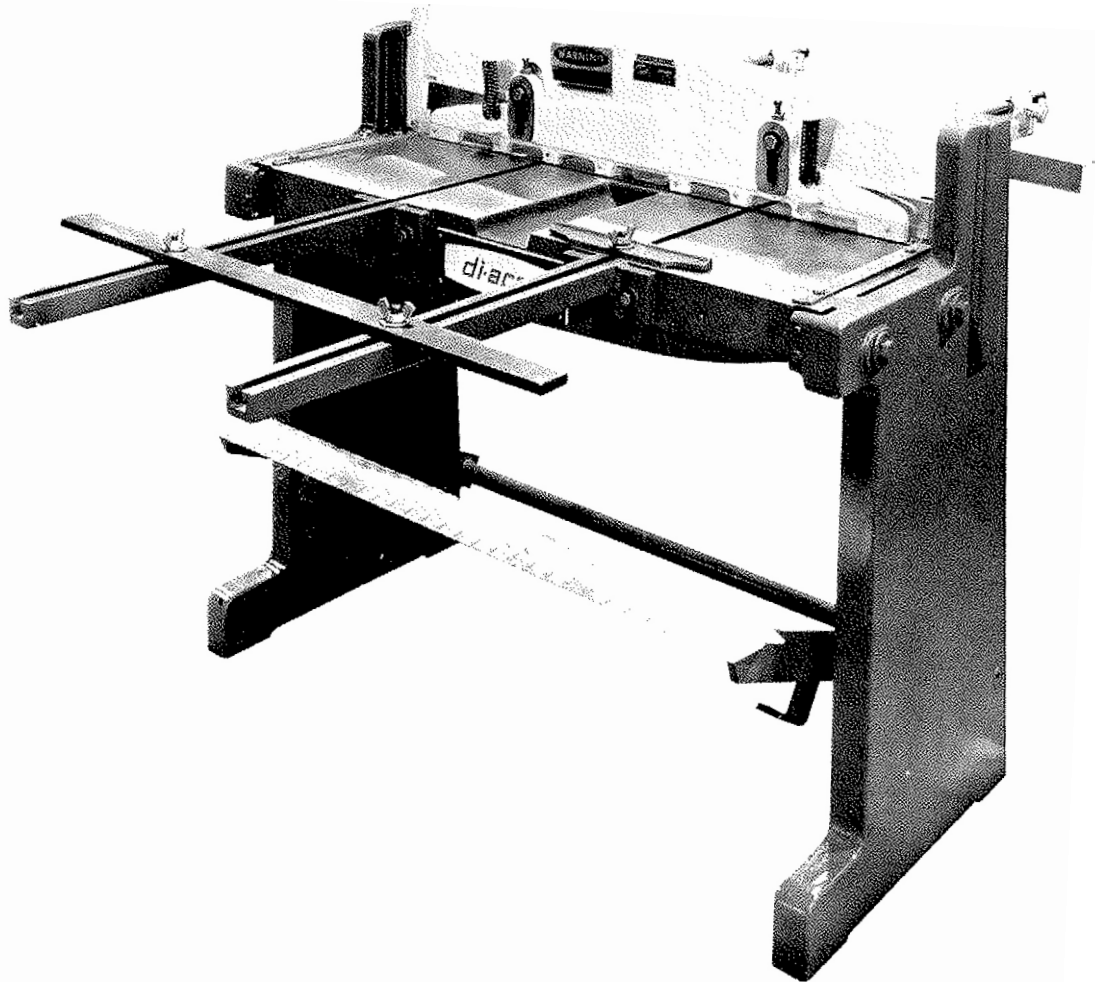


# 36 FOOT SHEAR OPERATIONS MANUAL



**DiAcro**<sup>®</sup>

METAL FABRICATION EQUIPMENT

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## **DISCLAIMER**

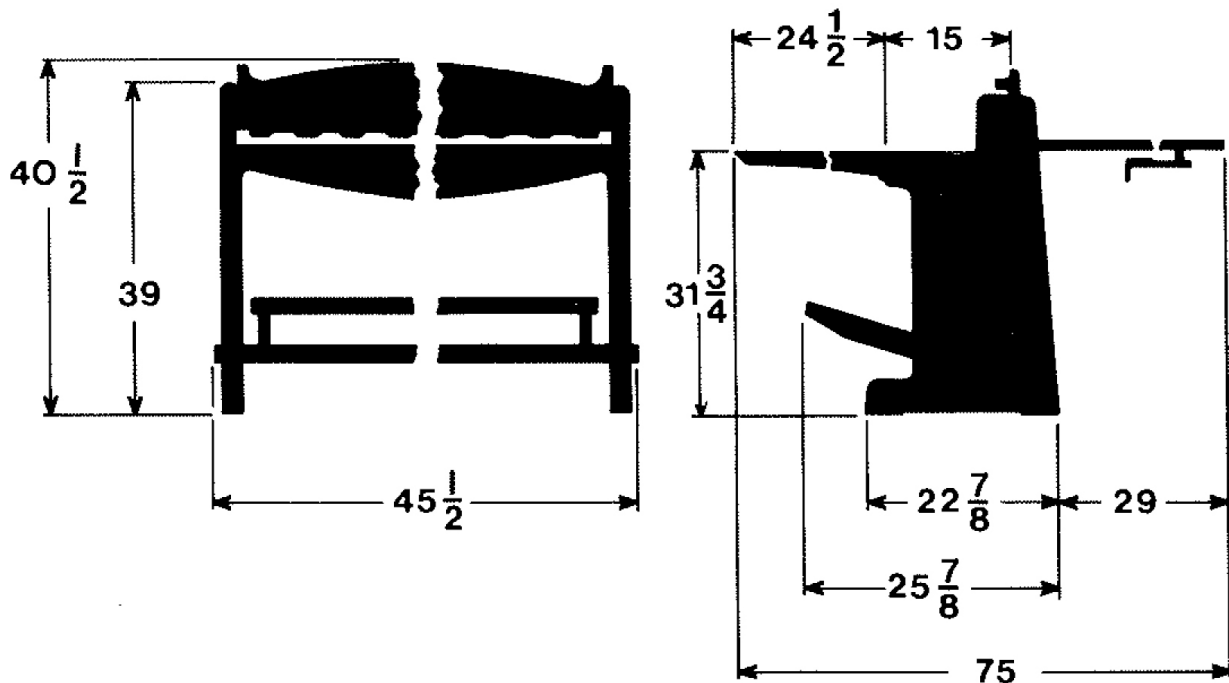
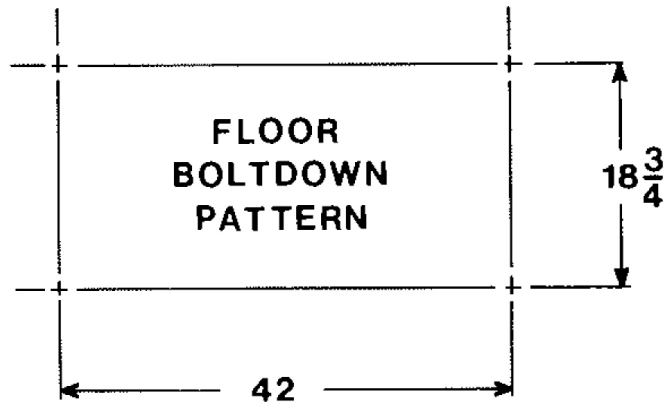
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**Floor Plan**

## Adjusting the 36 Foot Shear

Before operation of the Di-Acro 36 foot Shear, the procedure listed below should be followed:

### 1. Set-Up

- A. Remove the shear from skids and move to desired location.
- B. Check to make certain that table is resting squarely on legs at all four corners using a feeler gauge at points marked "B" on front and side views of the illustration on page 4. See note below if adjustment is necessary.
- C. Machine should rest squarely on floor. (Shim legs at floor if necessary.)
- D. Lag machine to floor. (NOTE: The bolt hole pattern for fastening machine to floor can be found in the floor plan on page 2 of this manual.
- E. Recheck step B above.

NOTE: If table does not rest squarely on legs, loosen leg-to-bed bolts ( Item 19 on page 4) and adjusting screws ( Items 44 and 45). Shim legs as necessary at floor to make table rest squarely on legs and follow the "Blade Adjustment" procedure listed below.

### 2. Crosshead Adjustment

- A. Adjusting screws 48 to adjusting setting. Crosshead (2) should be held snugly against ways in legs 4 and 5, yet not tight enough to bind movement.

NOTE: This adjustment should not be necessary on a new shear.

### 3. Blade Adjustment (When setting up or changing blades)

NOTE: Blade adjustment is made at the factory and if table rests squarely on legs, further adjustment should not be necessary on a new shear.

- A. Make sure leg-to-bed bolts are only snug tight.
- B. Adjust clearance between crosshead blade and bed by means of adjusting screws 44 and 45. Lower blade should be positioned within a few thousandths of upper blade.

NOTE: Adjusting screws 44, move bed out increasing clearance between upper and lower blade.

