NATIONAL

SAFETY
&
INSTRUCTION
MANUAL

MODEL **NR7216**
POWER ROLL
MACHINE

MADE IN USA

Trick-Tools.com
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Pella, IA 50219
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CONTENTS

NR7216 POWER ROLL MACHINE

Record Machine Information Here
(Necessary for Factory Service, Replacement Parts, Etc.)

Serial Number: _____
Date Installed: _____
Purchased Thru: _____

NATIONAL SHEET METAL MACHINE, INC

252 SMARTT STATION RD / SMARTT, TN 37378

SAFETY

WARNING This machine MUST be wired to Central Power Source by a Qualified
Electrician Using Materials and methods prescribed by LOCAL ELECTRICAL CODES……..

WARNING DO NOT operate this machine without manufacture's LEFT and RIGHT COVERS (#48 & #72) and GEAR COVER (#83) installed properly. The Covers and Guard are designed for safety…

NEVER operate this machine with FRONT OR BACK PANEL removed…

Always check machine before every use for loose material between ROLLS (#1, #6, & #18). Always check for broken or damaged parts before using your ROLL. GEAR COVER (#83) And other Machine Parts should be checked for damage, alignment, binding, breakage, and correct mounting to insure they are working properly. Repair or Replace Damaged Parts for Safe Operation.
WARNING DO NOT operate or store this machine in Damp Or Wet Conditions

ALWAYS Feed material from the FRONT of the machine ONLY…
NEVER Roll Material that is OVER CAPACITY or material Machine is NOT designed to Roll.
(THIS MACHINE IS DESIGNED TO ROLL 16GA. MILD STEEL OR LESS)

Safety

Do NOT "stack" material, design is for SINGLE LAYER ONLY. Putting more Than one (1) piece of material in Machine at a time will OVERLOAD MACHINE and can cause possible damage and / or injury.

NEVER force machine to roll.

ALWAYS lay material FLAT on Table (#78). Do NOT support material beyond Safety line (See Safety Zone pg. 4) CLAMPING May Result in Serious Injury.

Machine is designed to be operated by one (1) person ONLY. Operator should Be in FRONT of Machine with Hands and Fingers BEHIND the Safety Line. (See Safety Zone pg. 4)

NEVER use a helper to support or assist in feeding or pulling the metal.

NEVER place any part of your body in Roll or Gear Area (See Safety Zone pg. 4)

Turn this machine OFF before leaving Work Area.

ALWAYS unplug machine BEFORE performing any type maintenance…….

Maintain good footing and balance… NO NOT OVERREACH

Wear snug fitting clothing, short sleeve shirts, and no-slip footwear that will NOT become caught on material.. NEVER wear neckties, gloves, rings, watches, Necklaces, bracelets, or any other type of jewelry, loose or baggy garments, or Accessories of any type. Cover up or tie long hair back.

Keep floors dry, free of slippery materials and clutter, and maintain good Lighting in Work Area.

Store items away from Machine. (See Safety Zone pg. 4) Do NOT climb on Machine to reach Items. NEVER stand on table (#78).

SAFETY

DO NOT use this machine if you are fatigued
USE COMMON SENSE when using this Machine

THINK SAFETY AT ALL TIMES

ALWAYS Use replacement parts that are manufactured for this Machine.

FOLLOW PREVENTATIVE MAINTENANCE GUIDE DAILY

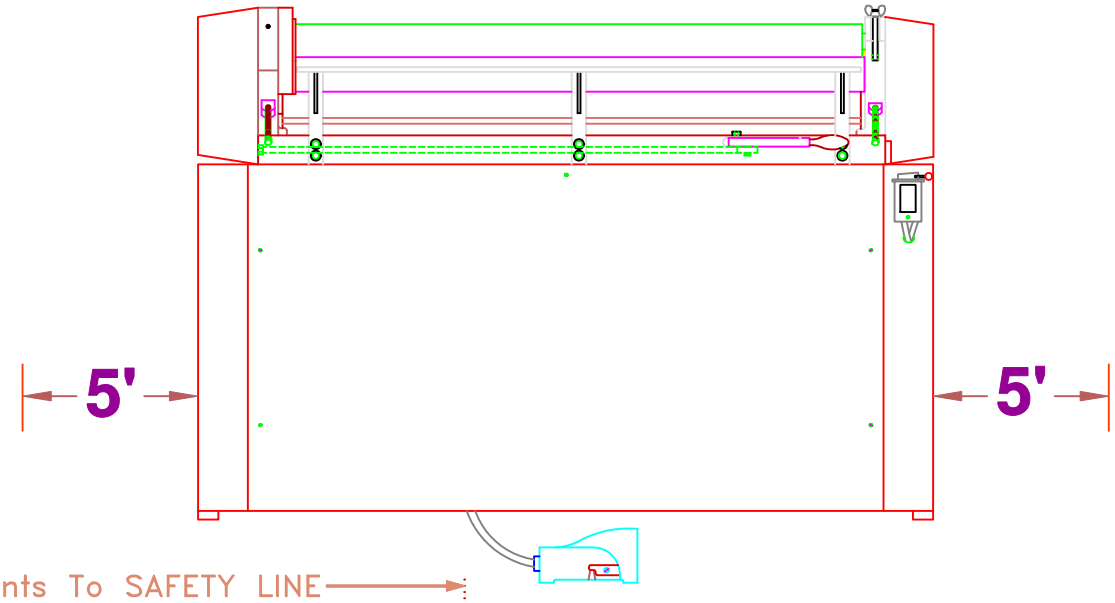
ALWAYS WEAR SAFETY GLASSES OR ANY APPROVED EYE PROTECTION DEVICES WHEN OPERATING THIS MACHINE.

KEEP FINGERS CLEAR OR ROLL AND GREAR AREAS…

SAFETY SAVES AND SAFETY PAYS

SAFE ZONE

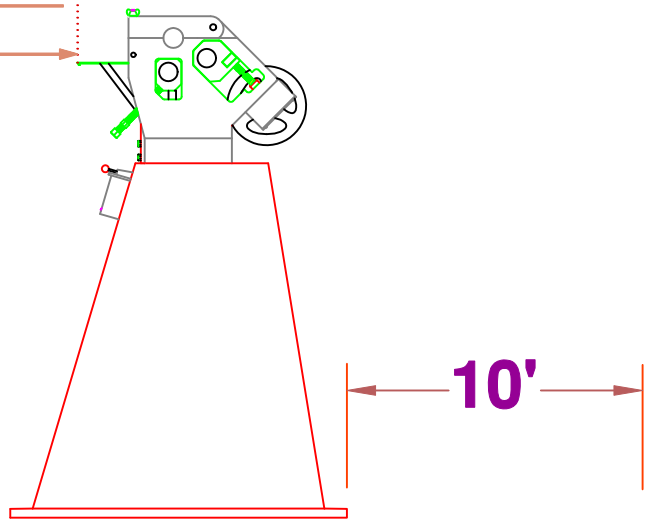
(Working Areas)



