

TCR1500 MINI TRENCHER



Operator's Manual

MechMaxx

www.mechmaxx.com

INTRODUCTION

Congratulations on your purchase and welcome to MechMaxx! This manual gives you the necessary information about your machine so you will be able to use it properly. The entire manual must be read and understood before you start using the machine. If any questions should arise that are not covered by this manual, please contact MechMaxx.



Do not start or operate the machine before you read this manual. Make sure that you fully understand all the safety, operation, and maintenance information before you operate the machine. Keep this manual with the machine at all times and available for frequent reference.

This machine is designed for certain applications only. We strongly recommend that this machine is not modied and/or used for any application other than that for which it was designed. If you have any questions relative to a particular application, DO NOT use the machine until you have rst contacted us to determine if it can or should be performed on the product.

For available accessories, go to mechmaxx.com.

ENGINE MANUAL

The Engine Manufacturer is responsible for all engine related issues with regards to performance, power rating, specifications, warranty and service. Please refer to the Engine Manufacturer's owner/operator's manual.

MODEL AND SERIAL 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.

This manual is subject to change without notice. For the most current information, go to Mechmaxx.com.

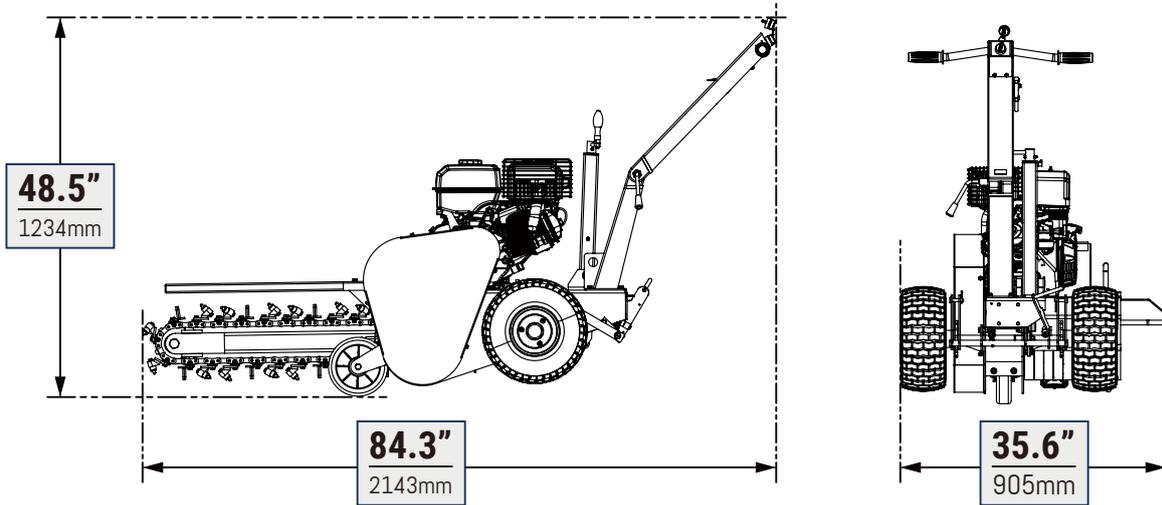
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SPECIFICATIONS

Model	TCR1500
Engine	DUCAR DH420E
Certification(S)	EPA Phase III, CARB Phase III
Engine Type	Single Cylinder, 4 Stroke, Air-Cooled, OHV
Displacement/ HP	420c; 15 HP
Start	E-Start
Belt	2x V-Belts
Belts Material	Kevlar
Clutch	Centrifugal Clutch
Carbide Tip	27 x Carbide Alloy High-Pressure Teeth
Scraper	9 Pcs
Tip Holder Material	42CrMo
Carbide Tip Material	YG11C Alloy
Chain Length	81.5 in
Chain Speed	574 ft / min
Max. Trench Depth	24 in
Max. Trench Width	4 in
Wheelbase	29 in
Tire	15 x 6-6 Tubeless Tire
Assembled Weight	402 lbs
Gross Weight	450 lbs
Packing Size	46 x 31 x 34 in
Warranty	1 Year

OVERALL DIMENSIONS



SAFETY SIGNS

The rating plate on your machine may show symbols. These represent important information about the product or instructions on its use.

⚠ WARNING AND SAFETY INSTRUCTIONS ⚠

OPERATOR SAFETY

- Always wear the proper clothing and protective gear. Eye and ear protection, hard hat, boots, gloves and dust masks are that may be required.
- Keep hair, fingers, and all other body parts away from openings and moving parts. Always wear, long pants, boots, and gloves. Secure hair so it is above shoulder length.
- Do not operate trencher indoors, outdoor use only.
- Do not operate trencher when tired, ill, or under the influence of alcohol, drugs, or medication.
- Always assume the digging location contains underground utilities. Contact appropriate utility company to determine where electrical cables, gas lines, waterlines, etc. are buried before operation.
- Always use extreme caution while operating tool. Be sure of your footing and physical capabilities.

TOOL SAFETY

- Inspect entire trencher before each use. Replace damaged or worn parts.
- Check for fuel leaks and make sure all fasteners are in place and securely fastened.
- Replace digging blades that are severely worn. Be sure the digging chain and engine is not moving.

MAINTENANCE SAFETY

- Maintain according to recommended procedures included in this manual.
- Disconnect the spark plug wire before performing maintenance.
- Stop engine before removing fuel cap.
- Use only genuine replacement parts of the engine manufacturer.

FUEL SAFETY

- Refuel outdoors and where no sparks and flames.
- Store fuel in a container approved for gasoline.
- Do not smoke or allow smoking near fuel or the trencher or while using the trencher.
- Clean up all fuel spills before starting engine.
- Move at least 10 feet away from fueling site before starting engine.
- Stop engine before removing fuel cap.

DIGGING SAFETY

- Be sure that the area is clear of potential hazards, such as pipes, rocks or other materials that could possibly entangle itself around the digging chain or cause unstable footing before using the trencher.
- Keep others bystanders and helpers outside a 15 foot hazard zone from the trencher.
- Hold the trencher handle firmly with both hands.
- Keep all your body and clothing away from the digging chain, auger and other moving parts.
- Inspect the digging site. Soil, job specifications and operator experience may dictate that a different trencher or method be used to do the job.
- Do not leave trenches open or unmarked.

TRANSPORTATION AND STORING SAFETY

- Always shut off the fuel valve and engine.
- Always allow the engine to cool.
- Store trencher and fuel where fuel vapors cannot reach sources of combustion like, water heaters, electric motors, switches, furnaces, etc.
- Always secure this trencher with tie downs or similar restraints when transporting.
- The trencher shall be stored in a manner that prevents it from falling, rolling or tipping over.

⚠ WARNING ⚠

KEEP BACK
Rotating shaft can cause severe injury. Keep arms, legs, hair and loose clothing away.

⚠ DANGER ⚠

KEEP CLEAR
Moving digging teeth can cause serious injury or death. Stay away.

⚠ WARNING ⚠

KEEP CLEAR
Foot crush area. Can cause serious injury. Keep back.

⚠ WARNING ⚠

Always wear hearing protection when operating trencher.

Lifting points are identified by decals. Lifting at other points is unsafe and can damage machine.

