

TRENCHER PRO

Mini-Trencher



Operator's Manual

Part # 29-038

26-183: 16" Trencher

26-184: 20" Trencher

26-185: 27" Trencher



Product registration form attached to the back of this booklet. Register your product within 2 weeks of date of purchase.

Welcome!

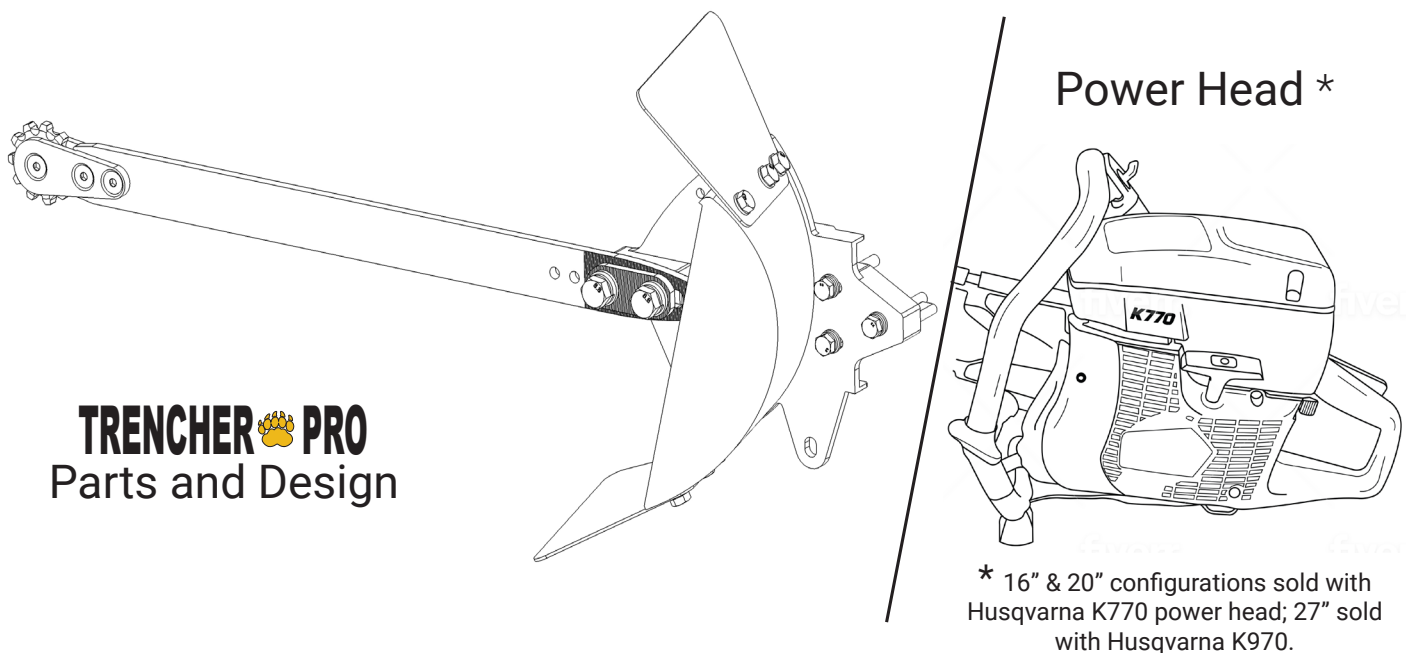
Thanks for buying a TrencherPro! We design our products to meet the high demands of our industrial and commercial clients, with ease-of-use that's aimed at homeowners and do-it-yourselfers. That means that our products are tough enough to meet rigorous industry standards, but designed for non-professionals to learn to use. We warranty all TrencherPro parts for one year from purchase date. Register your product today.

If you have feedback or questions, we want to know!

Contact us at: customerservice@tooltuffdirect.com or 720-437-7640

TRENCHER PRO

Mini-Trencher



This user guide/manual covers assembly, use, basic service and troubleshooting information for TrencherPro parts ("digging-head drive adaptor"), including:

- mounting and installing the digging chain and chain guard;
- assembling the trenching cart;
- instructions for basic operation.

For more information about use and maintenance of the power head refer to operator's manual provided.

Important Safety Information

WARNING!




Read and thoroughly understand all instructions and safety information before assembling or operating this mini-trencher. Failure to do so may result in serious injury or death. Do not allow anyone who has not read this manual to operate the device. As with all power equipment, a trencher can be dangerous if assembled or used improperly. Do not operate if you have doubts or questions concerning safe operation.

If you have questions or concerns about the safe operation of this equipment, call or email our customer service department at:

Tel: 720-437-7640

e-mail: customerservice@tooltuffdirect.com

KEY TO SYMBOLS

	Indicates the possibility of death or serious injury.
	Indicates the possibility of injury to self or damage to equipment.
	Indicates additional information.

WEAR PERSONAL **PROTECTIVE EQUIPMENT**

When operating this mini-trencher it is essential that you **wear safety gear** including safety glasses, steel toe shoes, well-fitted gloves (no loose cuffs or draw strings), and hearing protection. We also recommend a face guard, especially for hand-held applications.



Do not wear loose clothing or jewelry that can be caught by moving parts. Keep clothing and hair away from all moving parts while operating!

GENERAL SAFETY

Failure to follow warnings, cautions, or assembly and operation instructions in this manual may result in serious injury or death.

Read this operator's manual before operation!

- **Do not** permit children to operate this equipment at any time. Do not permit others that have not read and understood this manual to operate the mini-trencher.
- Keep all people and pets a minimum of **10 feet away** from the work area when operating the mini-trencher. Only the operator should be near the mini-trencher during use.
- **Do not** operate this device when under the influence of alcohol, drugs or medication.
- **Do not** allow a person who is tired, not completely alert, or otherwise impaired to operate the mini-trencher.
- **Always check with authorities for underground utilities before digging trenches.** Serious injury or death could result from contact with gas or electric lines.
- **Read the power head operation manual** concerning the use and maintenance of power head.
- **Make sure that all safety guards are in place** and securely fastened. **Do not** operate if any guards are missing.
- **Make sure that the digging chain is correctly installed, oriented, and in good working condition** prior to use.
- **Death or serious injury can result from entanglement with moving parts.**



**Know what's below.
Call before you dig.**

Always check with authorities for underground utilities before digging trenches!

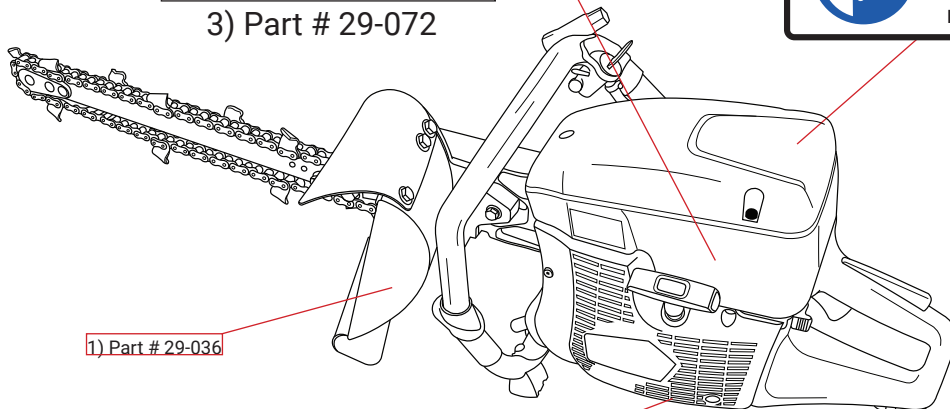
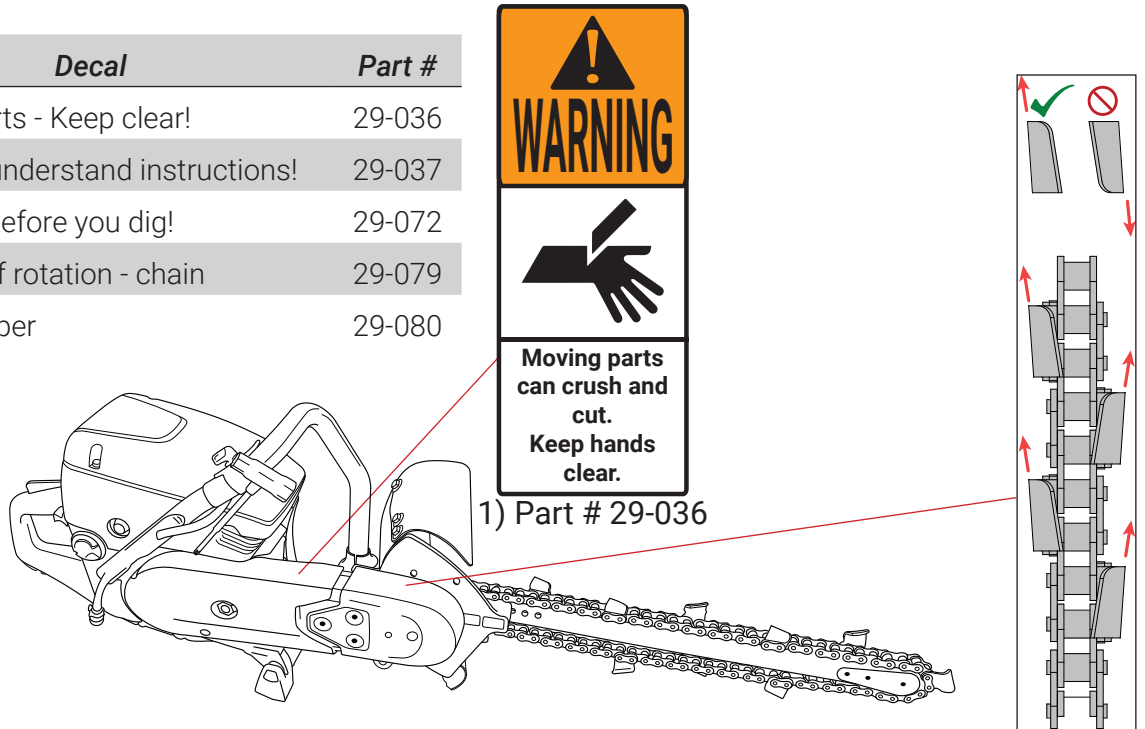
Serious injury or death could result from contact with gas or electric lines.

