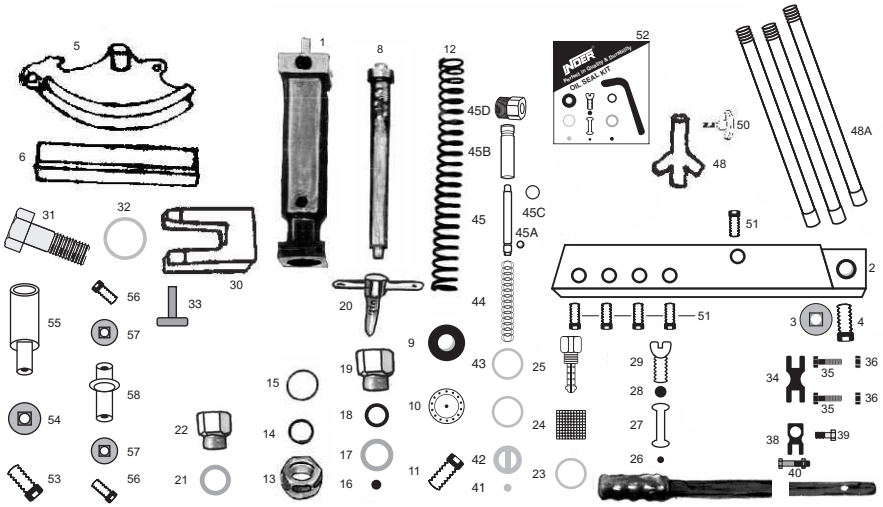
PARTS DIAGRAM



PARTS LIST

ITEM#	DESCRIPTION	QTY.
1	Main Cylinder	1
2	Main Plate	1
3	Washer	1
4	L - Key bolt	1
5	Former	7
6	Sliding bar	7
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
28	Ball (Big)	1
29	L - key screw	1
30	Clamp	1
31	Washer	1
32	Bolt	1
33	Pin	1

ITEM#	DESCRIPTION	QTY.
34	H-Lever	1
35	Bolt	2
36	Hex Nut	2
37	Handle	1
37A	Handle shaft	1
38	Plunger Holder	1
39	Bolt	1
40	Plunger Pin	1
41	Ball	1
42	Surfacer	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	Top plate of pump plunger	1
47	L - Key bolt for top plate	4
47A	Plunger washer	1
48	Tripod	1
48A	Leg	3
50	Lock	1
51	L - Key bolt for main plate	5
52	Oil Seal Kit	1
53	L - Key bolt	1
54	Washer	1
55	Dolly block	1
56	L - Key bolt	1
57	Washer	1
58	Former holder	1

DKM tools Total Supplier

PROD. 217
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 bekept readily available as an important reference when using this Pipe Bending Tool.

FEATURES

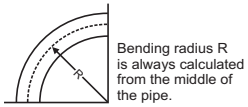
"INDER" HYDRAULIC PIPE BENDERS WITH OPEN FRAME is specially designed to bend long radius thin wall thickness bending 3/8" - 2" water pipe & stainless steel pipe upto 90°.

In this version providing extra pump force 15 tons, well Grinding/Hardcrome Ram/Piston with automatic return will spring to release of valve.

HYDRAULIC PIPE BENDER
WITH OPEN FRAME
(For long radius thin wall thickness bending 90°)

PROD. NO.	SIZE IN INCHES	PUMP FORCE IN TONS	HYDRAULIC OIL IN LTR.	N.WT. (Kgs)	G.WT (Kgs)
217 A	3/8 TO 1.1/4	15	1.750	135.0	183.0
217 B	1/2 TO 2	15	1.750	186.0	240.0

PROD. NO. 217



Bending radius R is always calculated from the middle of the pipe.

PROD. NO. 219

SPARE BENDING FORMERS
OF OPEN FRAME
(For long radius thin wall thickness bending 90°)

PROD. No.	I.D. INCHES	O.D. MM	RADIUS MM	MIN.WALL THICKNESSMM	N.W.T (Kgs)
219A	3/8	16.7	100	1.5	7.000
219B	1/2	21.0	100	2.0	6.800
219C	3/4	26.4	100	2.0	5.750
219D	1	33.2	150	2.5	10.550
219E	1-1/4	42.0	150	2.5	13.400
219F	1-1/2	47.8	200	2.8	20.600
219E	2	60.3	300	2.8	38.000

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) throughly as shown in the figure 9

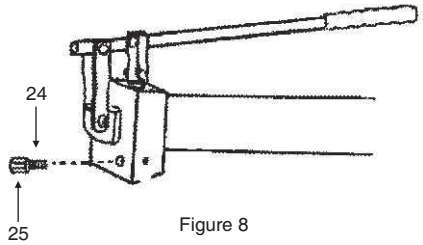


Figure 8

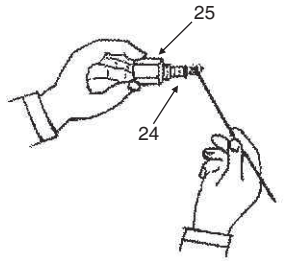


Figure 9

DEFECT : If Ram/Piston does not move from the place while pumping and it go and back on same place.
REMEDY: Loose L-Key screw (#29) fitted on front side of pump plunger (#42), pump 4-5 times with force, waste few drops of oil & tighten the bolt. If results are not satisfied, 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 10.

