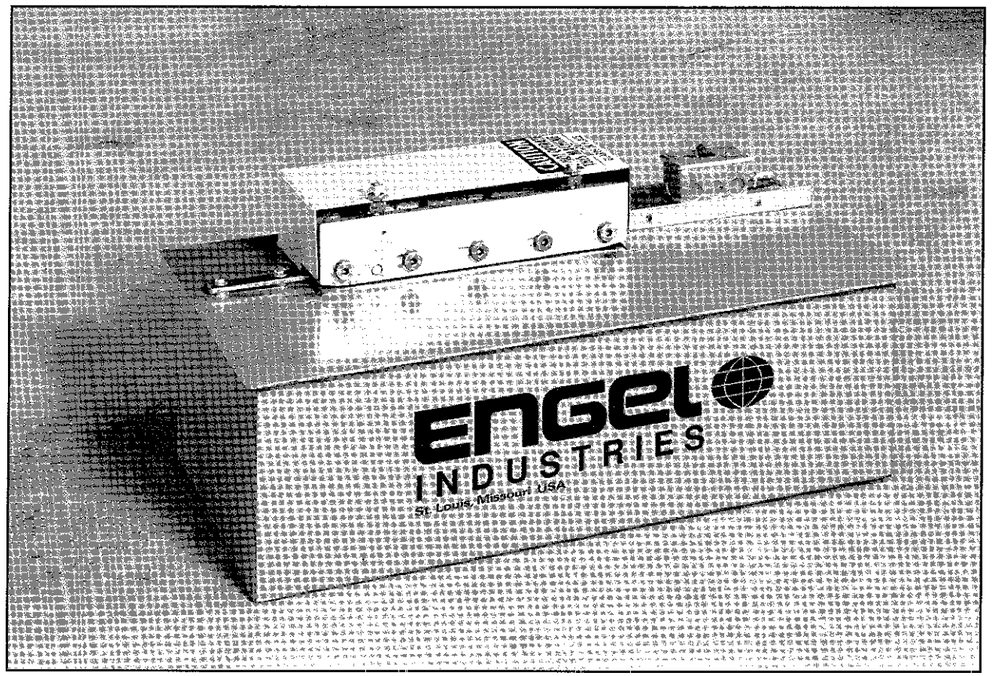
ENGEL ROLL FORMER
M-500P-24



ENGEL'S FEATURES

- Heavy duty construction with 1/2" side plates for rigidity.
- Needle roller bearings throughout.
- Full 1/2 HP motor
- Portable
- Optional floorstand available

SPECIFICATIONS

Maximum Capacity Pittsburgh Lock	24 gauge
Number of stations	5
Motor	1 / 2HP 110 / 1 / 60
Pitch line speed	30 / 35 FPM
Dimensions	32" long, 16" wide, 15" high, 10" pass height
Shipping Weight	Approx. 150 lbs.

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ENGEL INDUSTRIES, INC.

MODEL 500 - P24

ROLL MACHINE INSTRUCTIONS

Receiving Machine

Visibly check machine for possible shipping damage.

When damage is evident, insist on a notation on the freight bill.

If repairs are necessary, contact Engel Industries, Inc.

Unloading Procedure

When it is necessary to lift the machine off the transport vehicle and lower it to the ground, lift or support the machine by using the skids only. (NOTE: Lifting the machine by the infeed or outfeed table would result in extensive damage to the machine.)

If the machine is unloaded onto a loading dock, then rollers can be put under the skids, or the machine can be slid or dragged on the skids.

Positioning Machine

Move the machine to its desired location.

Remove the skids.

Level the machine.

Electrical Connections:

Supply electrical service to the starter box (located under the infeed table) in accordance with local electrical codes. Refer to the connecting instructions on the inside of the starter box.

Lubrication:

After approximately every 80-100 hours or every two (2) weeks, lubricate the machine in the following manner:

1. As a safety precaution, disconnect electrical supply.
2. Remove top roll cover (guard).
3. Apply open-type gear grease to the explsed surfaces of all the gears. Recommend: Chem-A-Lube (made by Nation al Chemsearch Corp. in Dallas, St. Louis, New York, Los Angeles, Montreal) or equivalent.
4. Apply light oil to the forming rolls to prevent galvanize build-up as required.

