

Castle Model TSM-31

Heavy Duty Screw Pocket Machine

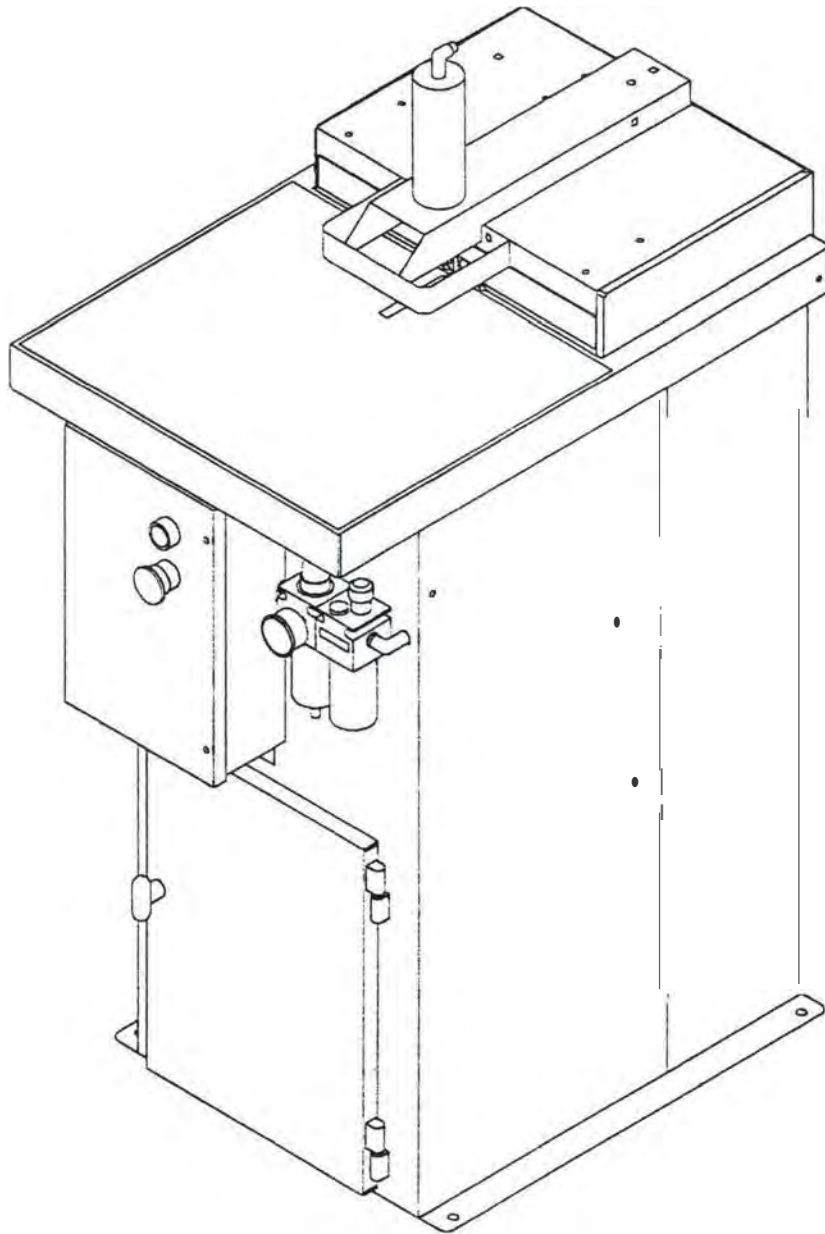
For Models with Serial Number 61825 to 63657
Items Included with Machine

Part No.	Description	Qty
B02964	9/64" Castle Premium Brad Point Drill Bit w/ 1/4" Shank	1
B00338	Solid Carbide 3/8" Three Flute Rough Mill Cutter	1
T42596	Wrench, Porter Cable 690	2
B00622	Square Driver Bit, #2 x 6"	1
S00350	Sioux Air Tool Oil	1 Qt
O00234	Bit Depth Gauge	1
S90035	Operator's Manual	1

NOTES:

