5-18-94

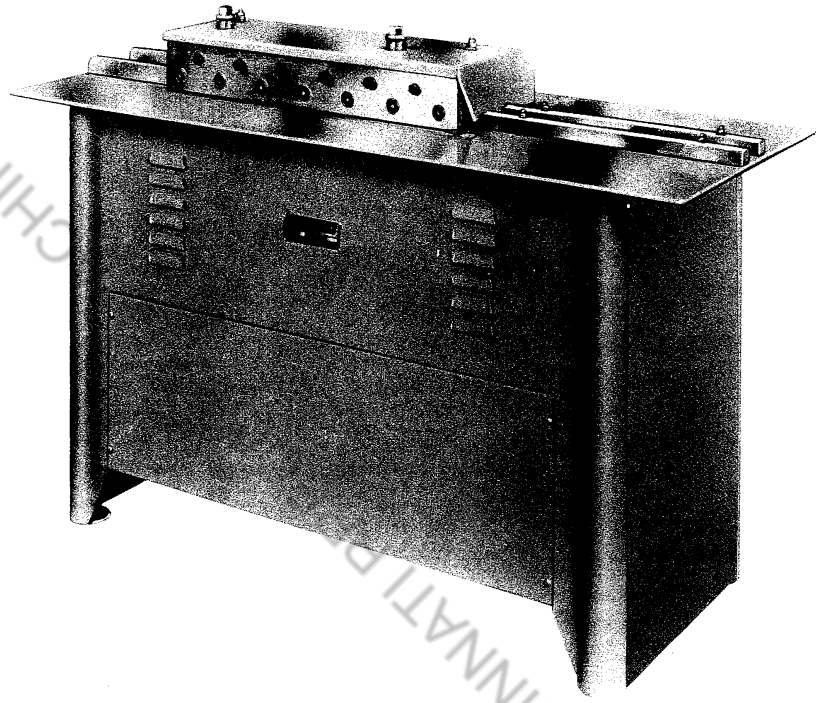
LOCKFORMER

Where the Machines of Tomorrow are Made Today℠

24gA 7 sts

Button Punch Snap Lock Machine

Instructions and Parts Diagrams



THE LOCKFORMER COMPANY
711 OGDEN AVENUE • LISLE, ILLINOIS 60532

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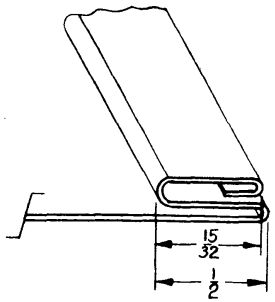
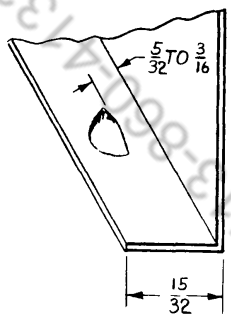
Button Punch
Snap Lock Machine

For Square Duct





CAPACITY: 24 gauge and lighter.

MATERIAL REQUIREMENTS PER LOCK:

Receiver Lock, 1-1/8".
Button Flange, 7/16".

Total amount of metal, 1-9/16". This amount is to be added to formed sections for calculation of sheet sizes. The above dimensions can be somewhat modified by varying the entrance gauge settings to suit the requirements of a specific project or material.

NOTE: The above machine, before being delivered to you, has been adjusted at the factory. A complete range of materials from 24 gauge through 30 guage has been run through this machine and it is ready for operation.

RECEIVER LOCK ADJUSTMENT
(Inboard Roll Set):

The main adjustments affecting the receiver lock are two studs that pass through the spacer bars. They are stamped (on top) No. 1 and No. 2. (See Sketch #1). To adjust inboard rolls proceed as follows:

Operating Instructions:

Connect machine to proper electrical supply. Check voltage and phase before starting machine. Feed sheet of material into either roll set holding the material flush against the gauge. Keeping the material with the same side up, run second lock on opposite side of the sheet.

(1) Loosen the 1/4" lock screws on the two holddown studs.
(2) Tighten the two holddown studs (No. 1 and No. 2) until firm resistance is met.
(3) Loosen the No. 1 and No. 2 studs 1/8 to 1/4-turn.

Run a piece of material through the machine and check the results.

