

Owner's Manual

C400-A3 Gear Operated Squeeze Off Tool



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

SAFETY WARNING:

DO NOT OPERATE THESE TOOLS UNLESS THESE INSTRUCTIONS HAVE BEEN CAREFULLY READ AND UNDERSTOOD. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN DAMAGES, INCLUDING WITHOUT LIMITATION DEFECTS, DETERIORATION, WEAR, ERROR, FAILURE OF THE SQUEEZE OFF TOOL, OR INJURY, INCLUDING WITHOUT LIMITATION DEATH AND INCAPACITATION. FOOTAGE TOOLS INC. EXPRESSLY DISCLAIMS ANY AND ALL LIABILITY FOR DIRECT, INDIRECT, INCIDENTAL, SPECIAL, BODILY, EXEMPLARY OR DAMAGES OF ANY KIND, WHETHER FORESEEABLE OR UNFORESEEABLE, ARISING OUT OR IN CONNECTION WITH THE FAILURE TO COMPLY WITH THIS OWNER'S MANUAL.

WARNING:



DO NOT EXCEED THE RECOMMENDED SQUEEZE AND RELEASE RATES. TEMPERATURES BELOW 32°F (0°C) REQUIRE SLOWER SQUEEZES AND RELEASES. RELEASES ARE MORE CRITICAL THAN SQUEEZES; THUS, SLOWER RATES ARE REQUIRED. CONSULT YOUR LOCAL UTILITY REGARDING THEIR SPECIFIC RECOMMENDATIONS FOR THIS PROCEDURE.



WHEN PERFORMING A SQUEEZE, STAY A MINIMUM OF 3 TIMES THE PIPE DIAMETER FROM FITTINGS, FUSIONS, OR PREVIOUSLY SQUEEZED SECTIONS OF PIPE. NEVER SQUEEZE A PIPE IN THE SAME PLACE TWICE OR PIPE DAMAGE MAY RESULT.



ENSURE THE GROUNDING SYSTEM IS PROPERLY PLANTED IN THE SOIL TO REDUCE THE CHANCES OF STATIC DISCHARGE.



USE EXTREME CAUTION WHEN OPERATING THE TOOL NEAR LIVE ELECTRICAL WIRES, BURIED UTILITIES, OR OTHER HAZARDS.



IN CASE OF MALFUNCTION, IMMEDIATELY STOP USING THE TOOL AND CONTACT A QUALIFIED TECHNICIAN FOR INSPECTION AND REPAIR.



WHEN OPERATING THIS TOOL, SAFETY EQUIPMENT, INCLUDING SAFETY GLASSES ARE REQUIRED.



BEFORE PERFORMING A SQUEEZE, CLEAN THE POCKETS ON THE UNDERSIDE OF THE LOWER BAR/STATIONARY BAR AND WHERE THE SIDE SHAFTS/CYLINDER RODS WILL CONTACT THE LOWER BAR/STATIONARY BAR. REINSPECT AFTER TOOL IS LOWERED INTO POSITION ON PIPE JUST PRIOR TO SQUEEZE.

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SAFETY WARNING:

WARNING:



DO NOT MODIFY OR ALTER THE TOOL IN ANY WAY. ONLY USE FOOTAGE TOOLS REPLACEMENT PARTS PROVIDED BY THE MANUFACTURER OR AUTHORIZED DISTRIBUTOR.



FOR HYDRAULIC SQUEEZE TOOLS: INSPECT HYDRAULIC HOSES FOR SIGNS OF DAMAGE OR CUTS AND REPLACE IF NECESSARY. ENSURE HYDRAULIC FITTINGS ARE FULLY ENGAGED.



BEFORE PERFORMING A SQUEEZE, ENSURE THE PIPE IS CENTRED BETWEEN SIDE SHAFTS/CYLINDER RODS AND THE TOOL IS IN AN UPRIGHT POSITION.



FOR HYDRAULIC SQUEEZE TOOLS: BEGIN TO ENGAGE THE SAFETY LOCK DOWN BOLTS WHEN THE UPPER BAR/SLIDING BAR IS APPROXIMATELY ONE INCH FROM TOUCHING THE GAUGE STOP.