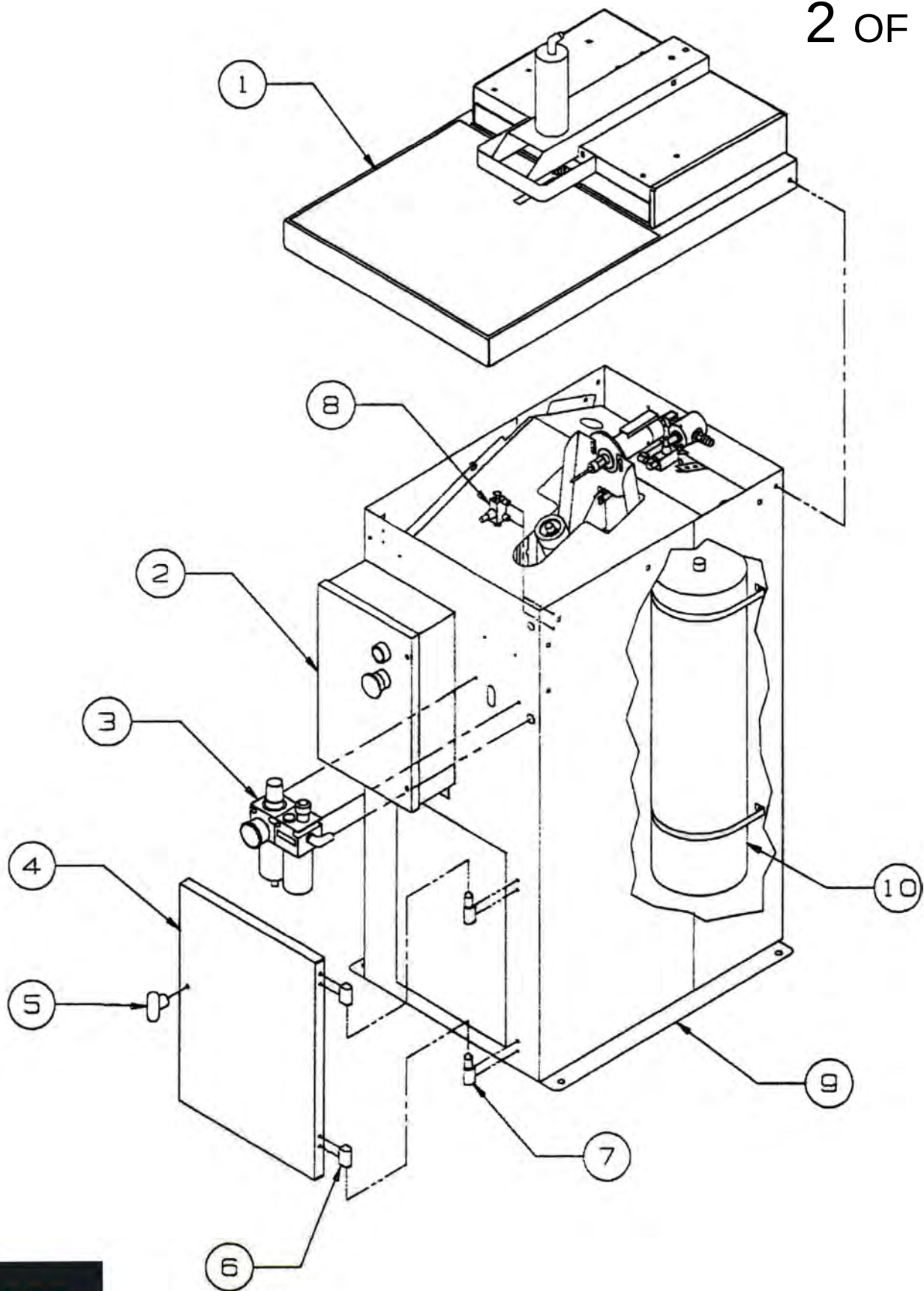
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HEAVY DUTY POCKET MACHINE