If the setting proves satisfactory, tighten the two 1/4" lock screws and proceed with the operation of the machine.

BUTTON FLANGE ROLLS
(Auxiliary Rolls):

The two 3/8" studs that pass through the plates on the auxiliary side of the machine are the only points of adjustment for the button flange rolls. To adjust the auxiliary rolls proceed as follows:

Tighten both studs, then loosen the studs 1/8 to 1/4-turn. If the material shows stretch or excessive pressure, loosen studs slightly until satisfactory shape is formed.

The idler bracket located at roll stations (auxiliary side) #6 and #7, which are located at assembly by means of spacers, control the pressure exerted at the 90° bend line. The pressure may be controlled in either the horizontal or vertical direction by increasing or decreasing the amount and number of shims. (See Sketch #2.)

GAUGE SETTINGS:

Both entrance gauges located at front of machine may be checked or reset by placing a straight edge along the outer edge of the machine plate for the inboard rolls and along the outer edge of the rolls for the button flange. (See Sketch #1.)

PRESENT GAUGE SETTINGS:

Inboard Rolls
2-15/16" measured from edge of gauge nearest the rolls.
2-31/32" to 3" measured from edge of gauge farthest from rolls. (As shown in Sketch #1.)

AUXILIARY BUTTON FLANGE:

15/16" measured from edge of gauge nearest the rolls.

31/32" measured from edge of gauge farthest from rolls.

The above gauge settings can be modified slightly to suit specific requirements.

TROUBLE CHECKS:

Due to the unusual physical characteristics of certain types of material, it may become necessary to reset the entrance gauge in its entirety. In the event that the material pulls away from the gauge or the lock is not formed properly, the gauge-taper can be increased – or the entire gauge setting may be increased or decreased slightly to achieve required results. Exit gauge bars are set to, **but not against,** the formed edge of material when emerging from the machine.

In running certain types of material, it may be necessary to add a slight lubricant to the edge of the sheet being formed to aid the flow of material into the finished lock. The above may be required if the 1/8" return hem does not form properly – if this hem is irregular in nature or tends to wave at edge of formed section – or entrance gauge adjustments do not correct or compensate for proper formation. This lubricant may be any light machine oil – applied either manually or by a felt wiper pad mounted on the machine.

To obtain the best lock, it will be necessary to insure that the material is in contact with the entrance starting gauge throughout the complete length of the sheet being formed. Certain materials, as well as hold-down adjustment, may have a tendency to allow the material to drift away from the gauge. When this occurs the lock will be improperly formed – and you may also lose the hem-return. The same condition may exist if the entrance gauge is not set correctly.

STRAIGHTNESS:

Upward or downward bow can be eliminated by raising or lowering the adjustable gauge bar on the exit end of the machine. (See Sketch #3.) Upward bow can be compensated by lowering the exit bar and putting pressure slightly on the formed lock. A downward bow shows too much pressure against material – raise bar slightly.

Should the auxiliary button flange shape bow downward, a thin shim can be placed onto the table top to apply slight pressure to the underside of the material thereby straightening the formed section.

Note: The #1 Roll Station punch position can be shimmed out away from the machine plates to locate the punch closer to the bend line thereby achieving a tighter fit on the snap. See Warning note for proper roll positioning.

WARNING:

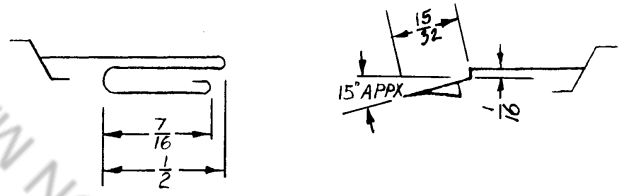
The gauge setting should not be made while #1 station is shimmed away from its normal location. The Top #1 roll is fastened to the shaft by a bolt and washer. The bottom roll is held to the shaft by a key placed into the rolls and is not restrained but held in place by a shoulder on Top #1 roll and should be allowed to float. The shim, if required, should be placed behind the top roll only.

LUBRICATION:

There are seven Alemite fittings located on the underside of the stand. These fittings are for the high speed reduction bearings which should be lubricated after every four hours of operation. Lubricate gears periodically as required. Recommended lubricant: LUBRICANT STANDARD VISCOUS #3 (a product of the Standard Oil Co.) or equivalent.

