

OWNER'S MANUAL

Footage

IMPORTANT

DO NOT OPERATE THIS TOOL UNLESS THESE INSTRUCTIONS HAVE BEEN CAREFULLY READ AND UNDERSTOOD.



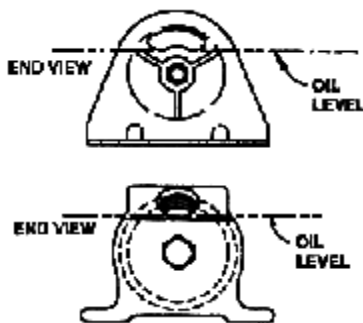
C177 Hydraulic Squeeze Off Tool

DO NOT OPERATE THIS TOOL UNLESS THESE INSTRUCTIONS HAVE BEEN CAREFULLY READ AND UNDERSTOOD

This Footage Tools' Hydraulic Squeeze Off Tool is sold in two basic configurations; manual release, and fine controlled release. The manually controlled unit does not have a needle valve in the pump hose. The fine controlled unit has a needle valve with built-in orifice in the hose. It is critical that the operator knows the unit he is working with and that he refer to the appropriate section in these instructions.

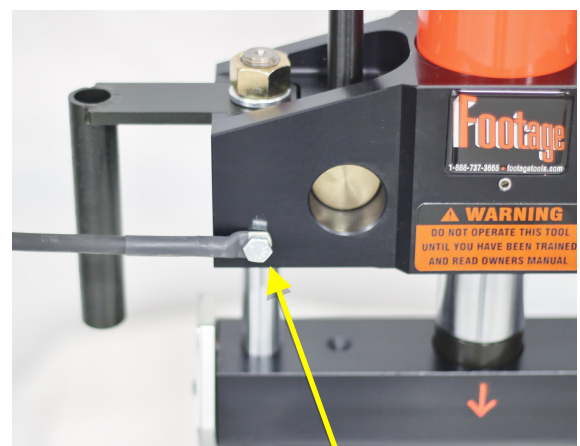
The hand pump contains a 2-position control valve. Rotating the control valve lever (or knob) **fully forward**, will allow oil to be pumped through the hose, through the needle valve (if so equipped) and to the tool to effect the squeeze operation. Similarly, rotating the control valve lever **fully backward** will allow oil to return from the tool to release (open) it. A bypass valve, set at 10,000 PSI, is built into the pump to prevent over-pressurization.

Preliminary Assembly:



1) Ensure the hand pump is filled with good quality, ISO 32 weight, hydraulic oil. To check or refill, connect the pump to the tool, retract the cylinder, and release system pressure. (Failure to follow this instruction may result in overfilling the reservoir – this could result in reservoir failure due to excessive pressure and possible injury.) Remove cap and fill to the indicated level with the pump level and resting horizontally on the base and recap. **Cleanliness is critical while checking and refilling. Use a funnel with a filter. Do not allow any dirt to enter the reservoir.**

2) To connect the C615-A105 static grounding kit, mount the grounding tool lead to the squeeze off tool using the supplied 1/4" hardware in the 1/4" X 20 drilled and tapped hole in the body of the tool. This hole is located in the top bar, below and to the left of the "Footage Tools" nameplate. (See *Picture 1*)



Picture 1

OPERATING INSTRUCTIONS:**A) INSTALLATION ON PIPE**

1) Fully install the grounding spike in firm soil near the tool and work area. Moist soil is required to ensure good contact to ground. Soak the area if necessary where the spike will be inserted. This is critical as this grounding system should remove any static electric charge that is created when the flow of gas is cut-off during the squeeze operation, thereby reducing the chances of sparks being created.



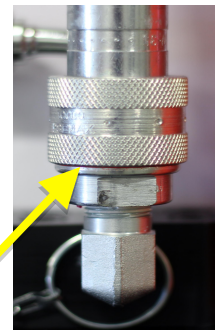
2) **Warning: Inspect the tool to ensure that it is clean and free from any dirt that may hinder proper operation. Pay particular attention to the two lower bar pockets where the rod nuts on the side shafts engage. It is critical that these pockets are clean and free of debris. Clean if necessary (See picture 2).**

3) Carefully inspect the hydraulic hose to ensure there are no cuts or leaks. Ensure the hydraulic coupling is clean and then connect the hydraulic hose from the hand pump to the squeeze off tool. (See *Picture 2*) To eliminate any possibility of accidental disconnection with our standard coupling, rotate the female connector collar to lock the coupling. If your pump and tool are equipped with threaded union connectors, the threaded collar must be fully threaded on, to enable pressure to reach the tool.

