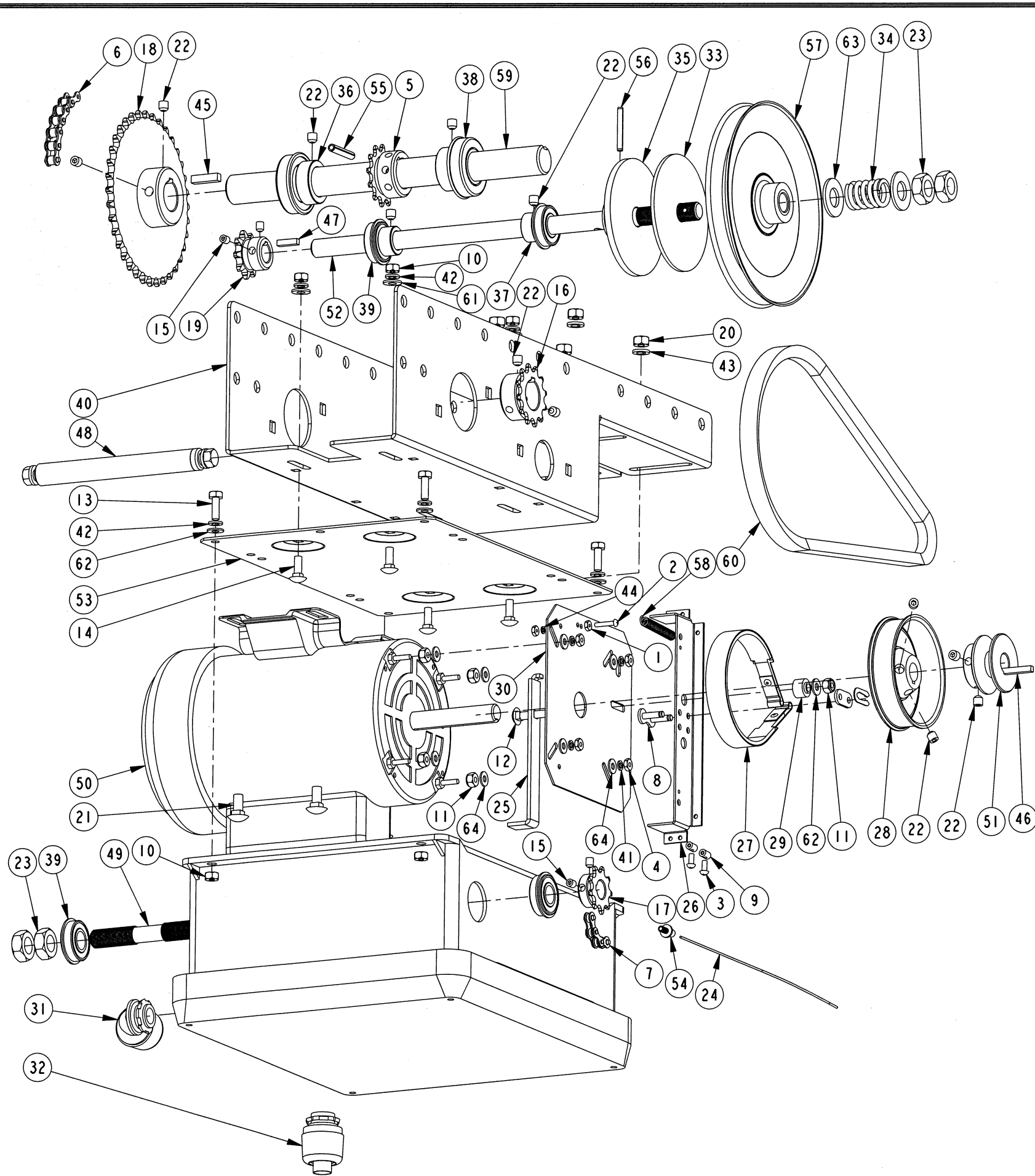


NEMA 4/12 - WATERPROOF			
		DESCRIPTION	# MANARAS
1PH	1/2HP	MOTOR 1/2HP - 120V/230V - 1PH	MOTOR257
		1PH - 8 AMPS RESET	RESET005
		MOTOR 3/4HP - 120V/230V - 1PH	MOTOR258
1PH	3/4HP	MOTOR 3/4HP - 120V/230V - 1PH	RESET010
		1PH - 13 AMPS RESET	RESET013
		MOTOR 1HP - 120V/230V - 1PH	MOTOR259
1PH	1HP	MOTOR 1HP - 120V/230V - 1PH	RESET001
		1PH - 4 AMPS RESET	MOTOR258
		MOTOR 3/4HP - 120V/230V - 1PH	RESET004
1PH	1HP	MOTOR 1HP - 120V/230V - 1PH	MOTOR259
		1PH - 8 AMPS RESET	RESET005
		MOTOR 1/2HP - 208V/460V - 3PH	MOTOR277
1PH	1/2HP	MOTOR 1/2HP - 208V/460V - 3PH	MOTOR279
		MOTOR 3/4HP - 208V/460V - 3PH	MOTOR281
		MOTOR 1HP - 208V/460V - 3PH	MOTOR277
1PH	3/4HP	MOTOR 3/4HP - 208V/460V - 3PH	MOTOR279
		MOTOR 1HP - 208V/460V - 3PH	MOTOR281
		MOTOR 1/2HP - 575V - 3PH	MOTOR278
1PH	3/4HP	MOTOR 3/4HP - 575V - 3PH	MOTOR280