ROUND PIPE AUXILIARY ROLLS:

Special offset button rolls can be obtained for fabricating round pipe. (See Sketch #4.)

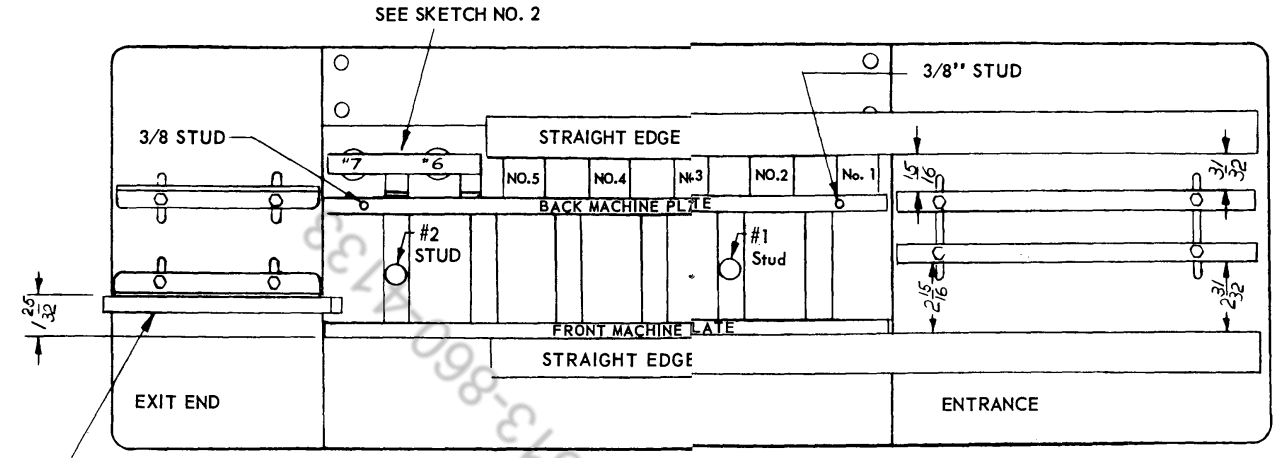


SKETCH #4

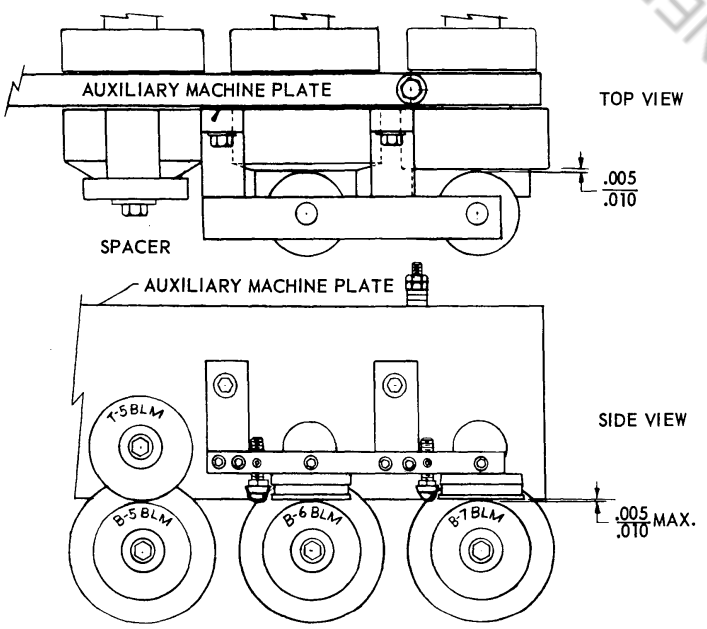
Installation Instructions for Round Pipe Auxiliary Rolls

Note: The only rolls affected are the Auxiliary Rolls – Inboard Rolls remain as is.