IMPORTANT: Do not use hypoid grease, as it will cause extensive damage to gears.

Roll Capacities and Material Requirements

Shape	Material Required	Capacity
Pittsburgh Lock	15/16"	20-28 Gauge
Drive Cleat	2 1/8"	20-28 Gauge

Adjustments

This machine is factory adjusted. However, after much usage, adjustments may be necessary. The following procedures for trouble-shooting should then be followed.

Trouble-Shooting

Disconnect power before any adjustments are made.

1. Material will not feed:

   Machine adjusting screws are either too tight or too loose. (Refer to drawing - page 5) When adjusting, a maximum of one quarter turn should be sufficient. If this does not solve the problem, a complete resetting should be performed as follows:

   (1a) After removing the top cover, loosen the two machine adjusting screws fully. Also, loosen the two machine assembly screws.

   (1b) Tighten the two machine adjusting screws finger tight. Then, tighten them approximately one quarter to one half turn more.

   (1c) Re-tighten the two assembly screws to their original tension.

2. Jammed Material:

   (2a) After removing the top cover, remove the two machine assembly screws.

   (2b) Remove the two machine adjusting screws along with the top set of rolls complete with upper side plates. NOTE: Be careful not to lose the

spacers that are located between the top and bottom side plates as they are needed for the required gap between the rolls.

(2c) After the part is removed, re-assamble the machine and adjust the rolls using steps 1b and 1c.

3. Material Splitting:

(3a) Faulty material

(3b) The machine adjusting screws may be too tight and require backing off.

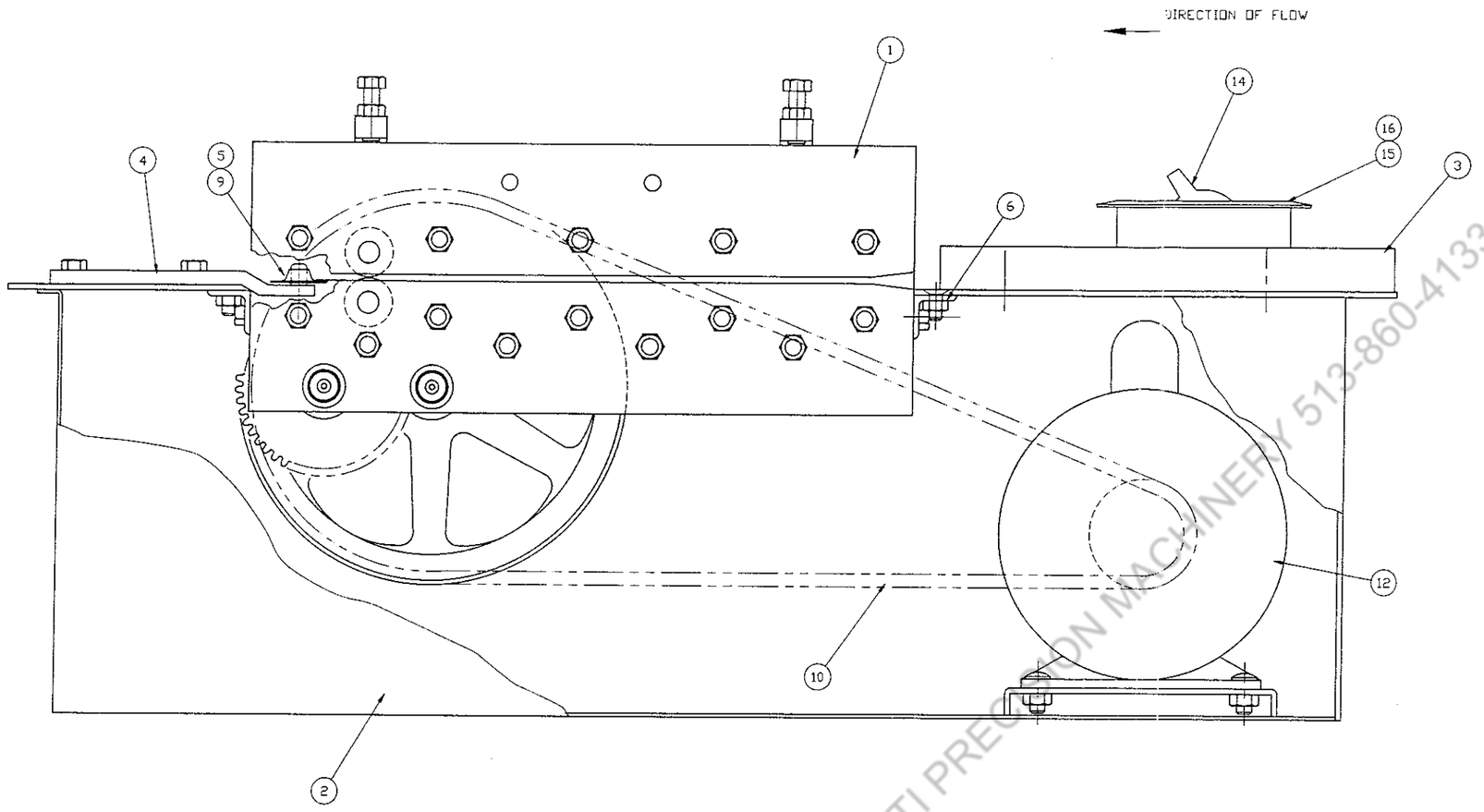
4. Knock over edge wavering:

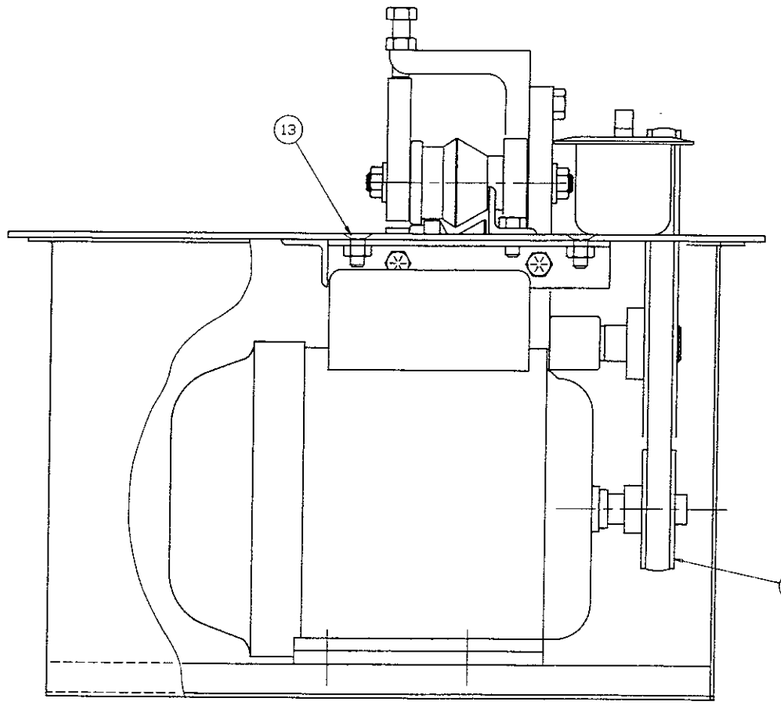
(4a) This cannot be avoided when using light gauge material.

WARNING

NEVER PUT YOUR HANDS IN THE POINT OF OPERATION OF ANY MECHANICAL OR ELECTRICAL DEVICE.

IF A MACHINE IS JAMMED, NEEDS ADJUSTMENTS, NEEDS DIE CHANGES, ETC. ALWAYS DO A LOCK-OUT/TAG-OUT PROCEDURE WHICH MEANS THE POWER MUST BE OFF AND LOCKED-OUT AND ANY RAMS OR BEAMS WILL BE BLOCKED TO ENSURE SAFETY. THIS IS A FEDERAL OSHA REQUIREMENT AND MUST BE A WRITTEN AND TRAINING TYPE OF PROGRAM.





ITEM	REQ'D.	SYMBOL	P	M	DESCRIPTION
16	2	561050	X		CORD GRIP
15	1	552008	X		STARTER ENCLOSURE
14	1	551063	X		MANUAL MOTOR STARTER
13	4		X		BOLT 5/16-18 X 3/4" LG. FHCS
12	1	56 FRAME	X		MOTOR 1/2 HP 1725 RPM'S
11	1	AZ25	X		PULLEY 5/8 B 3/16 K
10	1	4L530	X		BELT
9	1		X		DOWEL PIN 3/8 X 3/4" LG.
8					
7					
6	2	B-11300		X	MOUNT ANGLE
5	1	A-11367		X	PL OPENING ROLL
4	1	B-11303		X	OPENENING ROLL HOLDER
3	1	B-11301		X	INFEED GUIDE
2	1	D-11345		X	FRAME WELDMENT
1	1	D-11368		X	SPINDLE HOUSING ASS'Y.