Important Safety Information, continued

⚠ SAFETY DECALS ⚠

Make sure all safety warning decals are attached and in readable condition. Replace missing or defaced decals! Call 720-437-7640 for replacement decals.

Ref. #	Decal	Part #
1	Moving parts - Keep clear!	29-036
2	Read and understand instructions!	29-037
3	811 - Call before you dig!	29-072
4	Direction of rotation - chain	29-079
5	Serial number	29-080



SERIAL NUMBER								
1	5	9	1	1	5	9	23	1
2	6	10	2	2	6	10	24	2
3	7	11	3	3	7	11	25	3
4	8	12	4	4	8	12	26	4

5) Part # 29-080

TRENCHER PRO

General Use Guidelines

INTENDED USE

This device is designed and tested for use digging narrow (2-3") trenches from 16-27" in depth (depending on configuration) in most soil types. It is not intended to cut solid surfaces such as tarmac or concrete. Excessively rocky soil types, soil with large heavy rocks, or soil with roots measuring more than 2" in diameter can damage the chain, drive adapter, or power head.

TrencherPro is recommended for laying sprinkler lines, drainage pipes, cables, root barriers, and related applications. Do not use the mini-trencher for any purpose other than digging trenches in suitable soil. Any other use is unauthorized and may result in serious injury or death.

We recommend that you use the cart when digging trenches. It reduces fatigue and keeps you at a safe working distance from moving parts and debris. However, it is possible to use the trencher without the cart if the situation demands.

Use common sense and stay safe!

Notice: The following constitutes improper use and voids any warranty:

- Attempting to cut wood or trim hedges
- Attempting to cut concrete, asphalt or tarmac, or any solid surface
- Attempting to cut solid stone or rock
- Use in extremely rocky soil

REASONABLY FORESEEABLE MISUSE

In the course of digging a trench, the mini-trencher may come into contact with unforeseen objects such as large tree roots, large heavy rocks, unmarked obstacles, etc. We consider this reasonably foreseeable misuse and will work with you to keep your mini-trencher operational.

Please contact our service department at:

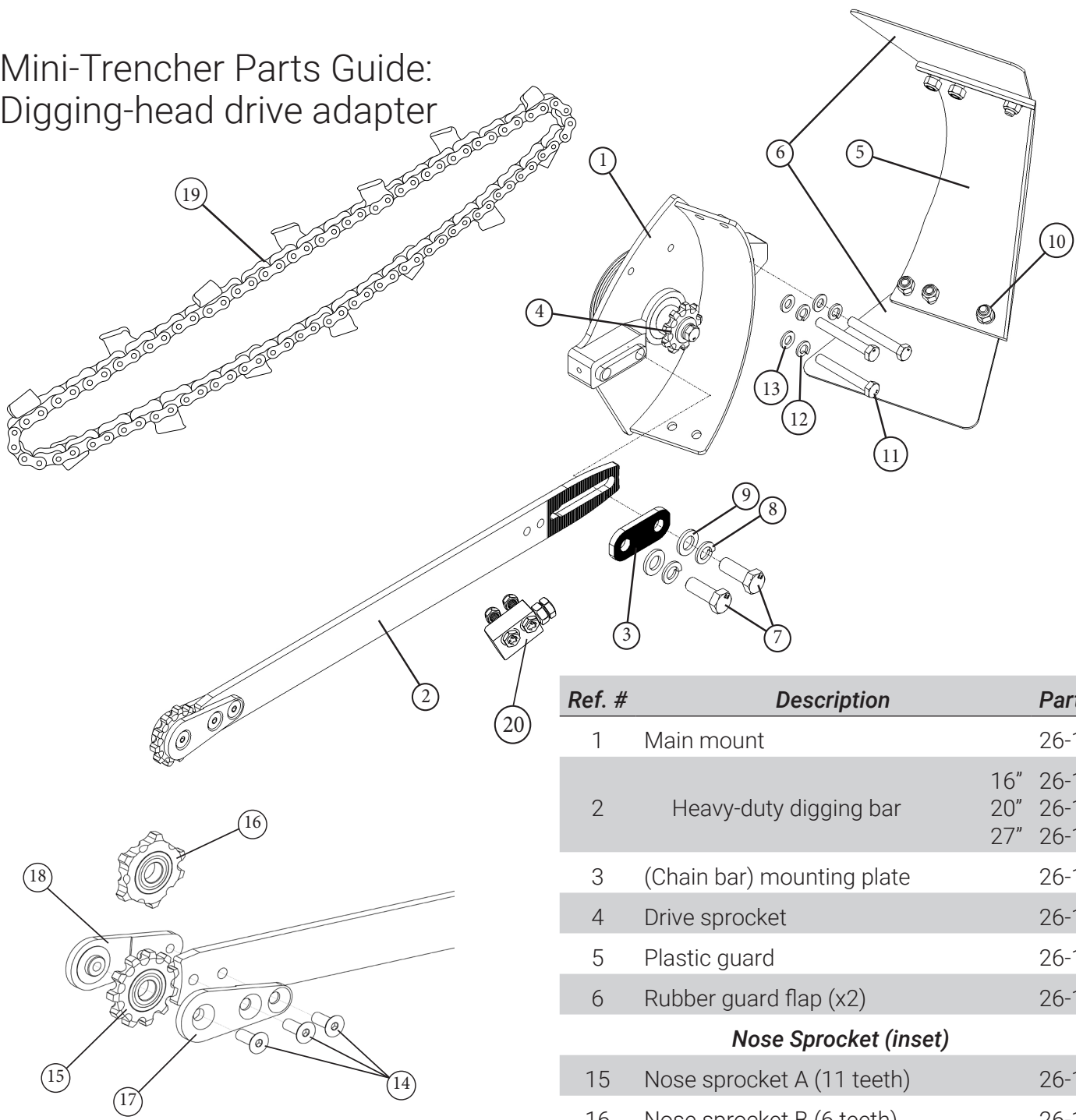
customerservice@tooltuffdirect.com

or

720-437-7640

TRENCHER  PRO

Mini-Trencher Parts Guide: Digging-head drive adapter



Ref. #	Description	Part #
--------	-------------	--------

1	Main mount	26-114
2	Heavy-duty digging bar	16" 26-115 20" 26-179 27" 26-180
3	(Chain bar) mounting plate	26-118
4	Drive sprocket	26-140
5	Plastic guard	26-147
6	Rubber guard flap (x2)	26-137

Nose Sprocket (inset)

15	Nose sprocket A (11 teeth)	26-170
16	Nose sprocket B (6 teeth)	26-120
17	Sprocket mounting plate	26-113
18	Sprocket mounting plate (threaded)	26-112

Ref. # Locally obtainable parts:

7	M12 hex head bolt (1.25mm X 35mm); (x2)
8	M12 split lock washer (x2)
9	M12 flat washer (x2)
10	M8 bolt (1.25mm X 20mm), washer, and nylock nut; (x 6ea.)
11	M8 bolt (1.25mm x 65mm) (x3)
12	M8 split lock washer (x3)
13	M8 flat wather (x3)
14	M8 flat head socket screw (1.25mm X 20mm); (x3)

Digging chain

19	Heavy-duty digging chain	16" 26-139 20" 26-138 27" 26-156
19a	Wide Heavy-duty digging chain [not pictured]	20" 51-024 27" 51-025

Chain tension block (accessory)

20	Chain tension block (included with 27" models only)
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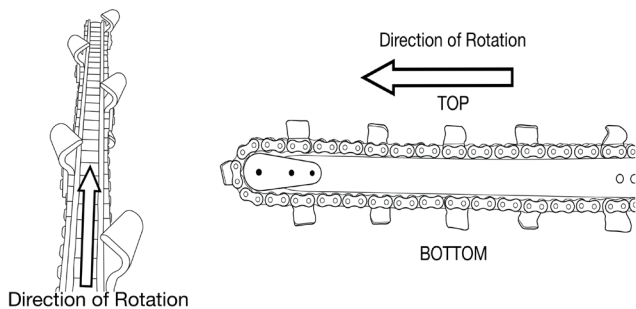
Step 1: Installing the Digging Bar and Chain

The heavy-duty digging bar [2] and chain [19] are disassembled for shipping. Before operating the mini-trencher, you must install the digging bar and chain, then tension the chain for the type of material you will be working with.

