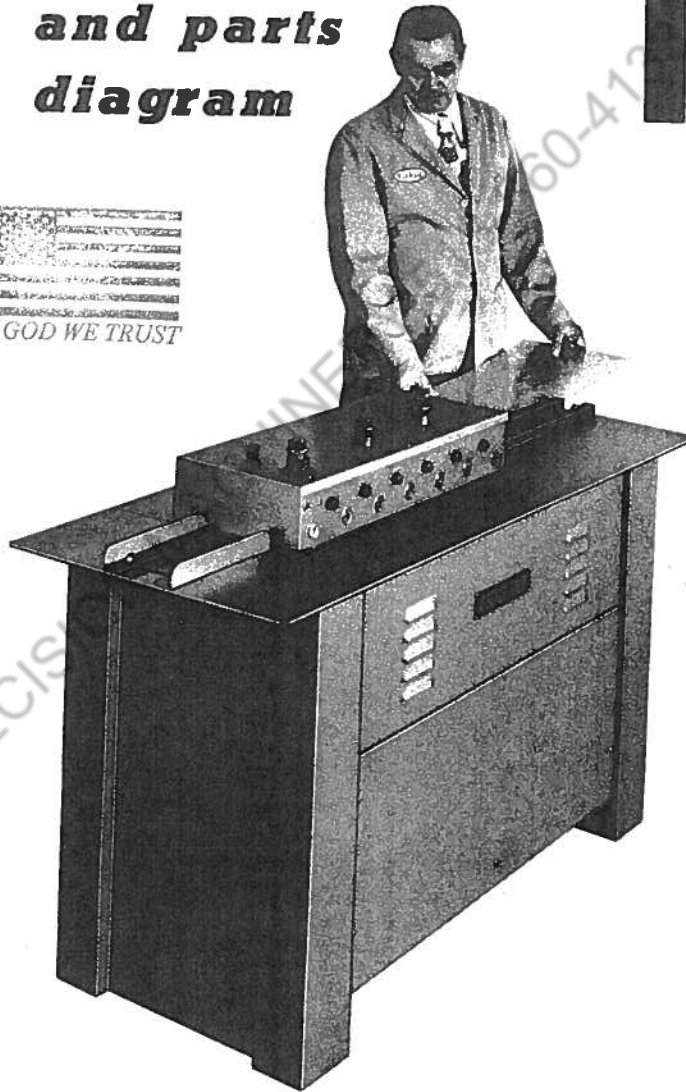


LOCKFORMER

16

***instructions
and parts
diagram***



THE LOCKFORMER COMPANY

711 OGDEN AVENUE



LISLE, ILLINOIS 60532

Recommendations

We recommend that shops that work lighter iron, such as is used on smaller pipes and fittings, employ $\frac{5}{16}$ " Pittsburgh Lock Rolls mounted on the extended shafts of this machine. If production warrants, our smaller machine (Lockformer "22") should be installed.

The reason for this recommendation is as follows: As most hand brakes cannot be used to form a single edge smaller than $\frac{3}{8}$ " on heavy iron our Lockformer #16 rolls a $\frac{1}{2}$ " pocket with the permanent rolls.

The lighter iron can be worked in the permanent rolls but the closing down of the lock over the $\frac{1}{2}$ " span causes distortion of the material. We, therefore, suggest that you use the $\frac{5}{16}$ " Pittsburgh Lock auxiliary rolls on 22 gauge to 28 gauge iron. These rolls may be installed or changed in about 20 minutes by an experienced operator and the lock resulting is much more accurate and neat.

Operating Instructions

VERY IMPORTANT! TO SET THE CALIBRATED DIAL FOR 16 AND 18 GAUGE, TURN DIAL (RIGHT HAND THREAD) DOWN TO THE BOTTOM WITH THE LETTER "S" IN LINE WITH THE ARROW MARKED ON COVER OF MACHINE. THEN RELEASE TO SETTING OF MATERIAL TO BE USED.

THE CALIBRATED DIAL: The purpose of this dial is to regulate the width (not the depth) of the pocket. For example, when forming 16-gauge metal, the pocket must be wide enough to take the 16-gauge single edge which fits into it; and should become narrower correspondingly, for lighter gauges. This is done by setting the dial to whatever gauge you are running through the machine.

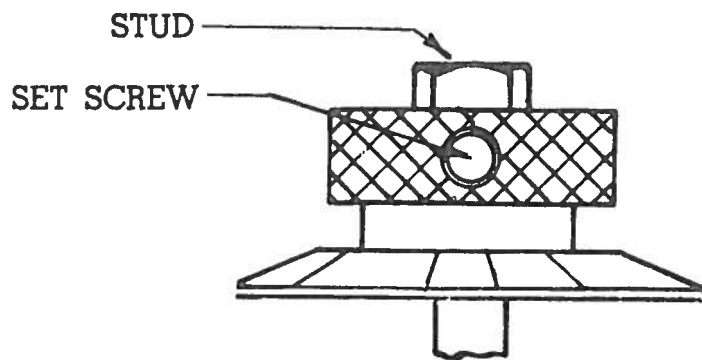
Should the dial get out of adjustment, re-set by (1) loosening the set screw, (2) turning the stud all the way down, and (3) setting the "S" mark on the dial opposite the pointer on the cover.

Example:

If the dial is set for 16 ga.,
the lock is wide:

When set for 24 ga., it be-
comes narrow:





Turn CALIBRATED DIAL all the way down and then back to gauge of metal to be run through the machine. Hold material against the angle gauge and slide it into the forming head. Be sure to hold the material to the gauge.

Your Lockformer has been adjusted at the factory, but on account of the difference in materials in various localities it is sometimes necessary to readjust it. Proceed as follows:

1. If material slips or sticks on leaving forming head, tighten Hold Down Stud at finishing end slightly.
2. If the material works away from the feed gauge tighten Hold Down Studs at starting end until it corrects itself.
3. If the material shows heavy pressure marks, loosen Hold Down Studs slightly.

If a wider or narrower hammer-over edge is desired, move the angle gauge forward or back. Be sure to keep the gauge parallel with the front edge of the top plate of the machine. MATERIAL SHOULD NOT TOUCH GAUGE ON FINISH END OF MACHINE.

It is very important that long sheets be held flat and against the angle gauge when starting through the forming head.

The Lockformer 16 will handle pieces 8" and longer. If shorter length is required, NOTCH LONG LENGTH AND CUT AFTER FORMING.

