not jump on or off the machine, whether stationary or in motion.

2. Start and control the excavator only from the operator's seat. The driver should not lean out of his seat when the engine is running.
3. Before starting the engine, make sure that all control levers are in their neutral positions.
4. Do not start the engine by jumping the starter connections. Do not try to circumvent using the starter switch, otherwise the engine could start suddenly and the excavator could move.
5. Make sure that the dozer is on the front side. (The dozer must be raised.) If the swing frame has been turned 180, i.e. the dozer is, seen from the operator, "behind", then the travel direction is opposite to the drive direction of the levers (when activating the drive lever forwards, the excavator, seen from the operator, will move backwards).

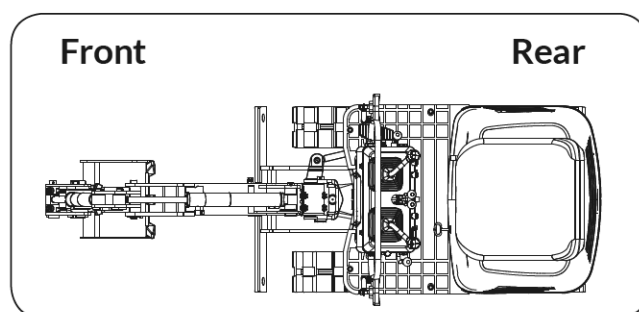


Figure 4

6. Do not run the engine in closed or badly ventilated rooms. Carbon monoxide is colourless, odourless and deadly.
7. Keep all safety equipment and covers in place. Replace damaged or missing safety devices.
8. Precautions against tipping over. In order to secure safe operation, keep away from steep slopes and embankments. Do not swing the bucket downwards. Lower the dozer during digging. Keep the bucket as low as possible while driving upwards. Turn slowly on slopes. Do not keep the excavator near the edges of trenches and banks, as the earth can give way due to the weight of the excavator.
9. Watch out at all times where the excavator is being moved to. Keep an eye out for hindrances.
10. Keep enough distance from trench and bank edges.

Safety for children

Tragedy can occur if the operator is not alert to the presence of children. Children generally are attached to machines and the work they do.

11. Never assume that children will remain where you last saw them.
12. Keep children out of the work area and under the watchful eye of another responsible adult.
13. Be alert and shut your machine down if children enter the work area.
14. Never carry children on your machine. There is no safe place for them to ride. They may fall off and be run over or interfere with your control of the machine.
15. Never allow children to operate the machine even under adult supervision.
16. Never allow children to play on the machine or on the implement.
17. Use extra caution when backing up, look behind and down—make sure area is clear before moving.
18. When parking your machine if at all possible park on a firm, flat and level surface. Lower the implements to the ground, remove the key from the ignition and chock the crawlers.

3. AFTER OPERATION

Before leaving the machine,

- Bring the excavator to hard even ground.
- Lower the attachments and the dozer blade on the ground.
- Stop the engine.
- Lock all control levers.
- Remove the key.

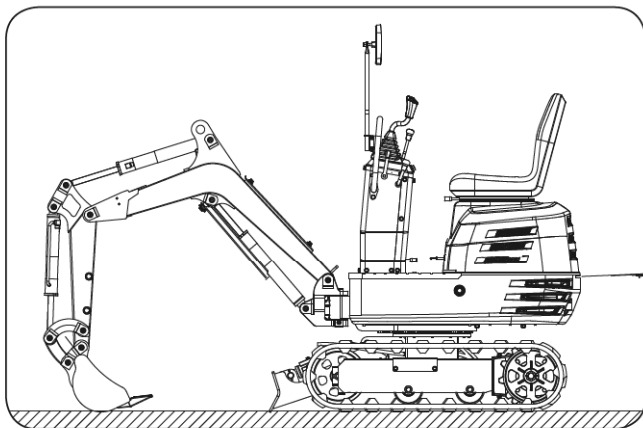


Figure 5

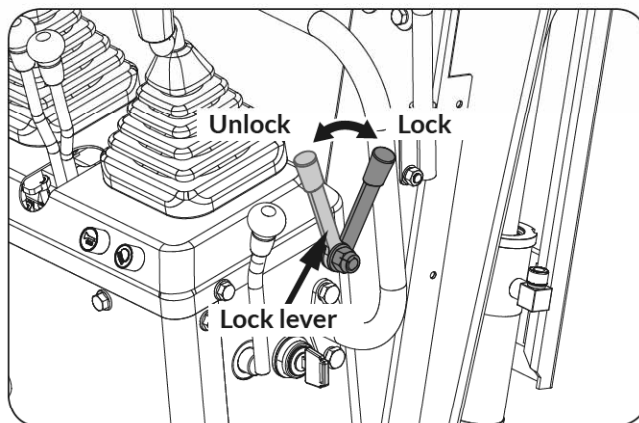


Figure 6

4. SAFE LOADING AND TRANSPORT OF THE EXCAVATOR

1. Observe all regulations concerning the transport of excavators on public roads.
2. Use adequately long and robust ramps when loading on a truck. (for details see "TRANSPORTING THE EXCAVATOR ON A TRUCK"); You can also lift the machine onto the truck. (for details see "LIFTING OF THE EXCAVATOR").
3. Do not change the running direction and to avoid a tipping over, do not try to swing the attachment crosswise to the loading ramps.
4. After loading of the excavator on a truck, swivel the upper body around to the back of the truck and engage the swing lock pin.

Lower the attachment on the loading plane, release the pressure from the hydraulic system and lock the boom with the lever.

Block the crawlers with blocks and wire down the excavator. After loading the excavator on a truck, tie down the undercarriage of the excavator with a strong steel wire on the truck.

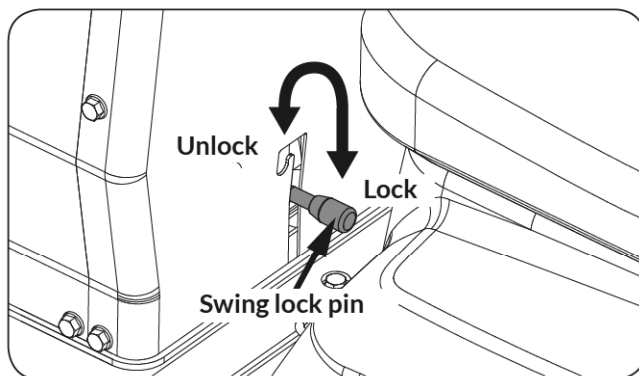


Figure 7

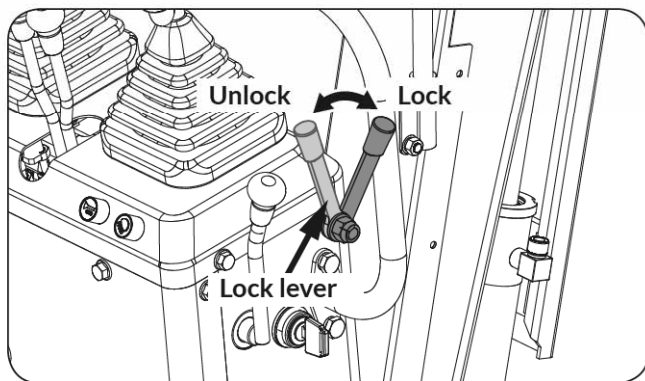


Figure 8

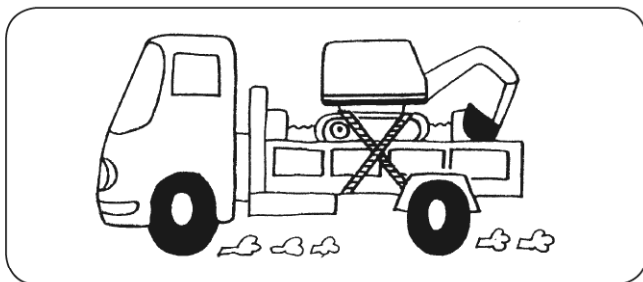


Figure 9

5. Do not brake abruptly with the excavator loaded. Fatal accidents could happen.

5. MAINTENANCE

Before doing maintenance work on the excavator, place the machine on even solid ground, lower the attachments on the ground, stop the engine and release the cylinder pressure by actuating the levers. When dismantling hydraulic parts, make sure that the hydraulic oil has cooled down sufficiently to avoid burns.

Start maintenance work carefully, e.g. loosen screws slowly so that oil will not squirt out.

1. Before doing work on the engine, the exhaust system, the heat protection shield and the hydraulics, let the excavator cool down sufficiently.
2. Turn off the engine at all times when filling with fuel. Avoid spilling and over-filling of fuel.
3. Smoking is prohibited while fuelling and handling the battery! Keep sparks and fire away from the fuel tank and battery. Flammable gases escape from the battery.
4. When the battery is dead, it can be started by pull the recoil starter.
5. To avoid short-circuiting the battery, always remove the earth cable first and attach the plus cable first.
6. Keep a first-aid box and a fire extinguisher at hand at all times.

7. Leaking hydraulic fluid has enough pressure to penetrate the skin and cause serious injuries. Leakages from pin holes can be totally invisible. Do not use the bare hand for checking on possible leakages. Always use a piece of wood or cardboard. It is strongly recommended you use a face mask or eye protection.

Should injuries occur with leaking hydraulic fluid, contact a doctor immediately. This fluid can cause gangrene or serious allergic reactions.

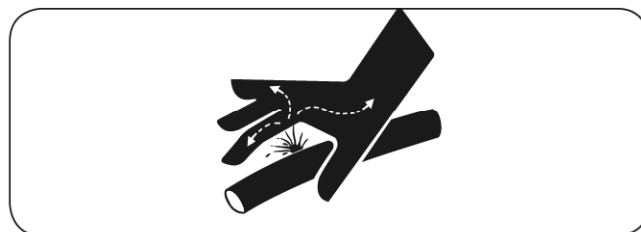


Figure 10

8. To avoid leakage of battery acid which contains heavy metals, do not throw the battery away.
9. Observe all laws and regulations concerning the disposal of used oil, coolants, solvents, hydraulic fluids, battery acids and batteries.
10. To avoid fire, do not heat the hydraulic components (tanks, pipes, hoses, cylinders) before they have been drained and washed.
11. Use a face mask or eye protection to protect the eyes and respiratory system against dust and other foreign particles.



Figure 11

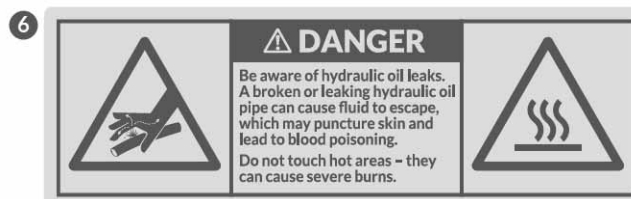
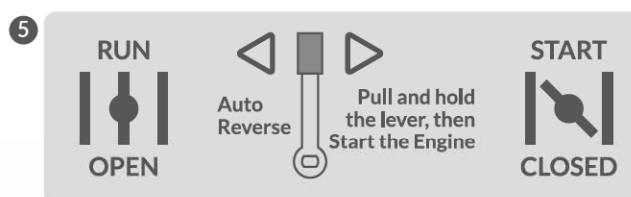
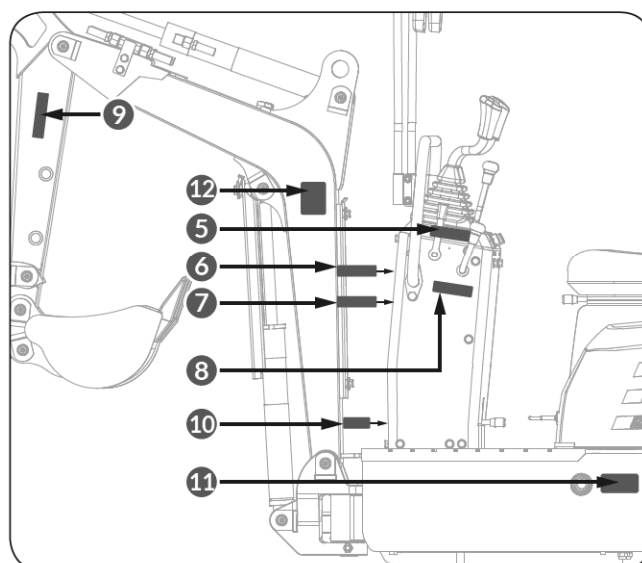
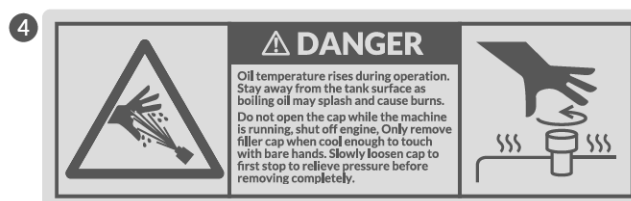
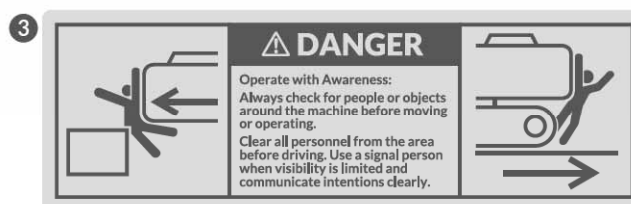
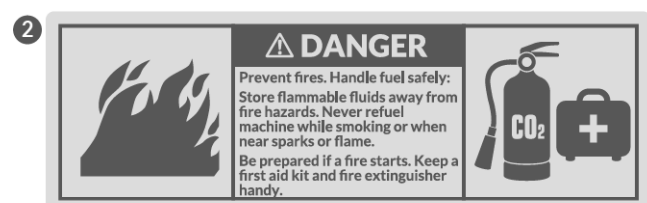
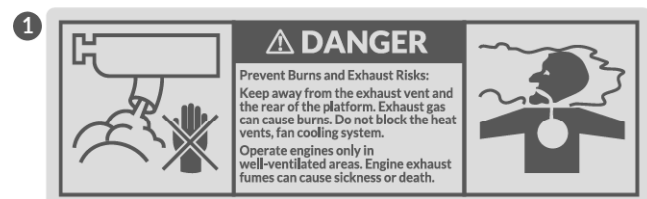
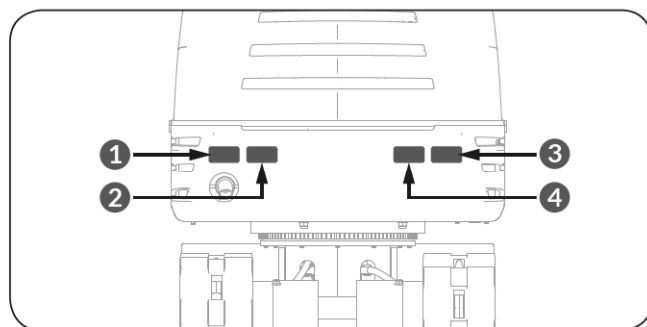
12. Do not crawl under the excavator if the excavator is only supported by the boom and arm or the dozer. The excavator can tip over or lower itself due to hydraulic pressure loss. Always use safety struts or other appropriate supports.
13. Use no parts which are lined with asbestos. Do not use these kind of parts even if they can be installed.
14. Fire prevention

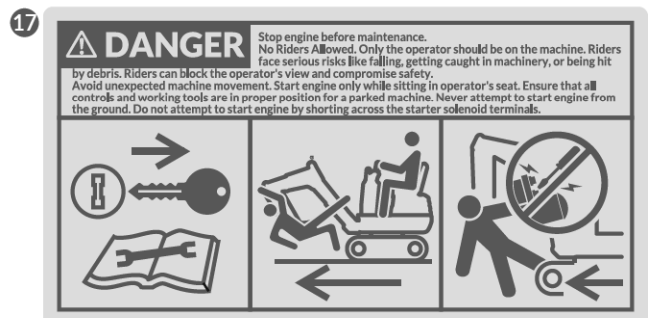
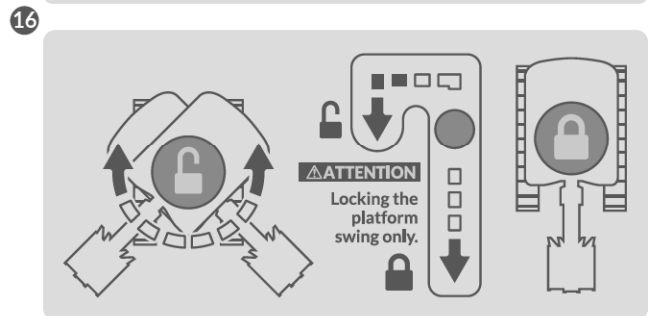
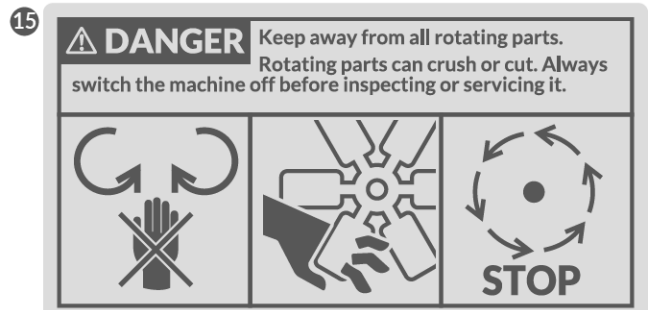
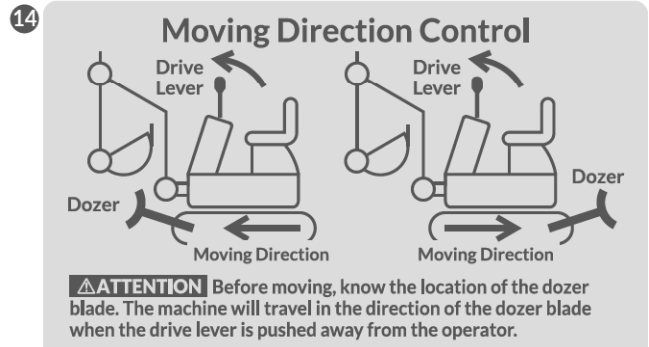
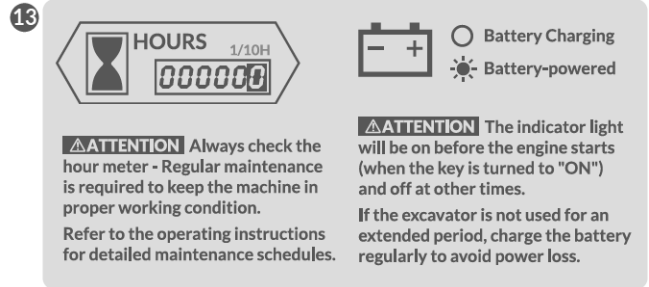
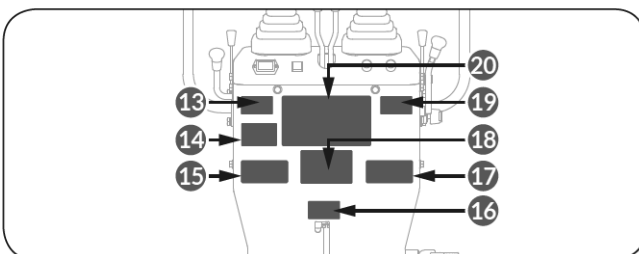
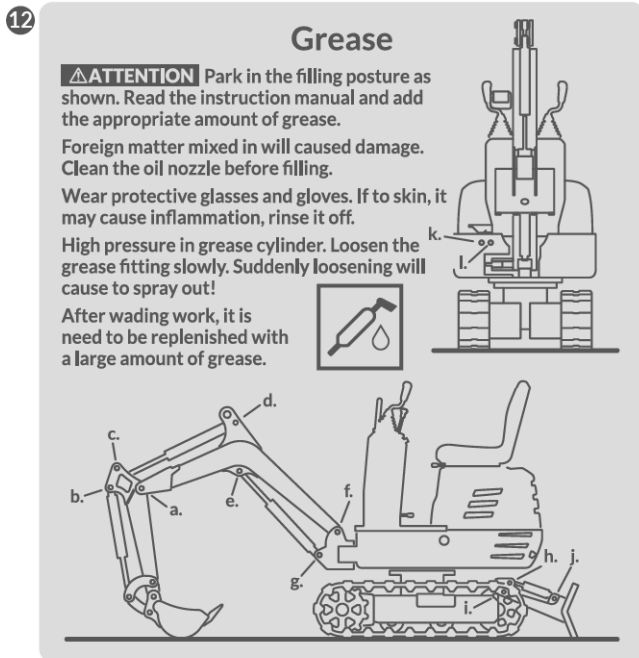
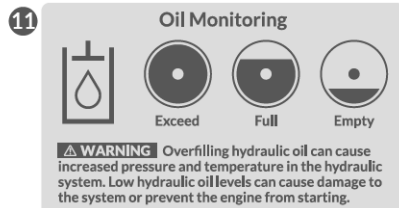
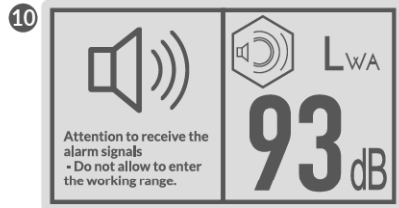
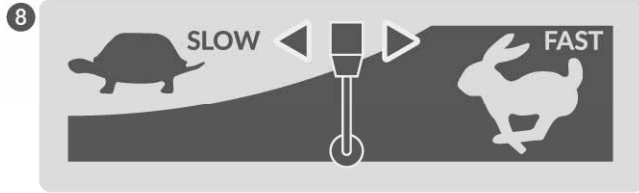
Excavator and some attachments have components that are at high temperatures under normal operating conditions. The primary source of high temperatures is the engine and exhaust system. The electrical system, if damaged or incorrectly maintained, can be a source of arcing or sparks.

The following fire prevention guidelines will help to keep your equipment up and running efficiently and keep the risk of fire to a minimum.

- Blow off all accumulated debris near hot engine exhaust components such as cylinder head of gasoline engine and exhaust manifold as well as exhaust pipes and muffler more frequently when working in severe conditions.
- Clean out all accumulated flammable debris such as leaves, straw, pine needles, branches, bark, small wood chips and any other combustible materials from inside the machine belly pans or lower unit structures as well as from area in proximity to the engine.
- Inspect all fuel lines and hydraulic hoses for wear or for deterioration. Replace them immediately if they begin to leak.
- Examine electrical wiring and connectors frequently for damage. Repair any wires that are loose or frayed before operating the machine. Clean all electrical connections and tighten all electrical connections as necessary.
- Inspect the exhaust system daily for any signs of leakage. Check for broken pipes and muffler and also for loose or missing bolts, nuts and clamps. If any exhaust leaks or fractured parts are found, repairs must be completed prior to operation.
- Always keep a multipurpose fire extinguisher on or near the machine. Be familiar with the operation of the fire extinguisher.

6. DANGER, WARNING AND CAUTION LABELS





18

WARNING Read and understand operator's manual before attempting to start or operate the excavator.

- Before starting engine, make sure all control levers are in neutral and the operating area is clear of all bystanders.
- Never allow passengers on the excavator while operating.
- Know your work area before starting operation.
 - Check underground lines and cables.
 - Check overhead clearance with electric wires.
 - Stay off slopes too steep for safe operation.
 - Check for hidden holes, obstacles and overhangs.
- Make sure all shields are in place and securely fastened.

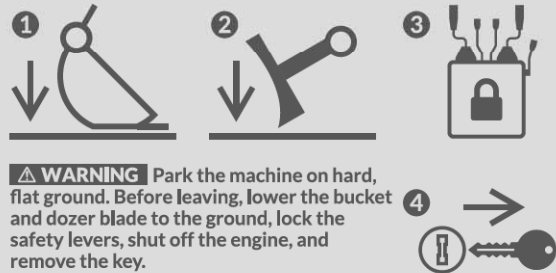
- The maximum safe slope angle is 15°. Do not operate the machine on slopes greater than this to prevent tipping over. Avoid steering directly at the slope while operating.
- Do not exceed the max load, otherwise the engine and hydraulic system will be damaged.
- In cold weather, preheating is required before starting the machine. Preheating ensures that the engine and hydraulic system operate properly and efficiently.



1400 pounds Operating Weight	0.388 cuft Bucket capacity	8.8 kN Digging Force	306 cc EPA Engine	YARDMAX Tame the Great Outdoors [®]
1 mph Travel speed	9.3 rpm Swing Speed	3.84 psi Ground Pressure	Manufactured in China	Mini Excavator YE0610
PIN	Z610100010125			

19

Parking and Shutdown



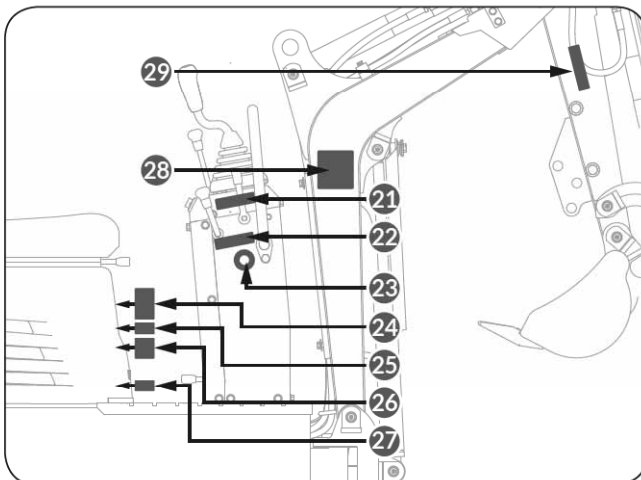
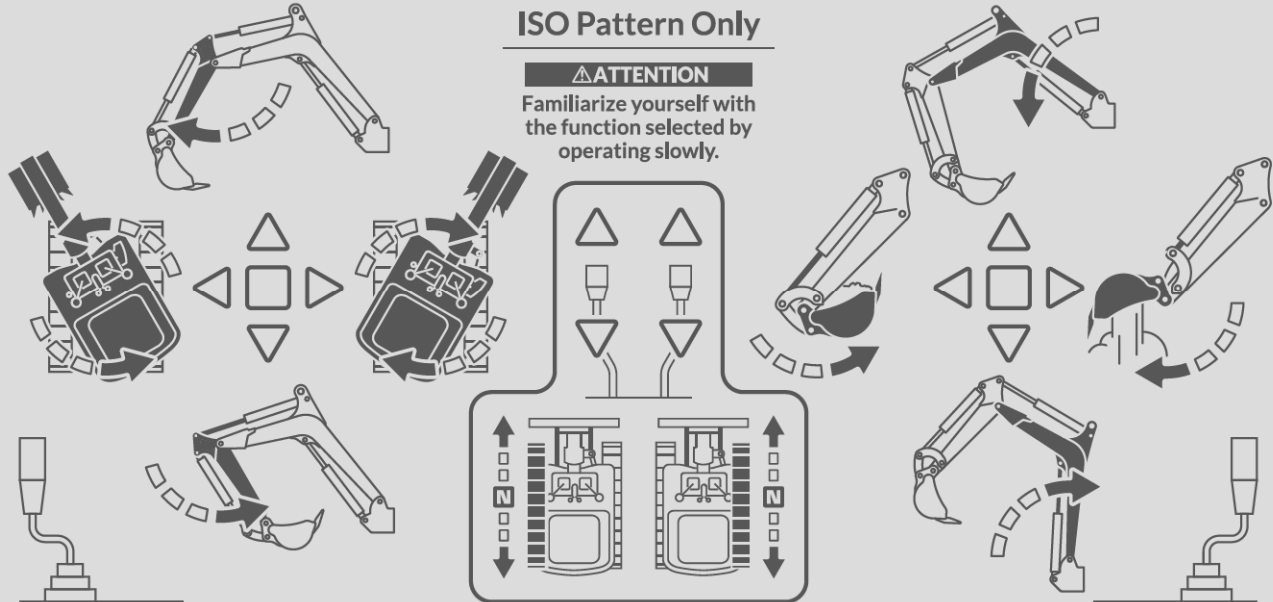
WARNING Park the machine on hard, flat ground. Before leaving, lower the bucket and dozer blade to the ground, lock the safety levers, shut off the engine, and remove the key.

20

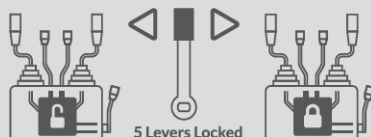
ISO Pattern Only

ATTENTION

Familiarize yourself with the function selected by operating slowly.



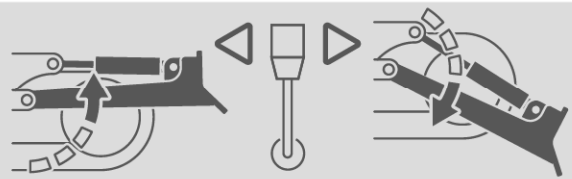
21



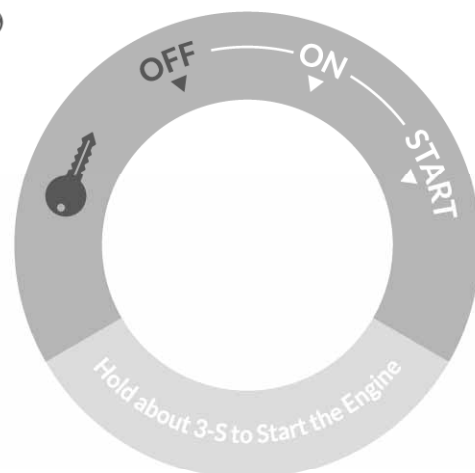
5 Levers Locked

WARNING The locking mechanism includes 2 drive levers, 2 front attachment control lever /platform swing lever, and 1 dozer control lever. However, the boom swing pedal is not locked, posing a significant safety hazard. Extreme caution is required when operating the machine.

22



23



24

⚠ WARNING Risk of electric shock! Stay away from power cables and electric poles, etc.	⚠ WARNING Using machine to lift can cause tip-over, lead to serious injury or death. Never allow total load to exceed the lift capacity.	⚠ WARNING Do not exceed the machine's stability limit. The maximum gradesability is 15°, and avoid obstacles and excessive tilt beyond 10°.	⚠ WARNING Do not swing on slopes when loaded. Extending heavy loads too far or swinging over the undercarriage side may cause the machine to tip over.
⚠ WARNING Do not strike large rocks or obstacles with the dozer blade. The shock from impact may damage the blade.	⚠ WARNING Do not undercut high banks or dig from the bottom up. Be alert for cave-ins and falling rocks.	⚠ WARNING Keep machine well back from the edge of an excavation to avoid tipping or collapse.	⚠ WARNING Do not use the bucket blade to blast rock or side bucket to knock down the wall.
⚠ WARNING Never use the boom to lift or support the machine during transport or movement. This may damage the attachment points. Always use a ramp for loading and unloading.	⚠ WARNING The ground should be level and firm for safe operation. On soft or uneven ground, operate the machine carefully to avoid sinking, tipping, or serious accidents.	⚠ WARNING Do not drive into puddles, as this may damage the circuit and engine. When operating near water, avoid sharp angles that may submerge the rear of the machine and cause damage.	⚠ WARNING Lowering the dozer against the ground before digging will make it more stable.

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Follow Safety Instructions & Wear Protective Equipment

- Read the instruction manual carefully before operating or repairing.
- Wear a safety helmet to protect your head from collisions or falling objects.
- Wear a mask to protect your respiratory system from dust.
- Protect your eyes from flying debris or metal by wearing goggles.
- Wear close-fitting clothing and appropriate safety gear for the job.
- Wear earmuffs or suitable hearing protection to prevent hearing loss from prolonged exposure to loud noise.

26

Transport

27

Engine Room

⚠ ATTENTION Check levels of the fuel, engine oil and hydraulic oil before starting. When storage for a long time, disconnect the battery and fuel circuit. Check the oil and circuit regularly.

28

3-Point Lifting

⚠ ATTENTION All excavation parts must be folded back. The boom and dozer must be positioned in opposite directions. Install a U-lock at three points to secure the machine. Do not use rope to secure the excavator. The lifting weight must be greater than the weight of the excavator. Do not load any other objects onto the excavator. Do not lift the excavator other than at the 3 points (a, b & c) as illustrated. The dozer must be raised.

