



Modu-Tap

Operations and Maintenance Manual



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WWMW-MODUTAP-01 REV. 1

General Safety

Modu-Tap Equipment

ALL WARNINGS PROVIDED IN THIS MANUAL MUST BE READ AND ALL PROCUDURES FOLLOWED IN AN EFFORT TO PREVENT INJURY OR DEATH TO PERSONNEL AND / OR DAMAGE TO THE EQUIPMENT.

ONLY AUTHORIZED QUALIFIED PERSONNEL should operate the Modu-Tap system. This manual includes operational and safety instructions. Operation of the Modu-Tap system should be in compliance with all safety regulations. Operation of the **Modu-Tap should be used in the intended purpose of pipe drain down.**

Operation of this equipment should be in accordance with the instructions provided in this manual. No Worldwide Machining & Welding, Inc. equipment should ever be used in a manner other than as described in this manual.

Operators should wear Personal Protective Equipment (PPE) at all times while using this equipment. PPE includes hard hat, ANSI approved eye protection, gloves, steel toe boots and protective clothing. Make sure loose clothing, tools, belts, etc. do not become entangled in the Modu-Tap system.

Warranty Information

If any merchandise sold hereunder (except merchandise manufactured by other persons or firms) by WorldWide Machining & Welding, Inc. (the "Company") is not in accordance with specifications shown on the order within customarily accepted tolerances, or is defective on account of workmanship or material, and if such merchandise is returned at the customer's expense and risk, to the Company's manufacturing facility within ninety (90) days after the Company's date of shipment thereof, the Company will, at its option, replace or repair the merchandise. This agreement, however, is upon the conditions: (A) that the customer promptly notifies the Company in writing of any claim under this agreement, setting forth in details any such claimed defect. (B) That the Company be afforded a reasonable opportunity to examine the merchandise and to investigate the claimed defect at the Company's manufacturing facility, the Company shall not be, in any event, liable for damages beyond the price paid by the customer for such defective merchandise; specifically but without limitation, the Company may fulfill its obligations under the Agreement by tendering such purchase price at any time. THE COMPANY SHALL NOT BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, PUNITIVE, OR EXEMPLARY DAMAGES. This agreement does not obligate the Company to bear any transportation charges in connection with the replacement of the repair of defective merchandise. As to any item manufactured by other persons or firms, the Company agrees to present a request for adjustment for repair to such manufacturer, and the customer agrees that the liability of the Company shall not exceed any adjustment with respect to which such manufacturer accepts responsibility. THE ABOVE AGREEMENT IS IN LIEU OF ALL WARRANTIES, EXPRESSED OR IMPLIED AND IT IS AGREED THAT THERE IS NOT EXPRESSED OR IMPLIED WARRANTY BY THE COMPANY AS TO THE FITNESS, MERCHANTABILITY CAPACITY, OR EFFICIENCY OF ANY MERCHANDISE SOLD, AND THAT THERE ARE NO ORAL OR WRITTEN EXPRESSED OR IMPLIED WARRANTIES MADE IN CONNECTION WITH ANY SALE BY THE COMPANY. No modification or addition to this agreement, either before or after the contract of sale, shall be made except on written authority of the President or Vice President of the Company.

If you have any questions concerning the Warranty of the Modu-Tap

Contact WorldWide Machining & Welding, Inc. at

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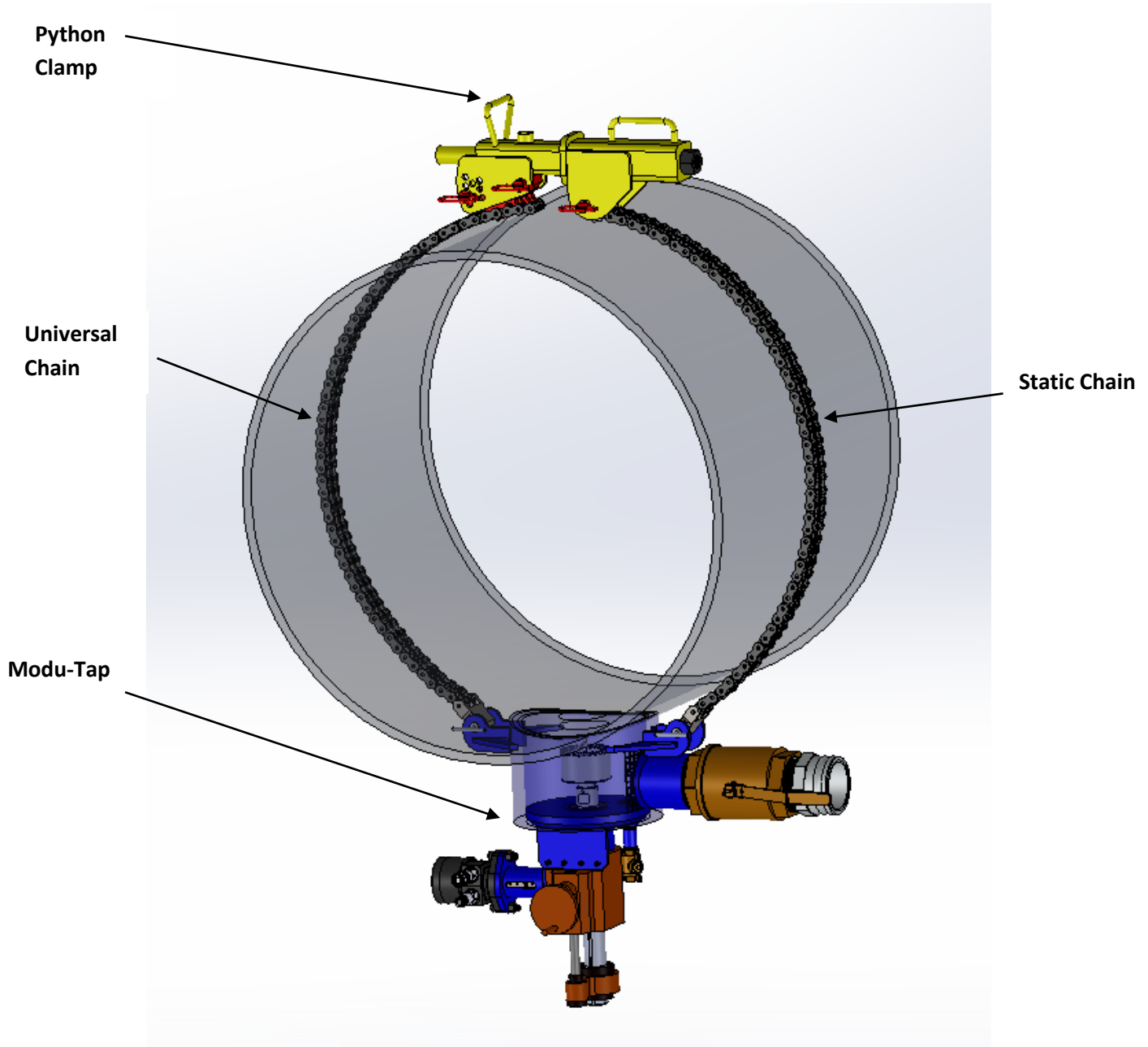
Introduction

The Modu-Tap is a pipe tapping device used in drain down applications. The Modu-Tap is available for a variety of pipe sizes from 4" to 48". The Modu-Tap is powered by a separate gas-driven hydraulic power unit to cut a hole in the pipe using a carbide cutting head. Once the pipe is cut, oil will flow into Modu-Tap housing and out of the drain valve, which is connected to a multi-outlet manifold or vac truck. The Modu-Tap uses a patented mechanical python and or U-Bolts to clamp around the pipe. As with all drain down applications, it is recommended that proper containment be utilized.

