ROLL GROOVING MACHINE

MODEL: RG6C

WARNING!

Read this Operators Manual carefully before using this machine. Failure to understand and follow the contents of this manual may result in electrical shock, fire and/or serious personal injury.

General Safety Information

WARNING! Read and understand all instructions. Failure to follow all instructions listed below may result in electric shock, fire, and/or serious personal injury.

Work Area Safety

• Keep your work area clean and well lit. Cluttered benches and dark areas can lead to accidents. Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. Tools create sparks which may ignite the dust or fumes.

• Keep bystanders, children, and visitors away while operating a tool. Distractions can lead to accidents.

• Keep floors dry and free of slippery materials such as oil. Slippery floors can lead to accidents.

• Guard or barricade the area when work piece extends beyond machine. A guard or barricade that provides a minimum of three (3) feet clearance around the work piece will reduce the risk of accidents occurring.

Electrical Safety

• Grounded tools must be plugged into a power outlet which is correctly installed and grounded in accordance with all codes and procedures. Never remove the grounding prong or modify the plug in any way. Do not use any adapter plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user.

• Avoid body contact with grounded surfaces. There is an increased risk of electrical shock if your body is grounded.

• Don’t expose electrical tools to rain or wet conditions. Water entering a tool will increase the risk of electrical shock.

• Do not abuse cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately. Damaged cords increase the risk of electrical shock.

• Use only three-wire extension cords which have three-prong grounding plugs and three-pole receptacles which accept the tool’s plug. Use of other extension cords will not ground the tool and increase the risk of electrical shock.

• Keep all electric connections dry and off the ground. Do not touch plugs or tool with wet hands.

Personal Safety

• Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medications. A moment of inattention while operating power tools may result in serious personal injury.

• Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts.

• Avoid accidental starting. Be sure switch is OFF before plugging in. Carrying tools with your finger on the switch or plugging in tools that have the switch ON invites accidents

• Use safety equipment. Always wear eye protection. Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

Roll Groover Safety

• Roll Groover is made to groove pipe and tubing. Follow instructions in Operator's Manual on machine uses. Other uses may increase the risk of injury.

• Keep hands away from grooving rolls. Do not wear loose fitting gloves when operating unit. Fingers could get caught between grooving and drive rolls.

• Keep guards in place. Do not operate the groover with guard removed. Exposure to grooving rolls may result in entanglement and serious injury.

• Set-up Groover on a flat, level surface. Be sure the machine, stand, and groover are stable. A flat level surface will prevent tipping of the unit.

• Do not wear loose clothing. Keep sleeves and jackets buttoned. Do not reach across the machine or pipe. Clothing can be caught by the pipe resulting in entanglement and serious injury.

• Do not use this Roll Groover with a Power Drive or Threading Machine that does not have a foot switch. Foot switch is a safety device to prevent serious injury.

• When grooving pipe, keep hands away from the end of the pipe. Do not reach inside pipe end. Will prevent being cut on sharp edges and burrs.

• Be sure groover is properly secured to the power drive or threading machine. Carefully follow the setup procedures.

• Properly support pipe with pipe stands. Use two pipe stands to groove pipe over 36" long.

• Use only power drives and threading machines that operate under 58 RPM. Higher speed machines increase the risk of injury.

Description

The RG6C Heavy Duty Roll Groover forms rolled grooves in steel, stainless steel tubing. The grooves are formed by the hydraulic feeding of a grooving roll into the pipe which is supported by a drive roll.

The RG6C Roll Groover includes two (2) groove and drive shaft sets that can groove the following pipe:

• 1 1/4" – 1 1/2" Schedule 10 and 40

• 2" – 6" Schedule 10 and 2" – 3" Schedule 40

Pipe Preparation

1. Pipe ends must be cut square. Do not use cutting torch.

2. Pipe out-of-roundness must not exceed the total O.D. tolerance listed in groove specifications,

NOTE! Determine out-of-roundness by measuring maximum and minimum O.D. at 90 degrees apart.

3. All internal or external weld beads, flash or seams must be ground flush at least 2" back from pipe end.

NOTE! Do not cut flats on gasket seat area.

Pipe/Tubing Length

Dia. (in.)	Min. Length (in./mm)	Max. Length (in./mm)
$2^1/_2$	8/203	36/914
3	8/203	36/914
$3^1/_2$	8/203	36/914
4	8/203	36/914
$4^1/_2$	8/203	36/914
5	8/203	36/914
6	10/254	28/711

Pipe Set-Up

1. Pipe or tubing longer than the specified maximum lengths listed in Chart above must be supported with 2 pipe stands. The second pipe support should be located 3/4 of pipe length from roll groover.

Failure to use two stands may result in the unit tipping or the pipe falling.

2. Raise upper groove roll housing by placing pump release lever in RETURN position.

3. Square pipe and pipe support to roll groover making sure pipe is flush against drive roll flange.

4. Level pipe by adjusting pipe stand.

NOTE! If running machine in forward, offset pipe 1/2° away from operator.

NOTE! If running machine in reverse, offset pipe 1/2° toward operator.