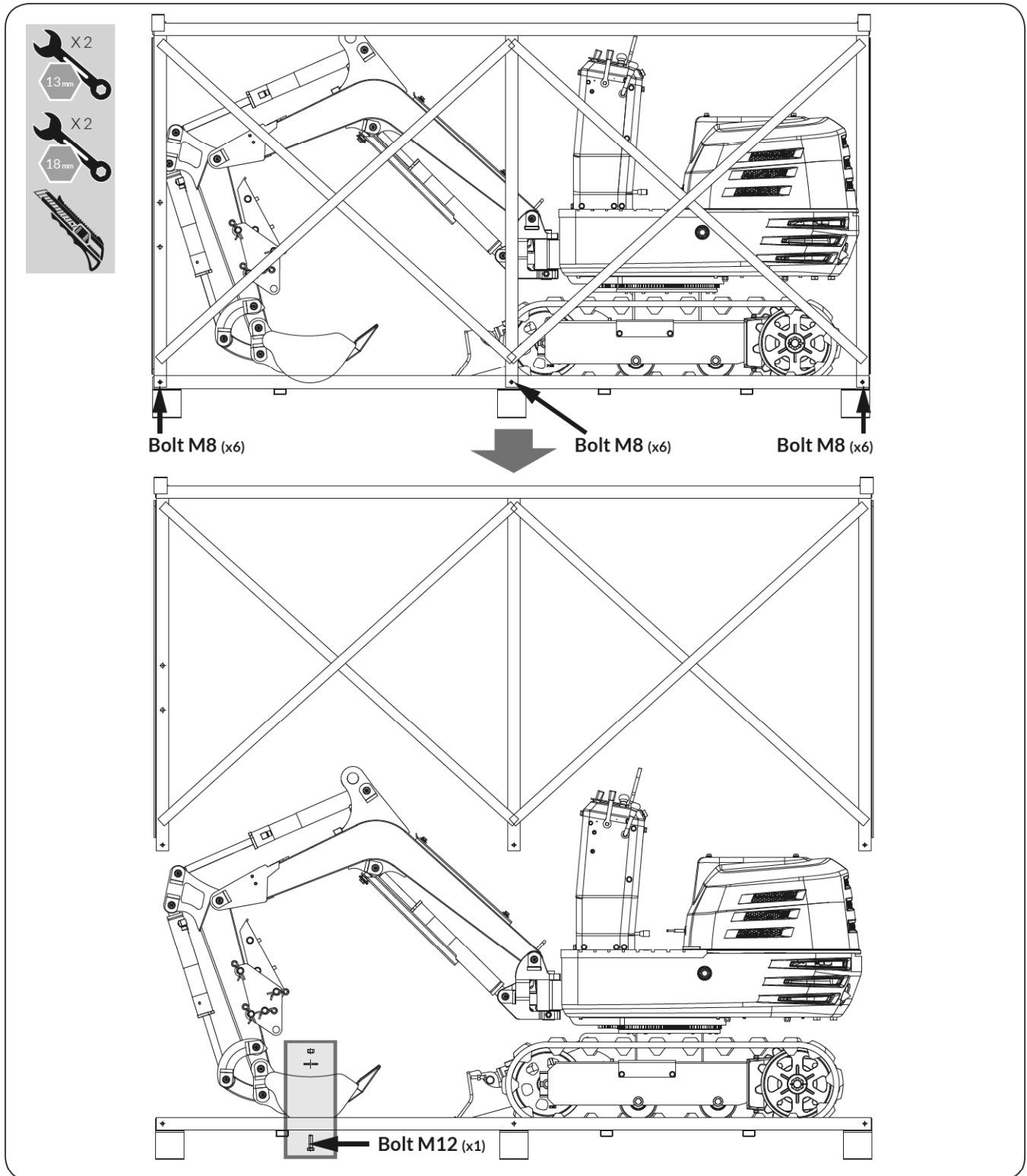
29

⚠ DANGER

Use barriers or signal persons to ensure vehicles and pedestrians stay clear. Use a signal person in crowded areas or when visibility is poor, ensuring constant communication with clear hand signals. Operate controls only from the operator's seat. Failure to follow this warning can result in serious injury.

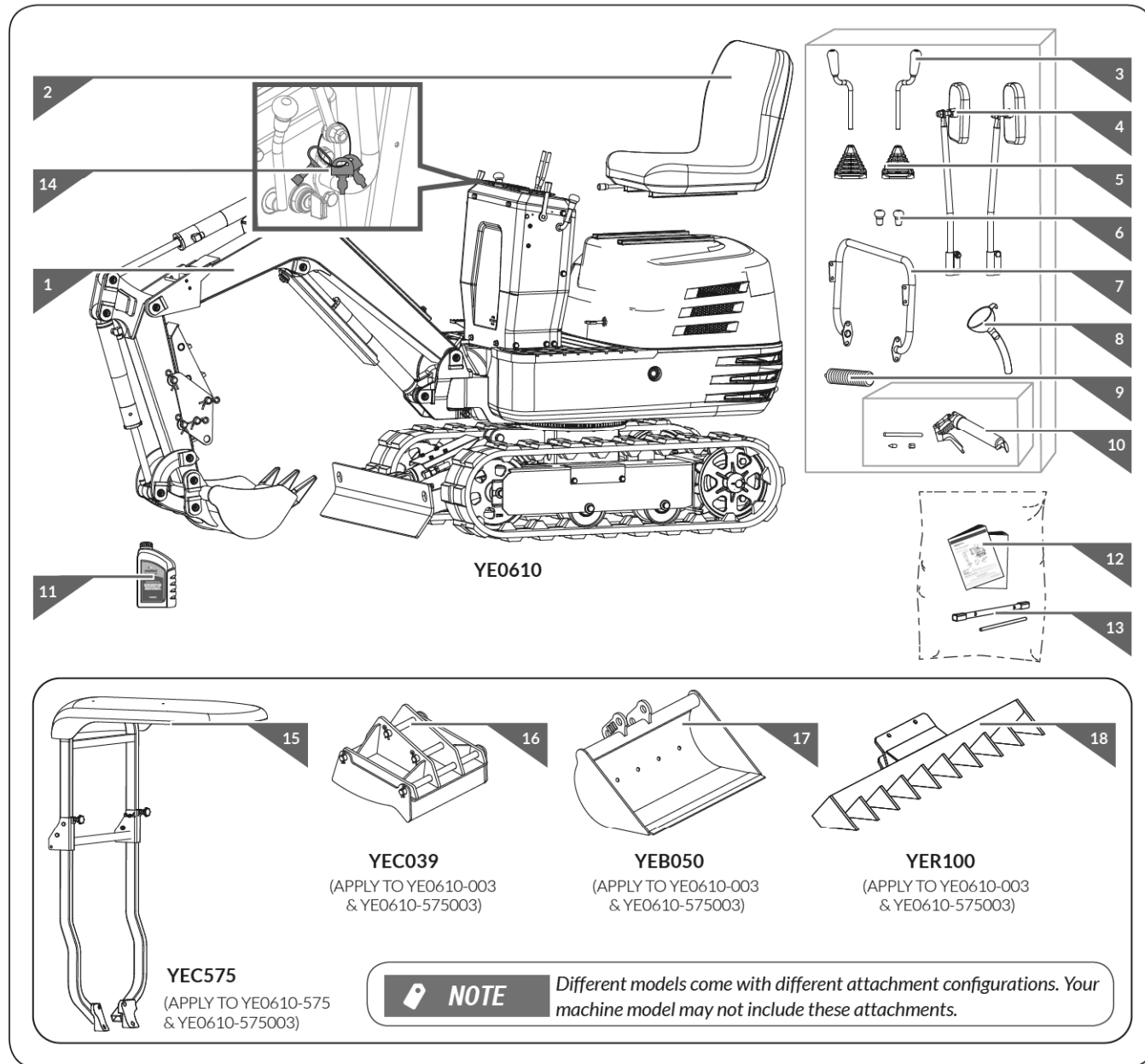
UNPACKING THE CONTAINER

Remove the M8 fixing bolts that fix the iron frame and take off the iron frame. Loosen the M12 fixing bolt to release the bucket and remove the straps securing the machine. Lift the machine down.



CONTENTS SUPPLIED

The mini excavator comes partially assembled and is shipped in carefully packed package. After all the parts have been removed from the package, you should have:



- | | |
|--------------------------|---|
| 1. Main Body | 11. Engine Oil |
| 2. Operator's Seat | 12. Operator's Manual & Engine Manual |
| 3. Control Levers | 13. Tools for Spark Plug Assembly |
| 4. Rearview Mirror | 14. Ignition key & Engine hood key |
| 5. Control Lever Sleeves | 15. Canopy YEC575 (Apply To YE0610-575 & YE0610-575003) |
| 6. Drive Lever Knobs | 16. Claw YEC039 (Apply To YE0610-003 & YE0610-575003) |
| 7. Handlebar | 17. Grading Bucket YEB050 (APPLY TO YE0610-003 & YE0610-575003) |
| 8. Funnel | 18. Rake YER100 (Apply To YE0610-003 & YE0610-575003) |
| 9. Grease | |
| 10. Grease Gun Assembly | |

ASSEMBLY

Following the assembly directions below, you will assemble the machine in a few minutes.

CONTROL LEVERS ASSEMBLY

1. Remove the M16 nut from the control lever, slide the control lever sleeve onto the lever, and then reinstall and secure the M16 nut. (See **Figure 13, illustration 1 & illustration 2**)
2. Loosen the M8x25 set screw and the nut on the side of the fixing hole. (See **Figure 13, illustration 3**)
3. Distinguish the left and right control levers using the "L" and "R" labels on the handle, slide the lever assembly into the corresponding fixing hole on the control cabinet, and rotate to tighten. (See **Figure 13, illustration 4**)
4. Use a wrench to tighten the M16 nut and the M8x25 set screw and nut, ensuring the control lever is securely fixed, and adjust the sleeve position. (See **Figure 13, illustration 4**)
5. Repeat for the other control lever.
6. Screw the drive lever knobs onto the drive levers. (See **Figure 13, illustration 5**)

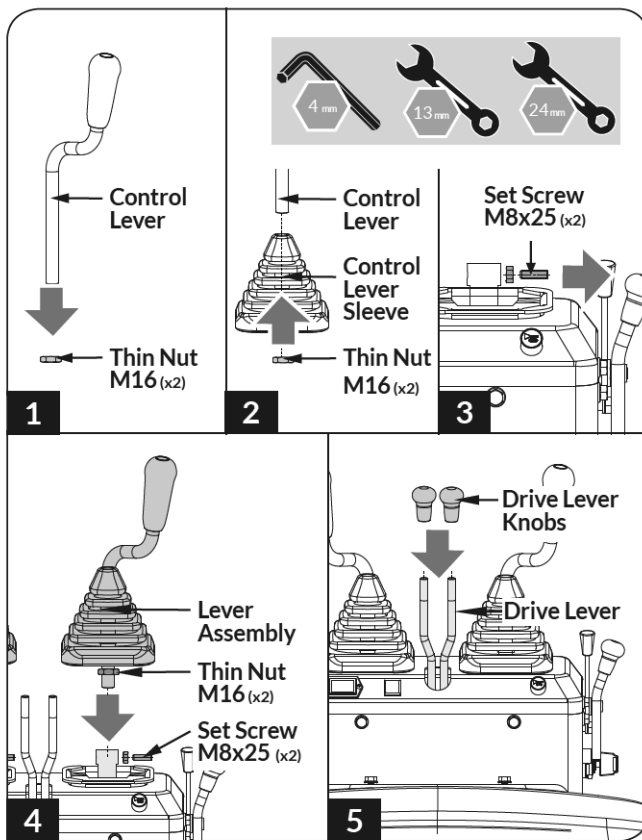


Figure 13

HANDLEBAR ASSEMBLY

1. Screw out the M10x20 bolts, flat washers, and spring washers from the control cabinet.

2. Attach the handlebar to the sides of the control cabinet.

3. Align the holes, then secure the handlebar with the bolts and washers. (See **Figure 14**)

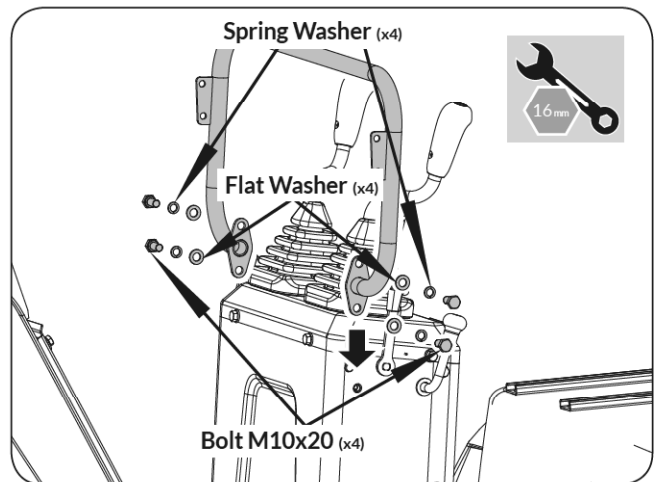


Figure 14

REARVIEW MIRROR ASSEMBLY

Screw out the M8x30 bolts, washers, and nuts from the mirror connectors, adjust the rearview mirrors to the desired height, and then fasten the connectors to the brackets on the handlebar with the bolts, washers, and nuts, making sure the mirrors face backwards. (See **Figure 15**)

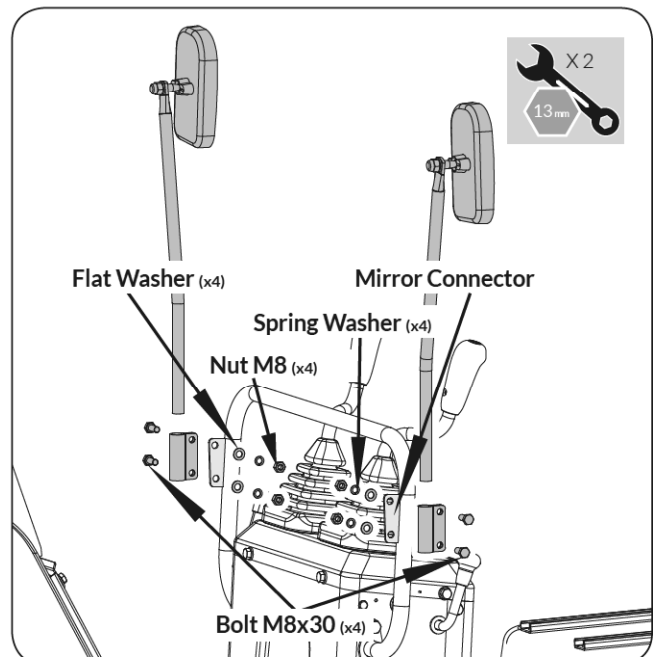


Figure 15

OPERATOR'S SEAT ASSEMBLY

Use the hood key to unlock and open the engine hood, install the seat from front to rear, close the engine hood, and adjust the seat forward and backward to a comfortable position. (See **Figure 16**)

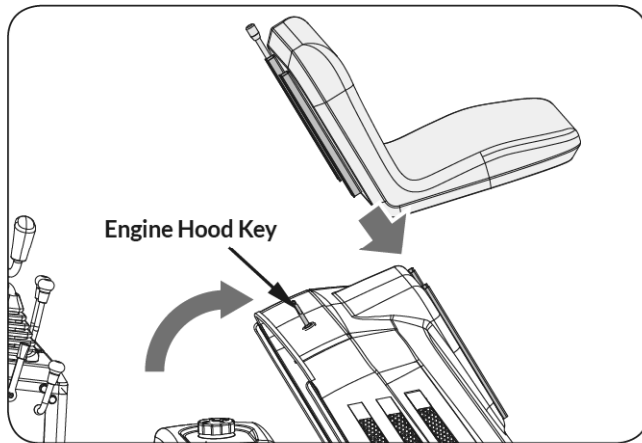


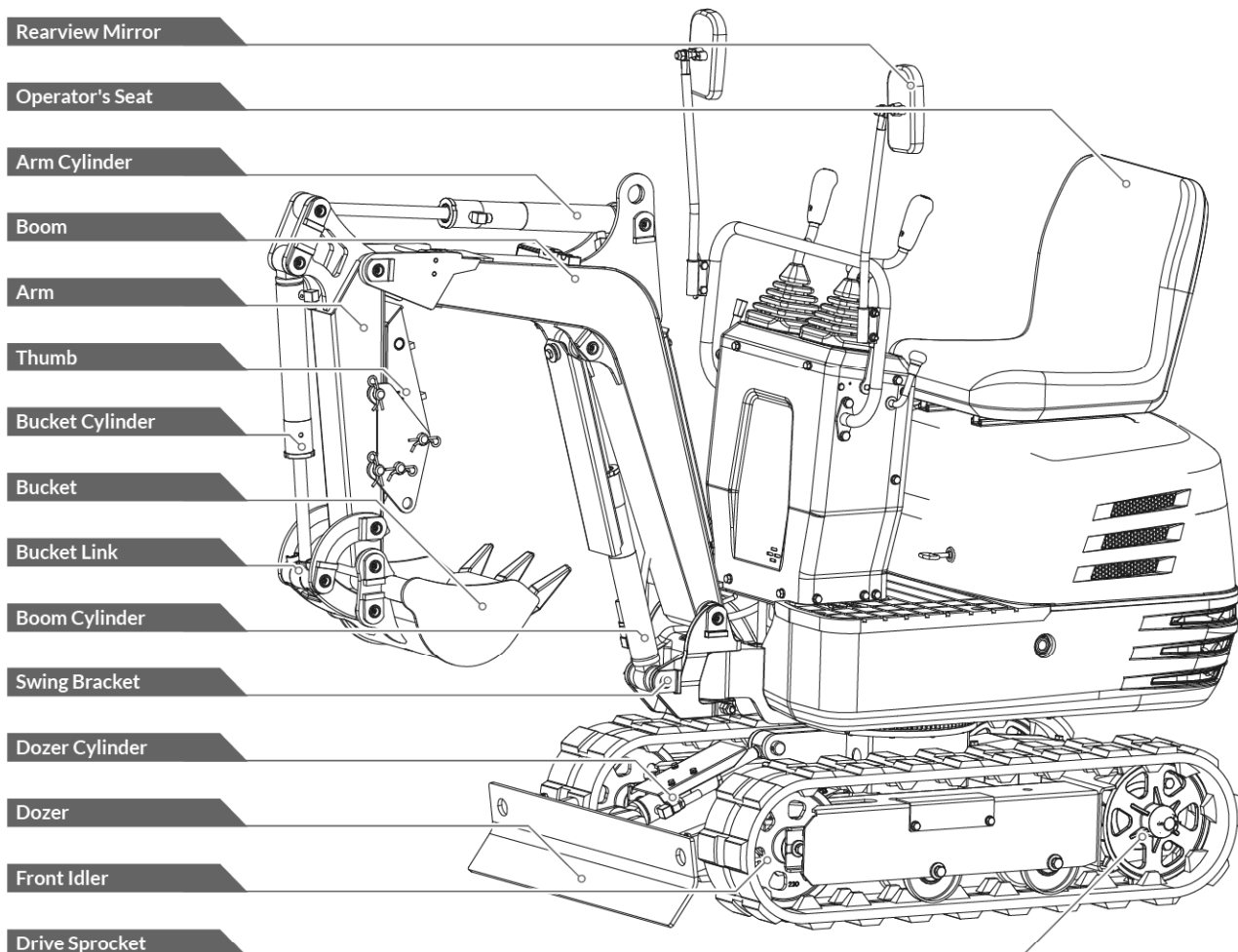
Figure 16

ATTACHMENT ASSEMBLY

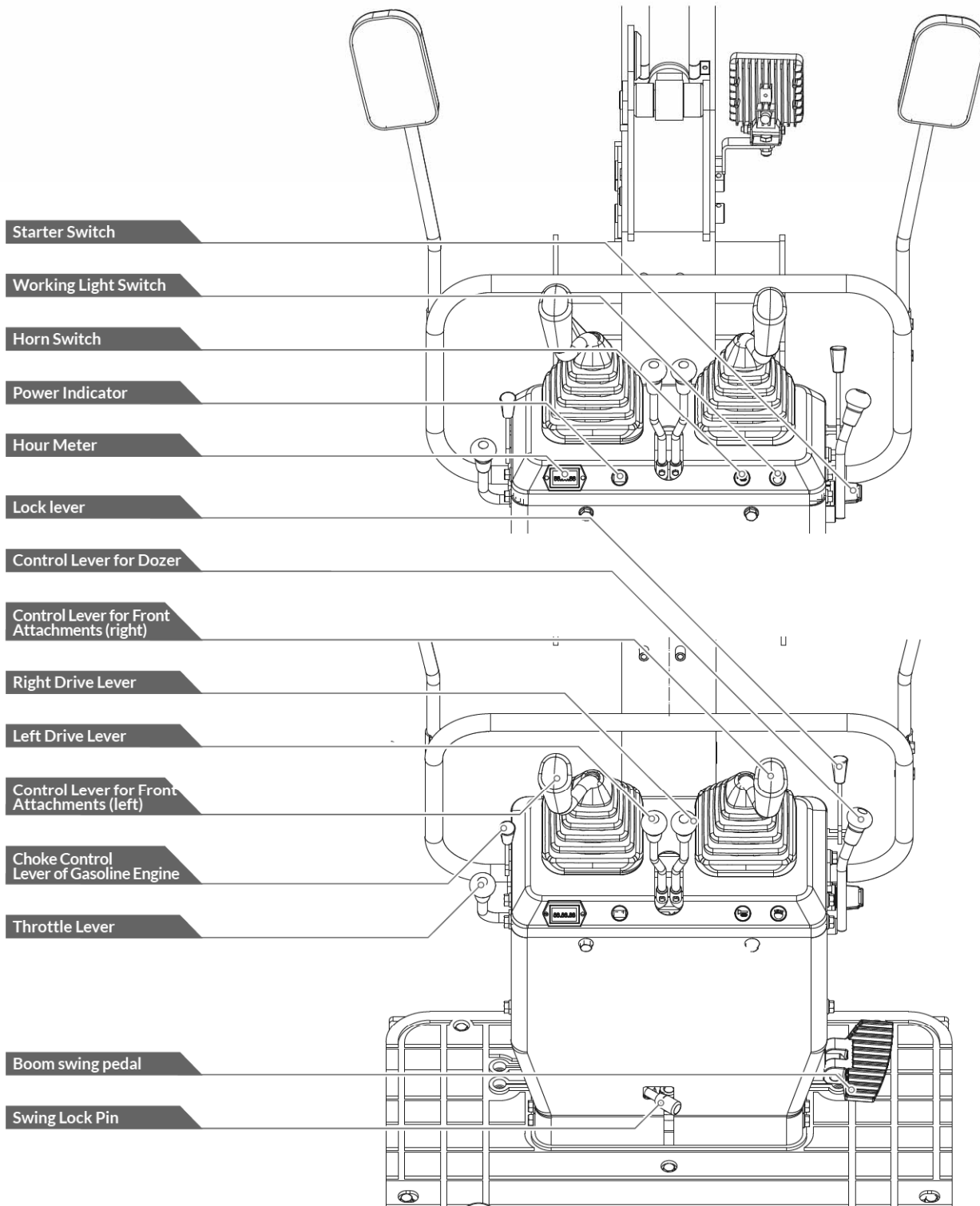
Based on your model's configuration, refer to Page 74-78 for the assembly of the corresponding attachments.

ATTACHMENT	PAGE
THUMB (STANDARD)	74
RAKE YER100 (APPLY TO YE0610-003 & YE0610-575003)	75
CLAW YEC039 (APPLY TO YE0610-003 & YE0610-575003)	76
GRADING BUCKET YEB050 (APPLY TO YE0610-003 & YE0610-575003)	77
CANOPY YEC575 (APPLY TO YE0610-575 & YE0610-575003)	78

DESCRIPTION OF MACHINE PARTS



INSTRUMENT PANEL AND CONTROL ELEMENTS



BEFORE START

HANDLING THE SAFETY DEVICES

CONTROL LEVER LOCK

⚠ CAUTION When the excavator is not used or left unattended, be sure to place the bucket on the ground and lock the control levers. The front attachment may fall : it's dangerous. Also remove the key.

The attachment control lever lock is located on the right side alike. (See **Figure 17**)

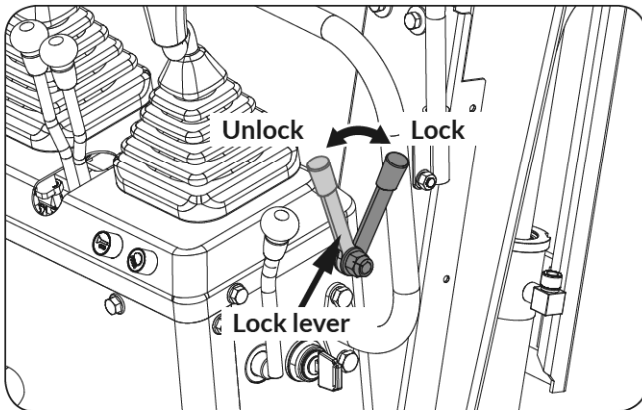


Figure 17

SWING LOCK PIN

This pin is used to lock the swing frame. Set the lock pin to the "Lock" position and the swing frame gets locked to the track frame. (See **Figure 18**)

⚠ IMPORTANT Before locking the lock pin, be sure to place the swing frame and the track frame parallel with each other.

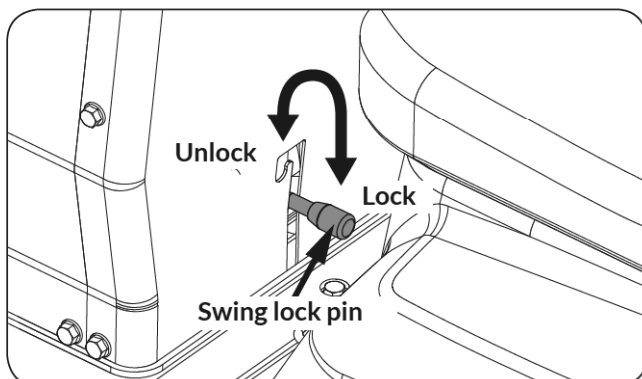


Figure 18

DAILY CHECKS

In order to avoid damage, it is important to check the condition of the excavator before starting.

⚠ CAUTION Do maintenance work on the excavator only on even ground with the engine off and the safety devices in the "Lock" position.

CHECKS

Walk around the excavator and check for visual damage and wear.

Check fuel level.

Check engine oil level.

Check hydraulic fluid level.

Check air filter for clogging.

Check hour meter.

Check the light system.

Check the condition of the danger, warning and caution labels. (See "DANGER, WARNING AND CAUTION LABELS" in "SAFE OPERATION".)

OPERATION OF THE ENGINE



CAUTION

Read "SAFE OPERATION" at the beginning of this operator's manual. Obey the danger, warning and caution labels on the excavator. Exhaust gases are poisonous. Do not let the engine run in closed quarters without sufficient and adequate ventilation. Always start the engine from the operator's seat. Do not start the engine while standing next to the excavator. Before starting the engine, sound the horn to get the attention of persons standing nearby.

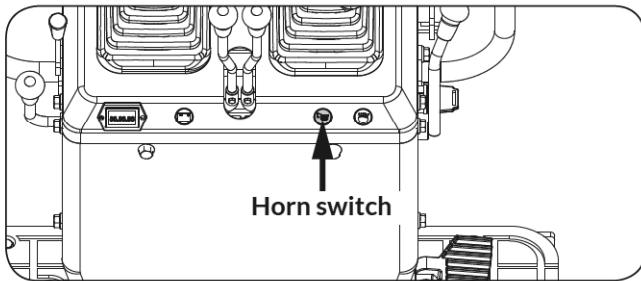


Figure 19



IMPORTANT

Do not use start help spray or similar fluids. In order not to overload the battery and starter, avoid start-ups of more than 10 sec. When the engine does not start in 10 sec., please set the interval to 20 sec. or more, and restart.

ADDING OIL TO ENGINE

1. Make sure the excavator is on a flat, level surface.
2. Open the engine hood and remove the oil gauge to add oil. (See Figure 20)

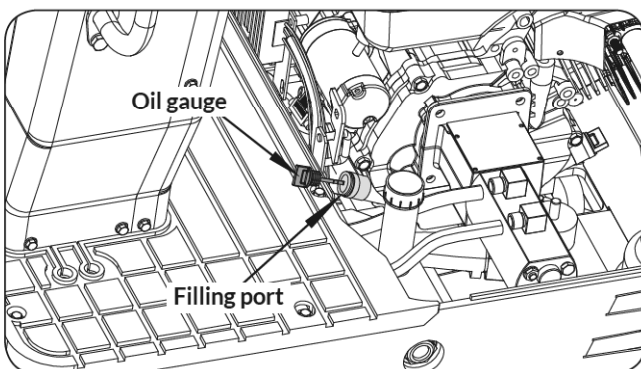


Figure 20

3. Using a funnel, add oil up to the FULL mark on the dipstick. (See engine manual for oil capacity, oil recommendation, and location of fill cap.)



CAUTION

DO NOT OVERFILL. Check engine oil level daily and add as needed.

ADDING GASOLINE TO ENGINE



DANGER

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel. Use extreme care when handling gasoline.



DANGER

Fill the fuel tank outdoors, never indoors. Gasoline vapors can ignite if they collect inside an enclosure. Explosion can result.

1. The engine must be off and allowed to cool at least two minutes before adding fuel.
2. Remove the fuel filler cap and fill the tank. (See engine manual for fuel capacity, fuel recommendation, and location of fuel cap.)



WARNING

IMPORTANT: DO NOT OVERFILL!

This equipment and/or its engine may include evaporative emissions control system components, required to meet EPA and/or CARB regulations, that will only function properly when the fuel tank has been filled to the recommended level. Overfilling may cause permanent damage to evaporative emissions control system components. Filling to the recommended level ensures a vapor gap required to allow for fuel expansion.



WARNING

IMPORTANT: DO NOT OVERFILL!

Pay close attention while filling the fuel tank to ensure that the recommended fuel level inside the tank is not exceeded. Use a portable gasoline container with an appropriately sized dispensing spout when filling the tank. Do not use a funnel or other device that obstructs the view of the tank filling process.

3. Reinstall the fuel cap and tighten. Always clean up spilled fuel.

START OF THE EXCAVATOR



CAUTION The operator should always conduct the routine checks (see "MAINTENANCE").

1. Check and ensure that the fuel tank switch is in the OPEN position. (See **Figure 21**)

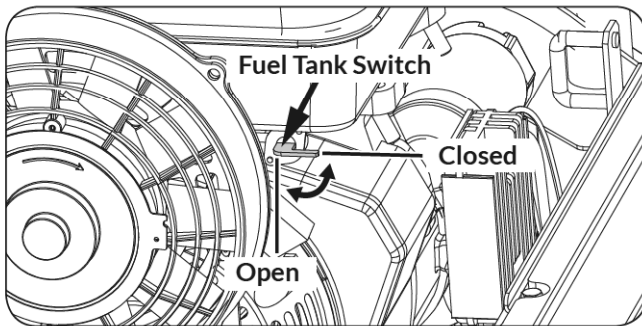


Figure 21



NOTE The engine fuel tank switch was set at "Open" position before leaving factory. No need to move the fuel tank switch lever when starting the engine. Only when the engine failed to be started, open the engine hood, check and make sure that the fuel tank switch is in the "Open" position.

2. Before starting the engine, make sure that all control levers are in the neutral positions. (See **Figure 22**)

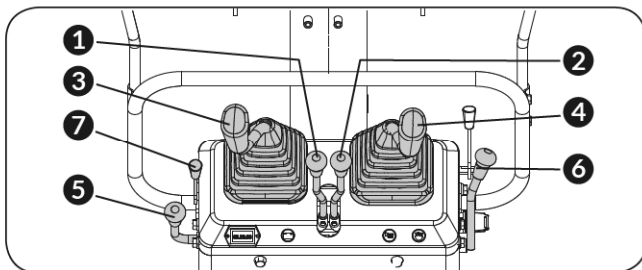


Figure 22

- (1) Left drive lever
- (2) Right drive lever
- (3) Attachment control lever (left)
- (4) Attachment control lever (right)
- (5) Throttle lever
- (6) Control lever for dozer
- (7) Choke control lever of gasoline engine

3. To start a cold engine, move the choke control lever to the CHOKe position. To restart a warm engine, leave the choke lever in the RUN position. (See **Figure 23**)

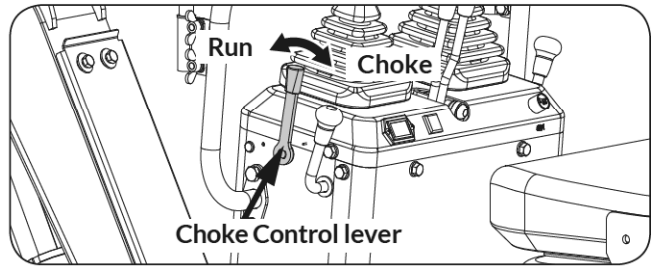


Figure 23

4. Move the throttle lever away from the SLOW position, about 1/3 of the way toward the FAST position. (See **Figure 24**)

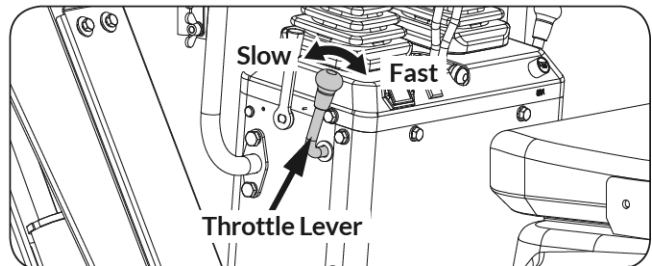


Figure 24

5. Active the Key Ignition Switch by turning it fully clockwise toward "START". Release the key as soon as the engine starts, it will automatically return to the Run "ON" position. Do not active the key continuously for more than 5 to 10 seconds at a time. (See **Figure 25**)

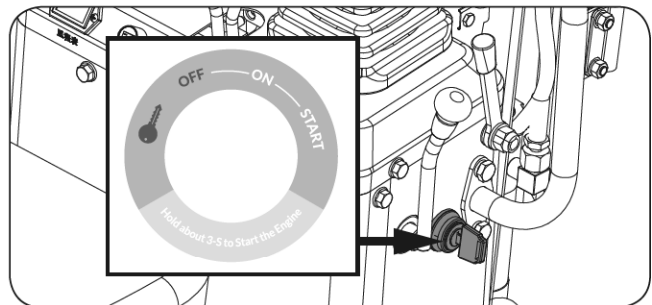


Figure 25

6. If the choke lever has been moved to the CLOSE position to start the engine, gradually move it to the RUN position as the engine warms up.
7. Check if power indicator have gone out. If the power indicator does not go out, stop the engine and check for the cause. (See **Figure 26**)

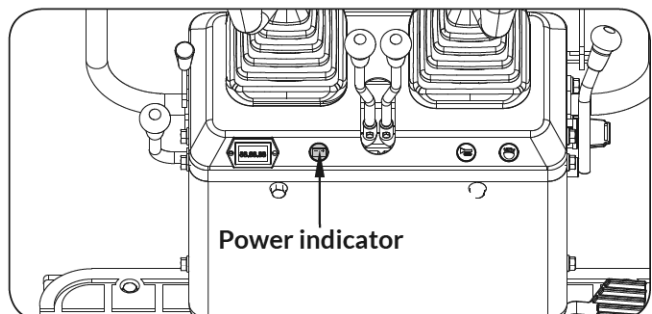


Figure 26

When the power indicator light is off, first check whether the fuse is blown. After the fuse is replaced, the fuse is normal, indicating that the battery is dead and needs to be charged; If the fuse is still blown after replacement, it is necessary to find professional maintenance personnel to repair the circuit.