FOR HYDRAULIC SQUEEZE TOOLS: ENSURE YOU READ AND UNDERSTAND HOW TO OPERATE THE NEEDLE VALVE IF INSTALLED ON HYDRAULIC PUMP.



WHEN SQUEEZING HDPE PIPE, DUE TO THE NATURE OF THE MATERIAL, IT MAY BE NECESSARY TO DOUBLE SQUEEZE AND VENT TO ATMOSPHERE BETWEEN THE SQUEEZED SECTIONS IN ORDER TO ACHIEVE FLOW CONTROL.



KEEP AWAY FROM ANY HIGH-PRESSURE HYDRAULIC LEAKS. A HIGH-PRESSURE JET OIL CAN CAUSE SERIOUS INJURY. REPAIR IMMEDIATELY.

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PRELIMINARY ASSEMBLY:

Verify the connection of the static grounding kit (C615HD-B110). Ensure the lead is mounted to the sliding bar, on the left hand corner with the 1/4" supplied hardware. Ensure the connections are clean, there is no damage to the grounding cable or spike, and has a solid contact point prior to use. Insert the grounding spike into firm ground near the tool. Moist soil is recommended. Soak the area that the grounding spike will be inserted into if necessary. This is critical as this grounding system will direct 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.

OPERATING INSTRUCTIONS:

A. Installation on Pipe

1. With Pin Lock engaged in the main drive and Sliding Gate engaged with the Main Drive, rotate the Main Drive Hex, counter-clockwise, until the opening between the Sliding Bar and the Stationary Bar allows the pipe to be inserted. Ensure the roll pin on the Locking Pin is facing down while opening the tool.
2. Swing open the Stationary Bar and lower the unit over the pipe. Swing the Stationary Bar closed and lock it into position by slightly lifting the bar over the Rod Nut. Ensure the rod nut is fully engaged and seated within the recessed pocket of the Stationary Bar, or tool damage could result. (Figure 1 & 2)



Figure 1



Figure 2

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OPERATING INSTRUCTIONS:

B. Squeezing the Pipe

1. Set the gauge plate stops on either side of the unit to the proper pipe size and SDR setting. Ensure both sides are identical, or tool damage may result. The required stop should be downward, such that they face the Stationary Bar.

Both gauge plates must be set at the same setting or tool damage and/or an improper squeeze may result.

2. Consult your local utility regarding their specific recommendations regarding this procedure. Position the tool centrally on the pipe and ensure the squeeze bars sit perpendicular to the pipe when viewed from the top. The squeeze bars must be at right angles to the pipe. The arrow on the sliding bar indicates the central position. If this is not done, satisfactory flow control may not be achieved.
3. To operate the Main Drive, move the Sliding Gate to the right and engage it with the Main Drive. Make sure that the Locking Pin is disengaged with the Power Screw, and is in the Main Drive Position. Using a ratchet wrench & drive socket, begin to squeeze the pipe by rotating the Main Drive clockwise.
4. Do not exceed a squeeze rate of 2 inches (50mm) per minute. Consult your local utility regarding their specific recommendations regarding this procedure. In cold weather conditions, below 0°C (32°F), squeeze rates must be slower.

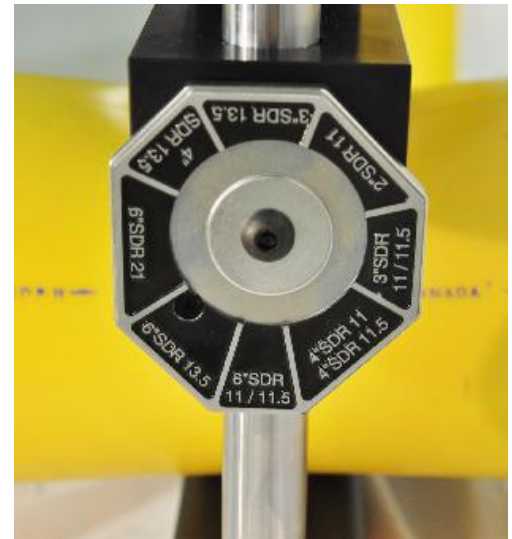


Figure 3



Figure 4



WARNING: Pneumatic Impact Guns are not to be used under any circumstances as both pipe and tool damage could result. Pneumatic Nut Runners may be used as long as their rotation speeds are limited in such a manner that they do not exceed the squeeze rates for the pipe.