Arrow Points To SAFETY LINE

FEED MATERIAL TO BE ROLLED FROM THE FRONT ONLY

NEVER Place Your Fingers or Hands BEYOND The Front of the SAFETY LINE. The FRONT of the SAFETY LINE is illustrated by the Arrows On This Page



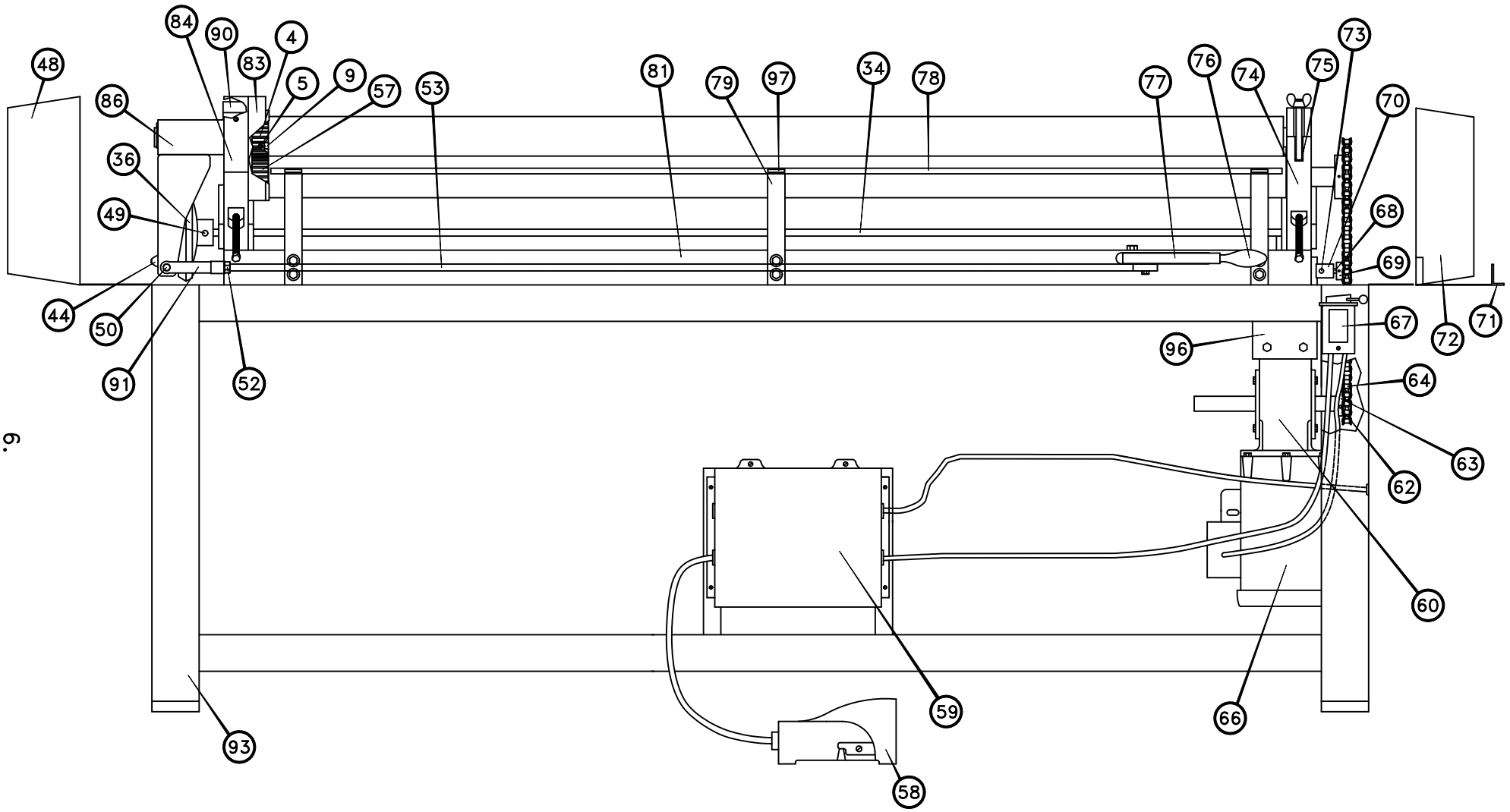
1. Allow a minimum five (5) feet of open area, free of materials, and machinery on BOTH sides (Left & Right) of Machine.
2. Allow a minimum ten (10) feet of open area, free of obstructions, etc. in REAR of Machine.
3. Do NOT operate Machine when people or obstructions are WITHIN SAFE ZONE. SERIOUS INJURY MAY OCCUR.
4. Do NOT stack, store or place material, machinery, or any other obstructions in FRONT of Machine that might cause tripping or in any way present a HAZARD to operators and/or helpers.

KEEP WORK AREA CLEAN and SAFE ZONES CLEAN

NATIONAL

PARTS LIST NR7216 POWER ROLL *A

4.	Lift Roll Gear	1
5.	Set Screw	2
9.	Key–Half Moon	2
34.	Worm Gear Adjusting Rod	1
36.	Handwheel	1
44.	Handwheel Knob	1
47.	Deleted	–
48.	Left Cover	1
49.	Set Screw	1
50.	Pin	1
51.	Deleted	–
52.	Jam Nut	1
53.	Lift Rod	1
54.	Deleted	–
55.	Deleted	–
56.	Deleted	–
57.	Main Drive Roll Gear–Left	1
58.	Footswitch	1
59.	Electric Box	1
60.	Gear Box	1
61.	Deleted	–
62.	Set Screw	1
63.	Gear Box Sprocket	1
64.	Chain	1
65.	Deleted	–
66.	Motor	1
67.	Drum Switch	1
68.	Chain Tension Block Pin	1
69.	Idler Sprocket	1
70.	Chain Tension Block	1
71.	Cover Bracket	1
72.	Right Cover	1
73.	Set Screw	1
74.	Right Endplate	1
75.	Split Pin	1
76.	Lift Lever Handle	1
77.	Lift Lever	1
78.	Table	1
79.	Table Bracket	3
80.	Nameplate (Not Shown)	1
81.	Base	1
82.	Deleted	–
83.	Gear Cover	1
84.	Left Endplate	1
85.	DELETED	1
86.	Lift Roll Lift Bracket	1
87.	Deleted	–
90.	Lift Roll Block	1
91.	Lift Rod Yoke	1
93.	Stand	1
94.	Front Panel (Not Shown)	1
95.	Rear Panel (Not Shown)	1
96.	Gear Box Mounting Bracket	2
97.	Swing Lock Plate	3



6.

