

PARTS LIST

ITEM#	DESCRIPTION	QTY.
1	Main Cylinder	1
2	Upper Plate	1
3	Lower Plate	1
4	Extension Bar	1
5	Die/Formers (3/8" to 6")	11
6	Dolly Block	2
7	Pin For Dolly Block	2
8	Ram/Main Piston	1
9	Bucket For Piston	1
10	Piston Disc Small	1
11	L-Key Bolt	1
12	Spring For Piston	1
13	Piston Nut	1
14	O-Ring	1
15	Rubber Packing For Nut	1
16	Ball For Release Value	1
17	Washer	1
18	O-Ring For Release Valve	1
19	Release Plug	1
20	Release valve	1
21	Air valve washer	1
22	Air valve	1
23	Washer	1
24	Filter	1
25	Drain Plug	1
26	Ball (Small)	1
27	Weight Pin	1

ITEM#	DESCRIPTION	QTY.
28	Ball (Big)	1
29	L - Key screw	1
35	Hex bolt	1
36	Hex Nut	1
37	Handle	1
41	Ball	1
42	Surfacar	1
43	Nylon Washer	1
44	Double spring	1
45	Plunger shaft	1
45A	Bucket for plunger	1
45B	Pump plunger	1
45C	Plunger outer ring	1
45D	Plunger oil seal	1
46	Flenge	1
47	L - Key bolt for flenge	4
48	Tripod	1
48A	Leg	3
49	Wheel	4
50	Lock	1
51	Bolt For Upper & Lower Plate	4
52	Oil Seal Kit	1
65	Motor	1
66	Hex bolt	4
67	Bearing kem	1
68	Circlip lock	1
69	Switch box	1



PROD. 215
INSTRUCTION MANUAL

PIPE BENDERS



Note : Before using this Pipe Bending Tool, carefully read through this INSTRUCTIONS MANUAL to ensure efficient, safe operation. It is recommended that these INSTRUCTIONS be kept readily available as an important reference when using this Pipe Bending Tool.

FEATURES

"INDER" HYDRAULIC MOTORISED PIPE BENDERS WITH HINGED FRAME is specially designed to bend size 3/8" to 6" Gas, Water, Steam & heavy gauge galvanized water pipe etc. 90°. Many other jobs can be done with the help of various type of jig e.g. Iron Rod, Metal Strip etc.

In this version providing extra pump force from 7 to 20 tons, well Grinding/Hardchrome Ram/Piston with automatic return will spring to release of valve.

HYDRAULIC MOTORISED PIPE BENDER WITH HINGED FRAME

(For long radius heavy Gauge bending 90°)

PROD. SIZE IN
NO. INCHE:

215A	1/2 TO
215B	1/2 TO
215C	1 TO
215D	2 TO

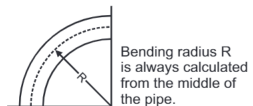
* MOTOR POW



PROD. NO. 215

SPARE BENDING FORMERS OF HINGED FRAME

(For long radius heavy Gauge bending 90°)



PROD. NO. 214

PROD. NO.	I.D. INCHES	O.D. MM	RADIUS MM	MIN.WALL THICKNESS MM	N.W.T (Kgs)
214A	3/8	16.7	95	3.0	1.200
214B	1/2	21.0	95	3.2	1.150
214C	3/4	26.4	95	3.2	1.200
214D	1	33.2	130	4.0	5.300
214E	1-1/4	42.0	165	4.0	6.000
214F	1-1/2	47.8	210	4.0	8.000
214G	2	60.3	280	4.5	14.700
214H	2-1/2	76.1	300	4.5	12.500
214I	3	88.9	400	4.8	16.000
214J	4	115.0	600	5.4	40.000
214L	6	166.0	700	5.4	58.000

SUGGESTION : Bending formers of Prod. 213, 215 & 212 are available in Cast Iron and M.S. Steel but we recommend M.S. Steel formers due to long life and durability.

AVAILABLE IN : Formers of heavy of "C" class pipe are supplied with the bender. Medium "B" and light "A" class formers are available on request.

DEFECT AND REMEDY

DEFECT : Dust particles in filter portion.

