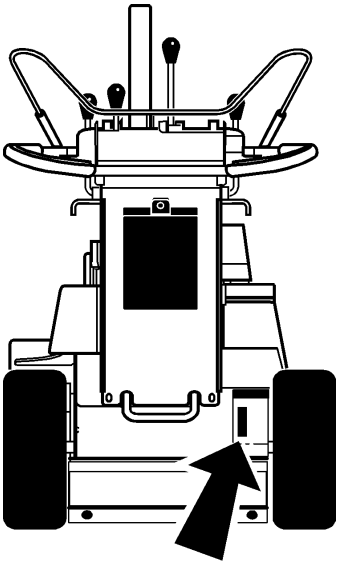
https://truckmanualshub.com/

SERVICE

SERIAL NUMBER RECORD

Record serial numbers and date of purchase in spaces provided. Serial number plate is mounted to frame behind right wheel.



Date of purchase	
Serial number	
Engine serial number	

https://truckmanualshub.com/

SUPPORT PROCEDURE

Notify your dealer immediately of any malfunction or failure of Ditch Witch equipment.

Always give model, serial number, and approximate date of equipment purchase. This information should be recorded and placed on file by owner at time of purchase.

Return damaged parts to dealer for inspection and warranty consideration.

Order genuine Ditch Witch replacement parts from your authorized Ditch Witch dealer. Use of another manufacturer’s parts may void warranty.

RESOURCES

Publications

Contact your Ditch Witch dealer for publications covering operation, service, and repair of your equipment.

Ditch Witch Training

For information about on-site, individualized training, contact your Ditch Witch dealer.

https://truckmanualshub.com/

FOREWORD

This manual is an important part of your equipment. It provides safety information and operation instructions to help you use and maintain your Ditch Witch equipment.

Read this manual before using your equipment. Keep it with the equipment at all times for future reference. If you sell your equipment, be sure to give this manual to the new owner.

If you need a replacement copy, contact your Ditch Witch dealer. If you need assistance in locating a dealer, visit our website at **www.ditchwitch.com** or write to the following address:

The Charles Machine Works, Inc.
Attn: Marketing Department
PO Box 66
Perry, OK 73077-0066
USA

The descriptions and specifications in this manual are subject to change. The Charles Machine Works, Inc. reserves the right to improve equipment. Some product improvements may have taken place after this manual was published. For the latest information on Ditch Witch equipment, see your Ditch Witch dealer.

Thank you for buying and using Ditch Witch equipment.

Operator's Manual

Issue Number 4.2/OP-11/04
Part Number 054-515

Copyright 1997, 1999, 2001, 2003, 2004
by The Charles Machine Works, Inc.,
Perry, Oklahoma

Ditch Witch®, Ditch Witch, CMW, AutoCrowd, Modularmatic, Jet Trac, Roto Witch, Subsite, Fluid Miser, Perma-Soil, Power Pipe, Super Witch, Super Witch II, Pierce Airrow, The Underground, and The Underground Authority Worldwide are registered trademarks of The Charles Machine Works, Inc.

https://truckmanualshub.com/

CONTENTS

SERVICE 1

Serial Number Record 1

Support Procedure 2

Resources 2

FOREWORD 3

OVERVIEW 7

CONTROLS 9

Control Console Overview 9

Control Console Descriptions 10

Engine Controls Overview. 13

Engine Controls Descriptions 14

SAFETY 15

Accessories 16

Underground Hazards 16

Emergency Procedures 17

Jobsite Classification 20

Safety Alert Classifications 24

Safety Alerts 25

https://truckmanualshub.com/

TRANSPORTATION 31

Lift 31

Tiedown 33

Haul 35

Freewheel 37

Tow 38

OPERATION 39

Daily Inspection 39

Startup 40

Driving 42

Trenching 43

LUBRICATION AND MAINTENANCE. 47

Lubrication Overview 48

Lubrication Schedule 49

Maintenance Schedule. 56

SPECIFICATIONS 61

1030 61

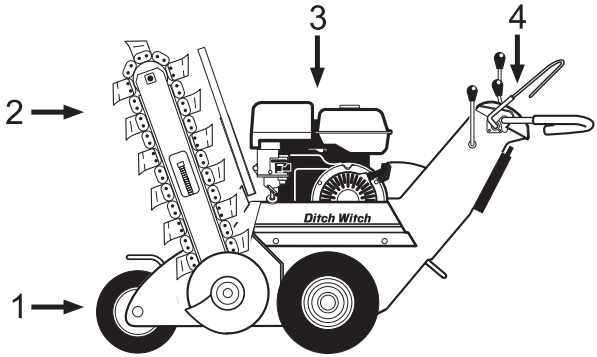
1230 64

https://truckmanualshub.com/

OVERVIEW

The Ditch Witch 1030 and 1230 pedestrian trenchers are designed for easy, efficient use.

Color-coded controls are within easy reach of the operator. These compact units fit through most standard yard gates, and the machines are balanced for easy jobsite maneuvering. A choice of a 24”, 30”, or 36” (610-, 760-, or 915-mm) digging boom, along with several chain options, make these machines flexible enough for most soil conditions. The axle lock feature aids smooth, easy turns and straight trenching.



Om0047c.eps

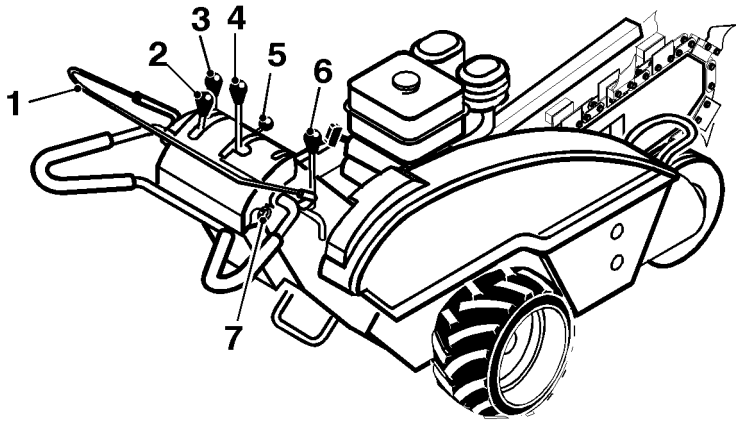
1. Trail wheel
2. Digging boom and chain
3. Engine
4. Operator station

https://truckmanualshub.com/

https://truckmanualshub.com/

CONTROLS

CONTROL CONSOLE OVERVIEW



1. Bail
2. Digging boom control (green)
3. Axle lock (blue)
4. Speed/direction control (orange)
5. Throttle (black)
6. Digging chain control (yellow)
7. Power switch

CONTROL CONSOLE DESCRIPTIONS

Bail

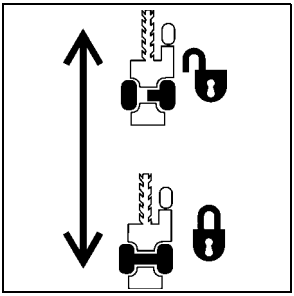
This start interlock control engages and disengages hydraulic system.

- Move down into handlebar to engage.
- Release to disengage.

Axle Lock (Blue)

This lever locks or unlocks axle.

- Push to unlock. Use unlocked axle to manuever trencher.
- Pull to lock. Use locked axle for straight trenching and driving over rough terrain.

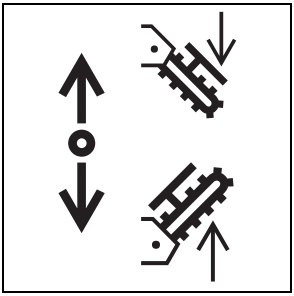


ic1034.tif

Digging Boom Control (Green)

This lever raises or lowers digging boom when bail is engaged.