		MOTOR 1HP - 575V - 3PH	MOTOR282

NEMA 4X - CORROSIONPROOF			
		DESCRIPTION	# MANARAS
1PH	1/2HP	MOTOR 1/2HP - 120V/230V - 1PH	MOTOR377
		1PH - 10 AMPS RESET	RESET007
		MOTOR 3/4HP - 120V/230V - 1PH	MOTOR148
1PH	3/4HP	MOTOR 3/4HP - 120V/230V - 1PH	RESET010
		1PH - 13 AMPS RESET	RESET012
		MOTOR 1HP - 120V/230V - 1PH	MOTOR377
1PH	1HP	MOTOR 1HP - 120V/230V - 1PH	RESET003
		1PH - 6 AMPS RESET	MOTOR148
		MOTOR 3/4HP - 120V/230V - 1PH	RESET004
1PH	1HP	MOTOR 1HP - 120V/230V - 1PH	MOTOR172
		1PH - 8 AMPS RESET	RESET005
		MOTOR 1/2HP - 208V/460V - 3PH	MOTOR320
1PH	1/2HP	MOTOR 1/2HP - 208V/460V - 3PH	MOTOR322
		MOTOR 3/4HP - 208V/460V - 3PH	MOTOR323
		MOTOR 1HP - 208V/460V - 3PH	MOTOR320
1PH	3/4HP	MOTOR 3/4HP - 208V/460V - 3PH	MOTOR322
		MOTOR 1HP - 208V/460V - 3PH	MOTOR323
		MOTOR 1/2HP - 575V - 3PH	MOTOR330
1PH	3/4HP	MOTOR 3/4HP - 575V - 3PH	MOTOR331
		MOTOR 1HP - 575V - 3PH	MOTOR332