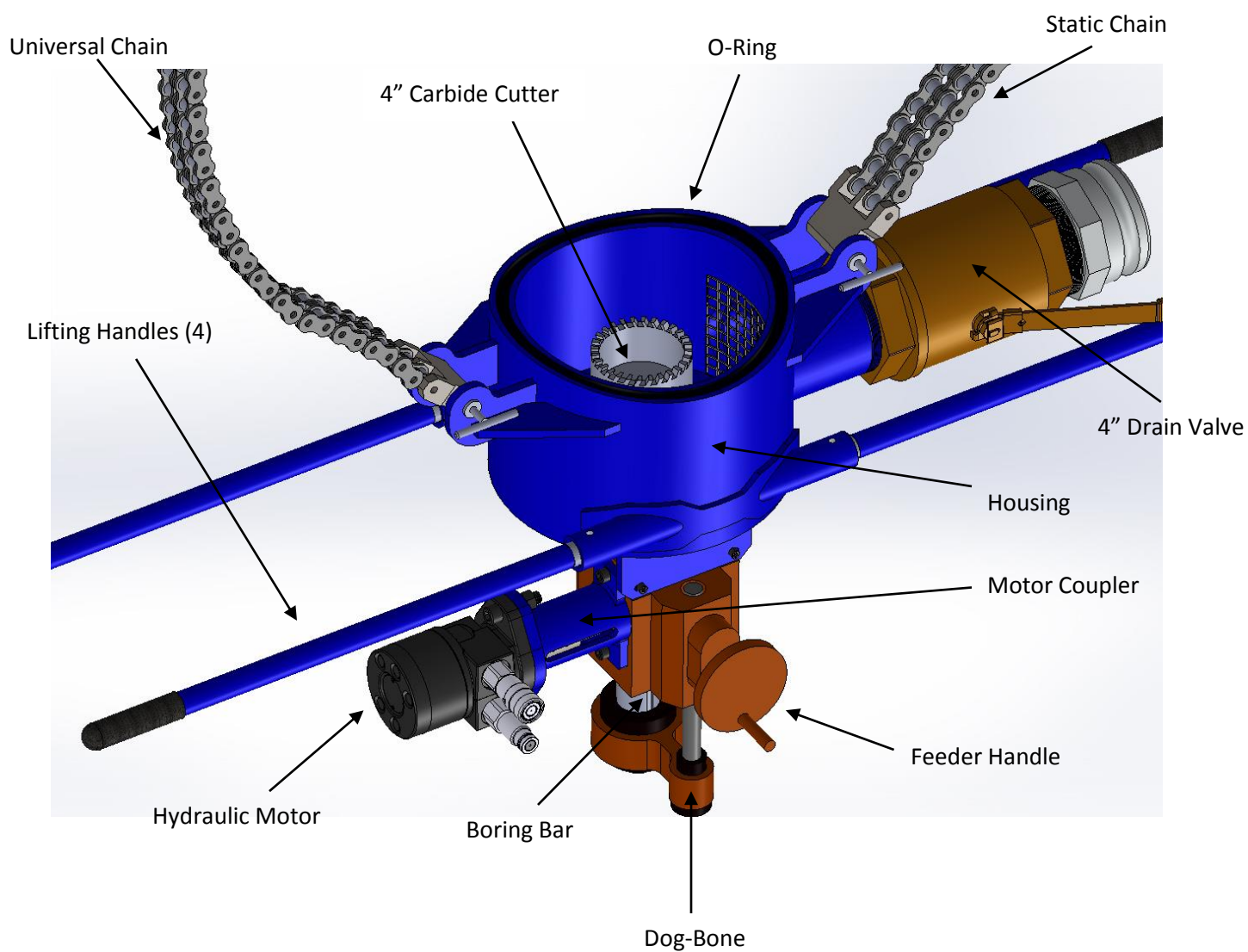
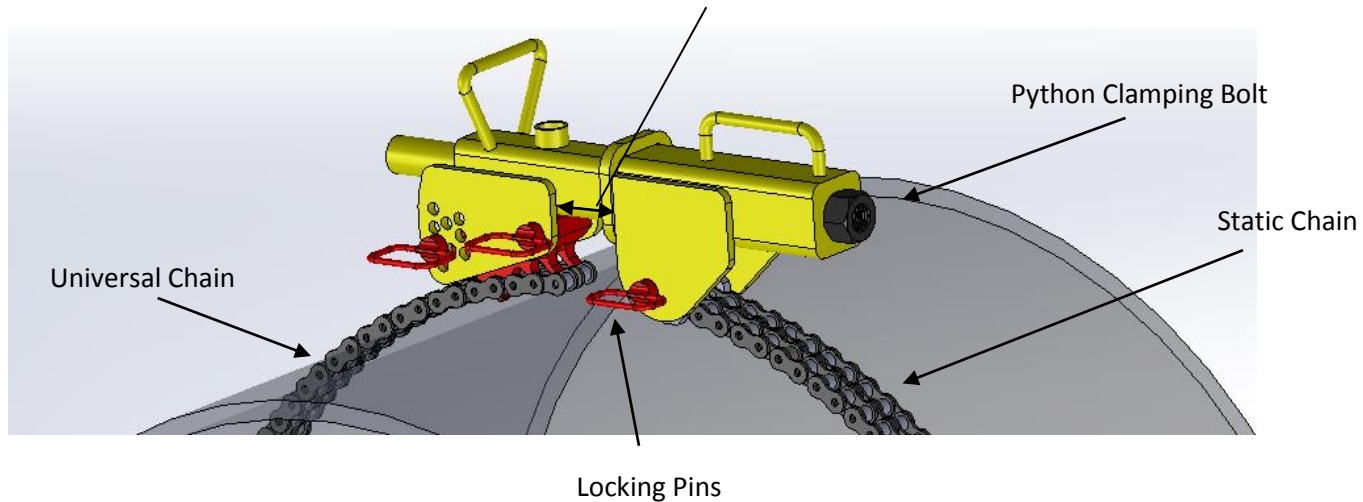
WARNING: Only use hydraulic power unit and hoses supplied by WorldWide.

WARNING: Only use carbide cutters supplied by WorldWide.

Main Components



4" Max Extension



Bill of Materials

ITEM #	SIZE / DESCRIPTION	QTY
MODU-TAP HOUSING		
91XXXXXX	##" MODU-TAP HOUSING	1
-	STATIC CHAIN	1
7XXXXXXX	##" SPARE O-RING	1
-	LIFTING HANDLES	4
JOB BOX		
9100017	JOB BOX ASSEMBLY	1
8000038	HYDRAULIC MOTOR ASSEMBLY	1
8000037	HYDRAULIC MOTOR MOUNT	1
8000036	SHAFT COUPLER	1
8000020	BORING BAR	1
8000021	4" CARBIDE CUTTER	1
7099521	3" CARBIDE CUTTER	1
8000204	GEARBOX & DOG BONE	1
7089334	CUTTING PASTE	1
7586290	O-RING LUBE	1
8000206	PLASTIC PARTS ORGANIZER	1
7000029	1/4"-20 X 1 1/2" SHCS	2
7089340	1/2"-13 X 2" SHCS	2
7089339	3/8-16 X 1 1/4" SHCS	2
7089327	#10-32 SET SCREW X 1/4"	4
7089341	1/4"-20 X 1" SHCS	4
7000134	1/4" FLAT WASHER	4
PYTHON CHAIN CLAMP		
9200007	PYTHON	1
XXXXXXX	UNIVERSAL CHAIN (##-##) ##"	1
7000111	SOCKET - 1 13/16" 12 POINT	1
HYDRAULIC POWER UNIT		
8000039	HYDRAULIC POWER UNIT	1
8000205	50' HYDRAULIC HOSE & FITTINGS	2
Continued →		