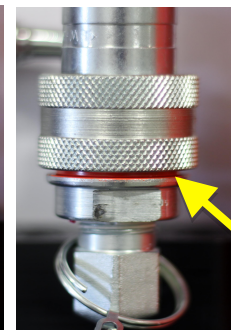
To Eliminate any possibility of accidental disconnection, the threaded collar must be fully threaded on, to enable pressure to reach the tool - tighten fittings until you can no longer see ORANGE paint on the inside collar.



Picture 2



Correct



Incorrect



Picture 3

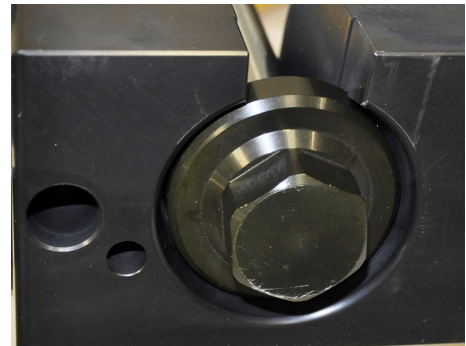
4) Open the tool by placing the pump control valve into the release position - **fully backward**.



Warning: On tools containing a needle valve, ensure the needle valve is fully open, see section on fine controlled release below.

5) Set the adjustable gauge plates on either side of the unit to the proper pipe size and SDR setting for the pipe about to be squeezed. Ensure both sides are identical or tool damage may result. Position the arrow on the gauge plates such that they face the other squeeze bar. (See *Picture 3*)

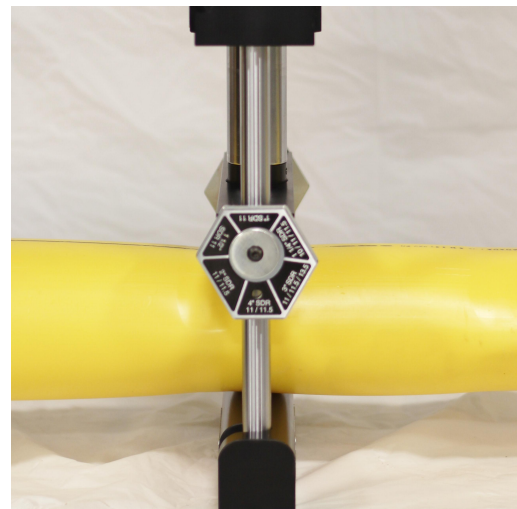
6) Lift and swing the bottom bar out and place the squeeze off tool over the pipe. Swing back the bottom bar and lock into position over the end washers of the side shafts. Full engagement is critical or tool damage may result. The operator should visually check to see that the cut out in the bottom bar has fully rested against the side shaft to ensure the bar has swung fully shut. It should look closed. The operator should then feel along the underside of the bottom bar to confirm that the bottoms of the end washers are flush with the bottom face of the bottom bar and are fully seated in the pockets on the underside of the bottom bar. (See Picture 4) This is important so the tool cannot open accidentally and also ensure there is equal load on both sides. Failure to comply with this step may result in tool damage.



Picture 4

B) SQUEEZING THE PIPE

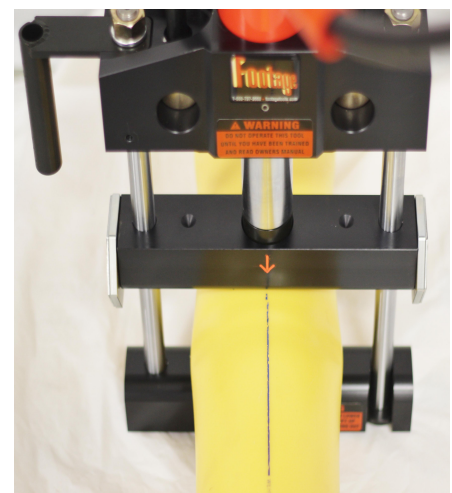
1) Close the needle valve (if so equipped) and set the control lever (or knob) on the hydraulic pump to the squeeze position – **fully forward** and pump the handle to advance the squeeze bars toward the pipe. Position the tool centrally on the pipe. An equal space on both sides should be observed between the pipe wall and side shafts. Adjust as needed. If this is not done, tool and pipe damage may result. During the squeeze off, keep the tool at right angles to the pipe. (See Picture 5 & 6)