No	Qty	DESCRIPTION	# MANARAS	REV
1	2	6-32 HEX NUT ZP	NUT002	
2	1	6-32 X 3/4 MACHINE SCREW	SCREW041	
3	2	8-32 X 3/8 MACHINE SCREW	SCREW049	
4	4	10-32 HEX NUT ZP	NUT005	
5	1	410 OR 41 B12 X K1/4 2S5/16-18 PH1/4 CR	SEE TABLE	1
6	1	#41-1R48P(INCL. IC/L)	CHAIN059	
7	1	#410-1R32P(INCL. IC/L)	CHAIN006	
8	1	#50 CONNECTING LINK 50-1	LINK011	
9	2	1/16 CABLE STOPPER	BUSHING024	0
10	8	1/4-20 HEX NUT ZP	NUT006	
11	5	1/4-20 HEX NYLON LOCK NUT ZP	NUT020	
12	1	1/4-20 X 1-1/4 RND HD SQ NECK BOLT	BOLT083	
13	4	1/4-20 X 3/4 HEX BOLT	BOLT002	
14	4	1/4-20 X 3/4 RND HD SQ NECK BOLT	BOLT108	
15	4	1/4-20 X 5/16 SET SCREW	SCREW001	
16	1	410B12 X 1 K1/4 2S5/16-18 PH1/4 CR	SPR410B12X1	1
17	1	410B9 X 5/8 K3/16 2S1/4-20 CR	SPR410B9X5/8	1
18	1	41B36 X 1 K1/4 2S5/16-18	SPR41B36X1	4
19	1	41B9 X 5/8 K3/16 2S1/4-20 CR	SPR41B9X5/8	4
20	4	5/16-18 HEX NUT ZP	NUT007	
21	4	5/16-18 X 3/4 RND HD SQ NECK BOLT	BOLT093	
22	12	5/16-18 X 5/16 SET SCREW	SCREW003	
23	4	5/8-24 HEX JAM NUT ZP	NUT015	
24	1	7X7 1/16" X 16"	CABLE012	
25	1	ADJUSTMENT BRAKE LEVER	LEVER064	3
26	1	BRAEK LEVER NEMA 4X, 4/12	LEVER084	
27	1	BRAKE BAND ASSEMBLY HEAVY DUTY	BRAKEPART019	
28	1	BRAKE DRUM	DRUM005	1
29	1	BRAKE LEVER PIVOT	BUSHING053	3
30	1	BRAKE PLATE N-4 NEW SYSTEM	PLATE075	7
31	1	BX CONNECTOR WATERTIGHT 90 DEG	ADAPTER007	
32	1	BX CONNECTOR WATERTIGHT 4950P	ADAPTER006	
33	1	CL_PAD 5/8x4x0.125"	CLUTCHPAD005	3
34	1	CLUTCH SPRING 5/8	SPRING009	
35	1	CLUTCHPLATE 5/8	CLUTCHPLATE004	3
36	2	COLLAR 1"	COLLAR007	
37	2	COLLAR 5/8"	COLLAR004	
38	2	FLANGE BEARING 1" C16-3F*5	BEARING007	
39	4	FLANGED BEARING 5/8	BEARING006	
40	1	FRAME OTH/OTBH	FRAME047	3
41	4	HELICAL SPRING LOCK WASH NO 10 ZP	WASHER025	
42	8	HELICAL SPRING LOCK WASHER 1/4 ZP	WASHER026	
43	4	HELICAL SPRING LOCK WASHER 5/16 ZP	WASHER028	
44	1	HELICAL SPRING LOCK WASHER NO 6 ZP	WASHER023	
45	1	KEY 1/4 X 1	KW021	5
46	1	KEY 3/16 X 2.50 (INCL. W/ MOTOR)	KEY	5
47	1	KEY 3/16 X 3/4	KW010	5
48	1	LIGHT DUTY FRAME SPACER	SHAFT100	7
49	1	LIMIT SHAFT 5/8-24 X12.5	SHAFT064	1
50	1	MOTOR	MOTOR	
51	1	MOTOR PULLEY 2.0 x 5/8 5L STL	PULLEY014	1
52	1	MTBH INPUT SHAFT 5/8-24X14-3/4	SHAFT080	
53	1	OTH/OTBH W/C/X PROOF CBOX SUPPORT	PLATE098	2
54	1	PASSE CABLE CBOX WATERPROOF HD	GUIDE013	
55	1	PIN SLOTTED SPRING 1/4 X 1.5	PIN010	
56	1	PIN SLOTTED SPRING 3/16 X 1.5	PIN007	
57	1	PULLEY 7" x 5/8" 5L/B	PULLEY020	5
58	1	TROLLEY ARM DISCONNECT SPRING	SPRING026	
59	1	TROLLEY WP/CP DRIVE SHAFT	SHAFT049	3
60	1	TYBE B, INSIDE LENGHT 30	VBELTB30	
61	4	TYPE A PLAIN WASHER 1/4 N ZP	WASHER004	
62	5	TYPE A PLAIN WASHER 3/16 ZP	WASHER003	
63	2	TYPE A PLAIN WASHER 5/8 N ZP	WASHER014	
64	8	TYPE A PLAIN WASHER NO 10 ZP	WASHER046	