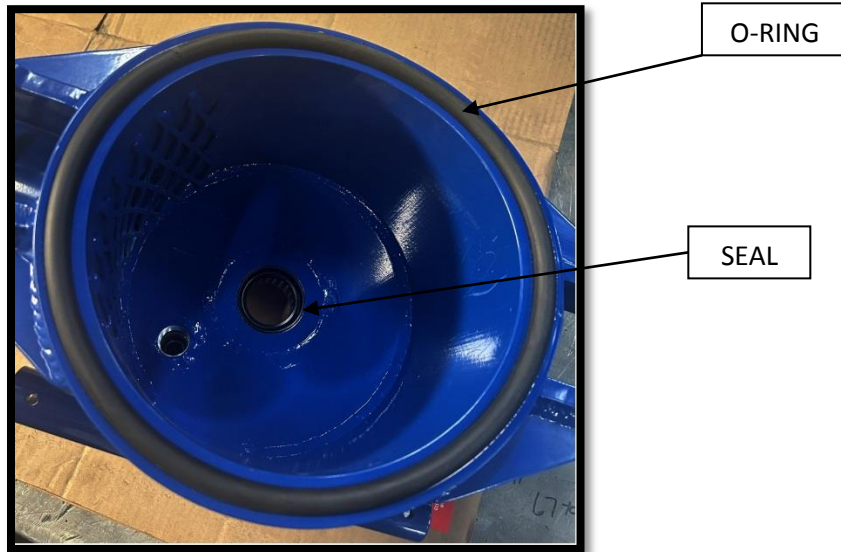
DRAIN MANIFOLD		
ITEM #	SIZE / DESCRIPTION	QTY
9100002	DRAIN MANIFOLD	1
7089315	4" FEMALE CAPS	1
7000065	4" DRAIN HOSE	1
7000049	4" MALE CAPS	2
7000048	3" MALE CAPS	4
7089349	2" MALE CAP	1
7089338	1" SQ PIPE PLUG	4
-	GROUND STAKES	4
CANVAS TOOL TOTE		
8000207	CANVAS TOTE BAG	1
7000127	WRENCH 1 1/2"	1
7089307	WRENCH 1 1/16"	1
7000125	WRENCH 3/4"	1
7000123	ALLEN WRENCH SET	1
7500031	WD40 - SMART STRAW 12oz.	1
7089308	1/4" TORQUE WRENCH	1
7000129	3/16" ALLEN SOCKET	1
7000130	2" ADJ SPANNER WRENCH	1
7089309	DEAD BLOW HAMMER	1
7586172	ANTI-SIEZE	1
7500028	SQUIRT BOTTLE (32oz HVY DTY)	1
7500004	TOPEAK AIR PUMP	1
8000019	AIR GUAGE ASSEMBLY	1
7000132	TORQUE WRENCH 1/2" 30-150 FT LB	1
7000133	TORQUE WRENCH ADAPTER 3/4" TO 1/2"	1

HOUSING ASSEMBLIES		
ITEM #	SIZE / DESCRIPTION	PIPE APPLICATION
9100030	4" HOUSING ASSY	4" DIA
9100031	6" HOUSING ASSY	6" DIA
9100032	8" HOUSING ASSY	8" DIA
9100004	10" HOUSING ASSY	10" DIA
9100003	12" HOUSING ASSY	12" DIA
9100028	16" HOUSING ASSY	16" DIA
9100027	18" HOUSING ASSY	18" DIA
9100026	20" HOUSING ASSY	20" DIA
9100025	22" HOUSING ASSY	22" DIA
9100024	24" HOUSING ASSY	24" DIA
9100023	26" HOUSING ASSY	26" DIA
9100022	30" HOUSING ASSY	30" DIA
9100021	34" HOUSING ASSY	34" DIA
9100020	36" HOUSING ASSY	36" DIA
9100019	42" HOUSING ASSY	42" DIA
9100018	48" HOUSING ASSY	48" DIA

O-RING COLOR CODING		
ITEM #	SIZE / DESCRIPTION	ZIP TIE COLOR
7099522	4" O-RING	GREEN/RED
7099523	6" O-RING	WHITE/BLUE
7099524	8" O-RING	ORANGE/BLACK
7291695	10" O-RING	YELLOW/PINK
7000089	12" O-RING	LIGHT BLUE
7291757	16" O-RING	GREY
7200001	18" O-RING	ORANGE
7200002	20" O-RING	BROWN
7291755	22" O-RING	PINK
7291758	24" O-RING	YELLOW
7200003	26" O-RING	BLUE
7291759	30" O-RING	GREEN
7291692	34" O-RING	PURPLE
7200004	36" O-RING	RED
7200005	42" O-RING	WHITE (NATURAL)
7291691	48" O-RING	BLACK

Assembling the Modu-Tap – Generation 1

1. Place the Job Box on a flat, clean area, to begin the Modu-Tap assembly.
2. Take the specific Modu-Tap housing for your pipe size and inspect the large O-ring in the housing for any abrasions, cuts or deformations. If damaged, replace immediately. Check the seal located in the bottom of the housing for any damage.



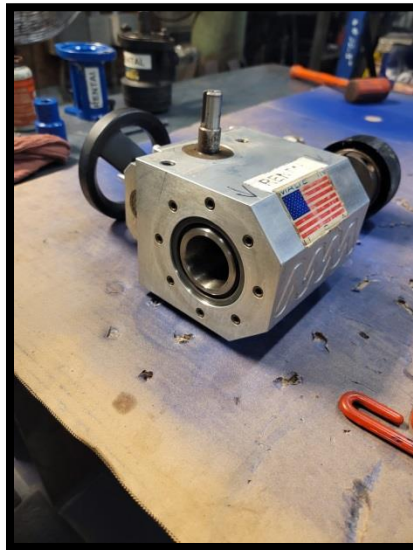
3. Place the unit on the flat surface to begin assembly – be sure this is placed with the O-ring side down. Put rags or a welding pad down under the housing to avoid getting dirt or debris on the O-ring. Loosen both socket head cap screws on the retaining collar of the housing.



4. Inspect the mounting surface where the gear box attaches to the housing. Ensure the two ¼" socket head screws on the retaining collar are loose.



5. Remove the gearbox from the job box and inspect for any damage or binding. Check internal bore for any debris and clean if necessary.



6. Start gearbox assembly with the dog bone. It is threaded onto the end of the threaded shaft. The locking shaft collar on the dog bone must be on the side closest to the gearbox. Loosen $\frac{1}{4}$ " bolt in the locking shaft collar to allow the boring bar to pass through.



7. Next assemble the O-Ring into the Gen 1 housing adapter. Grease can be used to hold the o-ring in place during the assembly process.



8. Install $\frac{1}{4}$ "-20 X 1" Low Profile Socket Head Cap Screws as shown in (8) places around the housing adapter. Leave screws finger tight for adjustment later on.