⚠ DANGER ⚠



SAFETY

GENERAL SAFETY RULES

Read and understand the operator's manual and labels affixed to the machine. Learn its application and limitations as well as the specific potential hazards peculiar to it.

Be thoroughly familiar with the controls and their proper operation. Know how to stop the machine and disengage the controls quickly.

Make sure to read and understand all the instructions and safety precautions as outlined in the Engine Manufacturer's Manual, packed separately with your unit. Do not attempt to operate the machine until you fully understand how to properly operate and maintain the Engine and how to avoid accidental injuries and/or property damage.

WORK AREA

Never start or run the machine inside a closed area. The exhaust fumes are dangerous, containing carbon monoxide, an odorless and deadly gas. Operate this unit only in a well ventilated outdoor area.

Never operate the machine without good visibility or light.

PERSONAL SAFETY

Do not operate the machine while under the influence of drugs, alcohol, or any medication that could affect your ability to use it properly.

Dress properly. Wear heavy long pants, boots and gloves. Do not wear loose clothing, short pants, and jewelry of any kind. Secure long hair so it is above shoulder level. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.

Use safety equipment. Always wear eye protection. Safety equipment such as a dust mask, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

Check your machine before starting it. Keep guards in place and in working order. Make sure all nuts, bolts, etc. are securely tightened.

Never operate the machine when it is in need of repair or is in poor mechanical condition. Replace damaged, missing or failed parts before using it. Check for fuel leaks. Keep the machine in safe working condition.

Never remove or tamper with safety device. Check their proper operation regularly.

Do not use the machine if the engine's switch does not turn it on or off. Any gasoline powered machine that can not be controlled with the engine switch is dangerous and must be replaced.

Form a habit of checking to see that keys and adjusting wrenches are removed from machine area before starting it. A wrench or a key that is left attached to a rotating part of the machine may result in personal injury.

Stay alert, watch what you are doing and use common sense when operating the machine.

Do not overreach. Do not operate the machine while barefoot or when wearing sandals or similar light weight footwear. Wear protective footwear that will protect your feet and improve your footing on slippery surfaces. Keep proper footing and balance at all times. This enables better control of the machine in unexpected situations.

Avoid accidental starting. Be sure the engine is off before transporting the machine or performing any maintenance or service on the unit. Transporting or performing maintenance or service on a machine with engine on invites accidents.

FUEL SAFETY

Fuel is highly flammable, and its vapors can explode if ignited. Take precautions when using to reduce the chance of serious personal injury.

When refilling or draining the fuel tank, use an approved fuel storage container while in a clean, well-ventilated outdoor area.

While adding fuel or operating the unit, do not smoke, and stay away from sparks, open flames, or other sources of ignition near the area of operation. Never fill the fuel tank. Keep grounded conductive objects, such as tools, away from exposed, live electrical parts and connections to avoid sparking or arcing. These events could ignite fumes or vapors.

Always stop the engine and allow it to cool before filling the fuel tank. Never remove the cap of the fuel tank or add fuel while the engine is running or when the engine is hot. Do not operate the machine with known leaks in the fuel system.

Loose the fuel tank cap slowly to relieve any pressure in the tank.

Never over fill fuel tank. Fill tank to no more than 12.5 mm(1/2") below the bottom of the filler neck to provide space for expansion as the heat of the engine can cause fuel to expand,

Replace all fuel tank and container caps securely and wipe up spilled fuel, Never operate the unit without the fuel cap securely in place.

Avoid creating a source of ignition for spilled fuel. If fuel is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until fuel vapors have dissipated.

Store fuel in containers specifically designed and approved for this purpose.

Store fuel in a cool, well-ventilated area, safely away from sparks, open flames or other sources of ignition.

Never store fuel or machine with fuel in the tank inside a building where fumes may reach a spark, open flame, or other sources of ignition, such as a water heater, furnace, clothes dryer and the like, Allow the engine to cool before storing in any enclosure.

MACHINE USE AND CARE

Position the machine in such a way that it can not move during maintenance, cleaning, adjustment, assembly of accessories or spare parts, as well as under storage,

Do not force the machine. Use the correct machine for your application, The correct machine will do the job better and safer at the rate for which it was designed.

Do not change the engine governor settings or over-speed the engine. The governor controls the maximum safe operating speed of the engine.

Do not run the engine at a high speed when you are not working.

Do not put hands or feet near rotating parts.

Avoid contact with hot fuel, oil, exhaust fumes and hot surfaces.

Do not touch the engine or muffler. These parts get extremely hot from operation. They remain hot for a short time after you turn off the unit, Allow the engine to cool before doing maintenance or making adjustments.

If the machine should start to make an unusual noise or vibration, immediately shut off the engine, disconnect the spark plug wire, and check for the cause, Unusual noise or vibration is generally warning of trouble .

Use only attachments and accessories approved by the manufacturer. Failure to do so can result in personal injury.

Maintain the machine. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the machine's operation. If damaged, have the machine repaired before use. Many accidents are caused by poorly maintained equipment.

Keep the engine and muffler free of grass, leaves, excessive grease or carbon build up to reduce the chance of a fire hazard.

Never douse or squirt the unit with water or any other liquid. Keep handles dry, clean and free from debris. Clean after each use.

Observe proper disposal laws and regulations for gas, oil etc, to protect the environment.

Store idle machine out of the reach of children and do not allow persons unfamiliar with the machine or these instructions to operate it. Machine is dangerous in the hands of untrained users.

SERVICE

Before cleaning, repair, inspecting, or adjusting, shut off the engine and make certain all moving parts have stopped. Disconnect the spark plug wire, and keep the wire away from the plug to prevent accidental starting.

Have your machine serviced by qualified repair personnel using only identical replacement parts This will that the safety of the machine maintained.

PROPOSE



This machine is designed solely to dig trench and must not be used for any other purpose. It should only be used by trained operators who are familiar with the content of this manual. It is potentially hazardous to fit or use any parts other than your dealer parts. We disclaim all liability for the consequences of such use, which in addition voids the machine warranty

Before using the Trencher:

Operators must be fully trained before using this machine.

User Manual is read and understood.

Blades are in good condition and secure. All blades are sharpened or replaced in sets.

All fasteners are checked for tightness.

When using the Trencher :

Maintain strict discipline at all times and service machine at specified periods.

During working, people should stand in the middle of the two handles, and keep a certain space from engaged wheel, so that avoid injuries of foot touching engaged wheel during walking.

Keep body parts, foreign objects and clothing clear of rotating auger and digging chain.

Coming into contact with buried utilities while digging can cause severe injuries or DEATH.

Contact appropriate utility representatives to determine if/where electrical cables, gas lines, water lines, etc. are buried BEFORE operation.

DO NOT operate the machine while under the influence of alcohol or drugs.

Only use the machine in daylight or illuminance above 500lux.

Never operate the dumper after dark.



Protecting Yourself and Those around You

This is a high-powered machine, with moving parts operating with high energy. You must operate the machine safely. Unsafe operation can create a number of hazards for you, as well as anyone else in the nearby area. Always take the following precautions when using this machine:

Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people, their property, and themselves.

