



COMBINATION 3-IN-1
SHEAR, BRAKE & SLIP ROLL
OPERATION MANUAL
12" 30" 40"



 **WARNING**

Read and understand all instructions before using this tool. The operator must follow basic precautions to reduce the risk of personal injury and/or damage to the equipment.

HAZARD DEFINITIONS

Please familiarize yourself with the hazard notices found in this manual. A notice is an alert that there is a possibility of property damage, injury or loss of life if certain instructions are not followed.

DANGER! This notice indicates an immediate and specific hazard that will result in severe personal injury or loss of life if the proper precautions are not taken.

WARNING! This notice indicates a specific hazard or unsafe practice that could result in severe personal injury or loss of life if the proper precautions are not taken.

CAUTION! This notice indicates a potentially hazardous situation that may result in minor or moderate injury if proper practices are not taken.

NOTICE! This notice indicates that a specific hazard or unsafe practice will result in equipment or property damage, but not personal injury.

WORK AREA

1. Operate in a safe work environment, Keep your work area clean, well-lit and free of distractions. Place lights so you are not working in a shadow.
2. Keep anyone not wearing the appropriate safety equipment away from the work area.
3. Store unused tools properly in a safe and dry location to prevent rust or damage. Lock tools away and keep out of the reach of children.

Usage

1. Uses
 - 1.1 These directions are suitable for the 12, 24, 30, 40, 42 and 52 inch 3 in 1 combination shear, and brake and slip roll.
 - 1.2 This machine is used for shearing and braking low carbon plate (mild steel) or the other metal materials which have similar density to the low carbon plate. The maximum material thickness is 20 gauge (1mm).
 - 1.3 It can also be used for rolling steel plate or the other metal materials that have similar density. The maximum thickness for rolling is also 20 gauge (1mm).

2. Main technical specification

Model	3-IN-1/305	3-IN-1/760	3-IN-1/1016
Bed Width	12"	30"	40"
	305mm	760mm	1016mm
Max. Shearing Thickness	20 Gauge	20 Gauge	20 Gauge
	1mm	1mm	1mm
Max. Bending Thickness	20 Gauge	20 Gauge	20 Gauge
	1mm	1mm	1mm
Max. Bending Angle	90°	90°	90°
Max. Slip Rolling Thickness	20 Gauge	20 Gauge	20 Gauge
	1mm	1mm	1mm
Min. Slip Roller Dia.	1-17/32"	1-17/32"	1-11/16"
	39mm	39mm	43mm
Finger Size(in./mm)	1", 2", 2", 3", 4"	1", 2", 3", 6", 8", 10"	1", 2", 3", 6", 8", 10", 10"

3. Installation and caution

3.1 Installation

3.1.1 Please check whether the part of this machine are fully equipped and not damaged according to the parts list or part figure.

3.1.2 Please leave plenty room around the machine for your easy operating, in order to avoid injury. A non-slip floor mat is recommended around the machine.

3.1.3 According to different conditions, this machine tool must be either securely fixed to the ground or special machine seat, in order to keep the tool from sliding during use.

3.2 Caution

3.2.1 Before packing this machine tool, antirusting agents are put on it, so when you are getting rid of the kind of rust inhibitor, you can unset the yellow coat with varnish diluent and paint flux for machine oil.

3.2.2 Please read the manual before operation and make yourself understand its structure and principle completely.

3.2.3 Safety goggles and the other safely devices should be worn when working on this machine. Do not wear loose fitting clothing.

3.2.4 Please don't operate the material width and thickness than table list max. Range.

3.2.5 When you move, install, clean and adjust the machine, you must keep away from the shears area.

3.2.6 Keep your hands away from the die when you are working on it.

3.2.7 Focus your complete attention on the machine and do not operate when other people are near by the machine.

3.2.8 Generally the operating handle is installed on the right side of the machine tool but left if also acceptable.

4. Operation

4.1 Back-measure plate (angle iron)

4.1.1 The back measure plate is used for shearing and braking. When it is in place of braking condition, please screw two long bars into the nut of the concave mould plate, ensure that the bars pass through the front part of the concave mould plate, tighten up the nut, and then back-measure plate and concave mould plate can move up and down together.

4.1.2 When it is in the place of shearing condition, before putting the bars into the positioning plate, screw a 2-M12 nut into the positioning plate, and then followed the bar which was fixed by the nut in the end.

