

Laycock Systems



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INSTRUCTIONS FOR AIR OPERATED COIL WINDING MACHINE CROWN MODELS 2020 & 2021

The Crown Coil Winding Machine is self-contained, variable speed, power drive, designed for rapid production of all types of coils. It is designed for use with all Crown Coil Winding Heads, and other similar winding forms.

Driven by a 1/2HP, 1750RPM Motor, and variable speed transmission, the output speed range may be varied from 40 to 400RPM. A maximum rated torque of 77 ft-pounds is developed at high speed and approximately 770 ft-pounds at the slow speed.

CAUTION: DO NOT EXCEED RATED LOADS.

INSTALLATION

- Power requirements are 115VAC, 50/60Hz, single phase for Model 2020, and 230VAC, 50/60Hz, single phase for Model 2021.

- The Machine should be set up allowing clearance for the swing on the winding heads and access to the motor compartment for maintenance.

- DANGER:** It is important that the machine be **SECURELY BOLTED TO A FIRM FOUNDATION**. Unless the unit is securely bolted, objectionable vibration will occur and the machine may **PULL OVER** when heavy loads are applied. **Do not operate machine without side panels installed with all mounting screws.**

- The wire guide bar, for use in guiding the wire to be wound on the Crown Coil Winding Heads, is held in position by a clamp arrangement and two square head cap screws and protrudes from the hole in the upper right hand corner of the stand. It must be adjusted from its position in shipment so that the end-most portion is parallel to the Coil Winding Machine face plate shaft.

CAUTION: Before using Machine, fill gear housing with (5) Cups SAE #30 , non-detergent oil. To fill, remove plug from top of gear housing. Replace plug before operating the unit. Requires air to operate the clutch and brake of the Unit. Connect air inlet supply line to a filter/regulator for maintenance free operation and long life.

NOTE: DO NOT OPERATE MACHINE WITH MORE THAN 70 PSI (pounds per square inch).

MOTOR IS NOT THERMAL PROTECTED. THEREFORE, EXTERNAL OVERLOAD PROTECTION MUST BE PROVIDED BY USER. ALL ADJUSTMENTS HAVE BEEN MADE AT THE FACTORY.

OPERATION:

- Connect the machine to the proper power and air source.
- To start machine, turn ON switch and the (round black knob) air release, located on the right side of the front panel must be turned ON. To operate the machine, foot switch must be depressed. For emergency stop before preset number is reached, release foot switch, machine will stop instantly.
- Turn brake off to change gears and adjust face plate.(It may be necessary to rock the face Plate slightly when engaging the transmission). The gearshift control **MUST NOT BE SHIFTED WHILE THE DRIVE SHAFT IS TURNING.**

The speed adjust crank on the front of the machine will allow adjusting variable speed ranges. gearshift in "FAST" range is 130-400RPM and Gearshift in "SLOW" range is 40-110RPM. Clockwise rotation of crank increases speed, counterclockwise rotation reduces speed. **TURN ONLY WHILE MOTOR IS RUNNING.**

- Check the clutch and brake action in both the "FAST" and "SLOW" positions to see that they operate satisfactorily.
- Counter counts up. To reset counter to zero, turn the wing nut on the right side of the counter counterclockwise until all zeros appear.
- When all checks have been completed and the machine appears to be operating satisfactorily, it is ready for use and the desired winding head can be mounted on the face plate. Be certain the winding head is securely fastened to the face plate.

MAINTENANCE:

WARNING !:This unit should be installed, operated and maintained by qualified personnel ONLY.

TO REPLACE BELT

- Disconnect power and air to winder machine.
- Remove belt guard.
- Remove left side panel.
- Remove air line to the Brake-Clutch unit marked with a C and B.
- Remove the mounting bolts from bracket to base.
- Crank speed knob CCW to raise the motor to upper limit.
- Rotate Pulley so belt will slide off.
- Replace belt - Dayton No. 4L-500 or equivalent (1/2" x 50") (Crown 807121).
- Rotate Pulley so belt will slide on.
- Connect air Line to Clutch and Brake unit. Reconnect bracket to base.
- Replace left side panel and belt guard. When replacing panels start all screws before tightening, to property align holes.

DANGER: ALWAYS REPLACE SIDE PANELS BEFORE USING MACHINE TO PREVENT HOUSING COLLAPSE AND ELIMINATE EXCESSIVE VIBRATION.