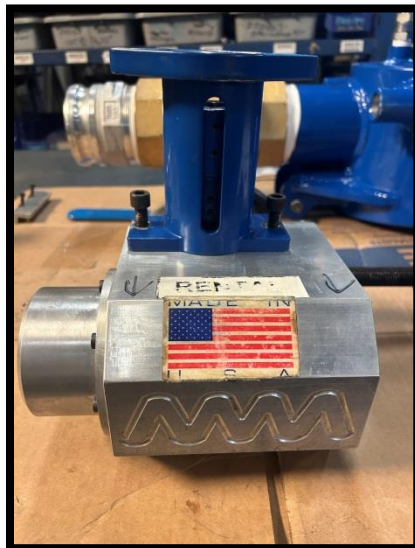
9. Install the hydraulic motor drive coupler onto the shaft of the gear box. Use supplied allen wrench to tighten set screws retaining the coupler on the shaft.



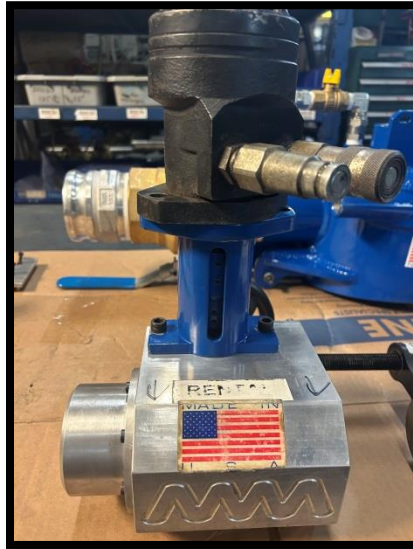
10. Turn the drive coupler as shown to allow for tightening the set screws once the motor is installed.



11. Install hydraulic motor adapter housing onto the side of the gear box. Install 3/8" - 16 X 1 1/8" Socket Head Cap Screws. Set screws on the drive coupler should be accessible through the slot in the adapter. Tighten the screws with the supplied allen wrench.



12. Install the hydraulic motor as shown into the adapter housing. The key on the hydraulic motor must align with the key slot inside the drive coupler. Tighten the set screws that retain the hydraulic motor into the drive coupler.



13. Rotate motor as shown once the set screws have been tightened and install the supplied ½"-13 x 2" Socket Head Cap Screws and Hex nuts.



14. Wipe down the shaft with WD40 to ensure the boring bar is clean and free from contaminants before installing. If any noticeable intrusions are on the boring bar, use 400 grit emery cloth to smooth them out.



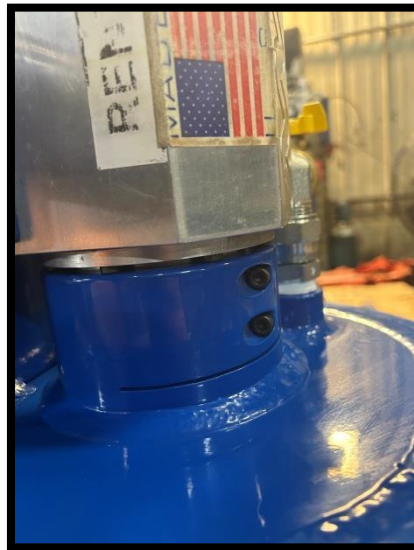
15. Lubricate the inside seal of the Modu-Tap housing with WD40. Install the boring bar into the gear box to check the alignment of the keyway. If misaligned, the boring bar will not slide easily into the gearbox. If this occurs, loosen the mounting bolts and allow the boring bar to center the adapter on the gear box opening and tighten down the adapter mounting bolts.



16. Carefully assemble the gear box assembly onto the housing assembly. The housing adapter should slip freely into the locking ring on the Modu-Tap Housing. Once the two assemblies are mated together remove the boring bar to install the carbide cutter.



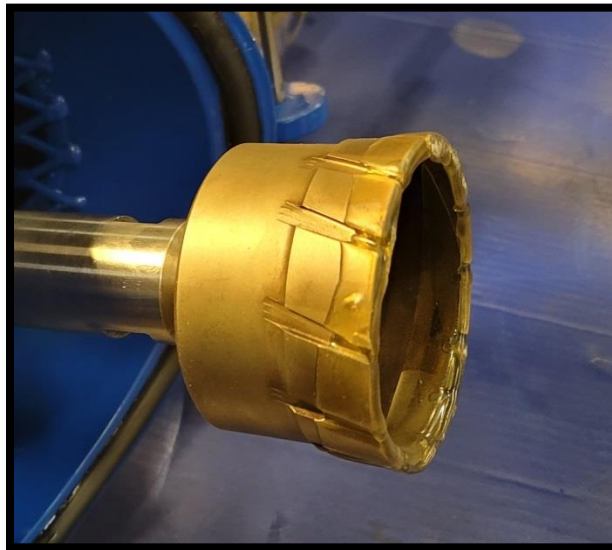
17. Install the retainer clip as shown with the supplied $\frac{1}{4}$ "-20 Socket Head Cap Screws. Tighten socket head cap screws on the retaining collar until snug.



18. Place a small amount of Anti-Seize on the threads of the carbide cutter and install onto the end of the boring bar. Tighten the cutter using the provided wrenches. Inspect the cutter to ensure that a new cutter is being used and all the cutter teeth are intact. Cutter head is fully seated when no more threads are showing on the end of the boring bar.



19. Apply cutter paste to carbide cutter, making sure some gets on each tooth. Use caution as the teeth of the cutter are very sharp.



20. Install the boring bar into the housing: Align keyway on the boring bar with the key in the gearbox, sliding the boring bar completely through the gearbox into the dog-bone. Keep the bottom of the boring bar flush with the end of the dog-bone. Lubricate the dog-bone lock collar set screw with Anti-Seize before tightening and tighten to 120 In/Lbs with supplied torque wrench.



Assembling the Modu-Tap – Generation 2

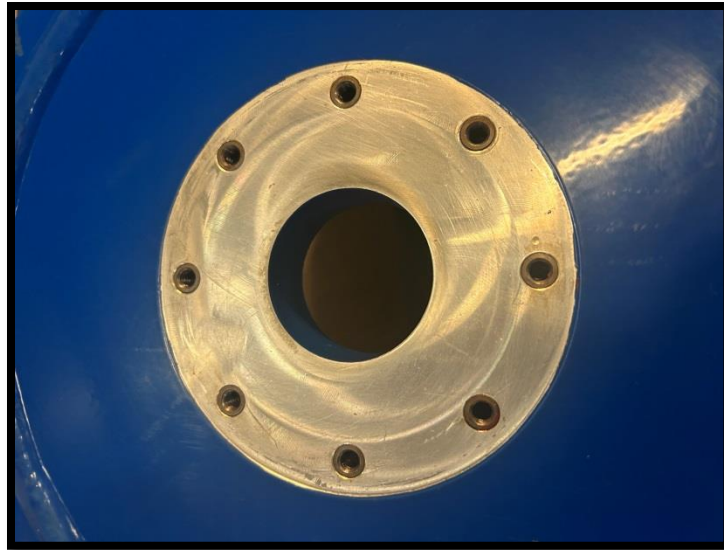
1. Place the Job Box on a flat, clean area, to begin the Modu-Tap assembly.
2. Take the specific Modu-Tap housing for your pipe size and inspect the large O-ring in the housing for any abrasions, cuts or deformations. If damaged, replace immediately.