Notice: Read and understand the chain-tensioning guide (p. 11) before operation.

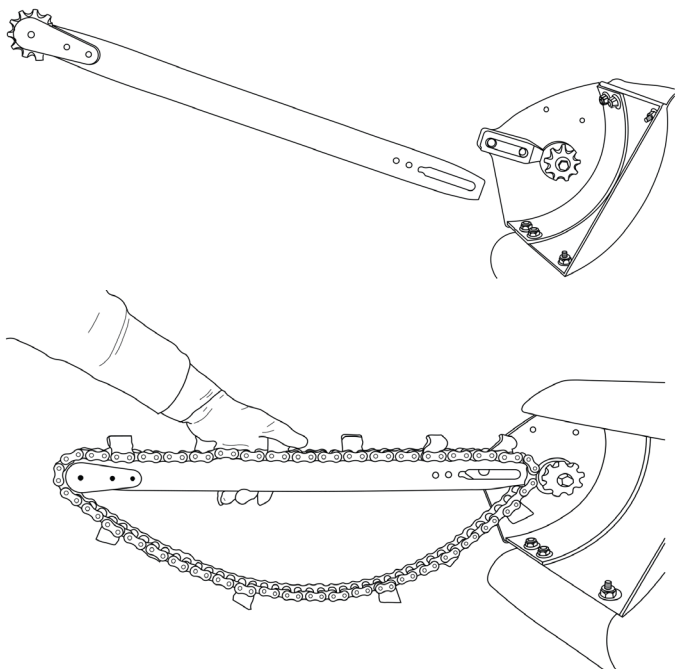
Tip Before you begin, locate the mounting plate [3], M12 bolts [7], washers [9] and lock washers [8].

1. Orient the digging chain correctly. During operation, the chain rotates away from the powerhead on the top side and returns on the bottom, pulling loose material with it. The chain must be oriented correctly, with the teeth opening towards the loose material.

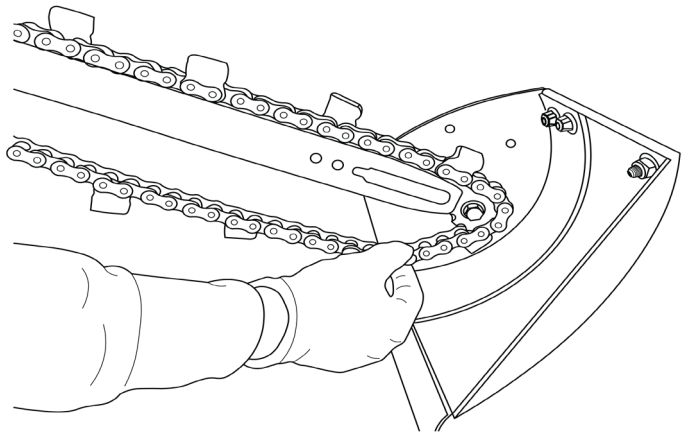


2. Mount the chain and chain bar.

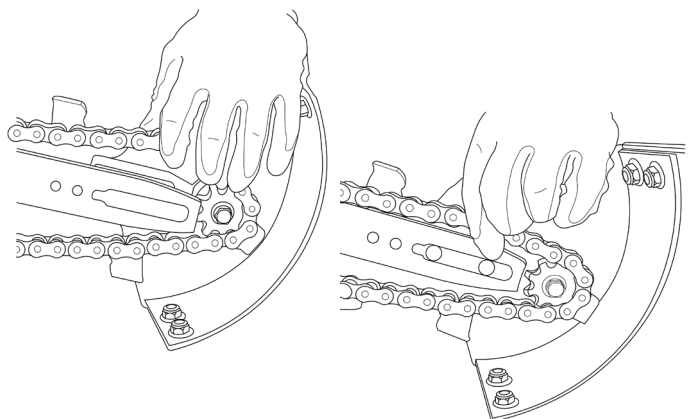
A. Get the bar in position. Drape the digging chain [19] over the bar.



B. Seat the chain on both the nose sprocket [15/16] and drive sprocket [4] as you mount the bar.



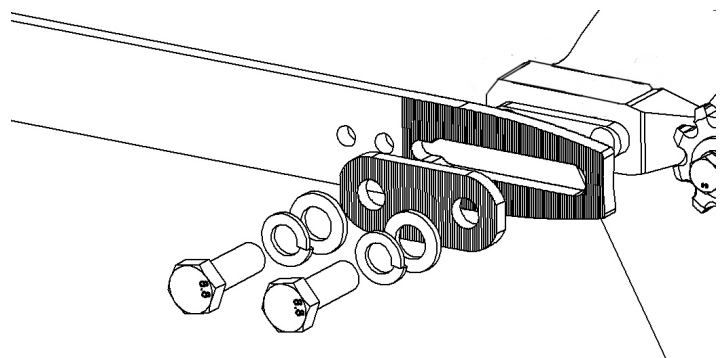
C. Slide the slot into position on the main mount. (See below.) It should fit snugly.



3. Attach the mounting plate.

Use the M12 bolts [7], lock washers [8] and washers [9] to attach the mounting plate [3], and tighten loosely.

- Don't tighten firmly until you tension the chain.

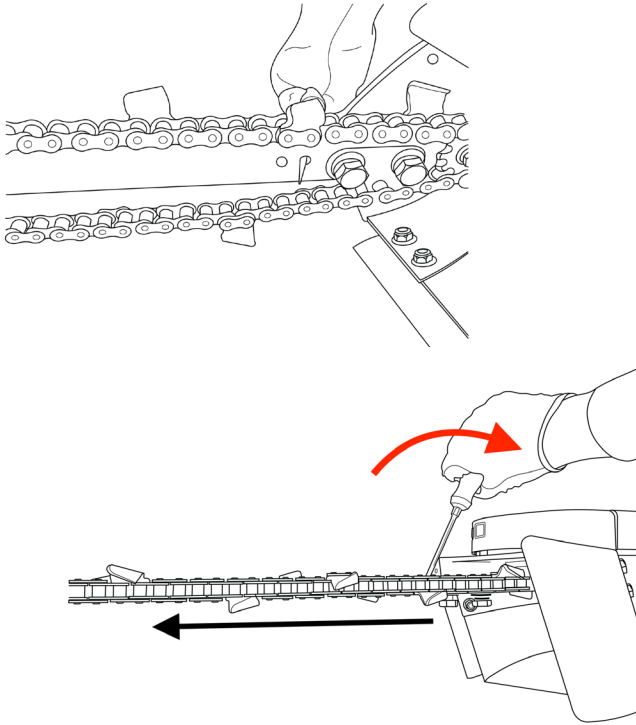


Step 1, Continued:


4. Tension the chain.

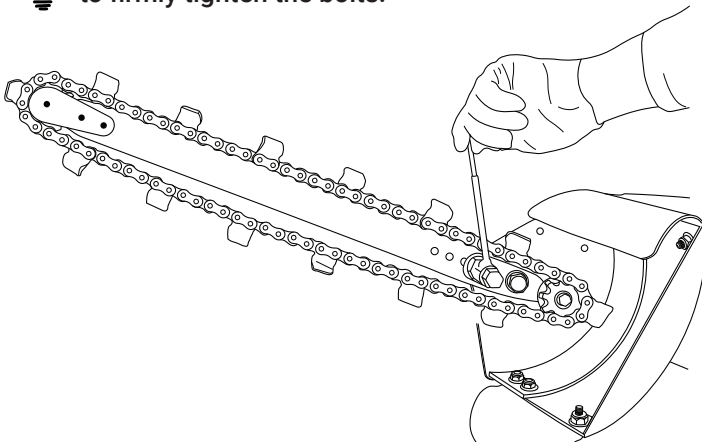
Insert a flathead screwdriver through one of the holes in the chain bar. Force the bar out, away from the power head, until you reach the desired chain tension.

You may need to tap the bar back and start again if the chain becomes too tight.



Once the desired chain tension is reached, securely tighten the mounting plate [3]. (See the Chain Tensioning Guide for more details.)