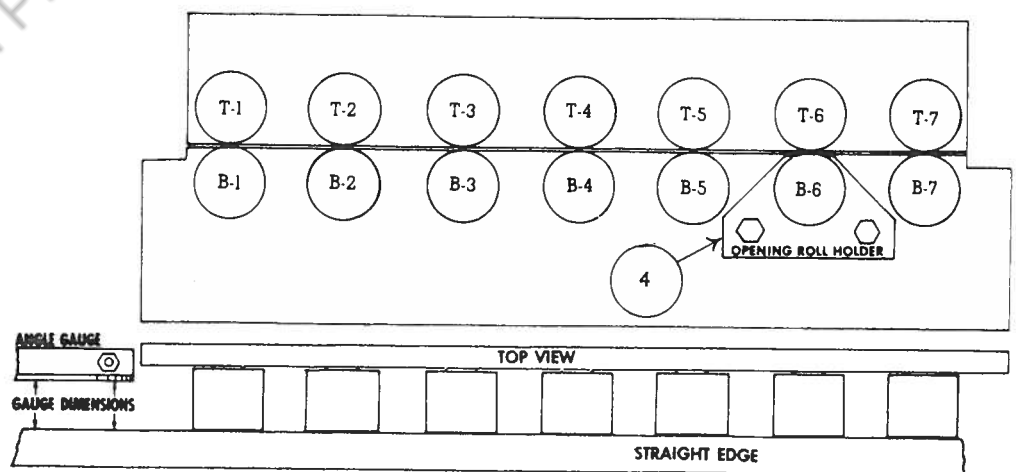
Lubrication

There are seven alemite fittings located on the underside of the stand roller case on the auxiliary side of the machine. These fittings lubricate the main reduction bearings and should be lubricated after every four hours of operation. Recommended lubricant: Standard Viscous #3 (Product of the Standard Oil Company) or equivalent. The slow speed shafts do not require additional lubrication. Grease gears periodically or as needed. If machine is to be used out of doors, an oil or grease film will prevent rusting of surfaces.

Instructions for Ins

To install supplementary rolls, proceed as follows:

1. Remove top cover.
2. Remove rear section of top plate. This will expose the extended shafts on which the rolls are to be mounted.
3. Select the first pair of rolls, which are marked "T1" and "B1" and slip them on the shafts at the left, or feed side of the machine, placing "T1" on the upper shaft and "B1" on the lower. Repeat this procedure with rolls "T2" and "B2", "T3" and "B3" etc., until all rolls have been mounted. All rolls marked "T" should be mounted on the top shafts and "B" rolls on the bottom shafts, in numerical order, reading from left to right, facing the shafts. **NUMBERED SIDE MUST FACE OUTWARDS.**
4. Install keys and fasten rolls to shafts with capscrews and special washers which are provided.
5. Mount entrance and exit gauges onto stand using slotted holes provided in stand table top. Set entrance gauge by placing a straight edge along the outer edge of the auxiliary rolls. Measure in from this straight edge to the extreme ends of entrance gauge bar the required amount. See Sketch (1). When using the Drive Cleat Rolls the straight edge is placed along the entrance gauge and the measurement is made from the distance between the straight edge and the number one and seven roll stations.



SKETCH NO. 1

AUXILIARY ROLL GAUGE SETTINGS

(A) Type "S" Double Set (22-26 Gauge) 5/8" Pocket

Uses approximately 1" material

Gauge setting.....1 1/8"

- (B) **Type "L" Double Seam:** (16-20 Gauge) 7/16" Pocket.

Uses approximately 1 1/8" material

Gauge setting.....1 5/16"

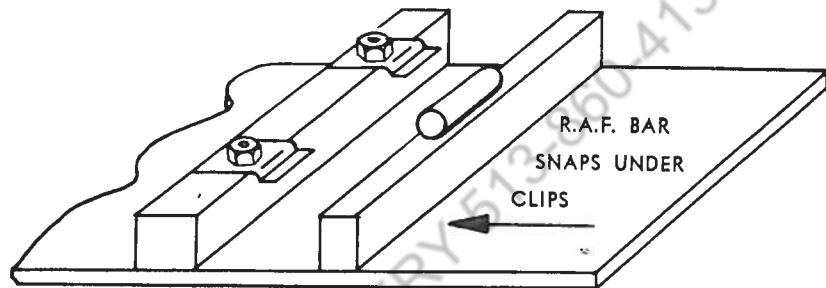
- (C) **Standing Seam Rolls:** (16-20 Gauge) 3/4" Height.

Uses approximately 2 1/8" per completed seam. Forms both single and double edge by simple gauge attachment. Note: Two piece entrance gauge supplied. Drilled bar mounted to stand with clips attached, to form standing seam.

Gauge setting.....2"

Second Gauge edge bar snaps under clips and is used for right angle flange.

See Sketch below: (2)



SKETCH NO. 2

The top seven roll is not fastened by bolt and washer but allowed to float.

The exit angle gauge has an adjustable bar that can be lowered to exert pressure on the material as it emerges from the rolls, thereby straightening the finished section.

See Sketch (3) below: Set exit gauge to the standing seam shape.



SKETCH NO. 3

- (D) **Right Angle Flange Rolls:** (16-24 Gauge) on straight pieces only. Adjustable to 7/16" high.

Gauge setting.....1 5/16"

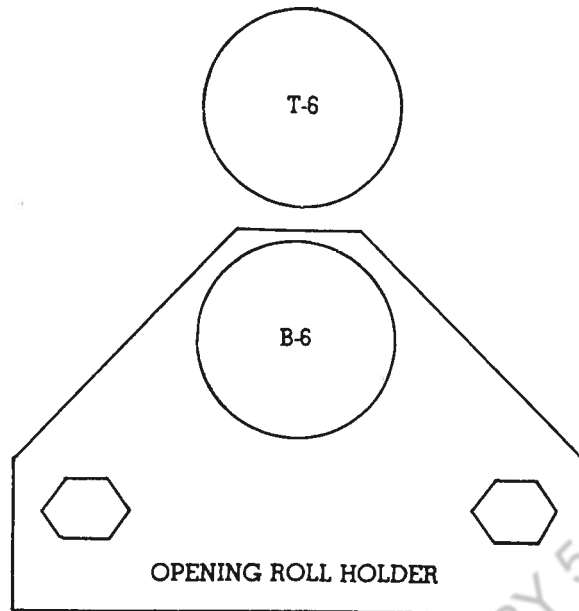
- (E) **5/16" Pittsburgh Lock Rolls:** (22-26 Gauge) 5/16" Pocket.