- Reconnect power and air to winder machine.

LUBRICATION:

GEAR CASE:

Before draining and flushing gear case, be sure to provide a gutter or other suitable drainage path. Drain and flush gear case after every 1500 hours of operation. Use ONLY SAE #30, non-detergent oil. Minimum five (5) cups of oil are required to fill the case.

BRAKE & CLUTCH:

Pneumatically actuated devices require clean, pressure regulated, and lubricated air for maximum performance and long life. The Winding machine comes with an Air Line Lubricator, which injects oil into the pressurized air, forcing an oil mist into the air chamber. Use a low viscosity oil such as SAE-10. Synthetic lubricants are not recommended.

WARRANTY

Crown's Motor Repair Equipment is warranted to the original owner against defects in materials and workmanship for ninety (90) days from date of purchase. Any part found to be defective (except by overloading, misuse, neglect, fire, accident, tampering with by unauthorized serviceman, or other cause beyond the manufacturer's control), will be replaced or repaired free of charge.

SPECIFICATIONS FOR CROWN MODELS 2020 and 2021

Primary power:

Model #2020: 115VAC, 60Hz, 1 phase.

Model #2021: 230VAC, 60Hz, 1 phase.

Construction (Packaging):

Heavy gauge steel Base, corrosion protected.

Cast aluminum gear housing with steel spur gears.

Controls:

Speed is variable from 40 - 400 RPM.

(Slow speed = 40 - 110 RPM, Fast speed = 110 - 400 RPM).

Two (2) speed gear in housing for maximum torque.

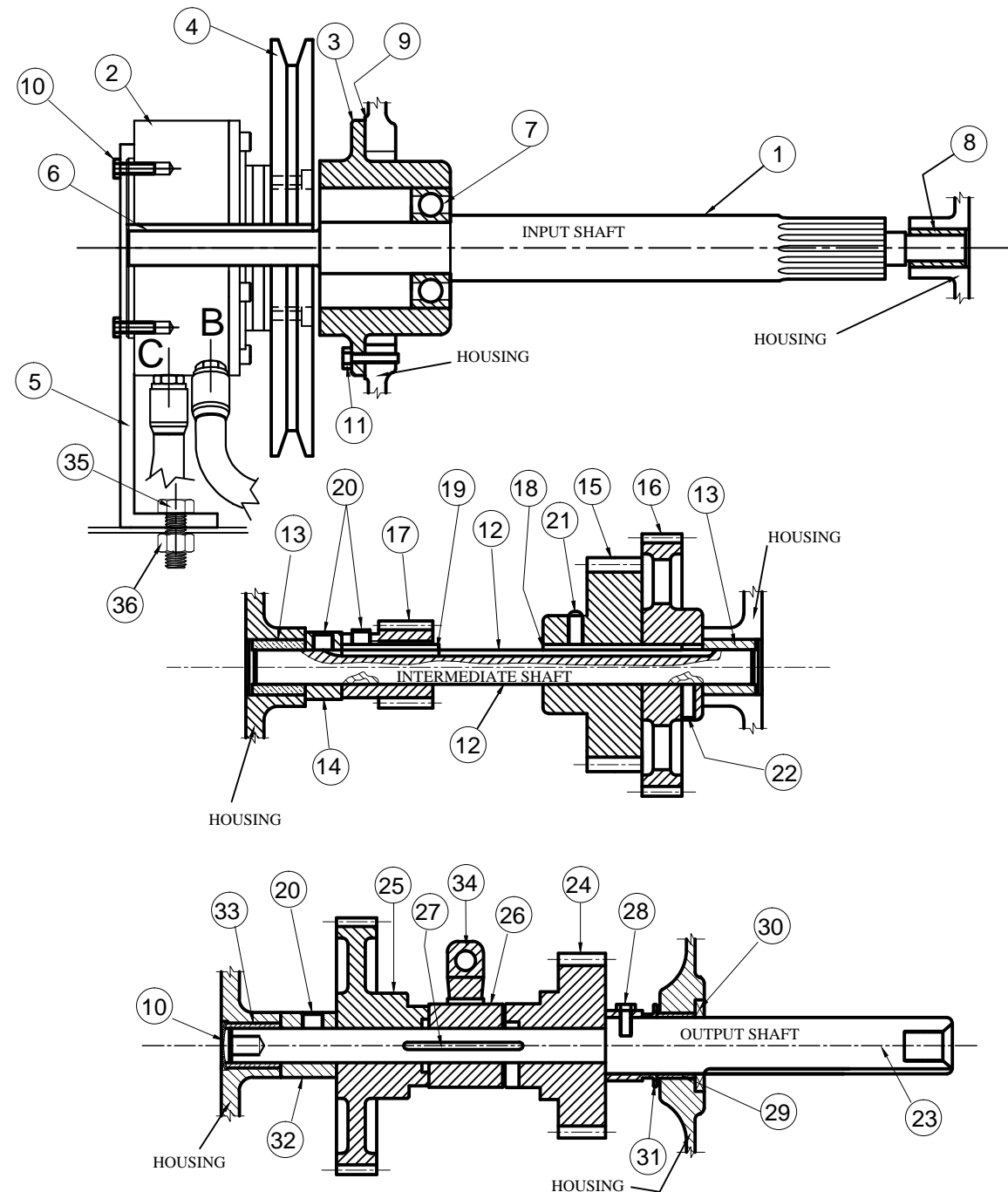
(77 ft- lbs in fast speed, 770 ft- lbs in slow speed)