 **Tip** Use a socket wrench or impact driver (not included) to firmly tighten the bolts.



Notice: Review the chain tensioning guide (next page) carefully before operation.

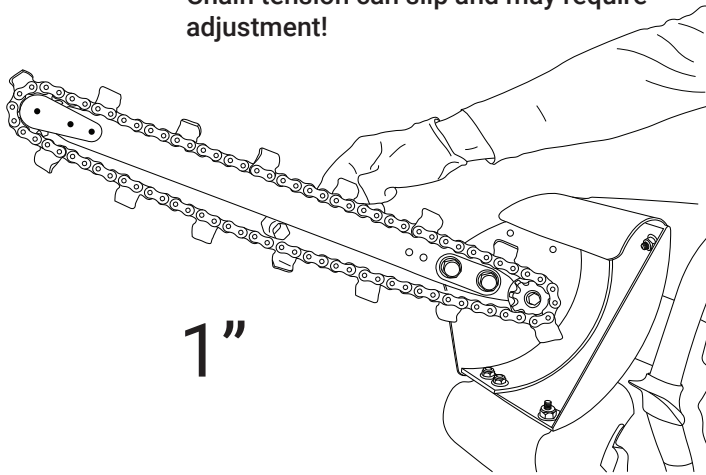
Chain Tensioning Guide

Adjust the chain tension according to soil type:

Soil type	Chain tension
loose top soil; hard, compacted soil; clay	1" <i>between bottom of digging bar and inside of digging chain</i>
moderately rocky soil; sandy, coarse soil	1 1/2" <i>between bottom of digging bar and inside of digging chain</i>

Notice: Check chain tension occasionally during operation!

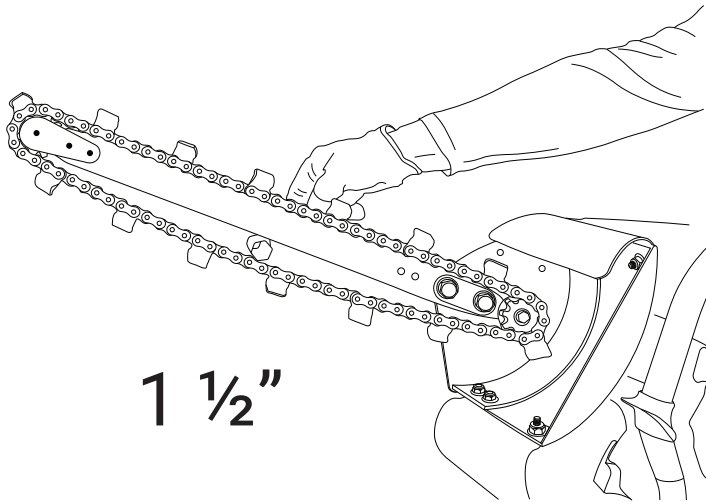
- Chain tension can slip and may require adjustment!



1"

Above: Chain is tensioned to 1" for normal top soil.

Tip Above: the small end of the combination wrench can be used to measure approximate spacing between the bottom of the digging bar and inside of the digging chain.

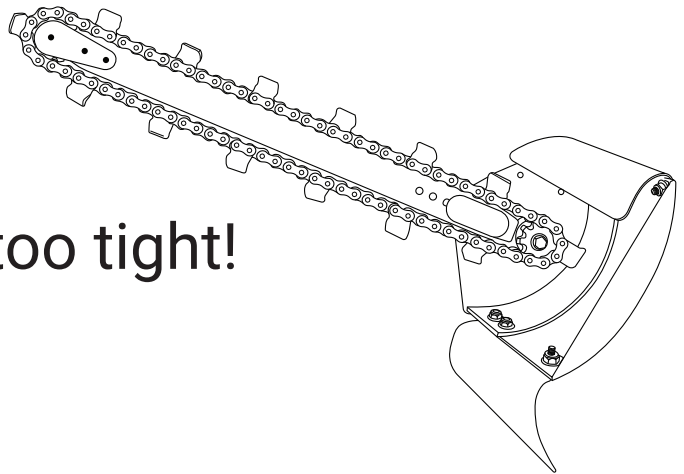


1 1/2"

Above: Chain is tensioned to 1 1/2" for coarse soil.

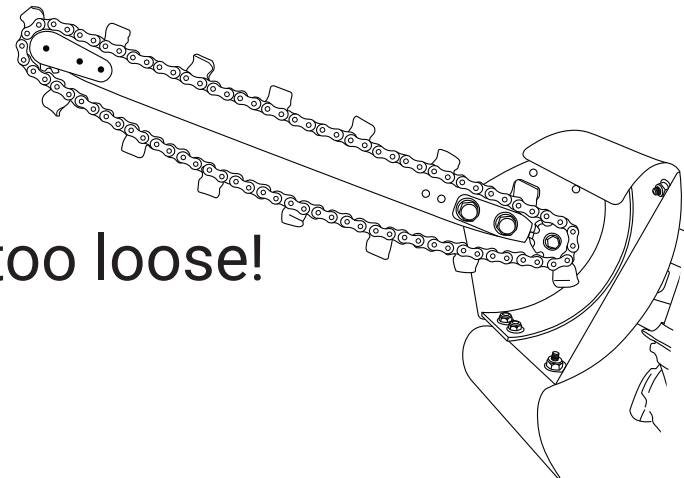
Tip Above: the large end of the combination wrench can be used to measure approximate spacing.

Notice: Over-tightening the chain may cause binding and excess wear to the drive belt and/or clutch.



too tight!

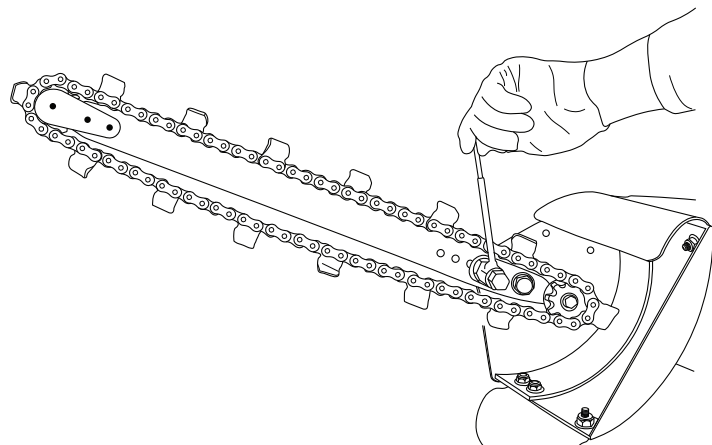
Notice: Too much slack in the chain causes excessive wear to external parts and may damage the main mount and guards.



too loose!

Tighten the bolts [7] firmly before use.

- We recommend using a socket wrench or impact driver (not included) to firmly tighten.



5. Mount the chain-tension accessory (included with 27" configurations).

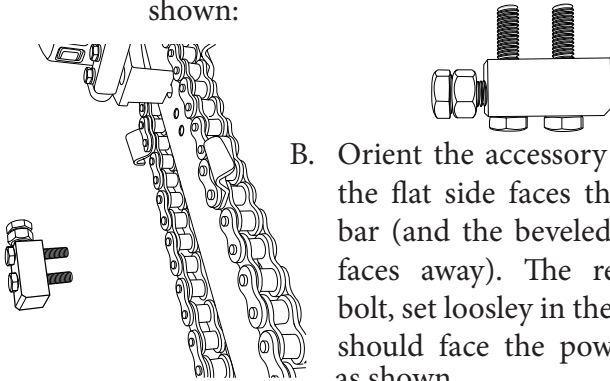
The chain tensioner [20] secures the digging bar in position, and keeps the chain at a constant tension.

Note: The chain-tension accessory ships with the 27" model *only*. The accessory can be purchased separately for other TrencherPro models.