Always wear protective goggles or safety glasses with side shields while using the Trencher to protect your eyes from possible thrown debris.

Avoid wearing loose clothing or jewelry, which can catch on moving parts.

Wear shoes with non-slip treads when using your Trencher. If you have safety shoes, we recommend wearing them. Do not use the machine while barefoot or wearing open sandals.

Wear earplug when using your trencher to avoid noise.

Keep bystanders at least 50 feet (15m) away from your work area at all times. Stop the engine when another person or pet approaches.



Safety for Children and Pets

Tragic accidents can occur if the operator is not alert to the presence of children and pets. Children are often attracted to the machine and the digging activity. Never assume that children will remain where you last saw them. Always follow these precautions:

Keep children and pets at least 50 feet (15m) from the working area and ensure they are under the watchful care of a responsible adult.

Be alert and turn the machine off if children or pets enter the work area.

Never allow children to operate the Trencher.



Safety with Gasoline - Powered Machines

Gasoline is a highly flammable liquid. Gasoline also gives off flammable vapor that can be easily ignited and cause a fire or explosion. Never overlook the hazards of gasoline. Always follow these precautions:

Never run the engine in an enclosed area or without proper ventilation as the exhaust from the engine contains carbon monoxide, which is an odorless, tasteless, and a deadly poisonous gas.

Store all fuel and oil in containers specifically designed and approved for this purpose and keep away from heat and open flame, and out of the reach of children.

Replace rubber fuel lines and grommets when worn or damaged and after 5 years of use.

Fill the gasoline tank outdoors with the engine off and allow the engine to cool completely. Don't handle gasoline if you or anyone nearby is smoking, or if you're near anything that could cause it to ignite or explode. Reinstall the fuel tank cap and fuel container cap securely.

If you spill gasoline, do not attempt to start the engine. Move the machine away from the area of the spill and avoid creating any source of ignition until the gas vapors have dissipated. Wipe up any spilled fuel to prevent a fire hazard and properly dispose of the waste.

Allow the engine to cool completely before storing in any enclosure. Never store a machine that has gasoline in the tank, or a fuel container, near an open flame or spark such as a water heater, space heater, clothes dryer or furnace. Never make adjustments or repairs with the engine running. Shut down the engine, disconnect the spark plug wire, keeping it away from the spark plug to prevent accidental starting, wait 5 minutes before making adjustments or repairs.

Never tamper with the engine's governor setting. The governor controls the maximum safe operation speed and protects the engine. Over-speeding the engine is dangerous and will cause damage to the engine and to the other moving parts of the machine. If required, see your authorized dealer for engine governor adjustments.

Keep combustible substances away from the engine when it is hot.

Never cover the machine while the muffler is still hot.

Do not operate the engine with the air cleaner or the carburetor air intake cover removed. Removal of such parts could create a fire hazard. Do not use flammable solutions to clean the air filter.

The muffler and engine become very hot and can cause a severe burn; do not touch.



Operating this Trencher safely is necessary to prevent or minimize the risk of death or serious injury. Unsafe operation can create a number of hazards for you. Always take the following precautions when operating:

Your Trencher is a powerful tool, not a plaything. Exercise extreme caution at all times. The machine is designed to dig trench. Do not use it for any other purpose.

Know how to stop the Trencher quickly.

Exercise caution to avoid slipping or falling.

See manufacturer's instructions for proper operation and installation of accessories.

Never use the machine without ensuring that all guards and shields are in place.

Never, under any conditions, remove, bend, cut, fit, weld, or otherwise alter standard parts on the Trencher. This includes all shields and guards. Modifications to your machine could cause personal injuries and property damage and will invalidate your warranty.

If the machine start to make an unusual noise or vibrate, shut down the engine, disconnect the spark plug wire, keeping it away from the spark plug to prevent accidental starting, wait 5 minutes for engine to cool down, then inspect for damage. Vibration is generally a warning of trouble. Check damaged parts and clean, repair and/or replace as necessary.

Never tamper with safety devices. Check their proper operation regularly.

Before performing any maintenance or inspection procedure, shut down the engine, disconnect the spark plug wire keeping it away from the spark plug to prevent accidental starting, wait 5 minutes for machine to cool down.

Never allow people who are unfamiliar with these instructions to use the Trencher. Allow only responsible individuals who are familiar with these rules of safe operation to use your machine.

Never overload or attempt to dig trenches beyond the manufacturer's recommendation. It could result in personal injury or damage to the machine.

While using, don't hurry or take things for granted. When in doubt about the equipment or your surroundings stop the machine and take time to look things over.

Never operate the machine when under the influence of alcohol, drugs, or medication.

Use the machine only in daylight.

Stay alert for hidden hazards or traffic.

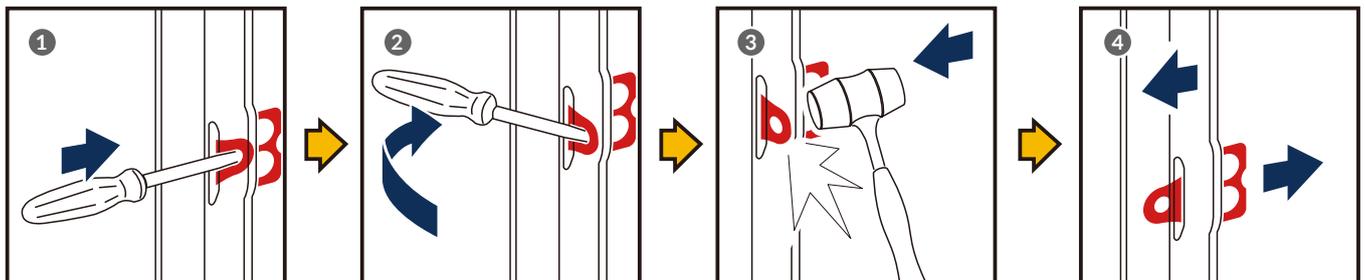
Keep all nuts and bolts tight and keep the equipment in good operating condition.

A NOTE TO ALL USERS

List of warnings and cautions cannot be all-inclusive. If situations occur that are not covered by this manual, the operator must apply common sense and operate this TRENCHER in a safe manner. Contact the dealers for assistance in your area.

UNPACHING THE CONTAINER

Use the screwdriver and hammer to open all the side locks.



ASSEMBLY

WHEELS

Using flat washers 8, nuts M8 and hex bolts M8x25. Mount the tire to the main frame. (See Figure 1)

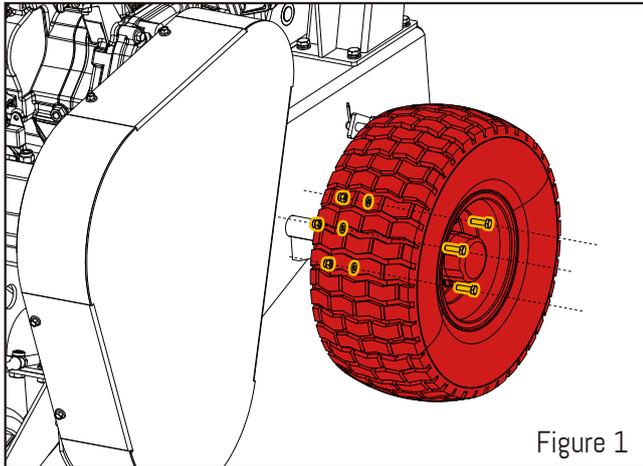


Figure 1

6X Hex lock nut M8



6X Hex bolt M8 X 25mm



6X Flat washer 8



HANDLE ASSEMBLY

Install throttle switch to upper handle with hex bolt M6x30.