NATIONAL

PARTS LIST NR7216 POWER ROLL *A

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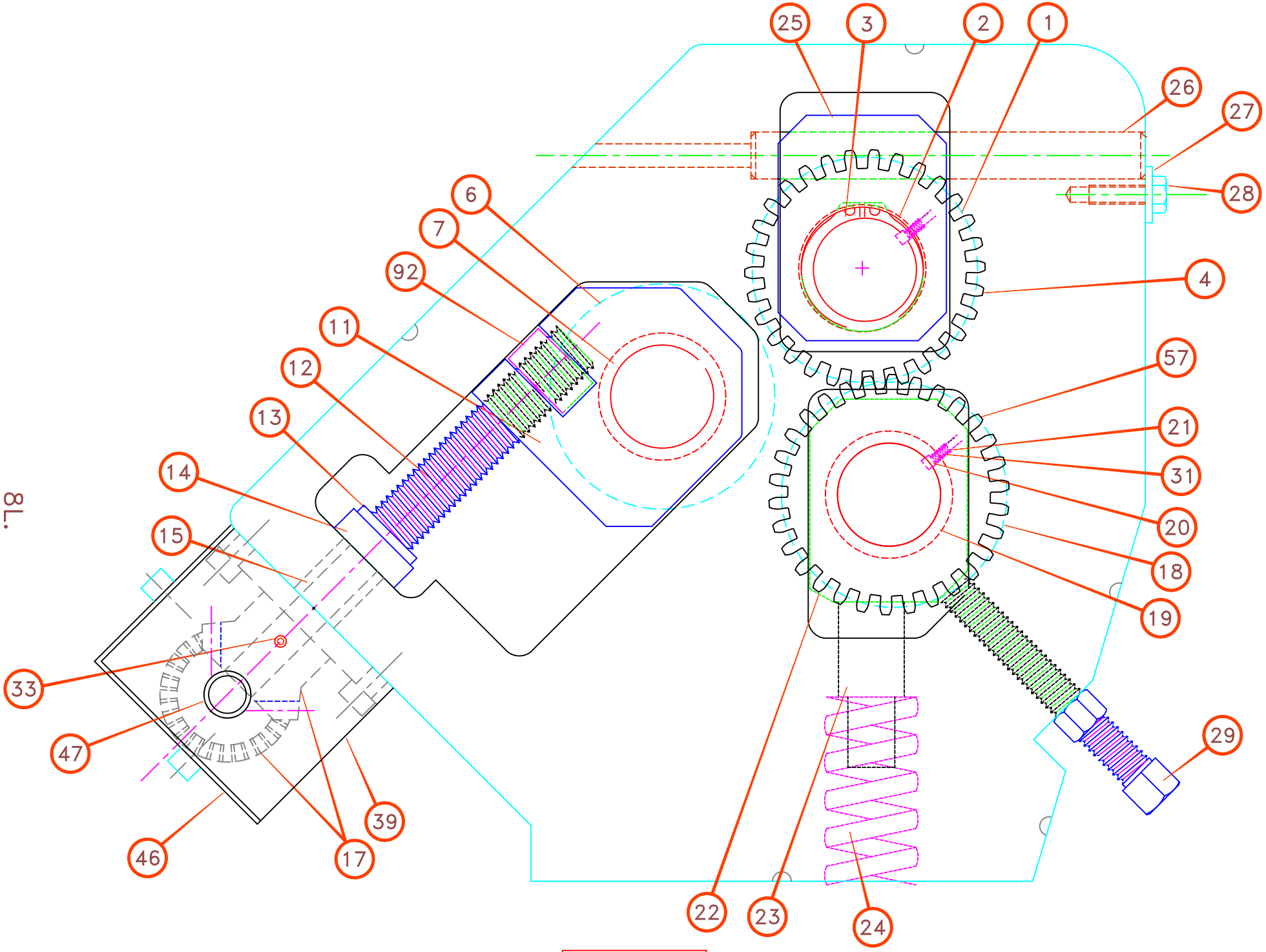
PARTS LIST NR7216 POWER ROLL *B
FOR ITEMS SHOWN ON PAGE 8L.

1.	Lift Roll	1
2.	Bushing	2
3.	Lock Ring	2
4.	Lift Roll Gear (NSS1040-X 1-3/8)	1
6.	Adjusting Roll	1
7.	Bushing	2
11.	Rear Sliding Adjusting Block	2
12.	Rear Adjusting Screw	2
13.	Thrust Collar	2
14.	Thrust Bearing	2
15.	Flanged Bushing	2
17.	Bevel Gear	4
18.	Main Drive Roll	1
19.	Bushing	2
20.	Key	3
21.	Set Screw	3
22.	Front Sliding Adjusting Block	2
23.	Spring Guide	2
24.	Spring	2
25.	PIVOT BEARING (GEZ44ES-2RS)	1
26.		0
27.		0
28.		0
29.	Adjusting Lock Bolt	2
33.	Set Screw	2
39.	Gear Box	2
46.	Gear Box Cover	2
57.	Main Drive Gear(NSS1040 X 1-34)	1
92.	Rear Sliding Adj. Block Nut	2