Hour meter

The hour meter shows the total operating hours of the excavator.

Meter reading

The meter counts up 1 for one operating hour. The electric meter is still counting if the engine stops but the key is in the "ON" position. (See **Figure 27**)

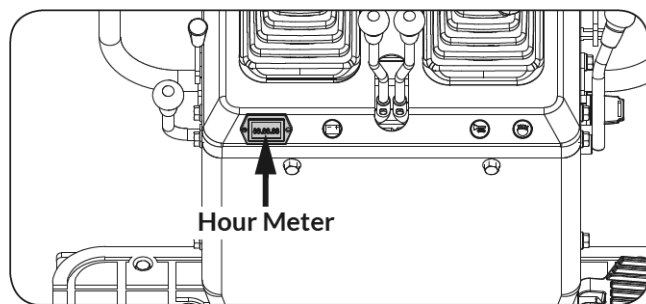


Figure 27

CHECKPOINTS AFTER STARTING THE ENGINE

After starting the engine, but before starting operation, check following points:

1. Put the throttle lever in the "LOW" position and let the engine idle for approx. 5 minutes. This allows the engine lubricant to warm up and penetrate every part of the engine.



NOTE

This idling is usually called "Warm-up".

2. Once the engine has warmed up, check:

- the alarm lamp "Battery charge" goes out when accelerating the engine.
- the colour of the exhaust gas is normal and no abnormal noises or vibrations are heard or felt.
- no fluid is leaking from pipes or hoses.

Should any following conditions arise, stop the engine immediately.

- The engine revolution increases or decreases suddenly.
- Sudden abnormal noises.
- Exhaust gas is black.



IMPORTANT

In these cases, the excavator must be checked and serviced according to the directions of the dealer.



IMPORTANT

Let the engine warm up after start-up.

Let the engine warm up after start-up for approx. 10 minutes under no load conditions. If the hydraulic fluid temperature is too low, the operation will be affected.

Do not operate the excavator under full load before the engine is warmed up enough.

STOPPING THE ENGINE



WARNING

Do not keep the bucket or dozer in the lifted position, as a person could accidentally touch the levers and cause serious accidents.

Lower all work attachments on to the ground, otherwise accidents could occur.

Let the engine idle for approx. 5 minutes to let it cool down.

1. Put the throttle lever in idle position.
2. Lower the work attachments carefully on the ground by activating the levers.
3. To stop the engine, turn the key to the "OFF" position and remove the key.

STOP FUEL TANK SWITCH



CAUTION

In the case of an emergency, or should the engine in idle position and key in the off position, still run, do like as below.

Open the engine hood and push the stop lever back and hold until the engine stops. (See **Figure 28**)

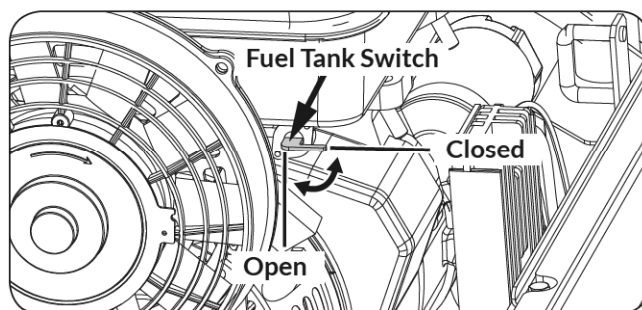


Figure 28



IMPORTANT

If the engine does not stop with the key, contact your dealer.

EXCAVATOR OPERATION

CONTROL OBSERVATIONS DURING OPERATION

Stop the Engine immediately if:

After starting the engine, but before starting operation, check following points:

- Sudden increase or decrease in engine revolution occurs.
- Sudden abnormal noises occur.
- Exhaust gases turn suddenly very dark.

Make following control observations during operation to be sure that everything functions normally. (See **Figure 29**)

! WARNING When the engine stops suddenly, push forward the right handrail to let the bucket fall down, so as not to cause misoperation, resulting in injury due to the bucket fall.

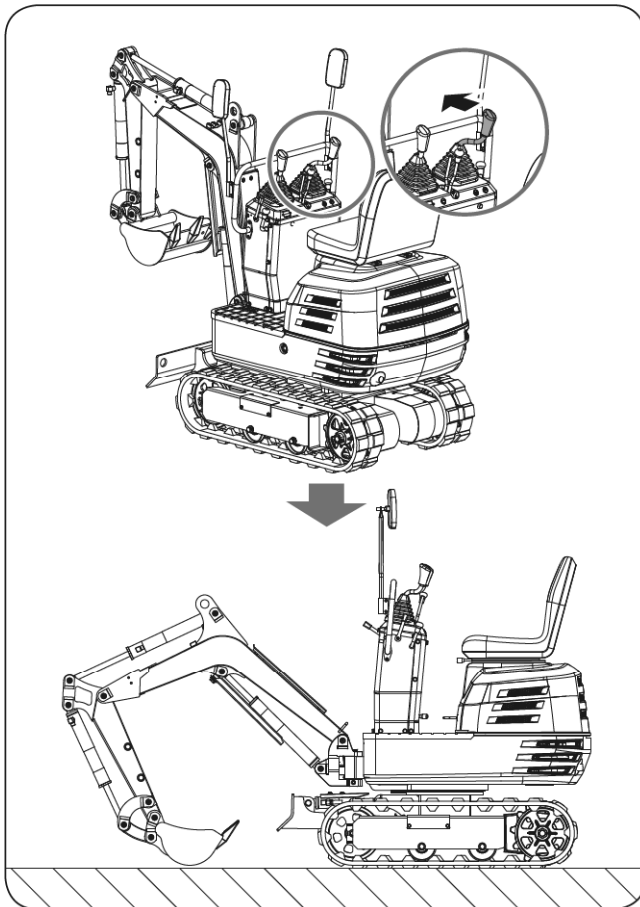


Figure 29

RUNNING-IN OF THE NEW EXCAVATOR

The operation and care of the new excavator influences its life span. Your new excavator has been carefully checked and tested before leaving the factory. In spite of this, all movable components must run-in during the first 50 work hours. Do not work with full revolution and full loads during this period. It is most important to run-in your excavator properly in order to achieve its full performance and longevity. During the running-in, the following points should be adhered to in all cases.

Do not Work with Full Revolutions or Full Loads during the First 50 Working Hours.

- Let the engine warm up sufficiently in the cold season.
- Do not let the engine rev-up more than necessary.

Oil Change in the Run-in Stage.

The lubrication oil plays a specially important role during the run-in phase of the excavator. The numerous movable parts are not yet run-in, so that many fine metal particles can develop and cause damage or shorten the lifetime of many components. Pay attention to the oil change intervals and execute them sooner rather than later as necessary. See the subject "Care and Maintenance" for more details on the oil-change intervals.

STARTING

! CAUTION No persons, other than those familiar with the excavator, are allowed to use the excavator. Do not allow any person other than the operator to ride on the excavator.

ADJUSTING THE OPERATOR'S SEAT

1. Adjusting the Operator's Seat

! CAUTION Before adjusting the operator's seat, make sure that no one puts hands on the engine bonnet behind the seat. After having adjusted the seat, make sure that the seat adjuster has clicked into position.

To and fro : While holding up the to-and-fro adjustment lever, reposition the seat to and fro.

2. Bring the lock lever into the "Unlock" position.

! CAUTION Check safety aspects all around the excavator.

Please bring the lock lever into the "Unlock" position, and raise the lower side of the bucket from the ground by 7.9 to 15.8 inch. (See **Figure 30**)

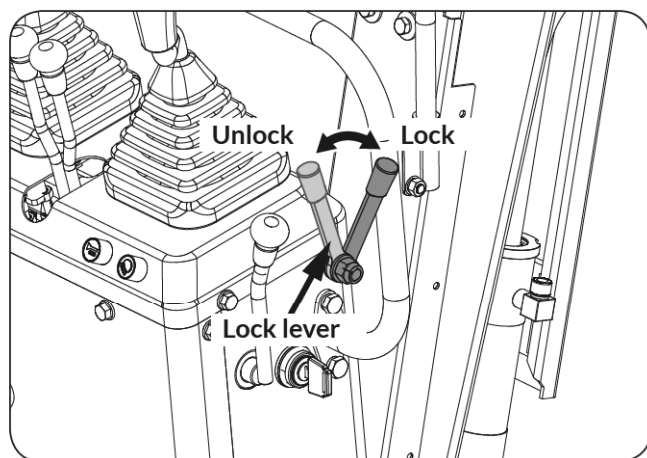


Figure 30

WORKING LIGHT SWITCH

If the key is in the "ON" position, the lights will be switched on by tipping the switch. (See **Figure 31**)

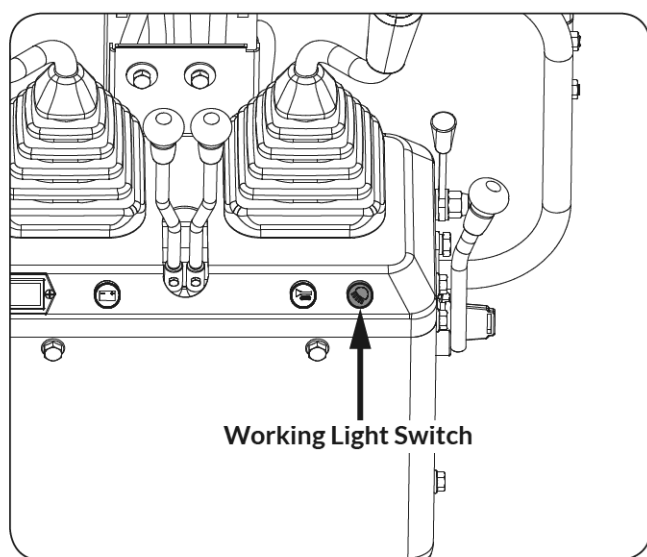


Figure 31



IMPORTANT The ambient lighting of the machine must be above 500Lux.

NIGHT OPERATION



CAUTION Visibility is reduced in darkness, so that the working light alone is not enough. Prepare additional lighting, observe safety rules as well as special regulations for night work.

DRIVE LEVER

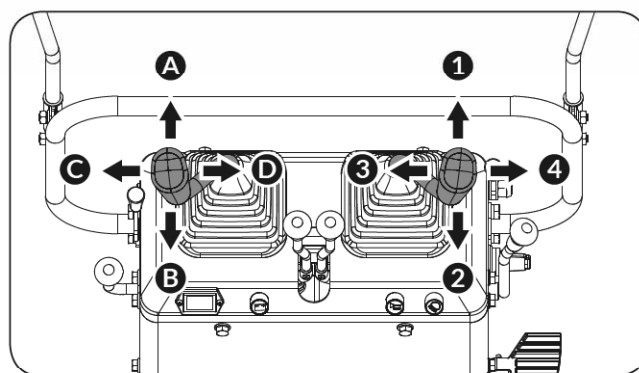


Figure 32

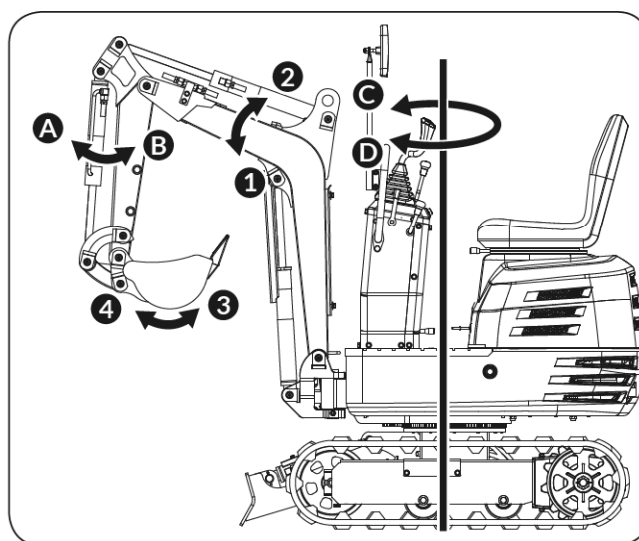


Figure 33

LEVER POSITION		MOVEMENT
Left Front Attachment Control Lever	A	Arm out
	B	Arm in
	C	Swivel to left
	D	Swivel to right
Right Front Attachment Control Lever	1	Boom lower
	2	Boom raise
	3	Bucket dig
	4	Bucket dump



NOTE See "SWIVEL MOVEMENT AND SWING MOVEMENT".

OPERATION OF THE BOOM

To raise the boom, pull the attachment control lever back.

The boom is equipped with a cushion cylinder which prevents excavated material in the bucket from fall-in out. By low hydraulic oil temperature, (e.g. right after starting the engine) the cushioning

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function will only be effected after a certain delay (approx. 3 to 5 seconds). This condition results from the viscosity of the hydraulic oil and is no sign of a malfunction. (See **Figure 34 & 35**)

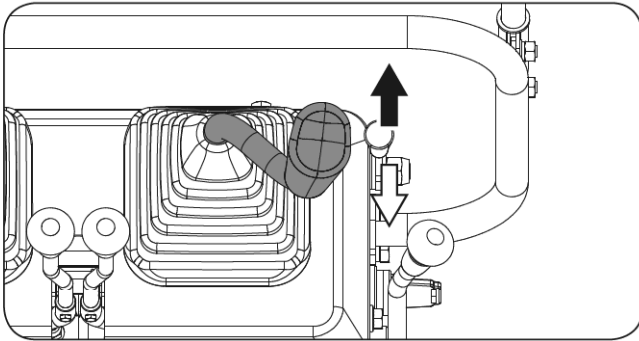


Figure 34

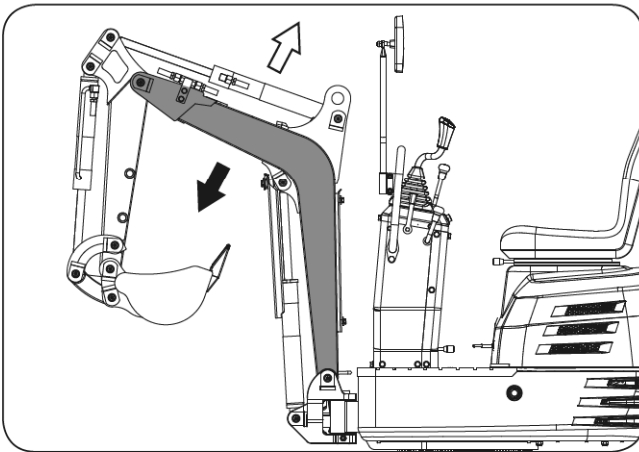


Figure 35



IMPORTANT When lowering the boom, make sure that it does not hit the dozer and that the bucket teeth do not touch the dozer.

OPERATION OF THE ARM

Pull back the left attachment control lever and the arm will be pulled in. To move the arm out, push the control lever towards the front. (See **Figure 36 & 37**)



IMPORTANT When pulling in the arm, the movement may stop for a short moment when the arm is in its vertical position. This is caused by the fact that at this position the maximum load for the arm and bucket is reached, and the hydraulic pressure in the cylinder is not high enough. This is a characteristic of the hydraulic system and is not a sign of a malfunction.

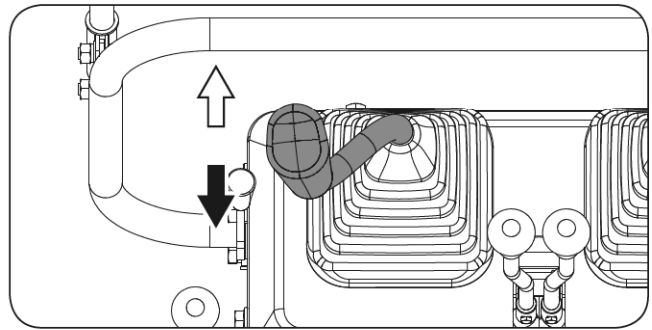


Figure 36

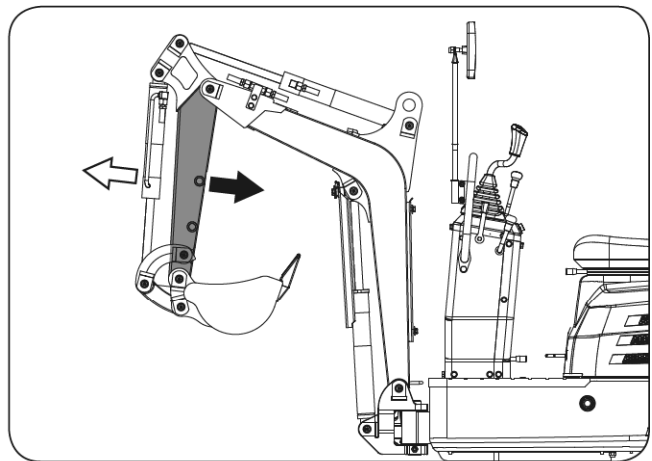


Figure 37

OPERATION OF BUCKET

To dig with the bucket, move the right attachment control lever from the neutral position towards the left. Moving the control lever towards the right pushes the bucket outwards and dumps its contents. (See **Figure 38 & 39**)

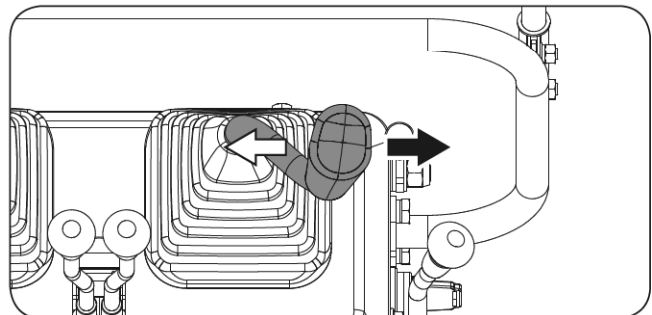


Figure 38

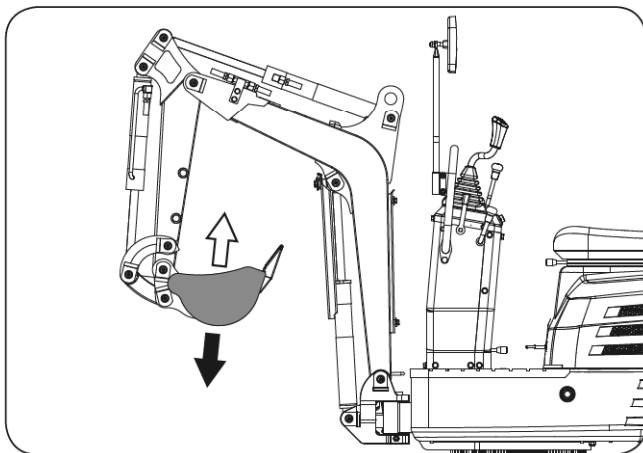


Figure 39

SWIVEL (UNIT SWING) OPERATION



CAUTION When working in groups, always let the others know what you are going to do before you do it. Keep away from the working area.



IMPORTANT Do not operate the left attachment control lever abruptly from the right to the left (or vice versa). Because of the law of inertia, this causes an impact load on the swing gear and the swing motor. Additionally, the lifetime of the excavator will be shortened. Unlock the swing lock pin before carrying out swivel operations.

1. Tilt the control lever to the left and the upper structure will turn to the left.
2. Tilt the control lever to the right and the upper structure will turn to the right. (See **Figure 40 & 41**)

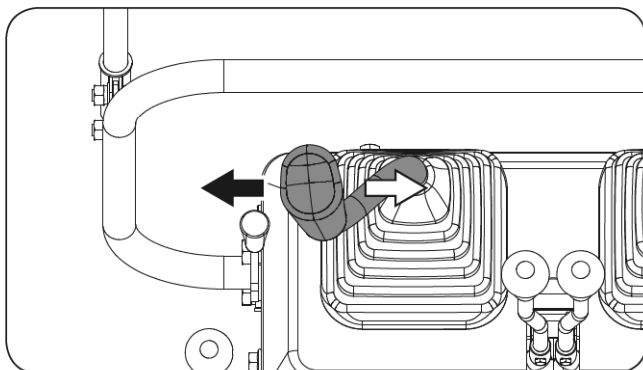


Figure 40

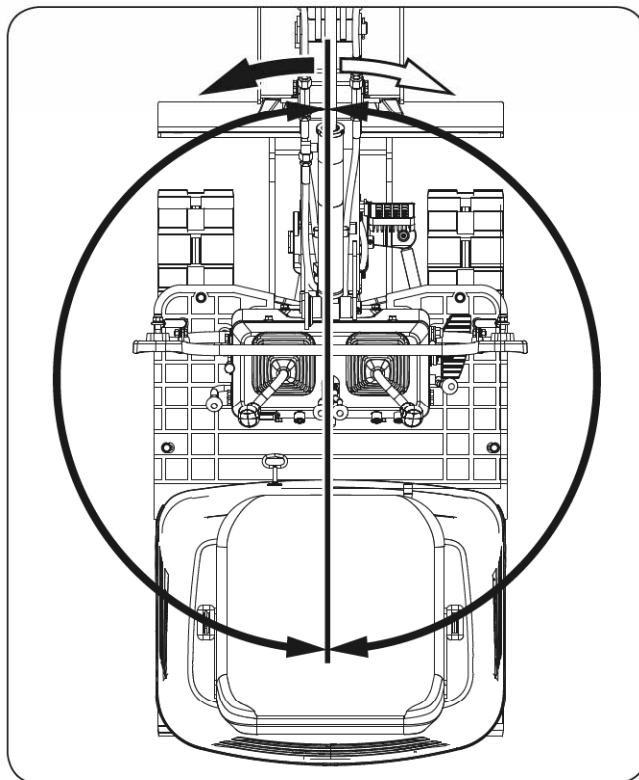


Figure 41

BOOM SWING OPERATION

1. Step on the front of the pedal to swing the boom to the left.
2. Step on the rear of the pedal to swing the boom to the right. (See **Figure 42 & 43**)

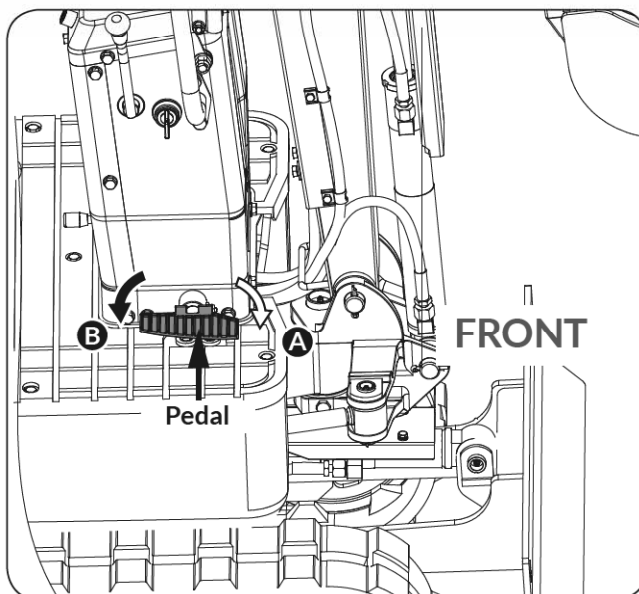


Figure 42

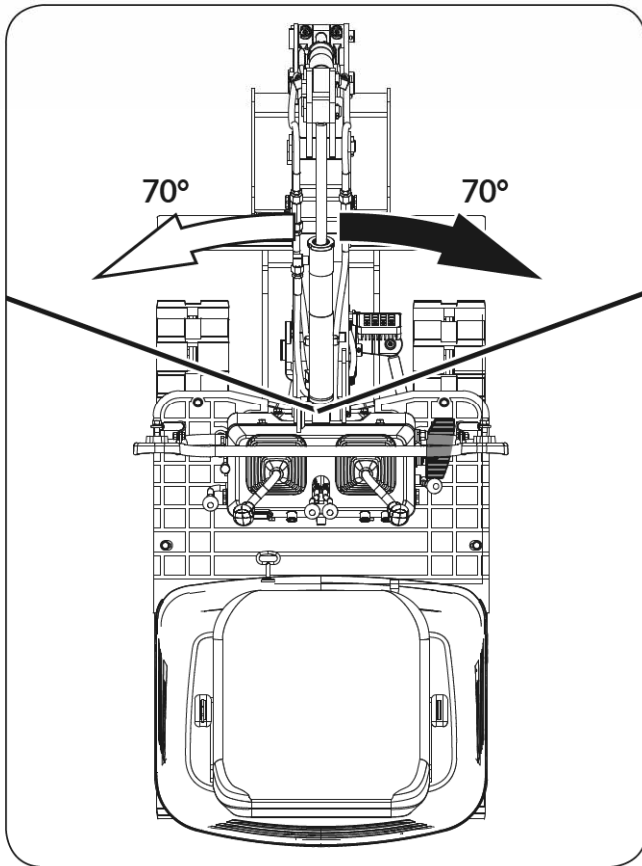


Figure 43

BOOM SWING PEDAL

! WARNING Always keep your toes within the edge of foot step; otherwise there is a possibility that your toes will be caught between swing frame and boom or boom cylinder.

! CAUTION When boom swing operation is not in use, fold the boom swing pedal forward to fix the pedal from unexpected moves.

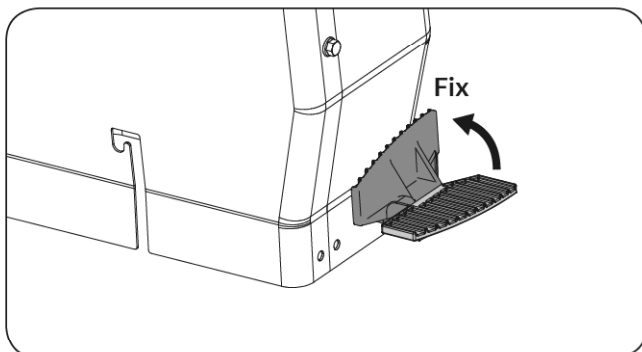


Figure 44

OPERATION OF DOZER

1. To lift the dozer, pull control lever for dozer backward. Push the control lever forward to lower the dozer. (See **Figure 45 & 46**)

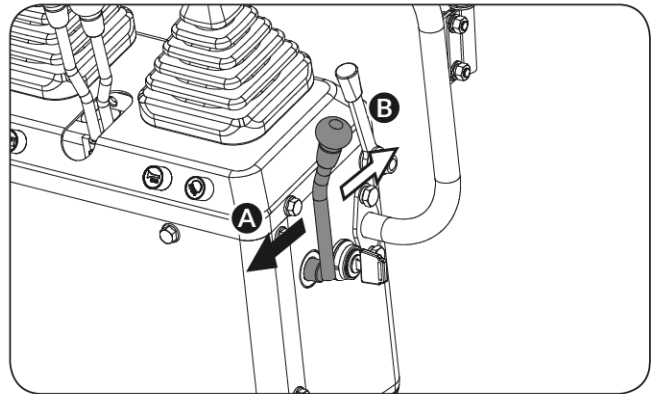


Figure 45

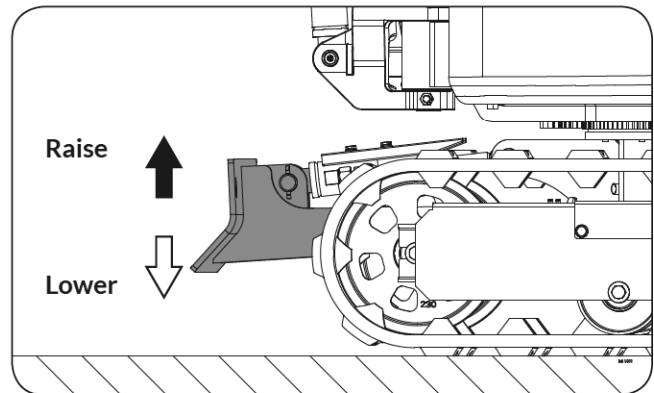


Figure 46

2. While undertaking earth moving work, control both drive levers with the left hand and the control lever for dozer with the right hand.

DRIVING



WARNING

Before starting the engine, make sure that no further persons are in the excavator surroundings.

Before operating the excavator, check the crawler direction. (Idler and dozer to the front of the excavator).

Avoid travelling across a slope or working sideways on a slope.

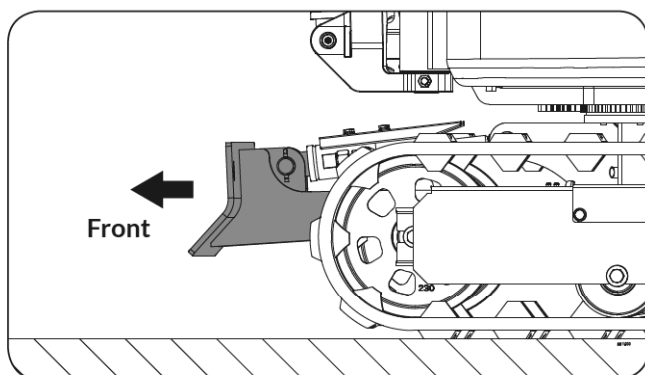


Figure 47

1. Adjust the engine speed from idling to an intermediate speed.
2. Raise the dozer and hold the bucket about 7.9 to 15.8 inch off the ground. (See **Figure 48**)

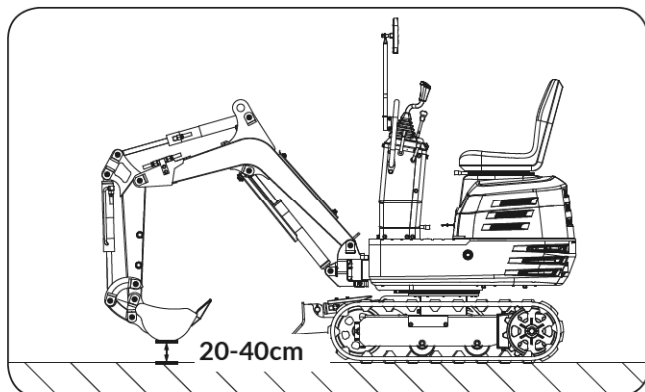


Figure 48

DRIVE LEVERS (RIGHT, LEFT)



WARNING

If the swing frame has been turned 180°, i.e. the dozer is, seen by the operator, "behind", then the travel direction is opposite to the drive direction of the levers (when activating the drive lever forwards, the excavator, seen by the operator, will move backwards).

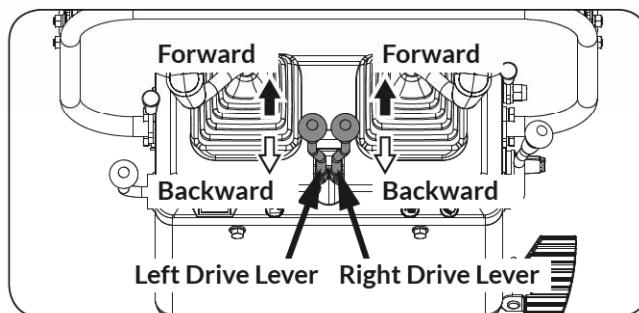


Figure 49

Pushing both drive control levers forward simultaneously, moves the excavator forward. Similarly, pulling both drive control levers backward simultaneously, moves the excavator backward. The front of the excavator is the direction where the dozer is present. (See **Figure 50**)

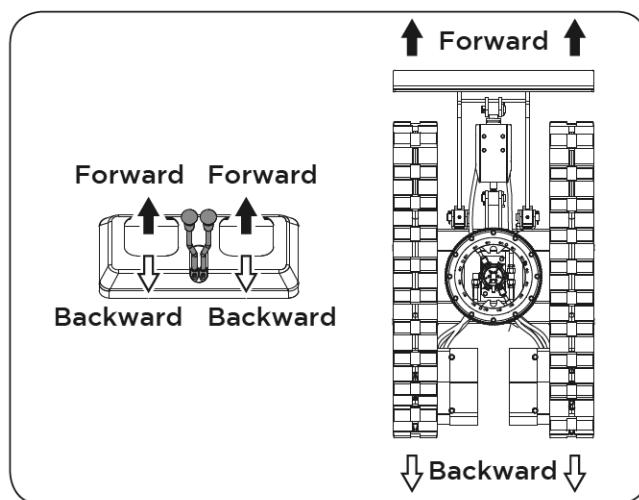


Figure 50



IMPORTANT

If the crawler is clogged with sand or gravel while working on soft ground, lift up one crawler with the help of the boom, arm and bucket and let the crawler rotate to shake off the sand and gravel.