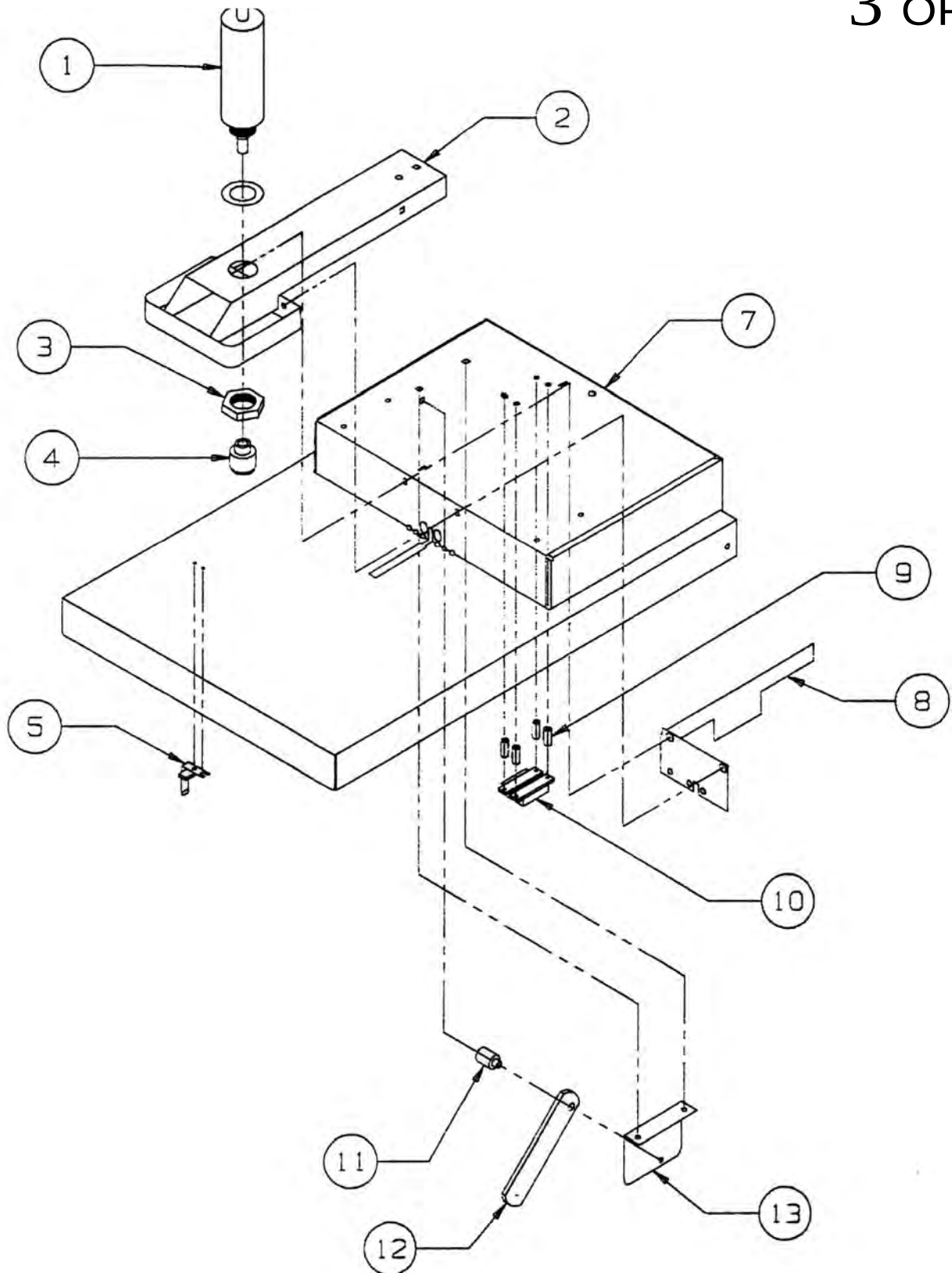
TSM-31
CASE ASSEMBLY DETAIL

DRAWING 2 OF 5 - CASE ASSEMBLY

Item #	Part #	Part Description	Qty
1	C35010	TSM-35 Case Top Assembly	1
2	C35035	TSM-35 Control Assembly, Low Voltage	1
or	C35056	TSM-35 Control Assembly, High Voltage	1
3	C35002	TSM-35 FRL Assembly	
	P35066	TSM-35 Filter/Regulator, Parker	1
	P35067	TSM-35 Lubricator, Parker	1
	P35068	TSM-35 FRL Mount Bracket	1
	P35069	TSM-35 FRL Connector	1
	P01478	TSM-35 Gauge	1
	P21244	1/4 M x 3/8 PI Elbow Norgren	1
	P26844	1/4M x 1/4 PI Straight Alkon	1
	P14116	1/4 Male Street L Brass	1
4	C00010	Castle Front Door Assembly	
	M00400	Door, Front, Black w/ Logo	1
5	C00015	Door Handle Assembly	
	H00141	Bar Knob, Plastic, 1/4-20	1
	N00101	Spring Door Clip	1
	F14585	Screw, Hex Head Cap, 1/4-20 x 5/8 ZP	1
6		Door Hinge Assembly	
	D00720	Hinge, Plastic, Black, Female	2
	F10011	Screw, Pan Head Phillips, 10-24 x 1/2 ZP	4
7		Case Hinge Assembly	
	D00710	Hinge, Plastic, Black, Male	2
	F10011	Screw, Pan Head Phillips, 10-24 x 1/2 ZP	4

Item #	Part #	Part Description	Qty
9		Main Case	
	U35001	Case Front, Green	1
	U35002	Case Rear, Green	1
	U35003	Case Bottom, Green	1
	U35005	Case Left Side, Green	1
	U35006	Case Right, Green	1
	S00320	Label, Serial Number	1
	M35033	TSM-35 Pivot Plate	2
	O00400	Dust Port Tube, 4" x 3-1/2"	1
	F14584	Carriage Bolt, 1/4-20 x 5/8 ZP	22
	F01420	Nut, Nylon Lock, 1/4-20 ZP	22
	F38034	Carriage Bolt 3/8-16 x 3/4 ZP	4
	F38168	3/8 Hex Nut	8
	F03810	Washer, 3/8 SAE ZP	4
	F01410	Washer, 1/4 SAE ZP	4
	F51684	Carriage Bolt, 5/16-18 x 4 ZP	4
	F00516	5/16 Anti Turn Washer	4
	F51699	Nut, Nylon Lock, 5/16-20 ZP	4
	D08320	Cable Tie Holder, Small White Nylon	5
10		Air Reservoir Assembly	
	G35014	Air Tank w/ Bulkheads, 6" x 20", Black	1
	F14210	Carriage Bolt, 1/4-20 x 1 ZP	4
	F01411	Washer, 1/4 USS ZP	4
	F01420	Nut, Nylon Lock, 1/4-20 ZP	4
	P38220	4 Way Cross Tee, Brass	1
	P00087	3/8 M x 3/8 PI Elbow	2
	P38523	3/8 Hex Nipple	1
	P38921	3/8 Brass Drain Cock	1

8	Router Feed Rate Control		
	P00117	Valve, Flow Control, SMC NAS-2000-N01	1
	P18165	Fitting, 1/8 NPT x 1/16 Side Out Barb, Brass	1
	P18161	Fitting, 1/8 NPT x 1/16 Barb, White Nylon	1
	F08112	Screw, Pan Phillips, 8-32 x 1-1/2 ZP	2
	F08032	Nut, Nylon Lock 8-32	2



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TOP ASSEMBLY DETAIL

DRAWING 3 OF 5 - TOP ASSEMBLY

Item #	Part #	Part Description	Qty
1		Clamp Cylinder	
	P00215	Cylinder Spring Return, 2" Bore, 1.5" Stroke, SS Rod	1
	F12222	1/2-20 Hex Jam Nut	1
	P14414	Fitting, 1/4 NPT x 1/4 Push In Elbow	1
	H10138	Washer, Fiber, 1-3/8 ID	1