Adjusting screws 45, move bed in decreasing clearance between upper and lower blade.

CAUTION: Be careful that upper blade does not overlap lower blade.

- C. Position a piece of heavy paper (approx. .005") the full length of cut between the blades. Slowly depress the foot treadle.

If shear does not cut paper, move bed towards upper blade by means of adjusting screws 44.

If shear cuts paper on both ends, but not in center, turn crosshead tie rod adjusting nut 51 slowly clockwise until blade cuts full length of paper.

If shear cuts in the center, but not on ends, turn crosshead tie rod adjusting nut slowly counterclock-wise until the blade cuts the full length of paper.

After properly adjusting blades, and before cutting any stock, tighten leg-lo-bed bolts 19.

### Holddown Adjustment

- A. Set holddown to engage material before blades by setting holddown adjust screws 48.

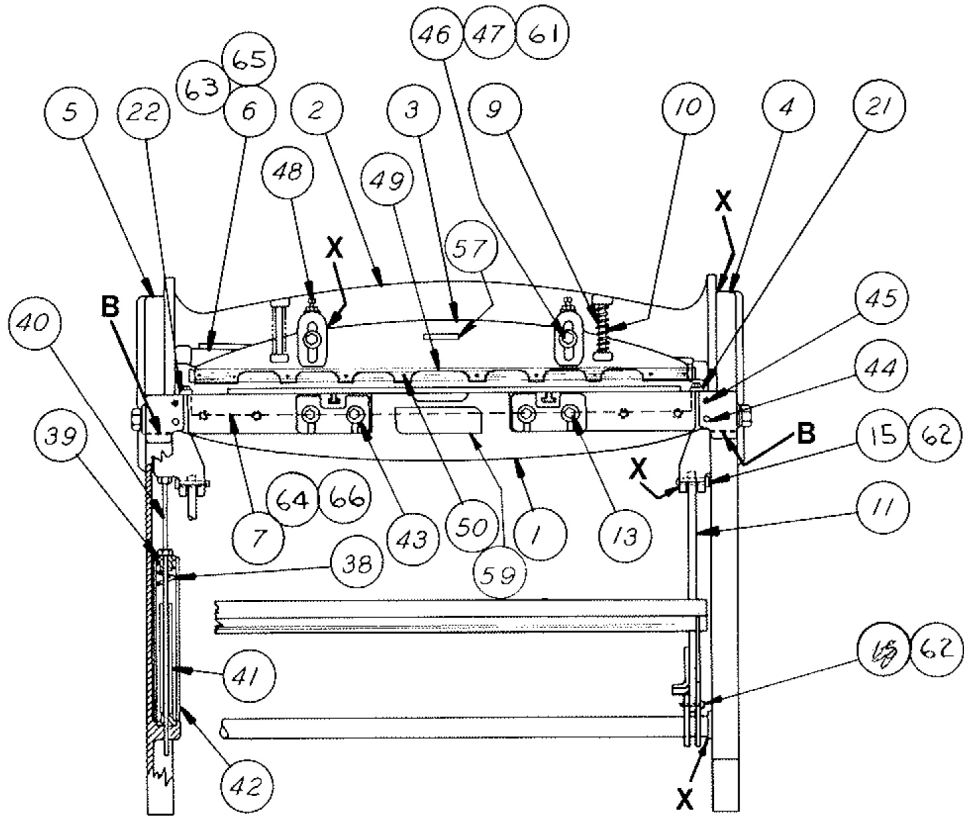
### 4. Leverage Adjustment

- A. Two leverage holes (A) are provided in each treadle. When shipped, the machine is set at the lower leverage setting, Greater leverage for cutting maximum capacity stock can be obtained by moving the lower connecting link pins ( 15) to the holes nearest the hinging point of the treadle.