Install the upper handle to the lower handle with the hex bolt M16x90, and then connect the Angle arm to the hex bolt M16x90. (See Figure 2)

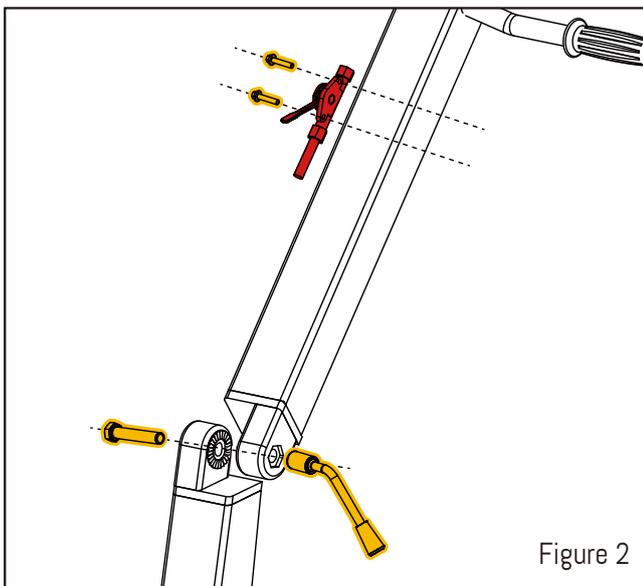


Figure 2

1X Hex bolt M16 X 90mm



2X Hex bolt M6 X 30mm



Attach the lower part of the handle to the rotation handle. Attach lower handle to main frame with flat washer 8, elastic washer 8 and hex bolt M8x20. (See Figure 3)

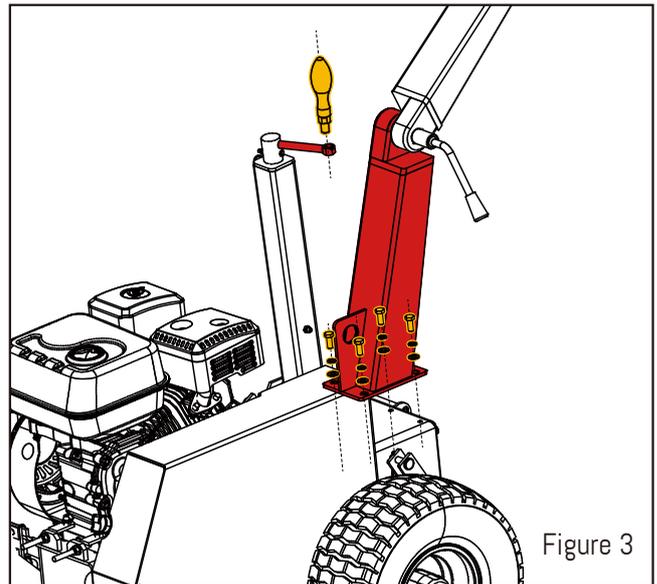


Figure 3

4X Hex bolt M8 X 20mm



4X Flat washer 8



4X Spring washer 8



CHAIN ASSEMBLY

Connect the chain adaptor to the chain axle plate. (See Figure 4)

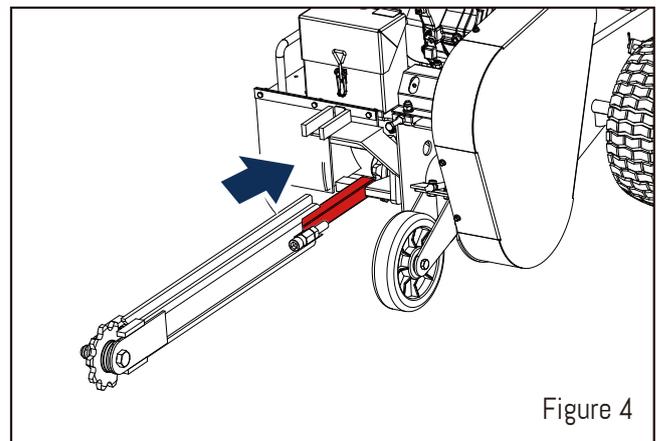


Figure 4

Lock the chain on the adapter to circle with chainlock chain lock and split cotter, Tighten the chain by tightening the bolt.(See Figure 5)

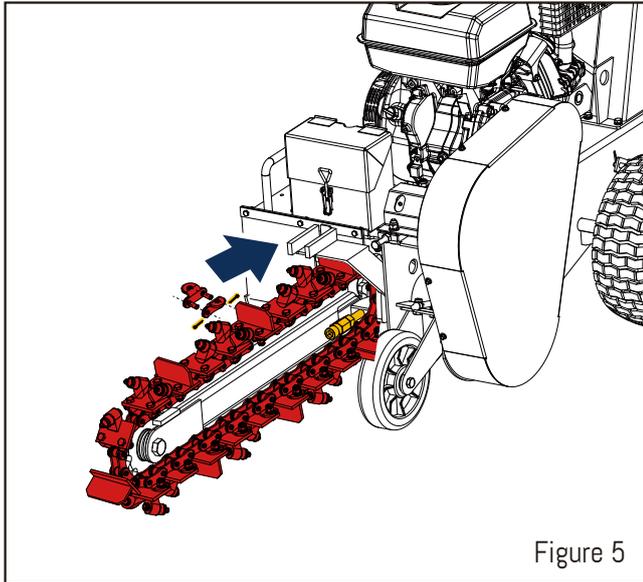


Figure 5

CHAIN GUARD

Connect the chain cover with connection arm plate with flat washer 8, spring washer 8 and hex bolt M8x55.(See Figure 6)

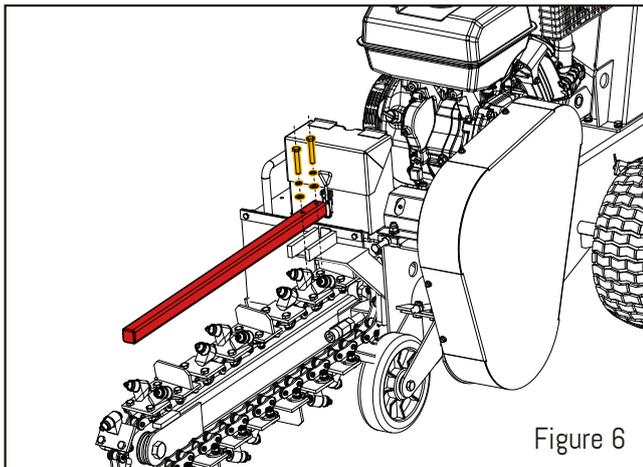


Figure 6

- 2X Hex bolt M8 X 55mm 
- 2X Flat washer 8 
- 2X Spring washer 8 

SHIELD

Install the shield on the main frame with hex bolt M6x20,- flat washer 6 and lock nut M6.(See Figure 7)