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OPERATING INSTRUCTIONS:

Squeezing the Pipe

5. When it becomes too difficult to squeeze the pipe using the Main Drive, rotate the Main Screw until the indicator bar on the Power Screw aligns with the arrow on the locking pin retaining block. *(Figure 5)* Engage the Locking Pin. Move the Sliding Gate to the left. This will allow the Gear Drive to rotate. *(Figure 6)*
6. Once the Power Screw is locked with the Locking Pin, rotation of the Gear Drive *(Figure 7)* will advance the squeeze bars through the internal worm gear reduction. Begin advancing the squeeze bars again by rotating the Gear Drive in a clockwise direction. Slow squeeze rates are necessary to allow time for the pipe to change shape or “flow”. The less time that is given for a pipe to flow, the more force will be required to make the pipe change shape. Also, the more force put into changing the pipe shape, the more stress on the pipe. In colder conditions, the pipe will flow more slowly, and more time must be given in squeeze rates to allow this flow to occur. The squeezing should stop just as the Gauge Plates touch the Stationary Bar. *(Figure 8)*

Do not over squeeze beyond this limit as tool damage may occur. Do not use extensions on the wrench handle to get more squeeze as tool damage may result.



Figure 5



Figure 6



Figure 7



Figure 8

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OPERATING INSTRUCTIONS:

C. RELEASING THE PIPE

1. When the pipe is ready to be released from the squeeze, rotate the Gear Drive in a counter-clockwise direction. In releasing a pipe from a squeeze, there should be a release rate of no more than 0.5 inches (12.5mm) per minute. Consult your local utility regarding their specific recommendations regarding this procedure.
2. At some point in the releasing process, when loading appears minimal, the operator may wish to switch to using the Main Drive to release the pipe. To operate the Main Drive, rotate the Gear Drive until the Sliding Gate can be engaged with the hex. Disengage the Locking Pin from the Power Screw. Then the Main Drive can be rotated in the counterclockwise direction to release the pipe. Again, do not exceed the 0.5 inches (12.5mm) per minute release rate. In the squeezing of a pipe, a slow release rate is required to allow the plastic to flow and thereby avoid pipe damage. When releasing the pipe in cold weather conditions, below 0°C (32°F), the release rate must be reduced further.

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MAINTENANCE

This section contains maintenance instructions for the tool. Do not attempt any maintenance that 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:

<i>Inspect the power screw for dirt.</i>	<i>Clean and lubricate</i>
<i>Inspect the power screw thread for damage.</i>	<i>Repair or replace as needed (Do not use grease or oil on the thread)</i>
<i>Inspect the rod nuts for dirt and/or damage</i>	<i>Clean, repair or replace as needed</i>
<i>Inspect the stationary bar for dirt and/or damage</i>	<i>Clean, repair or replace as needed</i>
<i>Inspect the squeeze bars for surface damage</i>	<i>Replace if needed</i>