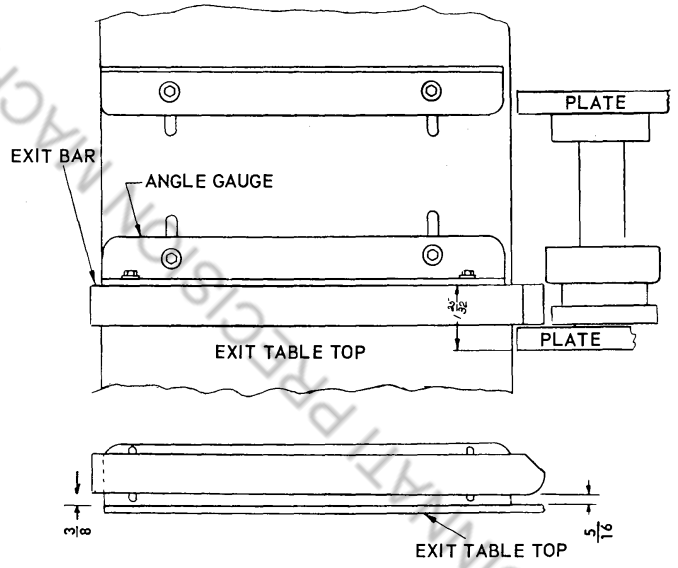
(1) Remove machine cover and auxiliary roll table top side plate.
(2) Remove auxiliary idler bracket at roll sets 6 and 7.
(3) Remove roll sets 2 through 7.
(4) Loosen exit angle iron and move in toward machine.
(5) Place offset button lock rolls on roll stations 2 and 3. Secure and replace table top side plate.
(6) Roll material through machine and stop machine as lead end of material reaches end of table top.
(7) Set exit angle iron to formed edge of material and proceed with production run.



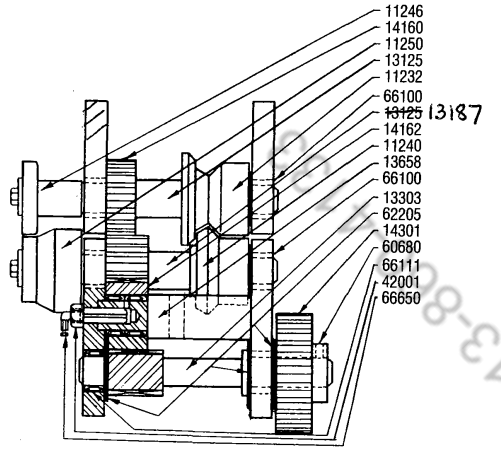
TOP VIEW
ENTRANCE AND EXIT GUIDE LOCATIONS AND ADJUSTMENT STUD POSITION
SKETCH #1



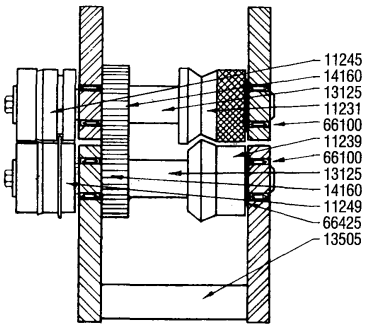
BUTTON SNAP LOCK IDLER ROLL HOLDER
SKETCH #2