FIGURE 1

Part List for Figure # 1

Find No.	Part Number	Part Name	No. Req.
1	807078	INPUT SHAFT	1
2	807014	BRAKE & CLUTCH	1
3	807108	BEARING RETAINER (INPUT SHAFT)	1
4	807021	"V" PULLEY	1
5	807057	TORQUE BRACKET	1
6	807059	KEY, SQUARE	1
7	807123	BALL BEARING (INPUT SHAFT)	1
8	807155	BEARING SLEEVE	1
9	807154	GASKET (RETAINER)	1
10	807060	SCREW, HEX. HD. CAP.(1/4-20)	2
11	807134	SCREW, HEX. HD CAP (5/16-18NC x 1)	1
12	807090	SHAFT INTERMEDIATE	1
13	807168	BEARING SLEEVE (INTER. SHAFT)	2
14	807159	COLLAR SET (INTER. SHAFT)	1
15	807091	GEAR (INTER. SHAFT) (35T)	1
16	807092	GEAR (INTER. SHAFT) (54T)	1
17	807093	PINION (INTER. SHAFT)(15T)	1
18	807228	KEY, SQUARE(3/16X2-3/4)(INTER. SHAFT)	1
19	807228	KEY, SQUARE(3/16X1-3/4)(INTER SHAFT)	1
20	807041	SET SCREW CLIP PT (5/16-18X1/4"	2
21	807051	SET SCREW CLIP PT (5/16-18X1/2"	2
22	807158	SET SCREW CLIP PT (1/4-20X5/8"	1
23	807094	SHAFT OUTPUT	1
24	807095	GEAR (OUTPUT. SHAFT) (35T)	1
25	807096	GEAR (OUTPUT. SHAFT) (55T)	1
26	807097	DOG, CLOUTCH (OUTPUT SHAFT)	1
27	807162	KEY (3/19X5/16X1-51/64)(OUTPUT SHAFT)	1
28	807217	SCREW, HEX. HD. CAP.(1/4-20X5/8)	1
29	807164	BEARING SLEEVE (OUTPUT SHAFT)	1
30	807215	SEAL, OIL(VICTOR #62006)(OUTPUT SHAFT)	1
31	809024	SPROCKET, LADDER CHAIN (#1-20T)	1
32	807099	COLLAR, SET (OUTPUT SHAFT)	1
33	807163	BEARING SLEEVE (OUTPUT SHAFT)	1
34	807073	SPEED SHIFTING YOKE	1
35	N/A	SCREW, HEX. HD. CAP.(3/8-16X1)	1
36	N/A	HEX. NUT.(3/8-16)	1