REMEDY : Open complete drain plug (#25) as shown in the figure 8 and clean filter (#24) thoroughly as shown in the figure 9

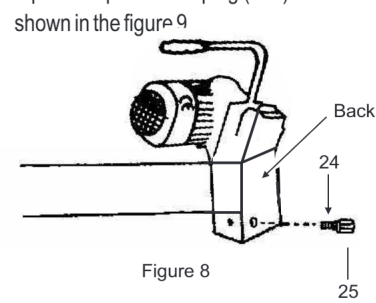


Figure 8

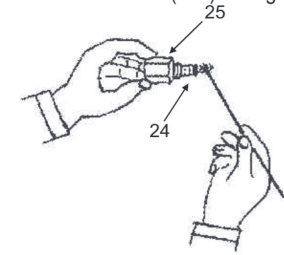
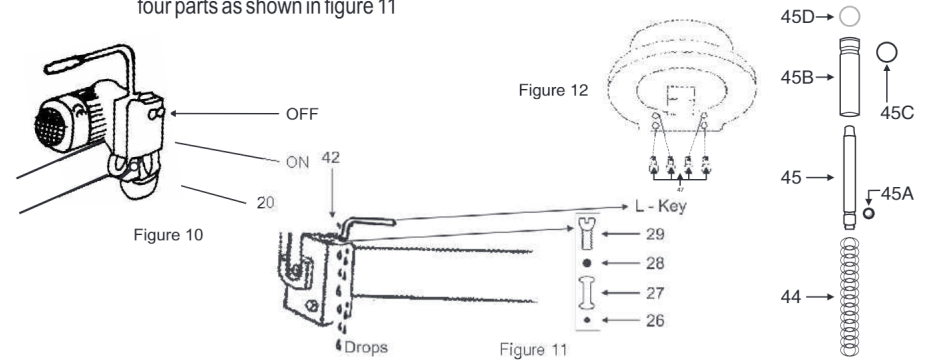


Figure 9

DEFECT : If Ram/Piston does not move from the place while pumping and it go and back on same place.

REMEDY : Loose release valve (#20) in anti clockwise & switch on the machine for 20 seconds & again tight release valve (#20) in clockwise direction & repeat this operation 4-5 times as shown in figure 10

If results are not satisfied, remove four L - Key bolt (#47) & remove motor & open screw (#29) & clean its three parts i.e. Ball (Big) (#28), Weight Pin (#27), Ball (Small) (#26) & again fit all four parts as shown in figure 11



HOW TO REPLACE/FIT PUMP PLUNGER

Step 1 : Open four pieces L - key bolts (#47) & remove motor (#65).

Step 2 : Get the complete plunger (#41 to #45) out & clean.

Step 3 : Replace the damage seals, if found.

Step 4 : Fit all parts of pump plunger again turn by turn as shown in figure 13.

Ball (#41) - Surfacer (#42) - Nylon washer (#43) - Double spring (#44) - Fit bucket (#45A) on plunger shaft (#45) - Fit oil seal (#45D) in side the plunger (#45B) & O-ring (#45C) on out side the plunger. Insert plunger shaft (#45) into plunger (#45B) from the bottom side as shown in figure 13. Otherwise bucket will damage, put the motor (#65) on the cylinder & hold it with 4 L-Key bolt as shown in figure 12.

Step 4 : Down upper plate (#2) and tight the release value (#20) in clockwise direction as shown in figure 7

Step 5 : Before operating, loose air valve (#22)

Step 6 : Switch on the machine to create hydraulic pressure as shown in figure 7

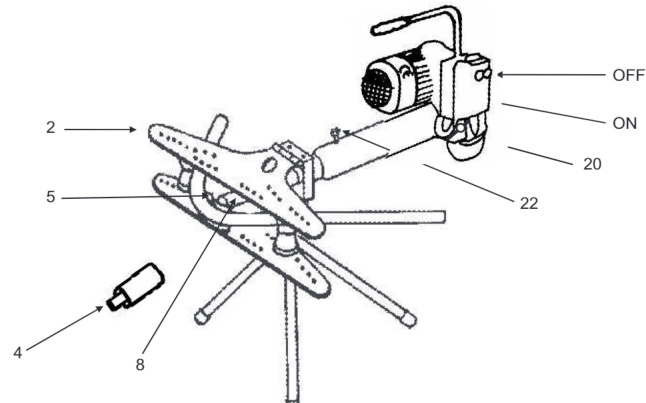


Figure 7

Step 7 : After bending the pipe on desired angle, loose release value (#20) in anti clockwise direction to release the pressure as shown in figure 7