Gauge setting.....1 11/16"

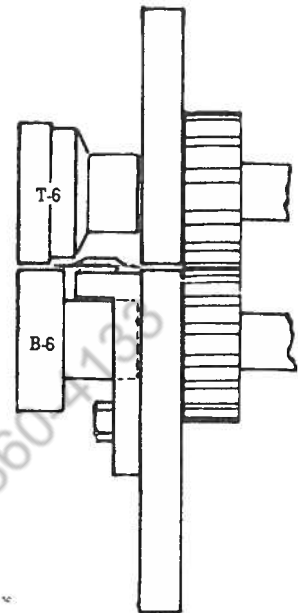
To install auxiliary opening roll holder remove rolls from the number six roll station and bolts that straddle bottom six roll shaft (See Sketch 4 and 4A). Place opening roll holder onto machine and fasten with the two 1/2"-13 NC x 2" HHCS provided.

When Ordering Parts Be Sure to Include

alling Auxiliary Rolls



SKETCH NO. 4

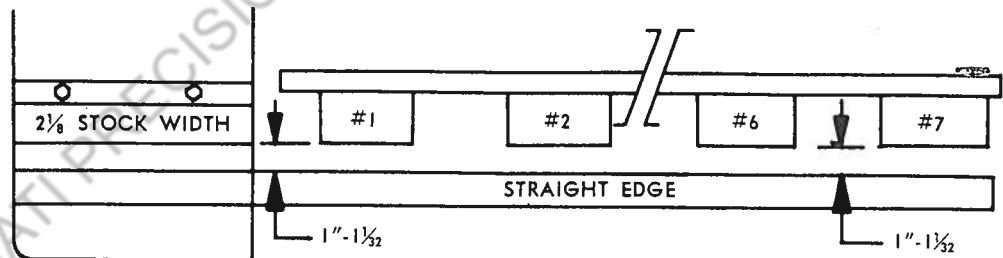


SKETCH NO. 4A

- (F) **Drive Cleat:** (20-26 Gauge Material) Cleat width, $1\frac{1}{8}$ "
 $2\frac{1}{8}$ " stock width

Gauge setting (See Sketch #5).... 1 " to $1\frac{1}{32}$ "

Note: The top #3 roll is not fastened by bolt and washer but allowed to float



SKETCH NO. 5

- (G) **Combination 3-in-1 Rolls:** (22-28 Gauge)
 Uses approximately $1\frac{3}{4}$ " on "T" Section $1\frac{1}{8}$ " on
 standing seam $\frac{1}{2}$ " on right angle flange.

Three Step Entrance Gauge

Top Step "T" Section Gauge setting..... $2\frac{1}{16}$ "

Middle Step Standing Seam

Gauge setting..... $1\frac{1}{2}$ "

Bottom Step Right Angle Flange

Gauge setting..... $1\frac{15}{16}$ "

NOTE:

When the First setting is made the other two will be automatically correct. The other two shapes can be made by placing material to the proper gauge step.

There are two top seven rolls, one stamped T-7, 22-24 gauge which has a wide slot and should be used with 22 and 24 gauge material. The second roll is stamped T-7, 26-28 gauge and should be used for the lighter materials. The exit angle gauge has an adjustable bar that can be lowered to exert pressure on the material as it emerges from the rolls, thereby straightening the finished section. (See Sketch 3). **Caution:** When adjusting exit gauge be sure it is set to the "T" section shape or damage will result by material interference with the gauge bar.

NOTE:

When changing rolls, loosen the exit gauge and move it to the extreme end of the table slots, away from where the material will pass. Run a test piece of material through the rolls and stop machine as the lead edge of the formed material reaches the end of the exit table. Set exit gauge to the formed material; the gauge should be set flush to, but not bearing against, the material unless side pressure is required for straightening. Adjustment of the tension on the $\frac{3}{8}$ " studs that pass through the plates will effect the shape and tendency of material to hold to the entrance gauge. **It is important:** that when changing rolls all parts pertaining to each set be removed from the machine, and all parts included on assembly.

6. Replace top cover and back plate.

7. Hold material against gauge and feed into machine.

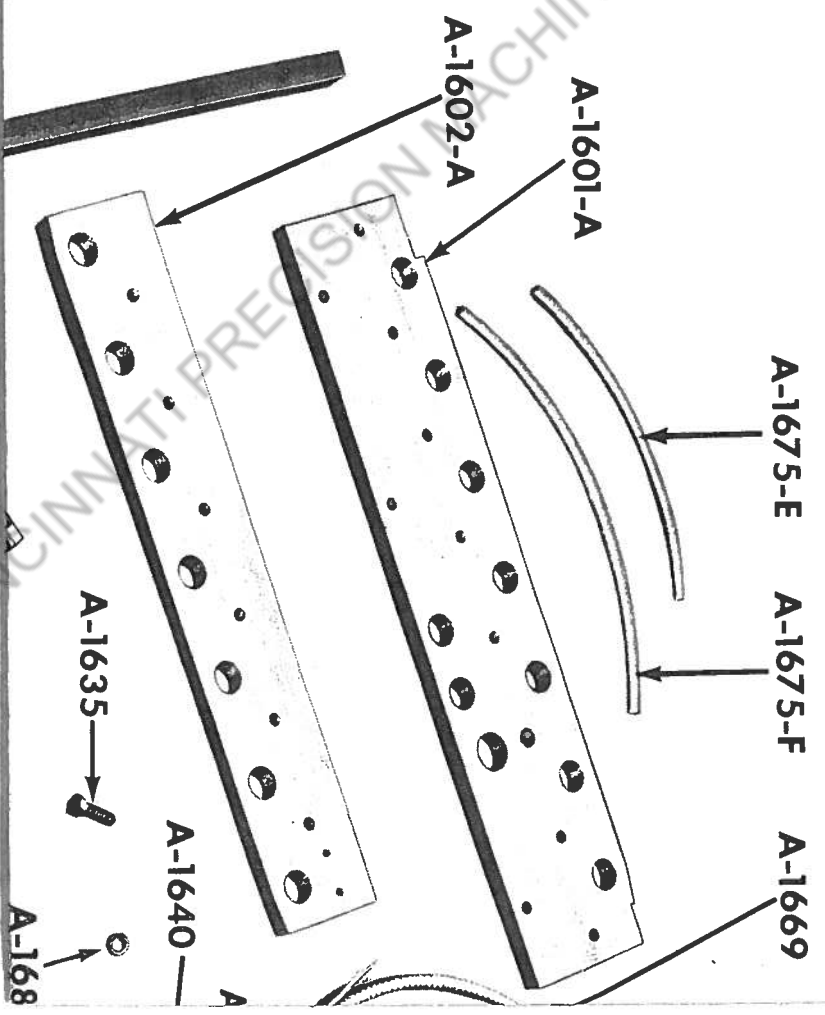
Record the Serial Number of Your Lockformer