PART DESCRIPTION
OPERA TROLLEY NEMA 4/12 / 4X

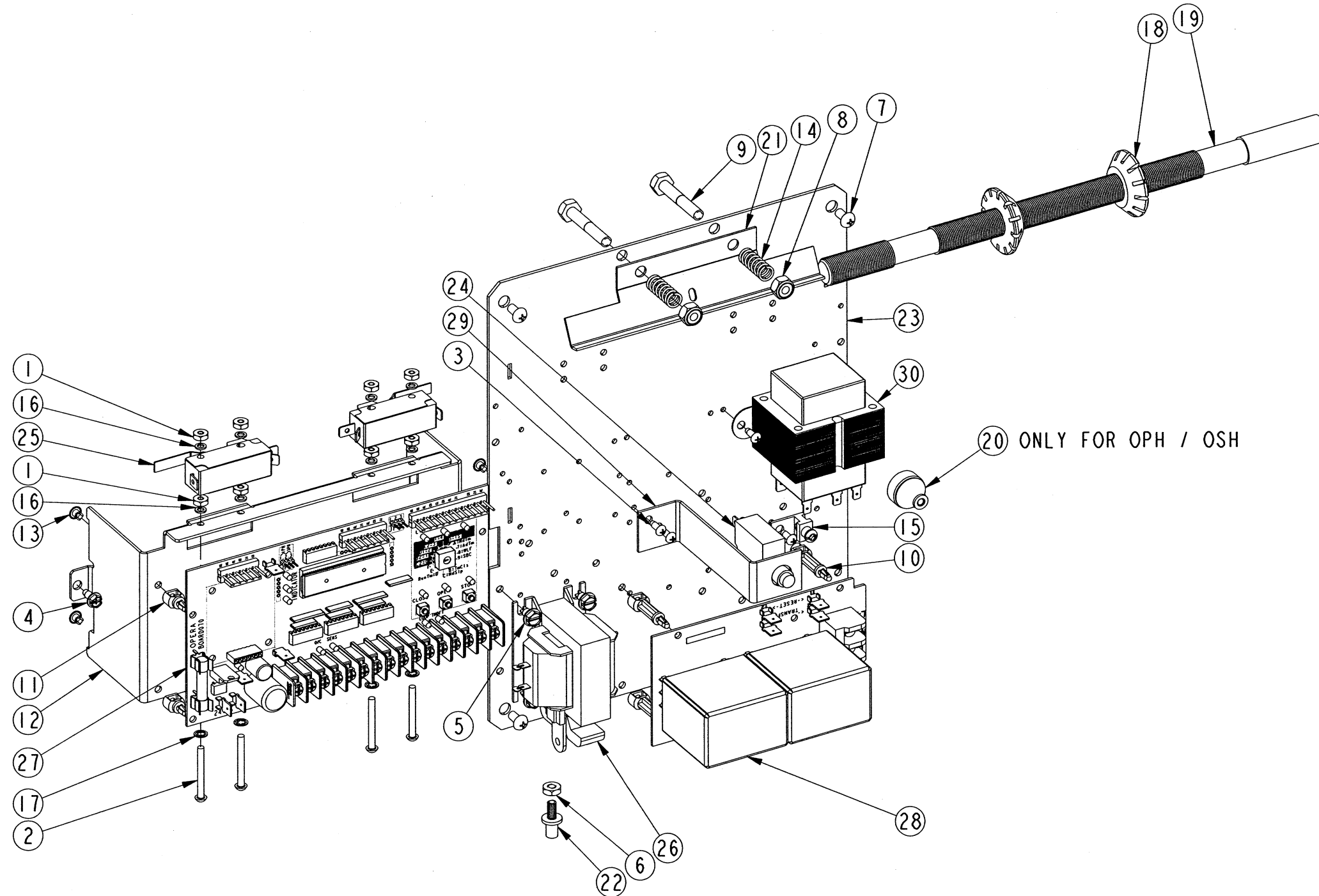
PART NUMBER OTHW/C - OTBHW/C	MANARAS-OPERA 136 ONEIDA DRIVE POINTE-CLAIRE, QC, H9R 1A8
DRAWN BY: J. PROULX	TEL: 1-800-361-2260
DATE: 2010-09-01	FAX: 1-888-626-0606
UPDATED BY: J. PROULX	
DATE: 2011-08-02	

