

HYDRAULIC BENDER

MODEL: HTB-1000



Operation 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 with 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 worm, bent, or damage 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).

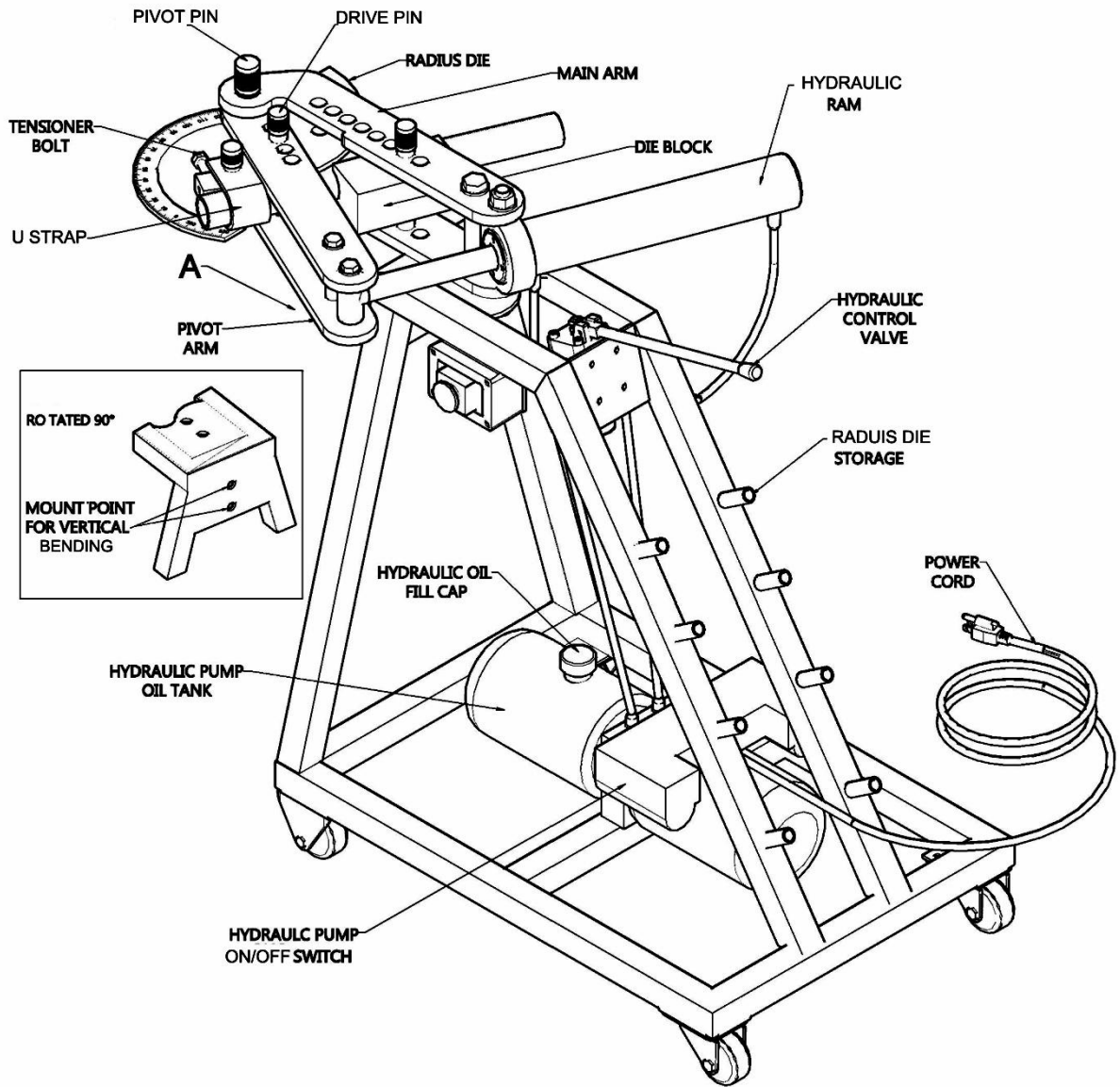
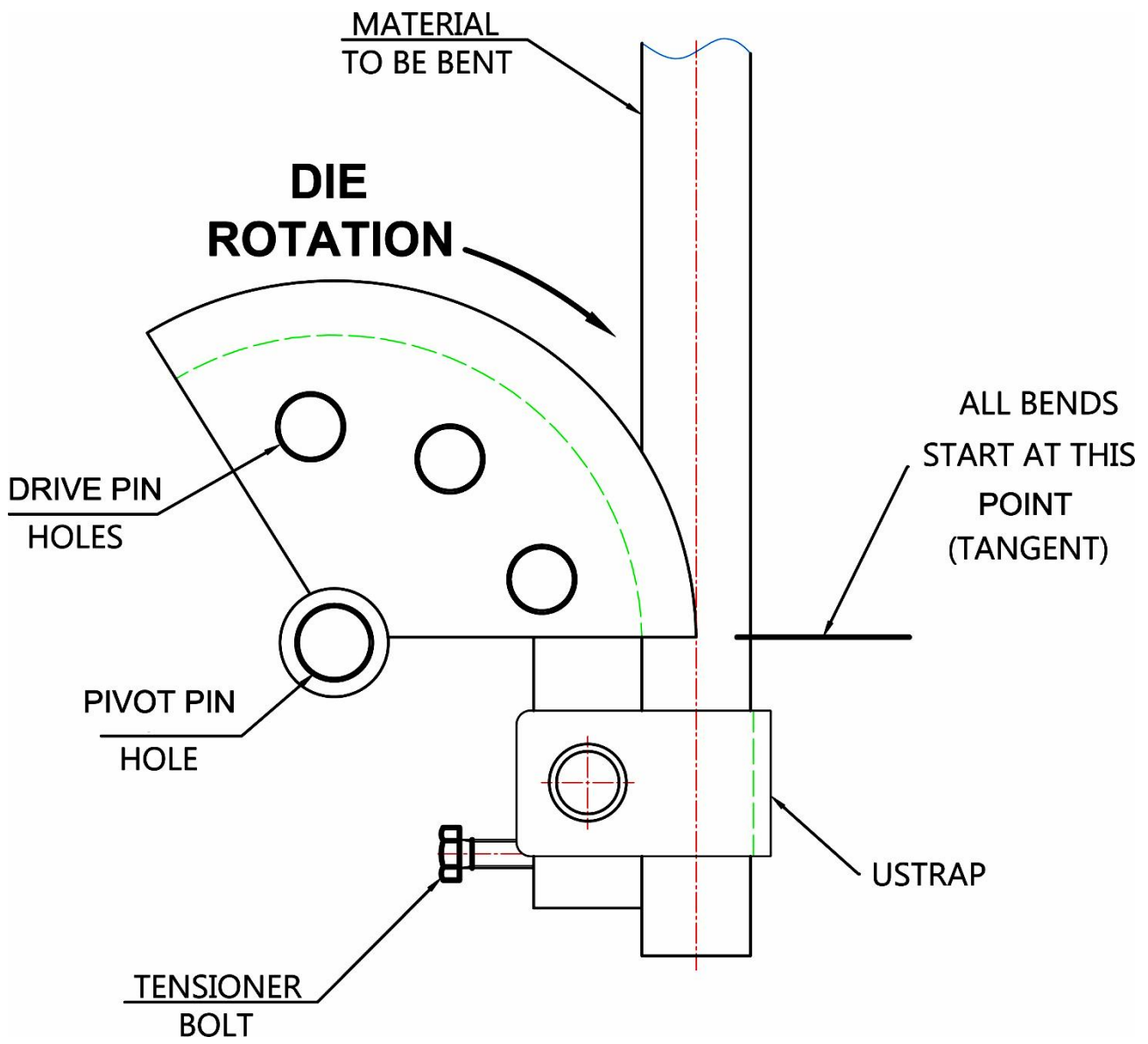