Picture 5

2) The rate of squeeze is very important in preventing pipe damage. Do not exceed 2" per minute squeeze rate. Advance the squeeze bars until 50% of the pipe's original diameter has been squeezed. At this time, it is important to wait a few minutes so that the pipe material has a chance to relax (5 minutes is recommended). Increase this time in colder weather, below 32°F. Consult your local utility for their specific recommendations regarding the prescribed squeeze rate.

3) Continue squeezing the pipe slowly until a further 25% of the pipe's diameter has been squeezed. Again, pause to let the pipe have time to relax. (5 minutes)



Picture 6

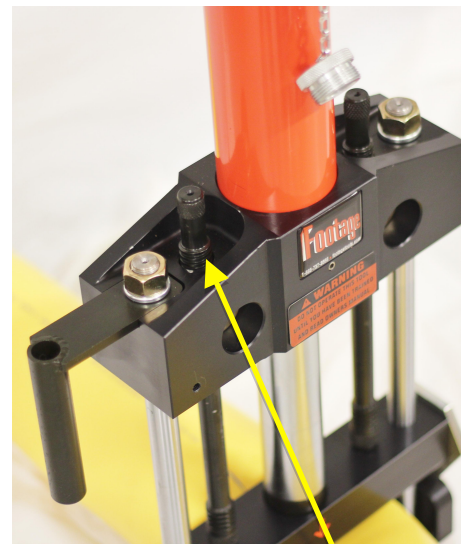


Picture 7

4) Continue slowly squeezing until the gauge plate stops just come in contact with the bottom bar. Slower rates should be used below 32°F. **DO NOT CONTINUE SQUEEZING ONCE GAUGE STOPS HAVE BEEN REACHED OR TOOL DAMAGE MAY RESULT.** Keep in mind, it may not be necessary to squeeze the pipe all the way to the gauge stops to obtain satisfactory flow control. (See *Picture 7*)

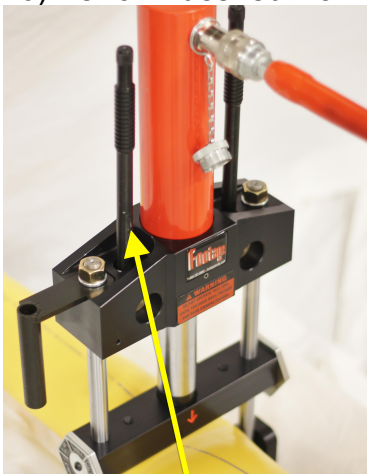
5) These hydraulic squeeze off tools feature a steel lock down bolt on each end of the top bar to allow the tool to be locked on a squeeze and the hydraulics detached or in the event the hydraulics lose pressure. To engage, screw the

bolts in the top bar. An interruption in the thread will allow the bolts to drop down into contact with 2 pockets in the upper squeeze bar. The bolts need only be tightened by hand, not with a wrench. They are not intended to assist in squeezing the pipe. The squeeze off tool has more than enough power available to satisfactorily squeeze the pipe. Start threading the bolts into the barrel nuts in the top bar as the squeeze nears completion (approx. 1" before reaching the stops). (See *Picture 8*) Thread the bolts as the tool continues to squeeze the pipe. Once the tool has reached the stops on both sides, the lock down bolts should be completely threaded.



Picture 8

6) Perform desired work on the pipe.



Picture 9

C) RELEASING THE PIPE

1) Unscrew the steel lock down bolts located on each end of the clamping bars. It may be necessary to place the pump control valve into the "squeeze" mode and apply more pressure to the tool to relieve the upward strain on the bolts created by the pipe trying to bounce back. (See *Picture 9*)

2) To avoid any damage to the plastic pipe, it is critical that a slow release rate be achieved. A release rate of 1/2" (12.5mm) per minute is recommended. This time allows for the plastic to "flow" decreasing the chances of pipe damage. Below 32°F., the release rate should be slower. Consult

your local utility for their specific recommendations regarding their prescribed release rate.