Pneumatic Winders



Part List for Figure # 2

Find No.	Part Number	Part Name	No. Req.
40	807067	GEAR HOUSING	1
41	807065	BASE	1
42	807072	BRACKET, MECHANICAL COUNTER	1
43	807227	KEY SQUARE (1/4X 4-1/2")	1
44	807070	WHEEL, HAND	1
45	807071	FACEPLATE 4 3/4" DIA - 1 1/4" BORE	1
46	500007	INDICATOR KNOB & SHAFT ASSEMBLY	1
47	807073	YOKE SHIFTER	1
48	807074	THROW-OUT COLLAR	1
49	807208	ELECTRONIC PICKUP	1
50	807019	LADDER CHAIN (17")	1
51	807249	SPROCKET (COUNTER SHAFT)	1
52	807051	SET SCREW CUP PT (5/16-18NC x 5/8)	2
53	807135	NUT HEX HD (7/8-14NC)	1
54	806030	SPRING	1
55	807112	COLLAR SET (1/2 DIA)	1
56	807247	PLUNGER	1
57	807227	KEY SQUARE (1/4" SQUARE ENDS) 4 5/16	1
58	806012	BELT GUARD	1
59	807141	SCREW SOC HD CAP (5/16-18NC x 1)	4
60	807134	SCREW HEX HD CAP (3/8-16NC x 1)	3
61	807041	SET SCREW SOC CUP PT (5/16-18NC x 5/16)	2
62	N/A	SCREW, RD, HD, MACH (8-32NFX5/8)	4
63	807223	SCREW RD HD MACH (5/16-18 x 1/2)	4
64	807068	COVER GEAR HOUSING	1
65	807261	BRAKE GUARD	1
66	806025	COUNTER, MECHANICAL (HEAVY DUTY)	1
67	807082	DETENT PIN	1
68	807113	COVER GASKET	1
69	807136	DETENT SPRING	1
70	807260	BUSHING	1
71	807024	PIPE PLUG (SOC TYPE) (1/8-27NPT)	1
72	807042	VENT PLUG (SQ HD) (1/8-18NPT)	1
73	807041	SET SCREW, SOC, CLIP PT(5/16-18NCX5/16")	4
74	807036	SCREW HEX, HD, CAP (1/4X20NC X 3/4")	2

