

3 IN 1 MACHINES

COMB OF SHEAR, BRAKE & ROLL INSTRUCTION MANUAL



MODEL NO.130-3000

30"(760MM)

MODEL NO.130-4000

40"(1000MM)

SAFETY PRECAUTIONS

Before attempting operation of your new metal forming machine, carefully read the Description and Parts Manual.

Bolt machine on stand, and stand on the floor securely, to prevent injury to the operator by the machine's sliding off the stand or having the stand top over. For right hand operation position to allow handle to be clear of the right end of stand. The factory stands are drilled (for right or left hand operation without modification)

The floor around the machine should be clean, and free of scraps, oil or grease. A suitable nonskid material should be applied to the floor at the work station.

Remove preservatives from the machine. Keep clear of the shear blades when moving, installing or cleaning the equipment

Keep guard in place when not using the slip roll.

Do not permit talking or horseplay with the operator.

Do not operate the machine when other persons are in contact with the machine or the work piece.

Keep fingers clear of the area in front and rear of the shear blades.

Keep clear of the 'slip' roll 'nip' points.

Keep hands clear of press brake dies when forming metal.

The maximum capacity of this machine is 20 gauge mild steel. Exceeding the capacity of the machine may be hazardous to the operator.

CHECK LIST

The machine is assembled without the exception of the following parts in the Equipment Package.

EQUIPMENT PACKAGE

Back gauge assembly including 2 pcs of rods and stop with micro adjusting nuts.

Description and parts manual.

INSTALLATION

STAND

Select a sturdy stand, preferably a heavy-duty steel stand, to locate the machine so the operating handle will swing clear of the end of the stand. Securely bolt machine to stand using 1-1/8" long hex head bolt with washers and nuts. (If you also bought machine with stand, the bolts and washers, nuts will be included for free charge) Machine stand must be bolted on floor. Place machine clear of obstructions to permit access to all sides.

GENERAL

Install back gauge assembly in either the shear (the angle iron points down) or the press brake (the angle iron point up) position. Install handle on either end. The right end, when facing the machine, is proper for right-handed operators. Lock the threaded rods with the 1/7" LH nuts, provided in front in the shear position, in back in the brake position.

The protective coating on the bare metal parts may be cleaned by using kerosene. Exercise caution when using inflammable solvents.

MACHINE DESCRIPTION

CAPACITY

The machine is rated to shear-brake-roll 20 gauge mild steel or equal in other materials. Exceeding the rated capacity of the machine in any width of materials is hazardous.

1) HANDLE

The normal procedure will begin at side of the handle in the eccentric boss and cap assembly so that shear or press brake operation functions with the handle in the down stroke mode. The handle may be in either position when forming with the slip roll.

2) PRESS BRAKE

Sectional fingers allow box and pan work up to 30" / 40" width by increments.

A) Place a piece of 40" or 30" long wood on the bottom die and close to contact with the upper dies. Loosen the retaining screw(s) to make the proper selection of dies for the job. Set the brake support beam. Casting by rotating the handle until the wood forces the dies to seat uniformly in the upper beam. Lock all 7 pcs of clamp screws securely.

B) To adjust brake beam to make 90 degree bends at the bottom of the stroke, loosen locking cap screws slightly. Adjust brake beam adjusting screws, located at each end above beam, until tests reflect a 90 degree bend at both ends of brake. For special repetitive bends or other dies, the brake beam may be adjusted to over bend the desired angle since the metal will have some 'spring back'.

C) When forming, there will be slight scratching effect on the bottom of the work piece caused by the corners of the female die. This can be eliminated by using the wear pad accessory. This is particularly needed when bending anodized or pre-finished surfaces.

3) SHEAR

Cuts full 30" / 40" width of 20 gauge mild steel or equal in other materials.

A) When shearing, the work should be squared against the squaring guide. The holddown should be adjusted not more than 1/4" above table when the shear blade is in its fully 'up' position. When the blade start downward travel, the holddown should immediately rest against the work piece, holding it in place. Do not reach around machine to grasp the cut-fall piece. The out-fall should be allowed to drop on a special table provided to receive the work if piece exceeds size of the available table.

B) To prevent distortion, 'Snap' handle facilitate piercing when notching. The maximum notch that can be cut at one time is 3/4". By progressing in 5/8" steps, deeper notch can be cut.

C) To adjust lower shear blade, loosen screw located in each end of table. Two adjusting screws located on left and right side under table. By adjusting screw in or out the lower blade can be brought in contact with the upper shear blade so a stiff paper can be cut.

D) Sharpening of the shear blades should be done according to standard practices by a competent grinding service using wet grinding techniques. The blades are made of SK-4 steel or equal.

E) The shear blades are interchangeable. The 5° relief of position as the cutting edge is in the upper blade. The 5° relief is not used on the lower blade.

4) SLIP ROLL

Use 1-1/2" diameter rolls provided with wire forming grooves.

A) The slip roll guard must cover the slip rolls except when material is being fed into the rolls. Close the guard when the rolling operation is completed.

B) The slip roll may be used to form straight cylindrical pieces down to approximately the diameter of the rolls. Cones of limited size and wire loops can be formed by using the wire forming grooves.

C) The initial bending process can be simplified if a slight bend is made on the press brake die on the leading edge of the metal if this does not interfere with the proposed final shape or design on the formed part.

