



PM-285160B

2021-04

Processes



TIG (GTAW) Welding



Stick (SMAW) Welding

Description



208-240/480V

380-400 CE Units

Arc Welding Power Source

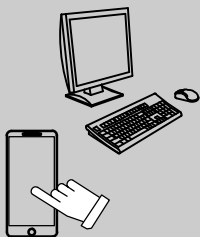
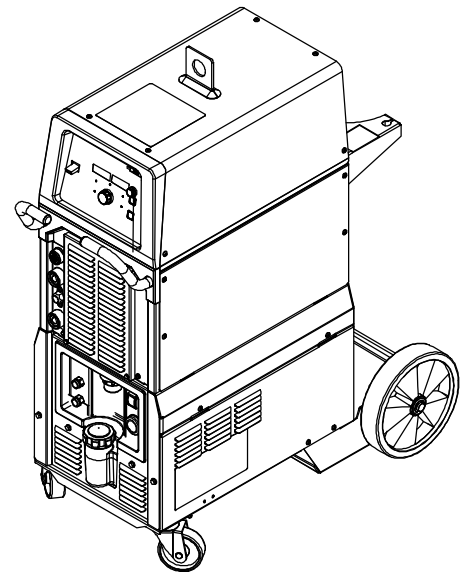
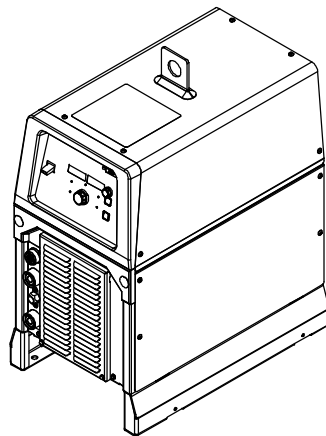
Syncrowave[®] 400

Non-CE Eff w/NA250382L And Following

For OM-285160 Revision A And Following

CE Eff w/NB040198L And Following

For OM-289397 Revision A And Following



For product information,
Owner's Manual translations,
and more, visit

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PARTS MANUAL

SECTION 1 – SYNCROWAVE PARTS LIST FOR SERIAL NO. NA250382L AND FOLLOWING

☞ Hardware is common and not available unless listed.