Pneumatic Winders
Model: 2020 & 2021

FIGURE 2

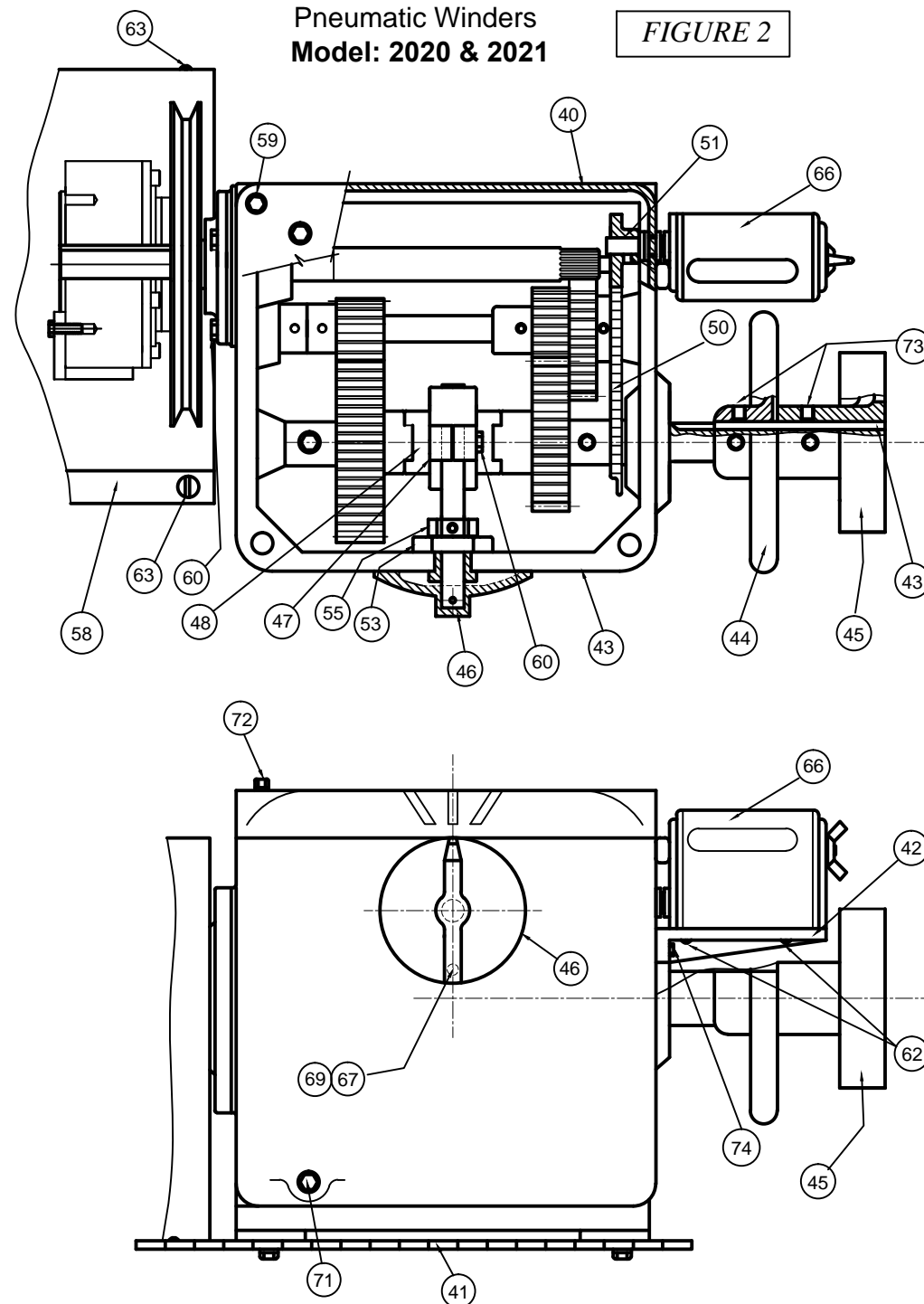
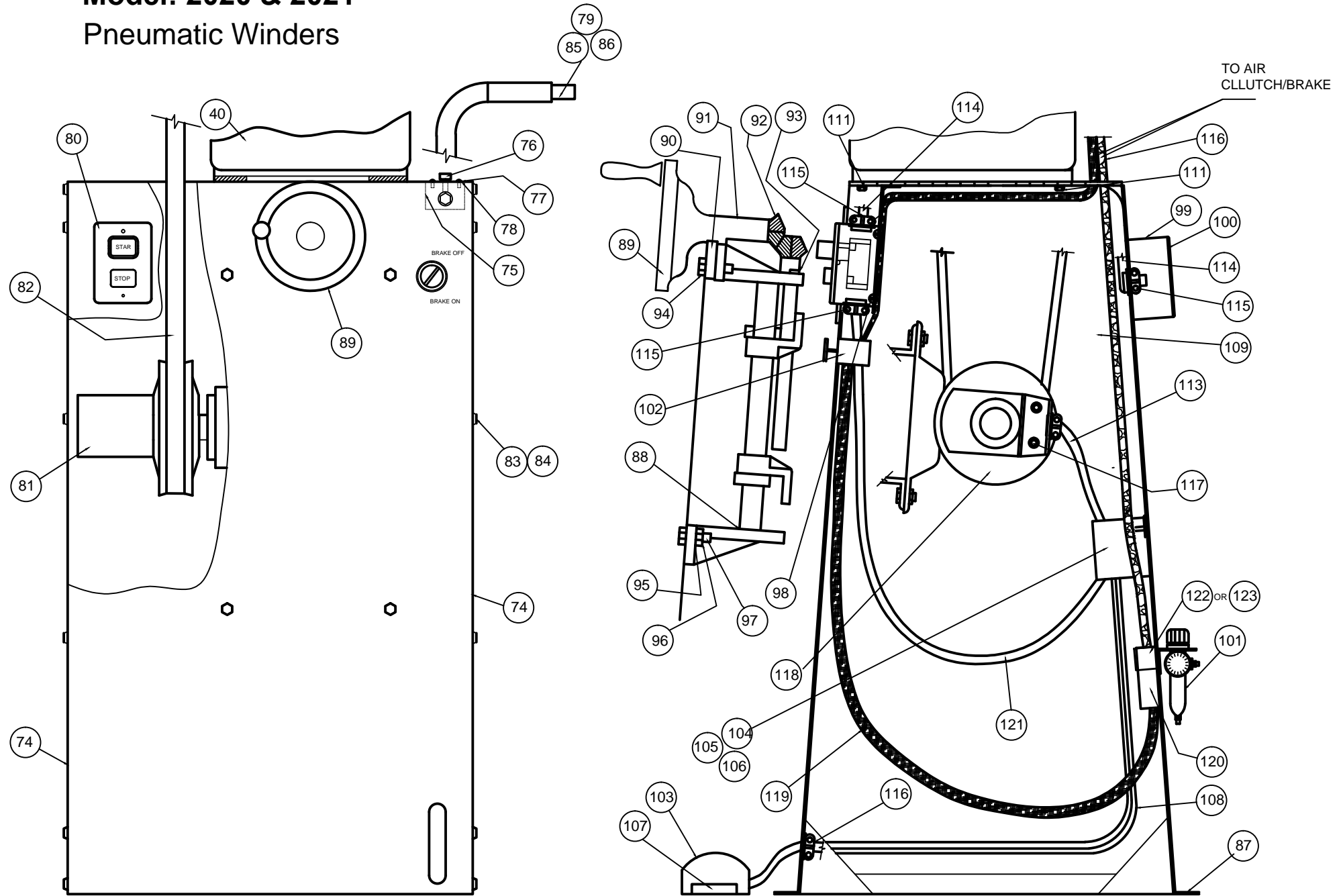