2		Clamp Guard	
	M00210	TSM Clamp Guard, Yellow	1
	F14234	Carriage Bolt, 1/4-20 x 1-3/4 ZP	1
	F01410	Washer, 1/4 SAE ZP	1
	F01420	Nut, Nylon Lock, 1/4-20 ZP	1
	F14378	Screw, Button Head Socket, 1/4-20 x 7/8, BkOxide	2
	F14201	Nut, Pem Self Clinching, 1/4-20 #1	2

3	F11412	Nut, Hex Jam 1-1/4-12 ZP	1
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4	C00200	Clamp Foot Assembly	
	N21351	Clamp Foot, Small Zinc Plated	1
	N70118	Pad, Polyurethane 1-1/8"	1

5		Safety Interlock Key	
	E03322	Key, Security Interlock, ABB LSA30	1
	F08032	Nut, Nylon Lock, 8-32 ZP	2

7	C35010	Main Case Top	
	U35102	Case Top, Black	1
	C00350	Case Top Laminate, Dolphin Grey	1
	C00210	Face Plate Laminate, Dolphin Grey	1
	S00301	Label, Warning, Keep Hands Clear, Lexan	1

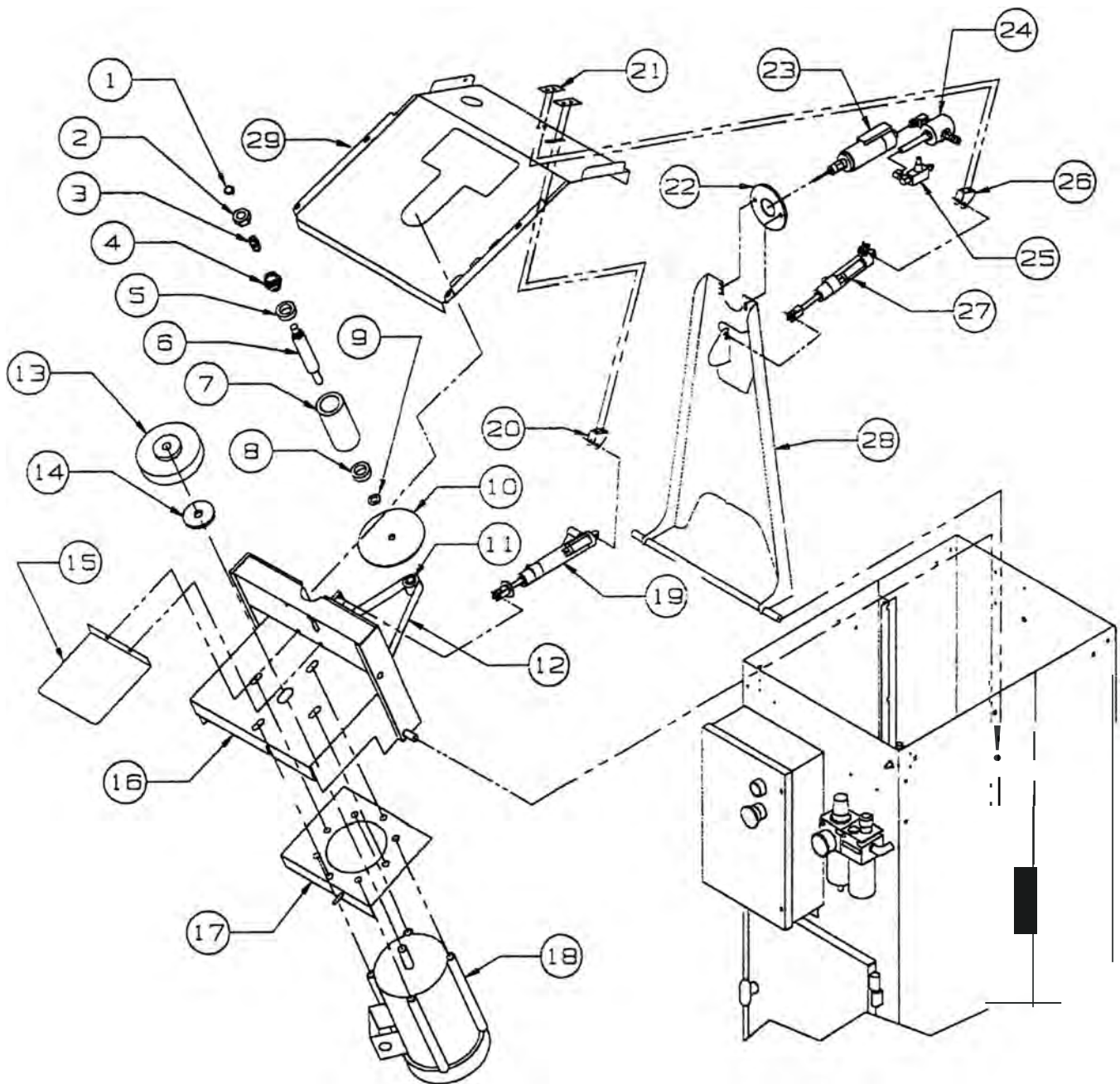
Item #	Part #	Part Description	Qty
		Case Top Hinge Assembly	
	F38118	Shoulder Bolt 3/8 x 1-1/2	2
	F51699	Nut, Nylon Lock, 5/16-18 ZP	2
	F03810	Washer, 3/8 SAE ZP	2