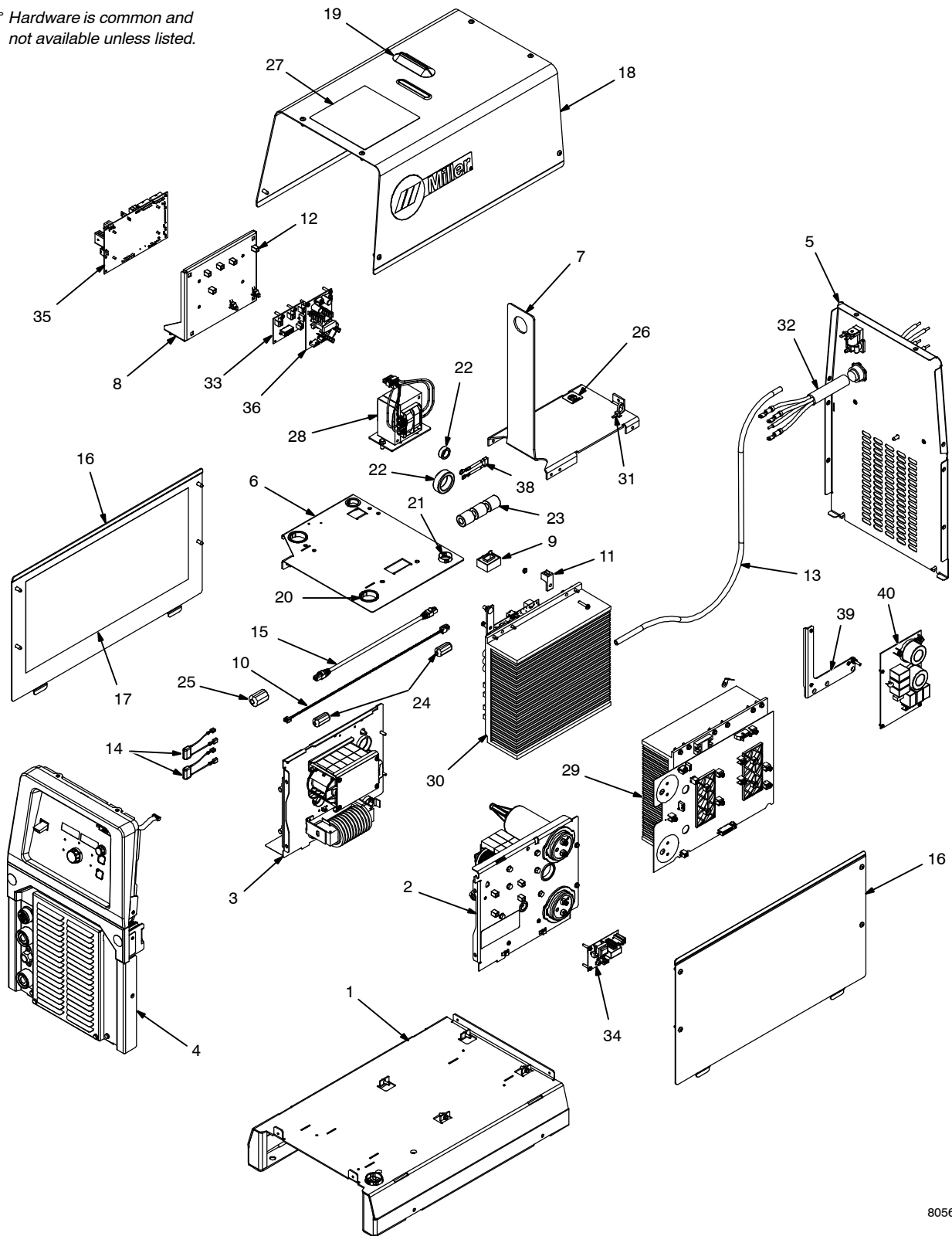


Figure 1-1. Main Assembly


805632-B

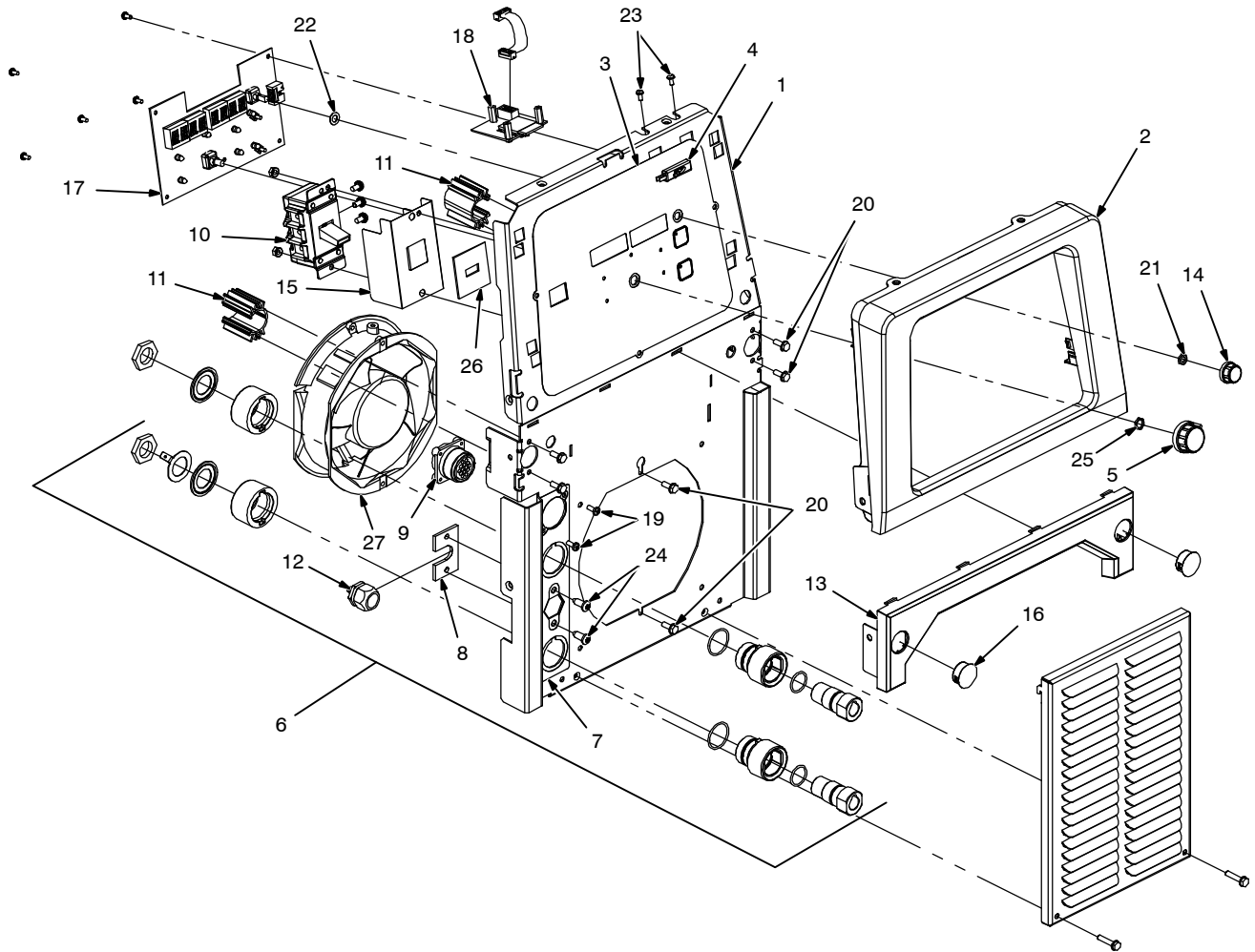
Eff w/ Serial No. NA250382L And Following

Item No.	Dia.	Mkgs.	Part No.	Description	Quantity
			907783	Figure 1-1. Main Assembly	
1			284147	Base	1
2	Fig. 15-4			Windtunnel, Rh w/Cmpnts	1
3	Fig. 15-6			Windtunnel, Lh w/Cmpnts	1
4	Fig. 15-2			Panel, Front w/Cmpnts	1
			224521	Connection Kit, Dinse	1
5	Fig. 15-3			Panel, Rear w/Cmpnts	1
6			287570	Panel, Top Windtunnel	1
7			285148	Lift Eye	1
8			287571	Bracket, Mtg Circuit Card Assy	1
9	HD1		279328	Transducer, Current 400A Module Supply V +/- 15V	1
10			275299	Cable Assy, Hall Effect w/Plugs 19.000 In	1
11			213248	Lug, Univ w/Screw 2/0-14 Wire .266 Std	1
12			083147	Grommet, Scr No 8/10 Panel Hole .312 Sq .500 High	5
13			284789	Hose, Polyurethane Black .208 Id x .406 Od x 32 In	1
14	C22,C24		221707	Capacitor Assy (Not CE)	2
15			275127	Cable, Ethernet Cat5e Utp Rj45 12.00 In Lg (Blk)	1
16			284150	Panel, Side	2
17			224516	Insulator, Side	2
18			+213056	Wrapper, Top	1
19			213073	Seal, Lift Eye	1
20			170647	Bushing, Snap-In Nyl 1.312 Id x 1.500 Mtg Hole	2
21			224516	Bushing, Snap-In Nyl .937 Id x 1.125 Mtg Hole	2
22	L42		241026	Core, Toroidal 1.332 Id x 1.932 Od x .625 Thk	1
22	L42		288905	Core, Toroid Nano 26.90MM Id 48.40MM Od 18.20MM T (CE)	1
23	L43-45		276356	Core, Ferrite 25.90 mm Od x 12.80 mm Id x 28.60 mm Lg (Not CE)	3
24	L31-32		249747	Core, Ferrite Round Cable .201 Id Clamp-On Emi Supp	2
25	L33, L34		265451	Core, Ferrite Round Cable .400 Id Clamp-On Emi Supp	2
26			155436	Label, Ground/Protective Earth	1
27			280528	Label, Warning General Precautionary (En/Fr/Sp)	1
27			179310	Label, General Precautionary (CE)	1
28	T3		284498	XFMR, Auto-Xfmr Auto 480V/240V 650VA	1
28	T3		288572	XFMR, Auto-Xfmr Auto 400V/240V 650VA (CE)	1
29	Fig. 15-5			Heatsink, Primary Assy	1
30	Fig. 15-7			Heatsink, Secondary Assy	1
31			235496	Cable Tie, 0.06-2.000 Bundle Dia Tree Style Push Mount Mtg Hole Dia .246-.276	1
32			216880	Cable, Power 10 Ft 8Ga 4C	1
32			278248	Cable, Power 11 Ft 6 In 12GA 4C (CE)	1
33	PC8		282814	Circuit Card Assy, Link Cooler Mtr	1
34	PC4		247046	Circuit Card Assy, HF	1
			131204	Housing Rcpt+Skts, (Service Kit)	1
35	PC2		283403	Circuit Card Assy, Process Control	1
	PLG1		115093	Housing Rcpt+Skts, (Service Kit)	1
	PLG40		115094	Housing Rcpt+Skts, (Service Kit)	1
	PLG60		131055	Housing Rcpt+Skts, (Service Kit)	1
	PLG80		131204	Housing Rcpt+Skts, (Service Kit)	1
	PLG100		131056	Housing Rcpt+Skts, (Service Kit)	1
	PLG140		131056	Housing Rcpt+Skts, (Service Kit)	1
36	PC7		266586	Circuit Card Assy, Flyback 60W 940V In	1
	PLG150		130203	Housing Rcpt+Skts, (Service Kit)	1
	PLG222		130204	Housing Rcpt+Skts, (Service Kit)	1
	PLG4		158719	Housing Rcpt+Skts, (Service Kit)	1
	PLG7		131052	Housing Rcpt+Skts, (Service Kit)	1
	PLG10		131054	Housing Rcpt+Skts, (Service Kit)	1
	PLG11		115093	Housing Rcpt+Skts, (Service Kit)	1
37			231208	Connector, Faston 1/4 Ring w/75 Deg Bend .265 Id	1
38	C23		233133	Capacitor Assy	1
39			277569	Bracket, Filter Board (CE)	1
40	PC10		279206	Circuit Card Assy, Input Filter (CE)	1