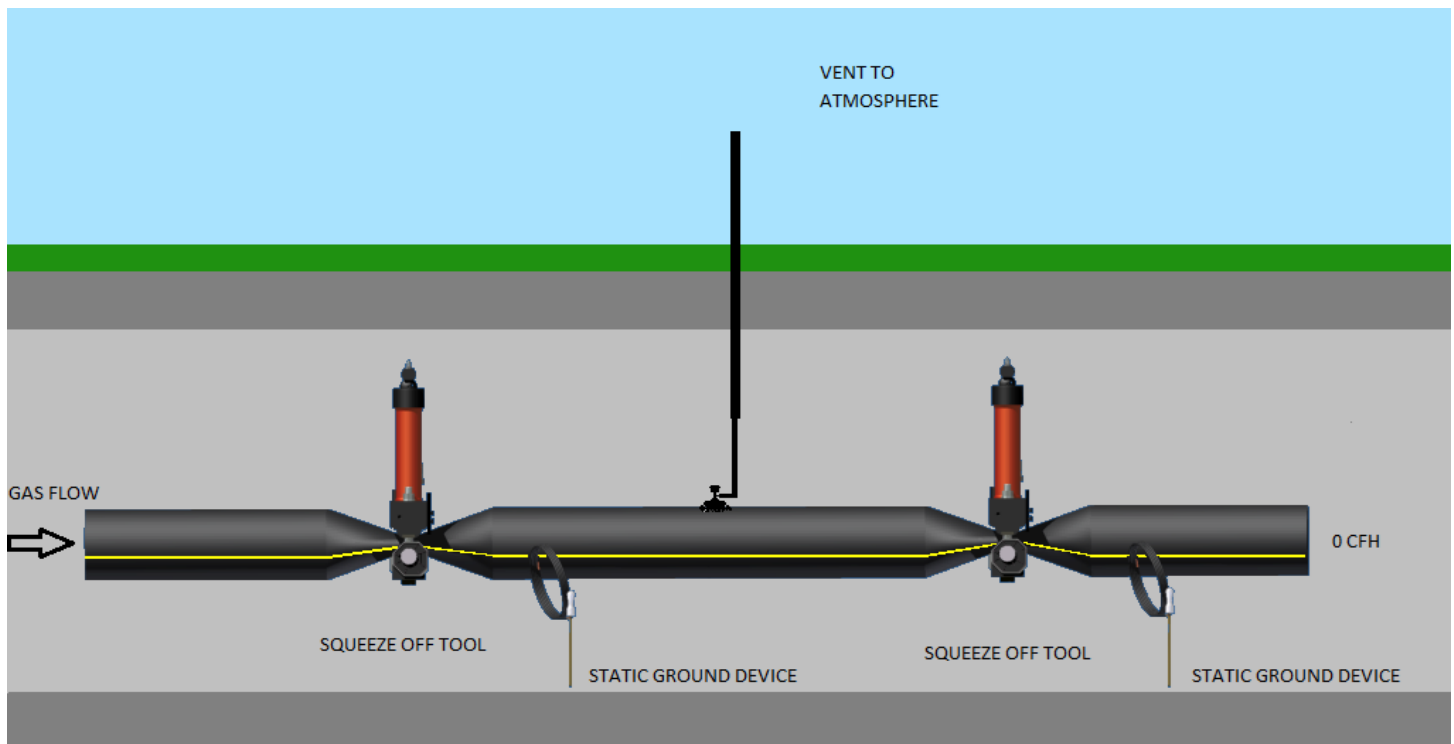
SPECIFICATIONS

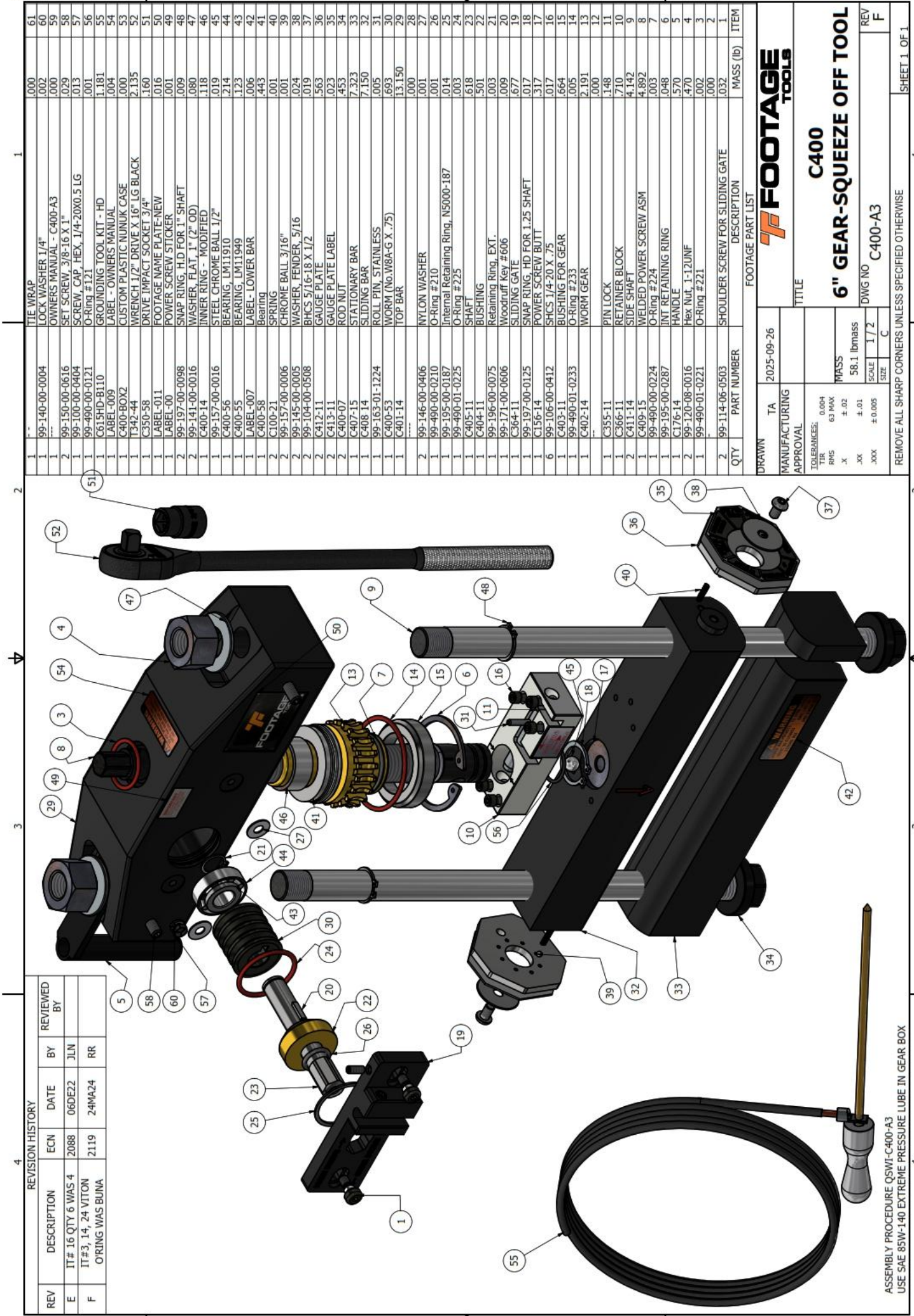
GENERAL	C400
Max Pipe Diameter:	6"
Weight:	58.20 lbs

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SAFETY WARNING:

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.





REVISION HISTORY				REV	
REV	DESCRIPTION	ECN	DATE	BY	REVIEWED BY
E	IT# 16 QTY 6 WAS 4	2088	06DE22	JLN	
F	IT# 3, 14, 24 VITON O-RING WAS BUNA	2119	24MA24	RR	