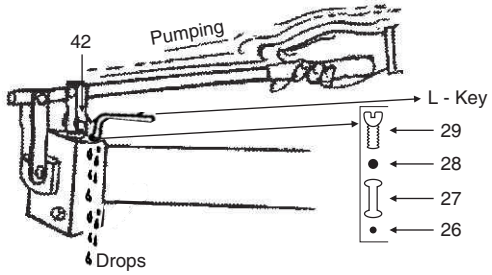


Figure 10

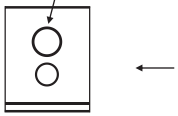


Figure 11

HOW TO REPLACE/FIT PUMP PLUNGER

Step 1 : Open plunger NUT (# 45D).
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 12. Ball (#41) - Surfacer (#42) - Nylon washer (#43) - Steel washer (#43A) - Double spring (#44) - Fit bucket (#45A) on plunger shaft (#45)- Fit plunger holder seal (#45C) in to pump plunger (#45B) - Insert plunger shaft (#45) into plunger (#45B) from the bottom side as shown in figure 12. Otherwise bucket will damage & as shown in figure 11. tight the nut (#45D).

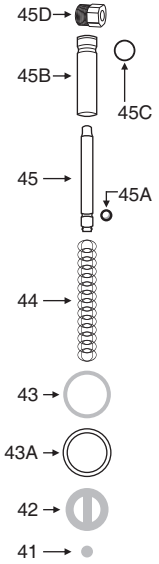


Figure 12

Step 4 : Tight release valve (#20) in clockwise direction as shown in figure 6

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

Step 6 : Start pumping with handle (#37) up and down to create hydraulic pressure as shown in figure 6

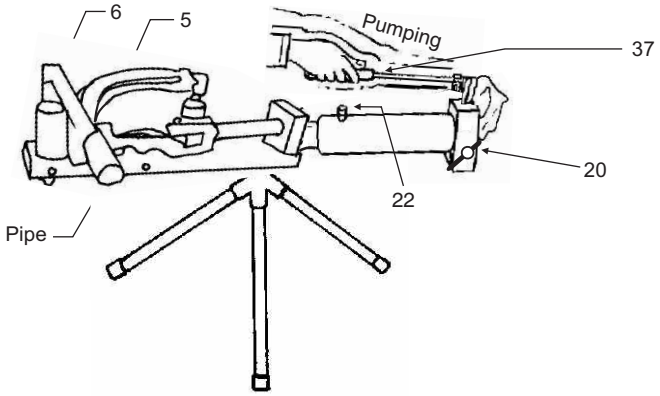


Figure 6

Step 7 : After bending the pipe on desired angle, loose release valve (#20) in anti clockwise direction to release the pressure as shown in figure 6

Step 8 : Remove sliding bar (#6) & pipe from the former (#5) as shown in figure 6

Step 9 : After bending, if the die not return on loose of release valve, hold the pipe & push it on back side. (It is happened in 1.1/2" & 2" bends) because its ram returns with spring action not with force.

WARNINGS

1. Do not use the bender more than its capacity.
2. Do not use over/less size pipe for bending.
3. Use new bending quality pipes, avoid old and rusty pipes.
4. Bender is specially designed to bend thin wall thickness pipe but not less than 2mm.
5. Avoid different types of oil e.g. Break oil, Alcohal, 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 217