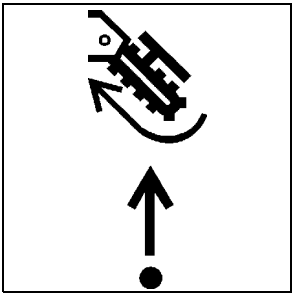
- Push to lower boom.
- Pull to raise boom.



ic0127h.eps

https://truckmanualshub.com/

Digging Chain Control (Yellow)


ic0014c.tif

This lever starts digging chain when bail is engaged.

- Push to start digging chain.
- Returns to neutral and digging chain stops when bail is released.

Speed/Direction Control (Orange)

ic0013c.tif

This lever controls unit speed and direction when bail is engaged.

- Ensure control is in BAIL RELEASE (neutral) position, and engage bail.
- Push to move forward.
- Pull to move backward.
- Move farther from center to go faster in either direction.
- Return to BAIL RELEASE (neutral) to stop.

Throttle (Black)

ic0128h.eps

This lever controls engine speed. Increasing engine speed also increases digging chain speed.

- Push down to speed engine.
- Pull up to slow engine.

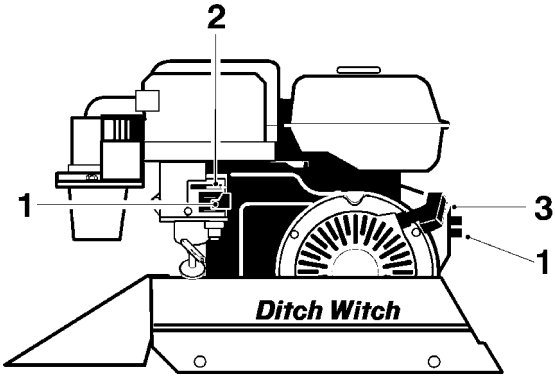
Power Switch

This two-position switch controls power to the machine.

- Turn clockwise to turn power on. In this position, engine will start when rope start is pulled.
- Turn counterclockwise to stop engine.

https://truckmanualshub.com/

ENGINE CONTROLS OVERVIEW



1. Fuel shut-off valves
2. Choke
3. Pull start

ENGINE CONTROLS DESCRIPTIONS

Fuel Shut-off Valves

Two valves separate fuel reservoir from engine.

- Close when transporting unit to or from jobsite.
- Open before starting engine.

Choke

This valve regulates air/fuel mixture. Close valve to help start cold engine.

Pull Start

Cranks engine for starting.

- Ensure that power switch is on and fuel shut-off valves are open.
- Pull to start engine.

If engine does not start after three pulls, turn power switch off and check for fuel blockage or electrical system problems.

https://truckmanualshub.com/

SAFETY

Follow these guidelines before operating any jobsite equipment:

- Complete proper training and read operator’s manual before using equipment.
- Contact One-Call (888-258-0808) and any utility companies which do not subscribe to One-Call. Have all underground pipes and cables located and marked before operating equipment. If you damage a utility, contact utility company.
- Classify jobsite based on its hazards and use correct tools and machinery, safety equipment, and work methods for jobsite.
- Mark jobsite clearly and keep spectators away.
- Wear personal protective equipment.
- Review jobsite hazards, safety and emergency procedures, and individual responsibilities with all personnel before work begins. Safety videos are available from your Ditch Witch dealer.
- Replace missing or damaged safety shields and safety signs.
- Use equipment carefully. Stop operation and investigate anything that does not look or feel right.
- Do not operate unit where flammable gas is present.
- Contact your Ditch Witch dealer if you have any question about operation, maintenance, or equipment use.

ACCESSORIES

Fire Extinguisher

If required, a fire extinguisher should be mounted near the power unit but away from possible points of ignition. The fire extinguisher should always be classified for both oil and electric fires. It should meet legal and regulatory requirements.

Lighting Kit

If you need additional light, plug lighting kit into provided outlet. Contact your Ditch Witch dealer for further information.

UNDERGROUND HAZARDS

Striking underground hazards can cause explosion, electrocution, fire, and exposure to hazardous materials.

Hazards include:

- Electric lines
- Natural gas lines
- Fiber optic cables
- Water lines
- Sewer lines
- Pipes carrying other chemicals, liquids, or gases
- Storage tanks

https://truckmanualshub.com/

EMERGENCY PROCEDURES

Before operating any equipment, review emergency procedures and check that all safety precautions have been taken.

EMERGENCY SHUTDOWN - Turn ignition switch to stop position or push remote engine stop button.

Electric Strike Description

When working near electric cables, remember the following:

- Electricity follows all paths to ground, not just path of least resistance.
- Pipes, hoses, and cables will conduct electricity back to all equipment.
- Low voltage current can injure or kill. Almost one-third of work-related electrocutions result from contact with less than 440 volts.

Most electric strikes are not noticeable, but indications of a strike include:

- power outage
- smoke
- explosion
- popping noises
- arcing electricity

If any of these occur, assume an electric strike has occurred.

https://truckmanualshub.com/

If an Electric Line is Damaged

If you suspect an electric line has been damaged and you are **on tractor**, DO NOT MOVE. Remain on tractor and take the following actions. The order and degree of action will depend upon the situation.

- Warn people nearby that an electric strike has occurred. Instruct them to leave the area and contact utility.
- Raise attachments and drive from immediate area.
- Contact utility company to shut off power.
- Do not return to jobsite or allow anyone into area until given permission by utility company.

If you suspect an electric line has been damaged and you are **off tractor**, DO NOT TOUCH TRACTOR. Take the following actions. The order and degree of action will depend upon the situation.

- LEAVE AREA.
- Contact utility company to shut off power.
- Do not return to jobsite or allow anyone into area until given permission by utility company.

https://truckmanualshub.com/

If a Gas Line is Damaged

If you suspect a gas line has been damaged, take the following actions. The order and degree of action will depend on the situation.

- Immediately shut off engine(s), if this can be done safely and quickly.
- Remove any ignition source(s), if this can be done safely and quickly.
- Warn others that a gas line has been cut and that they should leave the area.
- Leave jobsite as quickly as possible.
- Immediately call your local emergency phone number and utility company.
- If jobsite is along street, stop traffic from driving near jobsite.
- Do not return to jobsite until given permission by emergency personnel and utility company.

If a Fiber Optic Cable is Damaged

Do not look into cut ends of fiber optic or unidentified cable. Vision damage can occur.

If Machine Catches on Fire

Perform emergency shutdown procedure and then take the following actions. The order and degree of action will depend on the situation.

- Immediately move battery disconnect switch (if equipped) to disconnect position.
- If fire is small and fire extinguisher is available, attempt to extinguish fire.
- If fire cannot be extinguished, leave area as quickly as possible and contact emergency personnel.

JOBSITE CLASSIFICATION

Inspecting Jobsite

- Follow U.S. Department of Labor regulations on excavating and trenching (Part 1926, Subpart P) and other similar regulations.
- Contact One-Call (888-258-0808) and any utility companies which do not subscribe to One-Call.
- Inspect jobsite and perimeter for evidence of underground hazards, such as:
  - – “Buried utility” notices
  - – Utility facilities without overhead lines
  - – Gas or water meters
  - – Junction boxes
  - – Drop boxes
  - – Light poles
  - – Manhole covers
  - – Sunken ground
- Have an experienced locating equipment operator sweep area within 20’ (6 m) to each side of trench path. Verify previously marked line and cable locations.
- Mark location of all buried utilities and obstructions.
- Classify jobsite.

https://truckmanualshub.com/

Selecting a Classification

Jobsites are classified according to underground hazards present.