Step 8 : Open upper plate (#2) and remove pipe from the former (#5) as shown in figure 7

Step 9 : Whenever the bending is not achieved 90° in a single stroke, use extension bar (#4) on front of Ram portion.

Step 10 : Bending angle 90° degree can't be achieved in a single stroke in Size 3", 4" & 6" so step bending is required.

WARNINGS

1. Do not use the bender more than its capacity.
2. If pipe is over size, it cracks the formers.
3. Use new bending quality pipes, avoid old and rusty pipes.
4. Bender is specially designed to bend for minimum wall thickness pipe size 3.2 mm and above. If bending less than 3.2 mm thickness pipe e.g. conduit pipe then sand or lead is required to be filled and put caps on the end of the pipe otherwise pipe may have kinked or ceased.
5. Avoid different types of oil e.g. Break oil, Alcohol, Glycerin, Compounds or motor lubricant.
6. Use only Hydraulic oil or "Inder" Hydraulic oil.
7. Always trained technician should check or replace the seal.

PACKING AND ACCESSORIES :

MODEL 215

"INDER" HYDRAULIC MOTORISED PIPE BENDERS WITH HINGED FRAME are supplied in wooden cases with export worthy packing and contains following accessories as shown in figure 1

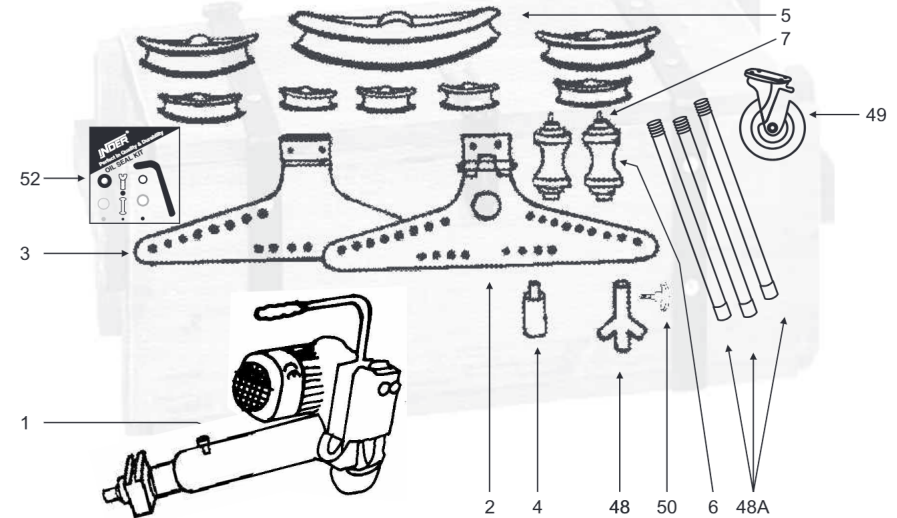


Figure 1

Part#	Description	Qty.	Part#	Description	Qty.
1.	Complete main cylinder	1	7.	Pin for Dolly Block	2
2.	Upper plate	1	48.	Tripod for 1", 2", 3" bender	1
3.	Lower plate	1	48A.	Legs for 1", 2", 3", bender	3
4.	Extension bar for 2", 3", 4", 6" bender	1	49.	Wheel for 4", 6" bender	4
5.	Formers/Die 1", 2", 3", 4", 6" 4 6 8 7 5 pcs.		50.	Lock	1
6.	Dolly block	2	52.	Oil Seal Kit	1