Tools required for installation:

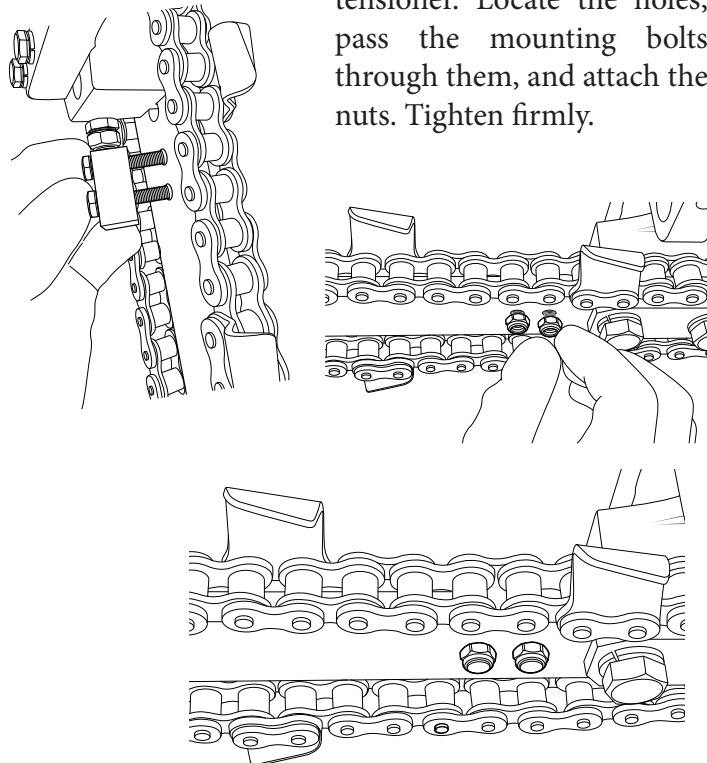
- 10mm wrench + adjustable pliers
- 13mm wrench

- A. Once the digging bar is installed and the chain properly tensioned, locate the chain tensioner. Remove the nylock nuts and set the retaining bolt loosely in the socket, as shown:

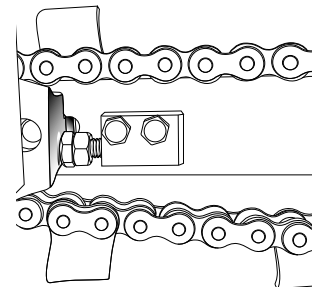
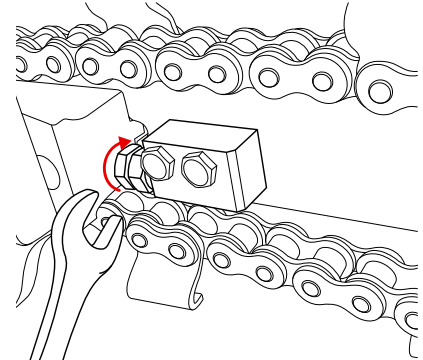
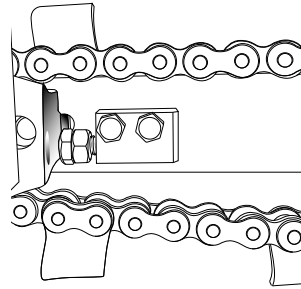


- B. Orient the accessory so that the flat side faces the chain bar (and the beveled corner faces away). The retaining bolt, set loosley in the socket, should face the powerhead, as shown.

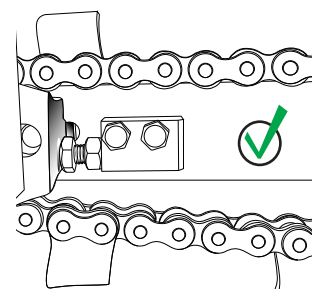
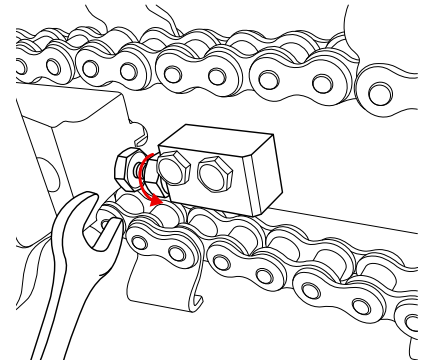
- C. The digging bar has 2 holes for mounting the chain tensioner. Locate the holes, pass the mounting bolts through them, and attach the nuts. Tighten firmly.



- D. With the chain tensioner mounted, loosen (unscrew) the retaining bolt until it's in contact with the main mount.

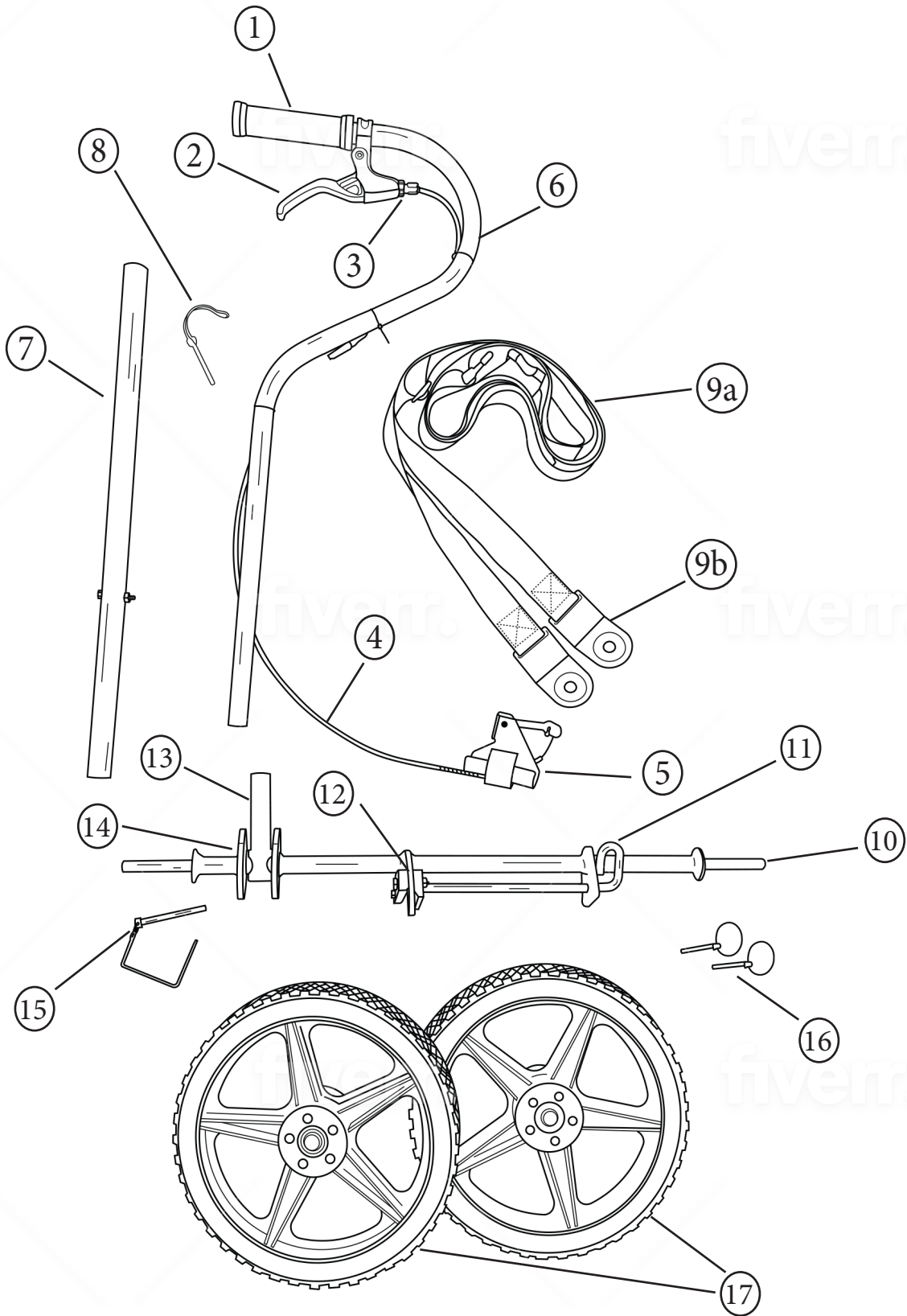


- E. Finally, tighten the lock nut so that it's in contact with the chain-tensioner block. The chain tensioner is now mounted.



Step 2: Assembling the Cart

Lay out all the parts in an area where you have plenty of space to assemble the cart. Locate the axle [10C].