+When ordering a component originally displaying a precautionary label, the label should also be ordered.

To maintain the factory original performance of your equipment, use only Manufacturer's Suggested Replacement Parts. Model and serial number required when ordering parts from your local distributor.

 Hardware is common and not available unless listed.



285143-A

Figure 1-2. Panel, Front w/Components

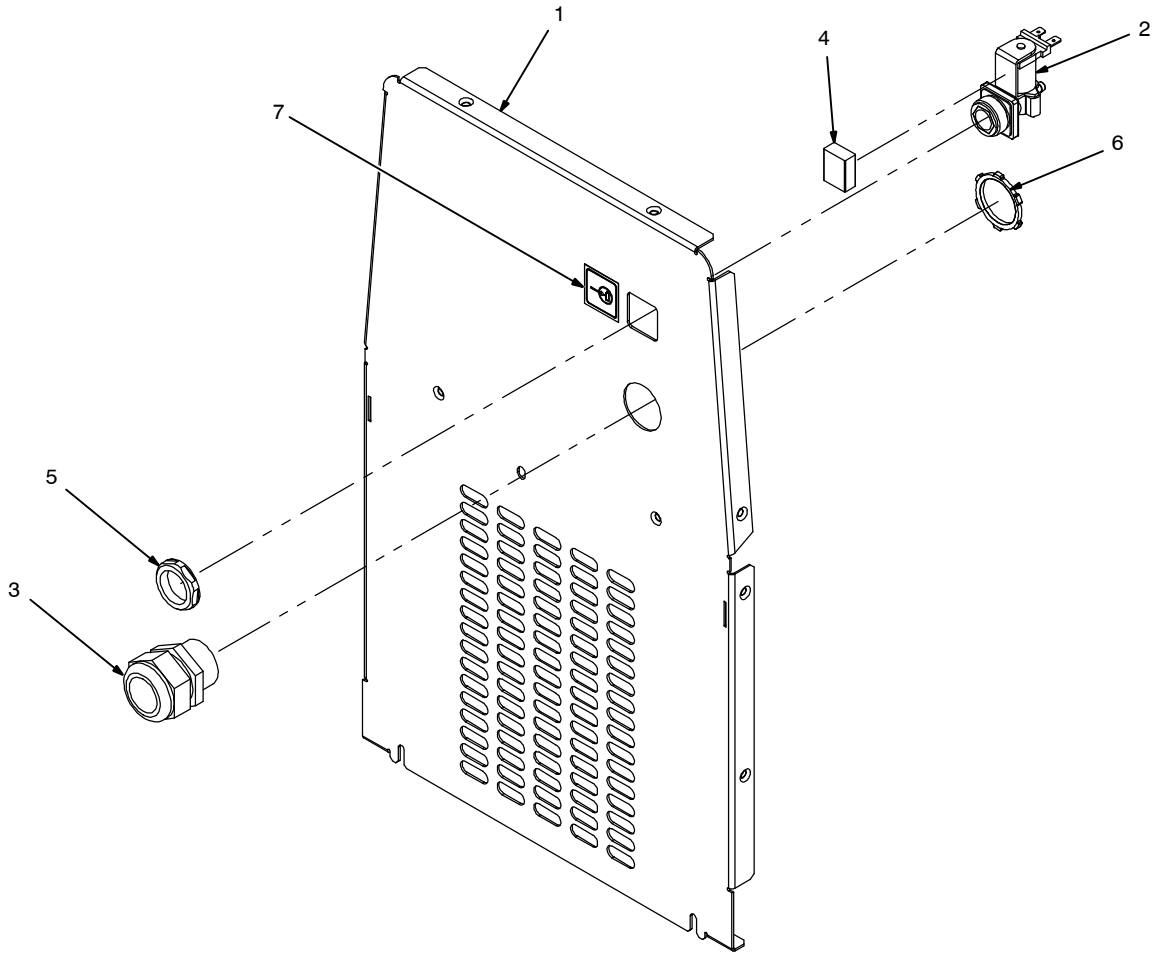
Eff w/ Serial No. NA250382L And Following