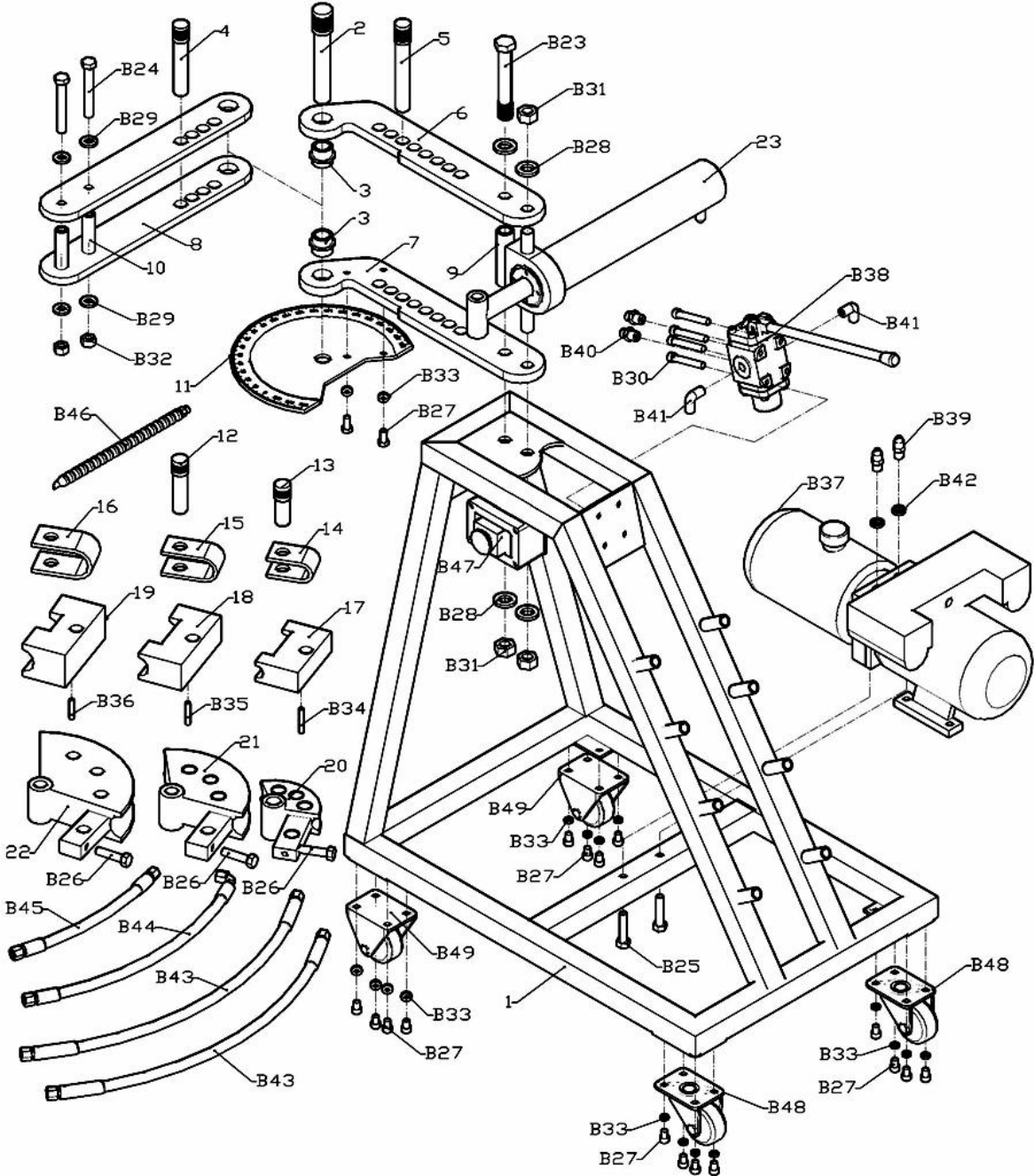
Figure 1. Bender overall view.



