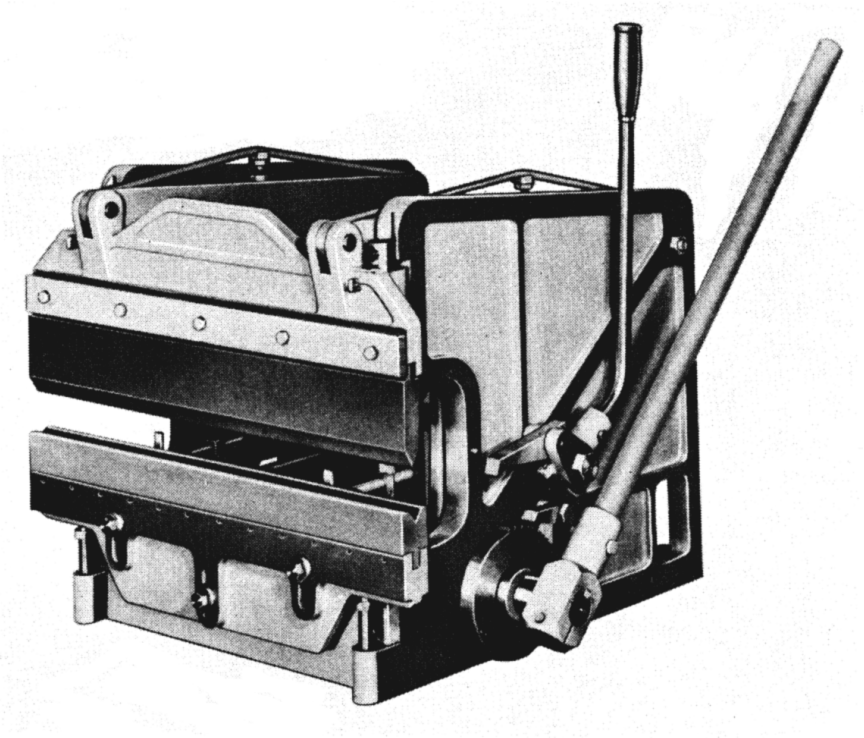
OPERATOR'S MANUAL & INSTRUCTIONS

DI-ACRO HAND OPERATED PRESS BRAKE MODEL 16-24



Di-Acro, Incorporated
PO Box 9700
Canton, Ohio 44711
3713 Progress Street N.E.
Canton, Ohio 44705
330-455-1942
330-455-0220 (fax)
Revised 04/02

The hand operated Di-Acro Press Brake is a compact, versatile forming machine that is equally useful in the experimental shop or on the production line.

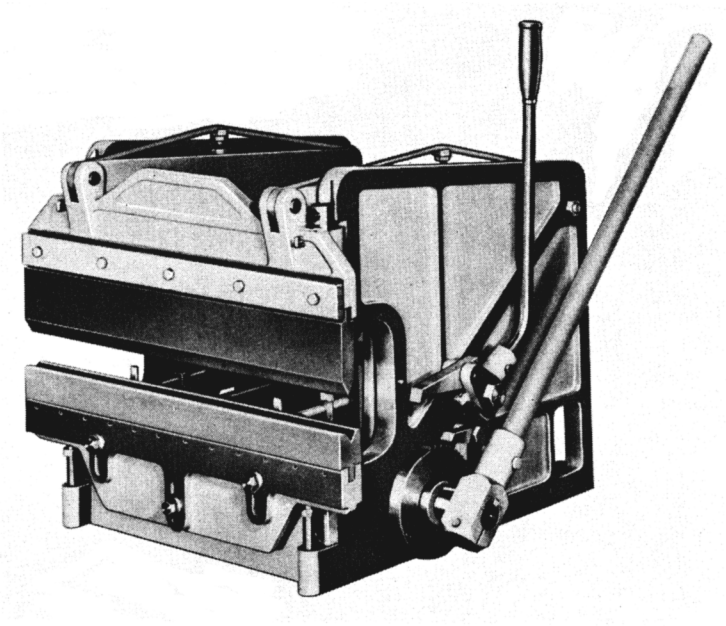
As on all machines, performance of the Di-Acro Press Brake is only as good as the care given it by the operator in following the manufacturer's recommendations.