3) Determine the type of release mechanism supplied on the pump; either manually controlled release, or fine controlled release. Refer to the appropriate section following:

Manual Release (No Needle Valve in Line)

With the pipe squeezed and the pump control valve in the squeeze position; very slowly move the control valve towards the release position while watching the tool bars. As soon as the squeeze bars start to move, return the control valve to the squeeze position. This will stop the bars from releasing. It is very difficult to control the release rate from this initial high-pressure squeeze but operator practice will help. If the operator finds it too difficult to control, you may want to purchase the needle valve as outlined in the sections regarding controlled release / fine controlled release below. Continue this process, squeeze to release to squeeze, toggling the valve until the bars no longer move. Once bar movement has stopped, the tool should be in the most open position possible. Failure to fully open may be either from the return spring in the cylinder weakening with age or from an excessive quantity of oil in the pump reservoir.

Optional Fine Controlled Release (Needle Valve with Orifice in Line)

Ensure the needle valve is fully closed. Slowly move the valve handle to the "release" position. As this is done, immediately the tool will start to open. Should the operator want to stop the release, return the pump control valve handle to the squeeze position. The orifice in the needle valve controls the release rate. A release rate of 1/2 inches per minute should be followed, slowing this release rate down in temperatures below 32°F. As the pipe opens, the pressure in the tool will decrease and the release rate will slow down. Once the pipe is sufficiently relaxed, the operator can then open the needle valve **fully counter clock wise** to raise the bars more rapidly for a complete release. Continue to open the tool until it can be removed from the pipe. Failure to fully open may be either from the return spring in the cylinder weakening with age or from an excessive quantity of oil in the pump reservoir.

4) To remove the tool from the pipe, let the tool rest by the upper squeeze bar on the pipe. Lift the bottom bar upwards, (towards the pipe) about 1 inch, then rotate the bottom bar clear of the pipe. The tool may now be lifted clear of the pipe.

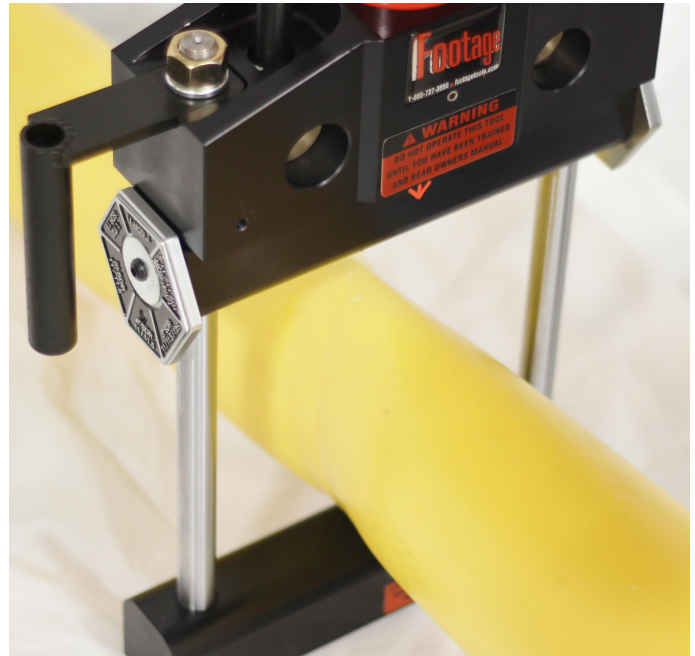
5) If re-rounding of pipe is not to be performed, disconnect the pump. (If the hydraulic coupling was locked, rotate the collar on the female coupling until the ball aligns with the slot in the collar to allow the coupling to be separated.) The grounding spike may now be removed from the ground, and the tool and the pump repacked in the shipping container.

D) RE-ROUNDING THE PIPE IF REQUIRED

1) Once the tool is fully open, reposition the tool 90° from the original squeeze, on top of the peaks of the squeeze. Squeeze the pipe back to its original shape. (See *Picture 10*) Consult your local utility for their specific recommendations regarding this procedure.