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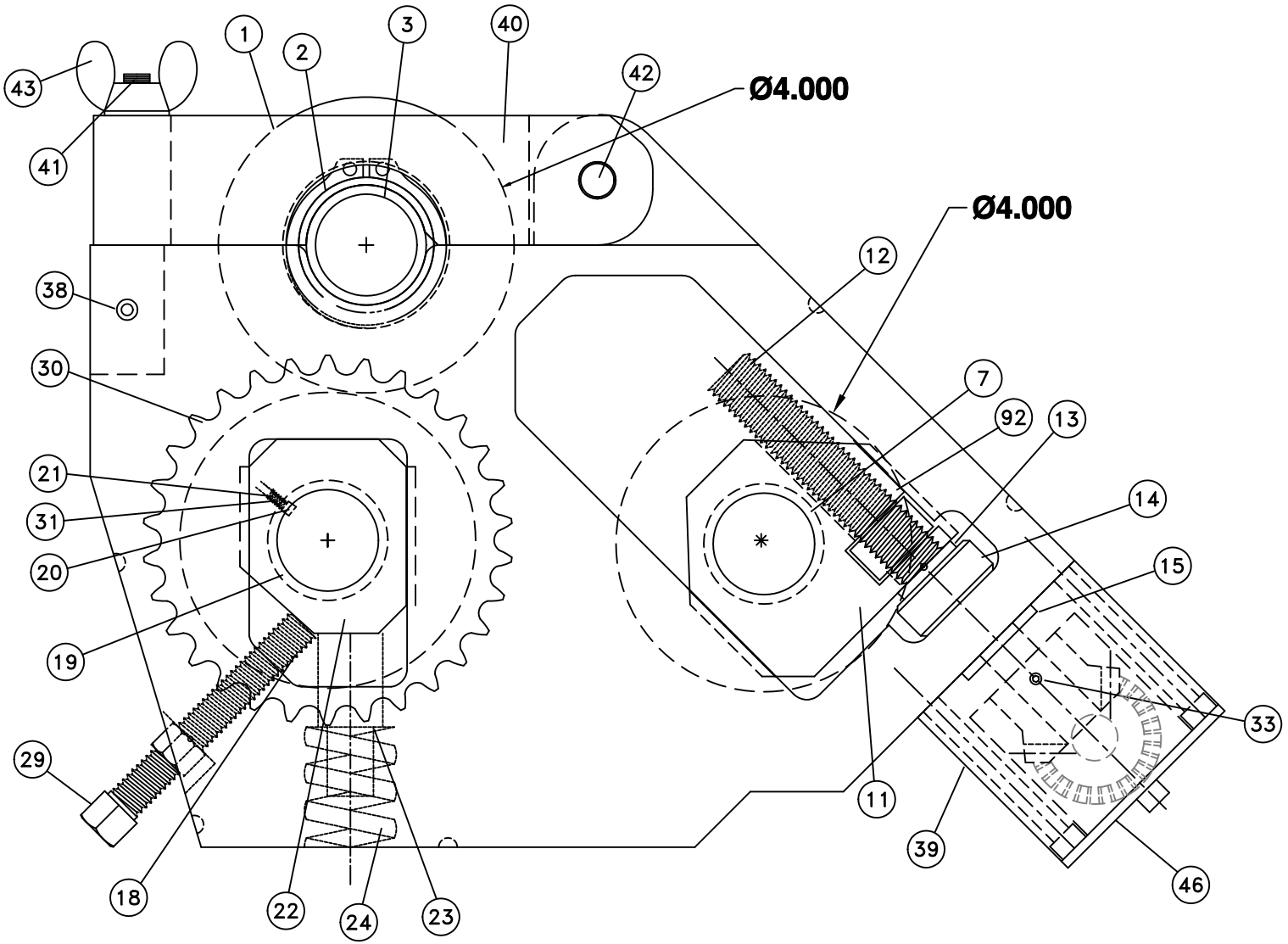
PARTS LIST NR4816 POWER ROLL *B

NATIONAL

PARTS LIST NR4816 POWER ROLL *B
FOR ITEMS SHOWN ON PAGE 8R

1.	Lift Roll	1
2.	Bushing	2
3.	Lock Ring	2
6.	Adjusting Roll	1
7.	Bushing	2
8.	Adjusting Roll Gear	1
10.	Set Screw	1
11.	Rear Sliding Adjusting Block	2
12.	Rear Adjusting Screw	2
13.	Thrust Collar	2
14.	Thrust Bearing	2
15.	Bushing	2
17.	Drive Worm Gear	2
18.	Main Drive Roll	1
19.	Bushing	2
20.	Key	3
21.	Set Screw	1
22.	Front Sliding Adjusting Block	2
23.	Spring Guide	2
24.	Spring	2
25.	Idler Gear	1
26.	Gear Retaining Pin	1
27.	Adj. Roll Drive Assembly	1
28.	Main Drive Roll Assembly	1
29.	Adjusting Lock Bolt	2
30.	Main Drive Roll Sprocket	1
31.	Set Screw	1
33.	Set Screw	2
35.	Worm	2
37.	Pin–Worm to Shaft	2
38.	Swing Bolt Pin	–
39.	Worm Gear Box	2
40.	Roll Latch	1
41.	Swing Bolt	1
42.	Latch Pin	1
43.	Wingnut	1
45.	Main Drive Gear	1
46.	Worm Gear Box Cover	2
47.	Bushing	2
88.	Gear Connecting Links–Step	2
89.	Gear Connecting Links–Flat	2
92.	Rear Sliding Adj. Block Nut	



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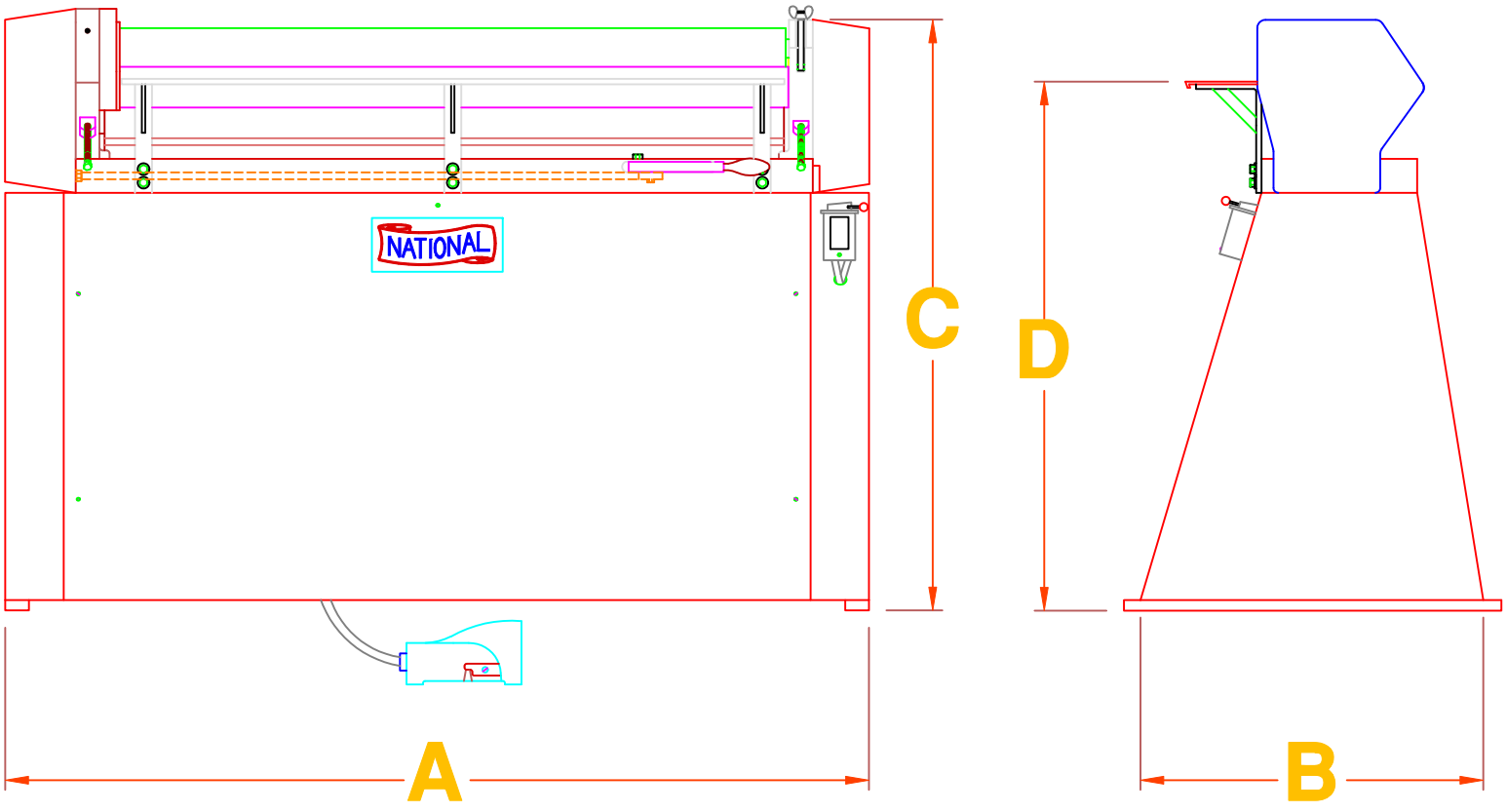
PARTS LIST NR7216 POWER ROLL