Item No.	Dia. Mkgs.	Part No.	Description	Quantity
285143 Figure 1-2. Panel, Front w/Components				
.. 1		285144	.. Panel, Front	1
.. 2		213051	.. Panel, Front Top	1
.. 3		285145	.. Nameplate, Miller	1
.. 4		254052	.. Cover, SD Card	1
.. 5		228546	.. Knob, Pointer 1.250 Dia x 6mm Id w/Spring Clip	1
.. 6		279661	.. Rcpt Assy, Tw Lk Insul Fem (Dinse Type) (Includes)	1
		250043	.. Receptacle, Twist Lock Dinse .890 Od	2
		274934	.. Insulator, Bulkhead Front	2
		274935	.. Insulator, Bulkhead Rear	2
		185718	.. O-Ring, 0.989 Id x 0.070 H	2
		186228	.. O-Ring, 0.989 Id x 0.070 H	2
		178548	.. Terminal, Connector Friction	1
		185717	.. Nut, M20-1.5 1.00Hex .19H Brs Locking	2
		229338	.. Washer, Domed Load .812 Id x 1.450 Od x .070 Thk	2
.. 7		284504	.. Plate, Indicator Front	1
.. 8		230155	.. Bracket, Valve Mtg	1
.. 9		275258	.. Lead Assy, Process Control to 14 Pin (Includes)	1
	PLG100	131058	.. Housing Plug + Skts	1
	RC1	143976	.. Rcpt w/Skts	1
.. 10	S1	244920	.. Switch, Tgl 3Pst 40A 600Vac Scr Term Wide Tgl	1
.. 11		284541	.. Socket, Handle	2
.. 12		231279	.. Fitting, Gas-Clip Mount	1
.. 13		284054	.. Bezel, Handle	1
.. 14		230052	.. Knob, .840 Dia. x 6mm Id w/Spring Clip-4.5	1
.. 15		271718	.. Insulator, Switch	1
.. 16		000527	.. Blank, Snap-in Nyl .875 Mtg Hole Black	1
.. 17	PC3	286234	.. Kit, Circuit Card Assy, User Interface	1
.. 18	PC9	274828	.. Kit, Circuit Card Assy, SD Card Interface	1
.. 19		242579	.. Screw, K40x 10 Pan HD-Phl Stl Pdl Pt Thread Forming	2
.. 20		128237	.. Screw, 010-32x .50 Hexwhd .40D Stl Pld Slffmg Tap-Rw	6
.. 21		185717	.. Nut, M07-.75 10mm Hex 2mm H Stl Pld	1
.. 22		254153	.. Washer, Flat .281 Id x 0.500 Od x .031T Stl Pld	1
.. 23		226639	.. Screw, 006-32 x .31 Pan Hd-Phl Zc Pld Sems Ext T	7
.. 24		227147	.. Screw, 250-20 x .62 Pan Hd-Torx Stl Pld Blk Tap-R	2
.. 25		253773	.. Nut, M09 x 0.75 11mm Hex 2mm H Stl Pld	1
.. 26		286299	.. Gasket, Switch	1
.. 27		225166	.. Fan, Muffin 24Vdc 4000 Rpm 310 Cfm 6.378 Mtg Holes	1

+When ordering a component originally displaying a precautionary label, the label should also be ordered.

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
285146-A

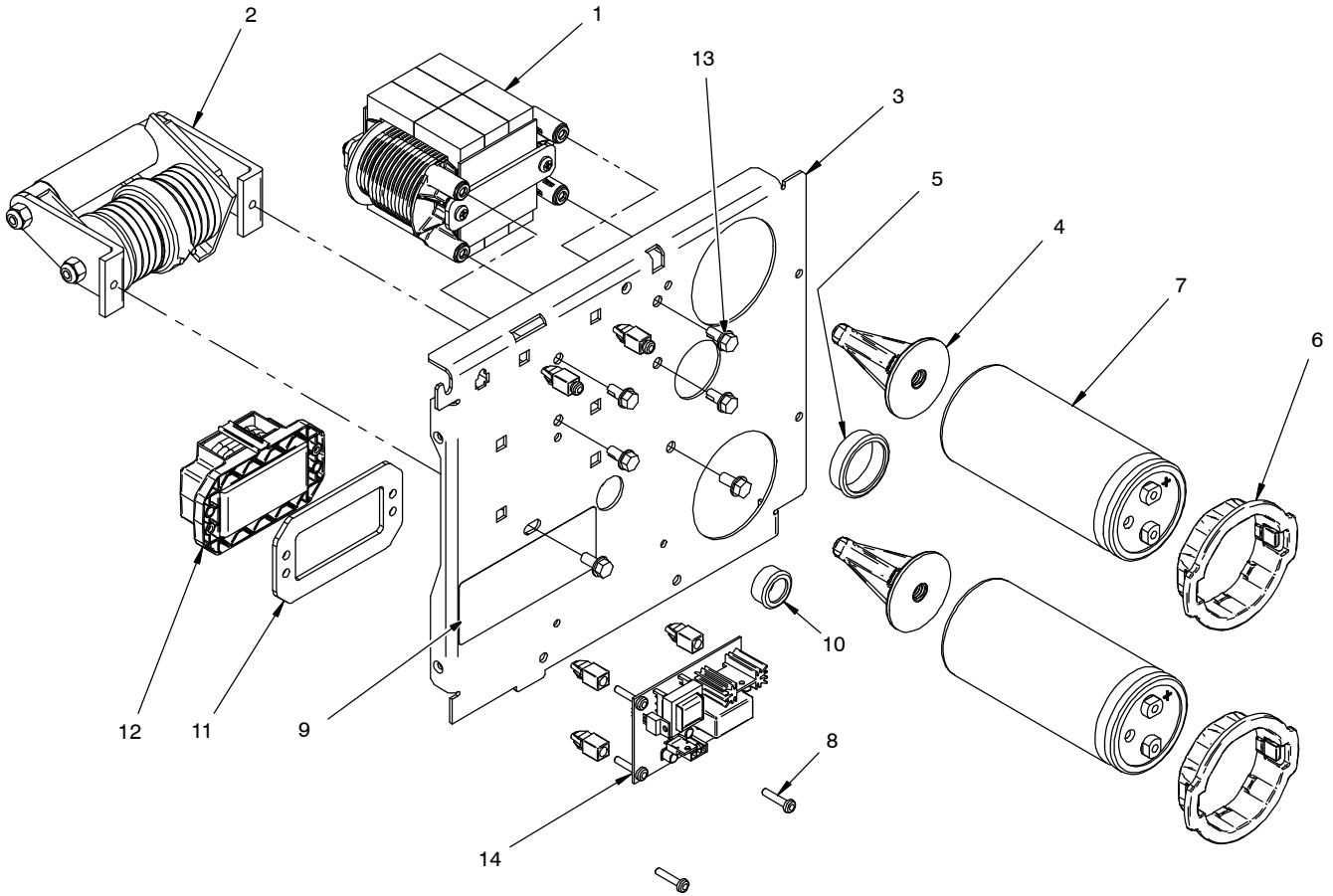
Figure 1-3. Panel, Rear w/Components

Item No.	Dia. Mkgs.	Part No.	Description	Quantity
285146 Figure 1-3. Panel, Rear w/Components				
.. 1		+285147	.. Panel, Rear (Order by Model and Serial Number)	1
.. 2	GS1	238805	.. Valve, 24Vdc 2Way 125 Psi Custom Port .054 Orf w/	1
.. 3		215980	.. Bushing, Strain Relief .490/.785 Id x 1.326 Mtg Hole	1
.. 3		255469	.. Bushing, Strain Relief .490/.785 Id x 1.326 Mtg Hole (CE)	1
.. 4		278019	.. Gasket, Emi 10mm x 20mm x 25.4mm	1
.. 5		137761	.. Nut, 750 Npt 1.31Hex .27H Nyl Blk	1
.. 6		182445	.. Nut, Conduit 1.000 Npt Pld 1.688 Od x .200 Thk	1
.. 7		242834	.. Label, Gas In (CE)	1

+When ordering a component originally displaying a precautionary label, the label should also be ordered.

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 Hardware is common and not available unless listed.



