



LAYCOCK
MOTOR
WINDING
TOOLS

LAYCOCK SYSTEMS, INC.

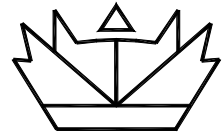
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CROWN
MOTOR
REPAIR
TOOLS

INSTRUCTIONS FOR HEAVY DUTY AUTOMATIC STOP COIL WINDING MACHINE CROWN MODELS 2015, 2016, 2017 & 2018

The Crown Heavy Duty 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 110RPM for low speed and 150 – 410RPM for high speed. A rated torque of 775 - 283 inch-pounds is developed at low speed and approximately 210 - 77 inch-pounds at the high speed.

CAUTION: DO NOT EXCEED RATED LOADS.

INSTALLATION

1. Power requirements are : 115VAC, 50/60Hz, single phase for Model 2015, 230VAC, 50/60Hz, single phase for Model 2016, 230VAC, 50/60Hz, three phase for Model 2017 and 460VAC, 50/60Hz, three phase for Model 2018.
2. The Machine should be set up allowing clearance for the swing on the winding heads and access to the motor compartment for maintenance.
3. **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.**
4. 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 three (3) quarts SAE #30 (2.8 liters), 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). NOTE: MOTOR IS NOT THERMAL PROTECTED. THEREFORE, EXTERNAL OVERLOAD PROTECTION MUST BE PROVIDED BY USER. ALL ADJUSTMENTS HAVE BEEN MADE AT THE FACTORY.

OPERATION

1. Connect the machine to the proper power and air source
2. To start machine, the "Power" switch must be turned ON, and the "Brake selector" switch located in the right side of the front panel must be in the "Brake" position . To operate the machine, "Foot switch" must be depressed. For emergency, stop before preset number is reached, release foot switch, machine will stop instantly.
3. Rotate "brake rotatory selector" switch to the "Brake off" position, you can then move the "Gear shift control" on the front of the gear case to "SLOW". (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 150 - 410RPM and Gearshift in "SLOW range is 40 – 110RPM. Clockwise rotation of crank increases speed, counterclockwise rotation reduces speed. **TURN ONLY WHILE MOTOR IS RUNNING**.
4. Check the clutch and brake action in both the "FAST" and "SLOW positions to see that they operate satisfactorily.
5. Counter counts up. Large numbers indicate number of turns.

OPERATION OF COUNTER

Counter has touch contacts, to operate counter press items indicated on Face. To enter the number of turns required:

1. Press PRESET #1 Button. Light at preset will light.
2. Press the number of turns desired.
3. Press the ENTER button. Display will disappear briefly and return indicating entry.
4. Press the COUNT button. Light at count will light and display will indicate zero.
5. Press the RESET button and unit is ready to operate.

(Note: Counter is fuse protected and fuses are located inside the base on the left hand side. Power to the machine should be removed prior to changing fuses. Left hand cover must be removed to access fuses.) Always replace side panels before using machine to prevent housing collapse and eliminate excessive vibration.

Counter has memory, which will hold preset number until changed. Foot switch may be released at any time before count is reached without disturbing the preset number. Example: Preset set for 15 turns. Foot switch is released at 8 turns, simply repress foot switch and Unit will continue to preset count.

NOTE: When preset count is reached, unit will stop. Reset the counter to zero for the next set of coils. For manual operation, set preset number to zero, unit will count manually. When count is achieved, press RESET Button to reset counter.

All functions set at the factory.

Pressing the "FUNCTION" button accidentally will cause the display to disappear. Press the "ENTER" button to resume display.

To insure proper set up of equipment, on both fast and slow speeds, set counter preset to approximately 4 turns, select speed and run through a cycle.

As speeds of the coil winder are varied, the stopping position of the coil winding head may vary.

Although the winder will always stop in the same position, it starts out from at a set speed and will accurately wind the number of turns required, the starting position of the winding head may not be desirable for the operator. To change the starting position of the coil winding head to a position desired, push in the air release knob, pull out the round knob (black) located behind the brake (right side of the gear box). Hold knob out and position the winding head to the desired starting position.

Release the round black knob and pull out the air release knob and unit is ready to start winding.

6. When all checks have been completed and the unit 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 and centered on the face plate.