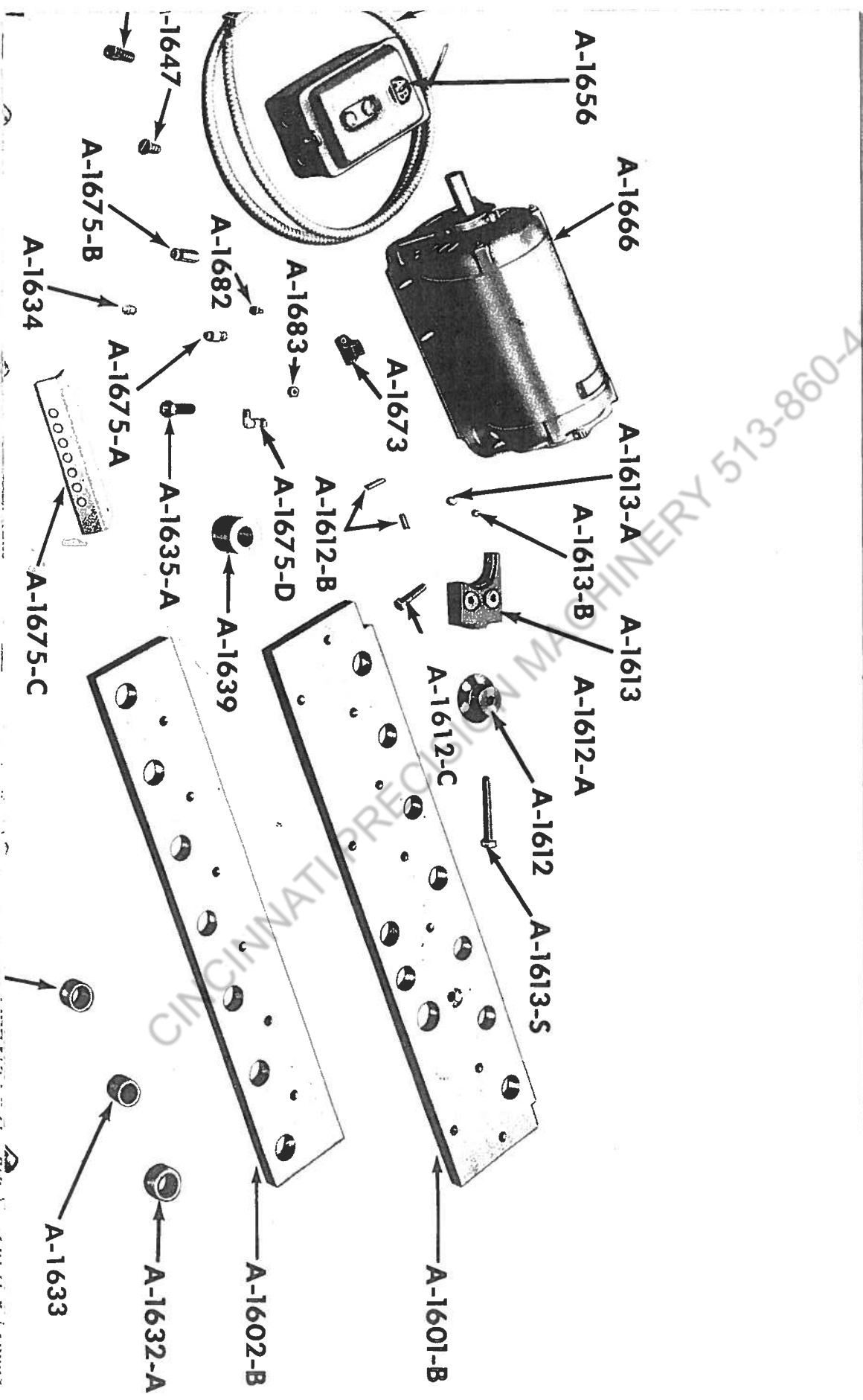
USE NEW
NUMBER
WHEN ORDERING
PARTS



16 GAUGE LOCKFORMER PARTS LIST

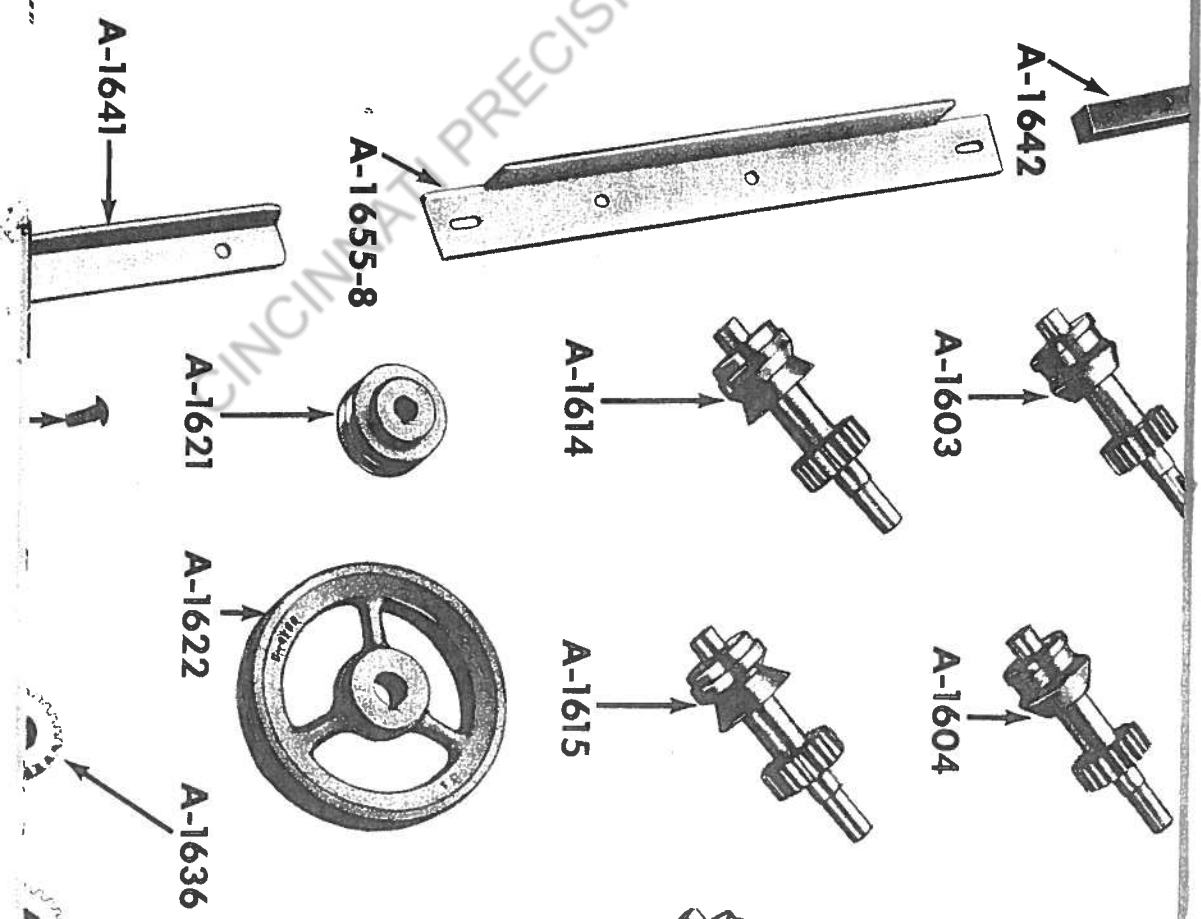
NEW PART NO.	OLD PART NO.	DESCRIPTION	PCS. PER UNIT
20003	A-1601-A	Lower Front Plate	1
20004	A-1601-B	Lower Back Plate	1
20001	A-1602-A	Upper Front Plate	1
20002	A-1602-B	Upper Back Plate	1
11001	A-1603	16 Pittsburgh T1	1
11002	A-1604	16 Pittsburgh T2	1
11003	A-1605	16 Pittsburgh T3	1
11004	A-1606	16 Pittsburgh T4	1
11005	A-1607	16 Pittsburgh T5	1
11006	A-1608	16 Pittsburgh T6	1
13127	A-1609-A	T7 Roll Shaft	1
*14621	A-1609-B	16 Pittsburgh Clr.	1
*14160	A-1609-C	Drive Gear	1
11014	A-1610	Knurled Ring	1
11016	A-1611	Plain Ring	1
14724	A-1612	Adj. Dial	1
60652	A-1612-A	Set Screw	1
62700	A-1612-B or 1812-B	Dial Pin	1
*71018	A-1612B-2	Comp. Spring	1