The recommendations made in this folder are designed not only as a proper aid in correct set-up procedure, but also as a guide for this precision machine's day in, day out operation.

MOUNTING THE DI-ACRO PRESS BRAKE

Compact design of the hand operated Di-Acro Press Brake enables it to be easily moved from one department to another — mounted on a work table or bench and set up for operation.

IMPORTANT: When mounting Press Brake, care should be exercised to keep side frame from twisting or becoming misaligned. If work table or bench is warped or otherwise distorted, it will create uneven pressure along the Press Brake base causing the frame to twist out of shape and ruin the bearings.



LUBRICATION

Using medium weight machine oil, periodically lubricate the ram guides through the oil cups or the front of the ram. Oil holes are also provided on all moving parts throughout the machine and should be oiled periodically.

ADJUSTING PRESS BRAKE DIES

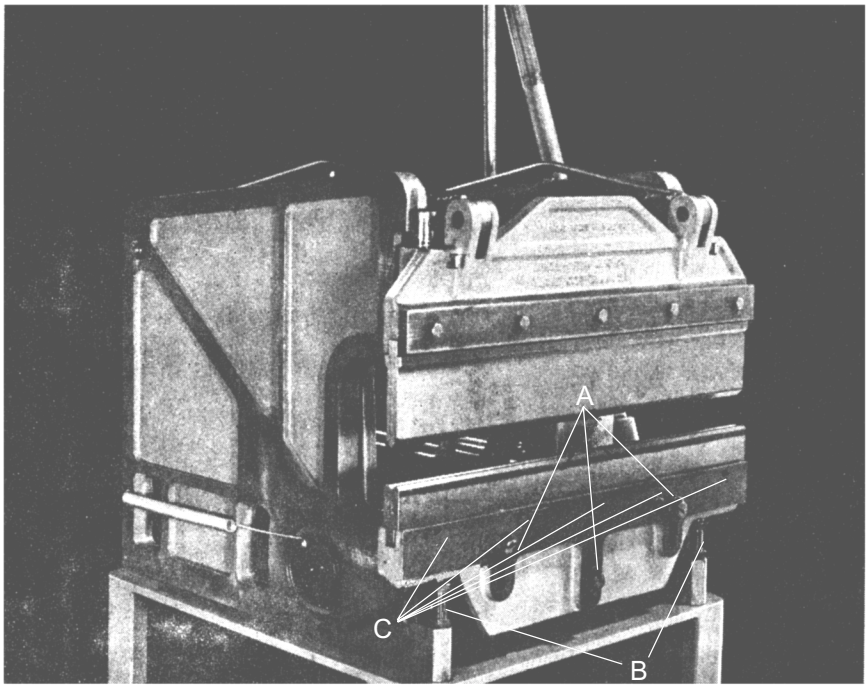
Lower die on the Di-Acro Press Brake can be adjusted both up and down and in and out to obtain exact alignment of dies.

TO LINE UP DIES

1. Lower Operating Handle as far as it will go so upper die is at the bottom of its down stroke. This is important because maximum forming power cannot be obtained until Cam Shaft reaches the bottom of its cycle. Also, Ratchet Drive will not automatically disengage until Operating Handle is at the bottom of its down stroke.

2. Set proper height of lower die by loosening bolts A and adjusting bed support bolts B.

3. Center upper and lower dies by adjusting set screws C located along the entire width of die bed.



TONS PRESSURE REQUIRED TO PUNCH MILD STEEL PLATE
Shearing Strength of 50,000 lbs. per Square Inch

