

OWNER'S MANUAL

Footage

IMPORTANT

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



C400 Gear Operated Squeeze Off Tool

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Preliminary Assembly

To connect the C615-A105 static grounding kit, mount the grounding tool lead to the upper bar, left hand corner with the 1/4" hardware supplied (see attached). Clean all connections prior to assembly. If you are using the optional grounding spike C615-A105 fully install the grounding spike into **firm** ground near the tool. Moist soil is required. 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.

Mounting Tool to Pipe (Refer to Figure 1 – tool drawing on page 3)

With Locking Pin (7) disengaged and Sliding Gate (5) engaged with the Front Drive Hex (6), rotate the Top Drive Hex (4), counterclockwise until the opening between the Sliding Bar (10) and the Stationary Bar (1) allows the pipe to be inserted. Ensure the roll pin on the Locking Pin (7) is facing down while opening the tool. Swing open the Stationary Bar (1) 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 (2). **Ensure the recessed pocket in the Bottom Bar has fully engaged and seated with the End Washer/Nut or tool damage could result.** (See Pictures 1 and 2)



Picture 1

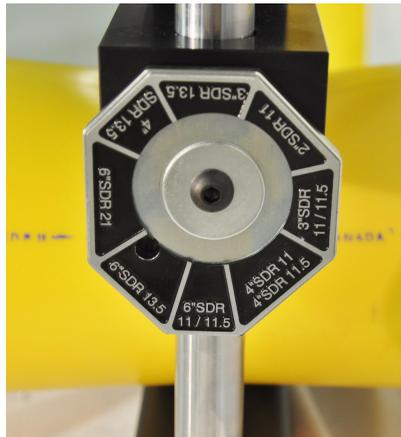


Picture 2

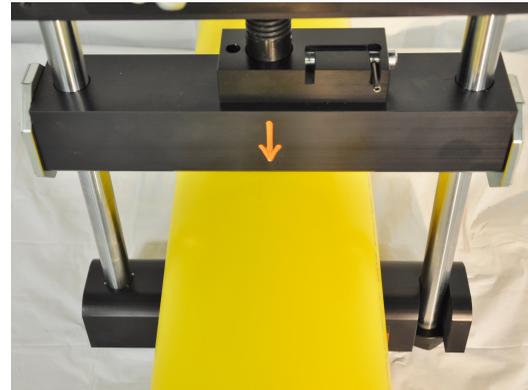
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Squeezing Pipe

Set the Gauge Plates (3) on each side of the tool to the specific pipe size and SDR value. (See Picture 3) Ensure the desired setting points down and will make contact with the top of the lower squeeze bar. **Both gauge plates must be set at the same setting or tool damage and/or an improper squeeze may result.**



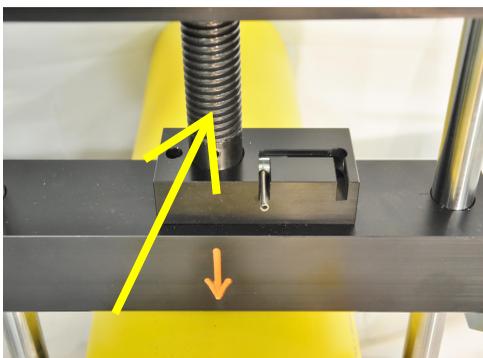
Picture 3



Picture 4

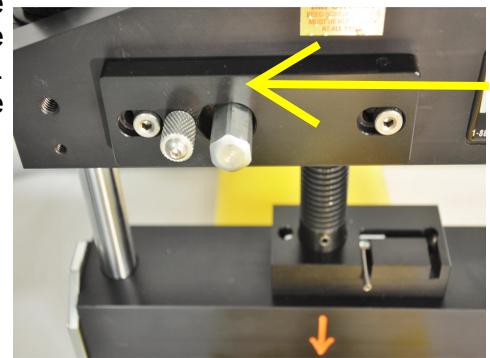
WARNING: Never squeeze a pipe in the same place twice or pipe damage may result. Stay at least four pipe diameters away from any previously squeezed areas, fittings or fusion areas. Consult your local utility regarding their specific recommendations regarding this procedure. The pipe must be accurately centered between the two side shafts. (See Picture 4) An arrow is machined into the Sliding Bar indicating this center position and the upper radius of the pipe should be in contact at this point. During the squeeze, keep the tool at a right angle to pipe. To operate the Top Drive (4) move the Sliding Gate (5) to the right and engage it with the Front Drive Hex (6). Make sure that the Locking Pin (7) is disengaged with the Power Screw (8). Using a ratchet wrench & drive socket, begin to squeeze the pipe by rotating the Top Drive (4) clockwise. **Do not exceed a squeeze rate of 2 inches (50mm) per minute (this maximum rate is specified by the Gas Research Institute).** Consult your local utility regarding their specific recommendations regarding this procedure. In cold weather conditions, below 0 °C (32 °F), squeeze rates should be slower. **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.

