

**HTB-1000 HYDRAULIC BENDER**

**OWNER'S MANUAL**

## **WARNING**

- 1. Always pay close attention to what you are doing. Turn off cell phone, pager, etc when using this machine.**
- 2. This machine is meant to be operated by competent individuals who have a thorough understanding of tube bending and machines in general.**
- 3. The bender is intended to be used by a single operator. Never allow a second individual to operate the machine while another holds tube.**
- 4. Always wear eye protection while operating tube bender.**
- 5. Never put your hands or other body parts into bender apparatus.**
- 6. Never wear loose clothing while operating tube bender.**
- 7. Always work in a clean, safe, well lit, level work area.**
- 8. Never use the wrong size die/type die for the tube being worked.**
- 9. Never operate the tube bender with broken, worn or damaged parts.**
- 10.DO NOT attempt to repair and reuse any damages bender parts.**
- 11.User assumes all risks when using this product.**

## **CAUTION**

**THE BENDER IS SHIPPED WITHOUT HYDRAULIC OIL.** The warranty will be void if operated without the proper hydraulic oil. Do not allow the tube bender to run without hydraulic oil.

## **BLEEDING THE HYDRAULIC SYSTEM**

### **WARNING**

**Never put your hands or other body parts into bender apparatus.**

1. Use only a high quality 10w hydraulic oil to fill the hydraulic pump. R&O Tractor Oil is also acceptable. **DO NOT** use any other type of oil in the bender, i.e.:motor oil, transmission fluid, etc.
2. Remove the pump reservoir fill cap and fill with approx. 1/2 gallon of hydraulic oil.
3. Switch pump on.
4. Using the control valve(down to extend and up to retract), cycle the bender cylinder several times while adding the remaining 1/2 gallon of hydraulic oil. The reservoir will hold exactly 1 gallon of hydraulic oil. See Figure 1.

5. After filling hydraulic oil reservoir, cycle the ram fully in each direction several times to completely bleed all the air out of the system. A popping noise may be heard during the bleeding process and is normal.
6. Under normal use, the pivot bushings should be greased every 250-500 cycles. Under high use conditions it will be necessary to grease the pivot bushings every month or more often as necessary.
7. Be sure to check the level of the hydraulic oil frequently. **DO NOT** allow the reservoir to run dry. This will void the warranty.
8. Inspect and replace bushing when worn or sloppy.
9. Replace any worn, bent, or damaged parts immediately. Replacement parts are available from **TTMC** or your local dealer.
10. Dies are available for tubing (measured by outside diameter), or Sched 40 pipe. Always use the proper size/type of the material being worked.

### **WARNING**

**DO NOT attempt use damaged parts in the tubing bender.**  
**For your safety, DO NOT attempt to repair and reuse and damaged bender parts.**

## **OPERATION OF THE BENDER**

1. The tubing should be clean and free from defects.
2. Always grease the die block prior to bending.
3. Make sure that all drive pins are fully seated.
4. Pass tube into die and position as required for start of bend.  
All bends will start at the edge of the radius die as shown in Figure 2.
5. Install the U strap and snug retainer bolt if needed.
6. Switch the hydraulic pump on.
7. Using the hand valve, extend the ram(down on the control valve) to the full stroke(or as needed for shorter bends)
8. There is an approximate maximum 41 bend for each full stroke of the ram.
9. Pulling up on the drive pin, begin to slowly retract the ram(up on the control valve) removing the pin when tension on the pin is released and before it starts to rotate in the die.
10. Slowly retract the ram(up on the control valve) until the second die drive hole lines up.
11. Re-install the pin fully and repeat the above bend process to complete the total bend.
12. To repeat bends, without the degree wheel, measure ram's

travel.

13. When the tube is bent the desired amount, slowly retract (up on the control valve) the ram allowing the drive pin to rotate the die and releasing the tube. It may be necessary to loosen the U-strap retaining bolt.

14. Remove the tube.

15. Use the smaller diameter drive pin (included) with any die that uses the first drive hole (closest to the pivot point).

### **120 Degree Round Tube Die Package**

Includes 1" OD x 3" CLR, 1-1/2" OD x 5" CLR, and 1-3/4" OD x 6" CLR

CLR stands for "Center Line Radius", meaning the bend radius as measured from the center rotation point of the die to the middle of the tubing.

### **WARRANTY**

1. One year limited warranty on tube bender.
2. One year manufacturers warranty on the hydraulic pump.
3. Limited lifetime warranty on dies against breakage. Warranty

is void if damaged due to abuse or misuse.

4. Warranty item must be sent to TTMC postage pre-paid for inspection. TTMC will replace or repair item at their discretion.
5. TTMC makes every attempt to satisfy customers as quickly as possible.
6. TTMC will not accept any responsibility for personal injury or property damage arising from the failure of any parts manufactured.