Cart Parts

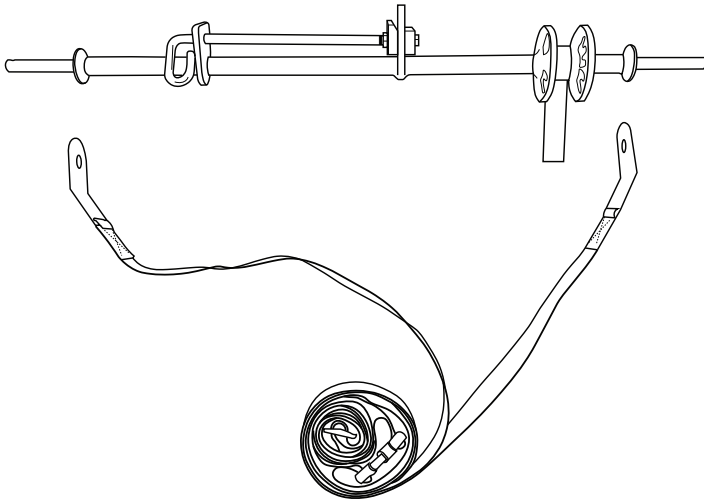
Ref. #	Description	Part #
1C	grip	26-173
2C	(throttle) lever	}26-172
3C	cable-tension adjuster	
4C	throttle cable	}26-148
5C	trigger-extension accessory	
6C	throttle-extension arm	26-129
7C	pivot arm (spring-loaded end faces axle)	26-133
8C	shaft-locking pin	
9C-a	strap	}26-131
9C-b	strap plates (x 2)	
10C	axle	}26-135
11C	mounting lock	
12C	mounting guide	
13C	handle-mount bar	
14C	pivot plate	
15C	clevis pin	
16C	lynch pins (x 2)	
17C	wheels (x 2)	26-174

Step 2, Continued:

1. Put the metal strap plates over either end of the axle.

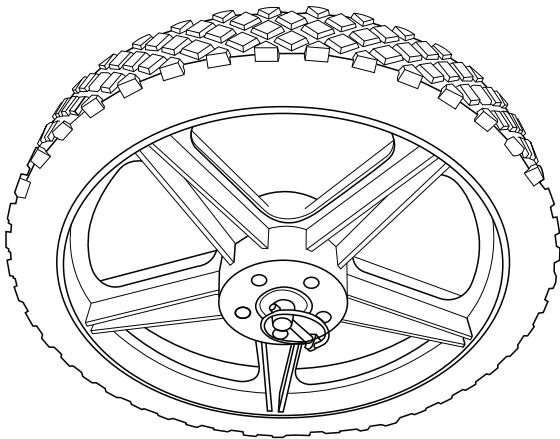
The strap [9C-a] is used to pull the cart along as you work.

Angle the plates [9C-b] inward when mounting them on the axle [10C] as shown, and don't twist the strap.



2. Put the wheels on the axle and insert the lynch pins.

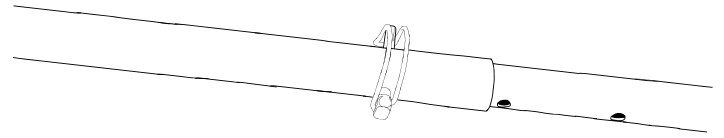
Put the wheels [17C] on either end of the axle [10C]. Insert the lynch pins [16C] and flip them into the locked position.



3. Put the throttle-extension arm and pivot arm together, and set the locking pin.

The throttle-extension [6C]/pivot arm [7C] is adjustable in length: set the pin [8C] accordingly.

The pivot arm [7C] is unidirectional, with a spring-loaded end that mounts towards the cart's axle [10C]. Check that the spring is facing the opposite direction before you insert the throttle extension arm.



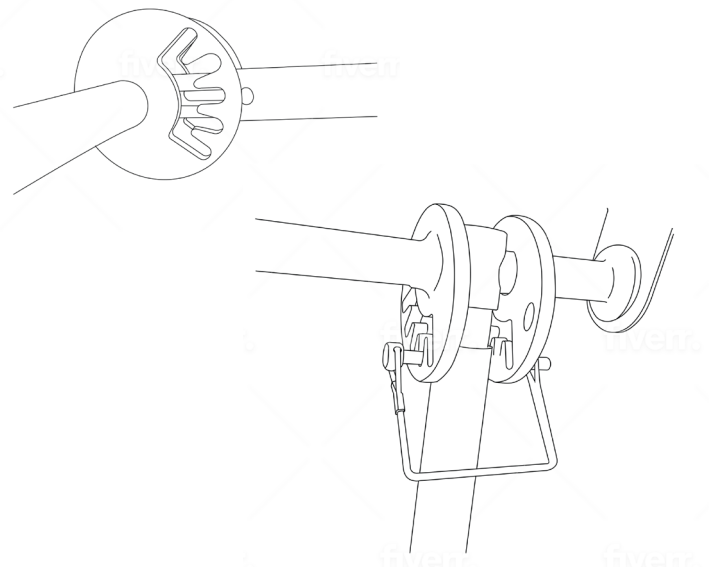
4. Mount the pivot/throttle-extension arm onto the axle.

When using the mini-trencher, the pivot/throttle-extension arm [6C + 7C] is used to push the nose of the trencher down, into the ground, while driving the engine.



Tip Locate the clevis pin [15C] before you begin.

- A. Push the pivot arm [7C] in, depressing the spring, to set the clevis pin [15C].
- B. Set clevis pin by passing it thru both sides of the pivot plate [14C], thru the slot in the pivot arm [7C], and thru the handle mount bar [13C], while the spring is depressed. This may take a couple tries.
- C. Secure the clevis pin with the wire clip.



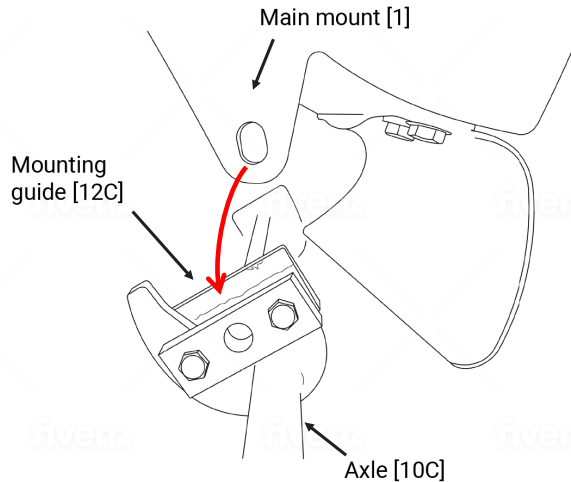
Tip Don't worry which slot in the pivot plate the pin passes through; more about that in Adjusting the Cart Arm, below.

Step 3: Mounting the Mini-trencher on the Cart

With the chain mounted and the cart assembled, you're ready to mount the mini-trencher on the cart.

1. Seat the mini-trencher on the cart.

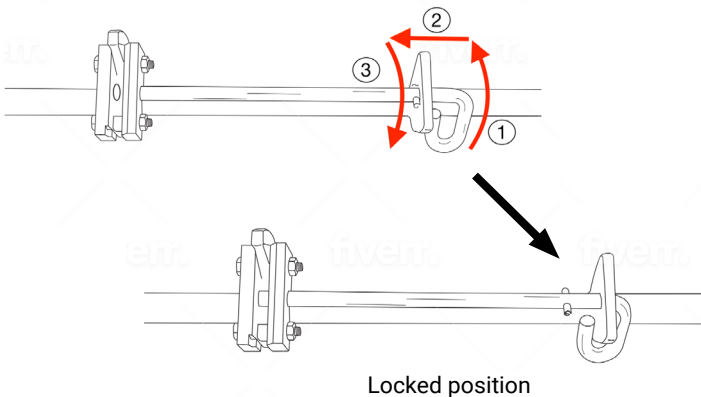
Locate mounting lock [11C] and guide [12C]. Make sure the lock is open. Lift the mini-trencher by the handle, align the flange with the guide, and set the trencher onto the cart.



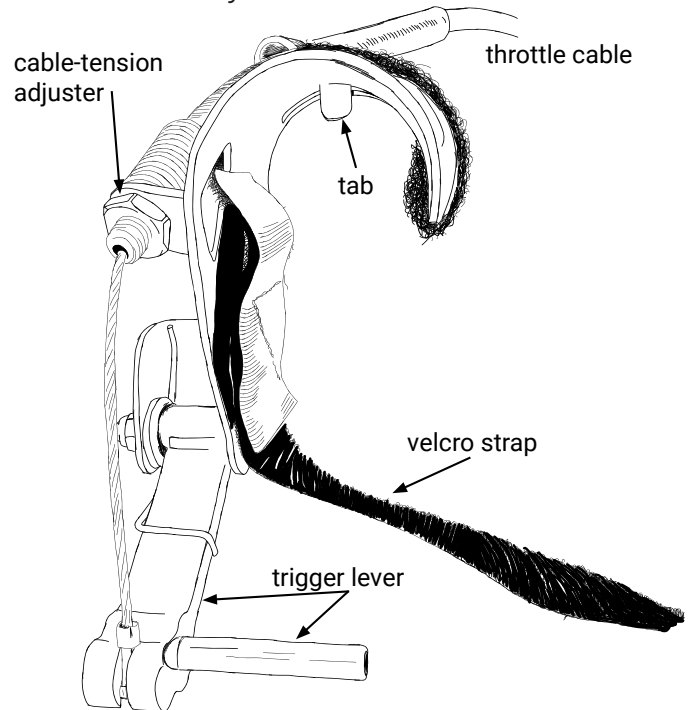
2. Slide the mount lock into place.