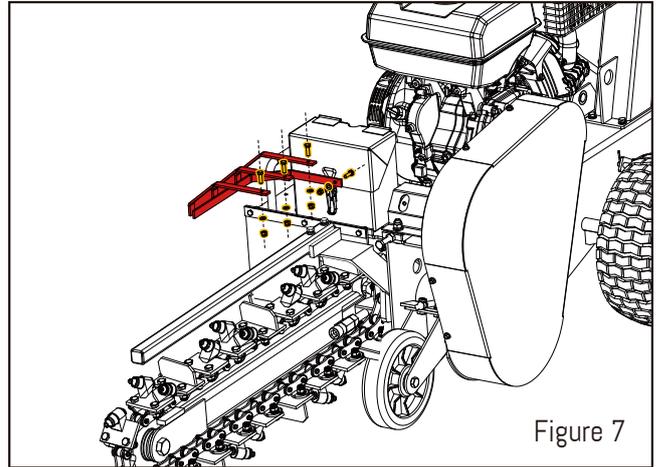


Figure 7

- 4X Hex lock nut M6 
- 4X Hex bolt M6 X 20mm 
- 4X Flat washer 6 

WIRING

Remove the guard plate and install the engine wire (red) to the electric start and the oil gate wire (yellow) to the throttle switch.(See Figure 8)

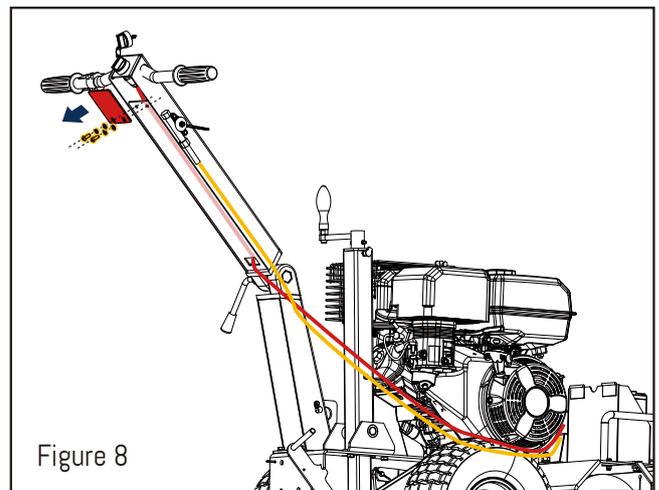
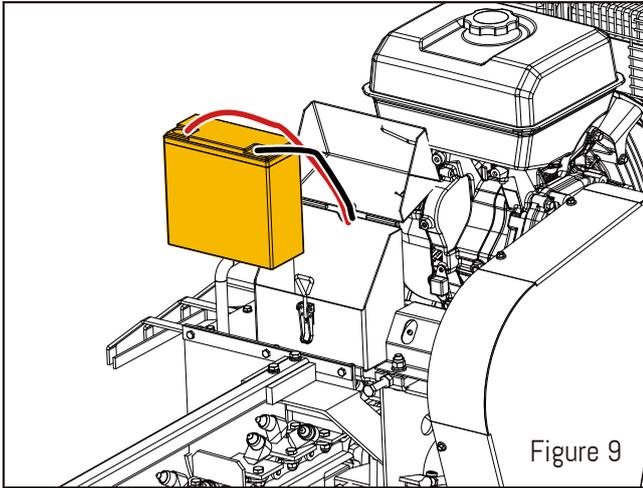


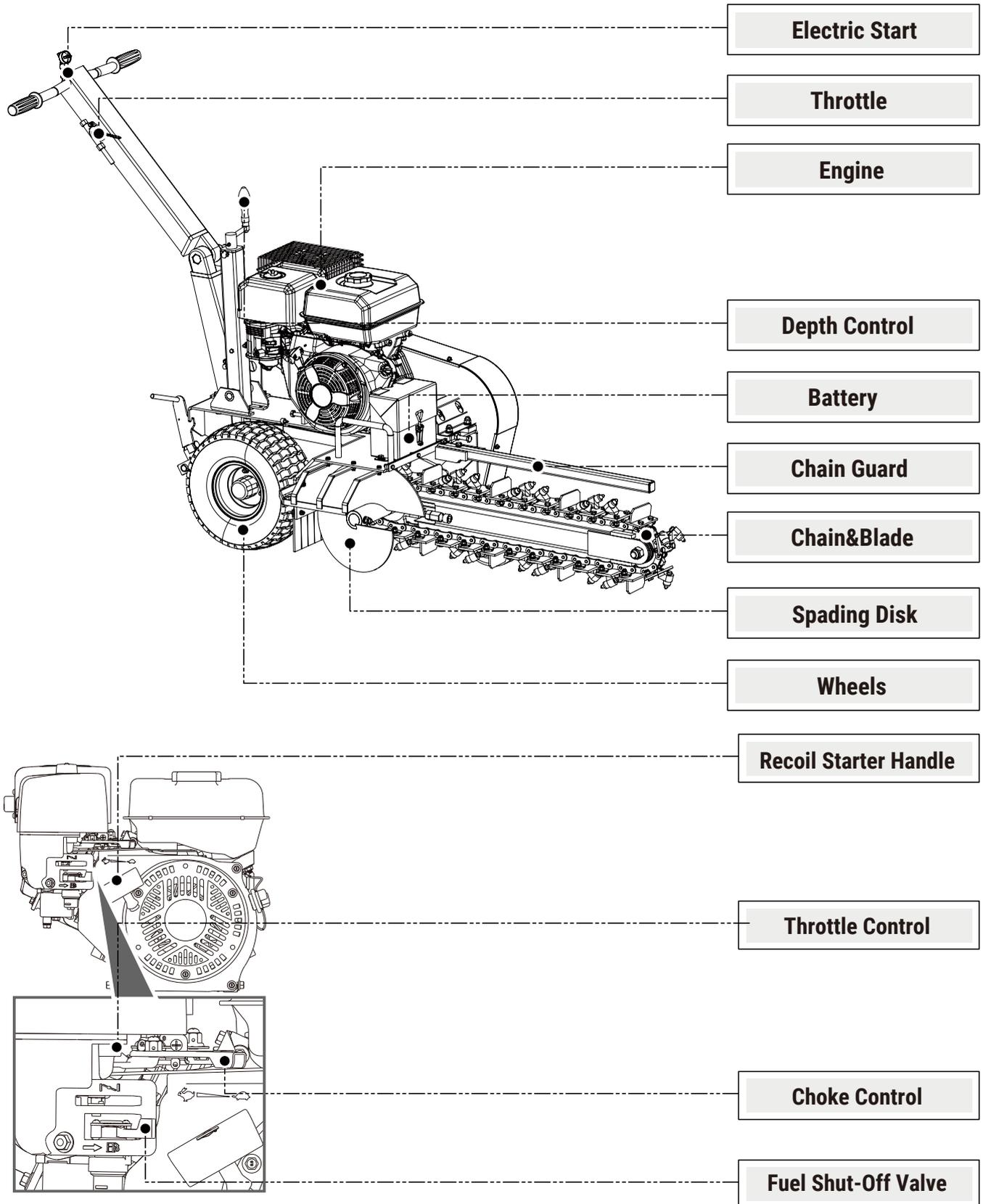
Figure 8

BATTERY

Open the battery box, connect the positive terminal (+) to the red line, and the negative terminal (-) to the black line. (See Figure 9)



KNOW YOUR MACHINE



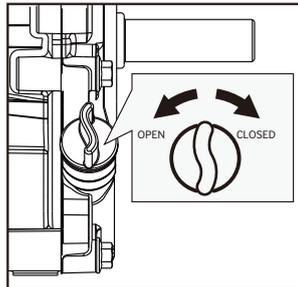
OPERATION



The engine is shipped without oil. Do not start the engine before adding oil.