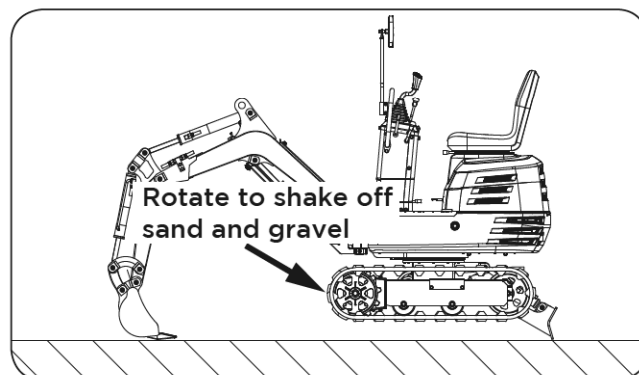


Figure 51

! IMPORTANT When driving in the muddy ground, if the excavator is stuck in the mud and cannot move, it should be lifted to a safety zone with the hoisting belt as shown in the drawing below.

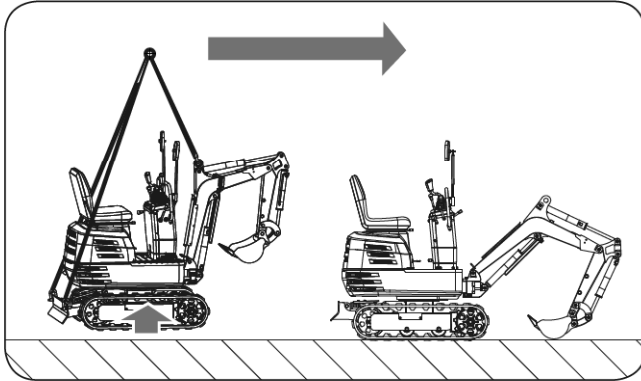


Figure 52

! IMPORTANT The excavator cannot travel on the muddy road with the slewing platform perpendicular to the tracks, so as to prevent the tracks from being involved in the mud.

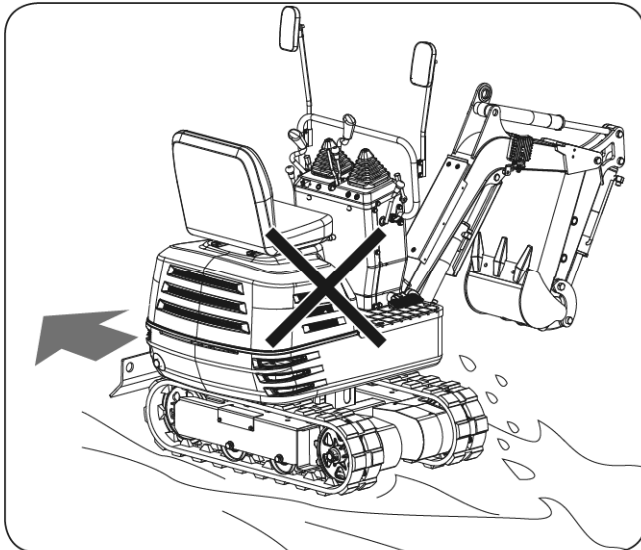


Figure 53

URNS

! CAUTION Do not change direction on steep slopes, or the excavator could tip over. Before changing direction, beware of persons in the working area.

PIVOT TURN

NOTE Movement as illustrated shows turning motion with the dozer positioned facing the front.

When the dozer is facing the back, the turning direction is reversed.

(For example, push the left (right) drive lever forward; right (left) crawler, seen by the operator, will move backward from the operator.)

Change of Direction while Stationary

1. Push the left drive lever forward; the excavator will turn to the right. (See **Figure 54**)

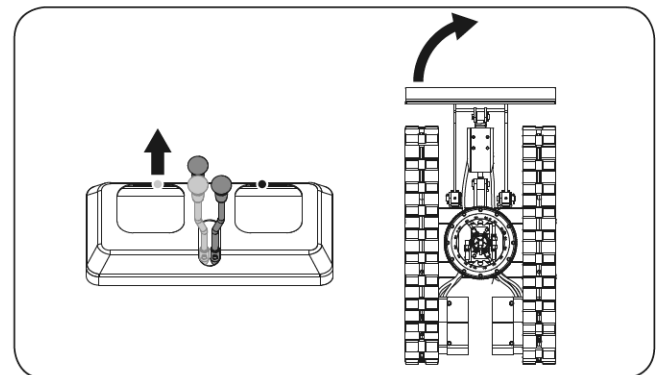


Figure 54

2. Pull the left drive lever backward, back of the excavator will turn to the right. (See **Figure 55**)

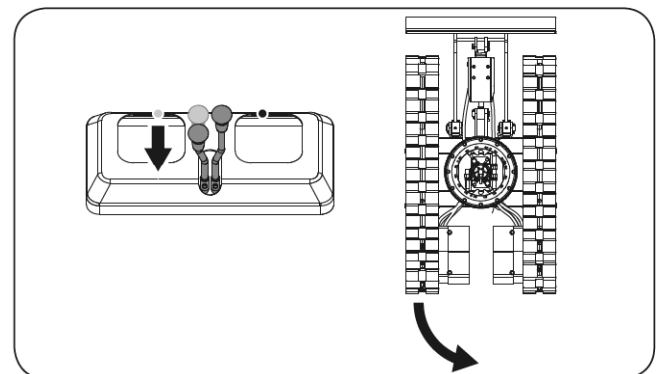


Figure 55

Change of Direction while Travelling

1. While travelling forward, pull back the left drive lever into the neutral position, and keep pushing the right lever in the forward position, the excavator will turn to the left. (See **Figure 56**)

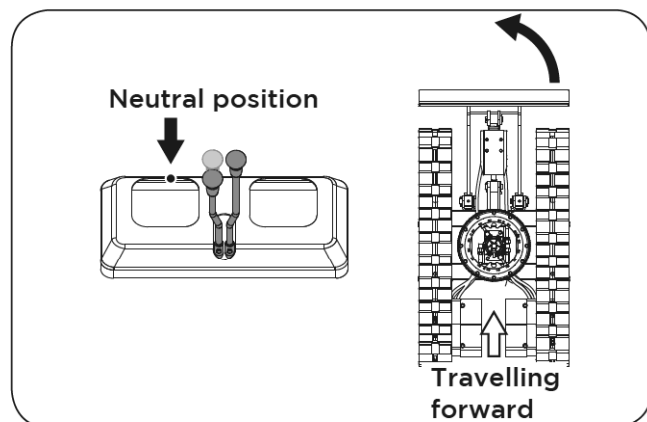


Figure 56

2. While travelling backward, push back the left drive lever into the neutral position, and keep pulling the right lever in the backward position, back of the excavator will turn to the right. (See **Figure 57**)

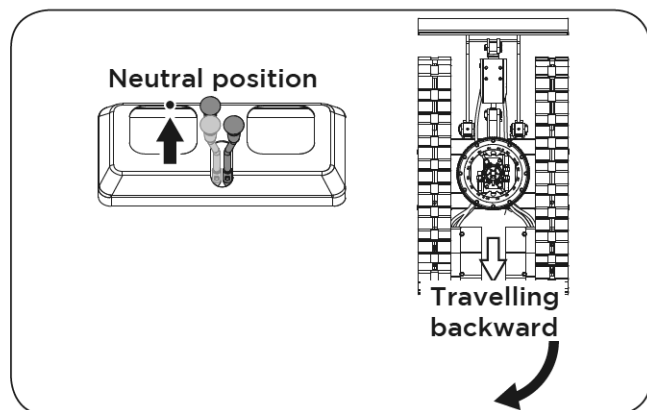


Figure 57

SPIN TURN

When both drive levers are activated in the opposite directions, both crawlers will rotate with the same speed but in opposite directions, the excavator will rotate in place. Centre of rotation is the centre of the excavator. (See **Figure 58 & 59**)

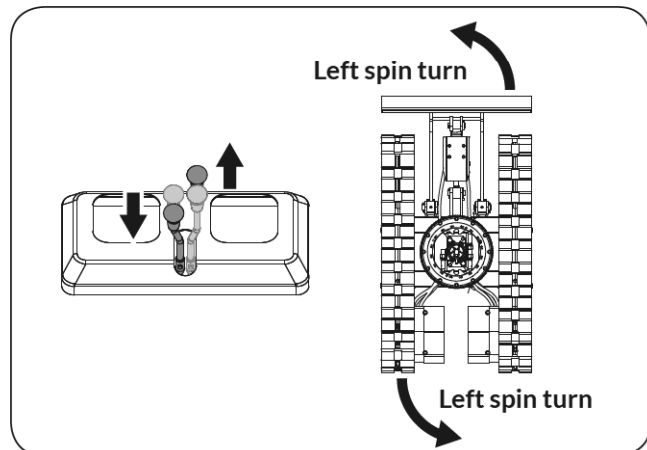


Figure 58

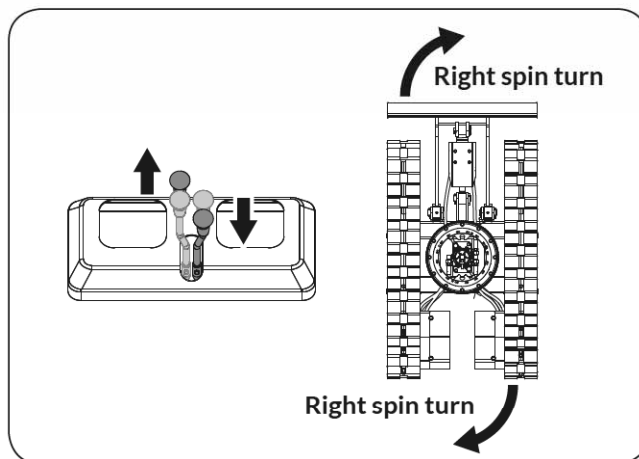


Figure 59

UP AND DOWNHILL TRAVELLING

While travelling uphill, keep the lower edge of the bucket approx. 7.9 to 15.8 inch above the ground. Although the excavator will not slip easily because of the crawlers, it is safer to let the bucket slide over the ground while travelling downhill. Always choose slow speed for uphill and downhill travelling. (See **Figure 60 & 61**)

[UPHILL TRAVELLING]

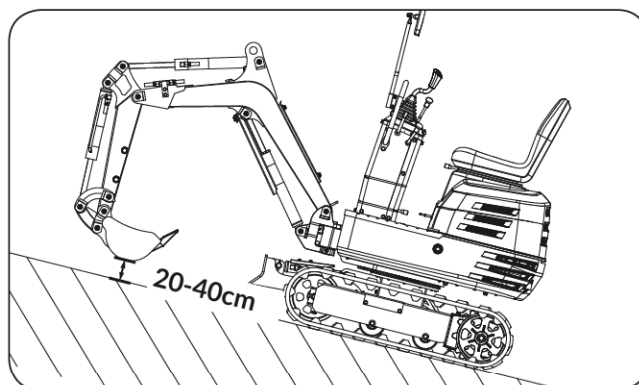


Figure 60

[DOWNHILL TRAVELLING]

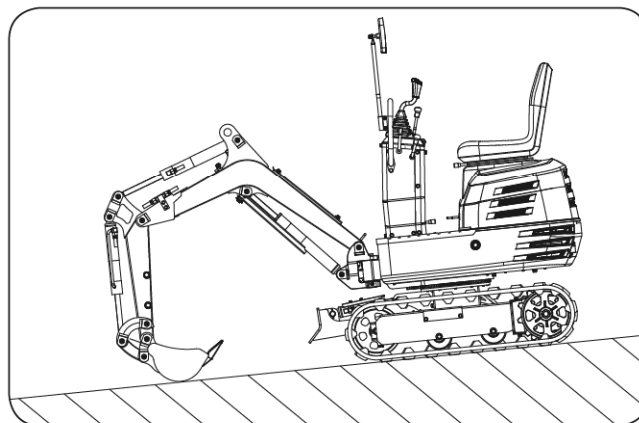


Figure 61

PARKING ON A SLOPE



WARNING

When the excavator is parked or left unattended on a slope, be sure to put the bucket on the ground and place all control levers in neutral position, then brace the crawlers with chocks.

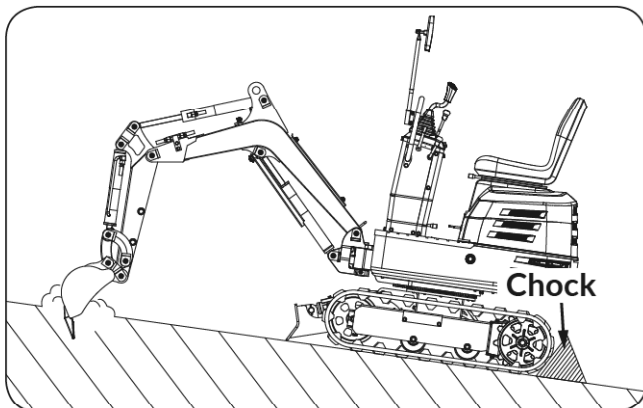


Figure 62

IMPORTANT INFORMATION ON EXCAVATOR OPERATION



CAUTION

After work, clean the machine and lubricate all movable parts.
Check oil level.



IMPORTANT

IMPORTANT: Do not try to crush concrete or boulders using side swings with the bucket. Also avoid using side sweeps of the bucket to move earth piles. Under all circumstances avoid the following operations:

- Excavation using the gravitational impact of the machine.
- Compacting of gravel or soil using the dropping action of the bucket.
- Excavation using the travelling power of the machine.

Do not try to drop or shake of soil adhering to the bucket in the manner shown in the explanation below. This can cause damage to the machine.

Adhering soil can be shaken off when the bucket is being emptied by moving the bucket out to the

maximum stroke of the cylinder. Should this not suffice, swing out the arm as far as possible and operate the bucket back and forth.

Do not hit the dozer with the boom cylinder! Make sure that the boom cylinder does not hit the dozer when carrying out deep excavation. If necessary swivel the upper structure so that the dozer is at the back of the machine.

Pay attention when pulling in the bucket! When pulling in the bucket (for driving or transportation) avoid hitting the dozer.

Avoid collisions!

When moving the excavator, pay attention so that the dozer does not collide with obstructions such as boulders etc..

Such collisions substantially shorten the life span of the dozer and the cylinder.

Support the machine correctly!

When stabilizing the machine with the dozer, lower the whole dozer fully on to the ground.

If the water or mud level reaches higher than the top of the tracks, the swivel bearing, swivel motor gear and ring gear may be exposed to mud, water and other foreign objects.

The excavator must be properly pressure washed after each use.

- Thoroughly clean the area around the swivel bearing, swivel motor gear and ring gear to remove foreign objects.
- Refer to operator's manual for proper swivel bearing, swivel motor gear and ring gear lubrication procedures.
- Reinstall any protective covering if removed earlier.

TRANSPORTING THE EXCAVATOR ON A TRUCK

! DANGER No directional changes should be made when the excavator is on the ramp. Should a change of direction be necessary, drive off the ramp completely and make the turn.

! DANGER When driving forwards or backwards onto the truck, or when swinging the upper body, make sure that neither the cabin or the gates of the truck will be damaged.

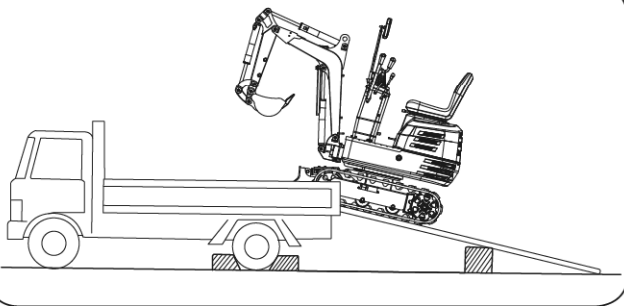


Figure 63

! DANGER When the excavator reaches the point between the ramps and the truck bed, halt and then move very slowly until the excavator reaches the horizontal position.

! DANGER Move the excavator onto the truck only with the arm completely pulled in. Otherwise the truck cabin could be damaged when swinging the upper body around.

! DANGER Do not jack up the machine using its boom to load or unload the excavator from the truck. Dangerous situation could arise.

TRANSPORTING ON A TRUCK

! WARNING After loading the machine on the truck, lower the bucket and dozer onto the truck bed. Lock the swing frame with the swing lock pin.

Prepare a platform to load or unload the excavator. Take following steps when using ramps.

1. Apply the parking brakes of the truck, and block the drive wheels from both sides. (See Figure 64)

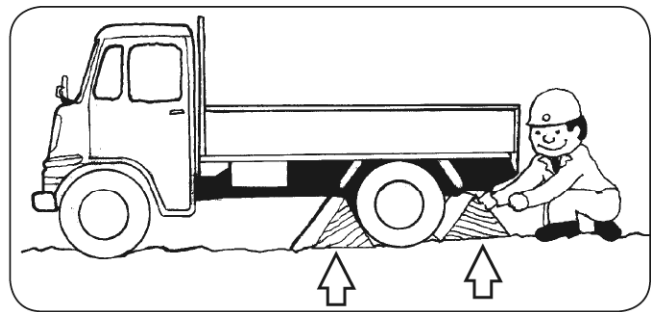


Figure 64

2. Use fixing plates to secure the ramp properly. Connect the ramps directly with the truck bed. (See Figure 65)

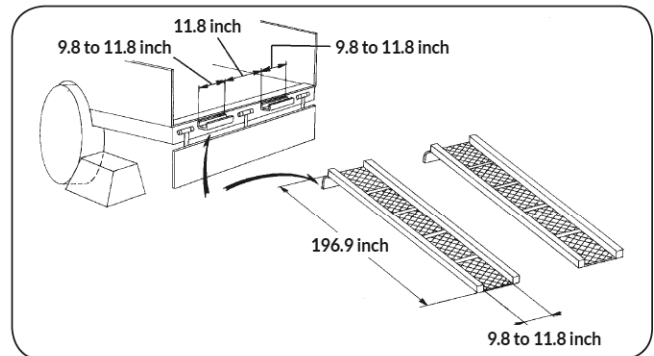


Figure 65

3. For additional safety, use blocks or struts under the ramps and the truck bed. (See Figure 66)

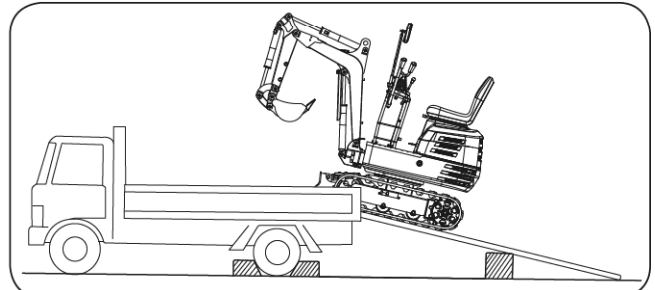


Figure 66

4. Completely align the ramps and the crawlers and then drive the excavator slowly up the ramps with the dozer in the front. After ensuring that the crawlers are completely on the truck bed, swivel the upper body around to the back of the truck.

5. Lock the swing frame with the swing lock pin. (See **Figure 67**)

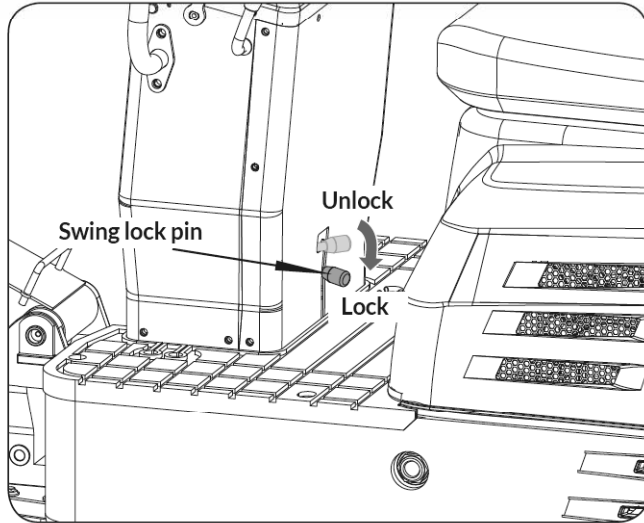


Figure 67

6. Lower the bucket and dozer onto the truck bed and then lock the boom with the lever before getting off. (See **Figure 68**)

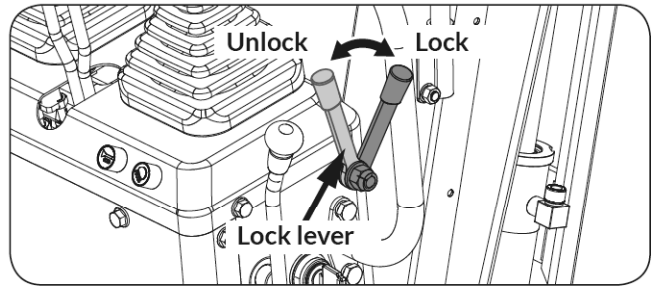


Figure 68

7. Block the crawlers and tie down the excavator. (See **Figure 69**)

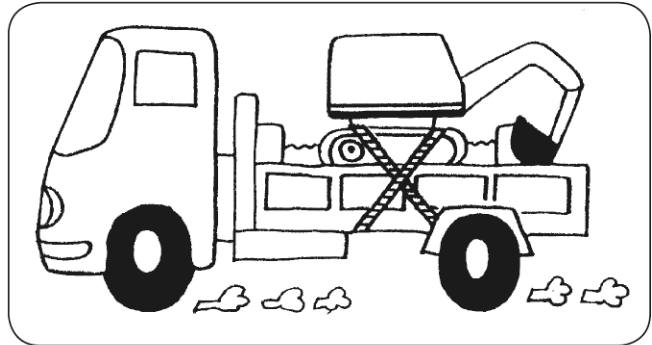


Figure 69

8. Before unloading, remove the swing lock pin and then raise the dozer and bucket from the truck bed.

LIFTING OF THE EXCAVATOR



DANGER The correct instructions for safe handling are described here. Read these carefully before moving the machine. Make sure that the operating personnel read the operator's manual carefully.

BASICS WHEN LIFTING WITH CHAINS / STRAPS

1. The lifting and crane operation is to be undertaken according to the guidelines described.
2. As the accessories for lifting mentioned in this instruction are only given as reference, the standards concerning strength, control and other details are based on the respective applicable guidelines.

SAFETY ASPECTS WHEN LIFTING WITH CHAINS / STRAPS

1. Do not lift loads that exceed the maximum load capacity of the crane.
2. Choose correct tackle suitable to the weight, size and form of the load.
3. First assess the centre of gravity of the load, position the hook

directly over the load and lift the load so that the centre of gravity of the load lies as low as possible.

4. The steel wires must be fixed in the middle of the hook.
5. The load must be lifted vertically from the ground.
6. Do not enter the working area under suspended loads and do not move the load over other persons. The load must be moved in an area where the equilibrium can be balanced out easily.

GENERAL GUIDELINES FOR LIFTING



WARNING Do not lift the excavator other than at the 3 points as illustrated.

1. Lifting position. (see below illustration)
 - (1) Pull in the boom completely towards rear.
 - (2) Pull in the arm completely.
 - (3) Pull in the bucket completely.
 - (4) Swing the boom in the central position.
 - (5) Swing the upper body 180° to make sure the dozer is seen from the operator behind.

(6) Insert the swing lock pin.

2. Attaching the chains / straps.

(1) Always hook the excavator at three points. (one on the boom and right and left of the dozer blade)



WARNING

The dozer must be raised.

(2) Always use a shackle on each lifting hole when attaching the straps.

(3) Use cushioning material at all places where the straps contact the machine.

3. Tackle

Choose components with enough strength.

4. Lifting

(1) Lift slowly and safely

(2) Do not enter the excavator area when lifting.

(3) Lift the excavator horizontally. (Modify connections according to needs) (See **Figure 70 & 71 & 72**)

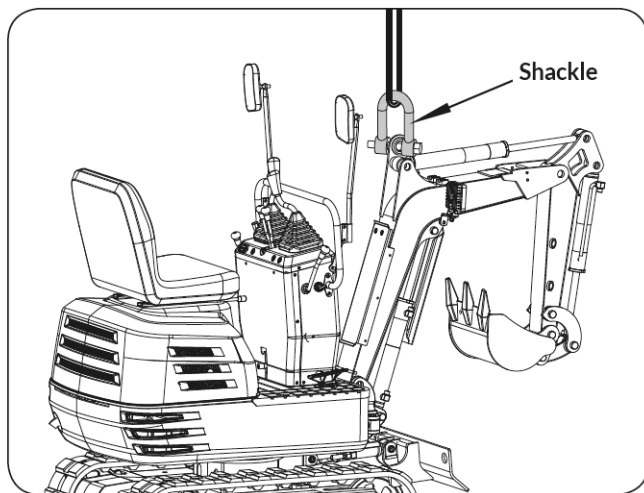


Figure 70

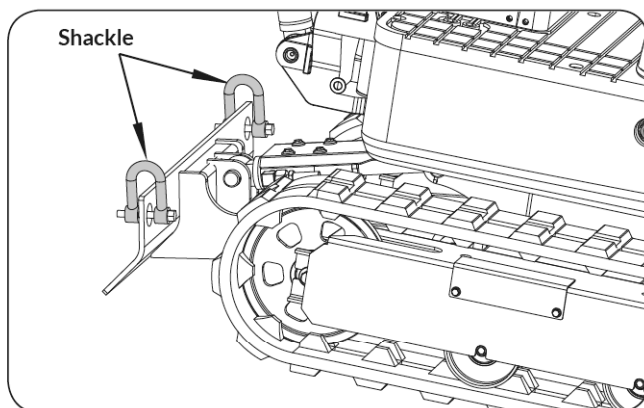


Figure 71

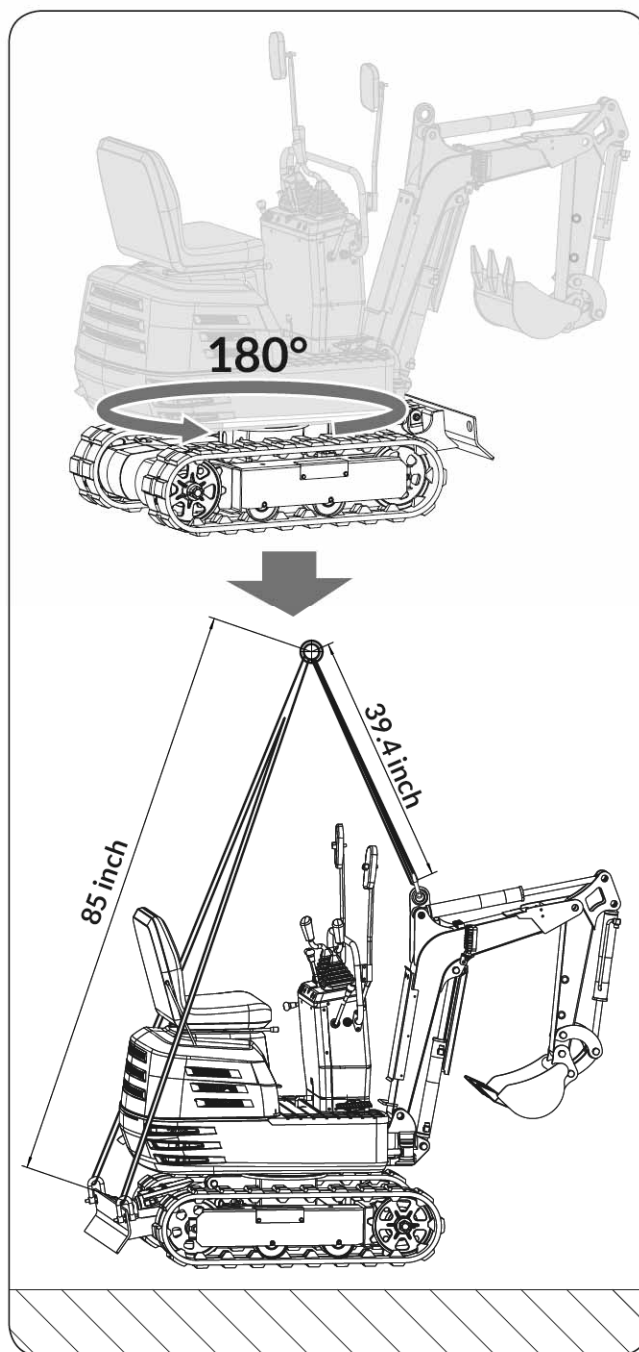


Figure 72

MAINTENANCE

MAINTENANCE INTERVALS

No.	Check points	Intervals	Hour meter indicator														Consequently	Ref. page
			50	100	150	200	250	300	350	400	450	500	550	600	1000	2000		
1.	Fuel	Check	Daily check															41
2.	Engine oil	Check	Daily check															42
		Change	○	○	○	○	○	○	○	○	○	○	○	○	○	○	every 50 hrs	45
3.	Hydraulic oil	Check	Daily check															42
		Change													○	○	every 1000 hrs	49
4.	Lubrication points	Check	Daily check															43
5.	Cooling Fan	Check	Daily check															44
6.	Electrical lines	Check	Daily check															44
7.	Air Cylinder / Cooling fin	Clean	Daily check															44
8.	The Whole Machine	Clean	Daily check															44
9.	Battery condition	Check	○	○	○	○	○	○	○	○	○	○	○	○	○	○	every 50 hrs	46
10.	Greasing of swing bearing teeth	Check	○	○	○	○	○	○	○	○	○	○	○	○	○	○	every 50 hrs	46
11.	*Air filter element	Clean	○	○	○	○	○	○	○	○	○	○	○	○	○	○	every 50 hrs	47
		Change				○				○				○	○	○	every 200 hrs	49
12.	Greasing of swing ball bearings	Check		○		○		○		○		○		○	○	○	every 100 hrs	49
13.	Fuel pipes and hoses	Check				○				○				○	○	○	every 200 hrs	49
		Change															every 2 years	50
14.	Hydraulic return filter element	Change													○	○	every 1000 hrs	49
15.	Hydraulic suction filter element	Change													○	○	every 1000 hrs	50
16.	Spark Plug	Check	○	○	○	○	○	○	○	○	○	○	○	○	○	○	every 50 hrs	48
		Change										○			○	○	every 500 hrs	50

* Clean the air filter more frequently if used in dusty conditions.

OPENING AND CLOSING OF PARTS

OPENING/CLOSING OF THE ENGINE HOOD

CAUTION Do not open the engine hood before stopping engine.

CAUTION Do not touch the exhaust muffler or the exhaust pipe; serious burns can occur.

Turn the key in the direction indicated by the arrow as shown in the below Figure to open the engine hood. (See **Figure 73**)

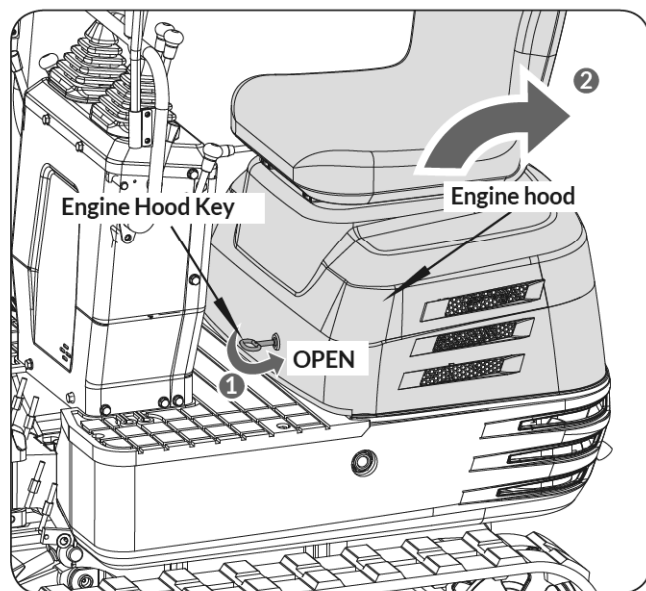


Figure 73

KEEP THE TOOLS AND OPERATOR'S MANUAL IN THE MANUAL TUBE

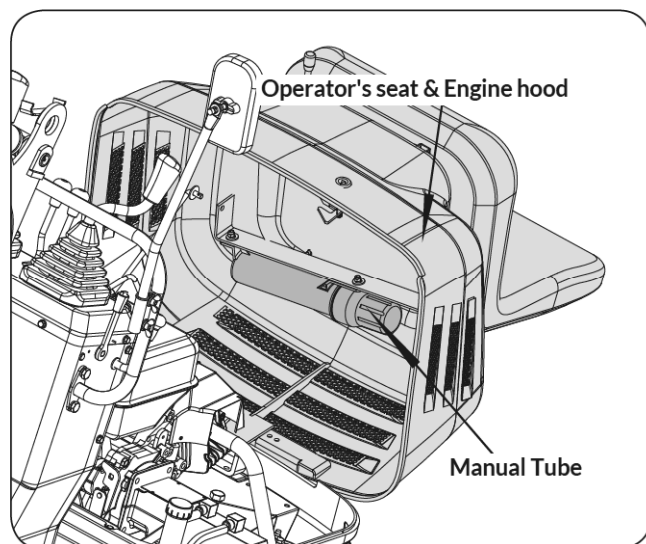


Figure 74

DAILY CHECKS

For your own safety and to assure the long life span of your machine, a careful check should be made before each operation.