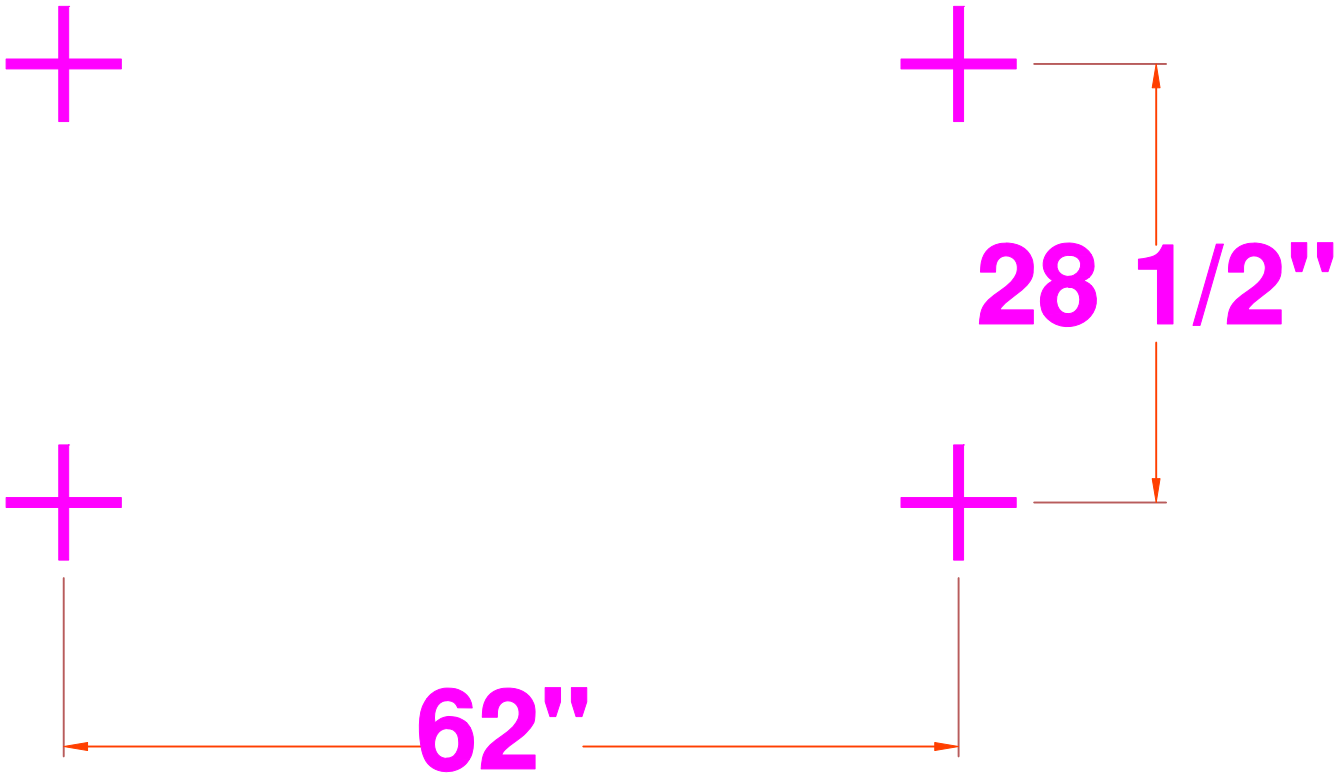
MACHINE DIMENSIONS



A - 64"
B - 26"
C - 43 3/4"
D - 39 1/2"

Shipping Weight - 1,200 lbs.

ANCHOR POINTS



ELECTRICAL INFORMATION

1. **Insure that transformer PRIMARY VOLTAGE wiring is compatable with Commercial Power being terminated. (See Core & Coil Transformer Chart for 3 Phase applications pg. 13)**

2. **Terminate Incoming Voltage Lines as shown on Electrical Schematics: (See Electrical Schematics pg. 14, 15, 16, 17 & 18)**

(Local Codes prescribe Gauge and other Specifications for Wiring to the machine. Consult the Amperage Chart on pg. 12 For your voltage.)

IT IS THE USER'S RESPONSIBILITY To SUPPLY SHORT CIRCUIT PROTECTION DEVISE (S) as prescribed By LOCAL, ANSI, and OSHA codes.

3. **For Motor direction put drum switch in forward mode, if Roll is running in Reverse, switch L1 and L3 in electrical box to set forward mode correctly For 3 phase motors**