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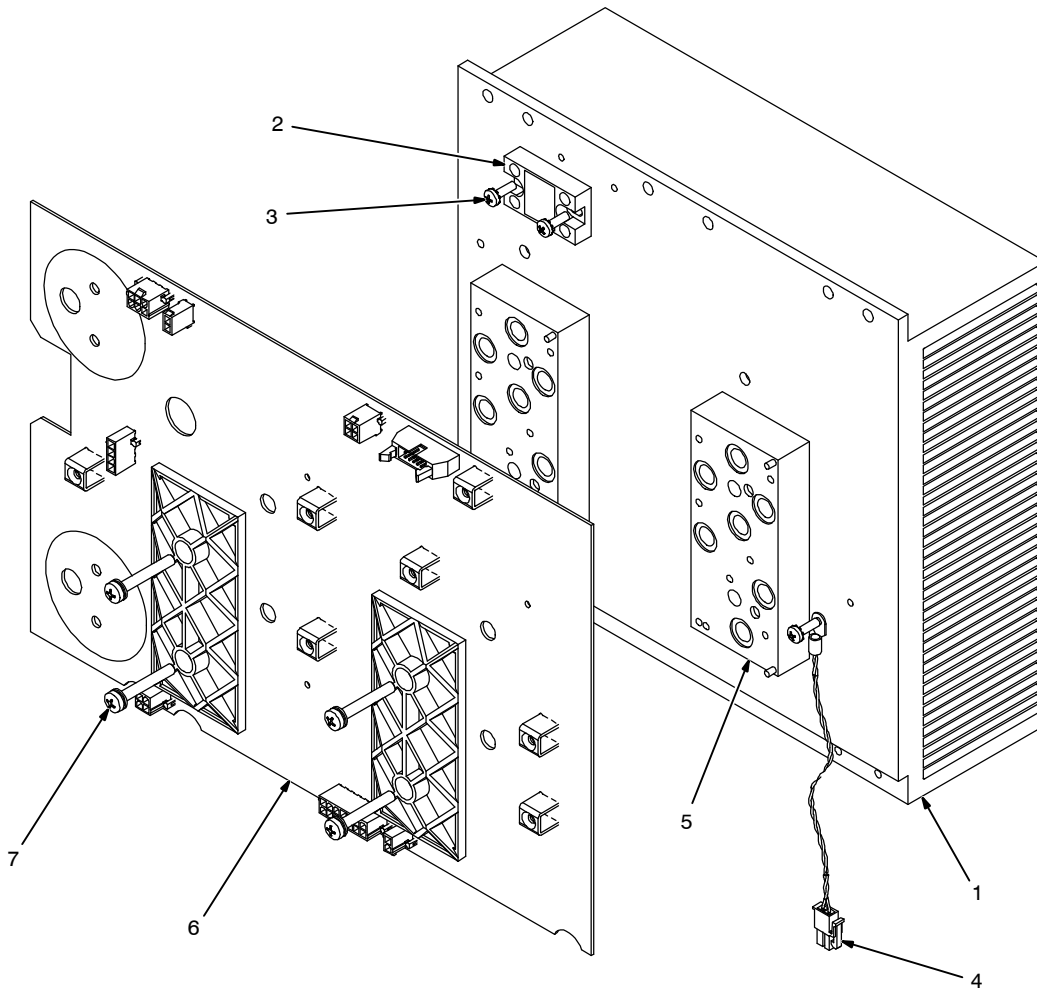
Figure 1-4. Wind Tunnel, Right Hand w/Components

Item No.	Dia. Mkgs.	Part No.	Description	Quantity
285634 Figure 1-4. Wind Tunnel, Right Hand w/Components				
.. 1	.. L11	.. 276208	.. Inductor, Input	.. 1
.. 2	.. T2	.. 242782	.. XFMR, HF Coupling	.. 1
.. 3		+274959	.. Panel, Right Windtunnel	.. 1
.. 4		.. 216861	.. Stand-Off, Capacitor	.. 2
.. 5		.. 170647	.. Bushing, Snap-in Nyl 1.312 Id x 1.500 Mtg Hole	.. 1
.. 6		.. 216860	.. Grommet, Capacitor	.. 2
.. 7	.. C4,C20	.. 277614	.. Capacitor, Elctlt 1800 Uf 500 VDC Can 2.52 Dia	.. 2
.. 8		.. 207418	.. Screw, K40 x 20 Pan Hd-Phi Stl Pld Pt Thread Forming	.. 2
.. 9		.. 218004	.. Label, Warning Electric Shock/Exploding Parts	.. 1
.. 10		.. 010493	.. Bushing, Snap-in Nyl .625 Id x .875 Mtg Hole	.. 1
.. 11		.. 218566	.. Gasket, Inductor Mounting	.. 1
.. 12	.. L12	.. 213348	.. Coil, Inductor (Pre-Regulator)	.. 1
.. 13		.. 233913	.. Screw, 250-14 x .50 Hexwhd T-25 T/C SC ZC	.. 6
.. 14	.. PC4	.. 247046	.. Circuit Card, HF	.. 1

+When ordering a component originally displaying a precautionary label, the label should also be ordered.