Manaras
Opera

SHEET: 1 of 1

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No	Qty	DESCRIPTION	# MANARAS	REV
1	8	6-32 HEX NUT ZP	NUT002	
2	4	6-32 X 1.25 MACHINE SCREW	SCREW109	
3	5	6-32 X 3/8 TYPE F S-TAP. SCREW	SCREW094	
4	2	8-32 X 3/8 TYPE F S-TAP. SCREW	SCREW021	
5	4	10-24 X 3/8 TYPE T S-TAP. SCREW	SCREW022	
6	1	10-32 HEX NUT ZP	NUT005	
7	4	10-32 X 3/8 MACHINE SCREW	SCREW053	
8	2	1/4-20 HEX NYLON LOCK NUT ZP	NUT020	
9	2	1/4-20 X 1-1/2 HEX BOLT	BOLT008	
10	4	BOARD SUPPORT 1 IN.	SUPPORT008	
11	6	BOARD SUPPORT 3/8 IN.	SUPPORT011	
12	1	BOARD SUPPORT PLATE FOR W/C PROOF	BRACKET235	1
13	8	BOARD SUPPORT RIVET	SUPPORT002	
14	2	CAM GUIDE PLATE SPRING C260047	SPRING001	
15	1	GROUND LUG TA61G-UL	CONNECTOR039	
16	8	HELICAL SPRING LOCK WASHER NO 6 ZP	WASHER023	
17	4	INTERNAL TOOTH LOCKWASHER NO6 ZP	WASHER062	
18	2	LIMIT CAM 5/8-24UNEF	CAM004	
19	1	LIMIT SHAFT 5/8-24 X12.5	SHAFT064	1
20	1	LIQUID TIGHT BUSHING	BUSHING062	
21	1	MTH/MTBH CAMPLATE N-1	CAMPLATE012	4
22	1	PASSE CABLE CBOX WATERPROOF HD	GUIDE013	
23	1	PLATE IN CBOX WP/CP	PLATE079	10
24	1	RESET	SEE MOTOR TABLE	
25	2	SINGLE LIMIT SWITCH - LEVER 46 DEG	LIMIT023	4
26	1	SOLENOID	SEE TABLE	
27	1	STD ELECT. CONTR. BOARD	BOARD070	
28	1	STD ELECT. POWER BOARD 2 RELAYS	BOARD066	
29	1	TOGGLE SWITCH AND RESET SUPPORT BRACKET	BRACKET097	2
30	1	TRANSFO TO 24V	SEE TABLE	



ONLY FOR OSH / OTBH
USE BRACKET184 FOR OTBH

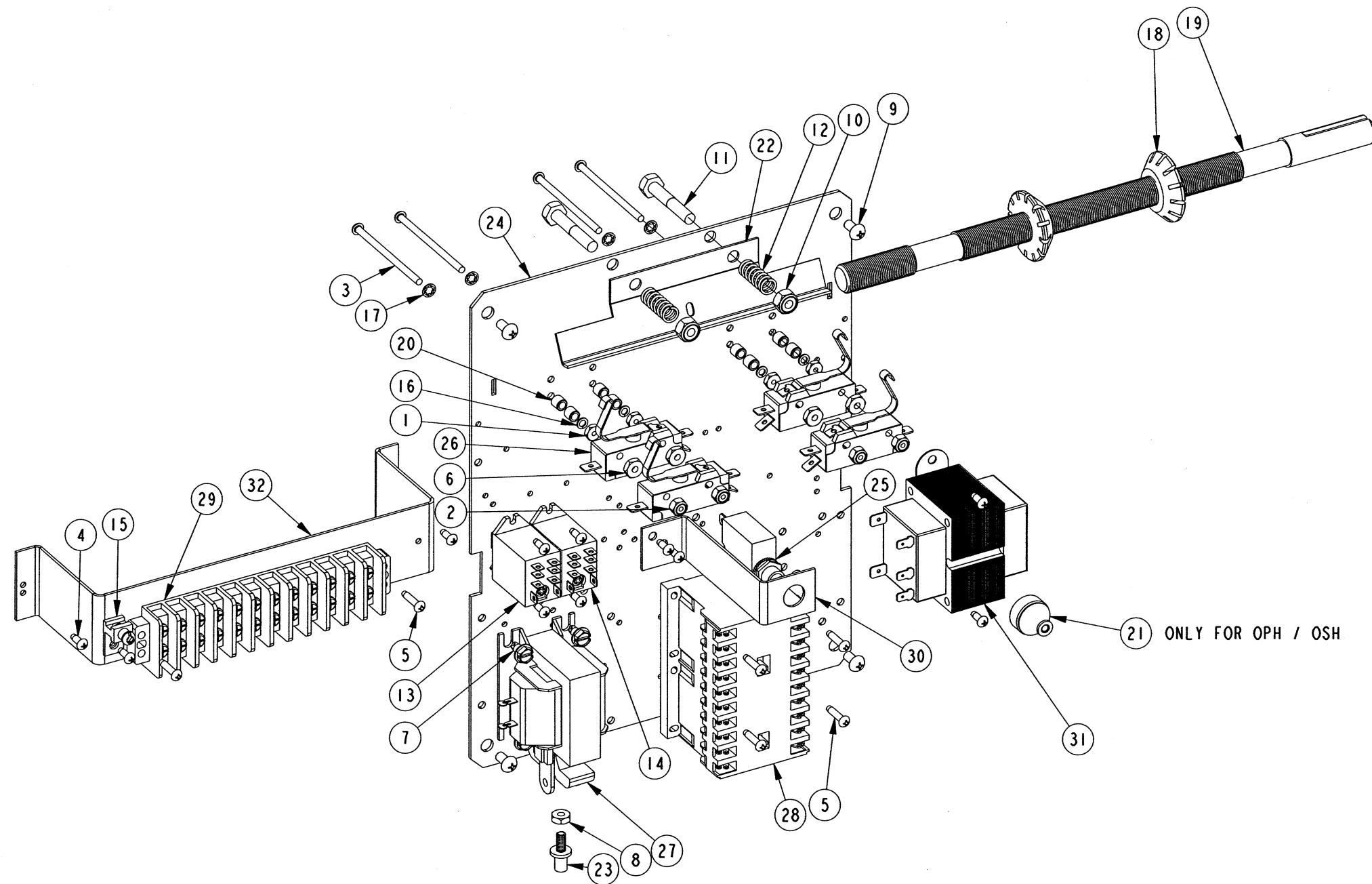
PART DESCRIPTION	
PANEL078 ECB OPERA	
PART NUMBER	MANARAS-OPERA
PANEL078-ECB-O	136 ONEIDA DRIVE
DRAWN BY: J. PROULX	POINTE-CLAIRE, QC, H9R 1A8
DATE: 2011-08-01	TEL: 1-800-361-2260
UPDATED BY: —	FAX: 1-888-626-0606
DATE: —	