BUTTON SNAP LOCK EXIT BAR ASSEMBLY AND LOCATION
SKETCH #3



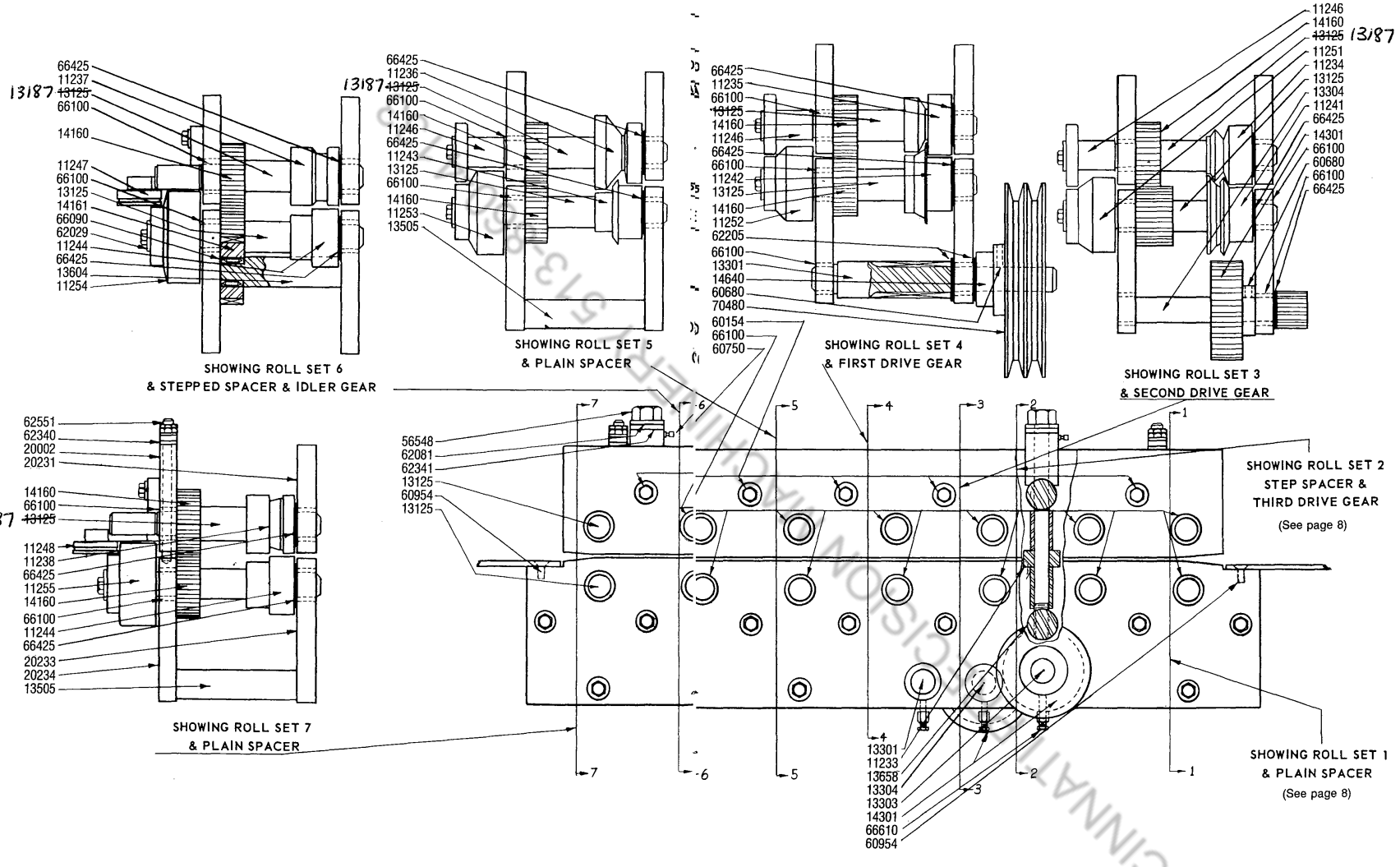
SHOWING ROLL SET 2
STEP SPACER & THIRD DRIVE GEAR