If working . . .	then classify jobsite as . . .
within 10’ (3 m) of a buried electric line	electric
within 10’ (3 m) of a natural gas line	natural gas
in sand, granite, or concrete which is capable of producing crystalline silica (quartz) dust	crystalline silica (quartz) dust
within 10’ (3 m) of any other hazard	other

NOTICE: If you have any doubt about jobsite classification, or if jobsite might contain unmarked hazards, take steps outlined previously to identify hazards and classify jobsite before working.

https://truckmanualshub.com/

Applying Precautions

Once classified, precautions appropriate for jobsite must be taken.

Electric Jobsite Precautions

Use one or both of these methods.

- Expose line by careful hand digging or soft excavation.
- Have service shut down while work is in progress. Have electric company test lines before returning them to service.

Natural Gas Jobsite Precautions

In addition to positioning equipment upwind from gas lines, use one or both of these methods.

- Expose lines by careful hand digging or soft excavation.
- Have gas shut off while work is in progress. Have gas company test lines before returning them to service.

https://truckmanualshub.com/

Crystalline Silica (Quartz) Dust Precautions

Follow OSHA or other guidelines for exposure to crystalline silica when trenching, sawing or drilling through material that might produce dust containing crystalline silica (quartz).

Other Jobsite Precautions

You may need to use different methods to safely avoid other underground hazards. Talk with those knowledgeable about hazards present at each site to determine which precautions should be taken or if job should be attempted.

https://truckmanualshub.com/

SAFETY ALERT CLASSIFICATIONS

These classifications and the icons defined on the following pages work together to alert you to situations which could be harmful to you, jobsite bystanders or your equipment. When you see these words and icons in the book or on the machine, carefully read and follow all instructions. YOUR SAFETY IS AT STAKE.

Watch for the three safety alert levels: **DANGER**, **WARNING** and **CAUTION**. Learn what each level means.

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

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

Watch for two other words: **NOTICE** and **IMPORTANT**.

NOTICE can keep you from doing something that might damage the machine or someone's property. It can also alert you against unsafe practices.

IMPORTANT can help you do a better job or make your job easier in some way.

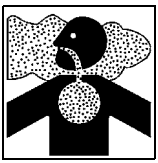
https://truckmanualshub.com/

SAFETY ALERTS

DANGER Moving digging teeth will kill you or cut off arm or leg. Stay away.

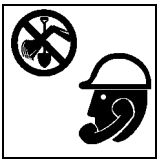
DANGER Turning shaft will kill you or crush arm or leg. Stay away.

DANGER Electric shock. Contacting electric lines will cause death or serious injury. Know location of lines and stay away.



DANGER Deadly gases. Lack of oxygen or presence of gas will cause sickness or death. Provide ventilation.

https://truckmanualshub.com/

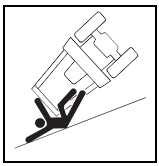


WARNING Jobsite hazards could cause death or serious injury. Use correct equipment and work methods. Use and maintain proper safety equipment.

WARNING Crushing weight could cause death or serious injury. Use proper procedures and equipment or stay away.

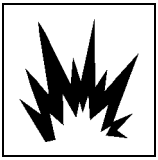
WARNING Moving parts could cut off hand or foot. Stay away.

WARNING Fall possible. Riders can fall from machine and be injured or killed. Only operator is allowed on machine.



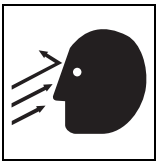
WARNING Rollover possible. If machine rolls over, you could be thrown from seat and killed or crushed. Wear seat belt.

https://truckmanualshub.com/

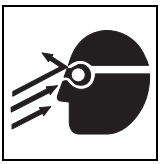


WARNING Explosion possible. Serious injury or equipment damage could occur. Follow directions carefully.

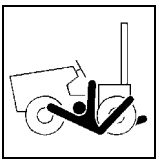
WARNING Incorrect procedures could result in death, injury, or property damage. Learn to use equipment correctly.



WARNING Looking into fiber optic cable could result in permanent vision damage. Do not look into ends of fiber optic or unidentified cable.



WARNING Fluid or air pressure could pierce skin and cause injury or death. Stay away.

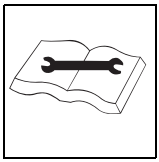


WARNING Runaway possible. Machine could run over you or others. Learn how to use all controls. Start and operate only from operator’s position.

WARNING Fire or explosion possible. Fumes could ignite and cause burns. No smoking, no flame, no spark.

WARNING Moving traffic - hazardous situation. Death or serious injury could result. Avoid moving vehicles, wear high visibility clothing, post appropriate warning signs.

WARNING Hot pressurized cooling system fluid could cause serious burns. Allow to cool before servicing.



WARNING Improper control function could cause death or serious injury. If control does not work as described in instructions, stop machine and have it serviced.

https://truckmanualshub.com/

CAUTION Flying objects may cause injury. Wear hard hat and safety glasses.

CAUTION Hot parts may cause burns. Do not touch until cool.

CAUTION Exposure to high noise levels may cause hearing loss. Wear hearing protection.

CAUTION Fall possible. Slips or trips may result in injury. Keep area clean.

CAUTION Battery acid may cause burns. Avoid contact.

CAUTION Improper handling or use of chemicals may result in illness, injury, or equipment damage. Follow instructions on labels and in material safety data sheets (MSDS).

https://truckmanualshub.com/

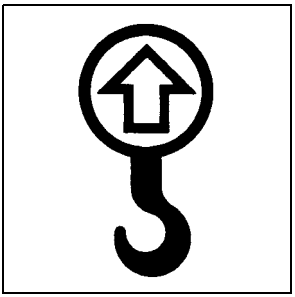
https://truckmanualshub.com/

TRANSPORTATION

LIFT

Lifting Points

Lifting points are identified by lifting decals. Lifting at any other point can be unsafe and can damage machinery.



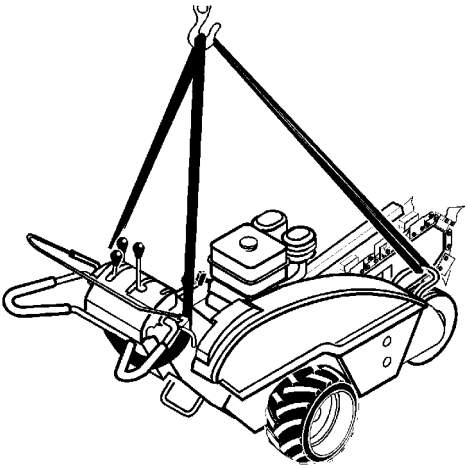
om1362.pcx

Lifting Unit

WARNING Crushing weight could cause death or serious injury. Use proper procedures and equipment or stay away.

Before lifting, check **SPECIFICATIONS**. Use a hoist capable of supporting equipment's size and weight.

Lift trencher by running a sling through the front guide, under lifting hooks, and around back of console tower.

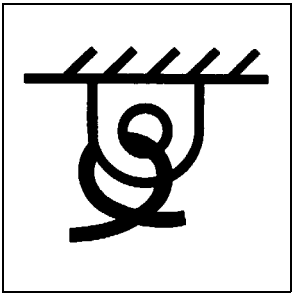


https://truckmanualshub.com/

TIEDOWN

Tiedown Points

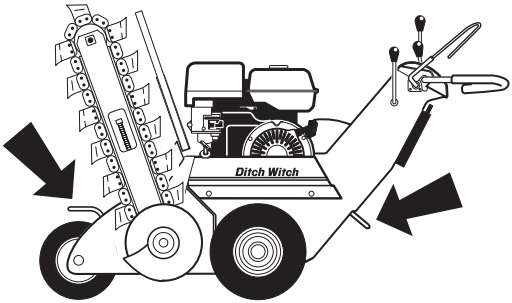
Tiedown points are identified by tiedown decals. Securing unit to truck or trailer at any other points may be unsafe and can damage machinery.



om1363.pcx

Tieing Down Unit

Attach tiedowns at front and rear tiedown points. Make sure tiedowns are tight before transporting unit.