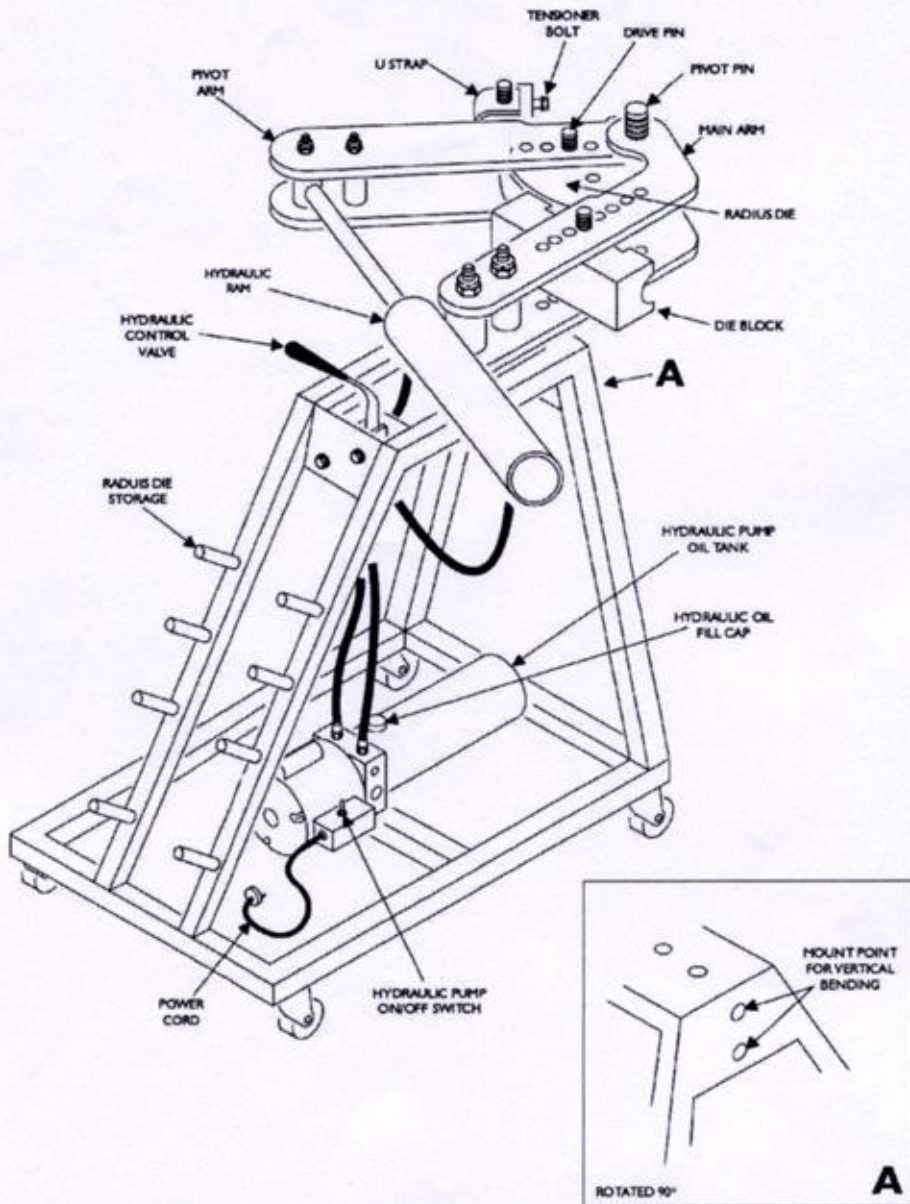


Figure 1. Bender overall view.



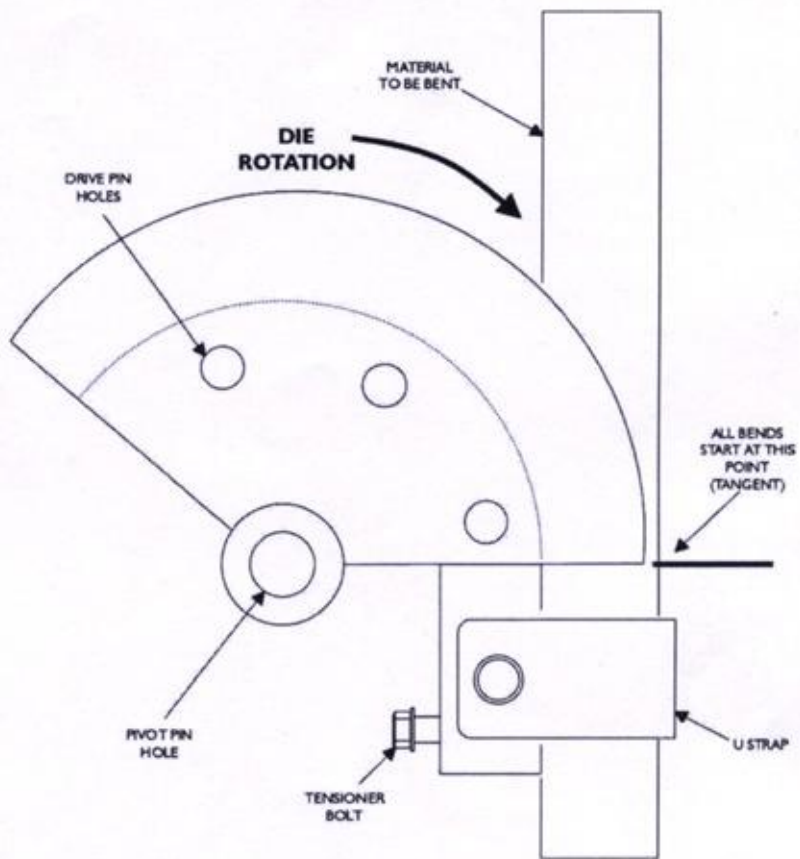


Figure 2. Bends start at edge of radius die.