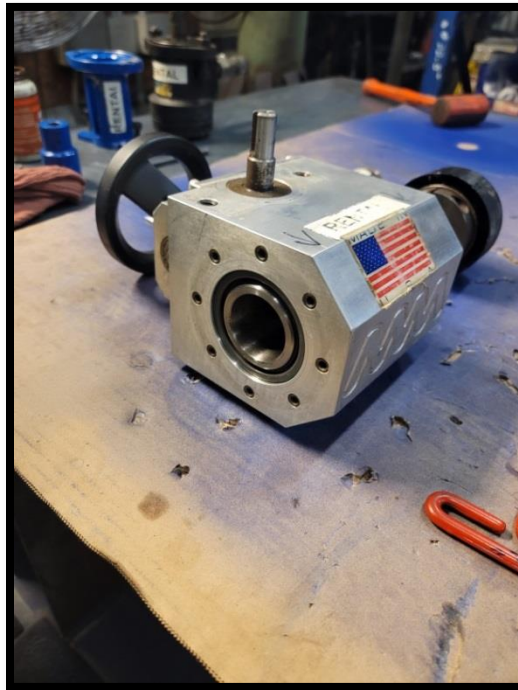
3. Place on the flat surface to begin assembly – be sure this is placed with the O-ring side down. Put rags or a welding pad down under the housing to avoid getting dirt or debris on the O-ring.



4. Inspect the mounting surface where the gear box attaches to the housing. Ensure the surface is clean and does not have any gouges or deep scratches.



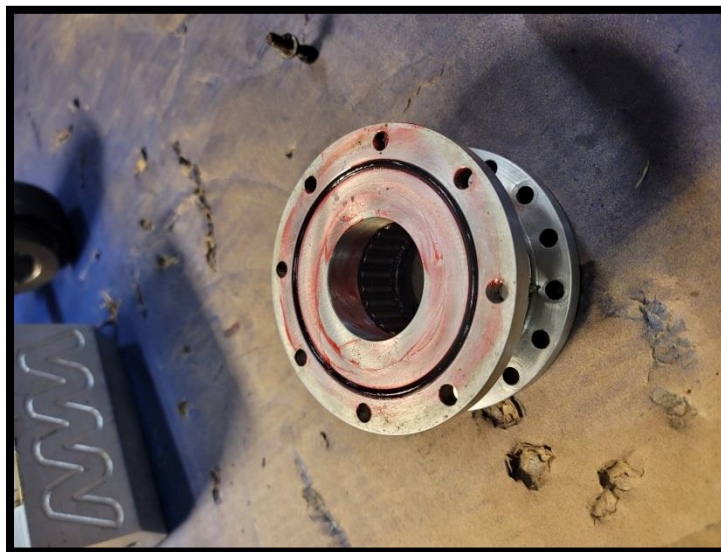
5. Remove the gearbox from the job box and inspect for any damage or binding.



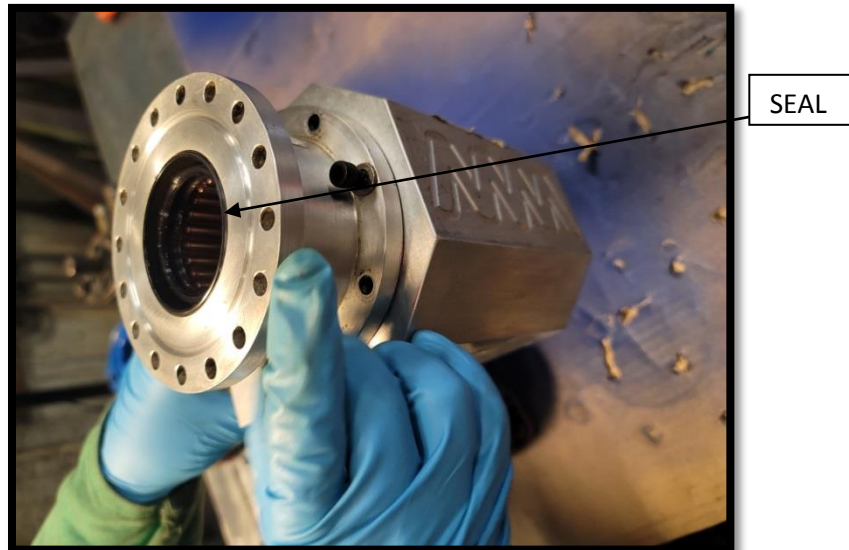
6. Start gearbox assembly with the dog bone. It is threaded onto the end of the threaded shaft. The locking shaft collar on the dog bone must be on the side closest to the gearbox.



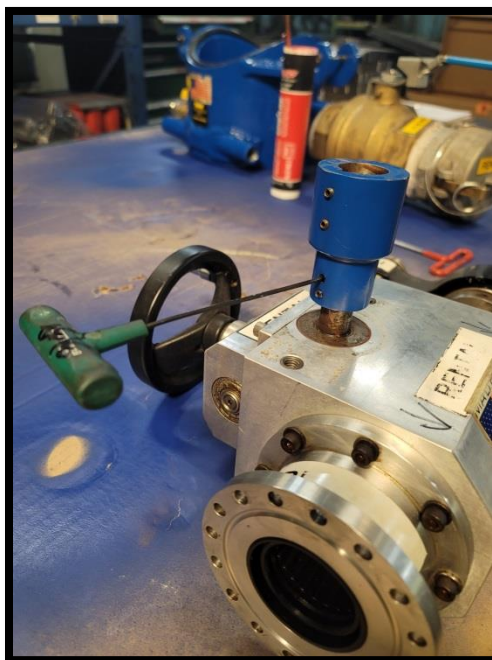
7. Next assemble the O-Ring into the housing adapter. Grease can be used to hold the o-ring in place during the assembly process. Ensure during this assembly process that the seal located in the adapter is facing away from the gearbox housing.



8. Install ¼"-20 X 1" Socket Head Cap Screws as shown in 8 places around the housing adapter. Leave screws finger tight for adjustment later on. Seal should be facing away from the gearbox.



9. Install the hydraulic motor drive coupler onto the shaft of the gear box. Use supplied allen wrench to tighten set screws retaining the coupler on the shaft.



10. Turn the drive coupler as shown to allow for tightening the set screws once the motor is installed.



11. Install hydraulic motor adapter housing onto the side of the gear box. Install 3/8" - 16 X 1 1/8" Socket Head Cap Screws. Set screws on the coupler should be accessible through the slot in the adapter. Tighten the screws with the supplied allen wrench.



12. Install the hydraulic motor as shown into the adapter housing. The key on the hydraulic motor must align with the key slot inside the drive coupler. Tighten the set screws that retain the hydraulic motor into the drive coupler.



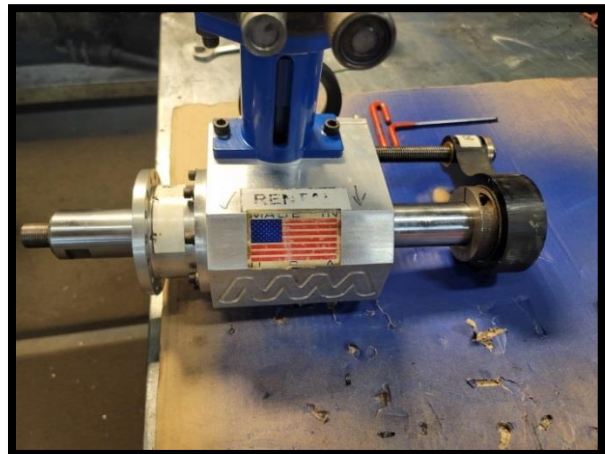
13. Rotate motor as shown once the set screws have been tightened and install the supplied $\frac{1}{2}$ "-13 x 2" Socket Head Cap Screws and Hex nuts.



14. Wipe down the shaft with WD40 to ensure the boring bar is clean and free from contaminants before installing. If any noticeable intrusions are on the boring bar, use 400 grit emery cloth to smooth them out.