8	C35101	Safety Switch / Blade Assembly	
	M35016	TSM-35 Safety Blade	1
	F10358	Screw, Button Head Socket, 10-32 x 5/8 Bk Oxide	3
	F10322	Nut, Hex Jam, 10-32 ZP	1
	F01420	Nut, Nylon Lock, 1/4-20 ZP	2

9		Safety Switch Mounting Assembly	
	F08122	Screw, Pan Phillips Machine, 8-32 x 1-1/2 ZP	4
	F08032	Nut, Nylon Lock, 8-32 ZP	4
	N38314	3/8 OD x 1/4 ID x 5/16L Spacer	2
	D38507	#8 Spacer, Nylon, 3/8 OD x 7/8" L	4

10		Safety Switch	
	E10850	1085TW Magnet and Magnetic Reed Switch	1
	E22708	Wire, 22AWG, 2 Strand, Grey Jacketed	64"
	P38012	Tubing, 3/8 OD Black Polyethelene	22"

11,12,13		Lid Catch Mounting Assembly	
	U35040	Lid Catch, Plated	1
	F14225	Carriage Bolt, 1/4-20 x 1 ZP	2
	F01410	Washer, 1/4 SAE ZP	6
	F01420	Nut, Nylon Lock, 1/4-20 ZP	2
	N38314	Spacer, Steel, 3/8 OD x 1/4 ID x 5/16 L ZP	2



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DRILL AND ROUTER CARRIAGE ASSEMBLY

DRAWING 4 OF 5 - ROUTER SPINDLE ASSEMBLY

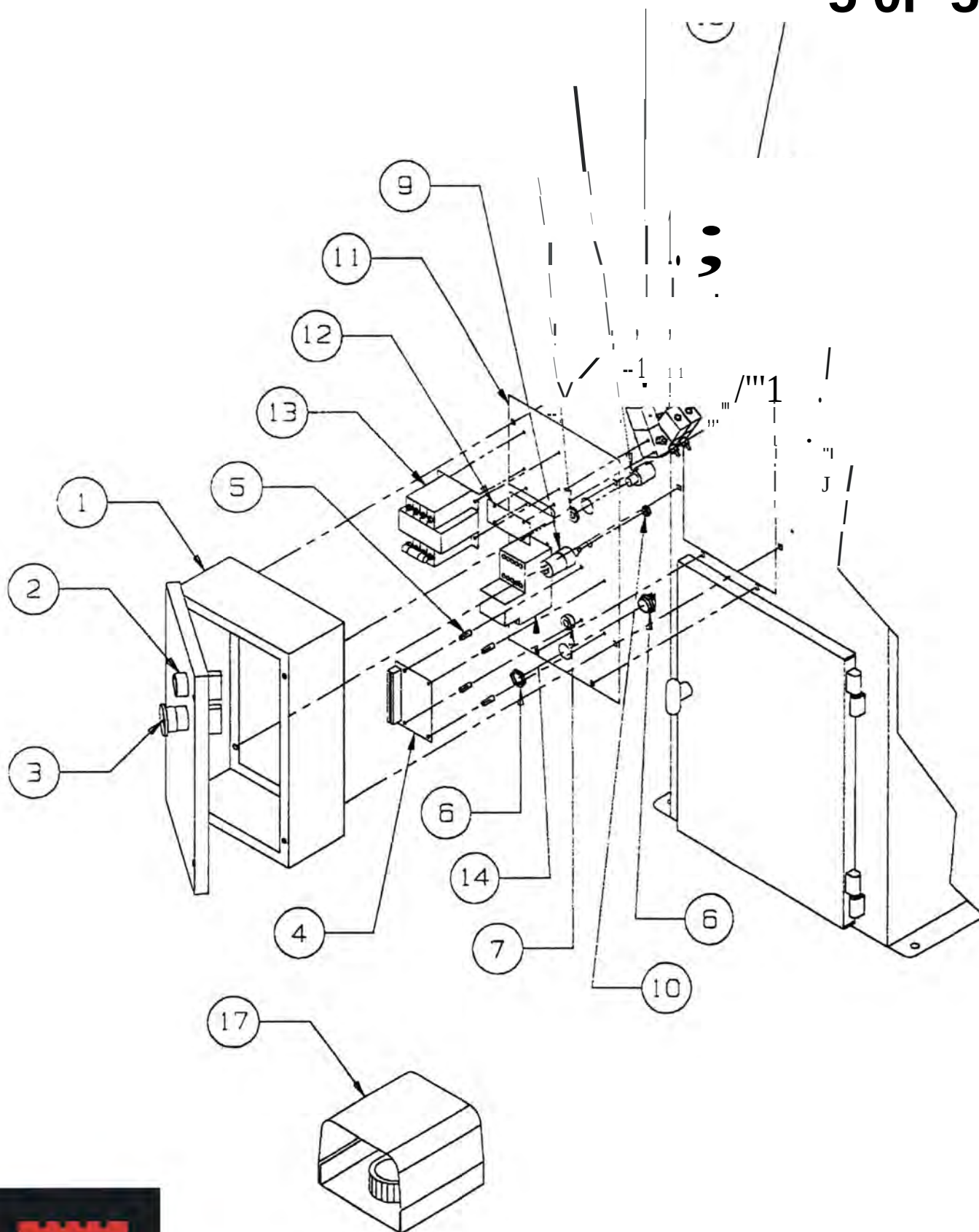
Item #	Part #	Part Description	Qty
D50038 3/8" Collet Assembly			
1		Snap Ring, Collet	1
2		Nut, Collet	1
3		Collet, 3/8"	1
C35003 Router Spindle Assembly			
4	D50055	Chuck	1
5	H78065	Bearing	1
	D35137	Snap Ring, Internal,	1
6	N35313	Router Spindle, Stress Proof Steel	1
7	N35352	Spindle Housing	1
8	H78065	Bearing	1
9	H58010	Bushing, Machinery 1" OD x 5/8 ID	1
10	U35011	Flywheel, 10 GA. Steel, 4.95 OD ZP	1
11	N35353	Small Driven Pulley	1
	F51625	Screw, Hex Head Cap, 5/16-24 x 3/4 Grade 5 ZP	1
	F01411	Washer, 1/4 USS ZP	1
12 H12075 Belt, Flat Drive, 1" x 20.75 1			
13 C35115 Drive Pulley Assembly			
	N35355	Large High Speed Drive Pulley	1
	H00058	Woods Bushing QT 5/8	1
	F14219	Ribbed Neck Carriage Bolt 1/4-20 x 2	2
	F01420	Nut, Nylon Lock, 1/4-20 ZP	2
14 H35005 Motor Shaft Slinger 1			
15 M35030 Belt Cover 1			