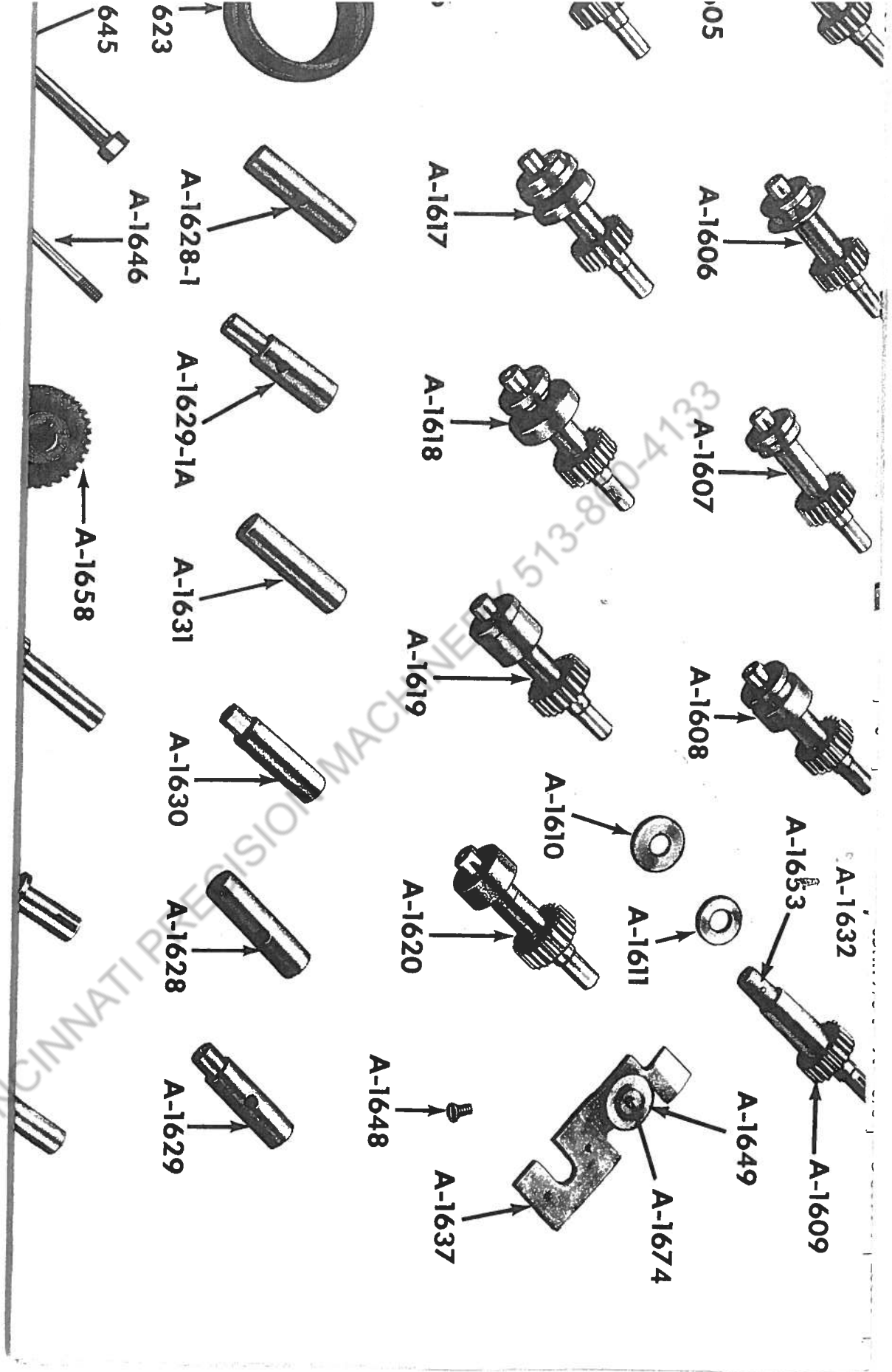




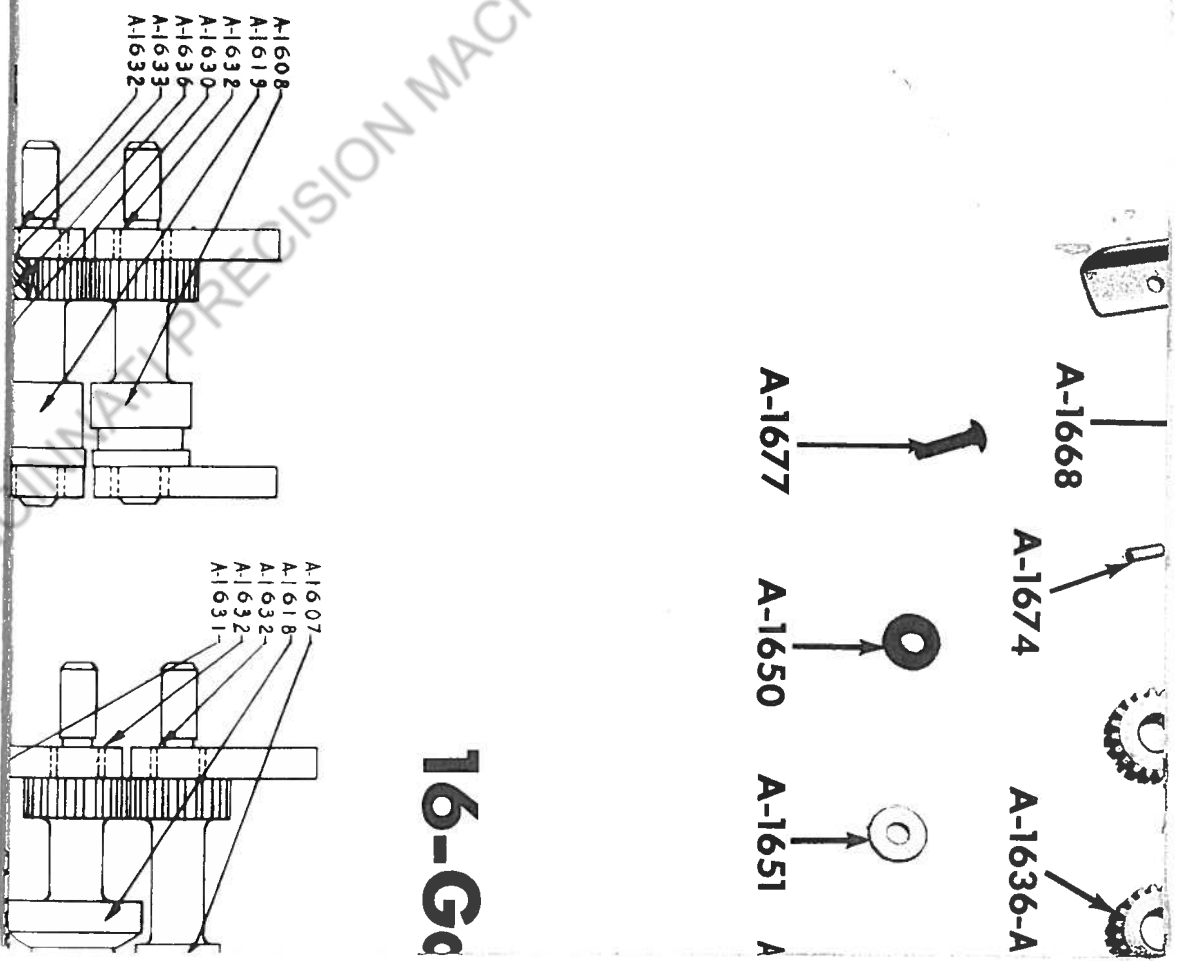
CINCINNATI PRECISION MACHINERY 513-860-4133

Part No.	Part Name	Quantity
60097	A-1612-C 3/8 - 16 x 1-3/4 RHCS	2
40270	A-1613 Adjusting Block Fin.	1
66507	A-1613-A 1/2 Steel Ball	1
66508	A-1613-B 3/8 Steel Ball	1
14881	A-1613-S Adjusting Dial Screw	1
11007	A-1614 16 Pittsburgh B1	1
11008	A-1615 16 Pittsburgh B2	1
11009	A-1616 16 Pittsburgh B3	1
11010	A-1617 16 Pittsburgh B4	1
11011	A-1618 16 Pittsburgh B5	1
11012	A-1619 16 Pittsburgh B6	1
11013	A-1620 16 Pittsburgh B7	1
70411	A-1621 2 Bk. 28 7 & 8 Sheave	1
70480	A-1622 2 Bk. 80 HX. 1 Sheave	1
70054	A-1623 5L520 Belt	2
13552	A-1628 Spacer Drilled off Center	2
13553	A-1628-1 Spacer Drilled On Center	1
13652	A-1629 Idler Spacer Off Center	2
13656	A-1629-1A Main Idler Spacer	1
13604	A-1630 Idler Spacer Pl.	3
13505	A-1631 Plain Spacer	8
66100	A-1632 B1612 Torr. Bearing	30
*66101	A-1632-1 B1612 Oh Torr. Bearing	4
66111	A-1632-A HJ 1624 12 Torr. Bearing	2
66090	A-1633 B1416 Torr. Bearing	5
66640	A-1634 1610 Grs. Ftg.	7
37000	A-1635 Grease Fitting Shim	1
60154	A-1635 1/2 - 13 x 1-1/2 Hex. Hd. C. Screws Ht.	32
42001	A-1635-A Lubrication Bolt	1
14161	A-1636 Idler Gear	5
14162	A-1636-A Main Idler Gear	1
*62633	A-1637-1 3/8 x 1 Dwl.	2
*51900	A-1637-1 Fibre Gear Assemblv	1