7. To use the guide bar, two extension spindles are also provided. The smaller one threads in the end of the guide bar and is intended for use when the CROWN "Midget" Coil Winder Head is mounted on the machine. The extra sleeve and spools provided with this head are slipped over the spindle and are in position to guide the wire while winding coil. The larger spindle slips over the end of the bar and is for use with the CROWN "Universal" Coil Winder Head. The extra spacers provided with this head are placed in proper position on this spindle to facilitate the winding of coils. The larger spindle can also be used with the CROWN "3-Phase" Coil Winding Head.

MAINTENANCE:

TO REPLACE BELT

- A. Disconnect power and air to winder machine.
- B. Remove belt guard.
- C. Remove left side panel.
- D. Remove air line to the clutch unit.
- E. Rotate clutch unit so belt will slide out.
- F. Replace belt - (Crown 807121).or equivalent (1/2" x 50")
- G. Rotate clutch unit and connect air Line to clutch unit.
- H. 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.

- I. 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 (2.8 liters), non-detergent oil. Three (3) quarts of oil are required to fill the case.

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.

CROWN MODEL 2015, 2016, 2017 & 2018

MODEL #	DESCRIPTION	QUANTITY	CURRENT PRICE
2015	Floor Winding Machine, CROWN (115VAC, 50/60, 1φ)	1	Contact Factory
2016	Floor Winding Machine, CROWN (230VAC, 50/60, 1φ)	1	Contact Factory
2017	Floor Winding Machine, CROWN (230VAC, 50/60, 3φ)	1	Contact Factory
2018	Floor Winding Machine, CROWN (460VAC, 50/60, 3φ)	1	Contact Factory
N/A	Packaging and Handling	1	Contact Factory

PARTS LIST CROWN MODEL

2015, 2016, 2017 & 2018

MINIMUM NET BILLING OF \$75 PLUS PACKAGING AND HANDLING FEE

ITEM	P/N	DESCRIPTION	QTY Req'd	FIGURE	CURRENT ASSY PRICE (Contact factory if not specified)
1	C807210	Shaft Input	1	1A	-
2	C807205	Clutch, Air Operated	1	1A	-
3	C807108	Bearing retainer	1	1A	-
4	C807211	"V" Pulley	1	1A	-
5	C807228	Key, Square 3/16 (Angle cut 1-1/8)	1	1A	-
6		Key, Square 3/16 x 1-1/8)	1	1A	-
7	C807123	Ball Bearing	1	1A	-
8	C807155	Bearing Sleeve	1	1A	-
9	C807154	Gasket (Retainer)	1	1A	-
10	C807102	Plug (1-1/8 Dia.)	4	1A,1B ,1C	-
11	C807134	Screw, Hex HD. CAP (5/16-18 x 1")	1	1A	-
12	C807090	Shaft Intermediate	1	1B	-
13	C807168	Bearing Sleeve	2	1B	-
14	C807159	Collar Set	1	1B	-
15	C807091	Gear (35 Teeth)	1	1B	-