ADD OIL TO ENGINE

1. Make sure the chipper shredder is on a flat, level surface.
2. Remove the oil fill cap/dipstick to add oil.



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.)



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

ADD GASOLINE TO ENGINE



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



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.)



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. 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.

OPERATING THE TRENCHER

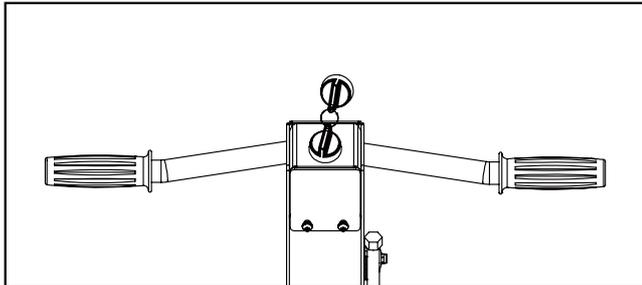
It may be helpful to better familiarize your self with the features of your Trencher before beginning the steps outlined in this chapter.



Read and understand all instructions, safety precautions, and/or warnings listed in "PART I: General Safety Rules" before operating the TRENCHER. If any doubt or question arises about the correct or safe method of performing anything found in this manual, please contact the dealers in your area. Before loading and operating the Trencher, always wear protective gear, including safety goggles, hearing protection, tight-fitting gloves without draw strings or loose cuffs, and steel-toed shoes.

STARTING

Be sure the depth control is in the "0" depth position and Set the electric start switch to the ON position and hold it until the engine starts. Always stand to the rear of the trencher, away from the side delivery auger and digging chain while starting the engine. Always start the trencher at the job site and allow it to warm up. While the machine is running, check that all controls are working properly before using.



Move the choke control lever (if used for cold engine) slowly back to the "RUN" position when the engine is running well.

If the Trencher has not been running (cold engine), warm up the engine by running the engine at half throttle for 3 to 4 minutes, then advance the engine throttle control to the maximum speed.

TRENCHING

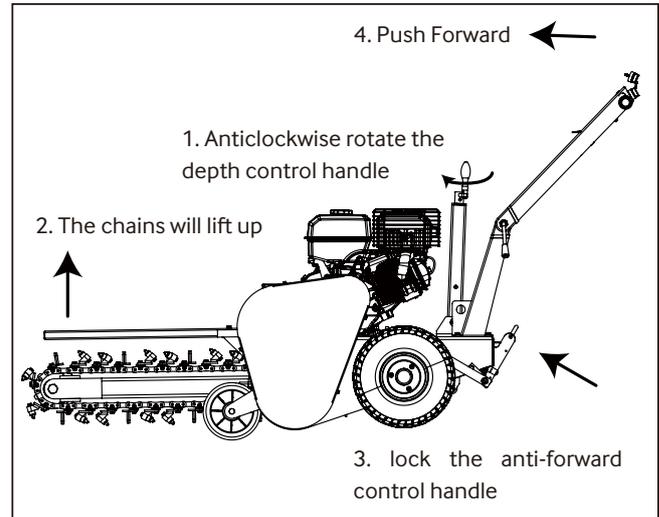
Be sure the digging chain is not turning when the engine is at an idle. Be sure the engine is off or at an idle before moving the trencher at the job site.

NOTE: All depths are approximate. Actual depth may vary depending upon soil conditions and trencher blade wear.

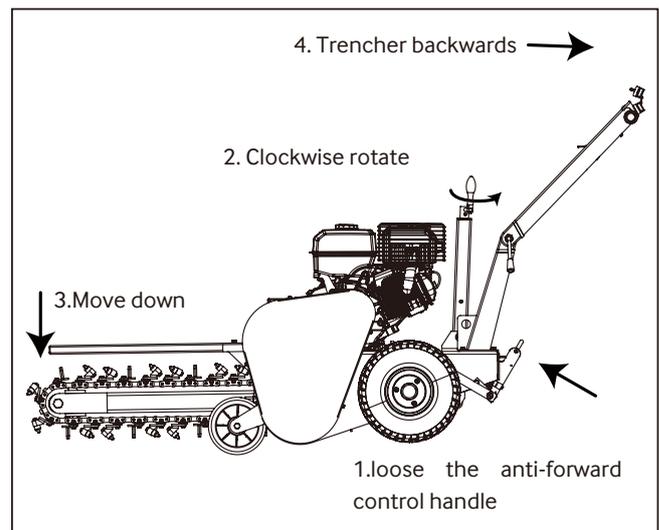
Also, soil conditions and operator experience will dictate actual trenching action and speed

A GENERAL DESCRIPTION ON HOW TO TRENCH:

Anticlockwise rotate the depth control handle and lift the chains, lock the anti forward control handle, then the trencher can be push forward.



Push forward the trencher to the work site, loose the anti-forward control handle, then the trencher can only move backwards. Clockwise rotate the depth control handle and descend the chains to your desired depth.



Notes:

Lock: When we put the anti-forward control handle in the slot, the anti-forward controller lift up, don't touch the wheel gear, we can push forward.

Loose: When we pull back the ant-forward control handle, it will automatically loose the anti-forward controller down on the wheel gear, the trencher can't move forward and can only move backwards

STOPPING

There are two stop switches on the trencher; one on the handle bar and one on the engine. Refer to the engine manual for the switch location on your trencher. The operator can turn the trencher off at any time by switching either stop switch to the "OFF" position. Both switches must be "ON" before the engine can start.

STOPPING THE ENGINE FOLLOWING THE PROCEDURES:

Switching stop switch on handle.

Move the Throttle Lever to IDLE.

Recoil Start: Turn the Ignition Switch to the OFF position.

Electric Start: Turn the Key to the OFF position

WHEN BLOCKED

If the Chain stops moving while digging trenches, the engine should be stopped, take out the muds or anything which stuck the chain, then restart the engine, and start digging again.

OPERATOR SAFETY

All the rack and pinion should be greased before every use. Always wear the proper clothing and protective gear. Eye and ear protection, hard hat, boots, gloves and dust masks are that may be required.

Keep hair, fingers, and all other body parts away from openings and moving parts. Always wear, long pants, boots, and gloves.

Secure hair so it is above shoulder length.

Do not operate trencher indoors. Outdoor use only.

Do not operate trencher when tired, ill, or under the influence of alcohol, drugs, or medication.

Always assume the digging location contains underground utilities. Contact appropriate utility company to determine where electrical cables, gas lines, water lines, etc. are buried before operation.

Always use extreme caution while operating tool. Be sure of your footing and physical capabilities.