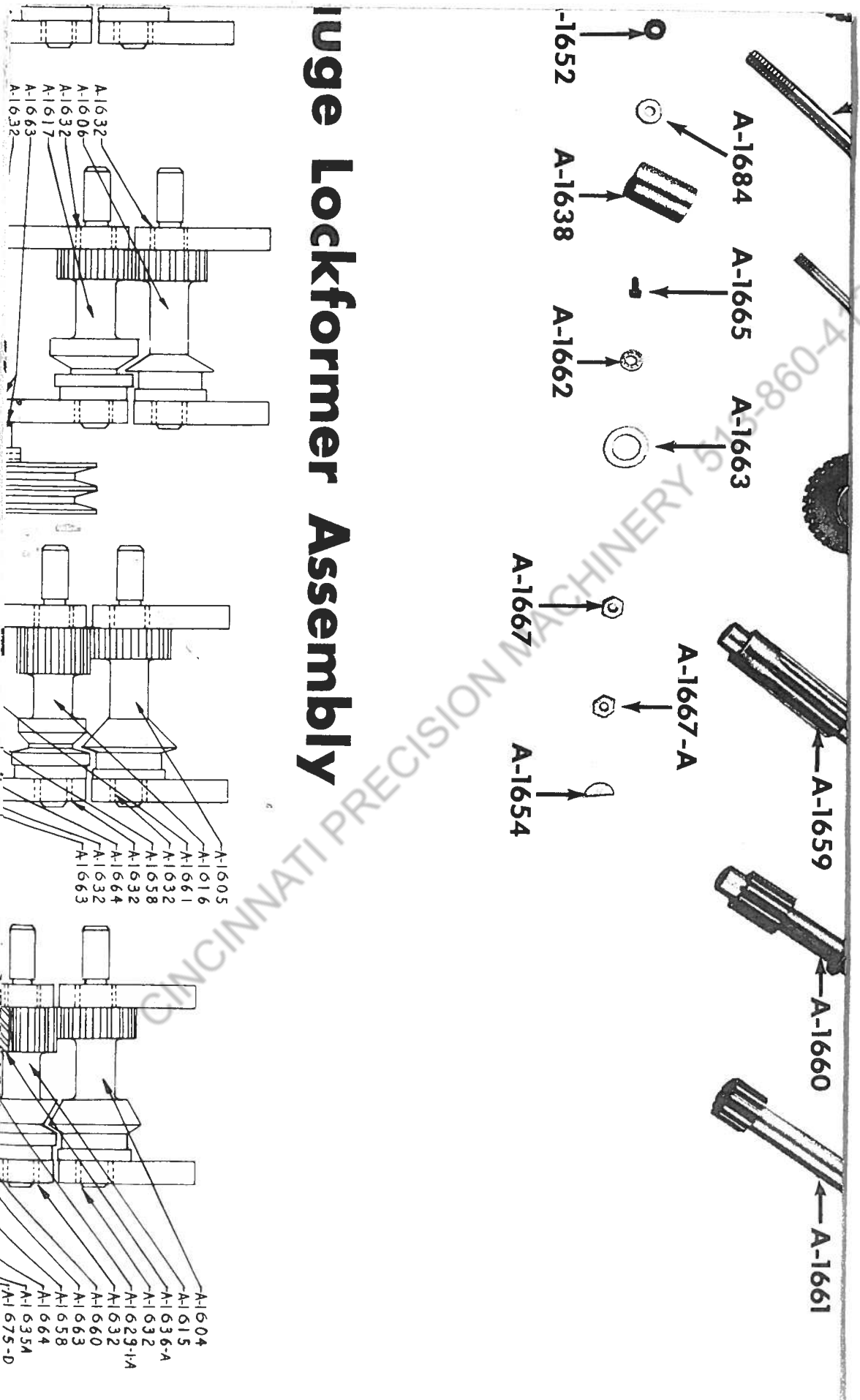


*52504	A-1637-A	Opening Roll Brkt. Assembly	1
14622	A-1638	Saddle Washer	3
60450	A-1640	1/2—13 x 1 S. H. C.S.	1
29601	A-1641	Exit Gauge	1
21454	A-1642	Entrance Gauge	1
9956547	A-1645	Hex. Head Stud Assembly	1
62551	A-1646	3/8—16 x 6-1/2 Stud	1
60954	A-1647	1/2—13 x 1 F.H. SCS	2
11017	A-1649	Opening Roll	4
*62341	A-1650-A	5/8 Blvl. Washer	1
62081	A-1651	5/8 x 3/16 Washer	24
*62340	A-1652-A	3/8 Blvl. Washer	3
62700	A-1653	4 x 1 Tpr. Pin	24
62402	A-1654	15 Woodruff Key	2
*58505	A-1655	Stand Assembly	4
29469	A-1655-8	Motor Base	1
80103	A-1656	Motor Control	2
*80328	A-1656-A	N28 Htr. Element	1
*39511	A-1657	Cover Assembly	3
14301	A-1658	Drive Gear	1
13301	A-1659	First Drive Shaft	2
13303	A-1660	Third Shaft	1
13304	A-1661	Second Drive Shaft	1
62027	A-1662	3/8 x 082 Washer	1
66425	A-1663	TT-1709 1 Thrust Bearing	2
*60680	A-1664	3/8—16 x 3/8 Slotted Set Screw	7
60750	A-1665	1/4—20 x 1/2 Sq. Hd. Set Screw	2
80071	A-1666	3 HP 3 60 36 145	3
61120	A-1667	3/8—16 HN Hvy SF	1
80104	A-1667-A	Flush Plate	6
61300	A-1668	3/8—16 Jam Nut SF	1
60875	A-1668	3/8—16 x 1 Carriage Bolt	2
80422	A-1669	BX Cable 12 3 66	10



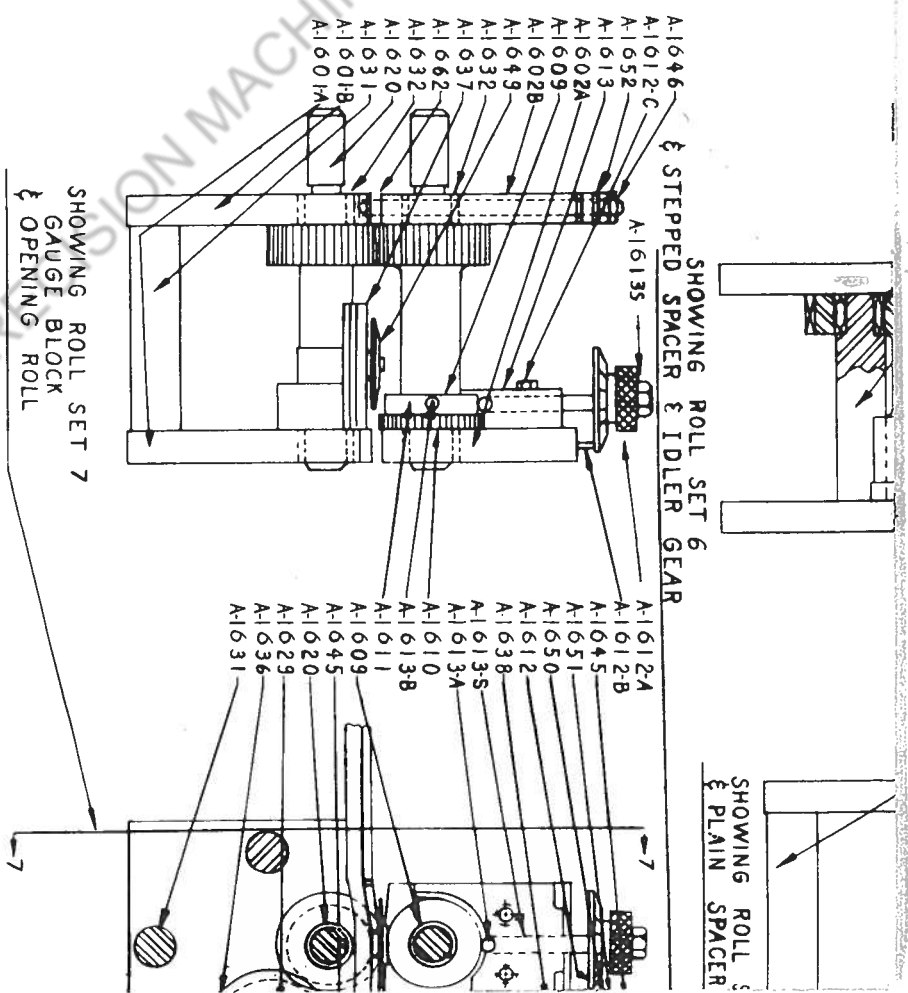
CINCINNATI PRECISION MACHINERY 513-860-1212