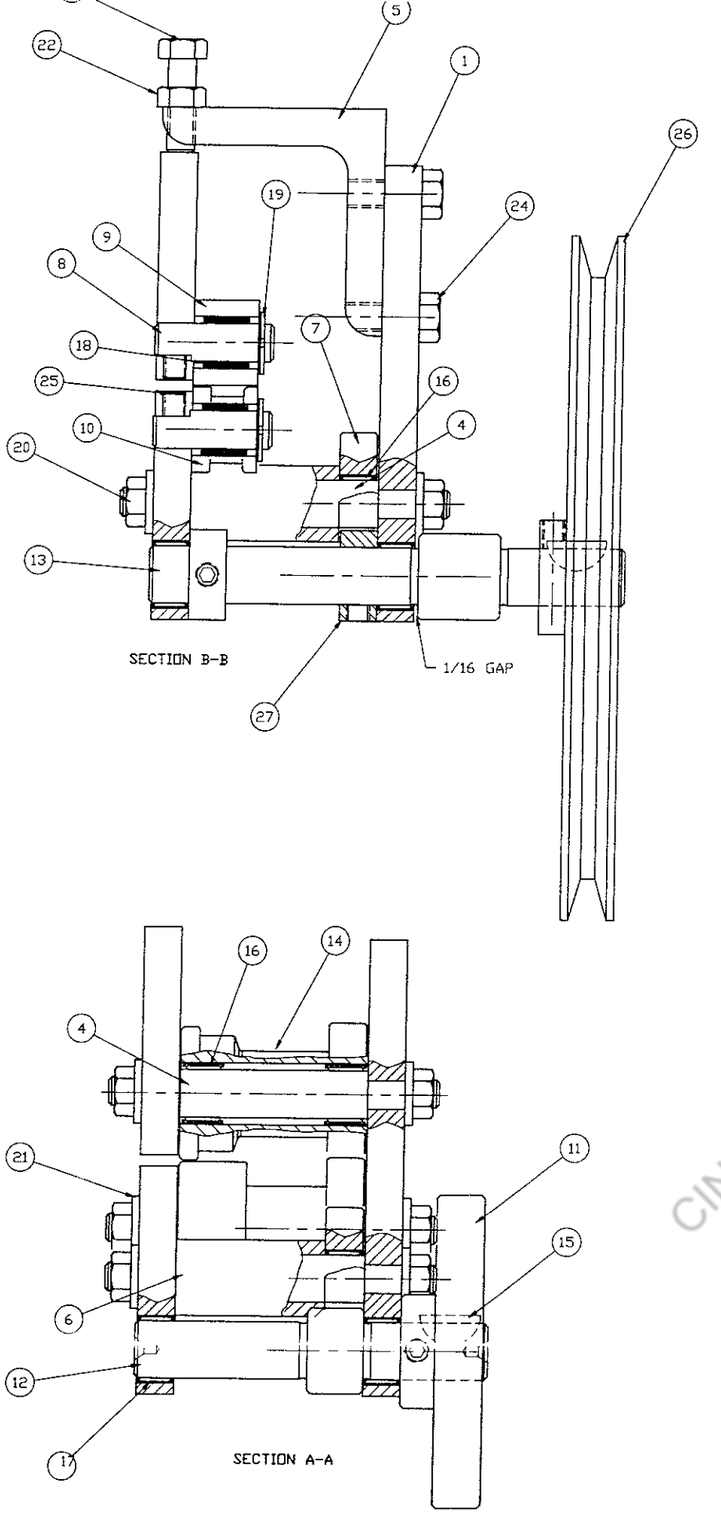
ENGEL INDUSTRIES
ST. LOUIS, MISSOURI

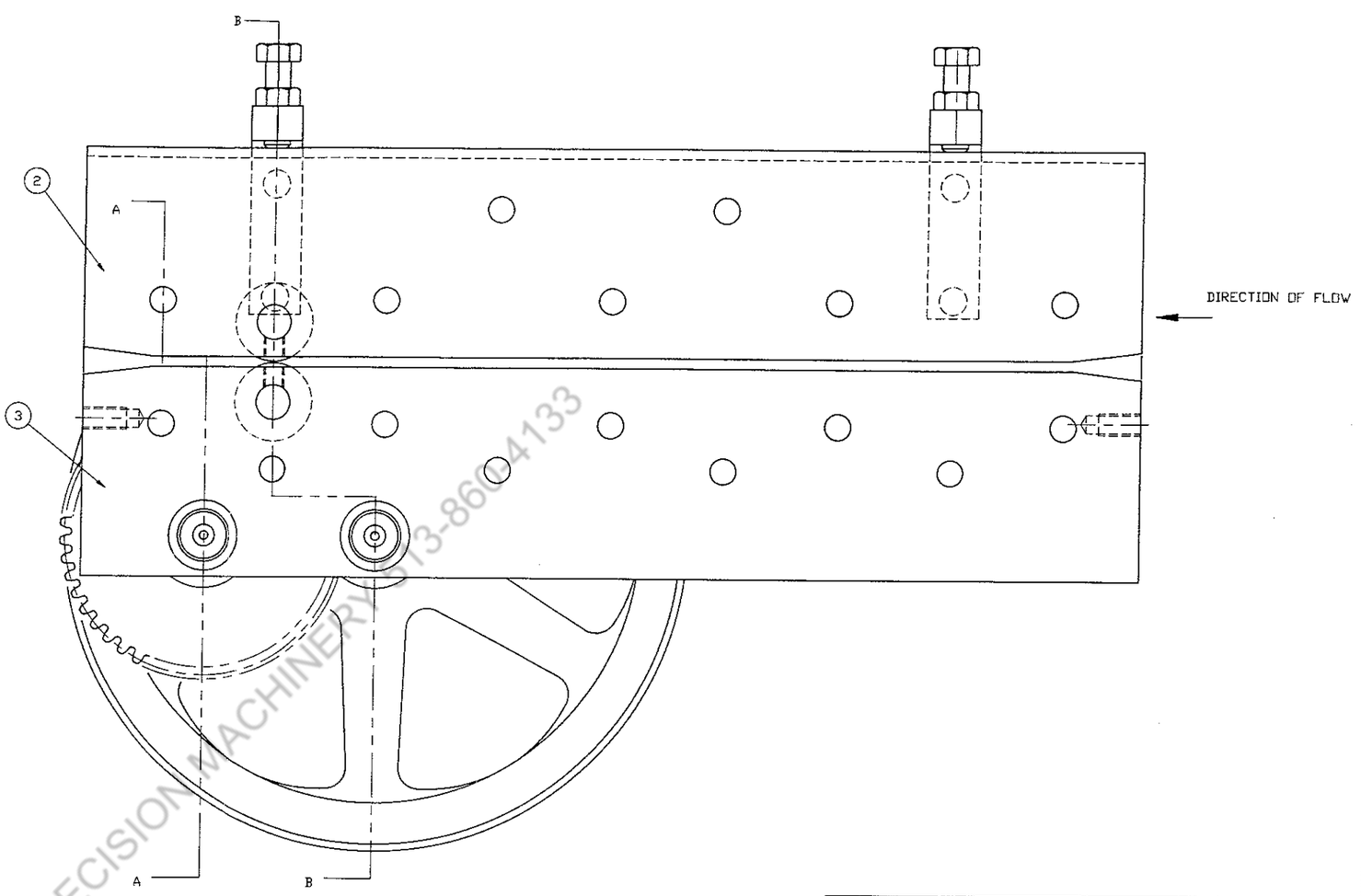
DATE 2/12/95
SCALE 5/8=1
DRAWN
CHECKED

FINAL ASS'Y.
24 Ga MOBILE PITTSBURG

STORED ON DISK #195

DWG. NO. D-11369





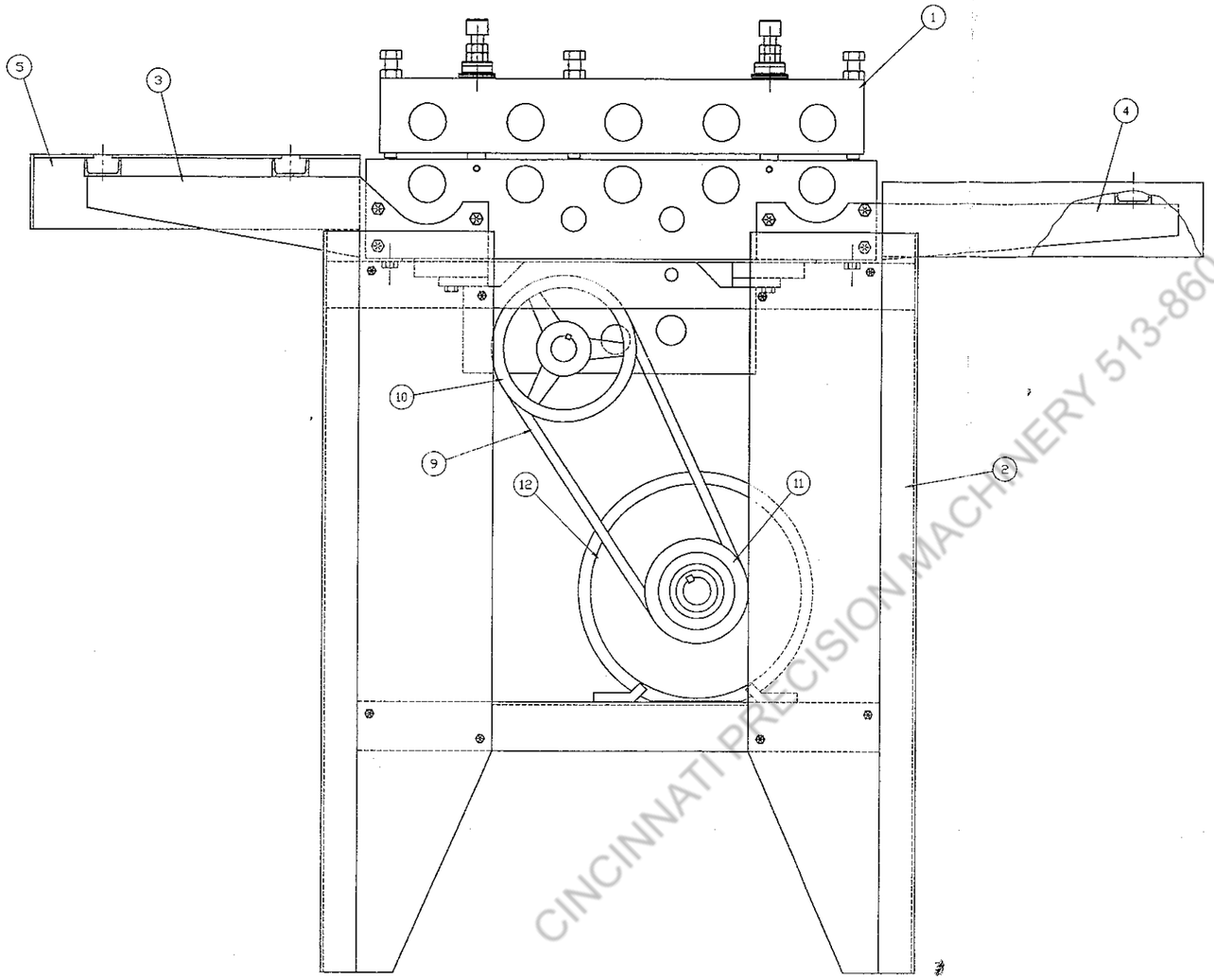
ITEM	REQ'D.	SYMBOL	P	M	DESCRIPTION
28					
27	2		X		SET COLLAR 3/4
26	1	AZ90	X		PULLEY 3/4 B 3/16 K
25	4		X		CUP POINT SET SCREW X 5/16" LG