RATED AMPERAGES
POWER ROLL FORMING MACHINE

3 PHASE

MOTOR	VOLTS	AMPS (**1)	OVERLOAD
1 H.P.	220	3.4	TA25 DU4.0
1 H.P.	440	1.7	TA25 DU2.4
1 H.P.	575	1.4	TA25 DU2.4

SINGLE PHASE

MOTOR	VOLTS	AMPS (**1)	OVERLOAD
1 H.P.	110	12.8	TA25 DU19
1 H.P.	220	6.4	TA25 DU11

1. Amperages are based on use of BALDOR Electric Motors. Other motors, consult motor data plate.

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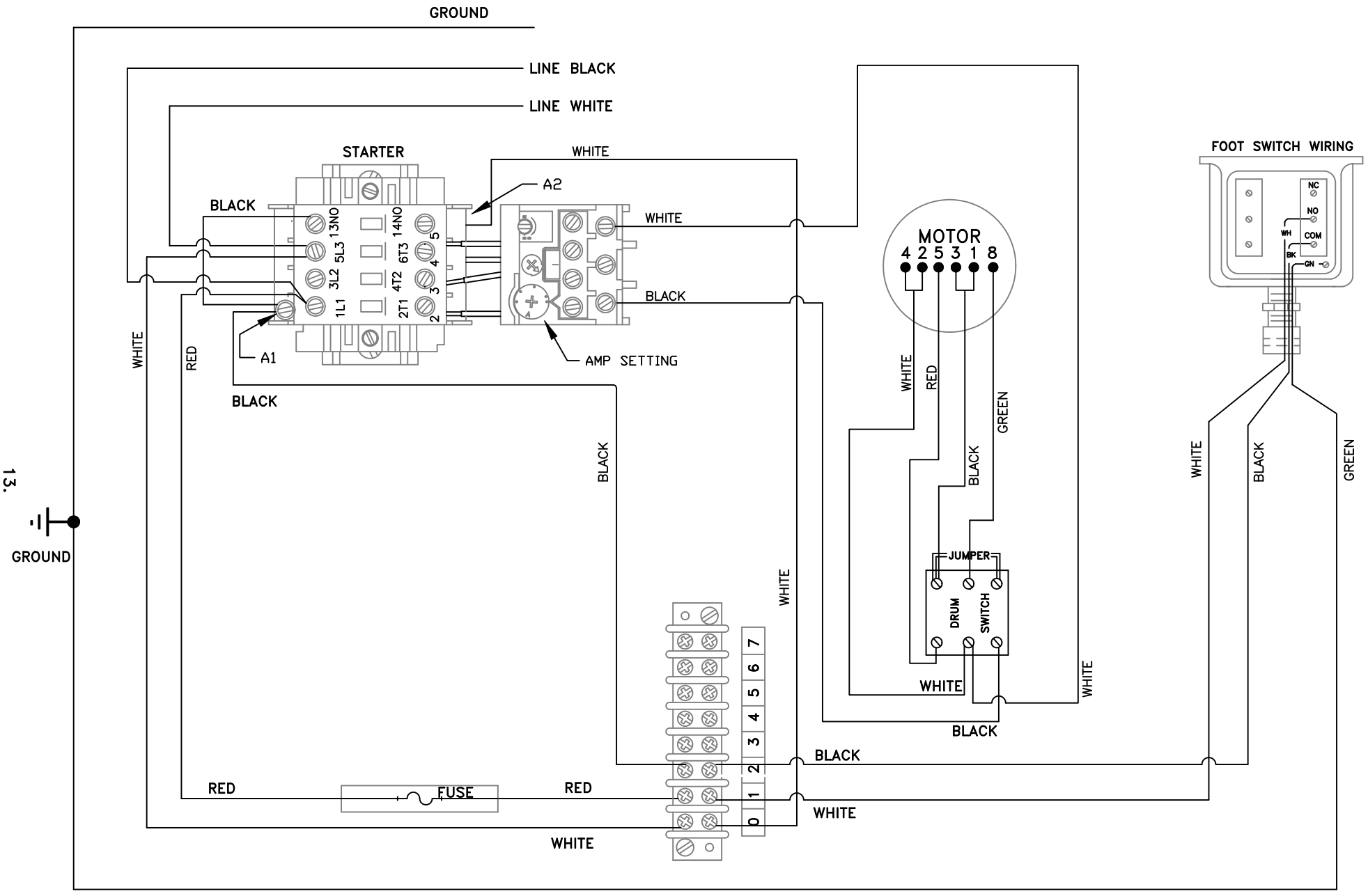
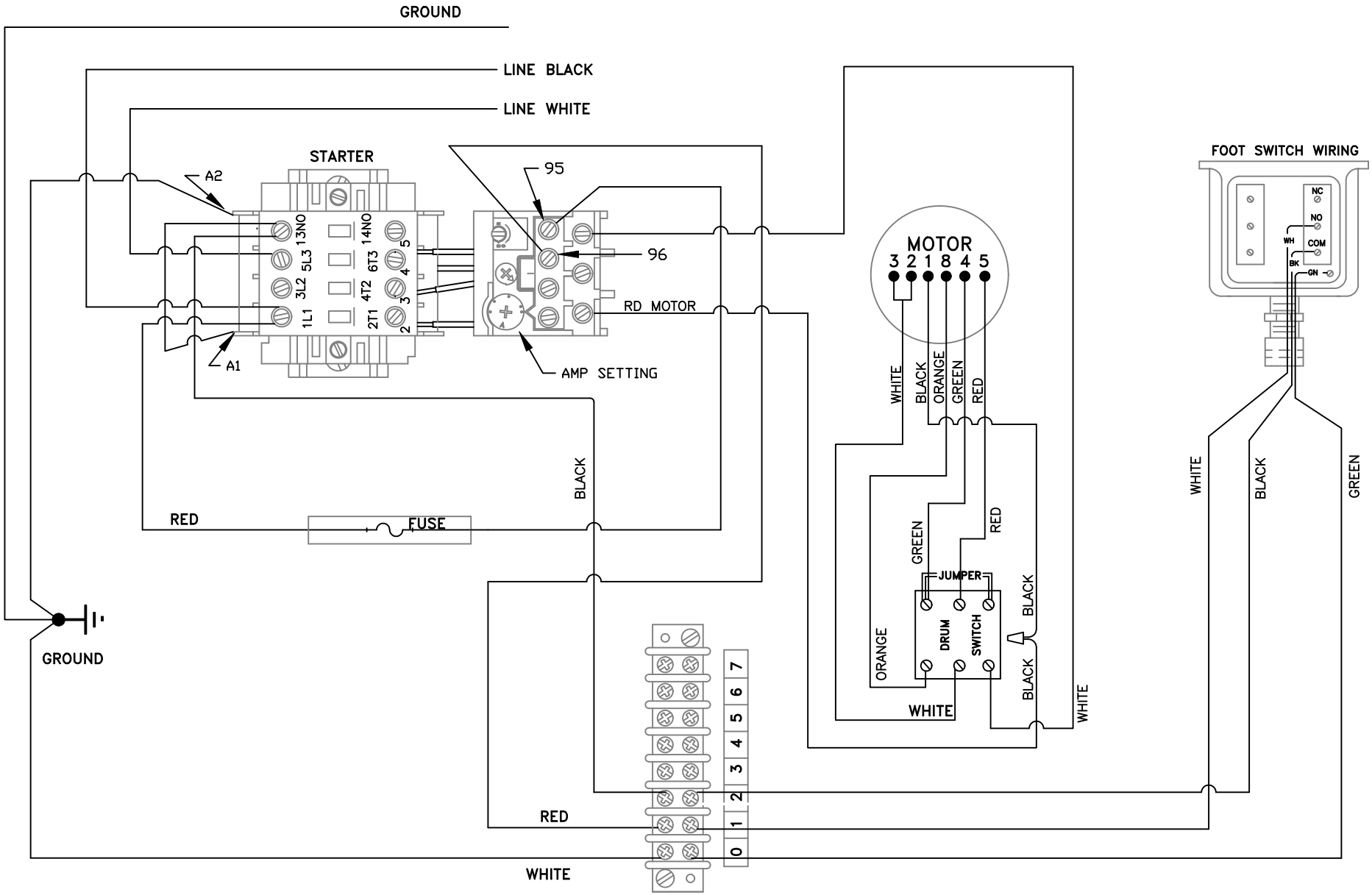
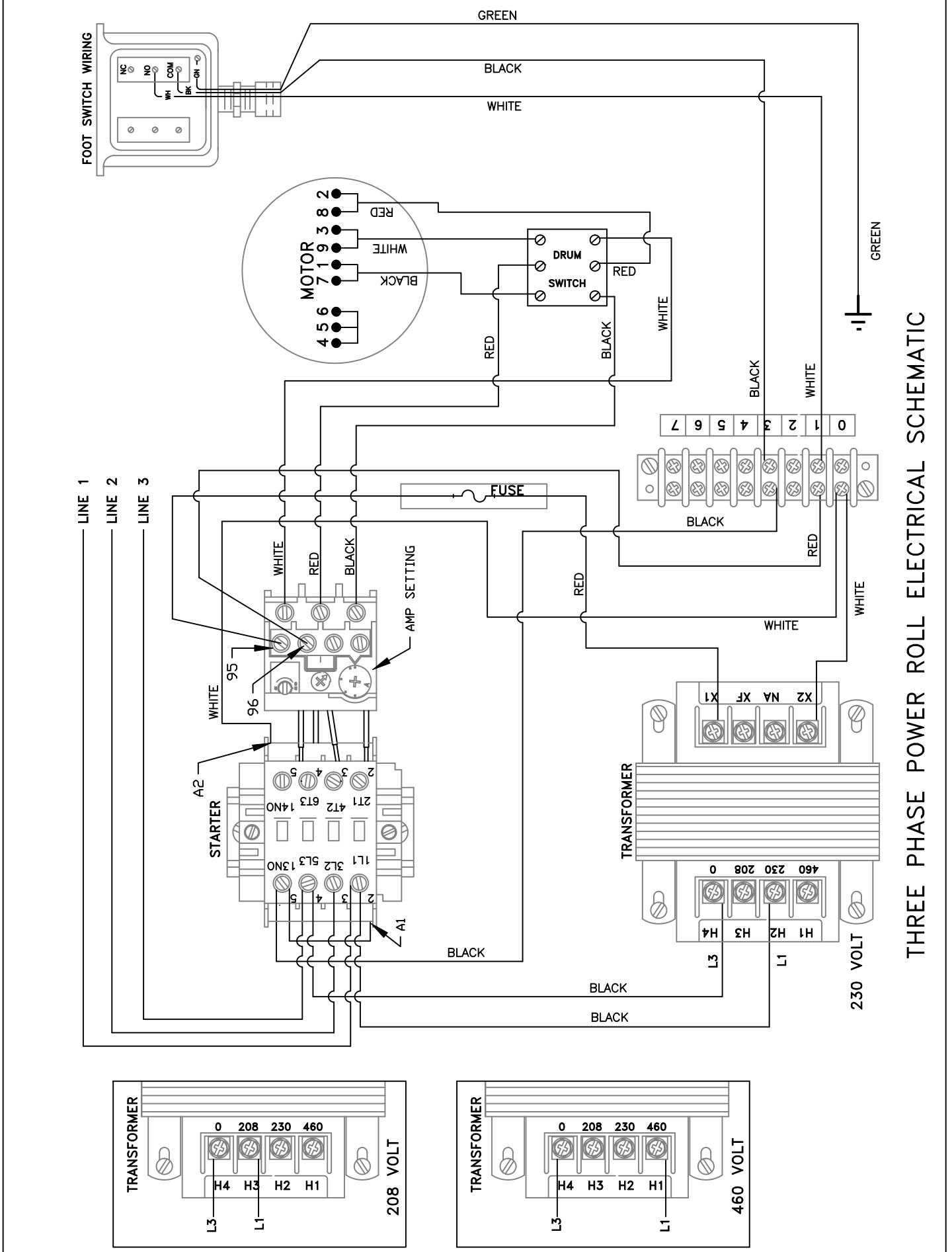