Om0055c.eps

HAUL

WARNING Crushing weight could cause death or serious injury. Use proper procedures and equipment or stay away.

NOTICES:

- Read trailer operator's manual, if applicable, before loading or transporting your machine. Incorrectly loaded machine can slip or cause trailer sway.
- Check that loading ramps will support weight (see **SPECIFICATIONS**).
- Check payload rating of truck or trailer.
- Park, load, and unload truck or trailer on a level part of the jobsite.
- Check that adequate tiedowns are available.

https://truckmanualshub.com/

Loading

The 1030 and 1230 trenchers can be hauled in the bed of a light truck or by trailer. To load:

1. Start engine. See **OPERATION** for start-up procedures.
2. Raise digging boom, but keep it low.
3. Move throttle to about 3/4 open.
4. With bail engaged, move speed/direction control to forward or reverse and drive to loading sight.

   To steer, unlock axle, push down on handlebar, and turn machine.
5. Align trencher with ramps or trailer.
6. Lock axle.
7. Drive trencher onto trailer or truck bed until tiedown position is reached.
8. Move speed/direction control to BAIL RELEASE (neutral) position, and lower digging boom.
9. Release bail and turn off engine.
10. Securely chain trencher to truck or trailer at tiedown points.

    NOTICE: To keep engine from flooding during transport, close both fuel shut-off valves before transporting unit.

https://truckmanualshub.com/

Unloading

1. Remove tiedowns.
2. Open fuel shut-off valves and start engine.
3. Move throttle to about 1/4 open.
4. Ensure that axle is locked and speed/direction control is in the BAIL RELEASE (neutral) position.
5. Engage bail.
6. Raise digging boom, but keep it low.
7. Slowly drive trencher off trailer.

https://truckmanualshub.com/

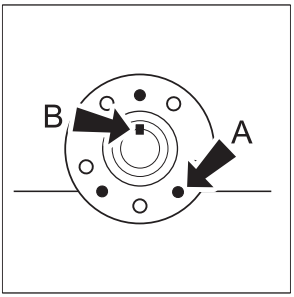
FREEWHEEL

If trencher must be moved without engine running, this feature allows the 1030 or 1230 to be wheeled manually.

sf1014

WARNING Crushing weight could cause death or serious injury. Use proper procedures and equipment or stay away.

1. Elevate left side of trencher with jackstand or safety blocks.
2. Remove nut from left wheel hub.
3. Horizontally align two of the three threaded holes (A) in wheel hub with machine frame, as shown.
4. Insert bolts (supplied in operator's manual compartment) into threaded holes and tighten until wheel is released from axle.



Om0054c.eps

5. Remove key (B) from axle.
6. Replace wheel and hub, and tighten only enough to keep hub on axle. Overtightening can lock hub to axle.
7. Wheel trencher to a clear area of the jobsite.

   NOTICE: Do not freewheel the threncher more than 100' (30 m) in this manner. Damage to wheel hub or axle will occur.

TOW

Under normal conditions, unit should not be towed. If unit becomes disabled and towing is necessary:

- tow for short distances at less than 1 mph (1.6 km/h)
- do not tow for more than 100’ (30 m)
- use no more than 1,300 lb (5 800 N) of towing force

To tow:

1. Follow “Freewheel” instructions to enable unit to be towed.
2. Attach tow line to all available tiedown points facing towing vehicle.

https://truckmanualshub.com/

OPERATION

DAILY INSPECTION

For safe and efficient use of your machine, do the following before each day's work.

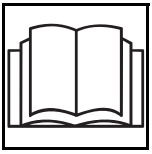
- Check general appearance of tractor and digging attachment. Look for loose, worn, or damaged parts and fluid leaks.
- Check condition of digging chain, teeth, air filter, and optional remote air cleaner.
- Check fuel lines and hydraulic lines and fittings for signs of leakage, wear, or other damage.
- Check tire pressure.
- Check hydraulic and engine oil levels.
- Check fuel level.
- Check that all signs, guards, and shields are in place and readable.

Service machine according to schedules in **LUBRICATION AND MAINTENANCE**, and in engine manufacturer's guide.

https://truckmanualshub.com/

STARTUP

Before operating trencher, read engine manufacturer's starting and operating instructions. Follow instructions for new engine break-in.



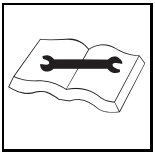
WARNING Incorrect procedures could result in death, injury, or property damage. Learn to use equipment correctly.

EMERGENCY SHUTDOWN: Turn power switch off.

https://truckmanualshub.com/

1. Check that bail is up and fuel shut-off valves are open.
2. If necessary, choke cold engine.
3. Move throttle to 1/4 open.
4. Turn power switch on.
5. Pull rope start.

   IMPORTANT: If engine does not start after three pulls, turn power switch off and check for fuel blockage or electrical system problems.



WARNING Improper control function could cause death or serious injury. If control does not work as described in instructions, stop machine and have it serviced.

NOTICES:

- If interlock system does not work, contact your Ditch Witch dealer. Improper repair might allow machine to start or operate with controls in gear.
- Do not wire or tape bail to handlebar or defeat interlock system in any manner. Machine will not start, and digging chain control will be stuck in gear.

6. Run engine at half throttle or less for five minutes before operating trencher.

   During warmup, check that all controls work properly.

   EMERGENCY SHUTDOWN: Turn power switch off.

DRIVING

WARNING Incorrect procedures could result in death, injury, or property damage. Learn to use equipment correctly.

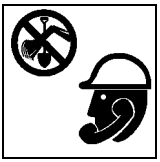
NOTICE: Keep attachment low when operating on a slope. Drive slowly and cautiously at all times.

1. Ensure that speed/direction control is in the BAIL RELEASE (neutral) position.
2. Move bail down into handlebar.
3. Raise digging boom.
4. Lock axle to drive straight, or unlock axle to allow steering.
5. Move throttle to 3/4 open.
6. Move speed/direciton control to forward or reverse.

   IMPORTANT: Bail must be down in order for unit to move.
7. To steer, ensure axle is unlocked, push down on handlebar, and turn machine.

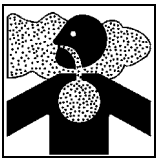
https://truckmanualshub.com/

TRENCHING



WARNING Jobsite hazards could cause death or serious injury. Use correct equipment and work methods. Use and maintain proper safety equipment.

NOTICE: Know and comply with regulations covering One-Call service and utility notification before digging.



WARNING Jobsite hazards could cause death or serious injury. Use correct equipment and work methods. Use and maintain proper safety equipment.

NOTICE: Cutting or drilling concrete containing sand or rock containing quartz may result in exposure to silica dust. Use respirator, water spray or other means to control dust. Silica dust can cause lung disease and is known to the State of California to cause cancer.

https://truckmanualshub.com/

1. Drive trencher to starting point. Move in line with planned trench.
2. For a straighter trench, lock axle.
3. Move throttle to half open.
4. Ensure that speed/direction control and digging chain control are in neutral.
5. Lower digging boom to just above ground.

DANGER Moving digging teeth will cause death or serious injury. Stay away.

NOTICE: Keep everyone at lease 6’ (2 m) from machine, digging boom, and its range of movement.