15. Lubricate the inside seal of the Modu-Tap housing with WD40. Install the boring bar into the housing to check the alignment of the keyway, gearbox and housing. If misaligned, the boring bar will not slide easily into the gearbox. If this occurs, loosen the mounting bolts and allow the boring bar to center the adapter on the gear box opening and tighten down the adapter mounting bolts.



16. Install the O-Ring on the top side of the housing adapter. Use grease to ensure the O-Ring stays in the groove.



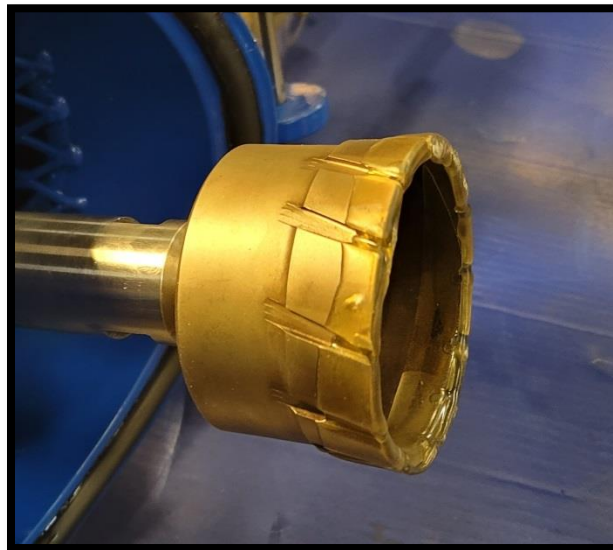
17. Carefully assemble the gear box assembly onto the housing assembly. Install the ¼"-20 Hex Head Cap Screws around the adapter and snug tight. Once the two assemblies are mated together remove the boring bar to install the carbide cutter. Visually inspect the side profile of the adapter ensuring that there are no gaps where the o-rings are located. A gap is a sign that the O-Ring is out of the groove.



18. Place a small amount of Anti-Seize on the threads of the carbide cutter and install onto the end of the boring bar. Tighten the cutter using the provided wrenches. Inspect the cutter to ensure that a new cutter is being used and all the cutter teeth are intact. Cutter head is fully seated when no more threads are showing on the end of the boring bar.



19. Apply cutter paste to carbide cutter, making sure some gets on each tooth. Use caution as the teeth of the cutter are very sharp.



20. Install the boring bar into the housing: Align keyway on the boring bar with the key in the gearbox, sliding the boring bar completely through the gearbox into the dog-bone. Keep the bottom of the boring bar flush with the end of the dog-bone. Lubricate the dog-bone lock collar set screw with Anti-Seize before tightening and tighten to 120 In/Lbs with supplied torque wrench.



Pre Job Instructions

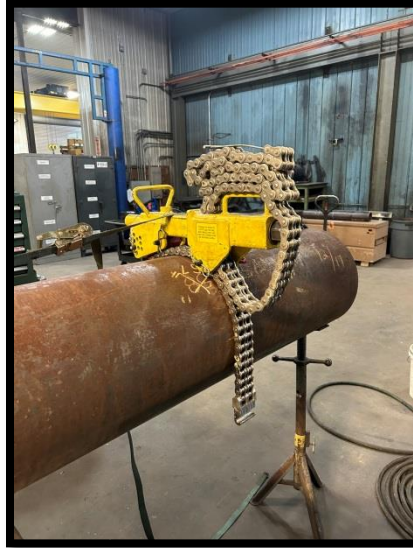
1. Inspect the pipe for dings, dents, mud and seams. Epoxy coating is fine but ensure that the pipe is clean and free from debris. The Modu-Tap cannot be used in places where the O-ring will come in contact with any welds, seams or surface imperfections on the pipe. Any questions, call WorldWide at 715-394-6006.
2. Move the Modu-Tap drain manifold roughly 4 feet from the outlet drain on the Modu-Tap. The operator should ensure that the area around the Modu-Tap is clear of debris and other hazards that may pose a trip hazard to personnel during operation.
3. Leave the hydraulic power unit at the appropriate location, ensuring both operators have a clear line of sight of each other.
4. Note: The pipe must be secured from rotation prior to mounting the Modu-Tap on the pipe.

WARNING: There shall be no line pressure during use of Modu-Tap. Head pressure of ≤ 40 PSI is acceptable.

WARNING: Line should have TOR fitting on top of pipe for venting, and checking product level in line.

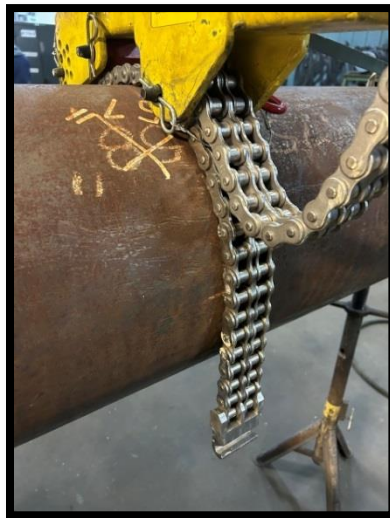
Installation Instructions 10"- 48"

1. Place Python chain clamp on top of pipe with the adjusting nut facing ease of operation and access. On the universal chain side, slide the chain up and under the grabber teeth to engage the chain. While holding the Python, attach the static chain by sliding the safety pin into the chain block, through the mounting holes on the Python.



Caution: The Python must be held in place by a third person at all times until the Modu-Tap is secured to the Python chains. Risk of injury or death could occur if the unit falls.

2. With both chains engaged ensure they are both hanging down approximately the same amount. If the universal chain is too long or too short, adjust the amount of chain hanging down by repositioning the teeth. Once the chains are equal move the Modu-Tap to desired location. 4" drain valve side toward job setup is required for draining.



3. Lift Modu-Tap housing up to bottom of pipe and hook the chains on the pins located on each side of the Modu-Tap. **Ensure pins are fully seated in the chain block before tightening the unit.** The static side chain will need to be pulled tight when the unit is against the pipe. 4" drain valve should be level if unit is correctly aligned and positioned at bottom of pipe.

Ensure pin is fully seated in chain block



Flat lip section of hook block will be visible when pin is fully seated.

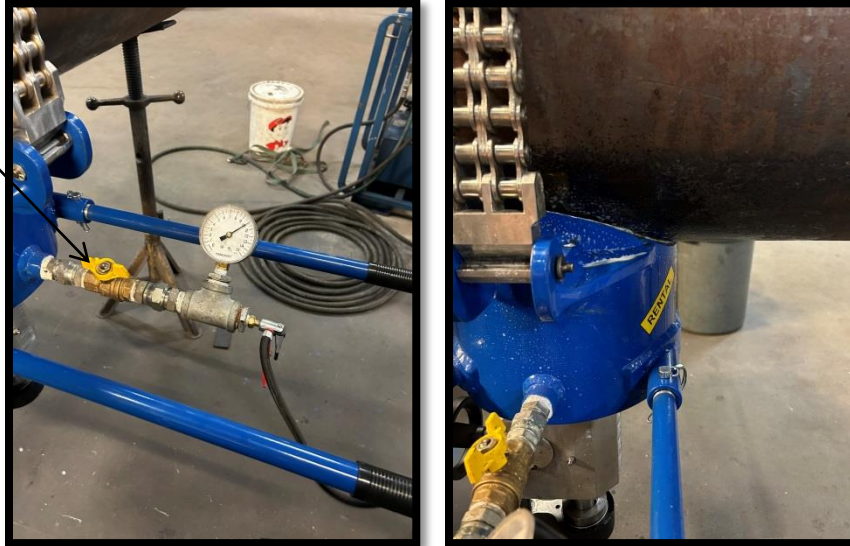


4. Tighten the Python to 135 Ft/Lbs with provided torque wrench, examining the O-ring for proper placement and/or debris – this will take out any slack that was between the Modu-Tap and the pipe. **DO NOT EXCEED 135 Ft/Lbs. when torqueing.**



5. Pressure test the housing, O-ring and fittings. With the $\frac{3}{4}$ " drain ball valve located on the housing, attach the provided pressure testing assembly, and use the provided pump to apply an air pressure of 10 PSI to the housing to inspect for leaks. Use the provided squirt bottle with the soapy water to spray water around the O-ring and fittings.