2) Remove the tool from the pipe as outlined in “Releasing the Pipe” detailed above. Remove the tool from the pipe and swing the lower squeeze bar shut.

3) The grounding spike may now be removed from the ground, disconnect the hydraulic hose from the hydraulic ram at the coupling and store squeeze tool and pump safely in the shipping container.



Picture 10

E) SAFETY PRECAUTIONS**WARNING:**

Do not exceed the recommended 2" per minute squeeze and the ½" per minute release rates. Temperatures below 32°F. require slower squeezes and releases. Releases are more critical than squeezes; thus slower rates are required during the release phase. Consult your local utility regarding their specific recommendations for this procedure.

**WARNING:**

When performing a squeeze, position the tool at least 4 times the pipe diameter away from fittings, fusion areas or previously squeezed areas.

**WARNING:**

To reduce the possibility of any static electric charge buildup, ensure the grounding system is properly planted in moist soil. Your tool can easily be fitted with a grounding spike if not so equipped. Contact your FOOTAGE TOOLS dealer for parts and installation instructions.

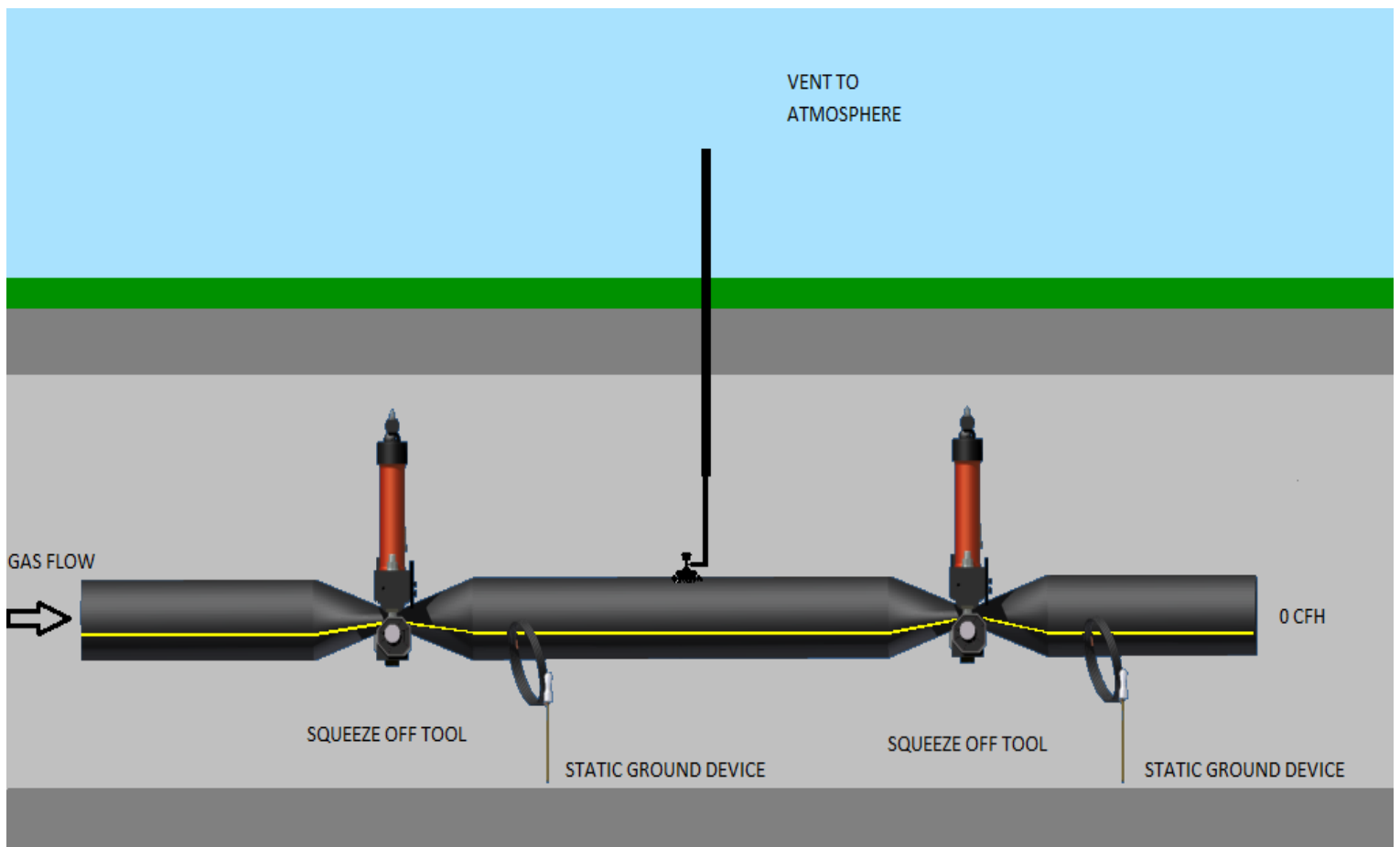
**WARNING:**

Keep away from any high-pressure hydraulic leaks. A high-pressure jet of oil can cause serious injury. Repair immediately.

Important Notice

If you experience difficulty obtaining flow control when squeezing HDPE pipe, we recommend you perform a double squeeze and vent to atmosphere.