Engine Lockformer Assembly

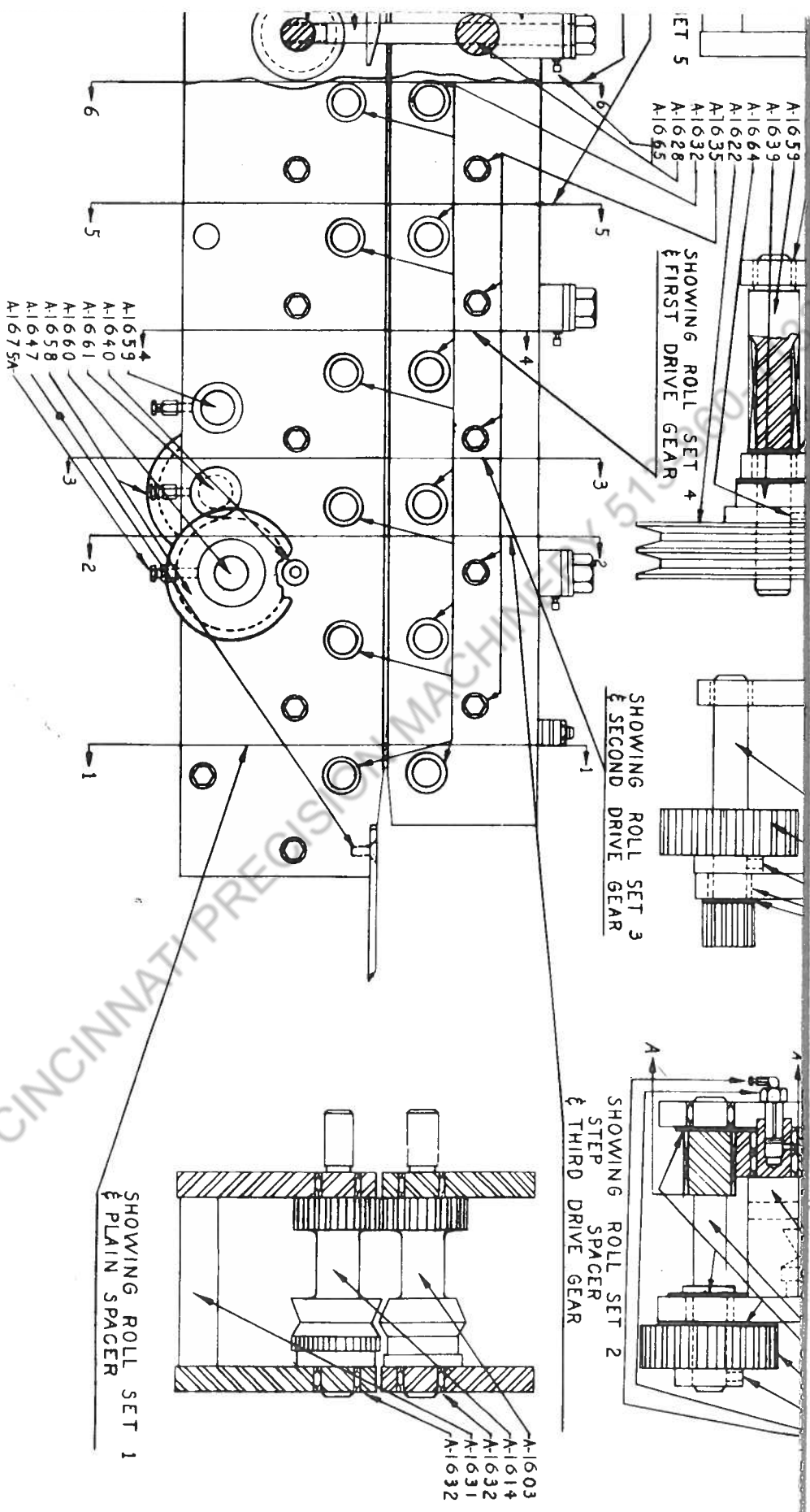


*85156	A-1671	Lockformer Name Plate	1
*60795	A-1672	4 x 3/16 Drive Screw U CAD	8
66600	A-1675-A	886L Fem. Coupling	7
66610	A-1675-B	888L Half Union	7
32902	A-1675-C	Lubrication Connector Holder	1
66650	A-1675-D	Angle Body Lubrication	1
66700	A-1675-E	Nyla Tubing 4 & 15	60
66700	A-1675-F	Nyla Tubing 3 & 19	57
60877	A-1677	3/8—16 x 1 3/8 & 4 Carriage Bolt	2
62364	A-1681	1/2 Lock Washer	33
60000	A-1682	1/4 0 2 x 1/2 Hx. Hd. Cap Screw	2
61061	A-1683	1/4—20 HN Hvy SF	2
62029	A-1684	3/8 x 1/16 Washer	16
*60551	A-1687	1/4—20 x 1/2 RHMS	4
*60048		5/16—18 x 1-1/4 Hx. Hd. C. Screw	4
*60575		10—24 x 3/8 RHMS	4
*60652		5/16—18 x 1/2 Slotted Set Screw	1
*60593		10—32 x 7/16 FLMS	2
*60953		3/8—16 x 1 F.H. SCS	2
*61040		10-24 HN	4
*61101		5/16—18 HN Hvy SF	4
*62010		5/16—1 1 & 16 Washer	8
*62362		5/16 Lock Washer Medium	4
*80484		BX Connector 3/4	1
*80483		BX Connector 3/8	1
*80602		Rg. Tng. Terminal	3
*80928		Back Enclosure	1
*85178		Lockformer Logo	1

*NOT ILLUSTRATED



When Ordering Parts



Be Sure to Include the Serial Number of Your Lockformer