24	4		X		BOLT 3/8-16 X 1" LG. HHCS
23	2		X		BOLT 3/8-16 X 1 1/4" LG. HHCS
22	2		X		NUT 3/8-16 HEX
21	28		X		3/8 LOCK WASHERS
20	28		X		NUT 3/8-24 HEX FINISH
19	2	5133-50	X		E-RING
18	2	B810-5	X		BUSHING
17	4	B-128	X		NEEDLE BEARING
16	24	B-108	X		NEEDLE BEARING
15	2	#606	X		WDF KEY
14	1	T6280		X	PITTSBURG ROLL SET
13	1	A-11366		X	PINION (PRIMARY)
12	1	A-11365		X	PINION (SECONDARY)
11	1	A-11364		X	GEAR (SECONDARY SHAFT)
10	1	A-11363		X	LOWER PITTS HELPER ROLL
9	1	A-11362		X	UPPER PITTS HELPER ROLL
8	2	A-11361		X	PIN UPPER & LOWER PITTS. ROLLER
7	4	A-11360		X	IDLER GEAR
6	4	A-11306		X	SPACER-IDLER GEAR
5	2	B-11304		X	PRESSURE ANGLE
4	14	B-11305		X	IDLER & SPINDLE SHAFT
3	1	C-11307		X	LOWER SPINDLE HOUSING
2	1	C-11308		X	UPPER SPINDLE HOUSING
1	1	C-11346		X	SPINDLE HOUSING (GEAR SIDE)