When it becomes too difficult to squeeze the pipe using the Top Drive, rotate the Power Screw (8) until the indicator bar on the Power Screw aligns with the arrow on the locking pin retaining block.



Picture 6

(See Picture 5) Engage the Locking Pin (7). Move the Sliding Gate (5) to the left. This will allow the Front Drive (6) to rotate. (See Picture 6)



Picture 5



Picture 7

Once the Power Screw (8) is locked with the Locking Pin (7), rotation of the Front Drive (6) (See *Picture 7*) will advance the squeeze bars through the internal worm gear reduction. Begin advancing the squeeze bars again by rotating the Front 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 that is put into changing the pipe shape, the more stress there will be in the pipe. In colder conditions, the pipe will flow more slowly and thus more time must be given in squeeze rates to allow this flow to occur. The squeezing should

stop just as the Gauge Plates (3) touch the Stationary Bar (1). (See

Picture 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.



Picture 8

Squeezing Large Diameter Pipe

With Pipe diameters larger than 3” (75mm), the squeezing process should be paused at intervals to allow the pipe material time to “cold flow” from the squeeze zone. Consult your local utility regarding their specific recommendations regarding this procedure. These waiting periods should be extended in cold weather conditions.

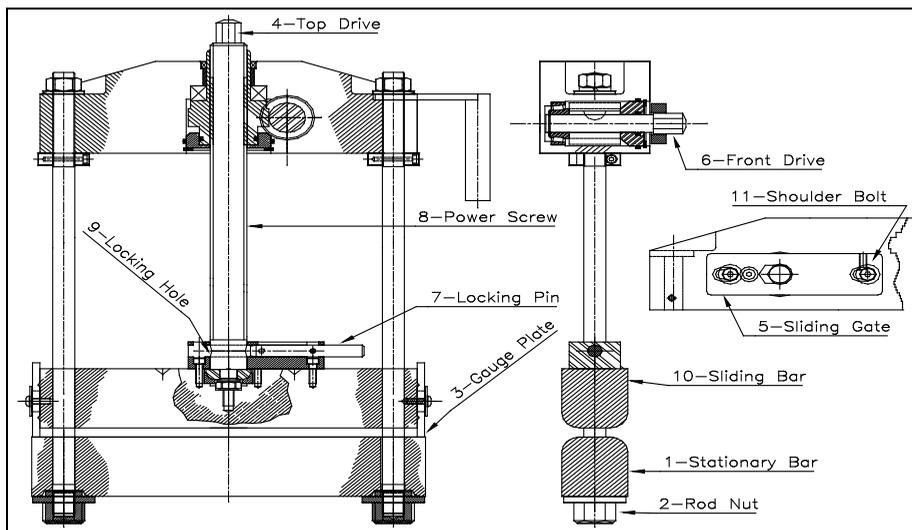


Figure 1 – Tool Drawing

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Releasing Pipe

When the pipe is ready to be released from the squeeze, rotate the Front Drive (6) in the opposite 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 (this maximum rate is specified by the Gas Research Institute).** Consult your local utility regarding their specific recommendations regarding this procedure.

At some point in the releasing process when loading appears minimal, the operator may wish to switch to using the Top Drive to release the pipe. To operate the Top Drive (4), rotate the Front Drive (6) until the Slide Gate (5) can be engaged with the hex. Disengage the Locking Pin (7) from the Power Screw (8). Then the Top Drive can be rotated in the counterclockwise direction to release the pipe. Again, do not exceed the .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 should be reduced further.

WARNING



Do not exceed the recommended squeeze and release rates. Temperatures below 32°F (0°C) will require slower squeeze and release rates. Release is more critical than squeeze, thus slower rates are required.



When performing a squeeze, stay a minimum of 12" or 3 times the pipe diameter, whichever ever is greater away from fittings, fusion or previously squeezed areas.