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
805585-A

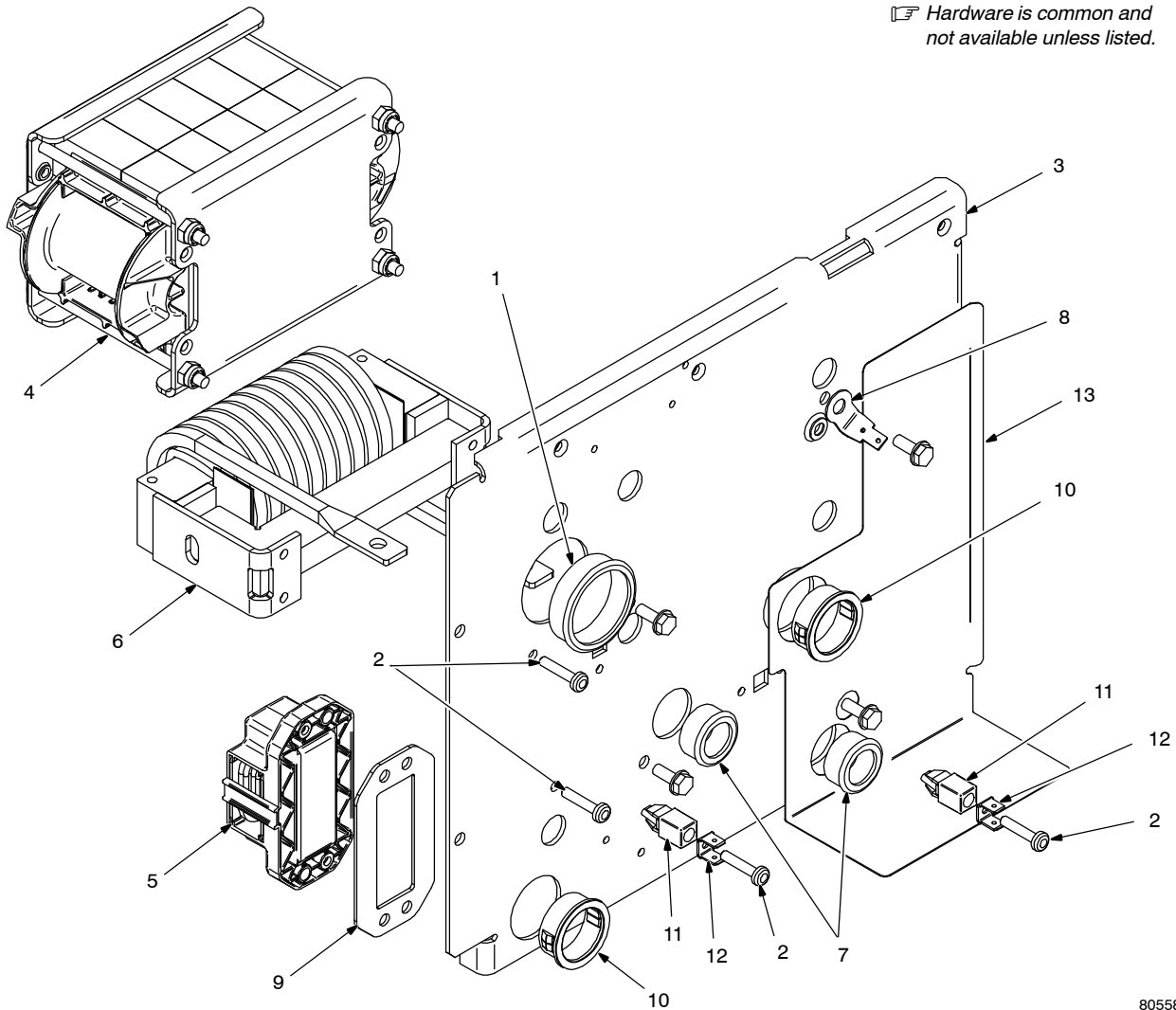
Figure 1-5. Heatsink, Primary Assembly

Item No.	Dia. Mkgs.	Part No.	Description	Quantity
274988 Figure 1-5. Heatsink, Primary Assembly				
1		213346	Heatsink, Power Module	1
2	RM1	205751	Module, Power Resistor w/Plug	1
3		207451	Screw, 008-32 x .50 Pan Hd-Phl Stl Pld Sems	3
4	RT11	213353	Thermistor, Ntc 30K Ohm @ 25 Deg C 8in. Lead	1
5	MOD1,2	261556	Kit, Input/Pre-Regulator And Inverter Module	1
6	PC1	287963	Kit, Circuit Card Assy, Power Interconnect	1
	PLG101	131054	Housing Rcpt+Skts, (Service Kit)	1
	PLG2	201665	Housing Rcpt+Skts, (Service Kit)	1
	PLG400	115093	Housing Rcpt+Skts, (Service Kit)	1
	PLG6	131056	Housing Rcpt+Skts, (Service Kit)	1
	PLG71	115094	Housing Rcpt+Skts, (Service Kit)	1
	PLG8	279432	Housing Rcpt+Skts, (Service Kit)	1
7		229334	Screw, M5-.8 x 35 Pan Hd-Phl Stl Pld Sems	4

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To maintain the factory original performance of your equipment, use only Manufacturer's Suggested Replacement Parts. Model and serial number required when ordering parts from your local distributor.

 Hardware is common and not available unless listed.




805586-B

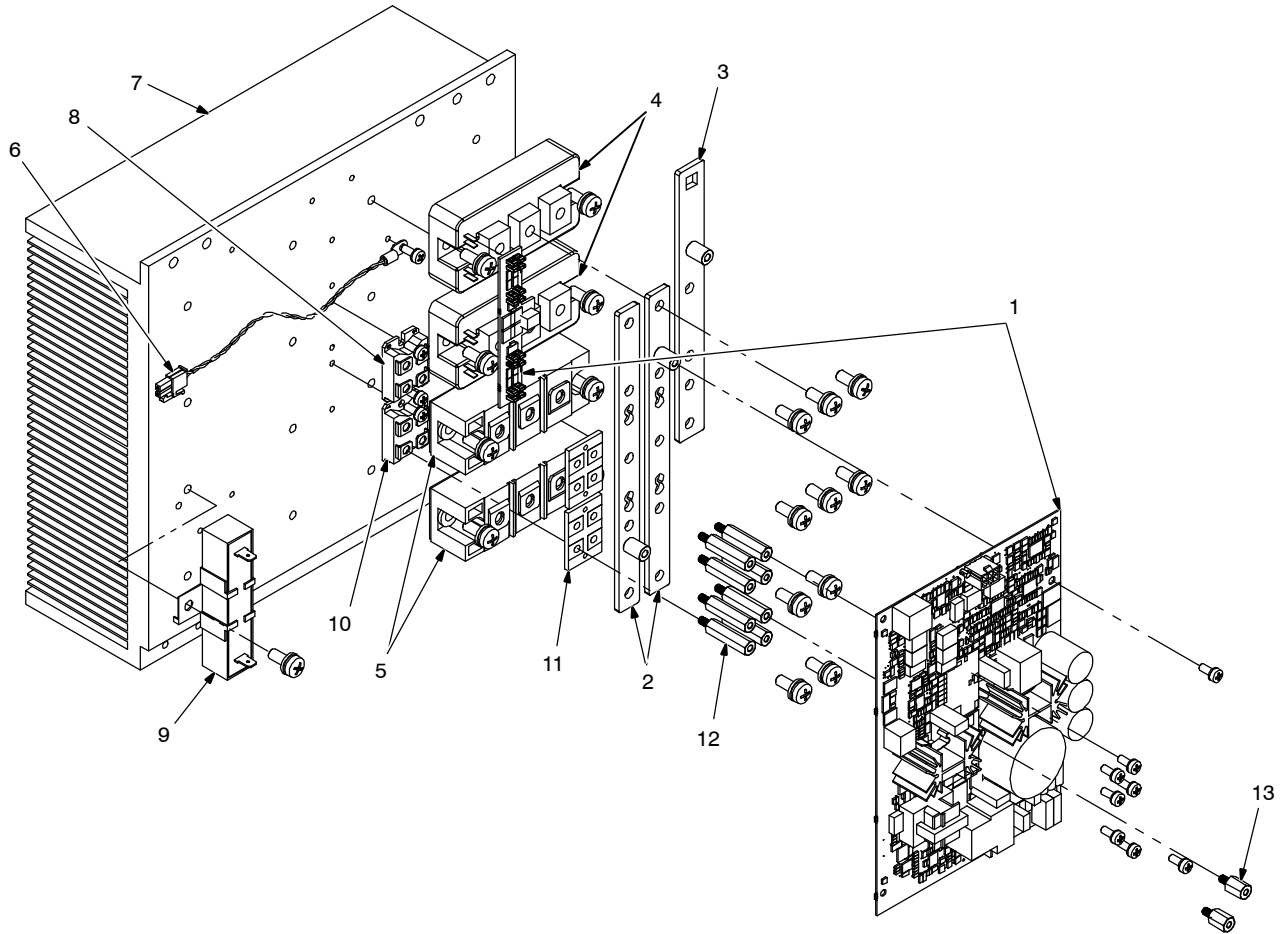
Figure 1-6. Wind Tunnel, Left Hand w/Components