Gauge	Inches	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"
20	0.036	0.35	0.71	1.1	1.4	1.8	2.1	2.5
18	0.048	0.47	0.94	1.4	1.9	2.4	2.8	3.3
16	0.060	0.59	1.2	1.8	2.4	2.9	3.5	4.1
14	0.075	0.74	1.5	2.2	2.9	3.7	4.4	5.2
12	0.105	1.0	2.1	3.1	4.1	5.2	6.2	7.2
11	0.120	1.2	2.4	3.5	4.7	5.9	7.1	8.3
10	0.135	-----	2.7	4.0	5.3	6.6	8.0	9.3
3/16"	0.187	-----	3.7	5.5	7.4	9.2	11.1	-----
1/4"	0.250	-----	4.9	7.4	9.8	12.3	-----	-----
3/8"	0.375	-----	-----	11.1	-----	-----	-----	-----

To determine Tons Pressure required to punch a given number of holes, multiply number of holes by figure shown in Chart for hole size and Metal Thickness required.

To reduce Tonnage 50% stagger one Metal Thickness.

PRESSURE IN TONS PER LINEAR FOOT REQUIRED FOR MILD STEEL IN VARIOUS WIDTHS OF FEMALE DIE OPENINGS (AIR BENDING)

Thickness of Metal		DIE OPENING																
Gauge	Decimal	5/16	3/8	1/2	5/8	7/8	1	1-1/8	1-1/2	2	2-1/2	3	3-1/2	4	5	6	7	8
20	.0359	2.3	1.7	1.1														
18	.0478	4.0	3.0	2.2	1.7													
16	.0598	7.1	5.6	3.8	2.8	1.8	1.5											
14	.0747	11.9	9.2	6.3	4.7	3.0	2.5	2.1										
12	.1046			13.1	9.7	6.5	5.6	4.6	3.2									
11	.1196			19.2	14.2	9.0	7.5	6.3	4.4	2.9								
10	.1345				18.6	11.9	9.9	8.5	5.8	4.0								
3/16”	.188					23.1	19.3	16.4	11.2	7.5	5.7	4.4						
1/4”	.250						39.4	33.3	22.7	15.4	11.4	9.0	7.4	6.1				
5/16”	.313								39.8	27.0	19.7	15.3	12.7	10.5	7.7			
3/8”	.375								61.6	42.3	30.9	24.0	19.6	16.3	12.3	9.5		
7/16”	.438									61.7	45.8	35.4	28.6	24.4	17.3	14.8	11.2	
1/2”	.500									85.2	63.6	48.8	39.7	33.3	24.6	19.4	15.9	13.1
5/8”	.625										110.0	86.2	70.0	58.3	43.1	33.3	27.4	23.3
3/4”	.750											138.0	110.0	93.0	68.7	53.5	43.6	36.5
7/8”	.875												165.0	137.0	104.0	80.7	64.6	52.9
1”	1.000													197.0	143.0	113.0	91.2	76.2

Pressures underlined are for die with female openings approximately 8 x metal thickness, with radius on male die equal to metal thickness, and are considered ideal for right angle bending.

Bending pressures required for other metals as compared to 60,000 PSI tensile mild steel on chart:

Soft Brass	50% of pressure listed	Stainless Steel	50% more than steel
Soft Alluminum	50% of pressure listed	Chrome Molybdenum	100% more thatn steel
Aluminum Alloys (heat treated)	Same as Steel		

HAND PRESS BRAKE - OPERATION

For average operations, the lever operated roller bearing cam will provide adequate power. For forming heavier gauges up to 8 tons pressure can be developed by use of ratchet drive.