ITEM	P/N	DESCRIPTION	QTY Req'd	FIGURE	CURRENT ASSY PRICE (Contact factory if not specified)
16	C807092	Gear (54 Teeth)	1	1B	-
17	C807093	Pinion (15 Teeth)	1	1B	-
18	C807228	Key, Square 3/16" x 2-3/4"	1	1B	-
19	C807228	Key, Square 3/16" x 1-3/4"	1	1B	-
20	C807041	Set screw Clip PT (5/16-18x 1/4")	2	1B, 1C	-
21	C807051	Set screw Clip PT (5/16-18x 1/2")	2	1B	-
22	C807158	Set screw Clip PT (5/16-18x 1/2")	1	1B	-
23	C807094	Shaft, Output	1	1C	-
24	C807085	Gear (35 Teeth)	1	1C	-
25	C807096	Gear (35 Teeth)	1	1C	-
26	C807097	Dog, Clutch	1	1C	-
27	C807162	Key, (3/19" x 5/16 x 1"- 51/64")	1	1C	-
28	C807217	Screw, Hex. HD. CAP (1/4 -20 x 5/8")	1	1C	-
29	C807164	Bearing Sleeve	1	1C	-
30	C807215	Seal, Oil	1	1C	-
31	C807079	Sprocket (Output shaft)	1	1C	-
32	C807099	Collar, Set	1	1C	-
33	C807163	Bearing, sleeve	1	1C	-
34	C807259	Pneumatic friction brake	1	1C	-
35	C807073	Speed shifting yoke	1	1C	-
36		Tap hole (1/2-12 x 1-1/4")	1	1C	-
37		Nut (3/8-16)	1	1C	-
38		Screw (5/16"-18 x 1")	2	1C, 1E	-
39		Nut (5/16"-18)	2	1C, 1E	-
40	C806034	Brake torque bracket	1	1C, 1E	-
41	C807153	Torque bracket Spacer	1	1C	-
42		Q.D Hub for 1-1/4" Dia. Shaft	1	1C	-
43	C807067	Gear housing	1	1D	-
44	C809014	Knob	1	1D	-
45	C807244	Face plate	1	1D	-
46	C500007	Indicator knob & Shaft assembly		1D	-
47	C807073	Yoke shifter	1	1D	-
48	C807074	Throw - Out collar	1	1D	-
49	C807208	Electronic Pickup	1	1D	-
50	C807019	Ladder Chain (17")	1	1D	-
51	C807249	Sprocket (Counter shaft)	1	1D	-
52	C807051	Set screw Cup PT (5/16-18 x 5/8")	1	1D	-
53	C807135	Nut Hex HD (7/8-14NC)	1	1D	-
54	C806030	Spring	1	1D	-
55	C807112	Collar set (1/2 Dia.)	1	1D	-
56	C807247	Plunger	1	1D	-
57	C807227	Key square (1/4") Square ends (4-5/16")	1	1D	-
58	C806012	Belt guard	1	1D	-
59	C807141	Screw Soc. HD CAP (5/16-18 x 1")	4	1D	-
60	C807134	Screw Soc. HD CAP (3/8-16 x 1")	3	1D	-
61	C807041	Set screw Cup PT (5/16-18 x 5/16")	2	1D	-
62		Paint	-	1D	-

ITEM	P/N	DESCRIPTION	QTY Req'd	FIGURE	CURRENT ASSY PRICE (Conctact factory if not specified)
63	C807223	Screw RD HD Mach (5/16-18 x 1/2")	4	1D	-
64	C807068	Cover gear housing	1	1E	-
65	C807261	Brake guard	1	1E	-
66	C807250	Electronic counter	1	1E	-
67	C807082	Detent pin	1	1E	-
68	C807113	Cover gasket	1	1E	-
69	C807136	Detent spring	1	1E	-
70	C807260	Bushing	1	1E	-
71	C807024	Pipe plug (Soc. Type) (1/8"-27NPT)	1	1E	-
72	C807042	Vent. Plug (SQ HD) (1/8-18NPT)	1	1E	-
73	C807142	Spacer (Gear housing)	4	1E	-
74	C807066	Base side covers	2	1F	-
75	C807084	Bracket, Guide bar	1	1F	-
76	C807145	Set screw SQ. Clip. PT (1/4-20 x 3/4")	2	1F	-
77	C807140	Screw RD HD Mach (10 - 32 x 5/8")	6	1F, 1G	-
78	C807167	Washer, Lock (Internal) (10-32 screw)	4	1F	-
79	C807085	Bar, guide	1	1F	-
80	C807117	Switch, Start / Stop	1	1F	-
81	C807120	Pulley, variable speed	1	1F	-
82	C807121	"V" Belt	1	1F	-
83	C807166	Screw Flat HD Mach. (10 - 32 x 1/2")	30	1F	-
84	C807165	Washer, stopbead (#10 size screw)	30	1F	-
85	C807180	Assembly, large spindle	1	1F	-
86	C807179	Assembly, small spindle	1	1F	-
87	C807065	Base	1	1G	-
88	C807083	Base, motor	1	1G	-
89	C807109	Wheel, hand	1	1G	-
90	C807075	Yoke bracket, Control shaft	1	1G	-
91	C500001	Assembly, control shaft	1	1G	-
92	C807106	Gear, mitre (motor base)(16P-16T)	2	1G	-
93	C807126	Set screw Soc. Clip. PT (1/4-20 x 1/4")	1	1G	-
94	C807134	Screw, Hex. HD. CAP (5/16 - 18 x 7/8")	4	1G	-
95	C807131	Washer, Flat (5/16")	5	1G	-
96	C808030	Washer, Lock (5/16")	6	1G	-
97	C808025	Nut, Hex. (5/16-18)	6	1G	-
98	C800036	Screw Pan HD (Tapping)(#8 - 18 T.P.I)	2	1G	-
99	C807118	Box, electrical ("Handy" box)	1	1G	-
100	C806010	Cover ("Handy" box)	1	1G	-
101	C806029	Regulator / Filter W / Guage	1	1G	-
102	C806028	On/Off Air valve	1	1G	-
103	C807214	Guard (Foot switch cover)	1	1G	-
104	C500023	Assembly, cable	1	1G	-
105	C807238	Juction Box	1	1G	-
106	C807239	Juction Box cover	1	1G	-
107	C807252	Foot pedal switch	1	1G	-
108	C500021	Lead wire (Box to foot switch)	1	1G	-
109	C500022	Lead wire (Box to counter)	3	1G	-