Valve in the open position.



6. If a leak occurs, loosen the Python and check O-ring and pipe for damage or debris. **Then repeat steps 4 & 5.**
7. Close the $\frac{3}{4}$ " ball valve and remove testing equipment.

Valve in the closed position.



8. Attach the 4" hose to the Modu-Tap 4" drain outlet and connect the other end to the 4" inlet of the drain manifold. If needed, stake down the drain manifold with provided stakes to keep it from shifting and inspect the valves for leaks. Connect required vac truck or pumps to outlet of drain manifold.



Installation Instructions 4"- 8"

1. Place the appropriate sized U-Bolts on the section of pipe you wish to drain. Remove the nuts from the U-Bolts.



2. Using the handles on the Modu-Tap system, two people are required to position the housing under the section of pipe.



3. Thread the nuts on the U-Bolts to support the Modu-Tap System.



4. Tighten the nuts on the U-Bolts finger tight until the o-ring on the unit is making contact with the pipe.



5. Torque the nuts to 35 Ft Lbs. All nuts must be tightened equally. Use a cross pattern tightening each nut one full turn until the desired torque value is hit.



6. Check to ensure the housing is compressed against the pipe and you have an equal gap all the way around. **Note: It is normal for the O-Ring to protrude a bit once the unit is torqued.**



7. Pressure test the housing, O-ring and fittings. With the $\frac{3}{4}$ " drain ball valve located on the housing, attach the provided pressure testing assembly, and use the provided pump to apply an air pressure of 10 PSI to the housing to inspect for leaks. Use the provided squirt bottle with the soapy water to spray water around the O-ring and fittings.




8. If a leak occurs, loosen the nuts and check O-ring and pipe for damage or debris. **Then repeat steps 5 through 7.**
9. If no leaks found close the $\frac{3}{4}$ " ball valve and remove testing equipment.





10. Attach the 3" hose to the Modu-Tap 3" drain outlet and connect the other end to the 4" inlet of the drain manifold. If needed, stake down the drain manifold with provided stakes to keep it

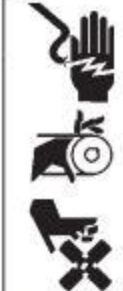
Tapping Instructions

	<p>! WARNING</p> <p>Explosive Fuel can cause fires and severe burns.</p> <p>Do not fill fuel tank while engine is hot or running.</p>
<p>Gasoline is extremely flammable and its vapors can explode if ignited. Store gasoline only in approved containers, in well ventilated, unoccupied buildings, away from sparks or flames. Spilled fuel could ignite if it comes in contact with hot parts or sparks from ignition. Never use gasoline as a cleaning agent.</p>	

	<p>! WARNING</p> <p>Rotating Parts can cause severe injury.</p> <p>Stay away while engine is in operation.</p>
<p>Keep hands, feet, hair, and clothing away from all moving parts to prevent injury. Never operate engine with covers, shrouds, or guards removed.</p>	

	<p>! WARNING</p> <p>Carbon Monoxide can cause severe nausea, fainting or death.</p> <p>Avoid inhaling exhaust fumes. Never run engine indoors or in enclosed spaces.</p>
<p>Engine exhaust gases contain poisonous carbon monoxide. Carbon monoxide is odorless, colorless, and can cause death if inhaled.</p>	

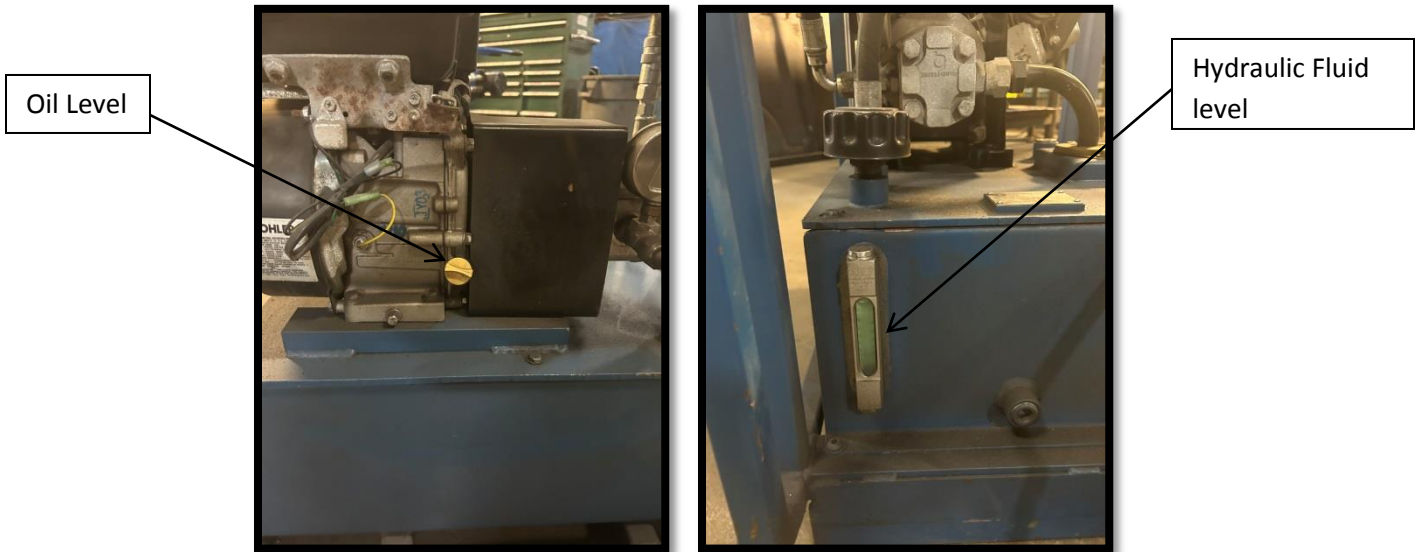
	<p>! CAUTION</p> <p>Electrical Shock can cause injury.</p> <p>Do not touch wires while engine is running.</p>
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	<p>! WARNING</p> <p>Accidental Starts can cause severe injury or death.</p> <p>Disconnect and ground spark plug lead(s) before servicing.</p>
<p>Before working on engine or equipment, disable engine as follows: 1) Disconnect spark plug lead(s). 2) Disconnect negative (-) battery cable from battery.</p>	