1. With die set in place, set the material stops by use of adjustomatic handle (figure 1).

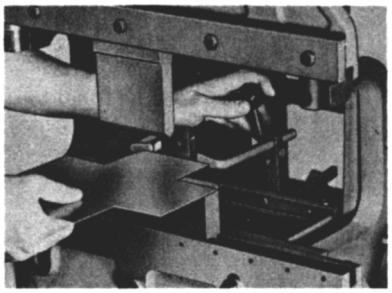


Figure 1

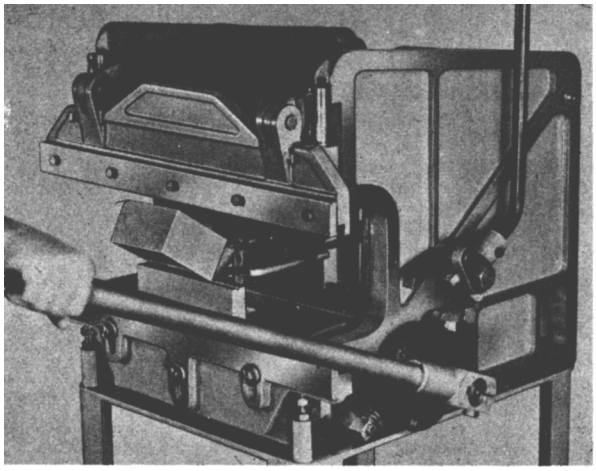


Figure 2

2. Pull handle down until desired bend is reached (figure 2).

3. To use the power multiplying ratchet, bring the male die down in contact with the material, using the regular handle.

4. Using the ratchet handle, bring ram down until desire bend is reached (figure 3). NOTE: When ratchet handle is used, the holding pawl automatically holds the ratchet wheel until released. To release the holding pawl, the ratchet handle must be pushed all the way back.