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

Tool Maintenance

- IMPORTANT: Keep the Power Screw (8) thread clean and dry whenever squeezing or opening the tool.** Use a stiff nylon (not wire) brush to clean the threads. This is essential as any debris caught in the threads will track into the female thread and cause binding which will result in excessive forces being required to operate the tool. Do not lubricate this thread with grease or oil. Use only a "Dry" Spray Lubricant.
- IMPORTANT: The two cavities where the Rod Nuts (2) engage the Stationary Bar (1) must be kept clean and free of debris.** Inspect before each use and clean as required.
- Keep the side shafts clean.
- Lubrication:

Thrust Bearing in Sliding Bar (10) - Clean the area around the Locking Pin (7) Retaining Plate. Remove the two Cap screws that hold this plate on. Retract the Power Screw (8). While keeping the area clean, coat all bearing surfaces and pack cavity with "Molyslip" #3352 Anti-scurf Paste. Reassemble.

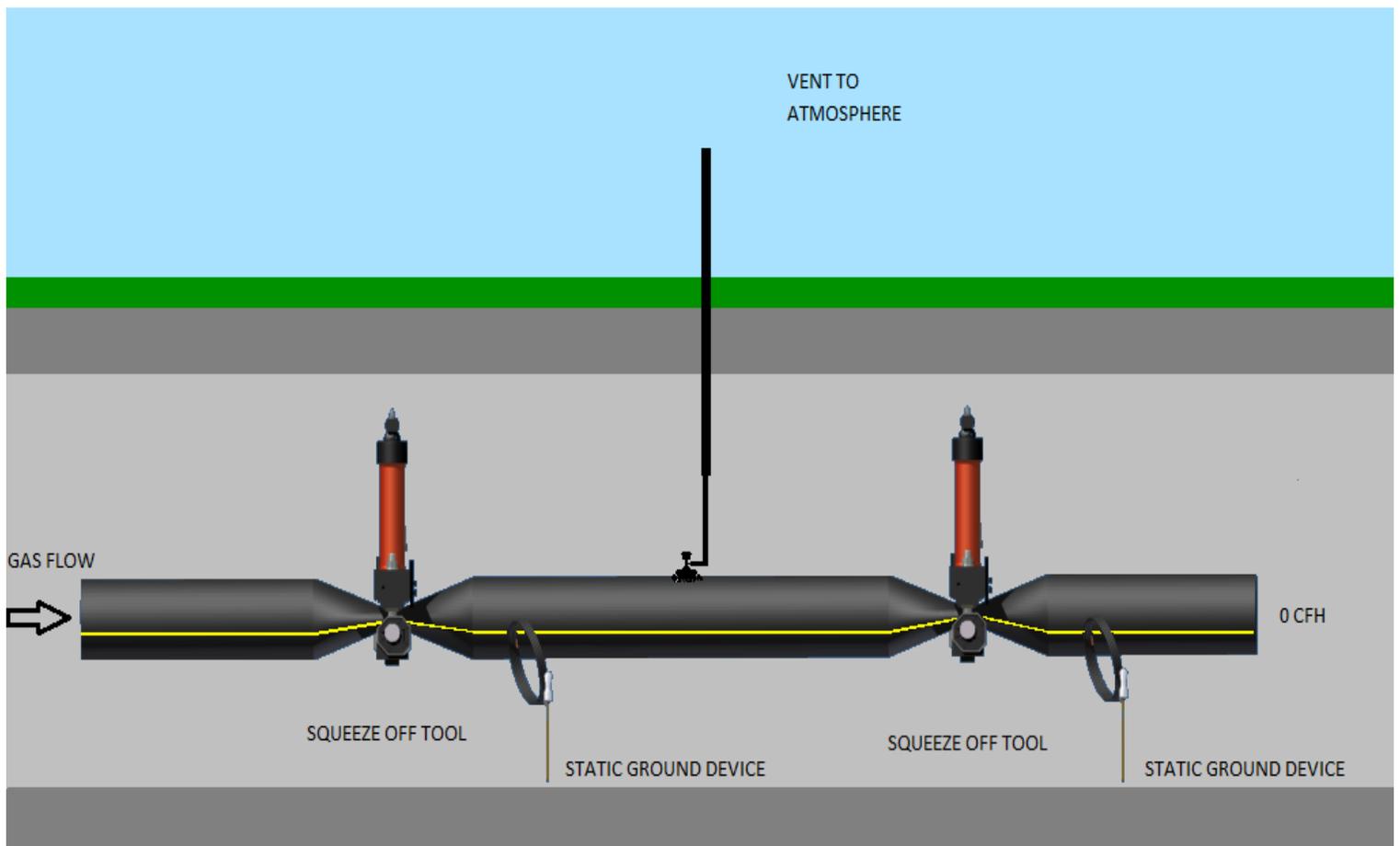
Front Drive (6) Gearbox - With tool flipped upside down (Top Drive (4) down), on a level surface, remove Shoulder Bolt (11) (i.e.: the bolt nearest the Power Screw (8)). The fluid must be up to this level. If low, top up with a mixture of:

- 10 parts - 75W90 Gear oil
- 1 part - "Molyslip G" #53422 Molybdenum Disulfide Oil

Important Notice

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

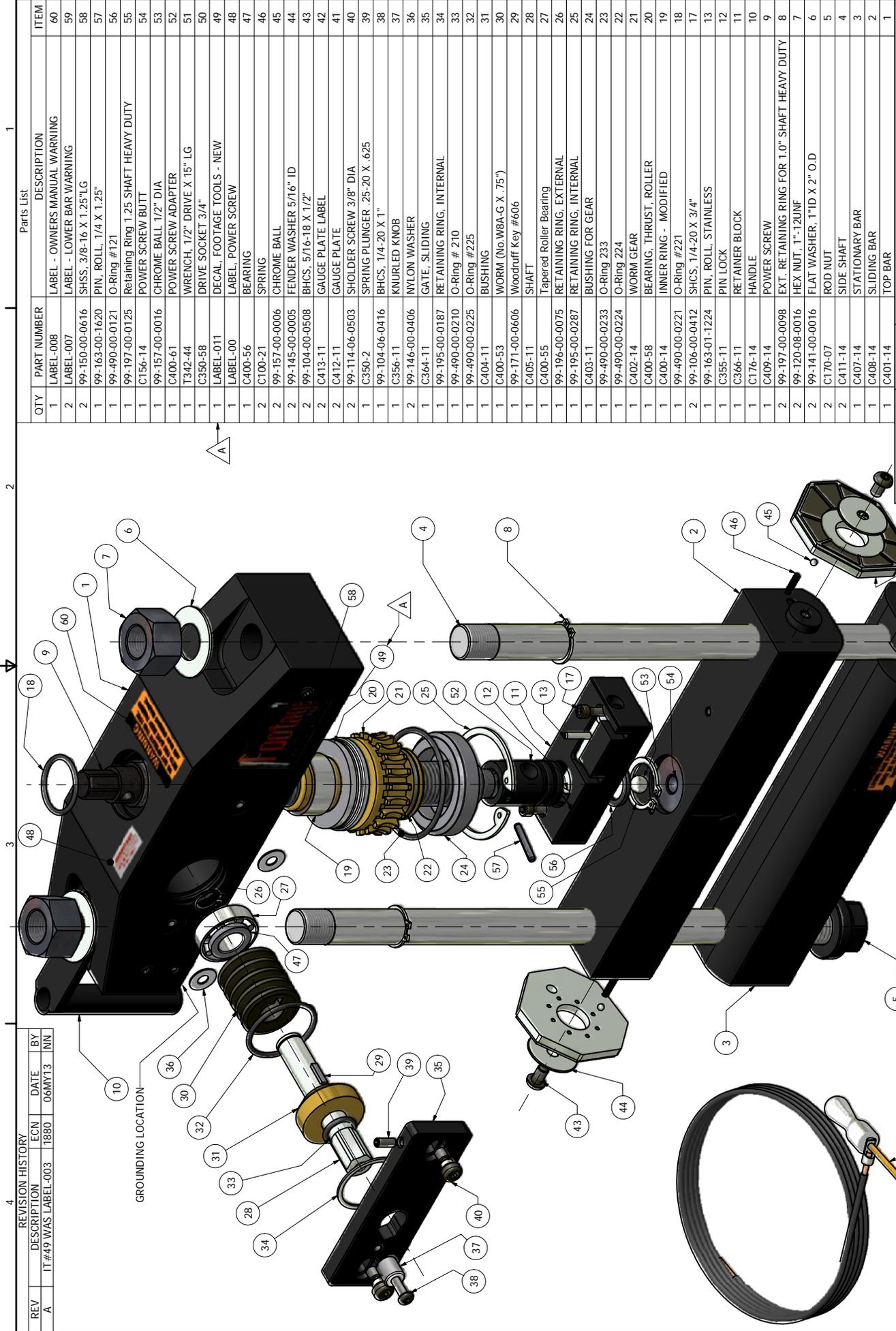
Please consult your local Utility for their specific operating procedure.