Item #	Part #	Part Description	Qty
16 Router Carriage Assembly			
	G35103	Router Motor Carriage	1
	F14222	U-Bolt, 1/4-20 x 1-1/2 ZP	2
	F01420	Nut, Nylon Lock, 1/4-20 ZP	7
	F01410	Washer, 1/4 SAE ZP	5
	F38161	Screw, Hex Head Cap, 3/8-16 x 1" ZP	4
	F03876	Washer, 3/8 USS ZP	4
	N03442	Bushing, 3/4" Hex Brass Carriage Pivot	2
	F14458	Screw, Cup Point Socket Head Set, 1/4-20 x 1-1/4	2
17	M35010	Motor Pull Plate	1
18 Motor Assembly			
	E35131	Motor, BaldorTEFC,1-1/2HP 1Phase 3450RPM	1
	E35164	Motor Cord, 16-4 SOW	60"
	D12001	Clamp Connector, 3/8 - 1/2 KO	1
	H00604	Motor Slinger	1
19 C35021 Router Drive Cylinder Assembly			
	P35300	Cylinder,1.06 DXPSRM Bore,3"Stroke,DBl Acting	1
	P18165	Fitting, 1/8 NPT x 1/16 Side Out Barb, Brass	1
	P00535	Fitting, 1/8 NPT x 5/32 Push In Swivel Elbow	1
	D07130	Shrader Clevis Kit	1
	F51600	Washer, 5/16 Large OD ZP	1
	H15858	Bumper, Black Rubber, 1" OD x 5/8 ID x 7/8 L	1
	D14034	Clevis Pin, 1/4 x 3/4	1
	D14934	Hairpin Cotter, 1/4 ZP	1
	F01424	Nut, Hex Jam, 1/4-20 ZP	1
	F01410	Washer, 1/4 SAE ZP	1
	P53293	Tubing, Clear Polyurethane, 5/32 OD	44"
	P16181	Tubing, White Polyurethane, 1/8 OD x 1/16 ID	62"
	E35010	Switch, Magnetic Reed	1
	E22708	Wire, 22 AWG, 2 Strand, Grey Jacketed	45"
	E35009	Switch Strap Assembly	1

DRAWING 4 OF 5 - ROUTER SPINDLE ASSEMBLY

Item #	Part #	Part Description	Qty
20		Clevis Bracket Assembly	
	D07111	Clevis Bracket, 1/4" ZP	1
	D14078	Clevis Pin, 1/4 x 7/8 ZP	1
	D14934	Hairpin, 1/4 ZP	1
21		Pallet Pivot Bracket Assembly	
	U35009	Bracket, Pallet Pivot	2
	F14585	Screw, Hex Head Cap, 1/4-20 x 5/8 ZP	4
	F01420	Nut, Nylon Lock, 1/4-20 ZP	2
22		Drill Motor Mount Assembly	
	U35017	Bracket, Drill Motor Mount, ZP	1
	F14340	Carriage Bolt, 1/4-20 x 3/4 ZP	2
	F01420	Nut, Nylon Lock, 1/4-20 ZP	2
	F01410	Washer, 1/4 SAE ZP	2
23		Drill Motor Assembly	
	P01956	Air Motor, Sioux Model 1954HPHT	1
	B00964	Castle Drill Bit, 9/64 Cobalt w/ 1/4" Shank	1
	D71230	Cable Tie, Black Nylon, 7-1/2"	1
	D50044	Sioux 1/4" Collet	1
	D10140	Sioux 1/4" Collet Nut	1
24		Drill Pilot Valve Assembly	
	P35250	Valve, Humphrey Drill Pilot	1
	P14214	Nipple, 1/4M, Hex Close	1
	P14116	Fitting, Street L Brass, 1/4 NPT M/F	1
	P71415	1/4 NPT Red Plastic Plug	1
	P35389	Hose Assembly, 3/8 Red Urethane W/ Fitting	1
25		Drill Delay Valve Assembly	
	C35005		
	P00117	Valve, Flow Control, SMC NAS-2000-N01	1
	P00538	Fitting, 1/8 NPT x 5/32 Push In Straight	1
	P18141	Fitting, 1/8 NPT Street L M/F	2
	P18030	Pipe Nipple, 1.8 NPT x 3" Copper	1