Groove depth adjusting

1. Lock the release valve by rotating the knob clockwisely.

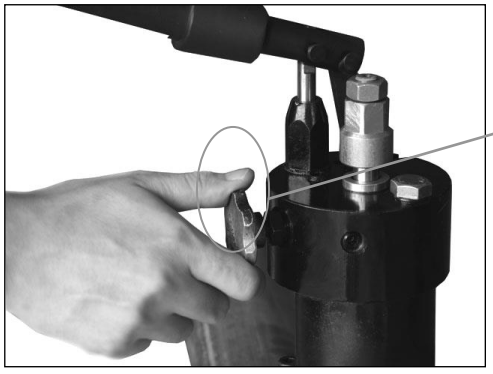


Fig 1

2. Position the depth adjusting nut to top position, mount the pipe to knurling roll. Swing up and down the pump handle to actuate the upper roll, until it touches the pipe surface (make sure the roll touches the pipe surface entirely).

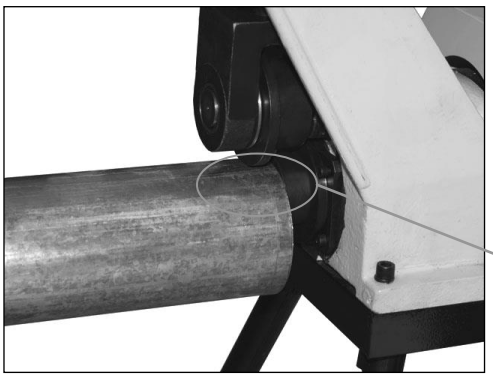
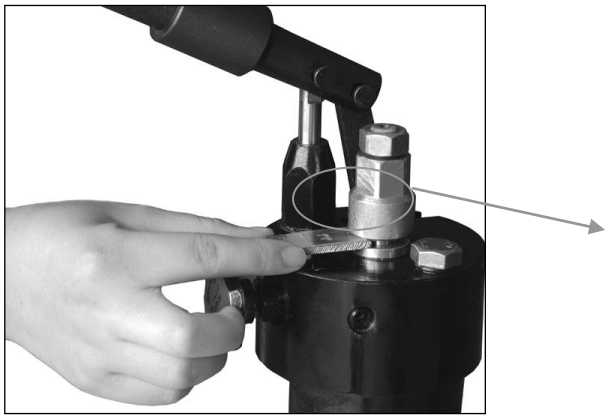


Fig 2

3. Insert the index plate to the gap below the nut, rotate the nut till it touches the index plate, lock the depth adjusting nut by tightening the top nut close to it.



Forming the Roll Groove

Pipe wall thickness cannot exceed the maximum wall thickness specified in the “Pipe Maximum and Minimum Wall Thickness” Table. Do not use to groove 8” schedule 40 steel pipe harder than 150 BHN.

Pipe size	Min	Max	Pipe size	Min	Max
2 1/2”	.083	.203	4”	.083	.237
3”	.083	.216	6”	.109	.280
3 1/2”	.083	.226			
All dimensions are in inches.					

NOTE! Groove diameter should be measured using a Diameter - tape.
Periodically check groove with a Diameter-Tape or similar measuring device.

Roll Grooving Tips

1. If pipe tends to “walk off” drive roll, increase offset dimension.
2. If drive roll flange shaves pipe end, decrease offset dimension.
3. If pipe end flare is excessive, lower pipe end to level with roll groover.
4. If pipe wobbles and/or “walks off” the drive roll, raise pipe end to level with roll groover.
5. Short lengths of pipe (under three feet) may require slight pressure to maintain the degree offset dimension.

Troubleshooting

PROBLEM	CAUSE	CORRECTION
Rolled groove too narrow or too wide.	Incorrect size of grooving and driving rolls.	Install correct size of grooving and driving rolls.
	Mismatched grooving and driving rolls.	Match grooving and driving rolls.
	Grooving roll and/or driving roll worn.	Replace worn roll.
Rolled groove not perpendicular to pipe axis.	Pipe length not straight.	Use straight pipe.
	Pipe end not square with pipe axis.	Cut pipe end square.
Pipe does not track while grooving.	Pipe not level.	Adjust stand to level pipe.
	Groover not level.	Level groover.
	Pipe axis not offset 1/2 degree from drive roll axis.	Offset pipe 1/2 degree
	1/2 degree offset not sufficient.	Offset pipe slightly more.
	Not applying pressure to pipe.	Apply pressure to pipe
	Excessive weld seam.	Grind flush from end of pipe.
	Pipe end not square.	Cut pipe end square.
Pipe flared at groove end.	Pipe not level.	Adjust stand to level pipe.
	Operator is advancing groove roll too fast.	Slow down pumping action. *(Refer to proper operating instructions.)*
	Pipe is too hard.	Replace pipe.
Pipe drifts back and forth on driving roll axis while grooving.	Pipe length not straight.	Use straight pipe.
	Pipe end not square with pipe axis.	Cut pipe end square.
	Hard spots in pipe material or weld seams harder than pipe.	Use high quality pipe of uniform hardness.
	Grooving roll feed rate too slow.	Feed grooving roll into pipe faster.
	Pipe support stand rollers not in correct location for pipe size.	Position pipe stand rollers for pipe size being used.
Groover does not roll groove in pipe.	Pipe wall maximum thickness exceeded.	Check pipe capacity chart.
	Wrong rolls.	Install correct rolls.
	Pipe material too hard.	Replace pipe.
	Adjustment nut not set.	Set depth.
Pipe slips on driving roll.	Driving roll knurling plugged with metal or worn flat.	Clean or replace driving roll.
	Grooving roll feed rate too slow.	Feed grooving roll into pipe faster.
Pump not delivering oil, cylinder does not advance.	Pump release valve open.	Close release valve.
	Low oil in reservoir.	Check oil level per instructions.
	Dirt in pump body.	Have serviced by qualified technician.

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