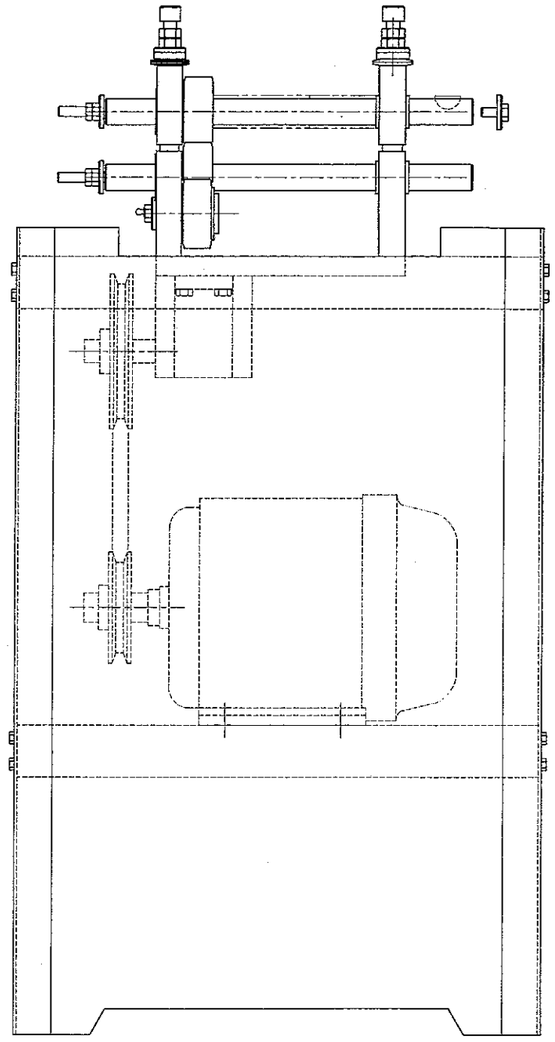
ENGEL INDUSTRIES
ST. LOUIS, MISSOURI

DATE 2/12/95
SCALE 1=1
DRAWN JERRY
CHECKED

SPINDLE HOUSING ASS'Y.
24 Ga MOBILE PITTS UNIT

STORED ON DISK # 195 | DWG. NO. D-11368





70 FPM

ITEM	REQ'D	SYMBOL	P	M	DESCRIPTION
12	1	182T FRAME	X		MOTOR 3 HP
11	1	BK45	X		SHEAVE 1 1/8 B 1/4 K (DRIVER)
10	1	BK~~45~~ 70	X		SHEAVE 7/8 B 3/16 K (DRIVEN)
9	1	AX35	X		BELT
8					
7					
6					
5	2	C-11482		X	INFEED/OUTFEED TABLE
4	2	B-11474		X	OUTFEED TABLE MOUNT
3	2	B-11473		X	INFEED TABLE MOUNT
2	1	D-11519		X	FRAME WELDMENT
1	1	D-11520		X	SPINDLE HOUSING ASS'Y.

ENGEL INDUSTRIES
ST LOUIS, MISSOURI

DATE 12/7/97
SCALE 3/8
DRAWN JERRY
CHECKED

FINAL ASS'Y.
500-U ROLL MACH HIGH SPEED

ASSY. NO. | DISK #223 | DWG. NO. D-11518