D) When removing closed cylindrical pieces, the upper roll may be released at the right hand end by opening the roll latch. Releasing the tension in the top drive roll at both ends will permit the roll to be angled forward at the right end and the cylindrical piece removed.

E) Whenever operating the slip roll, the upper roll must provide sufficient pressure on the work to feed properly. Beware of the 'NIP' point and intersection of the upper and lower rolls.

GENERAL

This machine has been made with the best materials available. With proper care and lubrication, it will provide many years of satisfactory service. Remember, even a hand operated machine can cause injury if the operator is careless on attempts to perform an operation for which the machine was not intended.

MAINTENANCE

The shear blades are interchangeable. The 5° relief is always the upper blade cutting edge. The lower blade cutting edge has no relief and the blade is installed with the 5° relief against the table edge.

LUBRICATION

A grease, such as lubrication, should be kept on the roll gears on the end of the rolls. Grease the surface between the shear blade support and the back spacer bar. Grease shear support beam bolt on the front side of the shear support beam. Grease the bolts and plug on the shear material holddown guard.

The parts of this machine which are ground should be coated with a light film of oil. A very light film of oil on the slip rolls will inhibit rust.

ELIMINATED OBSTRUCTIONS

- * Handle will not rotate 360 degrees.
- * Upper shear blade bar may be loose. Tighten bar locking screws firmly. Over tightening will cause stiff operation.
- * The male and female die may be adjusted too close or on object between the male and female dies. This may be preventing rotation of the handle.
- * Top rolls may be locked by over-tightening adjustment knobs.
- * The lower table may be set too close to plane of the nipper shear blade.

SPECIFICATIONS

MODEL SPECIFICATION		40"	30"
PRESS BRAKE	Bending length	40" (1000mm)	30" (762mm)
	Max. Bend capacity in mild steel	0.04" (1mm)	0.04" (1mm)
SLIP ROLL	Slip roll capacity in mild steel	0.04" (1mm)	0.04" (1mm)
	Diameter rolls	2" (46mm)	1-1/2" (38mm)
	Wiregrooves	5/32" (4mm) 7/32" (5-1/2mm)	11/64" (4-1/2mm)
SHEAR	Max. Shear capacity	0.04" (1mm)	0.04" (1mm)
	Max. Cutting length	40" (1000mm)	30" (762mm)
	Back gauge range	1/2" --- 16" (12.7mm ---- 406mm)	
	Front gauge range	1/2" --- 16" (12.7mm ---- 406mm)	
SIZE OF DIE SETS	30"	1", 2", 3", 4", 4", 6", 10"	
	40"	1", 2", 4", 6", 7", 8", 12"	
OTHERS	Packing size	47"x 21"x 29"	40"x16"x27"
	Net weight	440LBS(200KGS)	286LBS(130KGS)
	Gross weight	529LBS(240KGS)	330LBS(150KGS)

PARTS LIST

ITEM NO.	DESCRIPTION	ITEM NO.	DESCRIPTION
01-R	FRAME, SIDE CASTING R	36	STOP. END
01-L	FRAME, SIDE CASTING L	37	KNOB
02	ARM ACTUATING	38	SCREW SCKT. HD
03	BEAM, BRAKE SUPPORT	39	STUD. TOGGLE
04	TABLE	40	KEY
05	BAR, SPACER	41	SCREW
06	BAR BLADE	42	SCREW
07	ANGLE	43	SCREW HEX HD
08	ROD THREADED	44	SCREW
09	BAR	45	KNOB, LOCK
10	DIE, BRAKE FORMING 10 ⁷ / ₁₂ "	46	SCREW, HEX HD
11	DIE, BRAKE FORMING 6 ⁷ / ₈ "	47	SCREW
11A	DIE, BRAKE FORMING 4 ⁷ / ₇ "	48	SCREW, HEX HD
12	DIE, BRAKE FORMING 4 ⁷ / ₈ "	49	SCREW
13	DIE, BRAKE FORMING 3 ⁷ / ₄ "	50	SCREW
14	DIE, BRAKE FORMING 2 ⁷ / ₂ "	51	SCREW
15	DIE, BRAKE FORMING 1 ⁷ / ₁ "	52	SCREW
16	BLADE	53	SCREW HEX HD
17	HOLD DOWN, SHEAR	54	PLUG
18	BLADE	55	SPRING COMPRESSION
19	HANDLE, ASSEMBLY	56	SCREW
20	GUARD, ROLL	57	SCREW
21	ROLL, UPPER W/GEAR	58	SCREW
22	ROLL, BACK	59	SCREW
23	ROLL, DRIVE(BAR) WITH GEAR	60	SCREW
24	ECCENTRIC	61	WASHER
25	BUSHING	62	WASHER
26	CAP, ECCENTRIC	63	WASHER
27	BUSHING	64	WASHER
28	BUSHING	65	BOLT
29	BUSHING	66	ADJUSTING NUT
30	BUSHING PIVOT	67	WASHER
31	GEAR	68	WASHER
32	GEAR	69	WASHER
33	BUSHING, ACTUATING ARM LEVER	70	BAR CLAMP
34	LATCH, ROLL LOCK		
35	NUT, QUICK SET ASSY.		