Item #	Part #	Part Description	Qty
26		Clevis Bracket Assembly	
	D07111	Clevis Bracket, 1/4" ZP	1
	D14078	Clevis Pin, 1/4 x 7/8 ZP	1
	D14934	Hairpin, 1/4 ZP	1
27		Drill Drive Cylinder Assembly	
	C35022		
	P35125	Cylinder, 1.06 Bore, 1.25" Stroke, Dbl Acting	1
	D07130	Shrader Clevis Kit	1
	D14034	Clevis Pin, 1/4 x 3/4	1
	D14934	Hairpin, 1/4 ZP	1
	P18162	Fitting, 1/8 NPT x 1/8 Barb Black Nylon	1
	P16182	Tubing, Black Polyurethane, 1/8 OD x 1/16 ID	41"
	P25421	Nipple, 1/8M Hex Close	1
	P00117	Valve, Flow Control, SMC NAS-2000-N01	1
	P10328	Bushing, 10-32 x 1/8 NPT Brass	1
	P10320	Valve, SQE 10-32 Brass	1
	P10321	Fitting, 10-32 M x 1/16 Barb, White Nylon	1
	P10322	Fitting, 10-32 M x 1/16 Barb, Black Nylon	1
	P16182	Tubing, Black Polyurethane, 1/8 OD x 1/16 ID	31"
	E35010	Switch, Magnetic Reed	1
	E22708	Wire, 22AWG, 2 Strand, Grey Jacketed	45"
	E35009	Switch Strap Assembly	1
28		Drill Carriage Assembly	
	C35011		
	G35101	Drill Carriage	1
	N03442	Bushing, 3/4" Hex Carriage Pivot	2
	F14458	Screw, Cup Point Socket Head Set, 1/4-20 x 1-1/4	2
	F01420	Nut, Nylon Lock, 1/4-20 ZP	2
	F01410	Washer, 1/4 SAE ZP	2
29			
	U35008	Pallet, White	1
	H35013	MDS Filled Nylon Wear Strip, Cut to 3/4" L	1
	F01420	Nut, Nylon Lock, 1/4-20 ZP	6
	F01410	Washer, 1/4 SAE ZP	6
	F14340	Carriage Bolt, 1/4-20 x 3/4 ZP	6



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CONTROL PANEL DETAIL

DRAWING 5 OF 5 - CONTROL PANEL ASSEMBLY

Item #	Part #	Part Description	Qty
1		Control Panel Enclosure Assembly	
	M00134	Control Panel Enclosure	1
	F14225	Screw, Hex Head Cap. 1/4-20 x 1 ZP	4
	F01420	Nut, Nylon Lock, 1/4-20 ZP	4
	S17578	Label, Caution, "Wear Safety Glasses"	1
	S13264	Label, Warning, "Danger Electrical Hazard"	1
	S11635	Label, "Made in USA"	1
	S35002	Label, Wiring Diagram	1
	D06627	Cable Tie Anchor, White Nylon, W/ Adhesive	2
2	C30351	Start Switch Actuator Assembly	
	E03041	3SB3000-0AA41 Start Switch	1
	E03400	Normally Open Contact Block	1
3	C30352	Stop Switch Actuator Assembly	
	E03000	3SB3000-1XA20 Stop Switch	1
	E03401	Normally Closed Contact Block	1
4	E35424	Control Board, EL-35D	1
5		Control Board Mounting Assembly	
	D08012	1/4 x 1/2 #8 Plastic Spacer	4
	F08100	Screw, Pan Head Phillips, 8-32 x 1 ZP	4
	F08132	Nut, Lock Washer, 8-32 Kep ZP	4
6	D12001	Clamp Connector & Nut, Romex 3/8-1/2 KO	1
7	H12516	Grommet, Black Rubber, 5/16 ID x 1/2 OD	1
8		Strain Relief	
	D49600	90 Degree Cord Grip	1
	E03185	1/2 Conduit Locknut	1