6. Engage digging chain control. DIGGING CHAIN WILL MOVE.

   EMERGENCY STOP: Release bail.

https://truckmanualshub.com/

7. Slowly lower digging boom to desired trench depth.

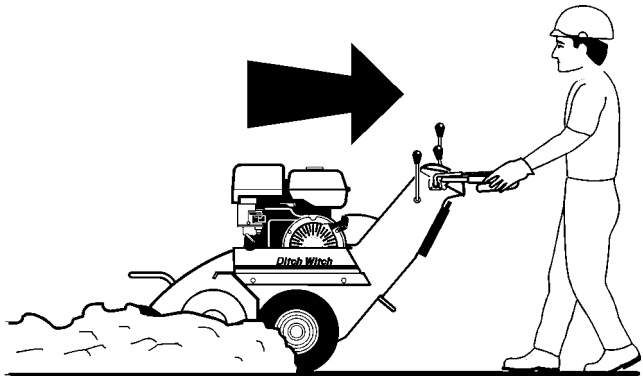
WARNING Incorrect procedures can result in death, injury, or property damage. Learn to use equipment correctly.

NOTICES:

- Machine may move when chain starts to dig. Allow 3’ (1 m) between end of chain and obstacle.
- Digging chain on top side of boom can catch on root or rock, forcing handlebar down suddenly. Stand back from console and hold handlebar loosley.

8. When desired trench depth is reached, move throttle to full open.
9. Move speed/direction control to reverse. Trencher will move toward you.

   Trenching movement is toward you.



om0045c

https://truckmanualshub.com/

10. When trench is complete, move speed direction control to neutral.
11. Move throttle to half open.
12. Raise digging boom to top of trench.
13. Release bail to stop digging chain.
14. Engage bail and raise digging boom completely.
15. Drive trencher away from trench.
16. Let machine idle for three minutes to cool engine.
17. Turn power switch off.

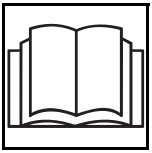
https://truckmanualshub.com/

LUBRICATION AND MAINTENANCE

Proper lubrication and maintenance protects Ditch Witch equipment from damage and failure. In extreme conditions, lubricate more frequently.

Use only recommended lubricants. Fill to capacities listed in **SPECIFICATIONS**.

Recommended Lubricants	
GEO	Gasoline engine oil (see chart for appropriate SAE viscosity rating) meeting API engine service classification SD
AGMA-7	Worm gear lubricant matching American Gear Manufacturer's Association Compound #7
MPG	Multipurpose grease
THF	Tractor hydraulic fluid, similar to Phillips 66 HG, Mobilfluid 423, Chevron Tractor Hydraulic Fluid, Texaco TDH Oil, or equivalent

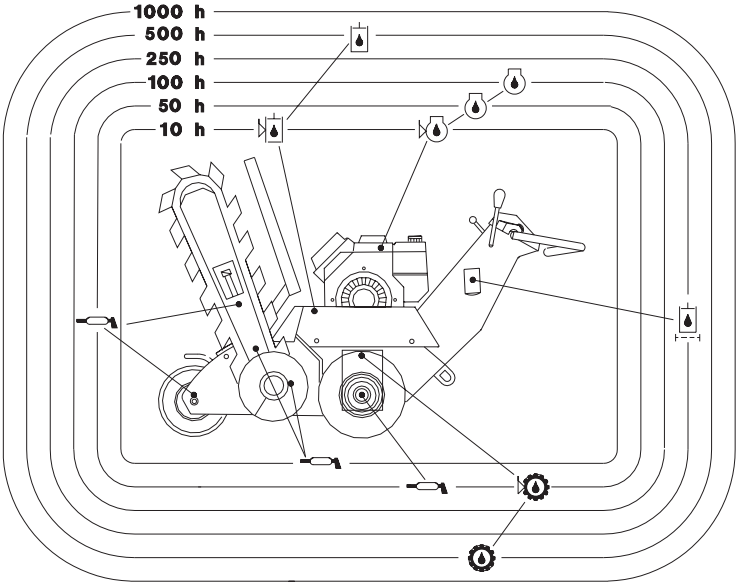


WARNING Incorrect procedures could result in death, injury, or property damage. Learn to use equipment correctly.

NOTICES:

- Unless otherwise instructed, all service should be performed with engine off.
- Refer to engine manufacturer's manual for engine maintenance instructions.
- Before servicing equipment, lower digging boom to ground.

LUBRICATION OVERVIEW



om0667h.eps

(GEO) Gasoline engine oil

(THF) Tractor hydraulic fluid

AGMA-7

(MPG) Multipurpose grease

Filter

Check level

Pivot gearbox on opposite side of machine not shown. Check oil every 50 hours. Change gearbox oil every 1000 hours with THF

https://truckmanualshub.com/

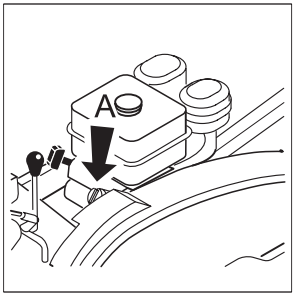
LUBRICATION SCHEDULE

Interval	Task	Page
Each use	Check engine oil	50
	Check hydraulic oil	51
10 hours	Lube attachment pivot	52
	Lube pivot stub	54
25 hours	Lube trail wheel	52
	Lube axle lock	52
50 hours	Check pivot gearbox oil	53
	Check worm drive oil	54
	Lube digging boom adjustment screw	55
	Lube greaseable digging boom stub	55
100 hours	Change engine oil	50
250 hours	Change hydraulic filter	51
500 hours	Change hydraulic oil	51
	Change worm drive oil	54
1000 hours	Change pivot gearbox oil	53

Engine Oil

Check

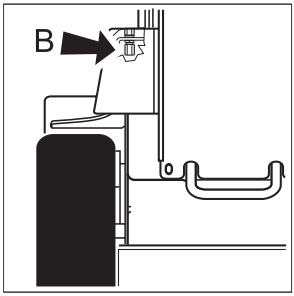
Check engine oil at dipstick (A) before each operation. Add GEO at fill neck (A) as necessary to keep oil level at highest line on dipstick.



Om0198c.eps

Change

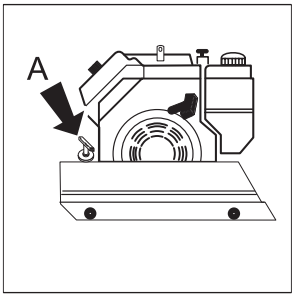
- Change oil every 100 hours with GEO.
- Drain crankcase (B) while oil is still warm.
- Refill at fill neck with 2.3 pt (1.1 L) of GEO.



Om0197c.eps

https://truckmanualshub.com/

Hydraulic Oil and Filter

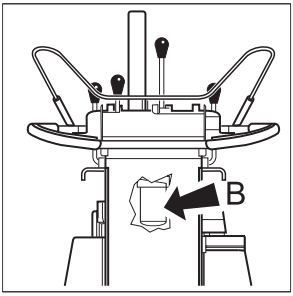


Om0058c.eps

Check

With digging boom fully raised, check hydraulic oil at dipstick (A) before each operation. Add THF at fill neck (A) as necessary to keep oil level at highest line on dipstick. Clean dust from cap by blowing with low pressure air.

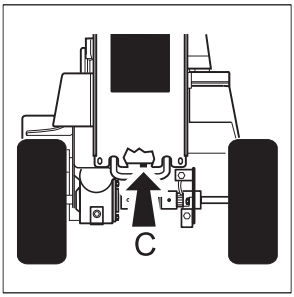
Change



Om0195c.eps

Change hydraulic filter (B) every 250 hours.