Please consult your local Utility for their specific operating procedure.



F) MAINTENANCE

This section contains maintenance instructions for the tool. Do not attempt any maintenance which you do not fully understand, nor that you cannot do accurately and safely with the tools and equipment available to you. If you encounter a problem that you do not understand or cannot solve, contact your Footage Tools dealer.

Ensure the tool is in good operating order by routinely:

Inspect pump fluid level (See Preliminary Assembly)	Top up as needed
Lubricate pump pivot and rubbing points	Use #10 motor oil or grease. Do not use dry lubricants.
Bleed air from hydraulic system.	Position tool lower than the pump. Without squeezing a pipe, open and close the tool several times to release any air into the reservoir. Top up the pump fluid level.
Drain, flush and fill pump reservoir.	Remove filler cap, drain fluid. Remove tie rod nut and separate reservoir from pump body. Clean reservoir and filter in place. (Removing filter will result in breakage.) Reassemble, re-fill and re-cap.
Inspect cylinder rod for damage.	Replace hydraulic ram if needed
Inspect tool, pump, valves and hoses for oil leakage.	Tighten, repair or replace as required
Inspect squeeze bars for damage.	Replace if needed
Inspect lock-down bolts for damage.	Replace if needed
Inspect side shafts for damage.	Replace if needed
Inspect the bottom squeeze bar pockets (2) for debris.	Ensure they are clean before each use.
Inspect cylinder rod for dirt.	Clean as needed.