Item #	Part #	Part Description	Qty
9		Pressure Sensor Switch	
	E35420	Switch, Air Pressure Sensing	1
	D22181	Terminal, 22-18 Fully Insulated, Female	2
	P33228	Fitting, 10-32 x 1/16 Barb, Black Nylon	1
	P01418	Tubing, 1/4 OD x 1/8 ID, Black Urethane	1"
10	F38241	Nut, Hex Jam, 3/8-24 ZP	1
11		Control Panel Back Plate	
	M35013	Control Panel Back Plate	1
	F14212	Carriage Bolt, 1/4-20 x 1/2 ZP	2
	F01423	Nut, Hex, 1/4-20 ZP	2
12		Control Panel Back Plate Slot Cover	
	M00130	Back Plate Slot Cover	1
	F08324	Screw, Pan Phillips Machine, 8-32 x 3/4 ZP	4
	F08132	Nut, Lock Washer, 8-32 Kep ZP	4
	S11436	Tape, PVC Foam S/A 1-1/4"	7.2"
13		Transformer Assembly	
	E35713	Transformer, 50VA, Multi-Input, 24VAC Output	1
	E16224	Fuse, 250V	1
	D82218	Vinyl Spade Lug, 22-18 #8	2
	E18373	Wire, 18AWG Hookup Blue	16.5'
	E18371	Wire, 18AWG Hookup Grey	17'
	D81614	Vinyl Spade Lug, 16-14 #8	2
	D61614	Vinyl Ring Lug, 16-14 #8	1
	E18374	Wire, 18AWG Hookup Orange	27"
	F08324	Screw, Pan Phillips Machine, 8-32 x 3/4 ZP	3
	F08100	Screw, Pan Phillips Machine, 8-32 x 1" ZP	1
	F08132	Nut, Lock Washer, 8-32 Kep ZP	4

DRAWING 5 OF 5 - CONTROL PANEL ASSEMBLY

Item #	Part #	Part Description	Qty
14	Starter Assembly		
	E03015	Contactora, Siemens 3RT1015-1AB01 24VDC	1
	F83205	Screw, Pan Phillips Machine, 8-32 x 5/8 ZP	2
	F08132	Nut, Lock Washer, 8-32 Kep ZP	2
	E14316	Wire, 16AWG Stranded x 14"	3
	E18379	Wire, 18AWG Hookup White	7.5"
	E03116	Motor Overload, Siemens (460V) HI	1
		OR	
	E03161	Motor Overload, Siemens (208/230V) LO	1

15	Pneumatic Control Assembly		
	Clamp Valve		
	P21224	Parker 3 Way Poppet Solenoid Valve, 24 VDC	1
	P00538	Fitting, 1/8NPT x 5/32 Barb Blk Nylon	2
	P01418	Tubing, 1/4 OD x 1/8 ID, Black Polyurethane	2"
	P31302	Fitting, 1/8 T Barb, Black Nylon	1
	P01418	Tubing, 1/4 OD x 1/8 ID, Black Polyurethane	3"
	P01418	Tubing, 1/4 OD x 1/8 ID, Black Polyurethane	71"
	Router Valve		
	P49410	Parker 4 Way Solenoid Valve, 24 VDC	1
	P00538	Fitting, 1/8NPT x 5/32 Barb Blk Nylon	1
	P01418	Tubing, 1/4 OD x 1/8 ID, Black Polyurethane	1"
	P31302	Fitting, 1/8 T Barb, Black Nylon	1
	P01418	Tubing, 1/4 OD x 1/8 ID, Black Polyurethane	3.5"
	P01418	Tubing, 1/4 OD x 1/8 ID, Black Polyurethane	17"
	P18161	Fitting, 1/8NPT x 1/16 Barb, White Nylon	1
	P16181	Tubing, 1/8 OD x 1/16 ID White Urethane	31"
	P00538	Fitting, 1/8M x 5/32 Push In Straight	1
	P53293	Tubing, 5/32 OD Clear	42"

Item #	Part #	Part Description	Qty
15	Pneumatic Control Assembly (Continued)		
	Drill Valve		
	P49410	Parker 4 Way Solenoid Valve, 24 VDC	1
	P00538	Fitting, 1/8NPT x 5/32 Barb Blk Nylon	1
	P01418	Tubing, 1/4 OD x 1/8 ID, Black Polyurethane	2"
	P31302	Fitting, 1/8 T Barb, Black Nylon	1
	P18162	Fitting, 1/8NPT x 1/8 Barb Black Nylon	1
	P16182	Tubing, 1/8 OD x 1/16 ID Black Urethane	31"
	P53202	Tubing, 5/32 OD x 3/32 ID, Black Urethane	30"
	P33216	Fitting, 3/32 x 1/16 T Barb, Black Nylon	1
	P53202	Tubing, 5/32 OD x 3/32 ID, Black Urethane	40"
	Control Valve Assembly		
	F63230	Screw, Pan Phillips Machine, 6-32 x 3" ZP	2
	F63201	Nut, Nylon Lock, 6-32 ZP	2
	Harness Assembly		
	S12043	Spiral Wrap. 1/2" Black Polyethelene	22"
	D40000	Cable Tie, White Nylon, 4"	23
	D51213	Cable Tie, White Nylon, 5-1/2"	1

16	Security Switch Assembly		
	E03200	Switch, Security Interlock, ABB LS35P80D11-S	1
	H12516	Grommet, Black Rubber, 5/16 ID x 1/2 OD	1
	E18202	Wire, 18-2 SJT, 2-Wire, Fully Insulated	25"

17	Foot Switch Assembly		
	E00491	Switch, Foot Activated, Linemaster 491-36SC w/Cord	1
	M00235	Guard, Universal Footswitch	1
	F40388	Screw, Oval Head Self-Tapping, #4 x 3/8 SS	2