Drain hydraulic oil at drain (C), change filter, and refill at fill neck with THF every 500 hours.



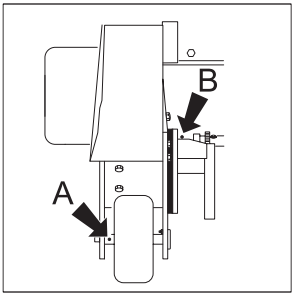
Om0199c.eps

Tires

Lube trail wheel (A) every 25 hours with MPG.

Pivot

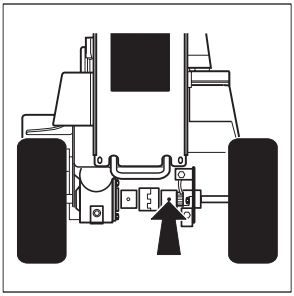
Lube Pivot (B) every 10 hours with MPG.



Om0196c.eps

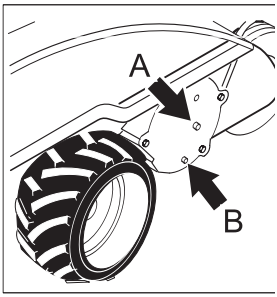
Axle Lock

Lube axle lock every 25 hours with MPG.


Om0194c.eps

https://truckmanualshub.com/

Pivot Gearbox



Om0043c.eps

Check

Check gearbox oil every 50 hours at fill plug (A). Refill with THF as necessary to keep oil level with fill plug.

Change

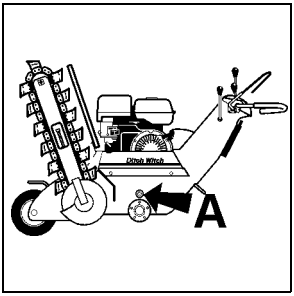
Change gearbox oil every 1000 hours.

- Remove both plugs and drain oil.
- Replace bottom plug (B).
- Fill with THF to fill plug, approximately 2 pt (.95 L).
- Replace fill plug.

Worm Drive

Check

Check worm drive oil every 50 hours at fill plug (A). Refill with AGMA-7 as necessary to keep oil level with fill plug.



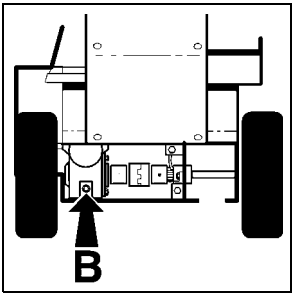
om0049c

Change

Change worm drive oil every 500 hours.

- Empty worm drive at drain (B).
- Replace drain plug.
- Fill with AGMA-7 to fill plug, approximately 3.25 pt (1.5 L).

  NOTICE: Do not use a substitute lubricant. Worm drive failure could occur.



om1571

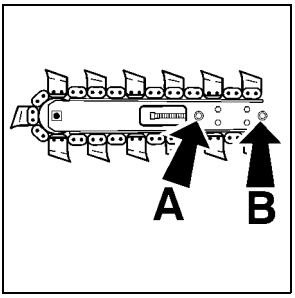
https://truckmanualshub.com/

Digging Boom

Boom with Adjustment Screw

Lube adjustment screw (A) every 50 hours with MPG.

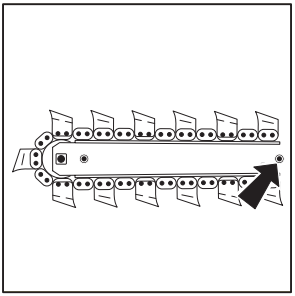
Lube pivot stub (B) every 10 hours with MPG.



om0056c

Greaseable Boom

Lube boom stub every 50 hours with MPG.


om0666h.eps

MAINTENANCE SCHEDULE

Interval	Task	Page
Each use	Check tire pressure	56
	Check lug nut torque	56
100 hours	Change air filter paper element	56
As needed	Change remote air cleaner paper element	57
	Adjust digging chain tension	57
	Adjust drive belt tension	59

Trail Wheel

Tire Pressure

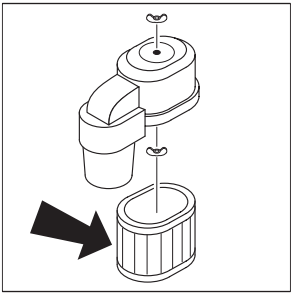
Check trail wheel tire pressure daily. Maintain pressure under 32 psi (221 kPa).

Lug Nut Torque

Check lug nut torque daile. Tighten to 85 ft•lb (115 N•m).

Air Filter

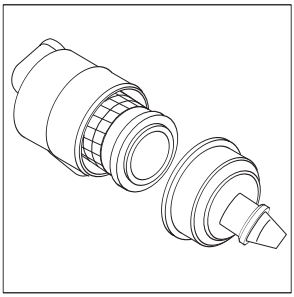
Change foam air filter element every 100 hours. Do not allow dirt to fall into carburetor.



Om0200c.eps

https://truckmanualshub.com/

Remote Air Cleaner


Om0057c.eps

Change optional air cleaner paper element as needed.

- Remove air cleaner cover.
- Remove paper element and replace.

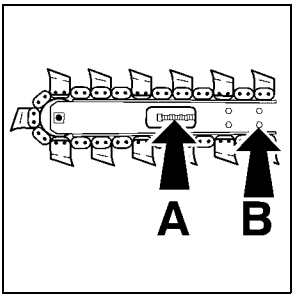
NOTICE: Use of this option does not eliminate the need for proper maintenance of standard air filter.

Digging Chain Tension

Check digging chain regularly and adjust as needed.

Adjustment Screw

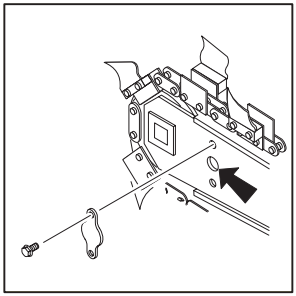
Digging chain is properly tensioned when chain can be moved .5” (13 mm) up or down. To adjust digging chain tension:



om1565

- Loosen four clamp bolts (B) so that boom slides freely.
- Lossen jam nut on adjustment screw (A).
- Turn adjustment screw clockwise to tighten digging chain or counterclockwise to loosen digging chain.
- When proper tension is reached, tighten jam nut and torque clamp bolts to 75 ft•lb (102 N•m).

Grease Cylinder:


om0665h.eps

To tighten digging chain, pump MPG into cylinder at check valve zerk.

NOTICE: Do **not** overtighten chain. Overtightening will cause chain stretch, loss of machine performance, and possible premature chain failure.

To loosen digging chain, stand on opposite side of boom and unscrew check valve zerk to release grease.

WARNING Fluid pressure could pierce skin and cause injury or death. Stay away.

NOTICE: Service digging boom grease cylinder only while standing on opposite side of boom. Wear gloves and safety glasses and cover fitting with cloth when relieving pressure in cylinder.

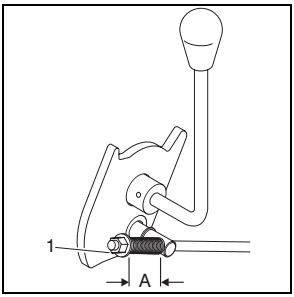
https://truckmanualshub.com/

Drive Belts

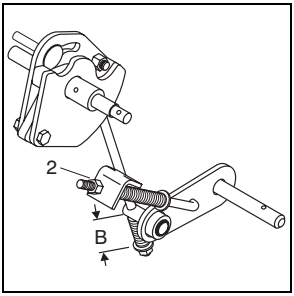
Check drive belts regularly and adjust tension as needed.