G) SPECIFICATIONS

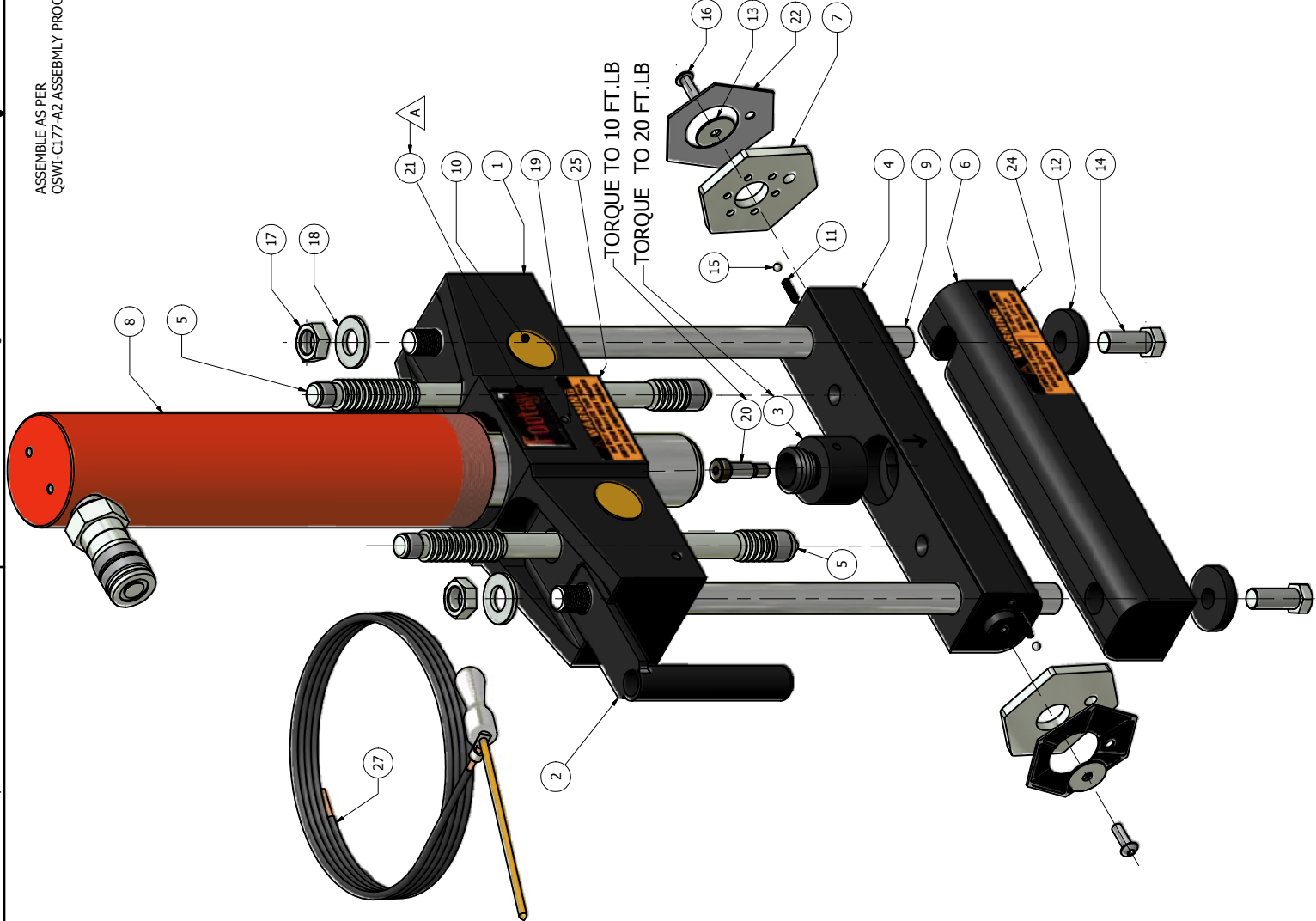
GENERAL	C177
Max Pipe Diameter:	4"
Weight:	42 lbs.
Operating Pressure (max):	10,000 psig

OPTIONAL ACCESSORIES	
Grounding Spike Kit (5 or 10 foot)	C615-A105/C615-A110
Needle Valve (c/w 0.009" orifice)	C148-40
Pressure Gauge (0 to 10,000 psi) – (requires adapter below)	C148-20-K
Pressure Gauge Adapter for C177	C148-51
Extra-long 20' Hose	C177-20

ASSEMBLE AS PER
QSWI-C177-A2 ASSEMBLY PROCEDURE

REVISION HISTORY

REV	DESCRIPTION	ECN	DATE	APPROVED
A	ITEM # 21 LABEL-010 WAS LABEL-003	1879	01MY13	NN



Parts List			
QTY	PART NUMBER	DESCRIPTION	ITEM
1	G615-HD110	GROUNDING ROD AND CABLE ASSEMBLY	27
1	-	OWNERS MANUAL - C177	26
1	LABEL-008	LABEL - OWNERS MANUAL	25
2	LABEL-007	LOWER BAR INSTRUCTION STICKER	24
1	C177-BOX	SHIPPING / TRANSPORT CONTAINER	23
2	C098-13	GAUGE PLATE LABEL	22
1	LABEL-010	FOOTAGE TOOLS LABEL NEW	21
1	99-114-00-0612	SHOLDER SCREW 3/8 X 1 1/2" LG	20
2	99-150-01-0406	SHSS 1/4-20 X 3/8" LG STAINLESS STEEL	19
2	99-140-00-0010	LOCK WASHER 5/8	18
2	99-121-08-0010	HEX NUT 5/8-18UNF GR.8	17
2	99-104-00-0408	BHCS 1/4-20 X 1 1/4	16
2	99-157-00-0006	CHROME BALL 3/16	15
2	99-101-08-0810	HHCS .5 20 X 1.25 GR8	14
2	99-145-00-0004	WASHER, FENDER 1/4"	13
2	C219-12	END WASHER, 3/8 THICK	12
2	C100-21	SPRING	11
2	C124-11	BARREL NUT	10
2	C161-13	SIDE SHAFT	9
1	C148-13	HYD. RAM, 15 TON, REWORKED	8
2	C098-11	GAUGE PLATE	7
1	C159-13	STATIONARY BAR	6
2	C154-11	LOCK DOWN BOLT	5
1	C177-02	SLIDING BAR	4
1	C180-04	BOSS	3
1	C176-1	HANDLE	2
1	C177-01	TOP BAR	1