REV	DESCRIPTION	ECN	DATE	BY
A	IT#49 WAS LABEL-003	1880	06MAY13	NIN

REVISION HISTORY

GROUNDING LOCATION



QTY	PART NUMBER	DESCRIPTION	ITEM
1	LABEL-008	LABEL - OWNERS MANUAL WARNING	60
2	LABEL-007	LABEL - LOWER BAR WARNING	59
2	99-150-00-0616	SHSS, 3/8-16 X 1.25" LG	58
1	99-163-00-1620	PIN, ROLL, 1/4 X 1.25"	57
1	99-490-00-0121	O-Ring #121	56
1	99-197-00-0125	Retaining Ring 1.25 SHAFT HEAVY DUTY	55
1	C156-14	POWER SCREW BUTT	54
1	99-157-00-0016	CHROME BALL 1/2" DIA	53
1	C400-61	POWER SCREW ADAPTER	52
1	T342-44	WRENCH, 1/2" DRIVE X 15" LG	51
1	C350-58	DRIVE SOCKET 3/4"	50
1	LABEL-011	DECAL, FOOTAGE TOOLS - NEW	49
1	LABEL-000	LABEL, POWER SCREW	48
1	C400-56	BEARING	47
2	C100-21	SPRING	46
2	99-157-00-0006	CHROME BALL	45
2	99-145-00-0005	FENDER WASHER 5/16" ID	44
2	99-104-00-0508	BHCS, 5/16-18 X 1 1/2"	43
2	C413-11	GAUGE PLATE LABEL	42
2	C412-11	GAUGE PLATE	41
2	99-114-06-0503	SHOLDER SCREW 3/8" DIA	40
1	C350-2	SPRING PLUNGER .25-20 X .625	39
1	99-104-06-0416	BHCS, 1/4-20 X 1"	38
1	C356-11	KNURLED KNOB	37
2	99-146-00-0406	NYLON WASHER	36
1	C364-11	GATE, SLIDING	35
1	99-195-00-0187	RETAINING RING, INTERNAL	34
1	99-490-00-0210	O-Ring # 210	33
1	99-490-00-0225	O-Ring #225	32
1	C404-11	BUSHING	31
1	C400-53	WORM (No.W8A-G X .75")	30
1	99-171-00-0606	Woodruff Key #606	29
1	C405-11	SHAFT	28
1	C400-55	Tapered Roller Bearing	27
1	99-196-00-0075	RETAINING RING, EXTERNAL	26
1	99-195-00-0287	RETAINING RING, INTERNAL	25
1	C403-11	BUSHING FOR GEAR	24
1	99-490-00-0233	O-Ring 233	23
1	99-490-00-0224	O-Ring 224	22
1	C402-14	WORM GEAR	21
1	C400-58	BEARING, THRUST, ROLLER	20
1	C400-14	INNER RING - MODIFIED	19
1	99-490-00-0221	O-Ring #221	18
2	99-106-00-0412	SHCS, 1/4-20 X 3/4"	17
1	99-163-01-1224	PIN, ROLL, STAINLESS	13
1	C355-11	PIN LOCK	12
1	C366-11	RETAINER BLOCK	11
1	C176-14	HANDLE	10
1	C409-14	POWER SCREW	9
2	99-197-00-0098	EXT. RETAINING RING FOR 1.0" SHAFT HEAVY DUTY	8
2	99-120-08-0016	HEX NUT, 1"-12UNF	7
2	99-141-00-0016	FLAT WASHER, 1"ID X 2" O.D	6
2	C170-07	ROD NUT	5
2	C411-14	SIDE SHAFT	4
1	C407-14	STATIONARY BAR	3
1	C408-14	SLIDING BAR	2
1	C401-14	TOP BAR	1

TITLE		FOOTAGE TOOLS INC.	
DATE	7/12/2011	SCALE	NTS
DRAWN	nguyenj	DWG NO	C400-A2 REV A
CHECKED	OA	REV	A
MFG		SIZE	C
APPROVED	nguyenj	SCALE	NTS

C400-A2 ASSEMBLY DWG
6" GEAR - SQUEEZE OFF TOOL

ASSEMBLY PROCEDURE OSW1-C400-A2
 USE SAE 85W-140 EXTREME PRESSURE LUBE IN GEAR BOX

C615-HD110
 GROUNDING ROD AND CABLE ASSEMBLY

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Footage Tools Limited 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 one full year 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 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 labour 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.



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: _____