TOOLS SAFETY

Inspect entire trencher before each use. Replace damaged or worn parts.

Check for fuel leaks and make sure all fasteners are in place and securely fastened.

Replace digging blades that are severely worn. Be sure the digging chain and engine is not moving.

FUEL SAFETY

Refuel outdoors and where no sparks and flames.

Store fuel in a container approved for gasoline.

Do not smoke or allow smoking near fuel or the trencher or while using the trencher.

Clean up all fuel spills before starting engine.

Move at least 10 feet away from fueling site before starting engine.

Stop engine before removing fuel cap

DIGGING SAFETY

Be sure that the area is clear of potential hazards, such as pipes, rocks or other materials that could possibly entangle itself around the digging chain or cause unstable footing before using the trencher.

Keep others bystanders and helpers outside a 15 foot hazard zone from the trencher. Hold the trencher handle firmly with both hands.

Keep all your body and clothing away from the digging chain, auger and other moving parts.

Inspect the digging site. Soil, job specifications and operator experience may dictate that a different trencher or method be used to

MAINTAINING YOUR TRENCHER

Regular maintenance is the way to ensure the best performance and long life of your machine. Please refer to this manual and the engine manufacturer's user manual for maintenance procedures.

MAINTENANCE SAFETY

Before performing any maintenance procedure or inspection, stop the engine, wait five minutes to allow all parts to cool.

Disconnect the spark plug wire, keeping it away from the spark plug. Disconnect the Battery Terminals (Electric start only).

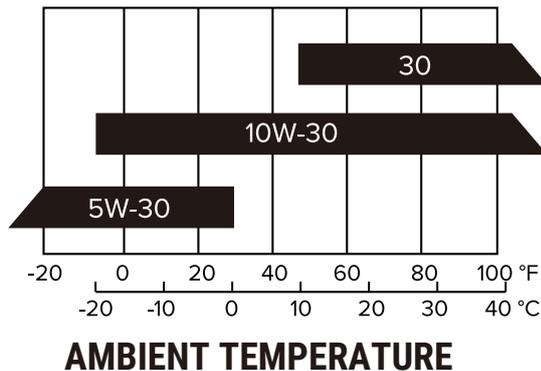
Stop engine before removing fuel cap.

Use only genuine replacement parts of the engine manufacturer.

LUBRICATION

Recommended engine oil 4-stroke gasoline engine oil SF under API service classification or SAE10W-30(equivalent to SG class).

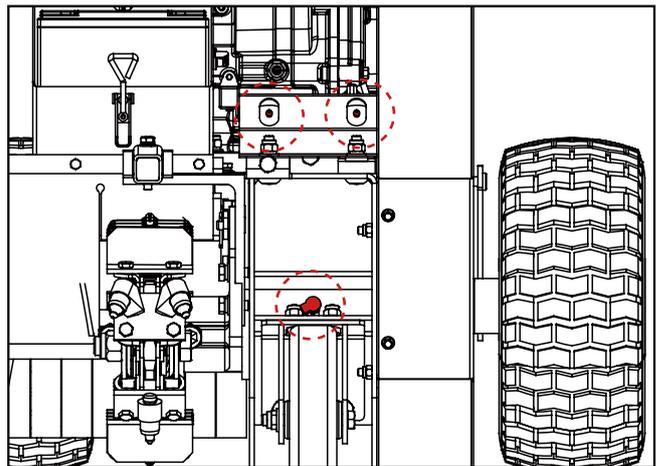
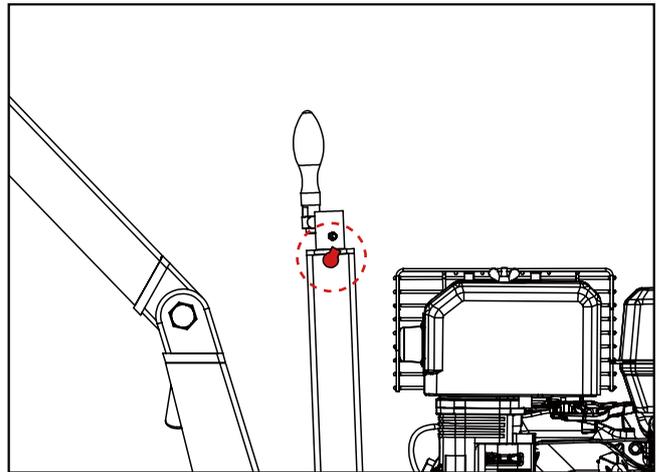
SAE



GREASE FITTING

Grease is applied to bearings, gears, and other areas that require durable lubrication and sealing, helping to protect the machine from premature wear and aging.

Keep all grease fittings clean and maintain them regularly.



RECOMMENDED FUEL

Unleaded gasoline: Pump octane rating 86 or higher

This engine is certified to operate on unleaded gasoline. Unleaded gasoline produces fewer engine and spark plug deposits and extends exhaust system life.

Regular Maintenance Checklist				
Procedure	Before Each Use	Every 3 Hours	Every 25 Hours	Every 100 Hours
Check engine oil level	▲			
Check general equipment condition	▲			
Check wedge for sharpness	▲			
Grease surface of slide rail	▲			
Check belts	▲			
Grease rack and pinion		▲		
Check tire pressure			▲	
Clean engine exterior and cooling			▲	
Change Engine Oil	First time 5hours		▲	
Replace air filter			▲	
Replace spark plug				▲

TRANSPORTING AND STORING

TRANSPORTING

The mini trencher is designed to be transported via a van or small trailer. The machine is equipped with grab bars that are to be used for both lifting the machine, and strapping it down. This machine weighs approximately 402lb and should only be lifted using correct apparatus.

When the mini trencher is packaged in the plywood case, we can carry machine by forklift.

Without package, we can lift the machine at the point of lift label shown.

Tie the machine at the point of tying label when transport for long distance to keep the machine stable.

Note: There are legal road requirements for transiting mini machines. It is the owner's responsibility to be aware of these laws and to adhere to them.

STORING

When you finished using the mini trencher and it has cooled, you must:

Cool engine before storage.

Clean the dumper.

Inspect for worn or damaged parts.

Choose covered storage location.

Prevent accidental starting.

Plan on exercising the engine at least monthly unless the dumper is prepared for long term storage.

Always shut off the fuel valve and engine.

Always allow the engine to cool.

Store trencher and fuel where fuel vapors cannot reach sources of combustion like, water heaters, electric motors, switches, furnaces, etc.

Always secure this trencher with tie downs or similar restraints when transporting.

The trencher shall be stored in a manner that prevents it from falling, rolling or tipping over.

TROUBLESHOOTING

Most problems are easy to fix. Consult the Troubleshooting Table below for common problems and their solutions. If you continue to experience problems, contact the dealers in your area.



Before performing any maintenance procedure or inspection, stop the engine, wait five minutes to allow all parts to cool. Disconnect the spark plug wire, keeping it away from the spark plug.