QTY	PART NUMBER	DESCRIPTION	MASS (lb)	ITEM
1	99-140-00-0004	TIE WRAP	1.000	61
1	---	LOCK WASHER 1/4"	1.002	60
1	---	OWNERS MANUAL - C400-A3	1.000	59
2	99-150-00-0616	SET SCREW, 3/8-16 X 1"	1.029	58
1	99-100-00-0404	SCREW, CAP, HEX, 1/4-20X0.5 LG	1.013	57
1	99-400-00-0121	O-Ring #121	1.001	56
1	C615HD-B110	GROUNDING TOOL KIT - HD	1.181	55
1	LABEL-009	LABEL - OWNERS MANUAL	1.004	54
1	C400-BOX2	CUSTOM PLASTIC NUNUK CASE	1.000	53
1	T342-44	WRENCH 1/2" DRIVE X 16" LG BLACK	2.135	52
1	C350-58	DRIVE IMPACT SOCKET 3/4"	1.160	51
1	LABEL-011	FOOTAGE NAME PLATE-NEW	1.016	50
1	LABEL-001	POWER SCREW STICKER	1.001	49
2	99-197-00-0098	SNAP RING, HD FOR 1" SHAFT	1.009	48
2	99-141-00-0016	WASHER, FLAT, 1" (2" OD)	0.080	47
1	C400-14	INNER RING - MODIFIED	1.118	46
1	99-157-00-0016	STEEL CHROME BALL 1/2"	0.019	45
1	C400-56	BEARING, LM11910	2.14	44
1	C400-55	BEARING, LM11949	1.123	43
1	LABEL-007	LABEL - LOWER BAR	1.006	42
1	C400-58	Bearing	1.443	41
2	C100-21	SPRING	1.001	40
2	99-157-00-0006	CHROME BALL 3/16"	1.001	39
2	99-145-00-0005	WASHER, FENDER, 5/16	0.024	38
2	99-104-00-0508	BHCS 5/16-18 X 1/2	1.005	37
2	C412-11	GAUGE PLATE	0.563	36
2	C413-11	GAUGE PLATE LABEL	1.023	35
2	C400-15	STATIONARY BAR	1.453	34
1	C407-07	SLIDING BAR	7.323	33
1	C408-14	ROLL PIN, STAINLESS	1.150	32
1	99-163-01-1224	WORM (No.W8A-G X .75)	1.005	31
1	C400-53	TOP BAR	13.150	30
1	C401-14	NYLON WASHER	1.000	29
2	99-146-00-0406	O-Ring #210	1.001	28
1	99-490-00-0210	Internal Retaining Ring, N5000-187	1.001	27
1	99-195-00-0187	O-Ring #225	0.014	26
1	99-490-01-0225	SHAFT	1.019	25
1	C405-11	BUSHING	1.003	24
1	C404-11	Retaining Ring, EXT.	1.618	23
1	99-196-00-0075	Woodruff Key #606	1.501	22
1	99-171-00-0606	SLIDING GATE	2.103	21
1	C364-11	SNAP RING, HD FOR 1.25 SHAFT	1.009	20
1	99-197-00-0125	POWER SCREW BUTT	1.677	19
1	C156-14	SHCS 1/4-20 X .75	1.017	18
6	99-106-00-0412	BUSHING FOR GEAR	1.017	17
1	C403-11	O-Ring #233	1.664	16
1	99-490-01-0233	WORM GEAR	1.005	15
1	C402-14	PIN LOCK	2.191	14
1	C355-11	RETAINER BLOCK	1.000	13
1	C366-11	SIDE SHAFT	1.148	12
2	C411-14	WELDED POWER SCREW ASM	1.710	11
1	C409-15	O-Ring #224	4.142	10
1	99-490-00-0224	INT RETAINING RING	4.892	9
1	99-195-00-0287	HANDLE	7.003	8
1	C176-14	Hex Nut, 1-12UNF	1.048	7
2	99-120-08-0016	O-Ring #221	1.570	6
1	99-490-01-0221	SHOULDER SCREW FOR SLIDING GATE	1.470	5
2	99-114-06-0503	MASS (lb)	1.002	4
2	99-114-06-0503	DESCRIPTION	1.032	3
2	99-114-06-0503	ITEM	1	2

TA	2025-09-26	FOOTAGE PART LIST
MANUFACTURING		
APPROVAL		

TOLERANCES:	TA	2025-09-26	FOOTAGE PART LIST
TIT	0.004		
RMS	63 MAX		
X	± .02		
XX	± .01		
XXX	± 0.005		

MASS	58.1 lbmass
SCALE	1/2
SIZE	C

DWG NO	C400-A3
REV	F



C400

6" GEAR-SQUEEZE OFF TOOL

ASSEMBLY PROCEDURE QSWI-C400-A3
USE SAE 85W-140 EXTREME PRESSURE LUBE IN GEAR BOX

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FOOTAGE TOOLS INC. LIMITED LIFETIME WARRANTY

FOOTAGE TOOLS INC., hereinafter sometimes referred to as “Manufacturer” warrants each new industrial product of its own manufacture to be free from defects in material and workmanship, under normal use and service for the life of the tool. **Warranty is void unless warranty registration form is completed either online or manually and returned to FOOTAGE TOOLS INC. within thirty (30) days from the date of purchase.** This warranty and any possible liability of **FOOTAGE TOOLS INC.** hereunder are 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, in 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. The Buyer expressly acknowledges that this Limited Lifetime Warranty does not apply to any part or product not directly purchased from the Manufacturer.

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.