- Turn engine off.
- Move bail down into handlebar and clamp in place.
- Engage digging chain control until locked in place.
- Tighten or loosen both digging belt adjustment nut (1) and pump belt adjustment nut (2) until springs (A and B) are each 1.8” (48 mm) long.

See repair guide for more information.



rg0020c.eps



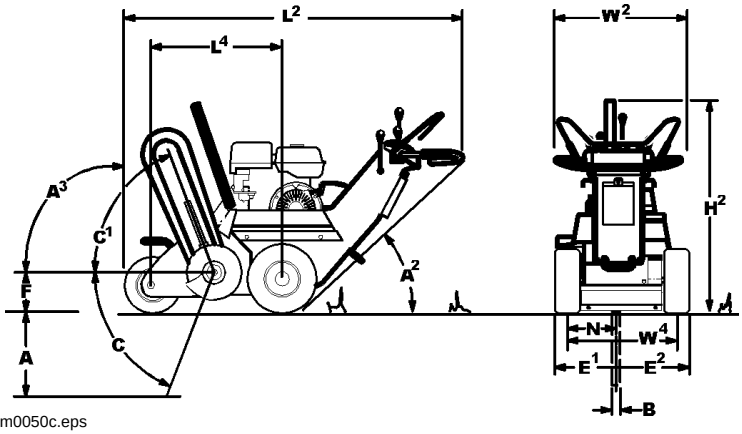
rg0012c.eps

https://truckmanualshub.com/

https://truckmanualshub.com/

SPECIFICATIONS

1030



om0050c.eps

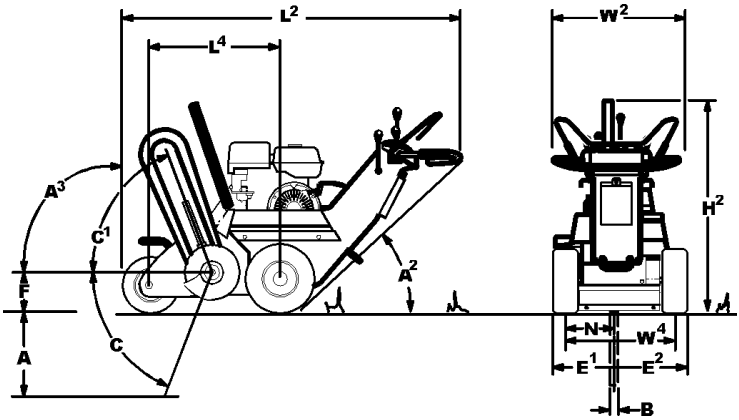
DIMENSIONS		U.S.	METRIC
A	Trench depth, maximum	30 in	760 mm
B	Trench width	4.3 - 6 in	110-150 mm
C	Boom travel down	60°	60°
C^1	Boom travel up	47°	47°
F	Headshaft height--digging chain	8.60 in	220 mm
L^2	Length	88 in	2.2 m
W^2	Width	32 in	810 mm
H^2	Height	47 in	1.2 m
W^4	Tread	26 in	660 mm
A^3	Angle of departure	65°	65°
L^4	Wheelbase	32 in	810 mm

DIMENSIONS		U.S.	METRIC
E^1	Centerline trench to outside edge of machine, left	15 in	381 mm
E^2	Centerline trench to outside edge of machine, right	17 in	432 mm
N	Spoil discharge reach	10.6 in	270 mm
A^2	Angle of approach	35°	35°
Dimensions based on 16x6.50x8 tires and 24” (610-mm) boom in transport position			
GENERAL			
Ditch Witch model 1030, self-propelled, pedestrian, manually steered, two-wheel drive rigid frame, chain type trencher			
OPERATIONAL		**U.S.**	**METRIC**
Vehicle speeds			
	Maximum transit forward	155 fpm	47 m/min
	Maximim transit reverse	155 fpm	47 m/min
Digging chain speed		276 fpm	84 m/min
Spoils handling (single, open-end auger)			
	Outer diameter	12 in	305 mm
	Inner diameter	4 in	102 mm
	Length	9 in	229 mm
Operating weight [with 33,000-lb (14 969-kg) test, two-pitch digging chain]		900 lb	408 kg
POWER		**U.S.**	**METRIC**
Engine: Honda GX340			
Fuel: gasoline			
Cooling medium: air			
Number of cylinders: 1			
Displacement		20.6 in^3	337 cm^3
Bore		3.22 in	82 mm
Stroke		2.52 in	64 mm
Gross power @ 3600 rpm		11 hp	8.2 kW

https://truckmanualshub.com/

POWER		U.S.	METRIC
Maximum governed speed installed (no load)		3400 rpm	3400 rpm
Flywheel power @ 3200 rpm (full load)		10.2 hp	7.5 kW
Fuel consumption @3600 rpm		.89 gph	3.4 L/h
Maximum tilt angle		20°	20°
Fuel tank capacity		1.7 gal	6.5 L
Engine oil capacity		2.3 pt	1.1 L
POWER TRAIN			
Ground drive transmission			
	Ground drive: hydrostatic, infinitely variable from zero to maximum, gearbox to axle, speed and direction controlled with single lever		
	Pump drive clutch: mechanical, hand-operated, spring-loaded, with tension roller for belt drive		
	Digging chain clutch: mechanical, hand-operated,spring-loaded with tension roller for belt drive		
Tires			
	Drive, standard: 16x6.50x8		
	Drive, optional: 18x8.50x8		
	Trail: 13x5.00x6		
Trencher drive: mechanical, belt drive to reduction drive, headshaft			
Belt: “power band,” two-groove			
Digging chain: 33,000 lb (16 969 kg) test			
Chain drive sprocket: forged and tempered			
Digging teeth: bolt-on cup teeth with hard-surfaced edge of tungsten carbide			
Spoils handling drive: mechanical, attached to and rotates with headshaft			
NOISE LEVELS			
	Operator 88dBA sound pressure per ISO 6394.		
	Exterior 101 dBA sound power per ISO 6393.		
VIBRATION LEVELS			
Vibration at the operator’s hand during normal operation is 6.1 m/s^2			

1230



DIMENSIONS		U.S.	METRIC
A	Trench depth, maximum	36 in	915 mm
B	Trench width	4.3-6 in	110-150 mm
C	Boom travel down	60°	60°
C^1	Boom travel up	47°	47°
F	Headshaft height--digging chain	8.60 in	220 mm
L^2	Length	88 in	2.2 m
W^2	Width	32 in	810 mm
H^2	Height	47 in	1.2 m
W^4	Tread	26 in	660 mm
A^3	Angle of departure	65°	65°
L^4	Wheelbase	32 in	810 mm
E^1	Centerline trench to outside edge of machine, left	15 in	381 mm
E^2	Centerline trench to outside edge of machine, right	17 in	432 mm
N	Spoil discharge reach	10.6 in	270 mm

https://truckmanualshub.com/

DIMENSIONS		U.S.	METRIC
A[2]	Angle of approach	35°	35°
Dimensions based on 16x6.50x8 tires and 24” (610-mm) boom in transport position			
GENERAL			
Ditch Witch model 1230, self-propelled, pedestrian, manually steered, two-wheel drive rigid frame, chain type trencher			
OPERATIONAL		**U.S.**	**METRIC**
Vehicle speeds			
	Maximum transit forward	155 fpm	47 m/min
	Maximim transit reverse	155 fpm	47 m/min
Digging chain speed		276 fpm	84 m/min
Spoils handling (single, open-end auger)			
	Outer diameter	12 in	305 mm
	Inner diameter	4 in	102 mm
	Length	9 in	229 mm
Operating weight [with 33,000-lb (14 969-kg) test, two-pitch digging chain]		900 lb	408 kg
POWER		**U.S.**	**METRIC**
Engine: Honda GX390			
Fuel: gasoline			
Cooling medium: air			
Number of cylinders: 1			
Displacement		23.7 in^3	389 cm^3
Bore		3.53 in	90 mm
Stroke		2.52 in	64 mm
Gross power @ 3600 rpm		13 hp	9.7 kW