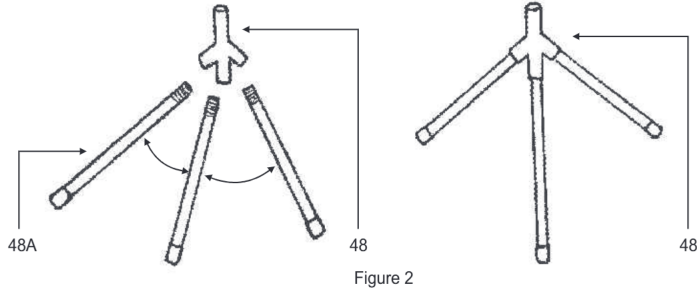
Serial No. :

Packed By :

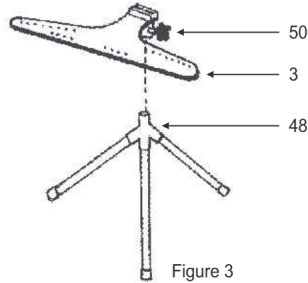
Checked By :

ASSEMBLY :

Step 1 : Attach three different legs (#48A) into the tripod (#48) as shown in figure 2

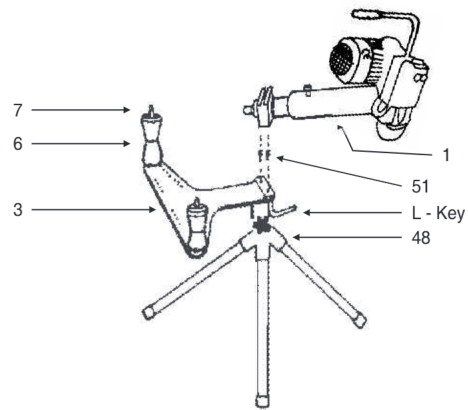


Step 2: Take lower plate (#3) put on the tripod (#48) and tighten the lock (#50) as shown in figure 3

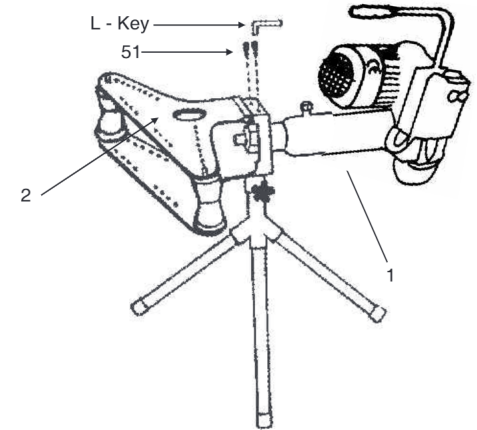


Step 3 : Put complete cylinder (#1) on the lower plate (#3) (fitted on the tripod) and tight the both bolt (#51) with L-Key (Available in spare kit) as shown in figure 4.

Step 4 : Put both Dolly blocks (#6) and pins (#7) in hole of the lower plate (#3) as shown in figure 4



Step 5 : Attach upper plate (#2) to the front of the cylinder (#1) and tight both bolt (#51) with L-key (Available in spare Kit) as shown in figure 5



OPERATION

Step 1 : Open upper plate (#2) to put the former/die easily, as shown in figure 6

Step 2 : Select any former/die (#5) provided with the bender, put front of ram/piston (#8) and set dolly blocks (#6) pin (#7) in the holes of lower plate (#3) according to the size of pipe as shown in figure 6

Step 3 : Insert pipe between the former (#5) and dolly block (#6) as shown in figure 6

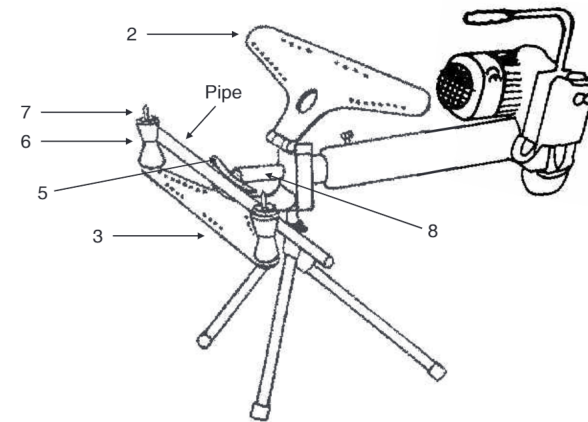


Figure 6