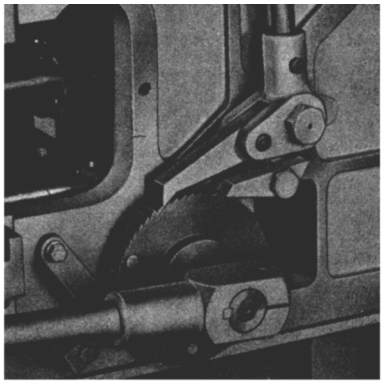
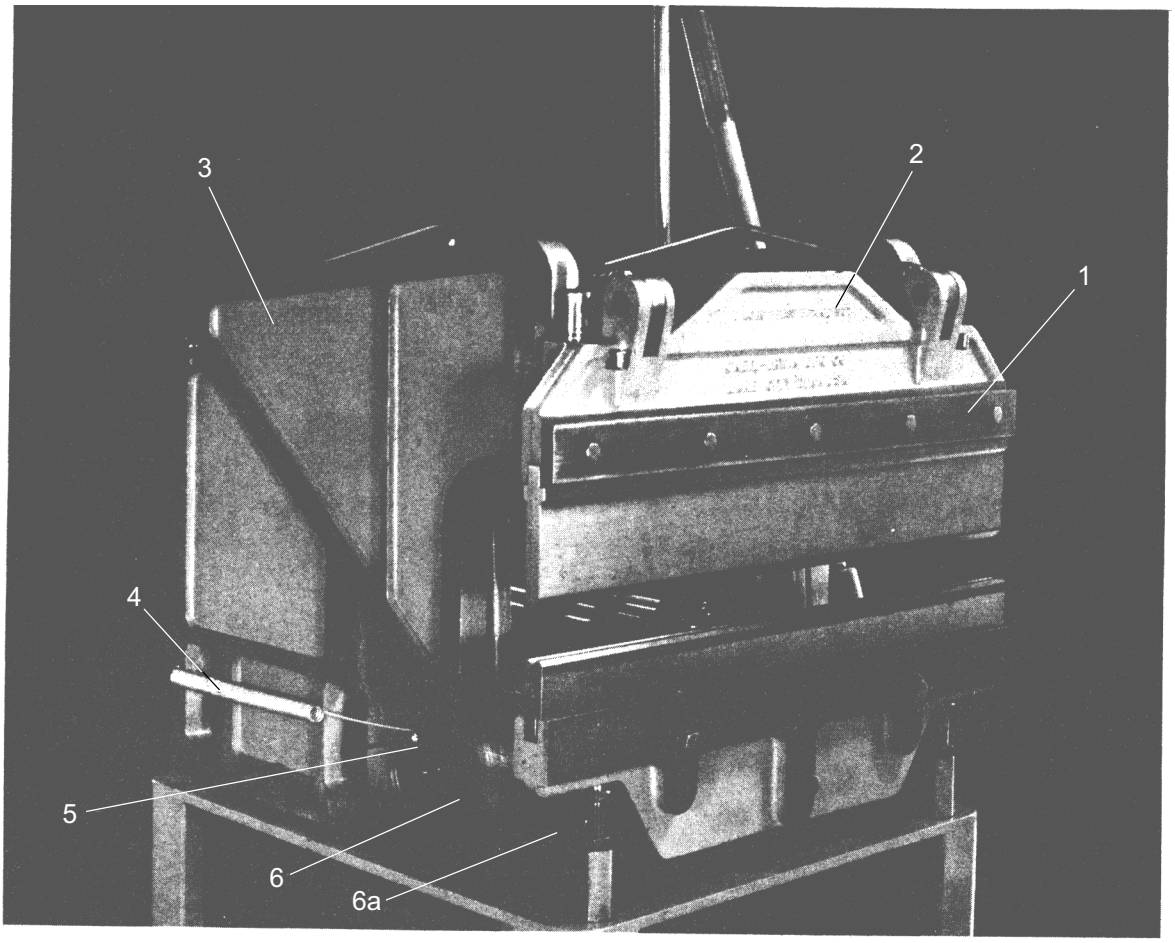
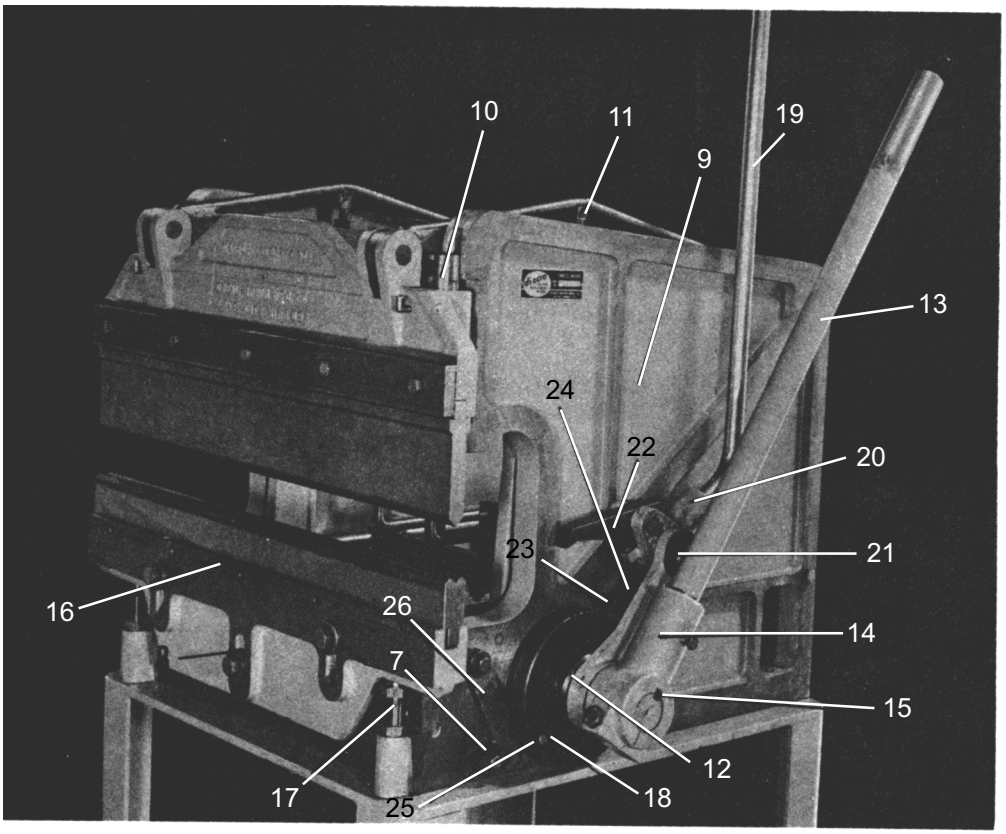