DRAWN (nguyen) 6/15/2009
 CHECKED
 QA
 MFG
 APPROVED (nguyen)
 REMOVE ALL SHARP CORNERS UNLESS SPECIFIED OTHERWISE
 SCALE NTS
 TITLE
FOOTAGE TOOLS INC.
C177-A1 ASSEMBLY DWG
4" HYD. SQUEEZE OFF TOOL
 DWG NO C177-A2 REV A
 REV A
 SHEET 1 OF 1

FOOTAGE TOOLS WARRANTY

FOOTAGE TOOLS INC, hereinafter sometimes referred to as "Manufacturer" warrants each new PE Pipe Squeeze Off Tool of its own manufacture to be free from defects in material and workmanship, under normal use and service for the life of the tool after delivery to the end user. **Warranty is void unless warranty registration card is completed in full and returned to FOOTAGE TOOLS INC within thirty days from the date of purchase.** This warranty and any possible liability of FOOTAGE TOOLS INC hereunder is in lieu of all other warranties, expressed, implied, or statutory, including, but not limited to, any warranties of merchantability or fitness for a particular purpose.

The parties agree that the Buyers SOLE AND EXCLUSIVE REMEDY against Manufacturer, whether in contract or arising out of warranties, representations, instructions, or defects shall be for the replacement or repair of defective parts as provided herein. In no event shall Manufacturers liability exceed the purchase price of the product. The Buyer agrees that no other remedy (including, but not limited to, incidental or consequential loss) shall be available to him. If, during the warranty period, any product becomes defective by reason of material or workmanship and Buyer immediately notifies Manufacturer of such defect, Manufacturer shall, at its option, supply a replacement part or request return of the product to its plant in Toronto, Canada. No parts shall be returned without prior written authorization and a return goods authorization number from Manufacturer, and this Warranty does not obligate the Manufacturer to bear any transportation charges in connection with the repair or replacement of defective parts. The Manufacturer will not accept any charges for labor and/or parts incidental to the removal or remounting of parts repaired or replaced under this Warranty.

This Warranty shall not apply to any part or product which shall have been installed or operated in a manner not recommended by FOOTAGE TOOLS INC, nor to any part or product which shall have been neglected, or used in any way which, in the manufacturers opinion, adversely affects its performance; nor negligence of proper maintenance or other negligence, fire, or other accident: nor if the unit has been altered or repaired outside of a FOOTAGE TOOLS INC authorized dealership in a manner of which, in the sole judgement of FOOTAGE TOOLS INC affects its performance, stability or reliability: nor to any product in which parts not manufactured or approved by FOOTAGE TOOLS INC have been used, nor to normal maintenance services or replacement of normal service items. Equipment and accessories not of our manufacture are warranted only to the extent of the original Manufacturers Warranty and subject to their allowance to us, if found to be defective by them.

The original purchaser, user is responsible for "downtime" expenses and all business costs and losses resulting from a warrantable failure. FOOTAGE TOOLS INC specifically disclaims any responsibility for any damages of any kind or description, whether to property or person, in any way connected with or arising out of the use of FOOTAGE TOOLS INC products.

FOOTAGE TOOLS INC reserves the right to modify, alter, and improve any product or parts without incurring any obligation to replace any product or parts previously sold with such modified, altered, or improved product or part.

No person is authorized to give any other Warranty, or to assume any additional obligation on the Manufacturers behalf unless made in writing, and signed by an officer of the Manufacturer.



IMPORTANT NOTICE

*Warranty registration
now available online.*

Please visit
www.footagetools.com
and click on
'warranty registration'.

54 Audia Crt. Unit #1
Vaughan, Ontario
Toll Free: 1-888-737-3668
www.footagetools.com



Model: _____

S/N: _____