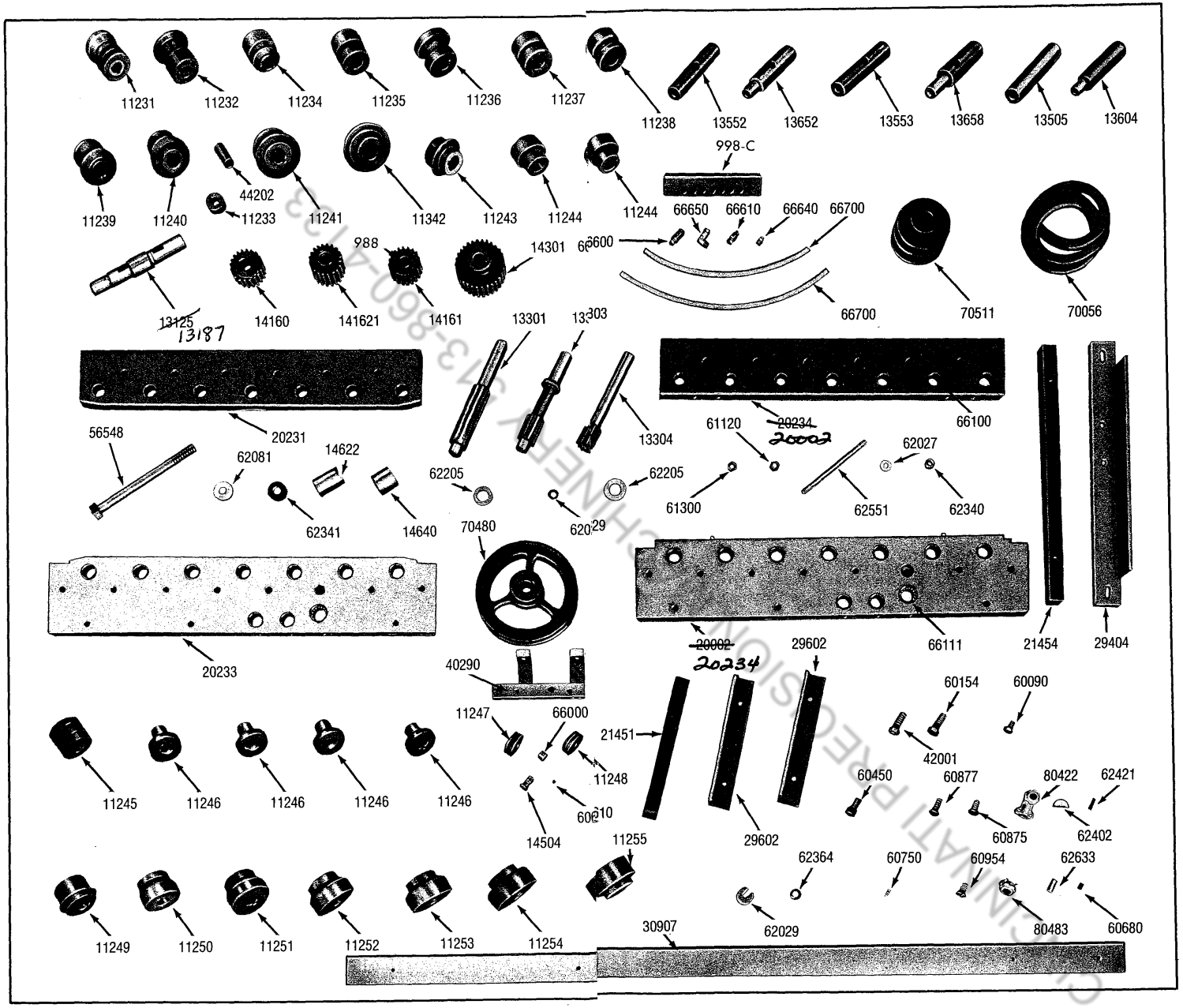


SHOWING ROLL SET 1
& PLAIN SPACER

PARTS LIST AND DESCRIPTION

NEW PART NO.	DESCRIPTION	PIECES PER UNIT
11231	BLF T-1 Forming Roll	1
11232	BLF T-2 Forming Roll	1
11233	Idler Roll Station 2-3	1
11234	BLF T-3 Forming Roll	1
11235	BLF T-4 Forming Roll	1
11236	BLF T-5 Forming Roll	1
11237	BLF T-6 Forming Roll	1
11238	BLF T-7 Forming Roll	1
11239	BLF B-1 Forming Roll	1
11240	BLF B-2 Forming Roll	1
11241	BLF B-3 Forming Roll	1
11242	BLF B-4 Forming Roll	1
11243	BLF B-5 Forming Roll	1
11244	BLF B-6 Forming Roll	1
11244	BLF B-7 Forming Roll	1
44202	Idler Spacer	2
60680	3/8 x 16 x 3/8 SSS	2
60750	1/4-20 x 1/2 Sq. HSS	2
66425	TT1709-1 Thrust Bearing	17
~~13125~~ 13187	Roll Shaft	14
14160	Driven Gear	14
14161	Idler Gear	5
14162	Main Idler Gear	1
14301	Drive Gear	2
60795	4 x 3/16 Drive Screw TPU	4
13553	Plain Spacer Drilled on center	1
13652	Step Spacer Drilled off center	1
13552	Plain Spacer Drilled off center	1
13658	Spacer Main Idler	1
13505	Plain Spacer	9
13604	Step Spacer	4
20231	Upper Front Plate	1
20233	Lower Front Plate	1
20002	Upper Back Plate	1
14504	Idler Pins	3
25112	Entrance Hold Down ON FEMALE ENT. BAR	1
11071	Lower Idler Roll	1
66040	B-812 Bearing	1
66300	B-815 Bearings	2
66301	TRH-815 Thrust	4
60501	1/4"-20 x 1/2" FHS	10
60610	1/4"-20 x 1/4" SSS	2
21809	Idler Roll BRKT	1