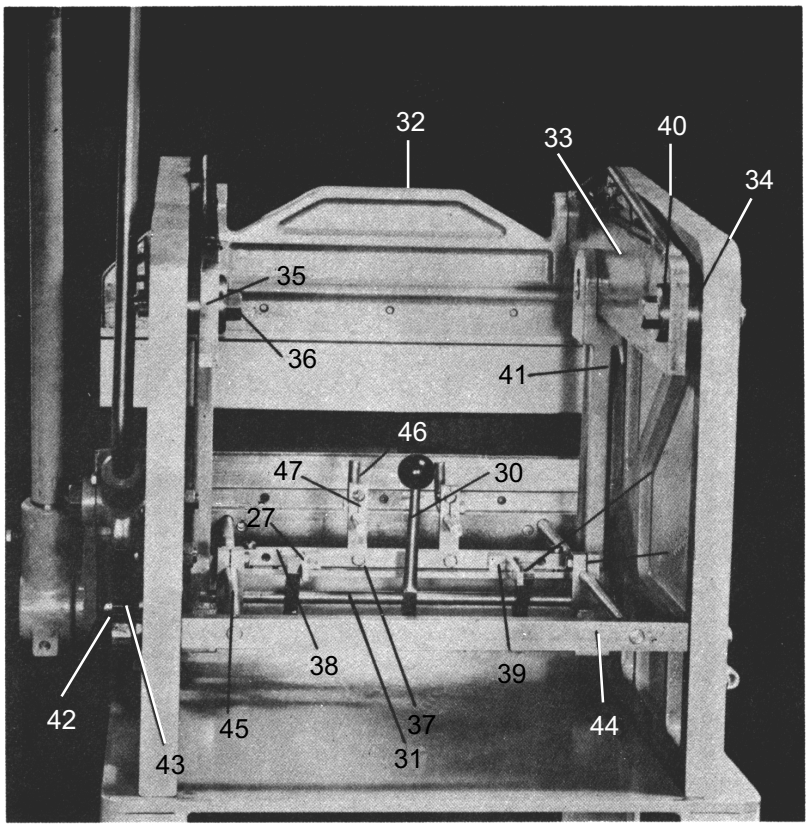
Figure 3



Item No.	Description	Part No.
1	Ram Cap	600-1108006
2	Ram	600-1213004
3	Side Frame L	600-1103063
4	Spring	600-5101028
5	Washer	600-4901022
6	Shaft	600-1211023
6a	Bed Support	600-1103064



Item No.	Description	Part No.
7	Spring Container	600-1218061
8	Washer (3)	4901104
9	Side Frame R	600-1103062
10	Ram Guide	600-1108005
11	Yoke (2)	600-1441009
12	Connecting Link	600-1201020
13	Handle	600-1208024
14	Handle Holder	600-1208025
15	Handle Key	600-5501026
16	Bed	600-1104030
17	Bed Support Bolt	600-4701032
18	Ratchet	600-1451050
19	Ratchet Handle	600-1208714
20	Ratchet Handle Holder	600-1208052
21	Ratchet Bolt	600-4701053
22	Ratchet Pawl	600-1218054
23	Check Pawl	600-1218055
24	Check Pawl Spacer	600-1218056
25	Ratchet Wheel Stop	600-1218058
26	Safety Catch	600-1218060



Item No.	Description	Part No.
27	Adjustomatic Link (2)	315-1441054
28	Adjustomatic Trunnion (2)	600-1451038
29	Adjustomatic Arm (2)	600-1451039
30	Adjustomatic handle Arm	600-1451040
31	Adjustomatic Shaft	600-1451041
32	Yoke Bolt (2)	600-4701008
33	Power Arm Assy (2)	600-1215010
34	Power Arm Spacer (2)	600-1215011
35	Power Arm Bearing (2)	600-3770012
36	Power Arm Bolt (2)	600-4701013
37	Material Support Clamp	500-1441015
38	Material Support Bar	600-1441016
39	Support Bar Trunnion	600-1441017
40	Power Arm Washer (2)	600-4901018
41	Connecting Arm (2)	600-1212701
42	Ratchet Spring	600-5101027
43	Check Pawl Bolt	600-4701057
44	Spacer Bar	600-1108034
45	Adjustomatic Rod	600-1441035
46	Gauge Rods	600-1415001
47	Gauge Clamps	600-1451038