Item No.	Dia. Mkgs.	Part No.	Description	Quantity
274756 Figure 1-6. Wind Tunnel, Left Hand w/Components				
.. 1		170647 ..	Bushing, Snap-in Nyl 1.312 Id x 1.500 Mtg Hole	1
.. 2		207418 ..	Screw, K40 x 20 Pan Hd-Phl Stl Pld Pt Thread Forming	2
.. 3		274960 ..	Panel, Left Windtunnel	1
.. 4	T1	274757 ..	XFMR, Hf Litz/Litz w/Boost	1
.. 5	L22	275390 ..	Coil, Inductor (Boost)	1
.. 6	L21	213356 ..	Output Inductor Assy	1
.. 7		010493 ..	Bushing, Snap-in Nyl .625 Id x .875 Mtg Hole	2
.. 8		231208 ..	Connector, Faston 1/4 Ring w/75 Deg Bend .265 Id	1
.. 9		227746 ..	Gasket, Inductor Mounting E55 Ferrite Core	1
.. 10		057357 ..	Bushing, Snap-in Nyl .937 Id x 1.125 Mtg Hole	2
.. 11		083147 ..	Grommet, Scr No 8/10 Panel Hole .312 Sq .500 High	2
.. 12		600760 ..	Term, Frict 250 x 032 Uninsul Male .130 Stud Mtg 1pr	2
.. 13		287694 ..	Insulator, Electrode	1

+When ordering a component originally displaying a precautionary label, the label should also be ordered.

To maintain the factory original performance of your equipment, use only Manufacturer's Suggested Replacement Parts. Model and serial number required when ordering parts from your local distributor.

 Hardware is common and not available unless listed.



285141-A


Figure 1-7. Heatsink, Secondary

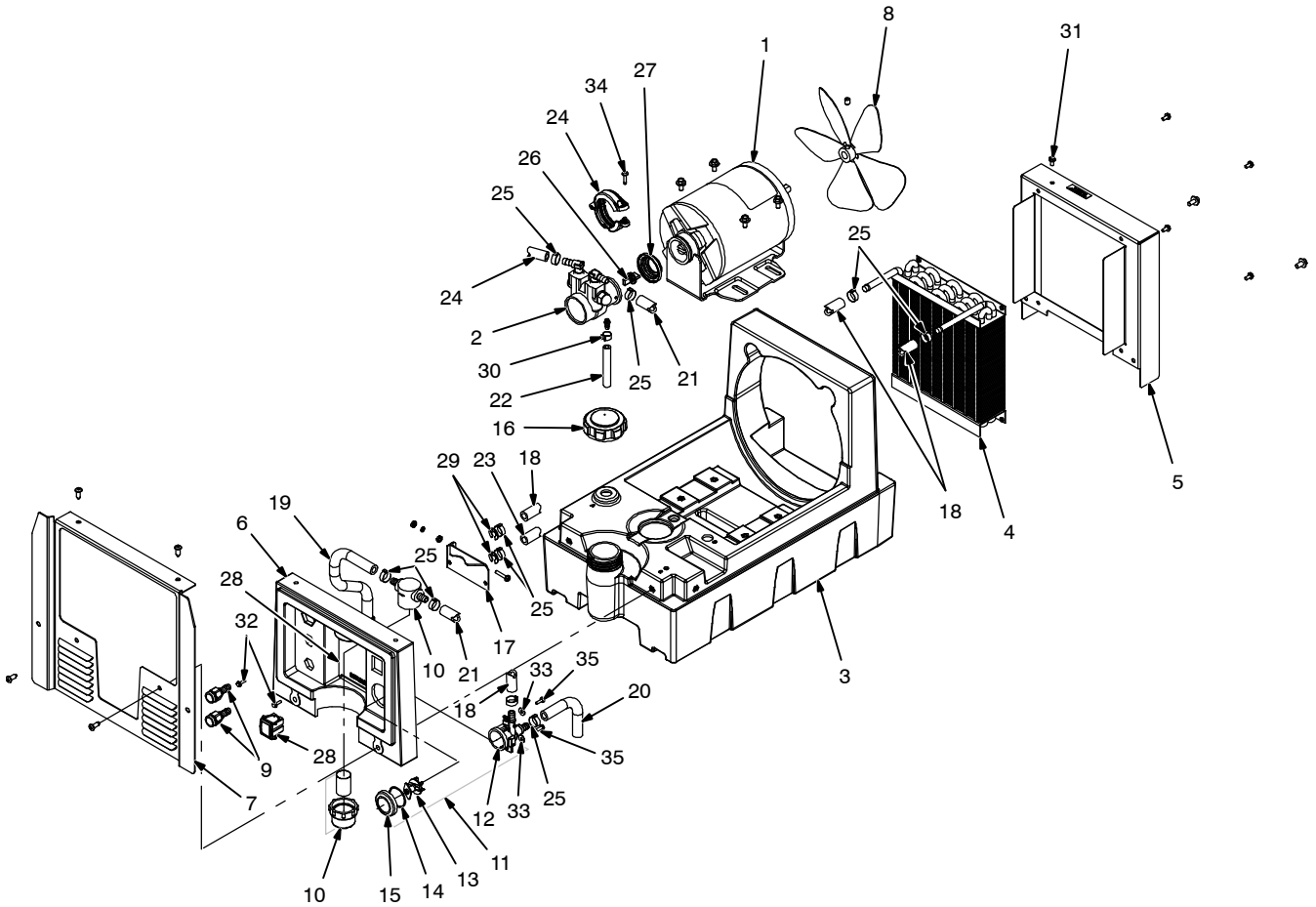
Item No.	Dia. Mkgs.	Part No.	Description	Quantity
285141 Figure 1-7. Heatsink, Secondary				
.. 1	PC5	281145	.. Circuit Card Assy, Secondary	1
..	RC331	131054	.. Housing Rcpt+Skts, (Service Kit)	1
.. 2		284152	.. Bus Bar, Output	2
.. 3		284153	.. Bus Bar, Positive	1
.. 4	PM21, PM22	283390	.. Kit, IGBT	2
.. 5	D21,D22	287896	.. Kit, Ultra Fast Diode	2
.. 6	RT21	213353	.. Thermistor, Ntc 30k Ohm @ 25 Deg C 8in. Lead	1
.. 7		274755	.. Heatsink, Secondary	1
.. 8	D23	201530	.. Kit, Diode Fast Recovery Bridge	1
.. 9	R21	275003	.. Resistor, WW Fxd 50 W 10 Ohm 5% w/Ter	1
.. 10	PM25	259420	.. Kit, IGBT	1
.. 11		280831	.. Spacer, PWB	2
.. 12		274924	.. Stand-Off, M4 x 0.7 x 30mm	8
.. 13		276732	.. Stand-Off, M4 x 0.7 x 12mm	1