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No	Qty	DESCRIPTION	# MANARAS	REV
1	4	6-32 HEX NUT ZP	NUT002	
2	4	6-32 HEX NYLON LOCK NUT ZP	NUT018	
3	4	6-32 X 2-1/2 MACHINE SCREW	SCREW046	
4	11	6-32 X 3/8 TYPE F S-TAP. SCREW	SCREW094	
5	6	6-32 X 5/8 TYPE F S-TAP. SCREW	SCREW095	
6	4	10-24 HEX NUT ZP	NUT004	
7	4	10-24 X 3/8 TYPE T S-TAP. SCREW	SCREW022	
8	1	10-32 HEX NUT ZP	NUT005	
9	4	10-32 X 3/8 MACHINE SCREW	SCREW053	
10	2	1/4-20 HEX NYLON LOCK NUT ZP	NUT020	
11	2	1/4-20 X 1-1/2 HEX BOLT	BOLT008	
12	2	CAM GUIDE PLATE SPRING C260047	SPRING001	
13	1	DPDT 24V RELAY	RELAY024	
14	1	DPDT RELAY	SEE TABLE	
15	1	GROUND LUG TA61G-UL	CONNECTOR039	
16	4	HELICAL SPRING LOCK WASHER NO 6 ZP	WASHER023	
17	4	INTERNAL TOOTH LOCKWASHER NO6 ZP	WASHER062	
18	2	LIMIT CAM 5/8-24UNEF	CAM004	
19	1	LIMIT SHAFT 5/8-24 X12.5	SHAFT064	1
20	8	LIMIT SWITCH SPACER 1/4 X 1/4 ALU.	SPACER017	
21	1	LIQUID TIGHT BUSHING	BUSHING062	
22	1	MTH/MTBH CAMPLATE N-1	CAMPLATE012	4
23	1	PASSE CABLE CBOX WATERPROOF HD	GUIDE013	
24	1	PLATE IN CBOX WP/CP	PLATE079	10
25	1	RESET	SEE MOTOR TABLE	
26	4	SNAP-ACT. SPDT-LEVER "S"	LIMIT025A	0
27	1	SOLENOID	SEE TABLE	
28	1	TELEM. REVERS. CONT. 24V	CONTACTORXXX	
29	1	TERMINAL STRIP 12 POSITIONS	TSTRIP001	
30	1	TOGGLE SWITCH AND RESET SUPPORT BRACKET	BRACKET097	2
31	1	TRANSFO TO 24V	SEE TABLE	
32	1	WATERPROOF CBOX TSTRIP SUPPORT	BRACKET178	2



ONLY FOR OSH / OTBH
USE BRACKET184 FOR OTBH

PART DESCRIPTION	
PANEL078 HW OPERA	
PART NUMBER PANEL078-HW-O	MANARAS-OPERA 136 ONEIDA DRIVE POINTE-CLAIRE, QC, H9R 1A8 TEL: 1-800-361-2260 FAX: 1-888-626-0606
DRAWN BY: J. PROULX	
DATE: 2011-08-01	
UPDATED BY: — DATE: —	

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