PARTS LIST AND DESCRIPTION

NEW PART NO.	DESCRIPTION	PIECES PER UNIT
20234	Lower Back Plate	1
13301	1st Drive Shaft	1
13304	2nd Drive Shaft	1
13303	3rd Drive Shaft	1
56548	Hex Head Stud Assembly	1 ~~2~~
60475	5/8-11 x 9 1/2 HHCS	1
62081	5/8 x3/16 Washer	2
62341	5/8 Spring Washer	16
14622	Saddle Washer	2
60750	1/4-20 x 1/2 Sq. HSS	2
62027	Plate Spacer	2
~~62205~~ 66430	1X062 Washer	3
61300	Jam Nut	2
61120	3/8-16 Nut	14
62029	Washer	18
62340	3/8 Spring Water	24
62364	1/2 Lockwasher	33
60154	1/2-13 x 1-1/2 HHCS	32
42001	Lube Bolt	1
62551	3/8-16 x 6-1/2 Stud	2
62633	3/8 x 1 Dowel	2
60450	1/2-13 x 1 SHCS	1
60954	1/2-13 x 1 FHSCS	4
66640	Alemite Fitting	7
50046	Machine Stand	1
30907	Table Top Spacer Guide	1
31910	Entrance Table Pad	1
39521	Cover	1
29469	Motor Base (Angle Iron)	2
80061	2 HP 3 PH 60 Cycle 230/460 Volt 3600 RPM	1
80483	BX Connectors	2
80422	BX Cable 12-3 x 66	1
11249	BLM B-1 4P Forming Roll Auxiliary	1
11250	BLM B-2 Forming Roll Auxiliary	1
11251	BLM B-3 Forming Roll Auxiliary	1
11252	BLM B-4 Forming Roll Auxiliary	1
11253	BLM B-5 Forming Roll Auxiliary	1
11254	BLM B-6 Forming Roll Auxiliary	1
11255	BLM B-7 Forming Roll Auxiliary	1
29602	Exit Gauge Angle Iron	2
21454	Entrance Gauge Bar	2

PARTS LIST AND DESCRIPTION

NEW PART NO.	DESCRIPTION	PIECES PER UNIT
~~21810~~ NOT USED	Entrance Hold Down	1
11245	BLM T-1 Forming Roll Auxiliary	1
11246	BLM T-2 Forming Roll Auxiliary	1
11246	BLM T-3 Forming Roll Auxiliary	1
11246	BLM T-4 Forming Roll Auxiliary	1
11246	BLM T-5 Forming Roll Auxiliary	1
11247	BLM T-6 Idler Roll	1
66000	Bearing B-88	2
11248	BLM T-7 Idler Roll	1
70480	2BK80 H-1 Machine Pulley	1
70431	Motor Sheave	1
62402	15 Woodruff Key	31
62421	3/32 x 3/16 Key	14
60877	3/8-16 x 1-3/4 Carriage Bolt	4
60875	3/8-16 x 1 Carriage Bolt	12
60090	3/8-16 x 3/4 HHCS	14
62029	Washer	14
70056	Belt	2
66111	HJ-162412 Torr Bearing	2
66090	B-1416 Torr Bearing	5
66100	B-1612 Torr Bearing	30
66101	B-1612 OH Torr Bearing	4
66010	B-108 Torr Bearing	1
80324	Heater	2
80100	Switch Box	1
21753	Exit Bar	1
9952204	Idler Roll Assembly	1
66610	888-L Lubrication 1/2 Union	7
66600	886-L Lubrication Coupling	7
66650	Angle Holder	1
66700	Lubrication Tubing 19"	3
66700	Lubrication Tubing 15"	4
60503	1/4-20 x 3/4 FHMS	10
60551	1/4-20 x 1/2 RHMS	4
29601	Exit Gauge	1
9952200	Idler Bracket Assembly	1
56547	Hold Down Stud	1
62401	9 Woodruff Key	12
62421	3/16 Sq. x 7/8 Key	12