ITEM	P/N	DESCRIPTION	QTY Req'd	FIGURE	CURRENT ASSY PRICE (Contact factory if not specified)
110	C500018	Air hose assembly	4	1G	-
111	C807152	Screw, Hex. HD. CAP (3/8- 16 x 1")	4	1G	-
112	C807127	Washer, Lock (3/8")	1	1G	-
113		Diagram, electrical (115V – 50/60Hz-1 ϕ)	1	1G	-
114		Diagram, electrical (230V – 50/60Hz-1 ϕ)	1	1G	-
115		Diagram, electrical (230 V– 50/60Hz-3 ϕ)	1	1G	-
116		Diagram, electrical (460V – 50/60Hz-3 ϕ)	1	1G	-
117	C500016	Lead Wire (Switch to motor)	1	1G	-
118	C500012	Lead Wire (Handy box to switch)	1	1G	-
119	C807132	Cord Clamp	1	1G	-
120	C807223	Air hose assy. Air alve to So. Valve	1	1G	-
121	C807132	Paint	1	1G	-
122		Nut, Hex (8-32)(STD)	1	1G	-
123		Motor, El. (1/2 HP – 115V 50/60Hz –1 ϕ)	1	1G	-
124		Motor, El. (1/2 HP – 230V 50/60Hz –1 ϕ)	1	1G	-
125		Motor, El.(1/2 HP – 230V 50/60Hz –3 ϕ)	1	1G	-
126		Motor, El.(1/2 HP – 460V 50/60Hz –3 ϕ)	1	1G	-
127	C500019	Air hose assembly	1	1G	-
128	C806027	Solenoid air valve	1	1G	-
129	C500015	Lead wire assembly (Box to switch)	1	1G	-
130	C807150	Coil (120V)Solenoid only	1	1G	-
131	C806026	Coil (240V)Solenoid only	1	1G	-

**SPECIFICATIONS FOR STANDARD DUTY AUTOMATIC STOP
COIL WINDING MACHINE
CROWN MODELS 2015, 2016, 2017 & 2018**

Primary power:

Model #2015: 115VAC, 60Hz, 1 phase.

Model #2016: 230VAC, 60Hz, 1 phase.

Model #2017: 230VAC, 60Hz, 3 phase.

Model #2018: 460VAC, 60Hz, 3 phase.

Construction (Packaging):

Heavy gauge steel Base, corrosion protected. Cast aluminium gear housing with steel spur gears. Two (2) speed gear in housing for maximum torque.

Controls:

All controls are at the operators finger tips.

Speed is variable form 40 - 410 RPM.

(Slow speed = 40-110 RPM, Fast speed = 150 - 410 RPM).

Operation:

Preset counter to number of turns required, press foot switch, machine runs to preset number and stops instantly when preset number is reached. Release foot switch and press reset to zero.

Unit will be ready for the next coil. (For operator safety, in case of an emergency, the machine stops instantly when the Foot Switch is released).

Machine comes equipped with a 10" face plate. The output shaft is center tapped for 1/2" -3 NC thread to allow attachments.

Spare parts:

To be recommended on request. Contact Factory. **Enclosures:**

Operating instructions.

(211 in-lbs in fast speed, 775 in-lbs in slow speed)