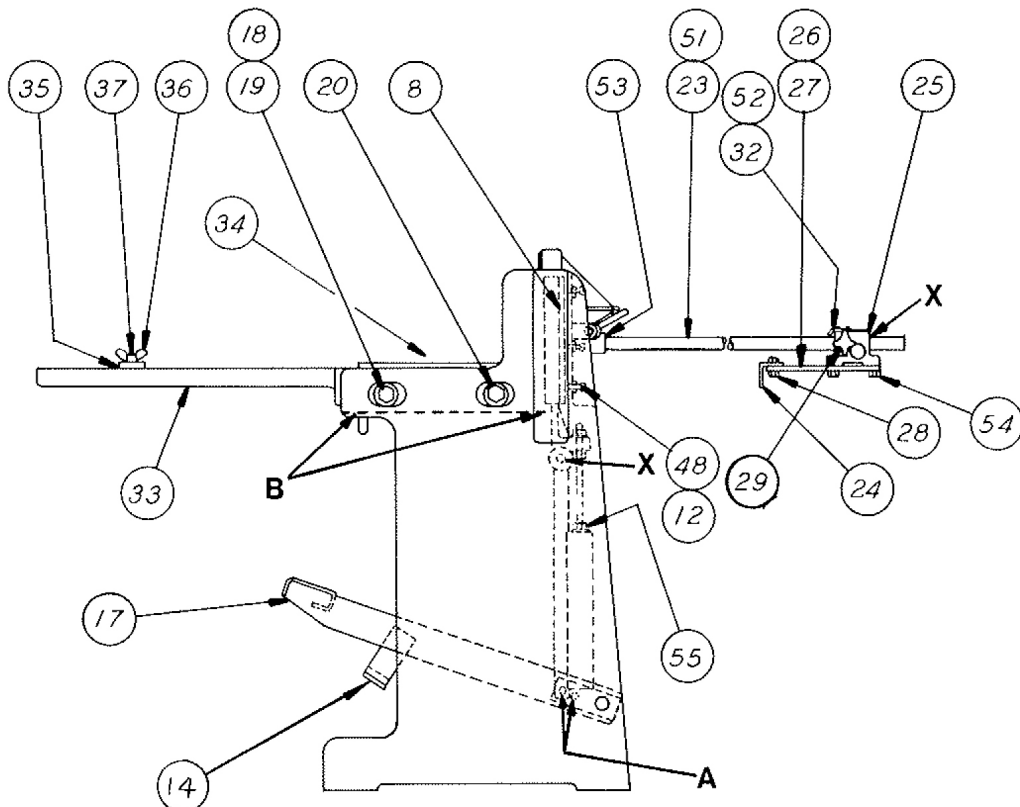
5. Front, back and side gauges are provided. Side and back gauges are graduated in sixteenths. Adjustment is provided to keep graduations aligned with blade cutting edges.
6. Always keep blades sharp. Wipe down blades occasionally with oil to increase blade life. It is recommended that an extra pair of blades be available for use when blades are removed for sharpening.
9. Keep area between crosshead and leg bearing surfaces well lubricated. Lubricate all points marked (X) daily.
10. When ordering replacement parts from factory, be sure to give machine number, serial number, part number, description and quantity,

CAUTION: This shear has been tested to capacity at the factory. Do not exceed rated capacity on nameplate.

## 36 FOOT SHEAR ASSEMBLY



FRONT VIEW



RIGHT SIDE VIEW

237-8000821 - 237-8000822

Item No.	Part No.	Description	Qty Used
1	237-1104001	Bed	1
2	237-1213001	Ram Assembly	1
3	237-141101	Holddown	1
4	237-1103003	RH Leg	1
5	237-1103004	LH Leg	1
6	237-1209001	Upper Blade (237-8000822 only)	1
	237-1209004	Upper Blade (237-8000821 only)	1
7	237-1209002	Lower Blade (237-8000822 only)	1
	237-1209004	Lower Blade (237-8000821 only)	1
8	237-1108001	Gib	2
9	237-5102001	Holddown Spring	2
10	237-1411002	Holddown Stud	2
11	237-1208007	Link	2
12	31X-0308C	Jam Nut	6
13	21A-0716C1102	Hex Head Cap Screw	4
14	237-1208008	Bumper Pad	2
15	237-1303004	Clevis Pin	4
17	237-1208001	Treadle Weldment	1
18	38X-0508C	Sq Head Nut	4
19	21A-0508C4104	Hex Head Cap Screw	4
20	4901115	Washer	4
21	237-1419003	Inch Scale	1
22	237-1419004	Metric Scale	1
23	237-1407001	Back Gage Arm	2
24	237-1420001	Back Gage Bar	1
25	237-1407002	Back Gage Holder	2
26	237-1424001	RH Link	1
27	237-1424002	LH Link	1
28	4701010	Shoulder Screw	3
29	1208005	Hand Knob	2
32	237-1422001	Pointer	2
33	237-1110001	Front Arm	2
34	237-1421001	Bevel Gage	1
35	237-1420002	Front Gage	1
36	33X-0102C	Wing Nut	3
37	4718001	Tee Bolt	3
38	237-5102002	Treadle Spring	2
39	237-1226001	Spring Collar	4
40	237-1112001	Spring Rod	2
41	237-1108002	Spring Guide	2
42	237-1106002	Spring Cover	2
43	4901104	Flat Washer	4
44	21A-0308C1102	Hex Head Cap Screw	2
45	23A-0308C1104	Socket Set Screw	8