SYMPTOM	POSSIBLE CAUSE
<p>The engine won't start. (Please refer to the engine user manual for engine-specific procedures.)</p>	<p>Is the ignition switch in the "ON" position? Is the fuel shut-off valve on? Are you using fresh, clean gas? If the gas is old, change it. Use a fuel stabilizer if you keep gas longer than 30 days. Is the spark plug clean? If the spark plug is dirty or cracked, change it. If it's oily, leave it out, hold a rag over the plug hole and pull the recoil cord several times to blow out any oil in the cylinder, then wipe off the plug and reinsert it.</p>
<p>The engine lacks power or is not running smoothly. (Please refer to the engine user manual for engine-specific procedures.)</p>	<p>Check that the Throttle Lever is in the "Run" position. Is the air filter clean? If it's dirty, change it following the procedure in the engine manufacturer's owner's manual. Is the spark plug clean? If it's fouled or cracked, change it. If it's oily, leave it out, hold a rag over the plug hole and pull your recoil cord several times to blow out any oil in the cylinder, then wipe off the plug and reinsert it. Are you using fresh, clean unleaded gasoline? If it's old, change it. Use a fuel stabilizer if you keep gasoline longer than 30 days. Does your engine have the right amount of clean oil? If it's dirty, change it following the procedure in the engine manufacturer's owner's manual. Check the oil level and adjust as needed.</p>
<p>Engine smokes. (Please refer to the engine user manual for engine-specific procedures.)</p>	<p>Check the oil level and adjust as needed. Check the air filter and clean or replace if needed. You may be using the wrong oil—too light for the temperature. Refer to your Engine Owner's Manual for detailed information. Clean the cooling fins if they're dirty.</p>

PARTS LIST

No.	DESCRIPTION	QTY
1	Tension Spring	1
2	Trencher Welded Main Body	1
3	Type 1 Hex Nut M10	4
4	Right Gear	1
5	Bushing	2
6	Deep Groove Ball Bearing	6
7	TC Skeleton Oil Seal	4
8	Plain Washer Grade A 20	7
9	Small Round Nut M20	6
10	Lock Washer for Round Nut 20	3
11	Hex Head Bolt Full Thread M8×25	27
12	Plain Washer 8	33
13	Nonmetallic Insert Hex Lock Nut M8	26
14	Left Gear	1
15	Pressure Bar	1
16	Rubber Plate 1	1
17	Hex Head Bolt Full Thread M6×25	7
18	Plain Washer 6	15
19	Nonmetallic Insert Hex Lock Nut M6	11
20	Pressure Bar 2	1
21	Rubber Plate 2	1
22	Hex Head Bolt Full Thread M6×25	4
23	Anti-Tip Assembly	1
24	Pin Shaft Type B 10×40	2
25	Cotter Pin 4×32	2
26	Cotter Pin 3.2×32	5
27	Hex Head Bolt Full Thread M10×35	2
28	Nonmetallic Insert Hex Lock Nut M10	15
29	Plain Washer Grade A 10	19

No.	DESCRIPTION	QTY
30	Welded Outer Guard	1
31	Guard Assembly 1	1
32	Standard Spring Washer 8	27
33	Hex Flange Bolt M6×30	8
34	Hex Socket Cap Screw M10×45	1
35	Hex Head Bolt Full Thread M10×50	1
36	Hex Head Bolt Full Thread M10×70	2
37	Spring Cap Oil Cup Type B M10×1	2
38	Clamp Wire Harness Clip	2
39	Handle Grip	2
40	Locking Handle	1
41	Key Switch	1
42	Hex Flange Bolt M8×30	2
43	Choke Control	1
44	Hex Head Bolt M16×90	1
45	Hex Head Bolt M8×20	4
46	Hex Socket Button Head Screw M6×16	2
47	Saddle Spring Washer 6	2
48	Small Washer Grade A 6	2
49	Engine	1
50	Centrifugal Clutch Assembly	1
51	Reinforced Round Head Square Neck Bolt M10×45	8
52	Large Washer Grade A	1
53	Standard Spring Washer 10	11
54	Key B7×7×40	1
55	Plain Washer Grade A 24	3
56	Intermediate Drive Shaft	1
57	Bearing with Vertical Housing	2
58	Single Row Sprocket	1

No.	DESCRIPTION	QTY
59	Standard Parallel Key Type A 5×5×50	1
60	Pulley	1
61	Short-Pitch Roller Chain	1
62	Toothed Belt	2
63	Trenching Spindle	1
64	Tilling Assembly	1
65	Hex Socket Cap Screw M10×70	1
66	Tilling Sleeve	1
67	Shaft Retaining Ring Type A 35	1
68	Tapered Roller Bearing	2
69	Shaft Retaining Ring Type A 75	1
70	Bearing Retainer Ring	1
71	Skeleton Oil Seal 42×62×8	2
72	Bearing Stop Block	1
73	Rubber O-Ring 69×3.55	2
74	Driven Sprocket 10A-33	1
75	Small Round Nut M30	2
76	Lock Washer for Round Nut 30	1
77	Standard Parallel Key Type A 8×7×28	1
78	Bracket	1
79	Hex Head Bolt Full Thread M10×25	6
80	Hex Head Bolt Full Thread M8×55	2
81	Standard Parallel Key Type A 8×7×25	1
82	Driving Sprocket	1
83	Trencher Welded Body	1
84	Circlip	2
85	End Cover	2
86	Bore Retaining Ring Type A 47	2
87	Hex Head Bolt M20×90	1
88	Nonmetallic Insert Hex Lock Nut M20	1
89	Hex Socket Cap Screw M16×100	2

No.	DESCRIPTION	QTY
90	Type 1 Hex Nut M16	2
91	Driven Sprocket	1
92	Trencher Chain – 4 mm	1
93	Ferrule	9
94	Cutter Head Weldment	9
95	Inner Tube Weldment	1
96	Lead Screw	1
97	One-Way Thrust Ball Bearing	1
98	Thin Hex Lock Nut M6	1
99	Hex Head Bolt M6×60	1
100	Pin Shaft Type B 10×26	3
101	Hex Head Bolt Class C M5×40	1
102	Nonmetallic Insert Thin Hex Lock Nut M5	1
103	Handle	1
104	Pin Shaft Type B	1
105	8-inch Caster	1
106	Thin Hex Lock Nut M12	1
107	Plain Washer 12	1
108	Hex Head Bolt Class A & B	1
109	Engine	1
110	Battery Box Weldment	1
111	Battery Box Upper Cover Weldment	1
112	Latch	1
113	Battery	1
114	Hex Head Bolt M8×16	2
115	Spring Washer 8	2
116	Plain Washer 8	2
117	Hex Socket Countersunk Screw M5×8	2
118	Rear Cover Plate	1
119	Welded Guardrail	1
120	Anti-Tip Assembly 2	1

No.	DESCRIPTION	QTY
121	Lower Handle	1
122	Upper Handle	1
123	Wheel Assembly	2
124	Bearing Housing Guard Assembly	1
125	Chain Shaft Plate Assembly	1
126	Protective Cover	1
127	Chain Soil Scraper	9
128	Single Shaft Weldment	9
129	Double Trencher Shaft	9
130	Outer Square Tube Weldment	1
131	Rotating Plate Weldment	1
132	Linkage Assembly	1
133	Mounting Seat	2
134	Rotary Handle Weldment	1
135	Wheel Bracket Weldment	1

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