CHECK FUEL LEVEL

CAUTION Stop the engine before fuelling.

CAUTION Do not smoke while fuelling.

IMPORTANT Use unleaded gasoline with a pump octane rating of 86 or higher.

1. Check the fuel level in fuel tank.
2. Open the tank cap, and fill with fuel. (See **Figure 75**)

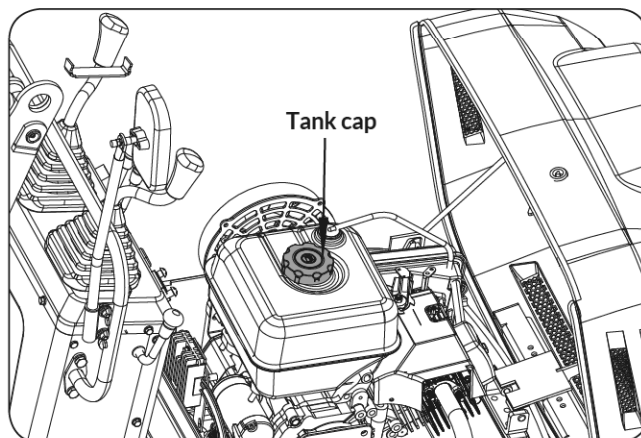


Figure 75

FUEL TANK CAPACITY	202.9 oz
--------------------	----------

IMPORTANT Always fill up fuel after a day's work.

IMPORTANT See "PURGING OF THE FUEL SYSTEM" in "OTHER ADJUSTMENTS AND REPLACEMENTS".

IMPORTANT Fuel tank cap has an air breather. Make sure to clean the air breather when filling up with fuel.

If the air breather is clogged with mud, the fuel tank becomes under-pressurized. (See **Figure 76**)

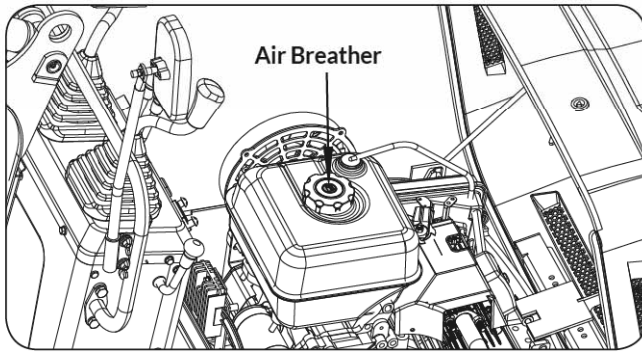


Figure 76

DRAINING THE WATER OR AIR FROM THE FUEL TANK



DANGER

When draining water or air from the fuel, always keep away from flames.

If the gasoline engine is not used for a long time, the problem that the engine cannot be started may occur when the engine is just started. The following operations are required:

1. Close the fuel tank switch. (See **Figure 77**)

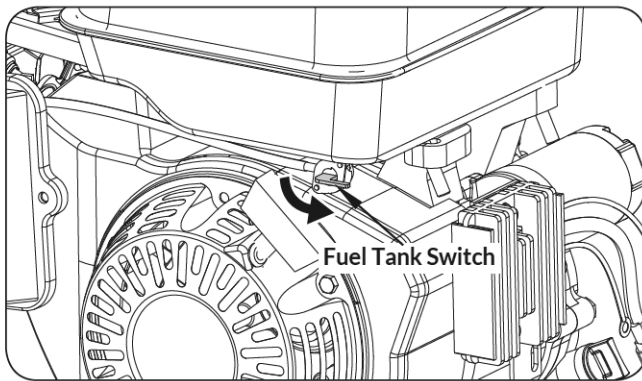


Figure 77

2. Unscrew the bolt at the carburetor vent port to drain the water or gas from the fuel. (See **Figure 78**)
3. Close the bolt at the carburetor vent.
4. Turn on the fuel tank switch.
5. Start the engine.

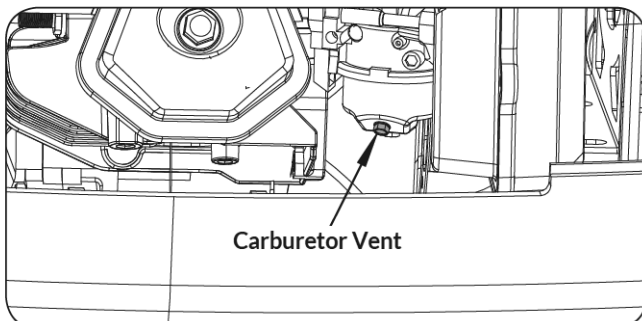


Figure 78

CHECK ENGINE OIL LEVEL



CAUTION

Stop the engine before checking the oil level.

Insert the oil gauge rod fully into the prepared opening, remove again and check the oil level; if necessary fill with oil. The machine must be on level ground when checking the oil level. (See **Figure 79**)

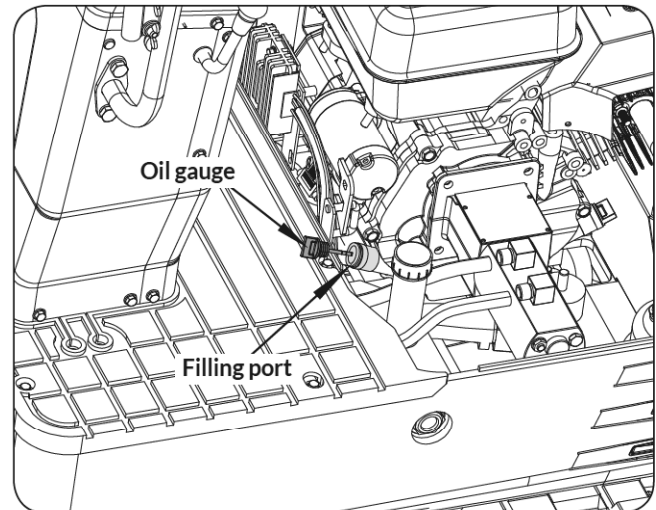


Figure 79



IMPORTANT

Use engine oil with the correct viscosity. (according the outside temperature)



IMPORTANT

After stopping the engine, wait five minutes, then check oil level. (Excavator must be on level ground.)

CHECK HYDRAULIC OIL LEVEL



CAUTION

First lower all attachments on the ground then stop the engine.



IMPORTANT

Before filling with oil, wipe away all sand and dust from around the oil port. Make sure you use an identical type of hydraulic fluid.



IMPORTANT

The excavator has been filled with hydraulic fluid before delivery. See "RECOMMENDED OILS". (Do not mix different makes!)

1. Move the excavator on to level ground. Extend every cylinder rod up to its centre position, place the bucket in contact with the ground.
2. Check the oil level as to whether it lies on the centre mark under normal temperature 10 to 30 °C.
3. Enough oil is present if the oil level lies between the markings.
4. Should the oil level be too low, add enough oil through the oil port before starting the engine. This step is important for the protection of the hydraulic system. (See **Figure 80**)

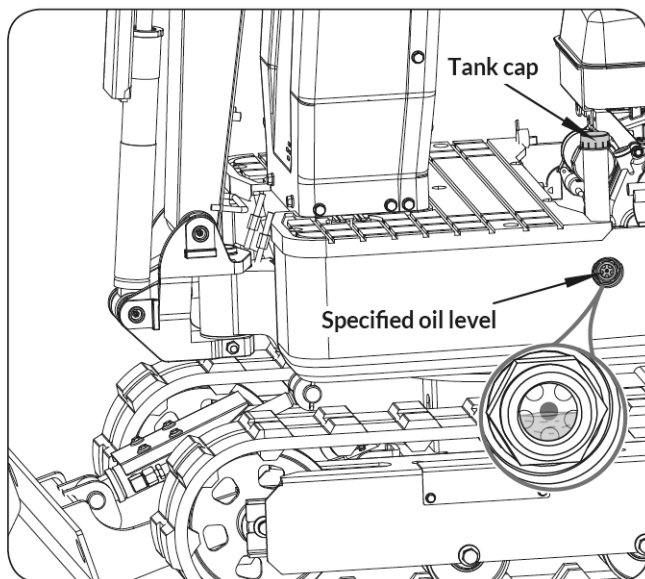


Figure 80

LUBRICATION POINTS



CAUTION First lower all attachments on the ground then stop the engine.



CAUTION While greasing, take care not to step on the bucket teeth.



CAUTION When doing excavation work in water, generously grease the following points. After finishing work, grease again.

Grease the marked grease nipples shown by arrows in the illustration below:

1. Boom bottom linkage 1 place
2. Arm bottom linkage 1 place
3. Boom cylinder boss 2 places
4. Arm cylinder boss 2 places

5. Bucket cylinder pin 2 place
6. Boom swing fulcrum 1 places
7. Wing cylinder boss 2 place
8. Dozer linkage pin 2 places
9. Bucket link pin 5 places

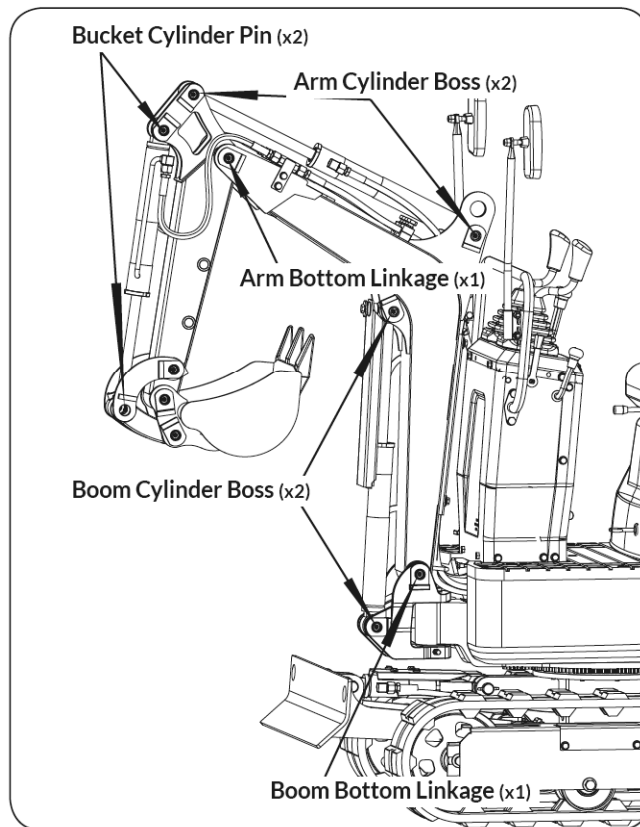


Figure 81

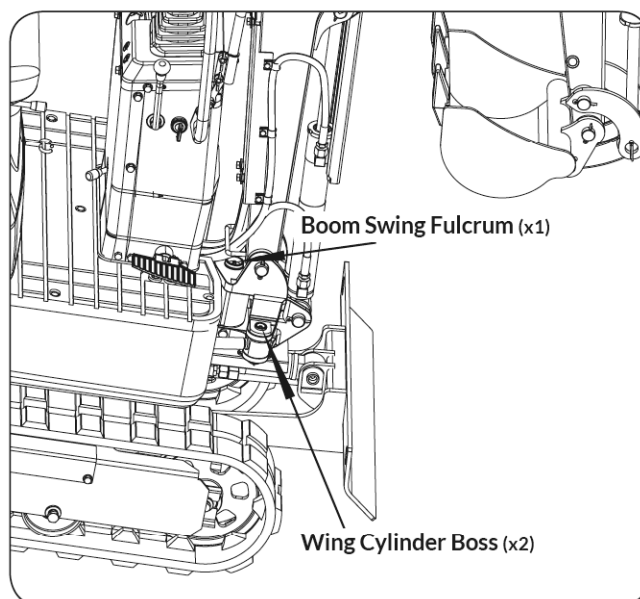


Figure 82

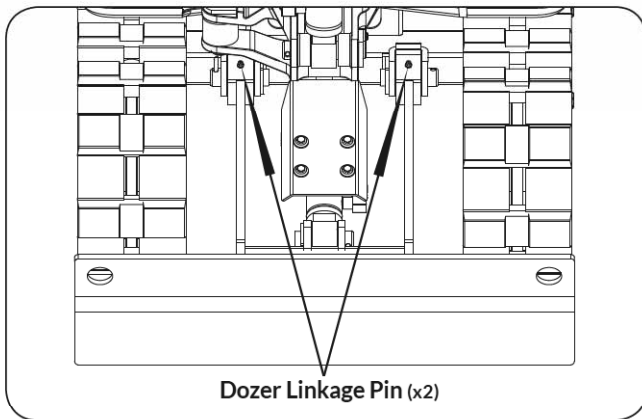


Figure 83

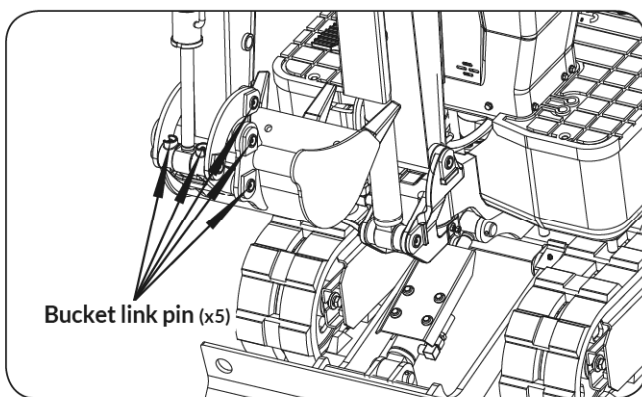


Figure 84

**NOTE**

The grease gun and grease are stored in the box.

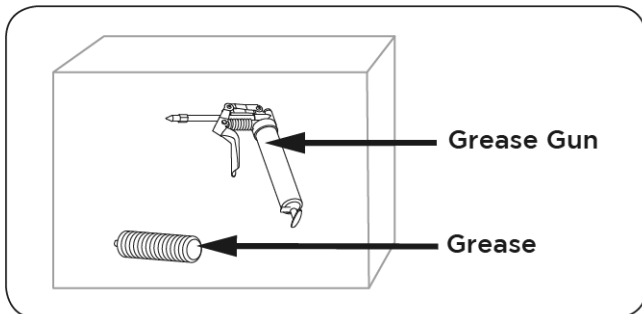


Figure 85

CHECK COOLING FAN**CAUTION**

Always stop the engine before checking the Cooling Fan.

**CAUTION**

Wear eye protection when cleaning with compressed air.

1. When the weather is hot, check the cooling fan more frequently whether the operation is normal; Check the dust on the cooling fan of the gasoline engine cylinder head. If there is a lot of dust, please use compressed air to clean it.
2. Check whether the muffler chimney and muffler cover have oxidation. Check whether the insulation layer of muffler cover is complete. (See **Figure 86**)

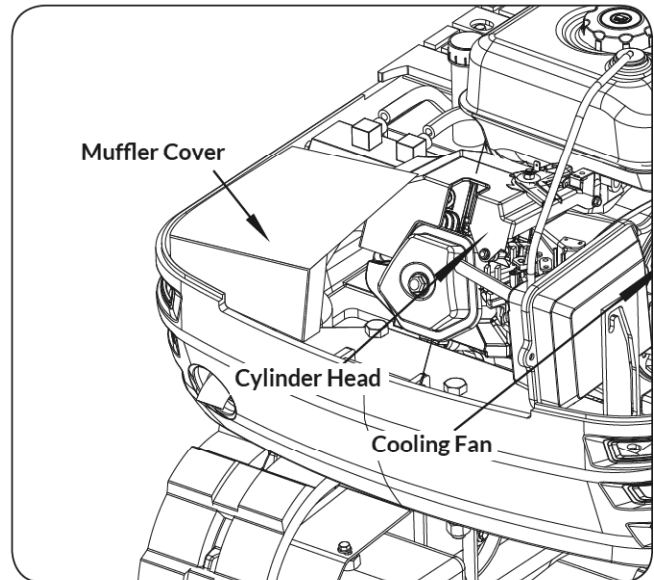


Figure 86

**IMPORTANT**

Cooling fan must be clean in order not to overheat the engine and allow free flow of air through the system.

CLEANING OF ENGINE AND ELECTRICAL WIRING**CAUTION**

Always stop the engine before cleaning the wiring, cables and engine.

Before starting, check whether flammable substances have gathered on the battery, the cables and wiring, the muffler or on the engine. Remove thoroughly.

CHECKING THE ELECTRICAL CIRCUIT

Check the electrical circuitry for disconnections, shorts or loose terminals.

WASHING THE WHOLE MACHINE**IMPORTANT**

Do not wash the excavator with the engine running. Water could enter the air filter and damage the engine. Make sure that the air filter is kept dry.

REGULAR CHECKS AND MAINTENANCE WORK

EVERY 50 SERVICE HOURS

ENGINE OIL CHANGE

CAUTION First stop the engine and wait long enough for the oil to cool down.

1. Remove the drain plug on the underside of the engine and drain all oil.

IMPORTANT Place a suitable container below the engine to catch the used oil. Dispose of used engine oil according to local laws. We suggest you take used oil in a sealed container to your local recycling center or service station for reclamation.

2. Re-tighten the drain plug. (See **Figure 87**)

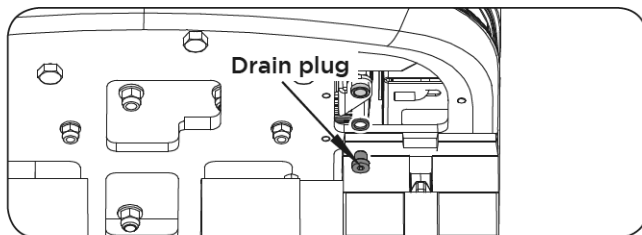


Figure 87

3. Fill with new oil up to the required level. (See **Figure 88**)

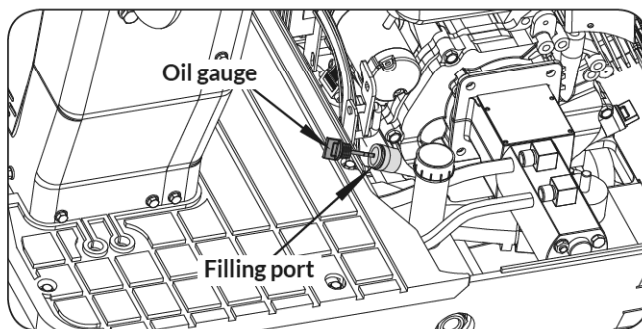


Figure 88

4. Let the engine idle for approx. 5 min. Check the engine oil level. To check the engine oil level, insert the oil gauge completely into the respective port opening and pull out again. If the oil level lies between both markings, no oil must be added.

IMPORTANT Regardless of the service hours, an engine oil change is due every 1 year.

Engine oil volumes

37.2 oz

ENGINE OIL CAPACITIES:

306cc - 37.2 oz (1.1 liter)

Max Upper Level
Min Lower Level

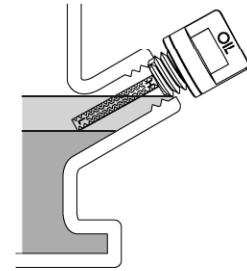


Figure 89

Note: Total oil capacity could be as much as 4 additional ounces over volumes above due to engine mounting angle and proper draining.

NOTE Running the engine with a low oil level can cause engine damage.

ENGINE OIL RECOMMENDATIONS

Engine oil affects performance and service life. Use 4-stroke automotive detergent oil.

SAE 10W-30 is recommended for general use. Other viscosities shown in the chart may be used when the average temperature in your area warrants.

The SAE oil viscosity and service classification are in the API label on the oil container. Use API SERVICE category SJ engine oil, or higher.

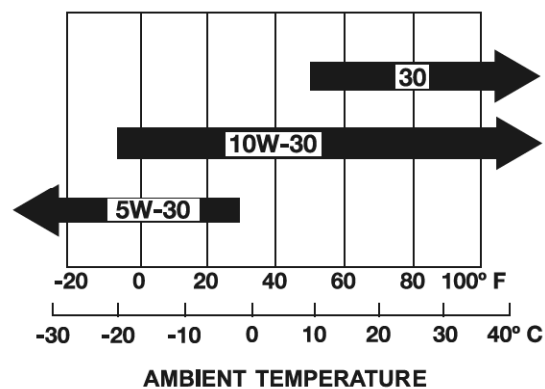


Figure 90

BATTERY SERVICE

CAUTION Batteries contain sulphuric acid which can cause severe burns. Avoid all contact with skin, eyes or clothing. Antidote - External: Rinse with plenty of water. Internal: Drink large quantities of water or milk. Call a physician immediately. Eyes: Rinse with plenty of water for 15 minutes and get prompt medical attention. Keep batteries out of the reach of children.

CAUTION Before inspection or dismantling the battery, be sure to turn off the engine and turn the starter switch to the "OFF" position.

CAUTION When removing the battery, always disconnect the negative ground cable first. The reverse when installing a battery, always connect the ground cable last. This prevents a possible explosion caused by sparks.

CAUTION Always wear eye protection when working with the battery.

1. Check whether the battery appearance is deformed.
2. If the battery is deformed, replace it.
3. Clean the battery cover (ventilation hole) without dust.
4. Check whether the battery terminal connection is loose. If it is loose, retighten it. Pay attention to tightening the positive screw, and make sure that the tool that used do not touch the cover.

CAUTION Before tightening the positive screw, make sure to turn off the negative ground cable switch first.

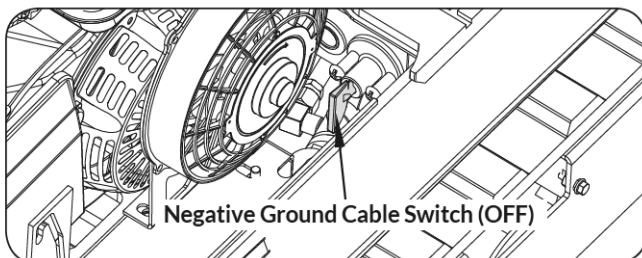


Figure 91

BATTERY CHARGING

CAUTION When the battery is being activated, hydrogen and oxygen gases in the battery are extremely explosive. Keep open sparks and flames away from the battery at all times, especially when charging the battery.

CAUTION When disconnecting the cable from the battery, start with the negative terminal first. When connecting the cable to the battery, start with the positive terminal first.

CAUTION Do not check battery charge by placing a metal object across the terminals.

A boost charge is only for emergencies. It will partially charge the battery at a high rate and in a short time. When using a boost-charged battery, it is necessary to recharge the battery as early as possible. Failure to do this will shorten the battery's service life.

When exchanging an old battery for new one, use battery of equal specification.

GREASING OF SWING BEARING TEETH

1. Fill with grease through the grease nipple (at the right end side).
2. Grease at each 90 (1.58 rad.) position of the swing frame.
3. Fill with approx. 50g of grease (approx. 20 pumps with the grease gun). Distribute the grease over the teeth. (See **Figure 92**)

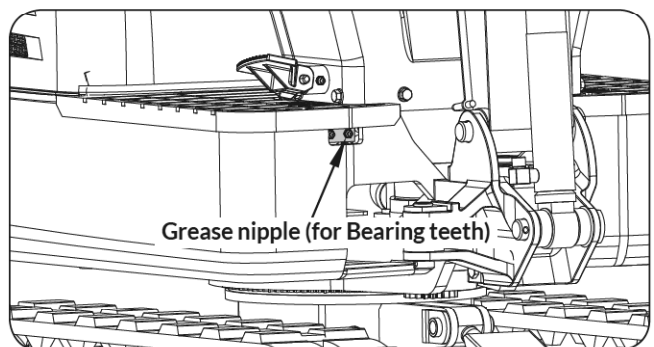


Figure 92

INSPECTION AND CLEANING OF THE AIR FILTER ELEMENT

Open the engine hood and remove the dustcover. Take out only outer element, clean the element, case interior and reassemble. During reassembly, take care to install the dust-cover so that its TOP mark (arrow) faces upwards. Do not remove the inner element.

! IMPORTANT Should the machine be used in extremely dusty areas, the air filter element must be inspected and cleaned more frequently than in the specified maintenance periods.

! IMPORTANT The air filter has a dry element, keep free from oil.

! IMPORTANT Do not run the engine without the air filter.

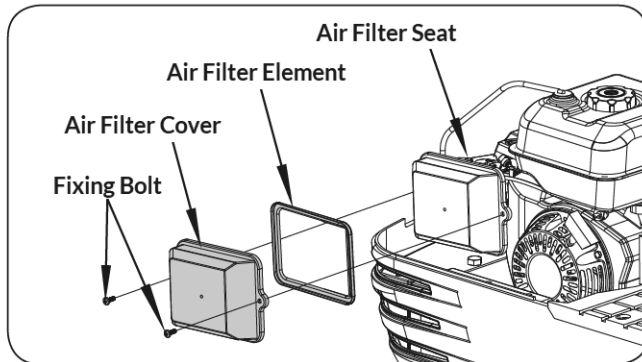


Figure 93

AIR FILTER MAINTENANCE

! CAUTION Wear eye protection.

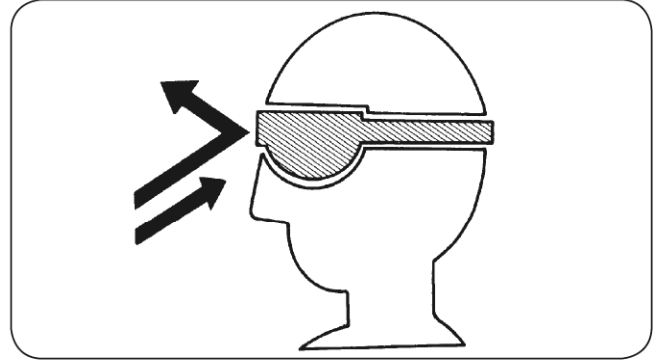


Figure 94

CLEANING WITH COMPRESSED AIR

Pressure of compressed air must be under 205 kPa (2.1 kgf/cm²), and the cartridge should be blown clean from the inside to the outside until the dust deposits are completely clear.

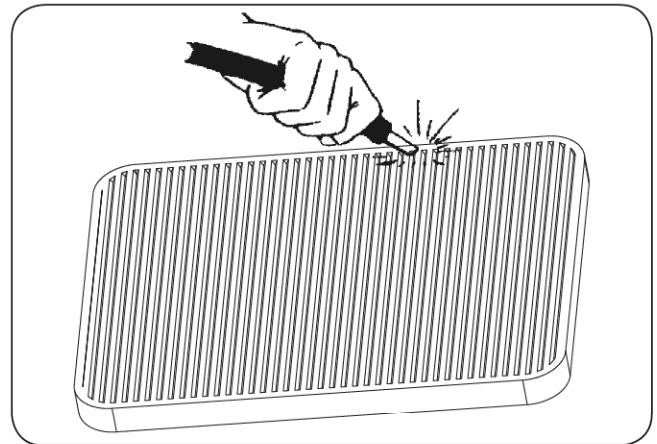


Figure 95

! IMPORTANT If the air suction is still inadequate, or the colour of the exhaust gases is abnormal even after the cleaning, the air filter element must be replaced.

CHECKING SPARK PLUG

Use the special spark plug socket to remove the spark plug and check whether the ignition needle has carbon deposits. If yes, clean the carbon deposits. Replace if defective. (See **Figure 96**)

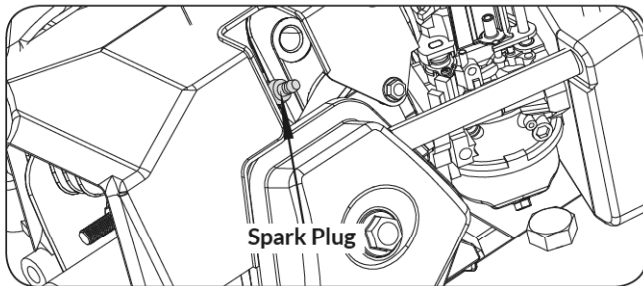


Figure 96

SPARK PLUG SERVICE

- E6TC (Torch) and E6RTC (Torch) recommended for 79cc and 98cc engines only
- F6TC, F6RTC or F6RTP (Torch) plug recommended

Cross References:

- Champion plug cross reference is: RN9YC (some tables show RN9YCC)
- NGK plug cross reference: BPR6ES
- BOSCH plug cross reference is: WR6DC



CAUTION

Using an incorrect spark plug may cause engine damage.

1. When engine is cool, disconnect the spark plug cap and remove any debris from the spark plug area with high pressure air.
2. Remove the spark plug with a 13/16-inch spark plug wrench.
3. Inspect the spark plug. Replace it if the electrodes are worn or if the insulator is cracked or chipped. Spark plug gap should be set to 0.027 - 0.030 inches.
4. Install the spark plug carefully to avoid cross threading. Screw in spark plug by hand until it stops turning.
5. Tighten the spark plug with a 13/16-inch spark plug wrench. Tighten 1/4 turn after the spark plug seats.



CAUTION

A loose spark plug can overheat and damage the engine. Over-tightening the spark plug can damage the threads in the cylinder head.

6. Attach the spark plug cap. Ensure spark plug cap snaps into place securely.

EVERY 100 SERVICE HOURS

Do all 50 hour servicing at the same time.

GREASING OF THE SWING BEARING

1. Grease through the respective grease nipple.
2. Grease at each 90° (1.58 rad.) position of the swing frame.
3. Using the grease gun, apply 5 shots at every position. (See **Figure 97**)

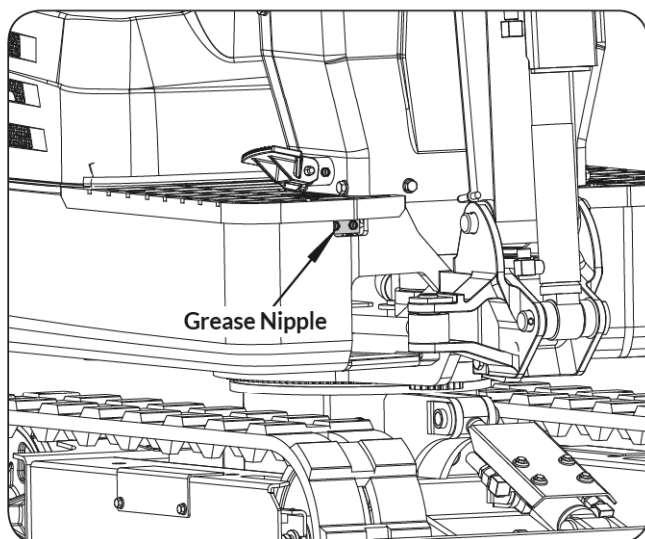


Figure 97

EVERY 200 SERVICE HOURS

Do all 50 hour and 100 hour servicing at the same time.

REPLACING AIR FILTER ELEMENT

Open the engine hood and remove the dustcover.

Remove and replace the outer element and inner element with new elements.

When reassembling, install the dust-cover so that its TOP mark (arrow) faces up-wards. (See **Figure 98**)

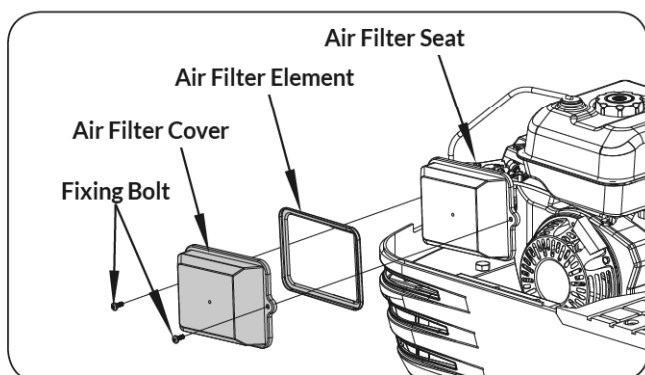


Figure 98



Shorten the replacement period if using in lots of dust or sandy areas.

CHECKING FUEL LINE

1. Check to see that all lines and hose clamps are tight and not damaged.
2. If hoses and clamps are found worn or damaged, replace or repair them at once.

EVERY 1000 SERVICE HOURS

Do all 50, 100, 200 and 500 hour servicing at the same time.