POWER	U.S.	METRIC
Maximum governed speed installed (no load)	3600 rpm	3600 rpm
Flywheel power @ 3200 rpm (full load)	12 hp	8.9 kW
Fuel consumption @3600 rpm	.89 gph	3.4 L/h
Maximum tilt angle	20°	20°
Fuel tank capacity	1.7 gal	6.5 L
Engine oil capacity	2.3 pt	1.1 L
POWER TRAIN		
Ground drive transmission		
	Ground drive: hydrostatic, infinitely variable from zero to maximum, gearbox to axle, speed and direction controlled with single lever	
	Pump drive clutch: mechanical, hand-operated, spring-loaded, with tension roller for belt drive	
	Digging chain clutch: mechanical, hand-operated, spring-loaded with tension roller for belt drive	
Tires		
	Drive, standard: 16x6.50x8	
	Drive, optional: 18x8.50x8	
	Trail: 13x5.00x6	
Trencher drive: mechanical, belt drive to reduction drive, headshaft		
Belt: “power band,” two-groove		
Digging chain: 33,000 lb (16 969 kg) test		
Chain drive sprocket: forged and tempered		
Digging teeth: bolt-on cup teeth with hard-surfaced edge of tungsten carbide		
Spoils handling drive: mechanical, attached to and rotates with headshaft		
NOISE LEVELS		
	Operator 88 dBA sound pressure per ISO 6394	
	Exterior 101 dBA sound power per ISO 6393	
VIBRATION LEVELS		
Vibration at the operator’s hand during normal operation is 6.1 m/s^2		

https://truckmanualshub.com/

WARRANTY

Ditch Witch Equipment and Replacement Parts North American* Limited Warranty Policy

Major Component Limited Warranty

Major components are warranted for a period of 1000 hours of use or one year, whichever occurs first, beginning on date of delivery of any such new product. The Major Component Limited Warranty covers only Major Components listed under Major Component Limited Warranty that are manufactured and distributed by The Charles Machine Works, Inc. (“CMW”). Replacement parts and other serial numbered products (“Products”) that are not listed under Major Component Limited Warranty, and non-major components are covered under Product Limited Warranty.

Major Components are defined as:

- Frames.
- Differentials and parts contained within.
- Mechanical transmissions.
- Drive gearboxes and parts contained within.
- Hydraulic, hydrostatic, and fluid pumps, motors and components that control or protect pumps and motors.
- Auxiliary hydraulic control valves and electrical components used for controlling hydraulic components.
- Hydraulic cylinders and components excluding repair kits.
- Batteries, alternators, instruments, gauges, and protection components for electrical systems.
- Pierce Airrow bodies, strikers, and tailpieces.

Free replacement parts and labor will be provided at any authorized dealership for any part of Major Component which has a defect in material or workmanship within warranty period. Defects will be determined by an inspection of major component or part by CMW or its authorized dealer. The product containing a major component or part must be presented to CMW or its authorized dealer for inspection within 30 days of the date major component or part fails. CMW will provide the location of its inspection facilities or its nearest authorized dealer upon inquiry. CMW reserves the right to supply remanufactured replacement parts as it deems appropriate.

* Equipment owners in countries other than U.S., Canada, Mexico, and Puerto Rico should refer to Ditch Witch International Warranty Policy.

https://truckmanualshub.com/

Product Limited Warranty

Products are warranted for 90 days from date of delivery of any new product. Free replacement parts and labor will be provided at any authorized dealership for any product which has a defect in material or workmanship within warranty period. Replacement parts are warranted for 90 days from date of delivery of any such replacement part. Any part of a product subject to ground contact is warranted only for defects in material or workmanship and only for the period of operational life of such part, which period shall not in any event exceed 90 days. Defects will be determined by an inspection of the product or part by CMW or its authorized dealer. The product or part must be presented to CMW or its authorized dealer for inspection within 30 days of the date of failure. CMW will provide the location of its inspection facilities or its nearest authorized dealer upon inquiry. CMW reserves the right to supply remanufactured replacement parts as it deems appropriate.

https://truckmanualshub.com/

Exclusions

from Major Component and Product Limited Warranty

Specifically excluded from Major Component and Product Limited Warranty are:

- Transportation charges related to repair, replacement, or inspection of products, major components, or parts.
- Parts subject to ground contact (including but not limited to drill pipe, downhole tools, digging chain, teeth and sprockets).
- All incidental or consequential damages.
- All defects, damages, or injuries caused by misuse, abuse, improper installation, alteration, neglect, or uses other than those for which products were intended.
- All defects, damages, or injuries caused by improper training, operation, or servicing of products in a manner inconsistent with manufacturer's recommendations.
- All engines and engine accessories (these are covered by original manufacturer's warranty).
- Parts which may be subject to another manufacturer's warranty (such warranty will be available to purchaser).
- All implied warranties not expressly stated herein, including any warranty of fitness for a particular purpose and merchantability.

IF THE PRODUCTS ARE PURCHASED FOR COMMERCIAL PURPOSES AS DEFINED BY THE UNIFORM COMMERCIAL CODE, THEN THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE FACE HEREOF AND THERE ARE NO IMPLIED WARRANTIES OF ANY KIND WHICH EXTEND TO A COMMERCIAL BUYER. ALL OTHER PROVISIONS OF THIS LIMITED WARRANTY APPLY INCLUDING THE DUTIES IMPOSED.

Ditch Witch products have been tested to deliver acceptable performance in most conditions. This does not imply they will deliver acceptable performance in all conditions. Therefore, to assure suitability, products should be operated under anticipated working conditions prior to purchase.

This limited warranty applies to the owner of the product. Some states do not allow exclusion or limitation of incidental or consequential damages, so above limitation of exclusion may not apply. Further, some states do not allow exclusion of or limitation of how long an implied warranty lasts, so the above limitation may not apply. This limited warranty gives owner specific legal rights and the owner may also have other rights which vary from state to state.

https://truckmanualshub.com/

For information regarding this limited warranty, contact CMW's Product Support department, P.O. Box 66, Perry, OK 73077-0066, or contact your local Ditch Witch dealer.

First version: 1/91; Latest revision: 4/99

https://truckmanualshub.com/

A Note To Ditch Witch Equipment Owners:

If your equipment was purchased through a Ditch Witch dealer, there is no need to read further.

However, if you purchased from any other source, please fill out the form on the reverse side and return it to us.

This will enable you to receive updates on this equipment as well as information on new products of interest.

Thanks for using Ditch Witch equipment.

(Please Fold Along This Line And Seal At Bottom With Tape)

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO 23 PERRY OKLAHOMA

POSTAGE WILL BE PAID BY

The Charles Machine Works, Inc.
P.O. Box 66
Perry, Oklahoma 73077-9989

https://truckmanualshub.com/

Ditch Witch® Registration Card

Please Type or Print All Information

Purchaser's Company Name

Attention

Street Address or P.O. Box

City County

State Zip Nation

( )

Phone Number With Area Code

Model Serial Number

Attachments/Accessories Serial Numbers

Attachments/Accessories Serial Numbers

Attachments/Accessories Serial Numbers

Name of Ditch Witch Dealership

Your Signature