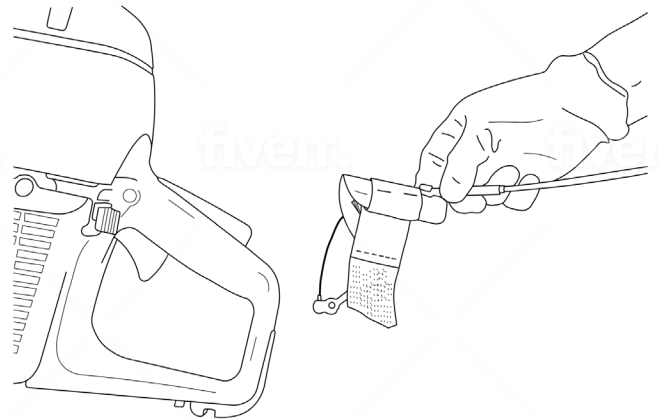
DO NOT attempt to operate without mounting lock engaged!



3. Mount the trigger-extension accessory:

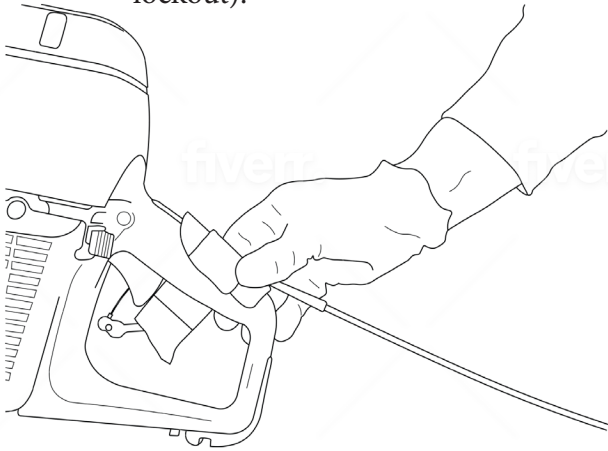


A. Orient the throttle accessory so that it's facing the right direction, and open the velcro strap.



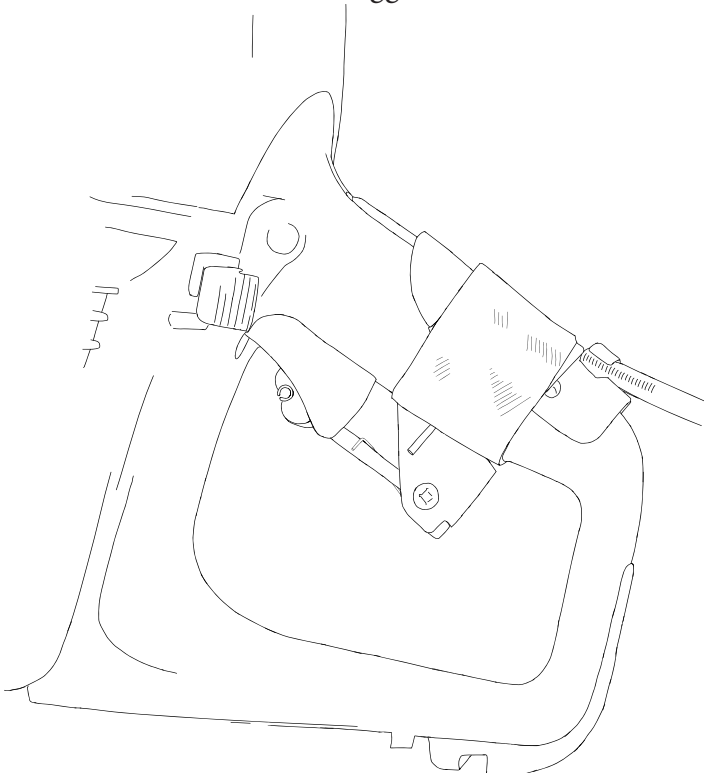
Step 3, Continued:

- B. Set the accessory over handle, as shown, depressing the safety (a.k.a. throttle-trigger lockout).



The tab on the inside surface of the accessory fits into the space behind the safety lockout.

- C. Fasten the velcro strap securely.
D. Adjust the trigger lever so that it sits snugly on the throttle trigger.



Use the cable-tension adjusters as needed. There's one tension adjuster on the accessory and another on the throttle-extension arm.

Notice: During and after starting the engine, you may need to readjust the trigger-extension assembly. If the throttle lever doesn't work, the cable may have become loose or disconnected.

Digging a Trench

It takes a little practice to get proficient with the mini-trencher. Read on for tips and techniques for success.

Notice: Before beginning, strap on belt to avoid entanglement.

In general, the trenching process is the following:

1. Assemble the mini-trencher and mount it on the cart.
2. Get the mini-trencher into position over the area you want to dig, and strap on the belt.
3. Start the engine (we use the trigger on the power head to get it started, then adjust the tension on the throttle cable as needed), and then move up to the throttle-extension arm [6C] to power the engine.
4. Get the chain rotating at a moderate speed (50-75%) before you bring it into contact with the ground. Too high a speed risks throwing projectiles and too low can cause a stall.
5. Work the nose of the mini-trencher into the ground to desired depth, up to 90 degrees. The angle of the digging chain determines the depth of trench.
6. Adjust the pivot arm as needed. We recommend holding the rear handle of the power head when adjusting.

7. Use the belt to pull the weight of the trencher towards you, in the direction you want to dig the trench.
8. Use a rocking motion to get to get past compacted soil and minor obstacles.
9. If you strike large rocks, thick tree roots, buried timber or other major obstacles, stop engine and investigate/remove objects before continuing.
10. For best results, adjust chain tension occasionally while trenching.

Adjusting the cart arm

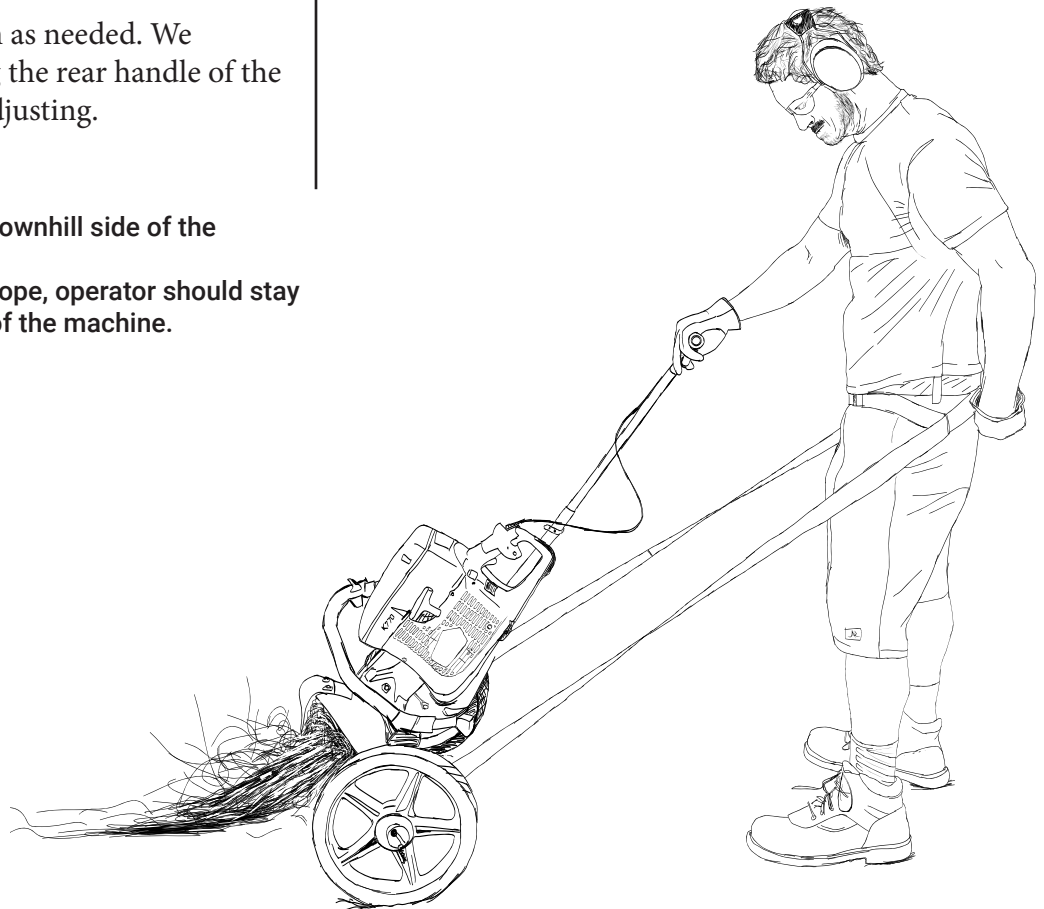
The cart arm (throttle-extension/pivot arm) allows you to exert downward pressure on the nose of the mini-trencher and control depth. Adjust as needed.

1. Hold the rear handle of the power head, depress the clevis pin [15C] inward to disengage from the pivot plate [14C], and pivot the throttle-extension arm up or down.
2. Once adjusted, release inward pressure to re-engage the pivot plate.



Never operate on the downhill side of the machine!

- If operating on a slope, operator should stay on the uphill-side of the machine.