HYDRAULIC OIL CHANGE (INCLUDING REPLACING OF THE SUCTION FILTER AND THE RETURN FILTER IN THE HYDRAULIC TANK)

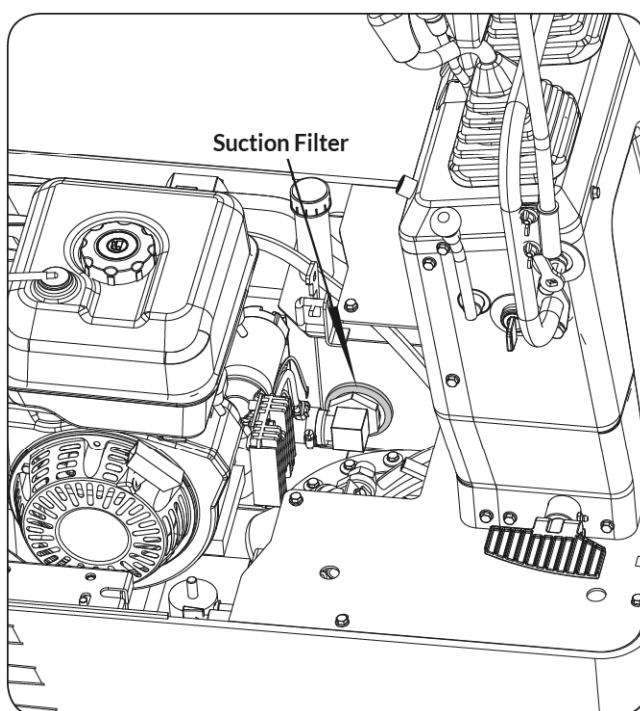


Figure 99

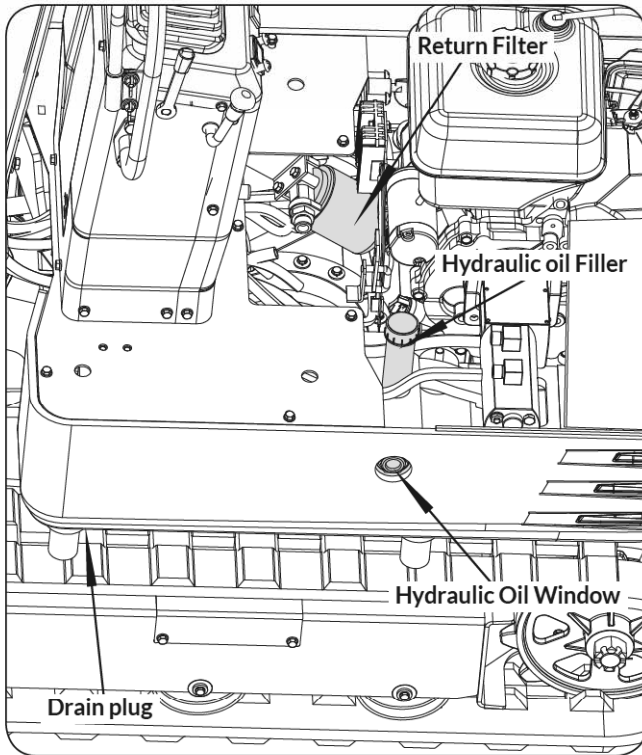


Figure 100

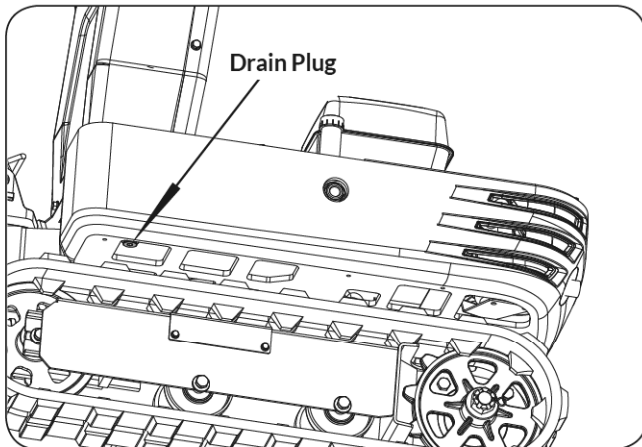


Figure 101

Check the oil window position of hydraulic oil. If it is lower than 1/3 of the oil window position, add oil.

Hydraulic oil volumes	Hydraulic tank	approx. 365.2 oz
	Whole oil volumes	approx. 473.5 oz

HYDRAULIC OIL CHECK

1. Changing and filling up of hydraulic oil

- (1) Use only the recommended oils mentioned in the operator's

manual when changing or topping up oil.

- (2) When filling up oil, do not mix oils of different makes.

2. Changing the return filter and oil

- (1) The filter must be changed more often because of contamination resulting from the frequent assembly and disassembly of the hoses.

- (2) Use the correct replacement filter.

- (3) Oil change according to operating hours.

	Hydraulic oil Return Filter	Suction Filter
Normal excavator work	every 1000 Hrs.	1000 Hrs.

ANNUAL SERVICING

ELECTRICAL WIRING AND FUSES

Check the terminals periodically for proper connections. Loose wiring or damaged cables can cause improper functioning of the electrical system. Short circuiting, electrical leaks and other expensive problems could arise. Check wiring and replace damaged components immediately. If a fuse blows out soon after having been replaced, contact your nearest dealer. Never use a fuse other than specified.

REPLACING SPARK PLUG

Do replacement after 1 year or 500 hours of use.

BIENNIAL SERVICING

REPLACING FUEL HOSE

Replace the hoses and clamps.

(See "Checking Fuel Line" every 200 hours maintenance.)

OTHER ADJUSTMENTS AND REPLACEMENTS

ADJUSTMENT OF CRAWLERS

TO LOOSEN THE CRAWLERS, FOLLOW THE FOLLOWING PROCEDURE:



CAUTION

Do not crawl under the excavator.

1. Remove the side plate cover and loosen the nut M20 inside with a 30mm plum wrench.
2. Adjust the hexagonal bolt M20x120 and rotate it clockwise to tighten the track; The track becomes loose when it rotates counterclockwise.
3. After adjustment, fix the nut M20 with a plum spanner.



NOTE

Tighten torque must be between 98 to 108 Nm (10 to 11 kgf-m)

4. Install the side plate cover.



IMPORTANT

If the crawlers are too tight, wear is increased.



IMPORTANT

If the crawlers are too loose, the crawler shoes may collide with the sprocket, and wear is increased. The crawler may dislocate or come off.



IMPORTANT

Clean the crawler after every use.



IMPORTANT

Should the crawler tension be heightened due to mud sticking, lift the crawler with the help of the boom, arm and bucket, idle the engine and remove the mud from the crawler, especially from the openings of the link plate, carefully.

TENSION THE CRAWLERS AS SPECIFIED:

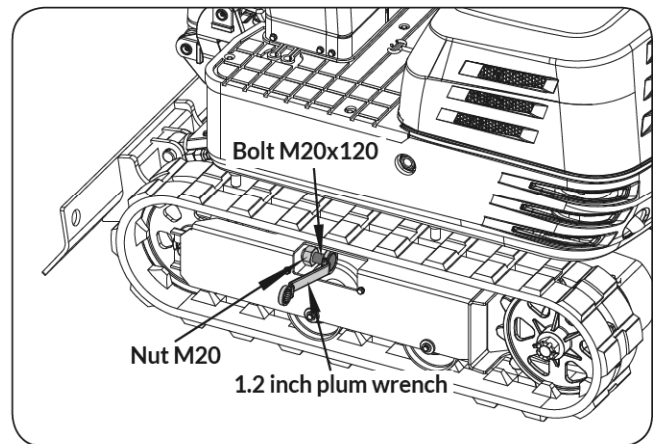


Figure 102

1. Tension the crawler in the lifted position, so that the distance (clearance between the track roller and the inside surface of the crawler) is 0.4 to 0.6 inch (see illustration), (In this case, the crawler seam is positioned on the top centre between the idler and the sprocket.



DANGER

Do not work under the machine in this condition.



DANGER

For your safety do not rely on hydraulically supported devices, they may leak down suddenly drop or be accidentally lowered.

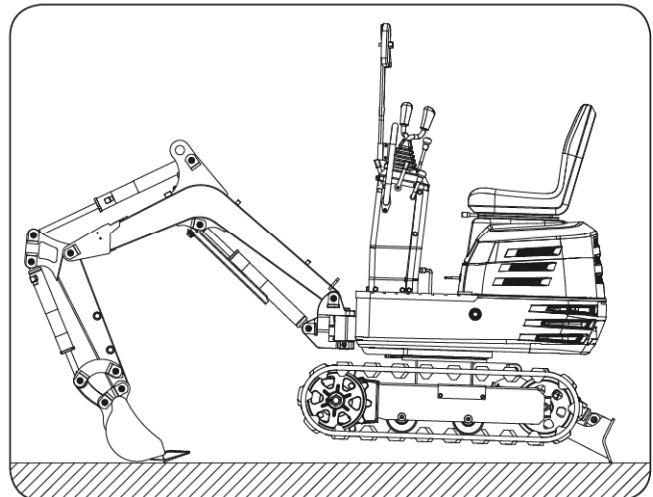


Figure 103

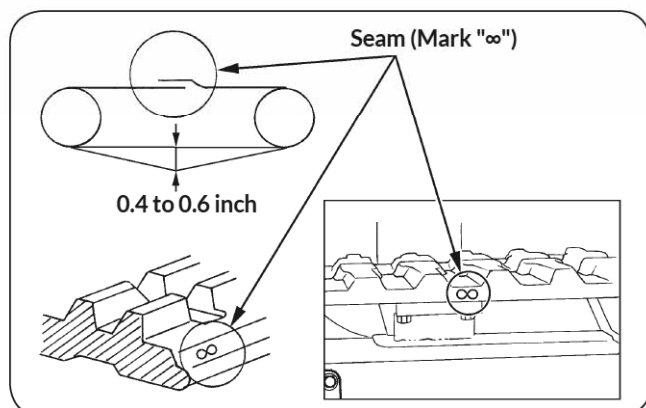


Figure 104

! IMPORTANT Make sure that no obstacles, such as stones, are caught in the crawler. Remove such obstacles before adjusting the crawler tension.

! IMPORTANT **Crawler seam** The ends of the rubber crawler are joined with a seam. When adjusting the crawlers, the seam must be positioned on the top centre between the idler and the sprocket. If the seam is positioned incorrectly, the crawlers will be tensioned too loosely, and a further readjustment will be necessary.

! IMPORTANT Rotate the crawler after adjustment one to two times to check the tension.

! IMPORTANT Additionally the following points are to be observed when adjusting rubber crawlers.

- (1) If the crawler slackens more than 0.98 in. (25 mm), readjust them.
- (2) Check crawler tension 30 hours after initial use and readjust if necessary. Check and adjust thereafter every 50 service hours.

SPECIAL INFORMATION WHEN USING RUBBER CRAWLERS

1. When turning, preferably make a slow swing turn. Avoid spin turns to lessen lug wear and ingress of dirt.
2. If too much dirt and sand clog the crawlers. In this case move the machine for a short distance straight backwards to let the earth

and sand fall off, then a turn can be made.

3. Avoid using rubber crawler on riverbeds, stony underground, ferro-concrete and iron plates. The rubber can be damaged as well as crawler wear increasing.

CHANGING THE BUCKET

! CAUTION When the coupling pins are removed or installed, chips may come off. Always use gloves, goggles and a helmet.

! CAUTION When the change of the equipment must be performed with the engine running, always work as a 2-person team. One person sits in the operator's seat and the other works on the machine.

! CAUTION Do not use your fingers to center the holes, since they may be injured or even cut in case of sudden or uncontrolled movements.

! CAUTION Read the manual of the attachment to do a correct operation safely when other attachments are installed.

FUSES

REPLACING FUSES

Slow blow fuse is provided to protect the electrical circuits. If the fusible link is blown, check the electrical circuits for problems and then replace with a new compatible slow blow fuse.

1. Remove the cover of the fuse box.
2. Replace the burn out fuse with the new fuse having the same capacity. (See **Figure 105 & 106**)

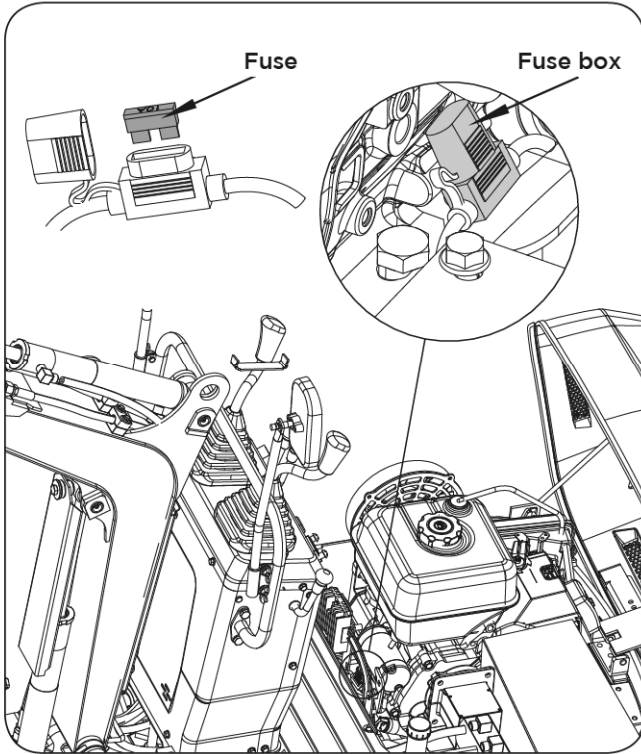


Figure 105

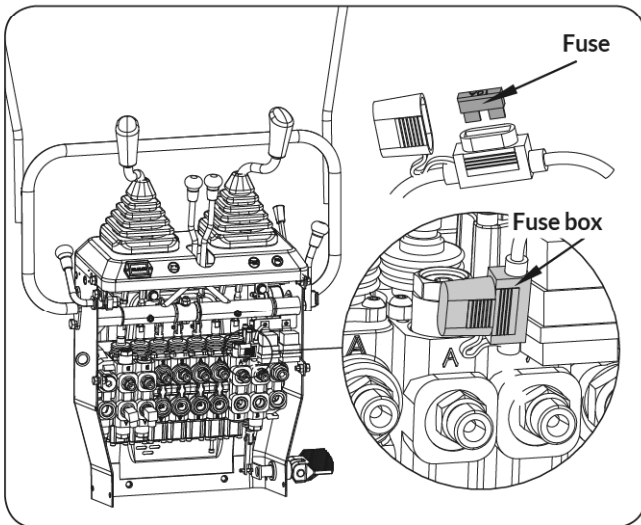


Figure 106

FUSE CAPACITIES AND CIRCUITS

No.	Capacity	Circuit
1.	10A	Working relay fuse
2.	10A	Working lamp, Horn, Hour meter fuse

TROUBLESHOOTING

If the excavator does not give the desired performance, or when problems arise, refer to the table below and take appropriate measures.

Trouble		Cause	Countermeasure
Engine	Starting difficulties	1. The fuel tank switch closed 2. Air or water in the fuel system 3. Oil viscosity is too high so that the engine runs sluggishly in winter 4. Battery is almost dead; Starter motor doesn't work 5. The spark plug doesn't ignite. 6. Low Engine oil level	1. Make sure that the fuel tank switch is in the "Open" position. 2. See the instruction in section " Draining the water or air from the fuel tank" to remove the water and air. 3. Use the engine oil for Winter use. 4. Do recoil start to recharge the battery 5. Replace the spark plug 6. Add the engine oil
	Insufficient engine power	1. Low fuel level 2. Clogged air cleaner	1. Check fuel and add if necessary 2. Clean the air filter element
	Engine suddenly stops	Low fuel level	Check fuel and add if necessary Purge the fuel system
	Abnormal exhaust gas colour	1. Poor fuel 2. Too much engine oil 3. Choke lever closes the choke valve in the carburetor	1. Use high quality fuel 2. Drain engine oil to prescribed oil level 3. Open the choke valve
Hydraulic system	Boom, arm, bucket, drive, swing and dozer power is too low	1. Hydraulic oil level too low 2. Leakages of hoses and / or joints	1. Add oil 2. Replace hose or joint
	Non-function of swing motor	Swing lock pin is in lock position	Remove swing lock pin in unlock position
Drive system	Deviation of drive direction	1. Blocked through stones 2. Crawler too loose or too tight	1. Remove 2. Adjust accordingly

OPERATION IN COLD WEATHER CONDITIONS

PREPARATION FOR OPERATION IN COLD WEATHER

1. Replace engine oil and hydraulic oil with those of viscosities suitable for cold weather.
2. In cold weather, battery power drops, and the battery fluid may freeze if the battery is not sufficiently charged. To prevent the battery fluid from freezing, be sure to keep the battery charged at least 75% or more of its capacity after operation. To ease next starting, it is recommended to keep the battery stored in closed or heated rooms.

PROCEDURE AFTER WORK CARRIED OUT

Clean the excavator thoroughly after work and wipe dry. Otherwise mud and earth on the crawlers could freeze if the temperature drops below the 0 C mark. Operation of the excavator is then not possible. Store the excavator in a dry place; if not possible, store on wooden planks or on mats. If the excavator is kept on damp or muddy ground, the crawlers could freeze overnight. Operation of the excavator is then not possible.

Additionally, the hydraulic cylinders piston rods must be rubbed dry. Otherwise severe damage could occur if dirty water seeps through the seals.

LONG STORAGE



CAUTION

Do not clean the excavator with the engine running.



CAUTION

To avoid the danger of exhaust fume poisoning, do not operate the engine in a closed building without proper ventilation.



CAUTION

When storing, remove the key from the starter switch to avoid unauthorized persons from operating the excavator and getting injured.



IMPORTANT

Wash the excavator after stopping the engine.

If you wash the excavator while running the engine, water may get into the air cleaner through the intakes causing engine problems.

Carefully, wash but do not splash water over the air cleaner.

OBSERVE FOLLOWING PROCEDURES WHEN THE MACHINE IS TO BE OPERATED AFTER LONG STORAGE.

1. Wipe off the grease from the hydraulic cylinder rods.
2. Turn on the engine and activate the attachments and the drive mechanisms without load in order to circulate the hydraulic oil. (If the machine is stored for longer than one month, undertake steps (1) and (2) once every month)

SHOULD THE EXCAVATOR BE STORED FOR A LONGER PERIOD OF TIME, OBSERVE FOLLOWING PROCEDURES:

1. The whole excavator should be cleaned thoroughly and in all cases stored indoors. If the excavator has to be kept outdoors, lay out wooden planks on even ground, place the excavator on the planks and cover completely.
2. Do an oil change and grease the excavator.
3. Heavily grease the visible sections of the piston rods.
4. Remove the battery and store indoors.

PERIODIC REPLACEMENT OF IMPORTANT COMPONENT PARTS

To ensure safety in operation, you are strongly requested to inspect and service the machine at regular intervals. For added safety, ask your dealer to replace the following important component parts.

These parts are prone to degradation in material or subject to wear and tear with time. It is difficult to judge how much they have been affected at regular inspection. It is therefore necessary to replace them with new ones, whether wear is visible or not after a specified time of use.

If any of them is found worn even before the specified use, it must be repaired or replaced the same way as other parts.

If any of the hose clamps is found deformed or cracked, the hose clamp must also be replaced.

For the hydraulic hoses other than the ones to be replaced periodically, inspect them for the following points. If found unusual, tighten them up, replace them.

When replacing the hydraulic hoses, change their O rings and sealings with new ones.

For replacement of the important parts, contact your dealer.

AT THE FOLLOWING PERIODIC INSPECTIONS, CHECK THE FUEL HOSES AND HYDRAULIC HOSES AS WELL.

Inspection Interval	Check Points
Daily Checks	Oil leak at fuel and hydraulic hose connections and points
Every month	Oil leak at fuel and hydraulic hose connections and points Damages at fuel and hydraulic hose (cracks, chafing)
Every year	Oil leak at fuel and hydraulic hose connections and points Interference, deformation, degradation, twist and other damages (cracks, chafing) of fuel and hydraulic hoses

LIST OF IMPORTANT COMPONENT PARTS

No.	Component Parts	Used Place	Q'ty	Period
1	Hydraulic hose (suction)	Main pump	1	Every 2 years or 4000 hours
2	Hydraulic hose (delivery)	Main pump-Control valve	2	
3	Hydraulic hose (Boom cylinder)	Control valve-Boom cylinder	2	
4	Hydraulic hose (Arm cylinder)	Control valve-Arm cylinder	2	
5	Hydraulic hose (Bucket cylinder)	Control valve-Bucket cylinder	2	
6	Hydraulic hose (Swing cylinder)	Control valve-Swing cylinder	2	
7	Hydraulic hose (Dozer cylinder & Track cylinder)	Control valve-Rotary joint	4	
		Rotary joint-Dozer cylinder	4	
		Rotary joint-Tank cylinder	2	
8	Hydraulic hose	Control valve-Joint	1	
		Joint-Return pipe	1	
9	Hydraulic hose (Swivel motor)	Control valve-Swivel motor	2	

To prevent serious damage to the hydraulic system, to use only a hydraulic hose approved by dealer.

RECOMMENDED OILS

FUEL RECOMMENDATIONS

Use unleaded gasoline with a pump octane rating of 86 or higher. These engines operate best on unleaded gasoline.

Do NOT use stale or contaminated gasoline or an oil/gasoline mixture. Avoid getting dirt or water in the fuel tank. Use only proper fuel containers that are properly marked.

Maximum recommended ethanol content: 10%.

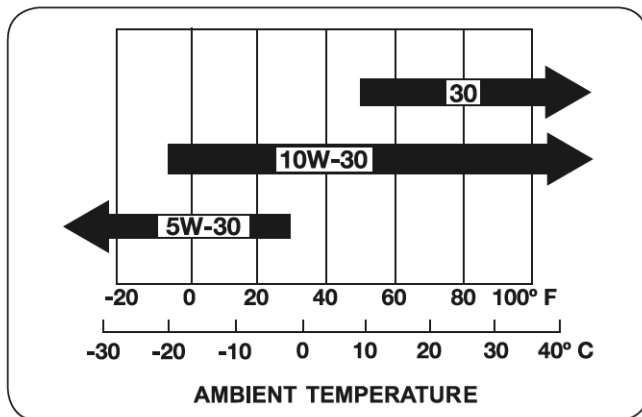
This is not compatible with E15.

ENGINE OIL RECOMMENDATIONS

Engine oil affects performance and service life. Use 4-stroke automotive detergent oil.

SAE 10W-30 is recommended for general use. Other viscosities shown in the chart may be used when the average temperature in your area warrants.

The SAE oil viscosity and service classification are in the API label on the oil container. Use API SERVICE category SJ engine oil, or higher.



HYDRAULIC OIL RECOMMENDATIONS



IMPORTANT Before delivery, the hydraulic oil used was an ISO 32 viscosity grade.

The recommended hydraulic oil type:

10W AW32

ASLE H-150

ISO 32

GREASE RECOMMENDATIONS

Application	Shell	Mobil	Exxon
Grease	Shell Alvania EP2	Mobilux EP2	BEACON Q2

(inch)



LIFTING CAPACITY

1. The lifting capacities are based on ISO 10567 and do not exceed 75% of the static tilt load of the machine or 87% of the hydraulic lifting capacity of the machine.
2. The strokes are as follows.
 - (1) The load point corresponds to the front bolt part of the arm.
 - (2) The machine positions are (i) over-front (Blade up), (ii) over-front (Blade down), and (iii) overside.
 - (3) The operating cylinder is the boom cylinder.
3. The bucket of the excavator, the hook, the sling and other lifting accessories are taken into consideration for the loads.

Machine conditions:

No bucket, all others according to standard regulations.



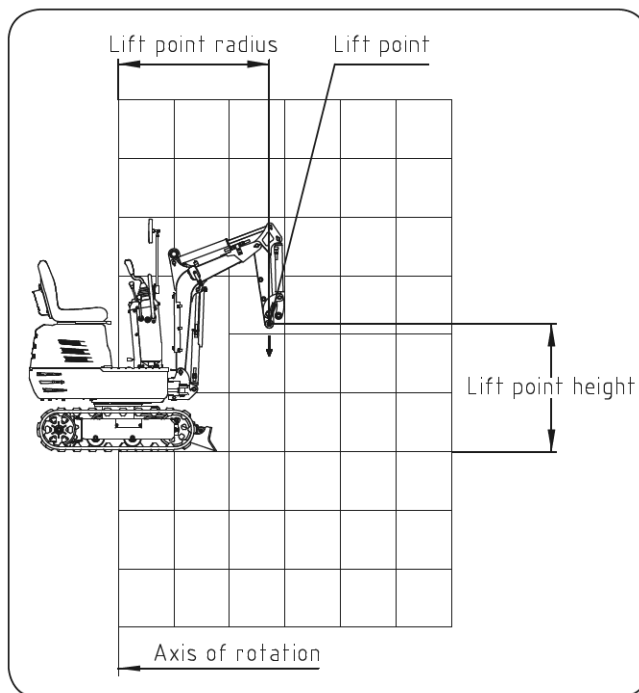
WARNING

It is forbidden to lift loads greater than those values mentioned in the lifting capacity tables.



WARNING

A The values mentioned in the table are valid only on even, hard ground. When lifting on soft ground, the machine can tilt over due to the fact that the load is concentrated only on one side of the machine. The table values are calculated at the end of the arm without the bucket. In order to find the allowable loads for machines with bucket, the bucket weight must be subtracted from the values in the table.



LIFTING CAPACITY

MODEL YE0610

(i) OVER FRONT (BLADE UP)

kip(lb)

HEIGHT (inch)	LOAD RADIUS (inch)						
	0	15	30	45	60	75	90
94.5							
78.7							
63					0.25(242.5)		
47.2					0.25(242.5)		
31.5				0.38(374.8)	0.25(242.5)	0.18(176.4)	
15.8				0.36(352.7)	0.23(220.5)	0.18(176.4)	
0				0.36(352.7)	0.23(220.5)		
-15.8			0.76(749.6)	0.36(352.7)	0.23(220.5)		
-31.5				0.27(264.6)			
-47.2							
-63							

(ii) OVER FRONT (BLADE DOWN)

kip(lb)

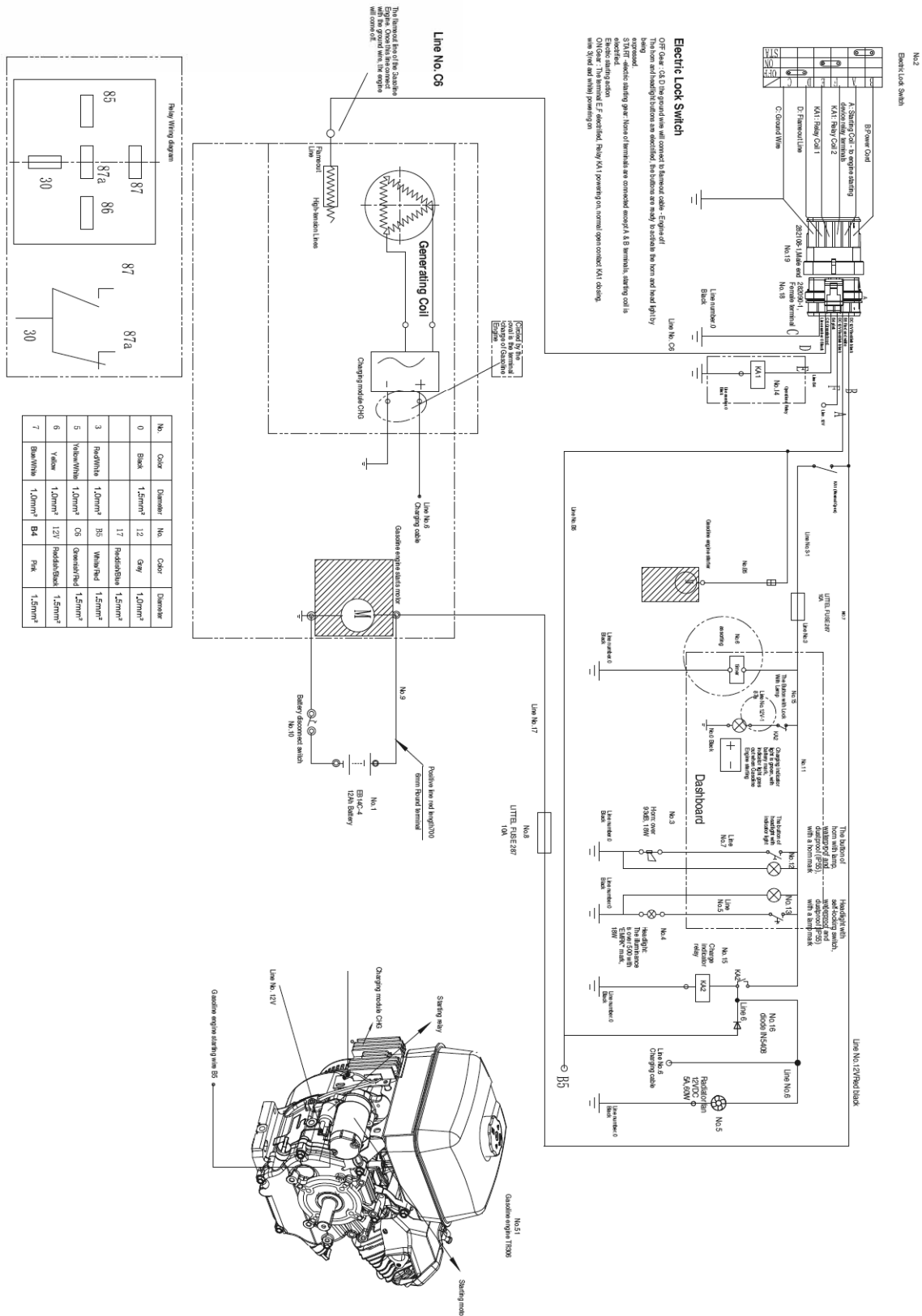
HEIGHT (inch)	LOAD RADIUS (inch)						
	0	15	30	45	60	75	90
94.5							
78.7							
63					0.29(264.6)		
47.2					0.29(264.6)		
31.5				0.47(463)	0.37(330.7)	0.32(308.7)	
15.8				0.61(595.3)	0.41(396.8)	0.32(308.7)	
0				0.63(617.3)	0.43(418.9)		
-15.8			0.94(925.9)	0.56(551.2)	0.36(352.7)		
-31.5				0.27(264.6)			
-47.2							
-63							

(iii) OVERSIDE

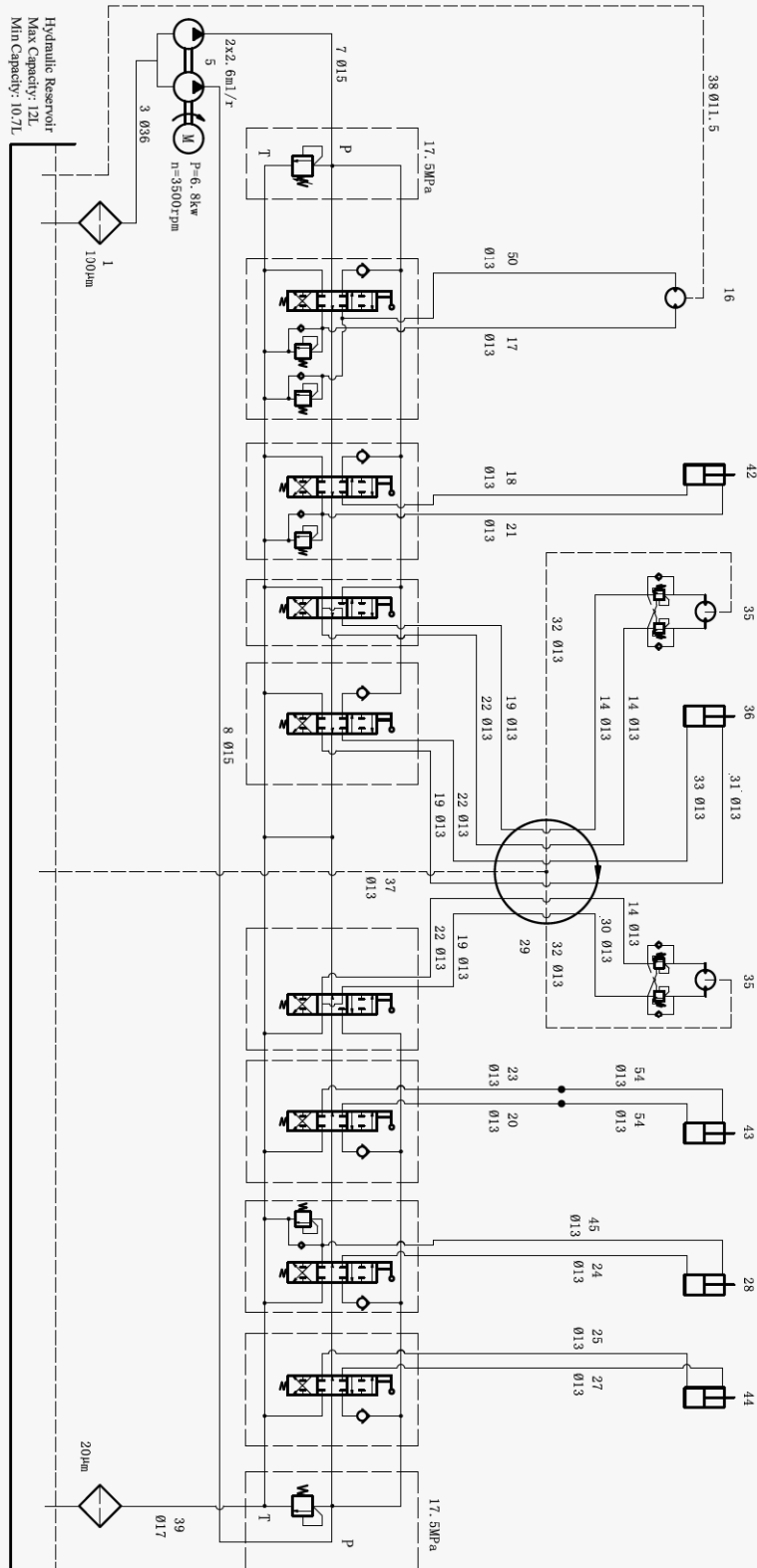
kip(lb)