237-8000821 - 237-8000822

Item No.	Part No.	Description	Qty Used
46	21A0102C1304	Hex Head Cap Screw	2
47	4901158	Flat Washer	2
48	23C-0308C2000	SQ Head Set Screw	8
49	237-1106001	Finger Guard	1
50	22E-XX10C0308	Pan Head Machine Screw	8
51	237-1601047	Scale	2
52	22E-XX08C0308	Pan Head machine Screw	4
53	23A-0102C0304	Socket Set Screw	2
54	21A-0102C1000	Hex Head Cap Screw	4
55	30X-0102C	Hex Nut	8
56	20B0516C0508	But Head Socket Cap Screw	4
57	030-6503105	Instruction Plate	1
58	29A-XXX0X0108C	Drive Screw (not shown)	2
59	068-6502001	Name Plate	1
61	23A-0102C0102	Socket Set Screw	2
62	4601002	Cotter Pins	4
63	4901110	Washer	7
64	4901112	Washer	6
65	21A-0308C1104	Hex Head Cap Screw	7
66	21A-0308C1708	Hex Head Cap Screw	6
67	237-130300	Clevis Pin	2

Di-Acro Shears are designed to shear material to extremely close tolerances. For satisfactory results the machine must be level and proper clearance of shear blades maintained. Holddown bar prevents drawing of material to insure straightest possible cut, however, excessive holddown pressure is detrimental. Extreme accuracy and highest degree of straightness is obtained by first shearing material oversize, then cut to finish size by trimming.

### Parallel Shearing

Either front gauge or back is used. The narrower the strip, the greater the difficulty in shearing straight and parallel.

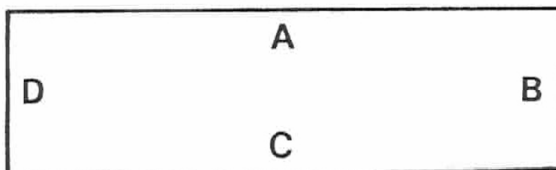
The front gauge always gives the most accurate results, especially on narrow widths. It is not necessarily set absolutely parallel with the shear blade to obtain a parallel cut; the difference varies according to the strain in the metal. The most perfect parallel edges are obtained by shearing oversize, then trimming to the exact size.

### Shearing to a Scribed Line

A scribed line on material can be seen through the openings in the holddown and aligned with cutting edge of shear blades for ordinary accuracy. Most accurate shearing to a line can be done by sighting down between the holddown and ram using the cutting edge of the lower blade for alignment.

### Squaring

Side gauges may not be absolutely square with the shear blade; their position can best be determined by actual shearing. The following method of squaring a sheet will produce the least amount of irregularity. Without turning sheet upside down between operations, trim long edge A; with edge A against side gauge, trim edge B; with edge A against front gauge, trim long edge C; with edge C against same side gauge used in the second cut, trim edge D.



### Shearing Short Lengths

When the material to be sheared is narrow or strip, and the cut is choppy, shearing should be done at the extreme right side of machine.

### Repetitional Shearing of Long Sheets

When shearing in lengths greater than the range of the back gauge, or when a pre-determined succession of various sizes are to be sheared, a front extension gauge with a series of adjustable stops should be used. The operator moves the sheet forward, then pulls it back to the stop to gauge.

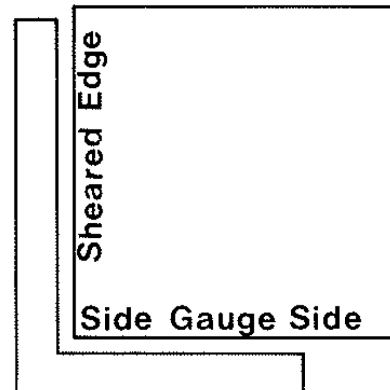
### Material Twist

The narrower the strip being sheared the greater the amount of twist. Twist can be almost avoided by feeding the sheet from the back and gauging against the front gauge and shearing on the bed in front of the blades.

### Checking Squaring Gauges

It is important when checking side gauges and squaring arms to follow the proper procedure:

1. Shear the test blank no larger than the square you are using. With the blank sheared to roughly the size of the square, follow the instructions under Squaring.
2. With blank placed against a precision square as shown, check with feeler gauge. Correct any deviation by loosening mounting screw and tapping side gauge in the proper direction to make correction.



3. After the side gauge is set square and securely tightened, recheck before attempting to align squaring arm.