4.1.3 In these two positions, the circular adjustable knob is installed at the back of the angle iron.

4.2 Adjustment of the braking installation

4.2.1 Adjustment of the upper die:

A) Loosen the mounting bolts to remove the upper die from the machine. If you do not want the upper die to come off the machine or you are installing another new mould plate, you can put a piece of hard wood (1" x 1" x 6.3" & 25mm x 25mm x 160mm) or other similar material on the concave mould plate, turn the handle and raise the

concave mould plate until the wooden piece touches the upper die (from plunger).

B) After installing the new die, all the mounting bolts of the die should be tightened. In some cases, especially when using the narrow die, it is necessary to put a piece thin paper between the upper die and the lower die.

4.2.2 Adjustment of the cross girder.

A) To make the braking go smoothly and to separate the formed metal between the upper die and the lower die from being blocked, you must adjust the crossbeam.

B) First put a steel plate (of same quality thickness) on the concave mould plate, then turn the handle carefully to raise the concave mould plate, loosen the fasten bolt of the crossbeam when the upper die (form plunger) meets with the processing metal.

C) Next in order to fix the crossbeam, adjust the screw on the crossbeam. Finally tighten up all the mounting screws. During this period, the handle is not fixed to turn an angle of 360 degrees. Brake a piece of metal plate with same width and thickness on both sides of the braking system, their angles should be similar. The job should be excessively braked when you turn the handle and fully brake the job.

4.3 Adjustment of the shearing assembly

You should adjust the zero-clearance of the upper cutter and the Lower cutter.

4.3.1 Adjustment of the lower cutter:

Unload the pressing plate, loosen the mounting screw and the two adjustable screws of the working table, turn the handle until the upper cutter is near the cutter on the working table, and retighten the mounting screw and the adjustable screw, in order to prevent the working table from moving back when the machine is used, install the pressing plate once again and ensure that it is parallel to the upper cutter.

4.3.2 Adjustment of the positioning plate:

A) While shearing, there will be a powerful force produced at the middle of the cutter. In order to avoid the clearance between the upper and lower cutter, you should adjust the central screw behind the positioning plate. If the adjustment is not suitable, the metal plate will be folded in the middle of the two cutters when shearing is executed.

B) If the lower cutter and the upper cutter still press close together after the adjustment, two parts must be examined. First, fully tighten the mounting screw of the lower cutter then loosen the screw about 1/8 of a turn. Second, clean and lubricate the contact face of the concave mould plate and the positioning plate.

4.4 Adjustment of the rolling installation.

This rolling installation can roll straight, roll taper and metal rings using the linear channel roller.

When a job is finished, turn the pin to right so the left side of the roller can be taken off the machine and the work piece can be removed easily, When you operate the slide roller, you must give enough pressure to the upper roller.

Adjust the clearance of the upper roller and the lower roller properly; ensure that the two sides of the roller have the same clearance.

5. Maintenance

5.1 Apply machine oil to all moving parts and all exposed metal surfaces regularly.

5.2 Always put down the protecting cover when you do not use sliding roll of the roll machine.

5.3 After use, clean the machine and apply a coat oil lo all exposed Metal surfaces.

6. Accessories of the machine tool

Allen keys (5mm, 12mm, two kinds in all) with every set of machine tool

7. Parts list

Part#	Description	
1	Left Wall	
2	Workbench	
3	Crossbeam	
4	Crank Arm	
5	Right Wall	
6	Bear Frame	
7	Cover	
8	Press Plate Bracket	
9	Spring	
10	Pressing Plate	
11	Lower Die	
12	Upper Brake Die	
13	Die Pressing Plate	
14	Bolt	
15	Cranking Arm Rolling Wheel	
16	Positioner	
17	Adjustable Bolt	
18	Handle	
19	Screw	
20	Positioner	
21	Positioning plate	
22	Supporting Plate	
23	Blades	
24	Back Pressing Roll	
25	Screw	
26	Handle Knob	
27	Adjustable Bolt	
28	Roll Bushings	
29	Washer	
30	Gear	
31	Lower Pressing Roll	

Part#	Description	
32	Upper Pressing Roll	
33	Cover	
34	Rotation shaft	
35	Eccentric shaft	
36	Washer	
37	Jacket	
38	Roll Key	
39	Hex Bolt	
40	Hex Screw	
41	Hexagon head cap bolts	
42	Hexagon Head Screw	
43	Hex Bolt	
44	Hex Bolt	
45	Hex Screw	
46	Washer	
47	Hex Bolt	
48	Hex Bolt	
49	Washer	
50	Hexagon Nut	
51	Hex Bolt	
52	Hex Screw	
53	Hex Screw	
54	Hex Screw	
55	Washer	
56	Hex Bolt	
57	Hex Screw	
58	Hex Screw	
59	Hex Screw	
60	Adjustment Screws	
61	Washer	

8. Assembly diagram