110V SINGLE PHASE POWER ROLL ELECTRICAL SCHEMATIC

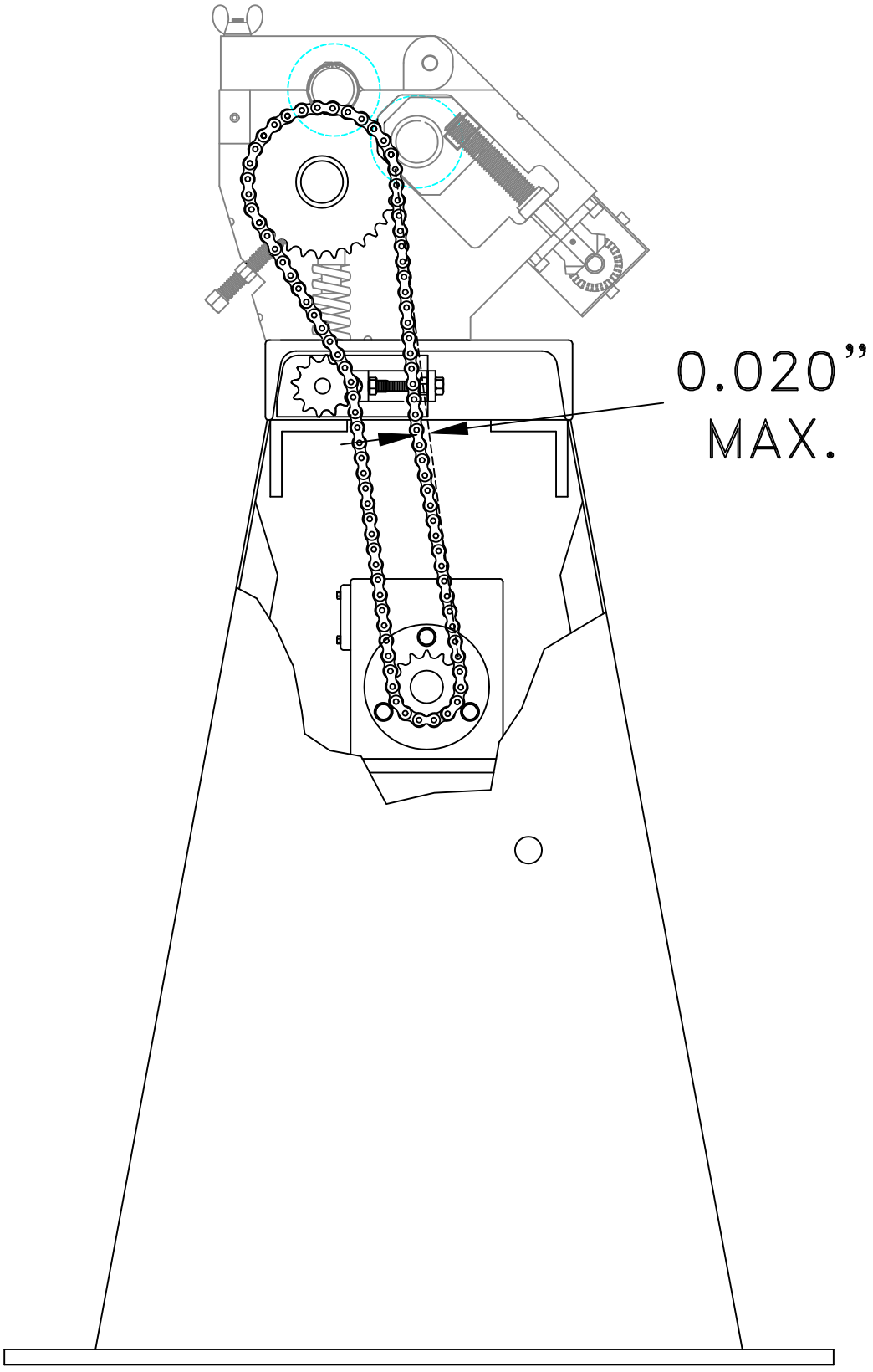


13 A

220V SINGLE PHASE POWER ROLL ELECTRICAL SCHEMATIC


THREE PHASE POWER ROLL ELECTRICAL SCHEMATIC
FOOT SWITCH WIRING
NC
NO
COM
GN
BK
WH
GREEN
BLACK
WHITE
MOTOR
RED
WHITE
BLACK
DRUM
SWITCH
RED
BLACK
WHITE
GREEN
0 1 2 3 4 5 6 7
BLACK
WHITE
LINE 1
LINE 2
LINE 3
FUSE
WHITE
RED
BLACK
AMP SETTING
95
96
WHITE
A2
STARTER
2 3 4 5
2T1 4T2 6T3 14NO
1L1 3L2 5L3 13NO
2 3 4 5
A1
RED
WHITE
RED
WHITE
BLACK
TRANSFORMER
X2 NA XF X1
460 230 208 0
H1 H2 H3 H4
L3
L1
230 VOLT
BLACK
BLACK
TRANSFORMER
0 208 230 460
H4 H3 H2 H1
L3
L1
208 VOLT
TRANSFORMER
0 208 230 460
H4 H3 H2 H1
L3
L1
460 VOLT

CHAIN TENSION DIAGRAM



BASIC OPERATION

1. Calculate length of metal necessary to form roll of diameter desired:

CIRCUMFERENCE = ~ d or Circumference = 2 ~ r
~ = 3.1415927… Convenient Approximations are 3 1/7 or 3.14

2. Main Drive Roll (#18) is used for metal thickness and the adjusting Roll (#6) Is used for forming the desired diameter. Place the metal to be rolled on Table (#78) between the main Drive Roll (#18) and the Lift Roll (#1). Adjust the Main Drive Roll (#128) against the metal, then back the Adjusting Lock Bolt (#29) back 1/2 turn. Use the Hand Wheel (#36) to set Adjusting Roll (#6) to approximately 1/4 of desired diameter.

3. Move Drum Switch (#67) to **FORWARD** position and depress Footswitch (#58).
Do **NOT** attempt to obtain desired diameter on first pass as warping and / or funneling may occur.

4. Readjust and Repeat as necessary to form desired diameter.

5. After desired diameter is obtained, turn machine OFF, then loosen Wing nut (#43)
and Raise Roll Latch (#40). Raise Lift Roll (#1) by moving Lift Lever (#77) and remove material from Lift Roll (#1).

6. Lower Lift Roll (#1) and Roll Latch (#40), then tighten Wing nut (#43). Do **NOT** operate Machine without Wing nut (#43) SECURELY IN POSITION.

** FOLLOW ALL SAFETY PROCEDURES **

POWER ROLL MACHINES

PREVENTATIVE MAINTENANCE

1. Keep ALL moving parts lubricated.
2. Check Drive Chain Tension pg. 19, and Lubricate WEEKLY.
3. Check ALL Gear Set Screws DAILY.
4. Inspect Footswitch (#58) and Electrical Wires/Cords DAILY.
5. Keep Rolls (#1, #6, & #18) Clean, Free from debris, and Lightly Lubricated.

RECOMMENDED LUBRICANTS

LIFT ROLL (#1), AND MAIN DRIVE ROLL (#18)
Lubricate with a lightweight oil DAILY

ROLL GEARS (#4, #57, #18, AND #45) Valvoline Multi-Purpose Lithium Grease PN:609 or equivalent

FRONT SLIDING ADJUSTING BLOCK (#22) Valvoline Multi+Purpose Lithium Grease PN:609 or equivalent

WARRANTY

ROLLS

National Sheet Metal Machines, Inc. Warrants this product to be free for defects in material and / or workmanship for a period of THREE (3) YEARS from the date of purchase. National Sheet Metal Machines, Inc. promises to replace any of this product that proves upon our inspection and within THREE (3) YEARS from date of purchase to be defective in material or workmanship.

All labor and / or transportation cost or charges incidental to Warranty service are at the expense and shall be borne by the Purchaser / User.

In NO event shall National Sheet Metal Machines, Inc. be liable for incidental or consequential damages, for damages as a result of neglect, misuse, abuse, or alterations of any kind to the machine.

No person is authorized to change, add to, or create any Warranty or obligation other than that set forth herein.

This machine is designed for and has been factory tested to roll Mild Steel of Low Carbon (20 - 25%) composition.

It is the Purchaser / User's sole responsibility to obtain material that is AT or BELOW specified standards.

National Sheet Metal Machines, Inc. accepts NO liability or assumes any responsibility for damages, accident or injury, or any charges incurred as a result of this machine.

To obtain Warranty service, contact the dealer from which machine was purchased.

NATIONAL SHEET METAL MACHINES, INC.
252 SMARTT STATION ROAD
SMARTT, TENNESSEE 37378

MADE IN THE USA