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

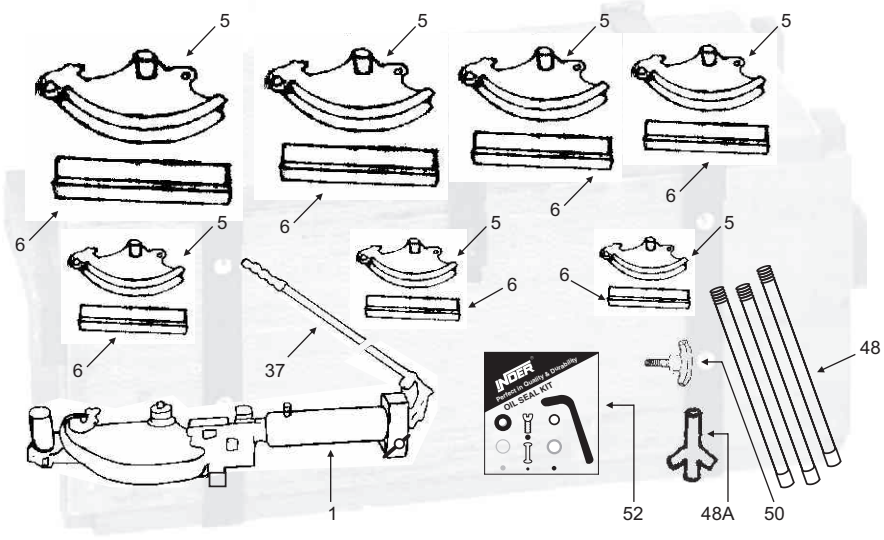


Figure 1

Part #	Description	Qnty.
1.	Complete main cylinder	1
5.	Formers/Die 3/8" - 1.1/4"	5
	Formers/Die 1/2" - 2"	6
6.	Sliding Bar 3/8" - 1.1/4"	5
	Sliding Bar 1/2" - 2"	6

Part #	Description	Qnty.
37.	Handle	1
48.	Tripod	1
48A.	Legs	3
50.	Lock	1
52.	Oil Seal Kit	1

ASSEMBLY :

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

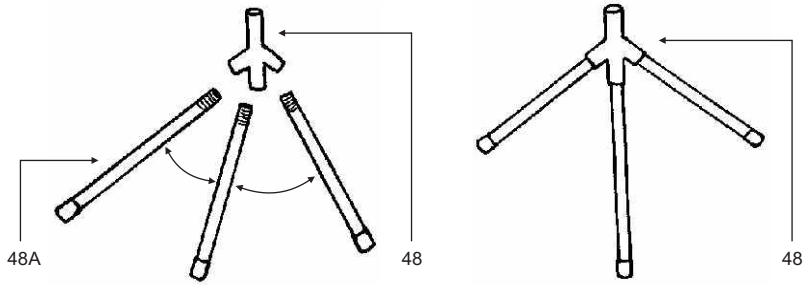


Figure 2

Step 2 : Take complete cylinder (#1) put on tripod (#48) and tighten the lock (#50) as shown in

figure 3

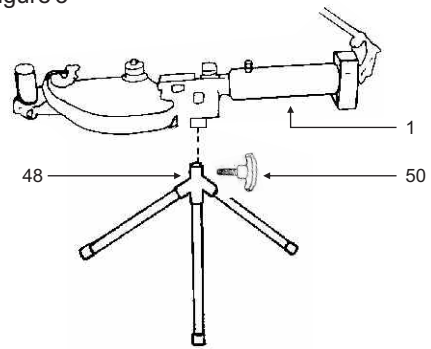


Figure 3

Step 3 : Join handle (#37) with handle shaft (#37A) as shown in figure 4

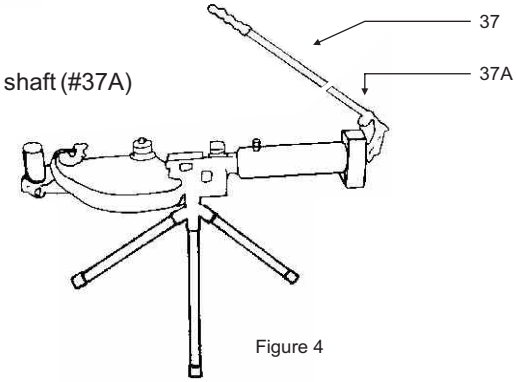


Figure 4

OPERATION

Step 1 : Select any set of former/die (#5) & sliding bar (#6) provided with the bender. Join its first hole with former holder (#58) & put washer (#57) & tight with L - Key bolt (#56). Join second hole with clamp (#30) & put pin (#33) as shown in figure 5

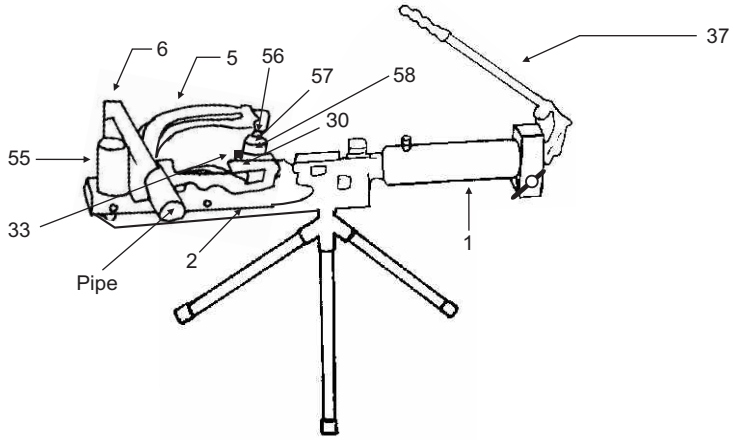


Figure 5

Step 2 : Set dolly block (#55) in the holes of plate (#2), according to the size of pipe as shown in figure 5

Step 3 : Insert pipe into the former (#5) and dolly block (#55) & put the sliding bar (#6) as shown in figure 5