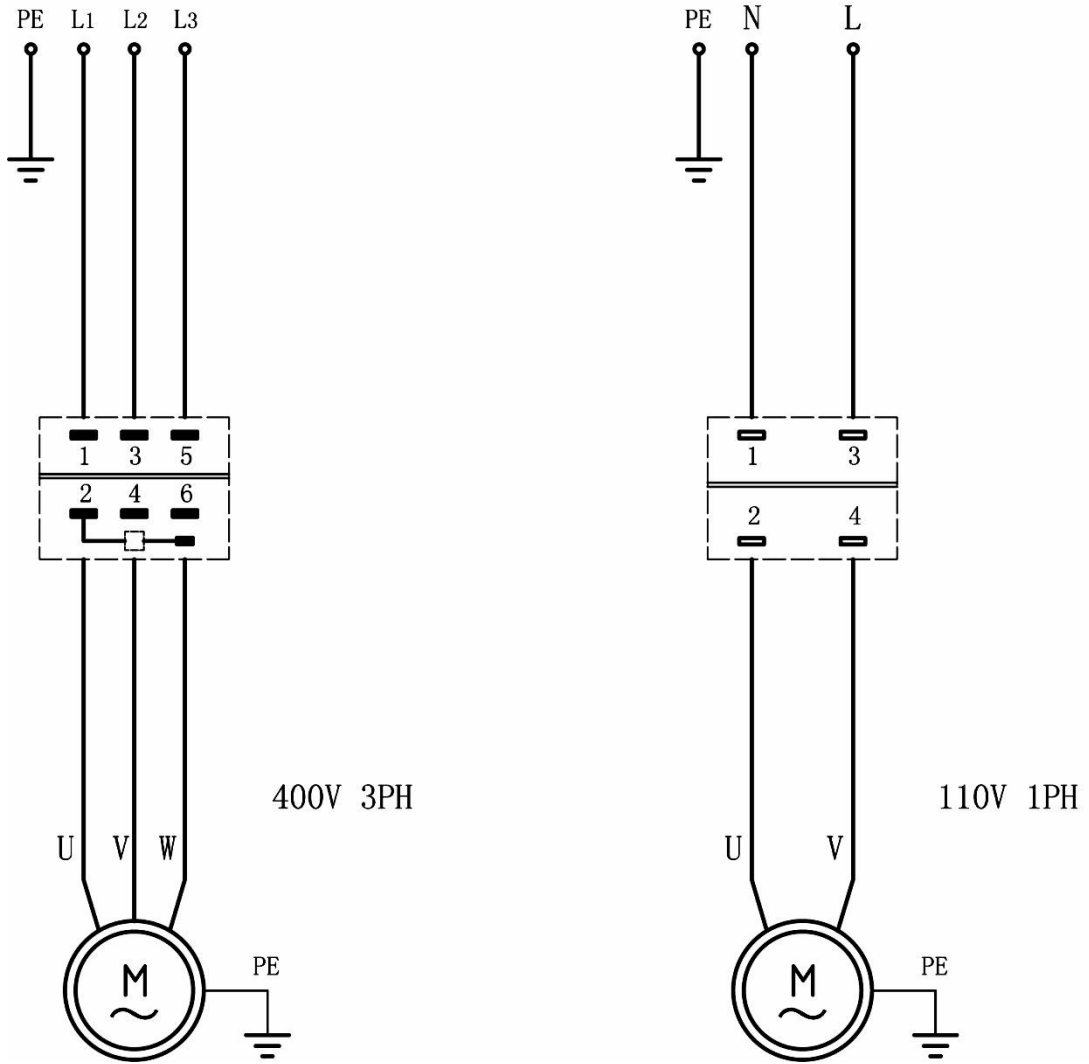
Part list

Item	Description	Qty	Item	Description	Qty
1	Stand	1	B25	Bolt	2
2	Pin	1	B26	Bolt	3
3	Copper bush	2	B27	Bolt	18
4	Pin	1	B28	Washer	4
5	Pin	1	B29	Washer	4
6	Uppe fixed plate	1	B30	Bolt	4
7	Bottom fixed plate	1	B31	Locknut	3
8	Support plate	2	B32	Locknut	2
9	Sleeve	1	B33	Spring washer	18
10	Sleeve	2	B34	Pin	1
11	Dial	1	B35	Pin	1
12	Pin	1	B36	Pin	1
13	Pin	1	B37	Power unit	1
14	1" U Strap	1	B38	Reversing valve	1
15	1 1/2" U Strap	1	B39	Bolt	2
16	1 3/4" U Strap	1	B40	Bolt	2
17	1" X3" Die block	1	B41	Bolt	2
18	1-1/2" X5" Die block	1	B42	Washer	2
19	1-3/4" X6" Die block	1	B43	Oil tube	2
20	1" X3" Radius die	1	B44	Oil tube	1
21	1-1/2" X5" Radius die	1	B45	Oil tube	1
22	1-3/4" X6" Radius die	1	B46	Cooling pipe	1
23	Hydraulic cylinder	1	B48	Caster	2
B23	Bolt	1	B49	Caster	2
B24	Bolt	2			

Assembly Drawing



ELECTRICAL DRAWING



Note: This manual is only for your reference. Owing to the continuous improvement of the machine, changes may be made at any time without obligation on notice. And please note the local voltage while operating this electric machine.