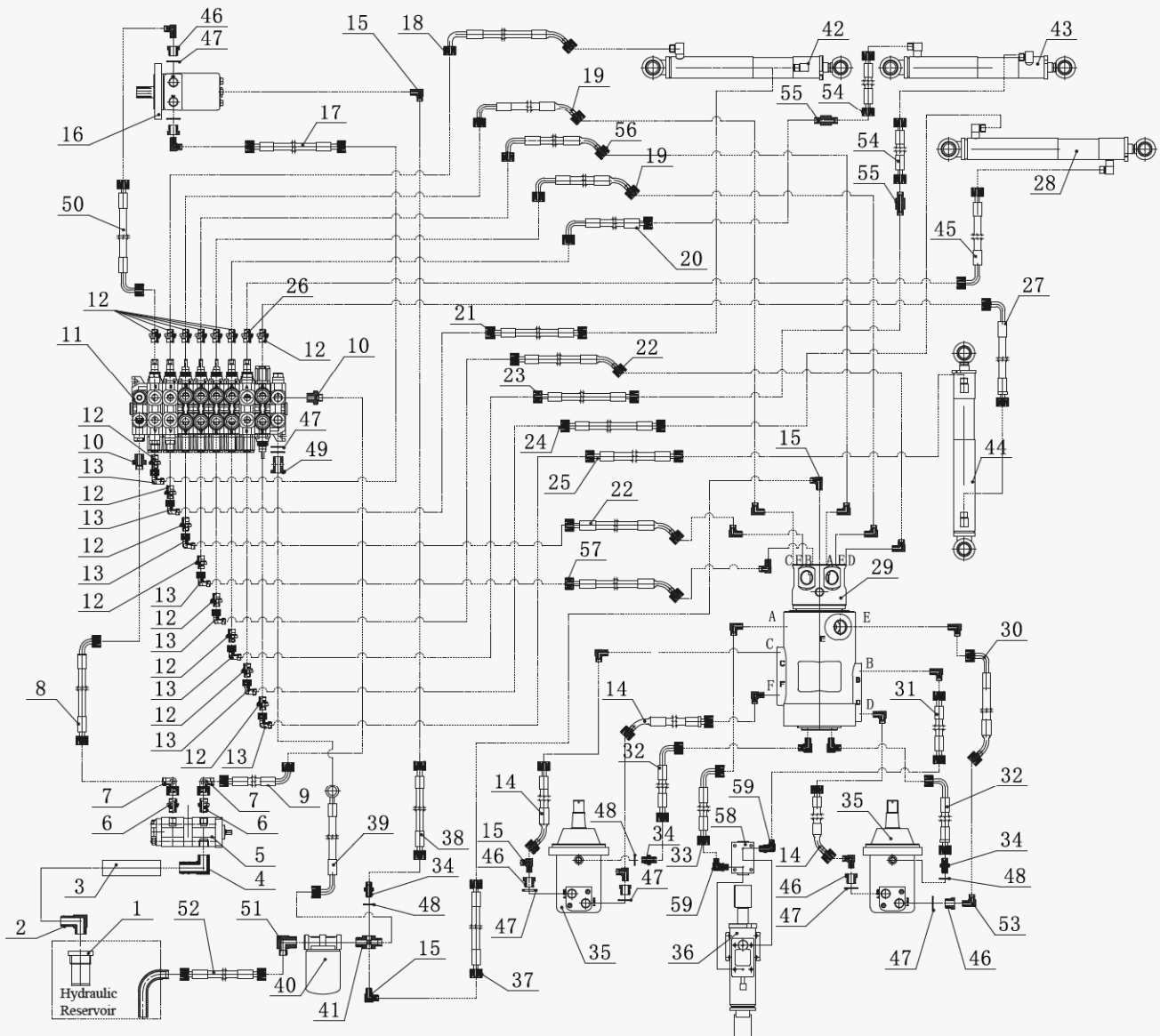
HEIGHT (inch)	LOAD RADIUS (inch)						
	0	15	30	45	60	75	90
94.5							
78.7							
63					0.23(220.5)		
47.2					0.23(220.5)		
31.5				0.32(308.7)	0.20(198.4)	0.14(132.3)	
15.8				0.29(264.6)	0.20(198.4)	0.14(132.3)	
0				0.27(264.6)	0.18(176.4)		
-15.8			0.54(529.1)	0.27(264.6)	0.18(176.4)		
-31.5				0.27(264.6)			
-47.2							
-63							

WIRING DIAGRAM



HYDRAULIC SYSTEM DIAGRAM



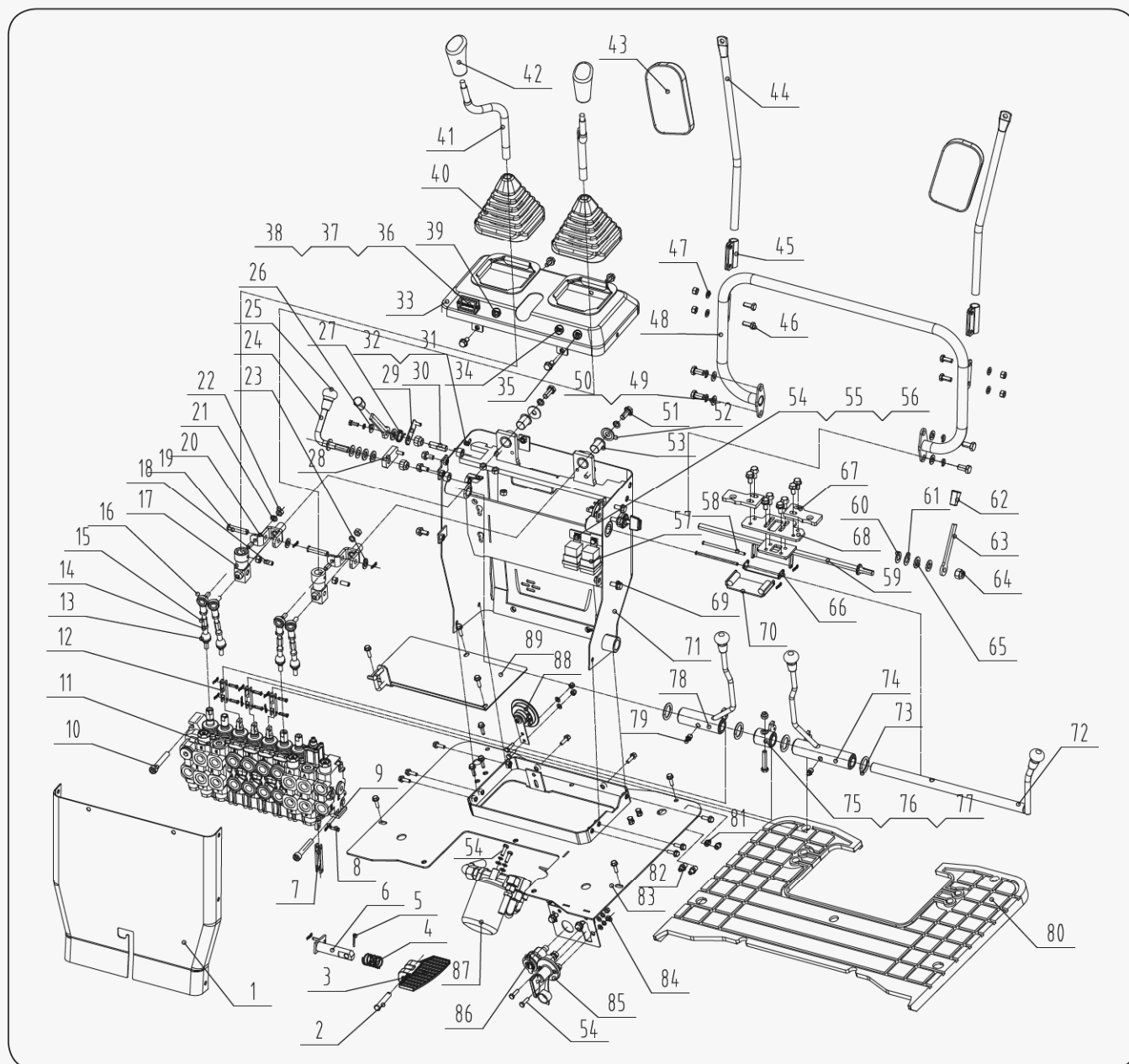


PARTS LIST

No.	Description	QTY.
1	Oil Filter	1
2	Oil Suction Angle Connector	1
3	Oil Suction Pipe	1
4	Pump Inlet Angle Connector G1/2	1
5	Double Gear Pump	1
6	Angle Connector G3/8-M18x1.5	2
7	Union Angle Connector M18x1.5-M18x1.5	2
8	Pump Front Outlet Hose	1
9	Pump Rear Outlet Hose	1
10	Angle Connector G1/2-M18x1.5	2
11	Multi-way Valve Assembly	1
12	Straight Connector G3/8-M14x1.5	7
13	Union Angle Connector M14x1.5-M14x1.5	2
14	Travel Motors Oil Hose	3
15	Angle Connector ZG1/4-M14x1.5	7
16	Hydraulic Motor BM2-160	1
17	Rotary Motor Oil Hose	1
18	Oil Hose 1 for Bucket Arm Cylinder	1
19	Valve-Swivel Joint Oil Hose (C,E)	2
20	Bucket Cylinder Oil Hose 1	1
21	Oil Hose 2 for Bucket Arm Cylinder	1
22	Valve-Swivel Joint Oil Hose (D,F)	2
23	Bucket Cylinder Oil Hose 2	1
24	Boom Cylinder Oil Hose 2	1
25	Side Swing Cylinder Oil Hose 2	1
26	Straight Connector G3/8-M14x1.5	1
27	Side Swing Cylinder Oil Hose 1	1
28	Boom Cylinder	1
29	Centre Swival Joint	1
30	Right Travel Motor Oil Hose	1

No.	Description	QTY.
31	Dozer Cylinder Oil Hose 2	1
32	Travel Motor Oil Drain Hose	2
33	Dozer Cylinder Oil Hose 1	1
34	Straight Connector G1/4-M14x1.5	3
35	Hydraulic Motor BM5W-200	2
36	Dozer Cylinder	1
37	Swival Joint Oil Drain Hose	1
38	Rotary Motor Oil Drain Hose	1
39	Oil Return Hose	1
40	Oil Return Filter	1
41	Four-way Joint	1
42	Bucket Arm Cylinder	1
43	Bucket Cylinder	1
44	Side Swing Cylinder	1
45	Boom Cylinder Oil Hose 1	1
46	G1/2-G1/4 Through-core connector	6
47	Bonded Washer 1/2	8
48	Bonded Washer 1/4	3
49	G1/2 Hollow Bolt	1
50	Rotary Motor Oil Hose	1
51	Angle Connector ZG1/2-M18x1.5	1
52	Oil Return Hose	1
53	Angle Connector ZG1/4-M14x1.5	16
54	Bucket Cylinder Oil Hose	2
55	Straight Connector M14x1.5-M14x1.5	2
56	Valve-Swivel Joint Oil Hose (A)	1
57	Valve-Swivel Joint Oil Hose (B)	1
58	Hydraulic Lock	1
59	Angle Connector M14x1.5	2

PARTS DIAGRAM



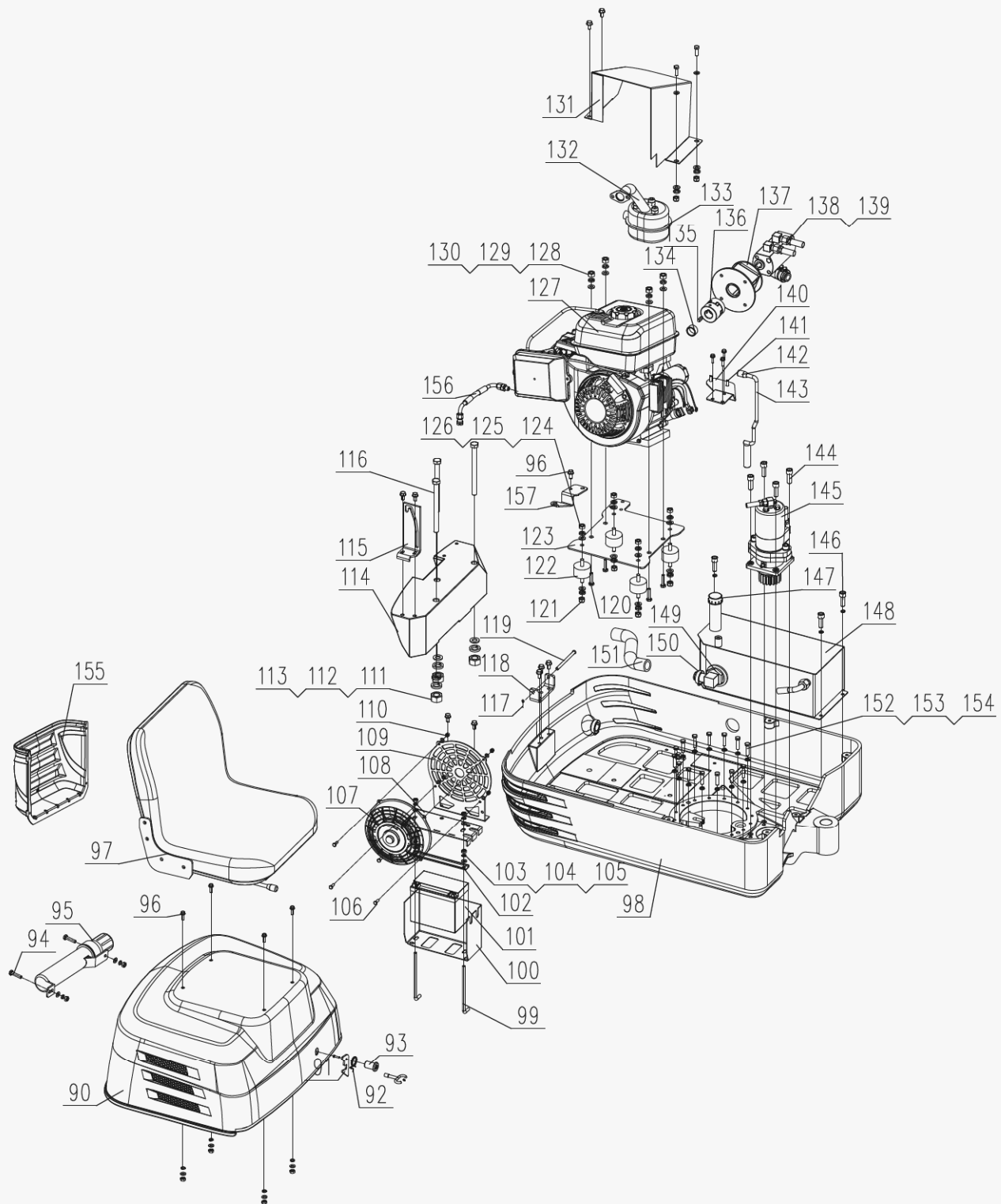
PARTS LIST

No.	Description	QTY.
1	Control Cabinet- Rear Plate	1
2	Pedal Pin Shaft D10x55	1
3	Boom Swing Pedal	1
4	Pedal Shaft Spring	1
5	Pedal Pin Shaft - Cotter Pin D2x16	1
6	Boom Swing Pedal-Shaft Weldment	1

No.	Description	QTY.
7	Valve Bottom Connecting Rod	1
8	Connecting Rod- Shaft Pin D5x18	7
9	Connecting Rod- Cotter Pin D1.5x16	11
10	Screw M10x60	2
11	Multi-Way Valve Assembly	1
12	Connecting Rod	3

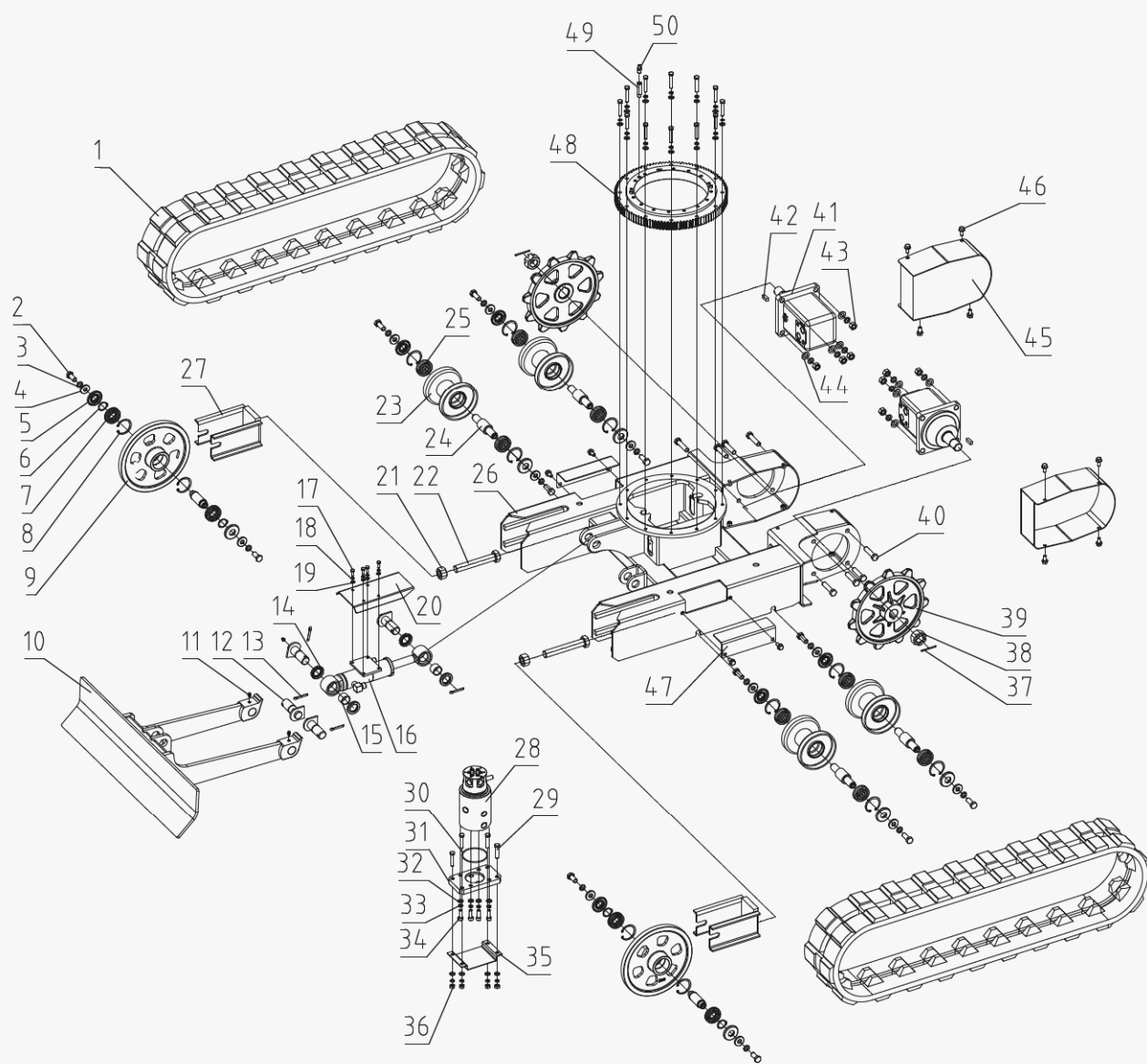
No.	Description	QTY.
13	Straight Joint Bearing M8	2
14	Nut M8	4
15	Connecting Rod M8x80	4
16	Elbow Lever Knob Joint Bearing SQ8-RS JB/T5306	2
17	Operating Control Lever- Direction Block	2
18	Screw M8x25	4
19	Universal Support Pin Shaft 10x45	2
20	Operating Control Lever-Universal Joint Weldment	2
21	Spring Washer D8	12
22	Nut M8	8
23	Flat Washer D10	6
24	Cable Lever Weldment	1
25	Dozer Ball Knob	4
26	Big Washer D6	1
27	Choke Torsion Spring	1
28	Throttle Cable Plate Weldment	1
29	Choke Cable Plate Weldment	1
30	Choke Lever Shaft	1
31	Lock Nut M5	1
32	Bolt M5x10	1
33	Control Cabinet- Top Plate Wedment	1
34	Horn Button	1
35	Headlamp Button	1
36	Timer	1
37	Screw M4x14	2
38	Lock Nut M4	2
39	Power Indicator Light	1
40	Control Lever Sleeve	2
41	Left/Right Control Lever	2
42	Operating Ball Knob	2
43	Rearview Mirror	2
44	Rearview Mirror- Supporting Tube	2
45	Rearview Mirror- Frame	2
46	Bolt M8x25	6
47	Flat Washer D8	4
48	Handle Weldment	1
49	Flat Washer D10	4
50	Spring Washer D10	6
51	Bolt M10-20	6
52	Large Washer A4	2

No.	Description	QTY.
53	Copper Sleeve	2
54	Bolt M6x16	9
55	Spring Washer D6	9
56	Flat Washer D6	9
57	Electric Relay	2
58	Pin D5x100	2
59	Lever Lock Rotating Shaft Weldment	1
60	Anti-Slip Wear Washer	4
61	Washer D12	4
62	Locking Handle	2
63	Locking Lever	2
64	Lock Nut M12	3
65	Wave Spring Washer D12	2
66	Lock Plugboard- MiddleConnecting Plate	1
67	Left/Right Lock Plugboard	2
68	Locking Plate for Operating Lever	1
69	Flange Bolt M8x16	37
70	Lock Plugboard Weldment	1
71	Operation Dashboard- Front Guard Plate	1
72	Rotating Shaft Weldment	1
73	O-Ring 34x4	4
74	Right Handle Weldment	1
75	Dozer Shaft Sleeve Weldment	1
76	Bolt M8x45	1
77	Lock Nut M8	1
78	Left Handle Weldment	1
79	Grease Cup M6X1	2
80	Rubber Pads	1
81	Grease Cup M10	2
82	PD610 Straight Fitting	2
83	Control Cabinet- End Plate Wedment	1
84	Nut M6	2
85	Battery Negative Switch	1
86	Cigarette Lighter Socket	1
87	Oil Filter	1
88	Horn (DC12V 105dB high)	1
89	Engine Cover Plate Weldment	1



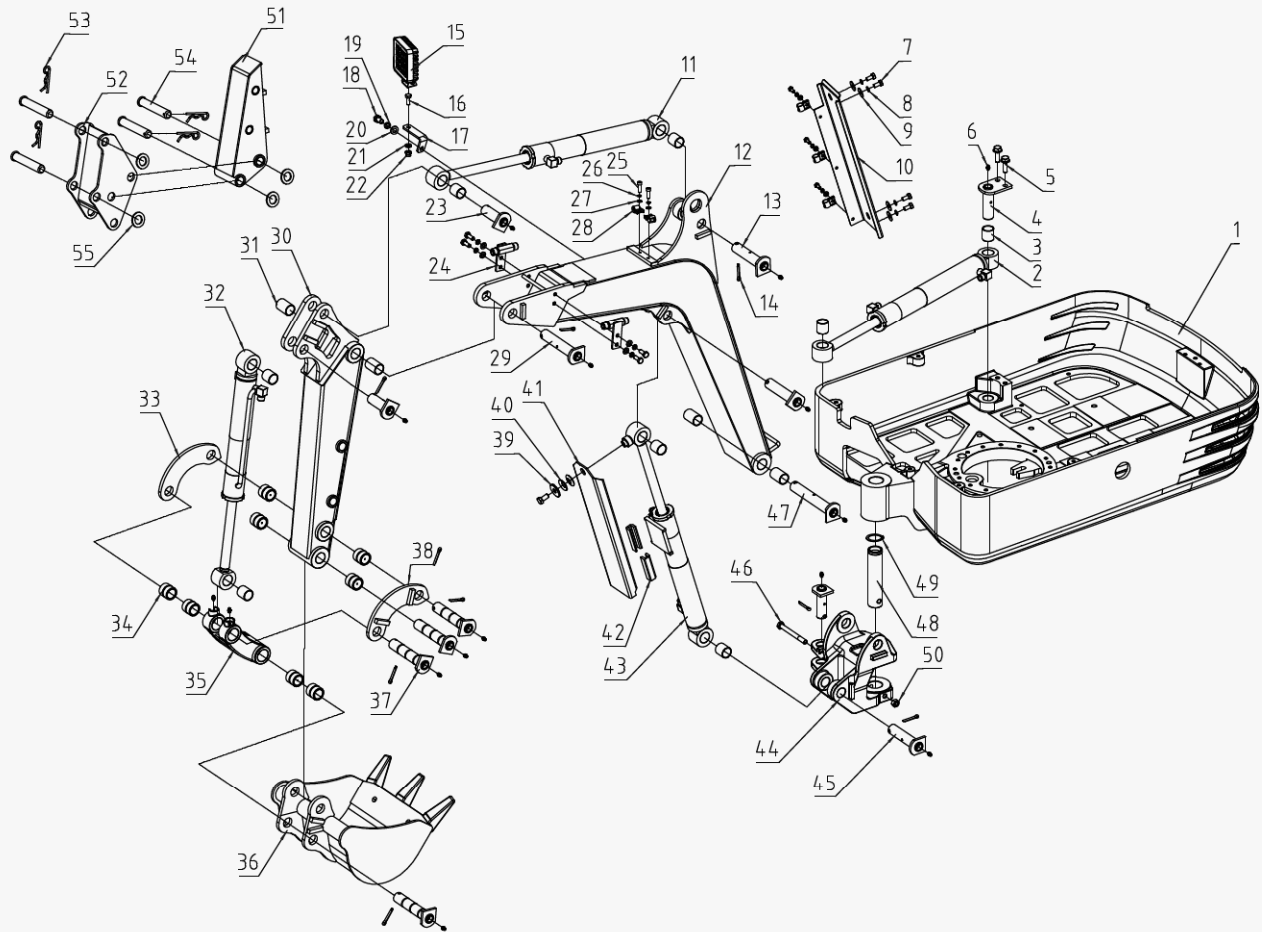
No.	Description	QTY.
90	Engine Cover Weldment	1
91	Lock Hook	1
92	Torsion Spring	1
93	40mm Triangle-Lock Core With Key	1
94	Bolt M8x25	2
95	Manual Storage Cylinder	1
96	Bolt M8x16	17
97	Excavator integrated seat (with slide)	1
98	Swing Unit Platform	1
99	Battery Lock Hook	2
100	Battery Mounting plate	1
101	Battery	1
102	Battery Fixing Plate	1
103	Spring Washer 8	31
104	Flat Washer 8	33
105	Nut M8	15
106	Screw M6x14	4
107	Fan	1
108	Battery Cover Wedment	1
109	Cooling Fan Mounting Frame	1
110	Lock Nut M6	4
111	Nut M14	3
112	Flat Washer 14	3
113	Spring Washer 14	3
114	Counter Weight	1
115	Motor Cover Turnover Support	1
116	Bolt M14x170	3
117	Cotter Pin 2x16	1
118	Motor Cover Mounting Base	1
119	Pin 8x110	1
120	Bolt M12x35	4
121	All Metal Lock Nut M10	4
122	Shock Absorber	4
123	Engine Mounting Plate Wedment	1
124	Nut M10	4

No.	Description	QTY.
125	Flat Washer 10	8
126	Spring Washer 10	12
127	Engine	1
128	Nut M12	4
129	Spring Washer 12	4
130	Spring Washer 12	4
131	Engine Guard Plate	1
132	Connecting Hose Wedment For Muffler	1
133	Muffler - Inside Tank	1
134	Coupler Sleeve	1
135	Key 7x7x23	1
136	Coupler KSP24	1
137	Gear Pump Frame	1
138	Gear Pump	1
139	Bolt M8x150	2
140	Muffler Frame	1
141	Bolt M6x16	2
142	Locking Pin Handlebar sleeve	1
143	Locking Pin Weldment	1
144	Screw M10x35	4
145	Rotary Motor Assy	1
146	Screw M8x25	3
147	Hydraulic Oil Tank Cover	3
148	Hydraulic Oil Tank Wedment	1
149	Oil suction filter	1
150	Hose Clamp	2
151	Suction Hose	1
152	Flat Washer 8	16
153	Spring Washer 8	16
154	Bolt M8x55	16
155	Tool Box	1
156	Oil Drain Hose	1
157	Oil Hose Fixing Plate	1



No.	Description	QTY.
1	Rubber Track 150x72x32	2
2	Bolt M12x30	12
3	Spring Washer 12	28
4	Washer	12
5	Seal B20x47x7	12
6	Circlip A25	4
7	Bearing 6005-2Rs	4
8	Circlip A47	12
9	Front Idler	2
10	Dozer	1
11	Oil Cup M6x1	2
12	Dozer Pin Shaft Weldment	4
13	Cotter Pin 5x35	4
14	Seal B25x40x7	4
15	RCB-20 Boundary Lubricating Bearing	2
16	Dozer Cylinder	1
17	Bolt M6x16	17
18	Spring Washer 6	26
19	Flat Washer 6	20
20	Dozer Cylinder Guard Plate	1
21	Nut M20	2
22	Hex Bolt M20x130	2
23	Supporting Roller	4
24	Supporting Roller Axle	4
25	Bearing 6204-2Rs	8

No.	Description	QTY.
26	Base Weldment	1
27	Front Idler Fixing Frame	2
28	Central Swivel	1
29	Bolt M8x45	32
30	O-Ring D72x3.1	1
31	Central Swivel Mounting Plate	1
32	Flat Washer 8	58
33	Spring Washer 8	58
34	Screw M8x25	11
35	Central Swivel Guard Plate	1
36	Nut M8	28
37	Cotter Pin 4x45	2
38	Axle Nut 1-20UNEF	2
39	Drive Sprocket	2
40	Bolt M12x45	8
41	Hydraulic Motor	2
42	Arch Key Ø25.4x7	2
43	Hexagon Lock Nut M12	8
44	Flat Washer 12	23
45	Motor Cover Weldment	2
46	Flange Bolt M8x16	69
47	Track-tension Adjusting Hole Cover	2
48	Central Swing Circular Support	1
49	Central Swing Circular Support-Lubricating Joint	1
50	Straight Fitting PD610(With Neck Bush)	4



No.	Description	QTY.
1	Swing Unit Platform	1
2	Boom Swing Cylinder	1
3	RCB-20 Boundary Lubricating Bearing 28x25x35	8
4	Boom Swing Cylinder-Rear Pin Weldment	1
5	Flange Bolt M8x16	2
6	Oil Cup M6	16
7	Blot 8x16	4
8	Spring Washer 8	8
9	Flat Washer 8	4
10	Boom Upper-hose Cover-Plate Weldment	1
11	Arm Cylinder	1
12	Boom Weldment	1
13	Boom Pin Shaft Weldment	2
14	Cotter Pin 5x35	12
15	Work Light	1
16	Bolt M8x20	7
17	Light Mounting Plate	1
18	Bolt M10x20	2
19	Spring Washer 10	1
20	Flat Washer 10	1
21	Flat Washer 8	5
22	Lock Nut M8	1
23	Arm Cylinder Pin Shaft Weldment	3
24	Transition Fitting	2
25	Bolt M6x20	5
26	Spring Washer 6	5
27	Flat Washer 6	5
28	Connecting Pipe Clamp R-type	5

No.	Description	QTY.
29	Arm Cylinder Pin Shaft Weldment	1
30	Arm Weldment	1
31	RCB-20 Boundary Lubricating Bearing 28x25x40	4
32	Bucket Cylinder	1
33	Arm Rocker-Right	1
34	Bucket Shaft Sleeve	8
35	Connecting Rod	1
36	Shovel Weldment	1
37	Shovel Pin Weldment	4
38	Arm Rocker-Left	1
39	Flat Washer 10	1
40	Wing Spring	2
41	Boom Cylinder-Guide Plate	1
42	Guide Plastic Block	2
43	Boom Up&Down Cylinder	1
44	Boom Swing Frame	1
45	Boom Swing Frame- Pin Shaft Weldment II	1
46	Bolt M10x100	1
47	Boom Swing Frame- Pin Shaft Weldment I	1
48	Boom Swing Frame Pin Shaft 35x155	1
49	Circlip A35	1
50	Lock Nut M10	1
51	Thumb	1
52	Thumb Bracket	1
53	Spring Pin	4
54	Pin 20x120	4
55	Flat Washer 20	4

ATTACHMENTS

THUMB (STANDARD)

The thumb can hold materials in place in the bucket. It can be used together with the bucket to grip regularly or irregularly shaped materials, such as rocks, timbers or demolition debris.

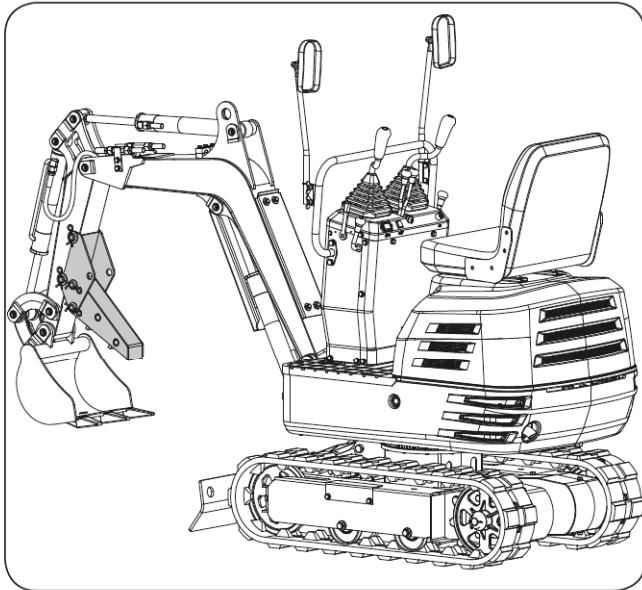


Figure 107

THUMB INSTALLATION

Demount the pin shafts 20x120, washers and R-pins from the thumb bracket.