FIGURE 3

Model: 2020 & 2021
Pneumatic Winders



Part List for Figure # 3

Find No.	Part Number	Part Name	No. Req.
40	807067	GEAR HOUSING	1
74	807066	BASE SIDE COVERS	2
75	807084	BRACKET, GUIDE BAR	1
76	807145	SETSCREW SQ. HD. (CLIP PT) (1/4-20NC X 3/4)	2
77	807140	SCREW RD. HD. MACHINE (10-32NF X 5/8)	6
78	807167	WASHER, LOCK (INTERNAL) (10-32 SCREW)	4
79	807085	BAR, GUIDE	1
80	807061	SWITCH, STAR/STOP	1
81	807120	PULLEY, VARIABLE SPEED	1
82	807121	"V" BELT	1
83	807166	SCREW, FLAT HD MACHINE (10-32NC X 1/2)	30
84	807165	WASHER, STOPBEAD (#10 SIZE SCREW)	30
85	807180	ASSEMBLY, LARGE SPINDLE	1
86	807179	ASSEMBLY, SMALL SPINDLE	1
87	807065	BASE	1
88	807083	BASE, MOTOR	1
89	807109	WHEEL, HAND	1
90	807075	YOKE BRACKET, CONTROL SHAFT	1
91	500001	ASSEMBLY, CONTROL SHAFT	1
92	807106	GEAR, MITRE(MOTOR BASE)(16P-16T)	2
93	807126	SETSCREW, SOC. CLIP PT (1/4-20NC X 1/4)	1
94	807134	SCREW, HEX, HD CAP (5/16-18NC X 7/8)	4
95	807131	WASHER, FLAT (5/16)	5
96	808030	WASHER, LOCK (5/16)	6
97	808025	NUT, HEX (5/16-18NC)	6
98	800036	SCREW, PAN HD. (TAPPING)(#8-18 T.P.I)	2
99	807118	BOX, ELECTRICAL ("HANDY" BOX)	1
100	806010	COVER, "HANDY BOX"	1
101	807062	REGULATOR/LUBRICATOR/FILTER W/GUAGE	1
102	806028	ON/OFF AIR VALVE, ROTATORY SELECTOR	1
103	807214	GUARD (FOOT SWICHT COVER)	1
104	500023	ASSEMBLY, CABLE	1
105	807238	JUNCTION BOX	1
106	807239	JUNCTION BOX COVER	1
107	807252	ASSEMBLY, FOOT PEDAL SWITCH	1
108	500021	LEAD WIRE (BOX TO FOOT SWITCH)	1
109	500022	LEAD WIRE (BOX TO COUNTER)	3
110	500018	AIR HOSE ASSEMBLY	4
111	807152	SCREW, HEX. HD CAP (3/8-16NC X 1")	4
112	807127	WASHER, LOCK (3/8)	1
113	500016	LEAD WIRE (SWITCH TO MOTOR)	1
114	500012	LEAD WIRE (HANDY BOX TO SWITCH)	1
115	807132	CORD CLAMP	5
116	807223	AIR HOSE ASSY, AIR VALVE SW TO CLUTCH	1
117	N/A	NUT, HEX (8-32)(STD)	2
118	805001	MOTOR, ELECTRIC	1
119	500019	AIR HOSE ASSEMBLY	1
120	806027	SOLENOID AIR VALVE	1
121	500015	LEAD WIRE ASSEMBLY (BOX TO SWITCH)	1
122	807150	COIL 120V SOLENOID ONLY	1
123	806026	COIL 240V SOLENOID ONLY	1