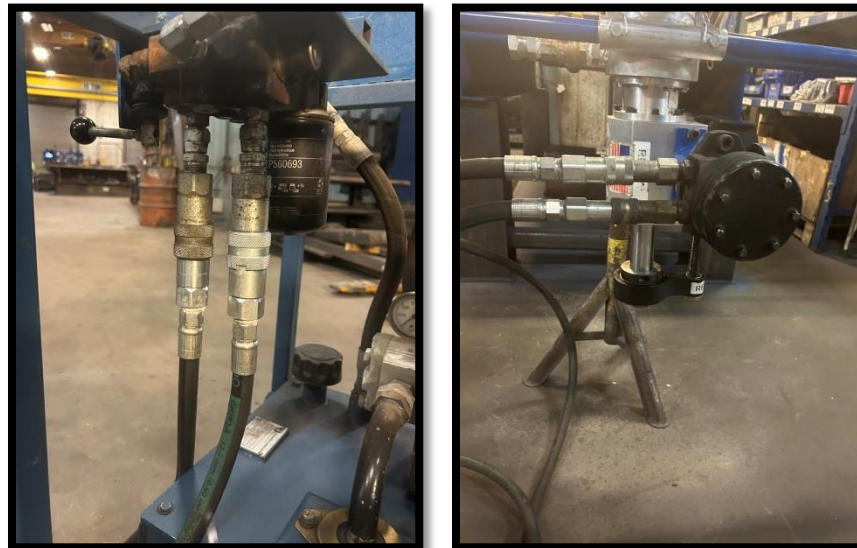
	<p>! WARNING</p> <p>Hot Parts can cause severe burns.</p> <p>Do not touch engine while operating or just after stopping.</p>
<p>Never operate engine with heat shields or guards removed.</p>	

<p>! WARNING: This product can expose you to chemicals including carbon monoxide and benzene, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.</p>
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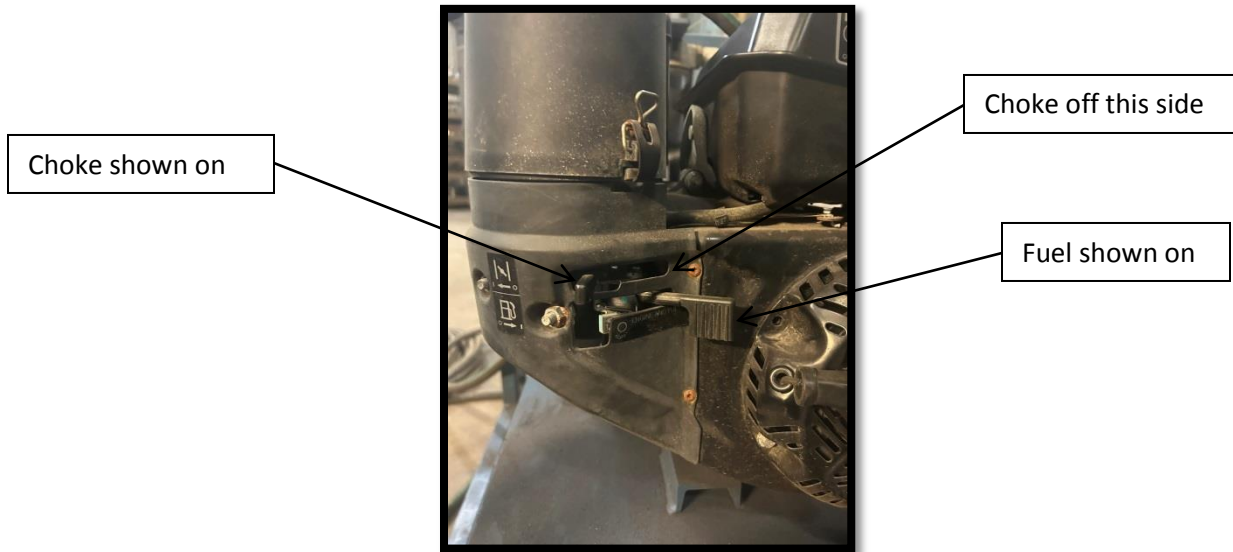
1. Before turning on the power unit, check oil, gas and hydraulic fluid level.



2. Connect hydraulic hoses. The hoses will only connect one way for the assembly.



3. To start the motor, turn the gas on, choke the motor, turn fuel switch to on and then pull start.



4. Once running; turn the choke off and let the motor warm up before engaging starting the tap.
5. Maintain a clear line of sight between the Modu-Tap operator and the power unit operator at all times.
6. Prior to initiating cutter rotation, turn the feeder handle to extend the cutter closer to the pipe. Continue turning until pressure is felt, then back the feeder handle off one complete turn.



7. Once ready to drill, fully open the throttle and open the valve on the power unit by pushing down on the lever to start the drilling process. Hold this down to keep the drill rotating. **Maintain a clear line of sight between the Modu-Tap operator and power unit operator.**

Throttle Control



8. Slowly turn feeder handle, engaging the cutter into the pipe, apply constant light pressure to the feeder handle. Do not force the cutter into the pipe as this could stall the hydraulic power unit or damage the carbide cutter. Should the cutter stop turning, retract the cutter head by turning the feeder handle in the opposite direction. After the cutter is free slowly crank the handle to engage the cutter back into the pipe.



9. Keep the shaft rotating until the cutter is fully inserted into the pipe. This is to assure that the pipe has been fully cut and the coupon is fully contained in the cutter.



10. Shut off the power unit, ensuring boring bar rotation has stopped. Slowly reverse the feeder handle to bring the cutter back down out of pipe – do this until the cutter is fully retracted.
11. Open the drain valve located on the housing along with the valve on the drain manifold.

Removal Instructions

1. Once drain down is complete, shut the drain valve on the Modu-Tap housing. Disconnect the hose from the Modu-Tap housing.
2. Containment should be in place for residual oil left in the 4" drain and/or Modu-Tap housing, utilizing the $\frac{3}{4}$ " valve to drain housing.
3. Carefully loosen the Python to allow for the Modu-Tap to be removed. Be sure not to loosen it more than the maximum extension allows (see page 7).
4. While holding the Python atop the pipe, carefully disconnect the Modu-Tap housing from the chains, placing the housing in a secure area for disassembly and cleaning.
5. Remove the chain from both sides of the Python, wipe down, roll up and place in steel box for storage.
6. Remove the Python and place in steel box provided.
7. Loosen the boring shaft set screw and remove the boring shaft. Once the shaft is removed, remove the cutter, clean boring shaft and place in the storage box.
8. Remove the hydraulic motor, loosening the boring shaft set screws. Remove the screws from the hydraulic motor mount and slide the coupler out, keeping track of the woodruff key in the boring shaft. Wipe down the motor and motor mount and place in the storage box.
9. Remove coupler and the (2) bolts connecting the coupler to the gearbox and place hydraulic motor adapter and coupler in the storage box.
10. Remove the (4) black bolts securing the gearbox to the housing and place all hardware in the provided organizer. Slide the gearbox out of the housing, wipe down and place in the storage box.
11. Using cleaning solvent, clean inside of housing, being careful of the seal and bearing. Inspect the housing for cracks, inspect seal and bearing for metal shavings and debris. **DO NOT PRESSURE WASH OR SOAK HYDRAULIC MOTOR AND GEARBOX.**

Maintenance Instructions

Before and after every use, the Modu-Tap should be inspected and cleaned. The Python and Modu-Tap housing should be checked for cracks or defects in the frame. All moving parts such as chain, pins, threads, bearings and seals should be checked to ensure proper movement and for any thread damage that may have occurred. All oil and debris should be cleaned and/or removed from the Modu-Tap prior to the next tapping operation.

Check levels on hydraulic power unit before and after each use. Check for any cracks in the tank or around the motor for preventative maintenance. Check oil levels in motor.

Worldwide Machining & Welding offers full service maintenance and rebuilding of all Modu-Tap components. It is recommended to only have these products serviced by Worldwide Machining & Welding. Please inquire for information.

Thank you for your purchase.

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