Attach the bracket to the arm and align the holes. Pass two pin shafts through the holes, put on the washers and fix with R-pins.

Insert the bigger end of the thumb into the bracket, align the holes and fasten with the other two pin shafts, washers and R-pins. (See **Figure 108**)

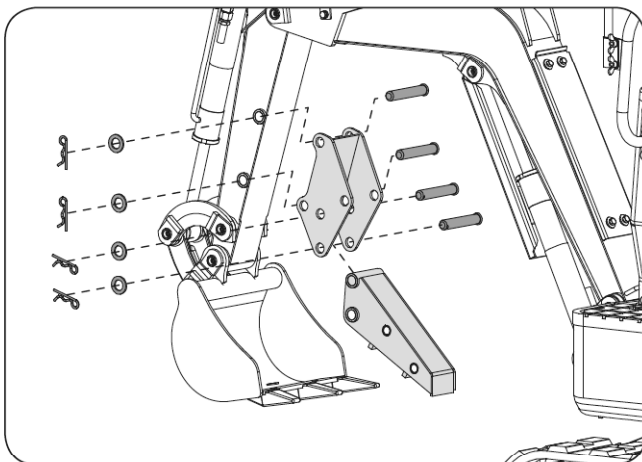


Figure 108



20 X 120

X 4

When the thumb is not in use, pull out the lower R-pin and the pin shaft, fold up the thumb into the bracket and fix it in the upper position with the previously pulled out parts. (See **Figure 109**)

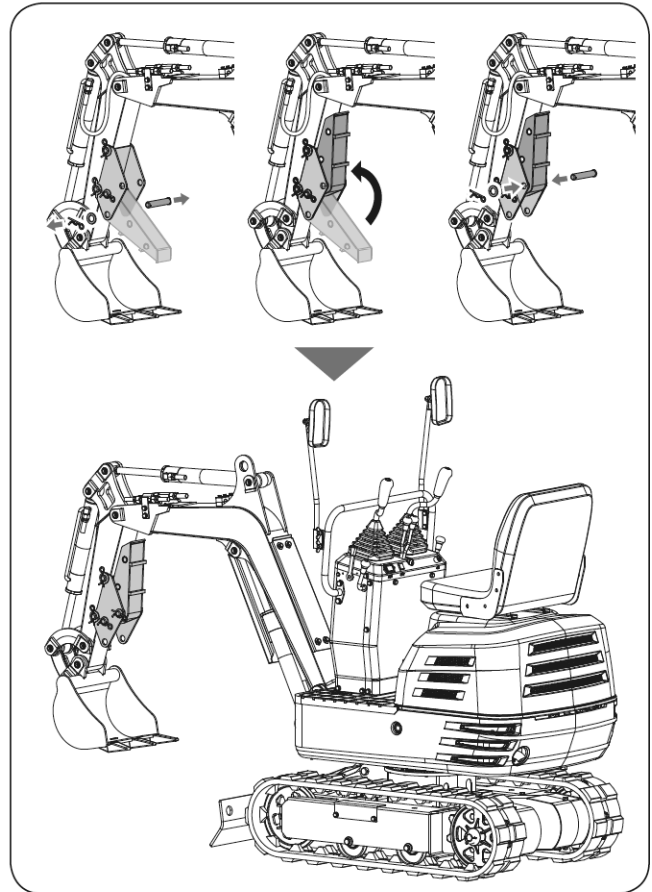


Figure 109

RAKE YER100 (APPLY TO YE0610-003 & YE0610-575003)

The rake is connected to the end of bucket, which is ideal for collecting straw, screening debris or flattening the ground.

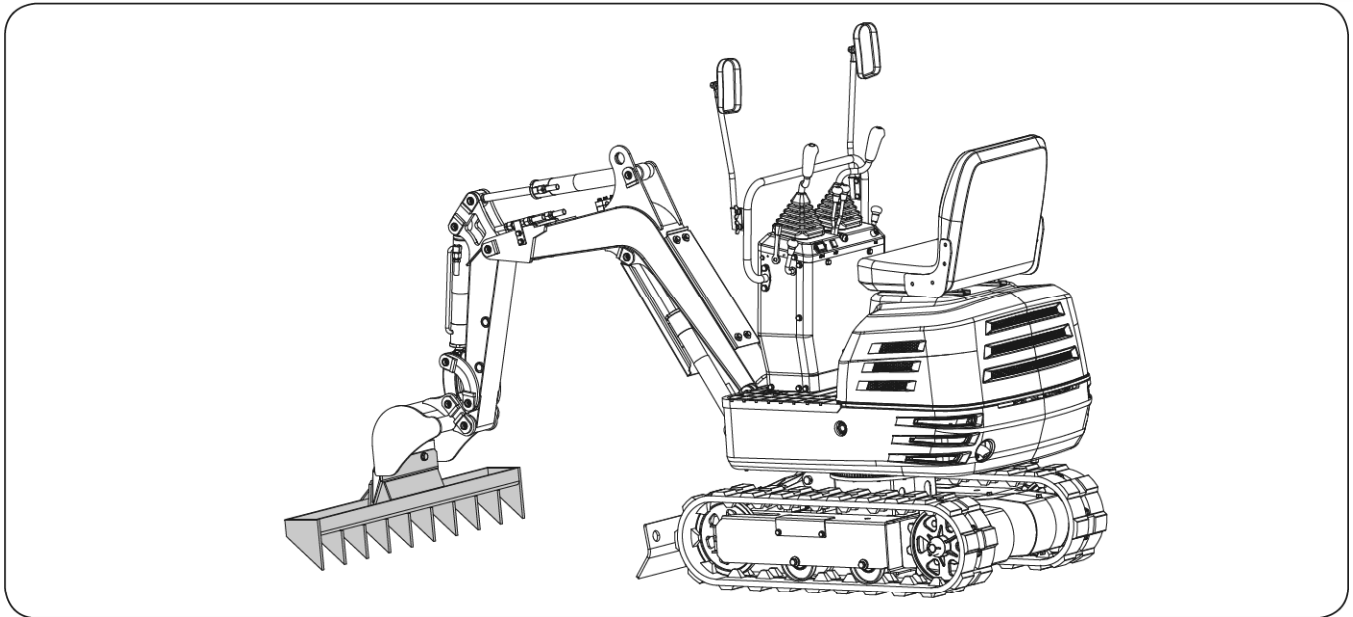


Figure 110

RAKE INSTALLATION

Stop the machine and lift the bucket off the ground to a certain height. Remove the bolts M12x40, washers and nuts preinstalled on the rake. Mount the rake to the bucket with these standard parts. (See **Figure 111**)

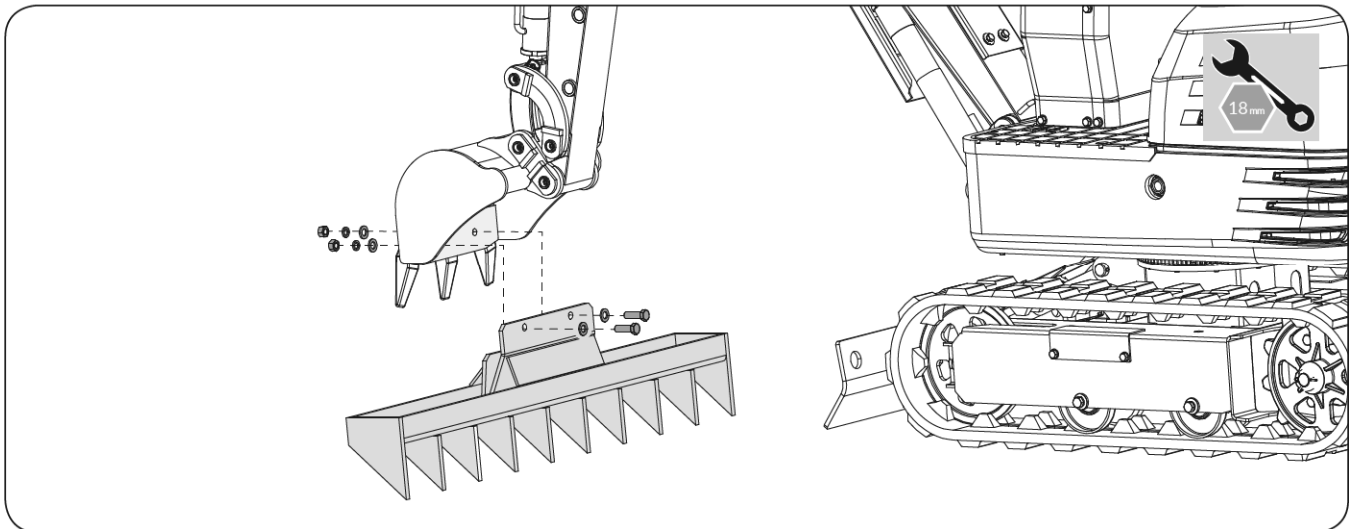


Figure 111



M12 X 40

X 2

CLAW YEC039 (APPLY TO YE0610-003 & YE0610-575003)

The clamp without cover can be used to collect leaves, gravel and straw. The complete claw with cover is ideal for material of small particles like sand and soil.

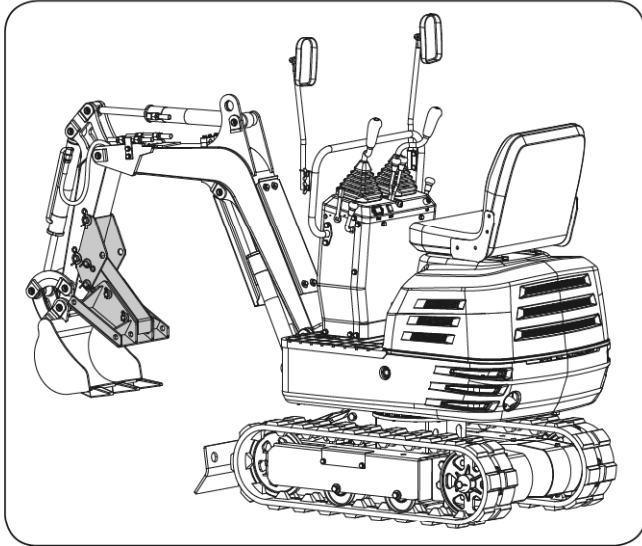


Figure 112

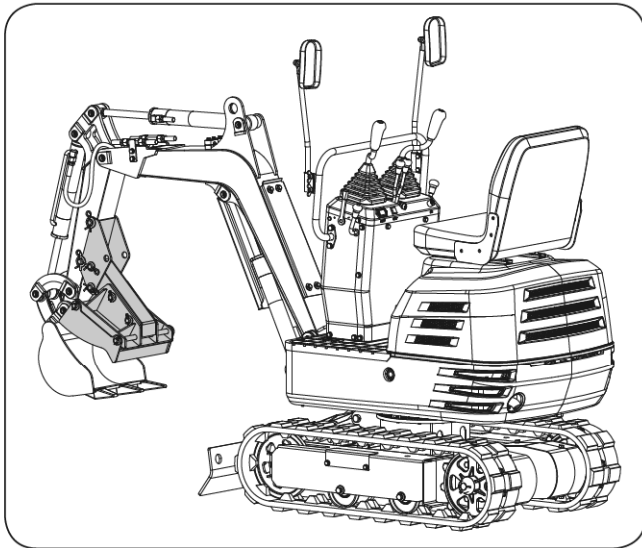


Figure 113

CLAW INSTALLATION

1. Demount the pin shafts 16x110, washers and R-pins from the clamp. Install the clamp to the thumb, align the holes and secure with the pin shafts, washers and R-pins. (See **Figure 114**)

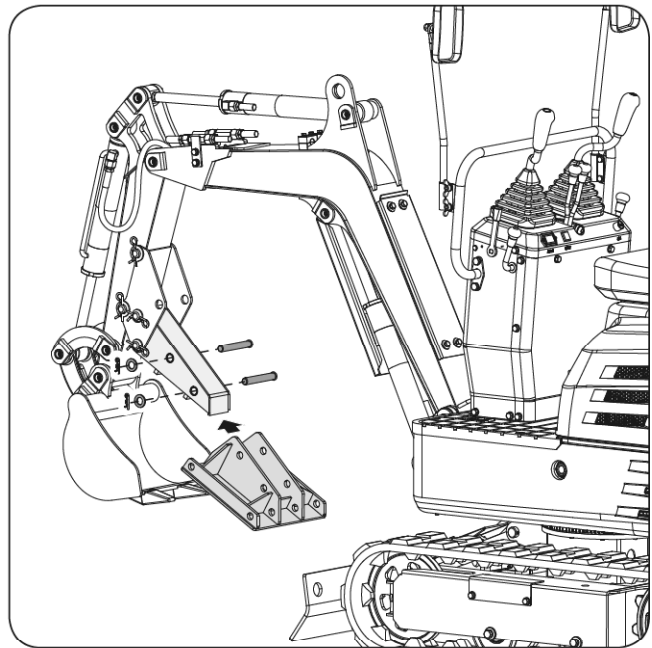
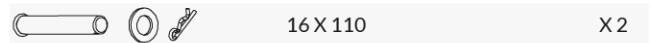


Figure 114



2. Demount the pin shafts 16x300, washers and R-pins from the claw cover. Attach the cover to the clamp from outer side and align the holes. Pass the pin shafts 16x300 through the holes, put on the washers and fix with R-pins. (See **Figure 115**)

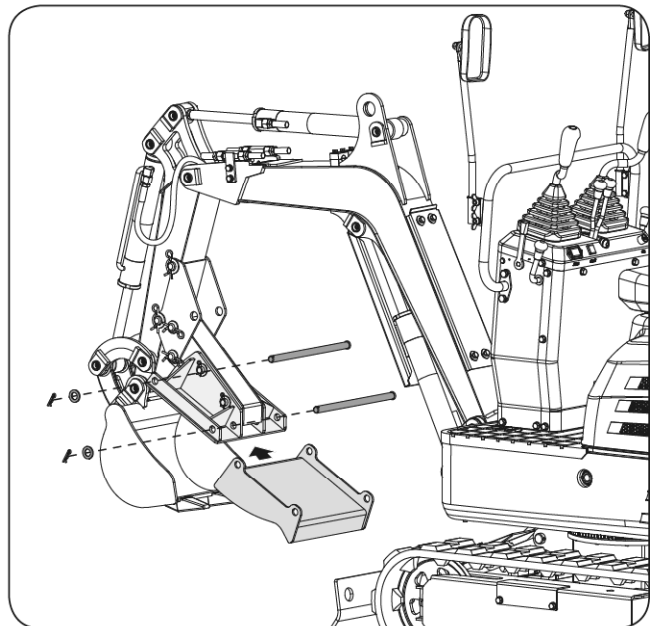


Figure 115



GRADING BUCKET YEB050 (APPLY TO YE0610-003 & YE0610-575003)

The grading bucket is for replacing the standard bucket on the machine. With bigger capacity, it can double the working efficiency when digging loose materials.

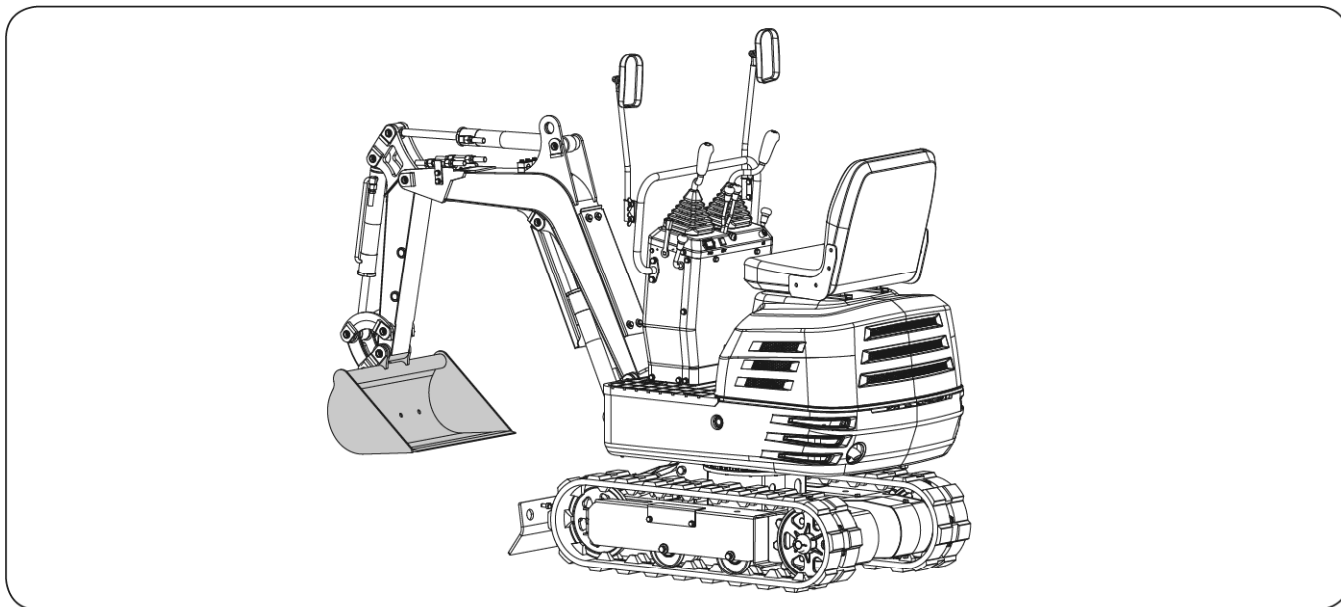


Figure 116

GRADING BUCKET INSTALLATION

1. Stop the machine and rest the bucket on the ground. Remove the shovel pin weldment, then remove the standard bucket off the machine. (See **Figure 117**)
2. Mount the grading bucket onto the machine with the removed pins from the first step. (See **Figure 118**)

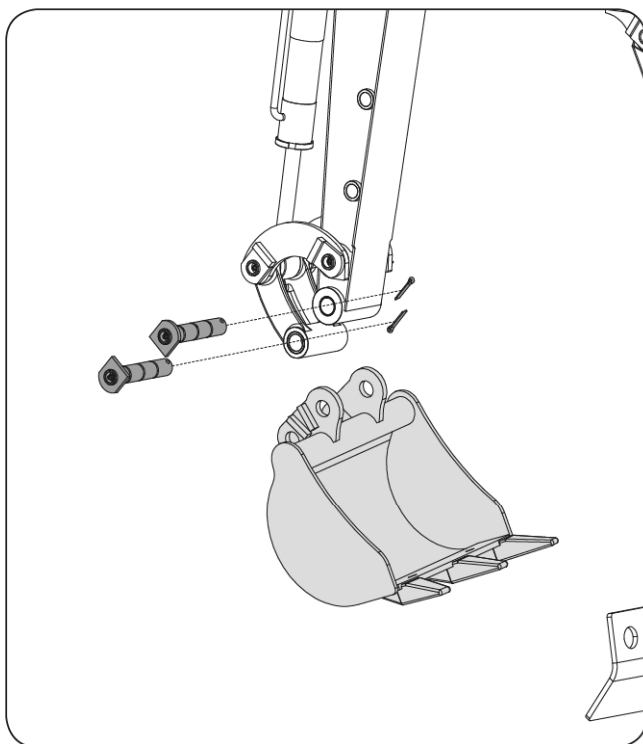


Figure 117

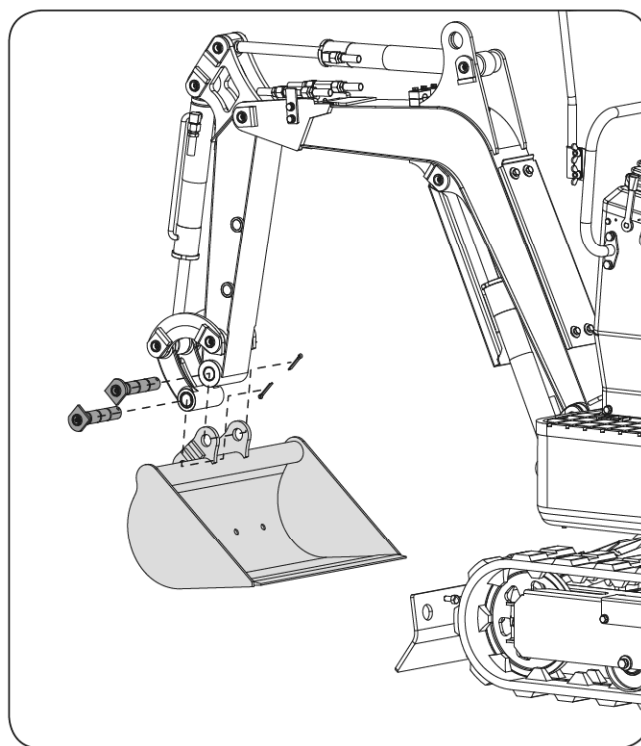


Figure 118



X 2

CANOPY YEC575 (APPLY TO YE0610-575 & YE0610-575003)

The canopy is connected to the swing unit platform. It is ideal for offering protections from sunlight, rain and other precipitations. It is easy to be installed and disassembled.

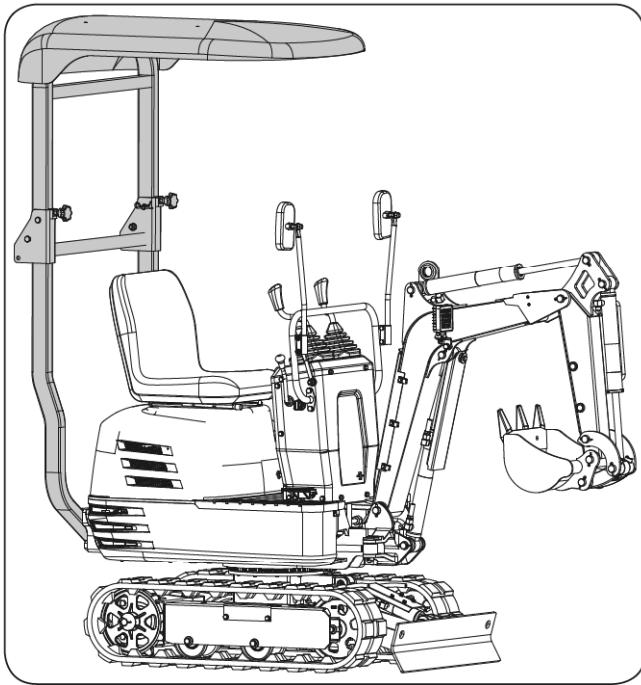


Figure 119

CANOPY INSTALLATION

1. First, open the engine hood and then use a sleeve to remove the engine guard. (See **Figure 120**)

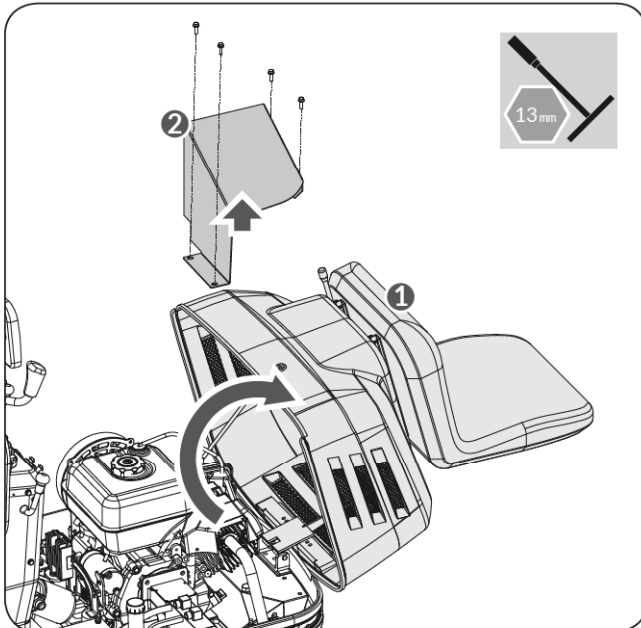


Figure 120

2. Align the holes in the lower frame of the canopy with the holes in the swing unit platform as shown. Secure the upper connection with provided M20x160 bolts, washers and nuts and the lower connection with M20x140 bolts, washers and nuts. (See **Figure 121**)

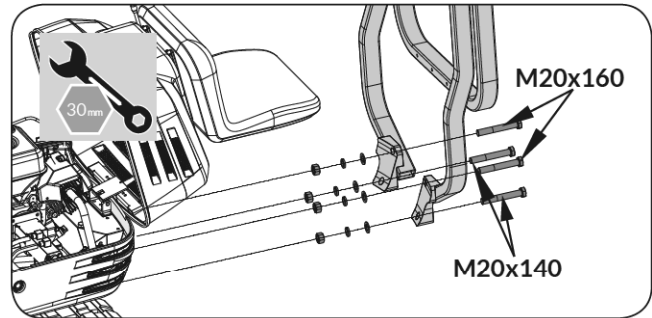


Figure 121

	M20 X 160	X 2
	M20 X 140	X 2

3. Unfold the upper bracket and secure it with 12x60 pins and R-pins. Then tighten the knobs to lock the upper bracket. (See **Figure 122**)

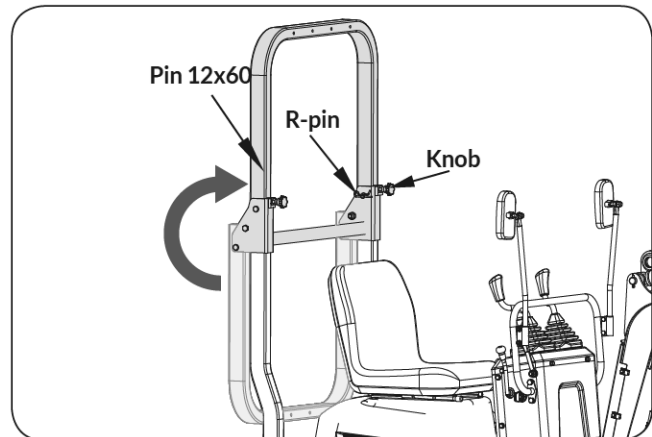


Figure 122

	12 X 60	X 2
		X 2

4. Align the holes in the canopy top with the holes in the upper frame of the canopy as shown. Fasten the canopy top in place with the provided M8x85 bolts, washers and nuts. (See **Figure 123**)

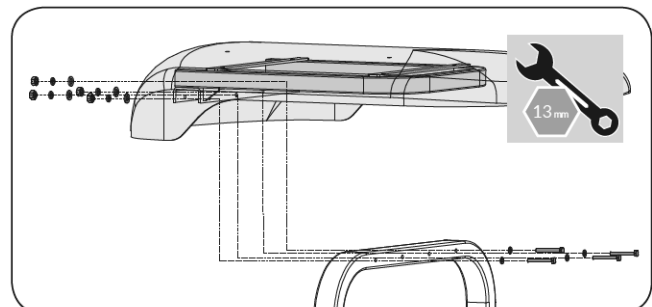
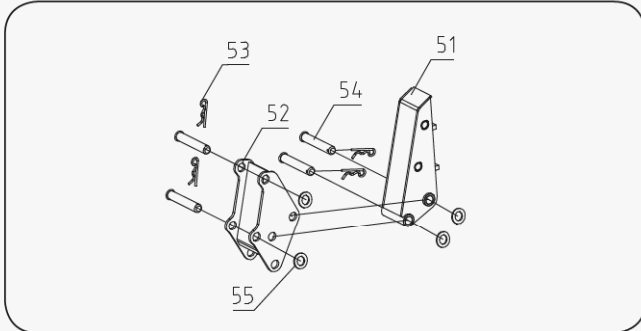


Figure 123

	M8 X 85	X 4
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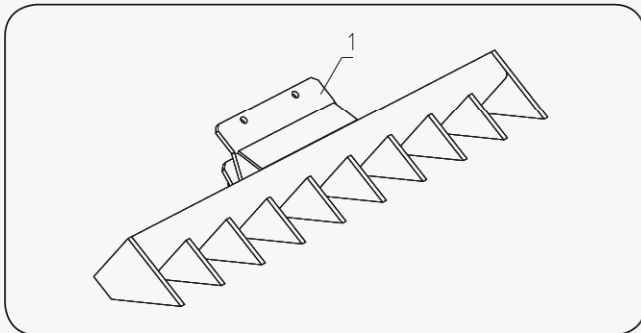
ATTACHMENTS PARTS DIAGRAM

THUMB



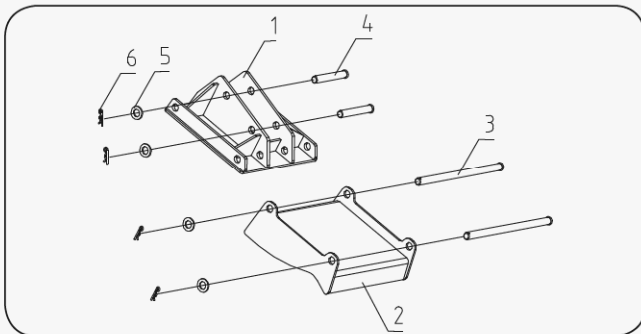
No.	Description	QTY.
51	Thumb	1
52	Thumb Bracket	1
53	Spring Pin	4
54	Pin 20x120	4
55	Flat Washer 20	4

RAKE YER100



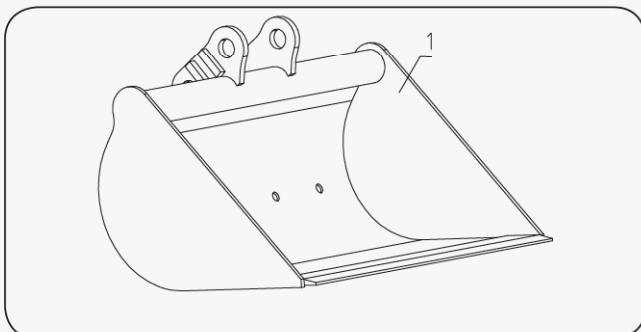
No.	Description	QTY.
1	Rake	1

CLAW YEC039

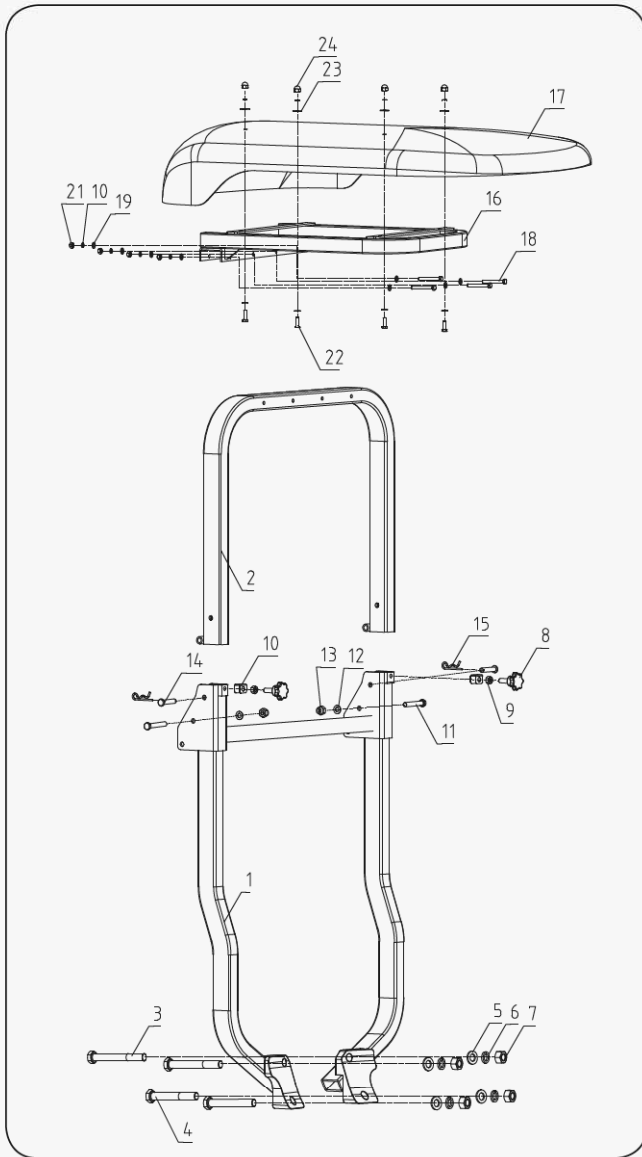


No.	Description	QTY.
1	Clamp Plate	1
2	Clamp Cover	1
3	Pin 16x300	2
4	Pin 16x110	2
5	Flat Washer 16	4
6	Spring Pin	4

GRADING BUCKET YEB050



No.	Description	QTY.
1	Grading Bucket	1

CANOPY YEC575

No.	Description	QTY.
1	Lower Frame	1
2	Upper Frame	1
3	Bolt M20x160	2
4	Bolt M20x140	2
5	Flat Washer 20	4
6	Spring Washer 20	4
7	Nut M20	4
8	Knob	2
9	Nut M12	2
10	Folding Frame Adjusting Plate	1
11	Bolt M12x70	2
12	Flat Washer 12	2
13	Lock Nut 12	2
14	Pin 12x60	2
15	Spring pin	2
16	Canopy Bracket	1
17	Canopy	1
18	Bolt M8x85	4
19	Flat Washer 8	8
20	Spring Washer 8	8
21	Nut M8	4
22	Bolt M8x25	4
23	Flat Washer 8	4
24	Nut M8	4

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