Maintenance and Troubleshooting

Proper care and maintenance of the power head improves overall function of TrencherPro parts. The power head includes a clutch, drive belt, and belt tensioning system. Review the power head manual and understand how these systems work before operating the machine.

See power head manual for detailed information about servicing and maintaining the drive belt, carburetor, starter, fuel system, air filter, clutch, and general troubleshooting.



Never run the engine in a confined or poorly ventilated space.



Always stop engine and allow parts to cool down before servicing.

Notice:

Periodically check chain for damage and lodged debris.

Maintaining the digging chain

After each use, take a stiff brush and clean debris off of the digging chain. Lightly spray with oil. For long-term storage, remove the chain, clean it, and place it in an oil bath.



Never attempt to operate the device with a damaged, heavily rusted, or otherwise faulty chain.

Parts designed to wear

The heavy-duty digging chain, drive belt, and drive sprocket are parts that wear over time. Check, tension, and replace these parts regularly for best results.

- To extend chain life, adjust the chain tension to fit the soil type.
- The working life of a digging chain is greatly impacted by soil type.
- As the teeth wear the trench narrows; replace chain for improved results.

Drive belt tension and replacement

For detailed instructions on how and when to tension or replace the drive belt, see power head manual: maintenance section.

Common problems and solutions

Problem: Engine is revving but chain isn't rotating

Solution: Correctly tension drive belt.

1. Turn off engine. Allow to cool.
2. Remove cover guard and inspect drive belt. Insepct belt tensioner and check belt tension.
3. See power head manual for instruction on tensioning drive belt.

Problem: Chain is binding, possibly causing engine to stall

Solution: Lubricate chain and/or ddjust tension of digging chain.

1. Turn off engine. Allow engine and chain to cool. Coat chain with lubricant.
2. Re-tension digging chain. (See 'Chain-tension guide' for procedure.)

Notice:

The chain tends to tighten itself with use and may need occassional adjustment. Rocks stuck between the digging chain and bar also tighten chain tension. The mini-trencher performs best with a certain amount of slack in the chain. Stop and check the chain tension.

Problem: Pivot arm not engaged

Solution: Make sure that the clevis pin [15C] is engaged in the pivot plate [14C]. See 'Adjusting the cart arm' above.

The pivot arm should be used to adjust the downward pressure on the nose of the trencher, not to push or pull the cart forward or backward. Use the strap to pull the cart in the direction of your trench.

Problem: Throttle lever not working.

Solution: Trigger-extension cable is disengaged.

Check the throttle extension accessory [5C] and throttle lever [2] to make sure the cable is engaged and properly tensioned.

Maintenance and Troubleshooting Continued:

Problem: Rock stuck in digging chain/bar.

Solution: Remove rock and re-tension digging chain.

1. Turn off engine. Allow engine and chain to cool.
2. Once cool, rotate chain reverse of operating direction to dislodge rock.
3. Re-tension chain.

Problem: Rocks continually stuck in digging chain/bar.

Solution: Change the nose sprocket.

1. Turn off engine. Allow engine and chain to cool.
2. See 'Changing the nose sprocket' below.

Problem: Engine won't start, or starts with difficulty

Solution: See Husqvarna manual for detailed information about "Starting and Stopping," (pp 24-26).

Fuel and two-stroke oil:

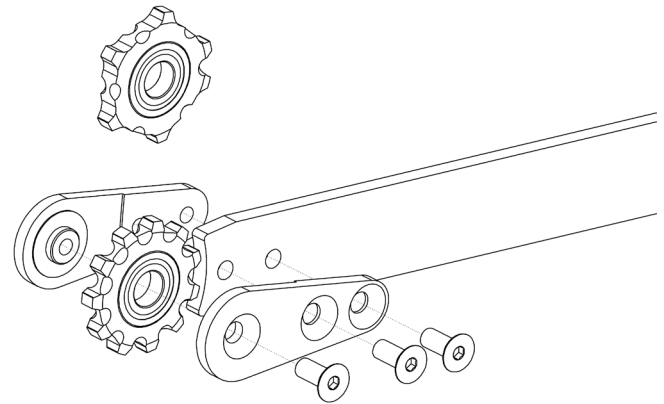
See fuel specifications in power head manual for your specific model.

Use minimum of 87 octane unleaded fuel, with the correct mixture (1:50 or 2%) of two-stroke oil for air-cooled engines. Never use two-stroke oil intended for water-cooled engines. Never use oil intended for four-stroke engines. Mix the fuel and oil in a clear container intended for gasoline. Do not start the engine if fuel has been spilled nearby as sparks may cause a fire. Transport and store the machine upright so that there is no risk of fuel leakage. For long-term storage, drain the fuel mixture from the machine.

Changing the nose sprocket: 6 tooth vs. 11 tooth.

The 6-tooth nose sprocket is designed to clear rocks from the chain, but has less chain engagement. The sprocket is ideal for moderately rocky soil, sandy and coarse soil.

The 11-tooth nose sprocket is ideal for loose top soil, clay, hard and compacted soil.



Changing the sprocket is fairly straightforward. To change the nose sprocket:

1. Heat the screws to loosen the locking compound.
2. Remove the M8 screws [16] using an impact driver.
3. Remove the plates [17 & 18] and swap out the sprocket.
4. Add a locking compound to the screws before reinstalling.
5. Tighten the screws to 33Nm.



Failure to add locking compound when reinstalling sprocket could result in injury or damage to equipment!

Additional support: follow the link below for the most up-to-date maintenance information on this product.



Warranty Information

TrencherPro product warranty offers one year warranty against defects in workmanship. The warranty gives the consumer certain and specific rights which may vary from state to state.

Warranty does not cover normal wear, misuse, neglect, abuse, improper maintenance, overload beyond rated capacity, accidents, cosmetic defects, consumables, non-authorized replacement parts or accessories, operation with inadequate supply of gear box oil, improper fluid types, or unauthorized adjustments.

The warranty may be refused if the registration is not completed, signed, and legible. It is the responsibility of the purchaser to assure that the registration form is returned to us, post-marked within two weeks of date of purchase.

IMPORTANT NOTICE

We, the manufacturer, reserve the right to change the product and/or specifications in this manual without notification. The manual is for information use only and the pictures and drawings depicted herein are for reference only.

Warranty Repair and Service

Do not return this product to the store for warranty issues or repair. Call our customer service department at **720-437-7640** for the location of the nearest service center.

Record the information below for future reference.

Model No. _____

Serial No. _____

Date of Purchase _____

Place of Purchase _____

For Service or Questions:

Call 720-437-7640

TRENCHER  PRO

Registration

Acceptance of responsibility:

I (purchaser) have read the User Guide & Manual and Limited Warranty or someone has read and explained all instructions to me. I understand this warranty does not cover any labor and that all disputes will be settled by binding arbitration. Warranty void if any attempt to repair or replace defective parts has been made by unauthorized personnel. The mark next to each item below confirms my acceptance of responsibility for the use and maintenance of this mini-trencher. I understand that I alone am responsible for the proper maintenance, care, and safe operation of this mini-trencher.

- Received, read, and understand this User Guide & Manual
- Understand the safety warnings
- Specifications accepted
- Operations understood
- Maintenance requirements understood

I (purchaser) understand that persons who have not read and understood the operator's manual should not be allowed to use the machinery. Children should not operate or be near the equipment. Anyone operating the mini-trencher must have first read the general safety and use guidelines sections of the manual.

Is this mini-trencher used by a business?

- Yes, business type: _____
- No

Owner / Purchaser Signature: _____

The warranty may be refused if the registration is not completed, signed, and legible. It is the responsibility of the purchaser to assure that the registration form is returned to us, post-marked within two weeks of date of purchase.

Warranty void if registration not postmarked within 15 days of purchase!

WARRANTY & REGISTRATION BY MAIL

To register your device:

1. Fill in the form below,
2. Cut out the form, attach a copy of the receipt or proof of purchase, and
3. Mail to:

Tool Tuff Direct
15000 West 44th Ave,
Suite B Golden, CO 80403

WARRANTY REGISTRATION FORM

TRENCHER PRO

Warranty registration implies agreement to the terms of the "Acceptance of Responsibility" (above)

Device Serial #:		
Purchase date:		
Purchased from (Store / City):		
Purchaser:		
Purchaser address:		
City:	State:	Zip code:
Purchaser phone #:	E-mail:	

WARRANTY REGISTRATION BY E-MAIL

Warranty registration may be completed by filling out the form above, taking a picture or scan the form *and* your proof of purchase, and emailing them to: warranty@tooltuffdirect.com

Please write in the subject line of the warranty registration e-mail: Trencher Pro

WARRANTY REGISTRATION BY ONLINE SUBMISSION

Registration may be completed by following the QR code below. Use the camera app on your smartphone in the same manner you would if you were taking a photo. Your smartphone will recognize the code, and a link will appear on the screen. Tap the link and you will be directed to the form on our website.



For Service or Questions:

Call 720-437-7640

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