+When ordering a component originally displaying a precautionary label, the label should also be ordered.

To maintain the factory original performance of your equipment, use only Manufacturer's Suggested Replacement Parts. Model and serial number required when ordering parts from your local distributor.

SECTION 2 – COOLER PARTS LIST FOR SERIAL NO. NA250396L AND FOLLOWING

 Hardware is common and not available unless listed.



284536-A

Figure 2-1. Main Assembly

Item No.	Dia. Mkgs.	Part No.	Description	Quantity
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Figure 2-1. Main Assembly

.. 1		285062 ..	Motor, 1/4 Hp 230 Vac 50/60 Hz 1425/1725 Rpm Dual	1
.. 2		285200 ..	Pump, Coolant w/Fittings	1
.. 3		269910 ..	Tank, Coolant	1
.. 4		196515 ..	Radiator, Heat Exchanger	1
.. 5		284538 ..	Plenum	1
.. 6		286489 ..	Panel, Front	1
.. 6		289311 ..	Panel, Front (CE)	1
.. 7		284537 ..	Panel, Front Louver	1
.. 8		166570 ..	Blade, Fan 9.000 5WG38Deg .500 Bore Cw Al	1
.. 9		166571 ..	Ftg, Coolant Barbed 3/8 Tbg 5/8-18 Female	2
.. 9		276274 ..	Ftg, Water Quick Conn Female Pnl Mnt (CE)	1
.. 10		166564 ..	Filter, In-Line Low Profile 100 Screen 3/8 Hose Bar	1


Eff w/ Serial No. NA250396L And Following

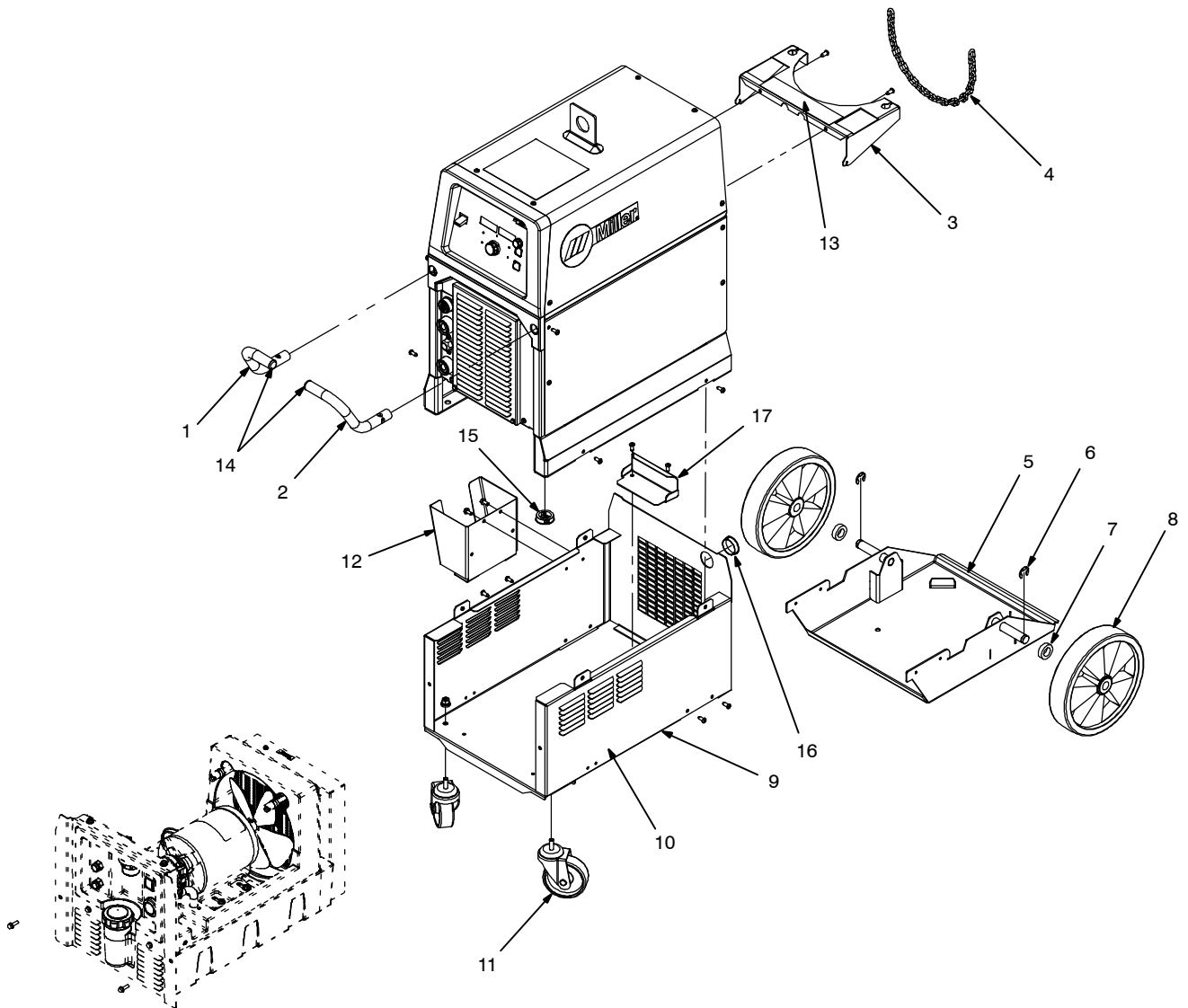
Item No.	Dia. Mkgs.	Part No.	Description	Quantity
Figure 2-1. Main Assembly				
.. 11		258437	.. Kit, Indicator, Flow (Includes)	1
		010323	.. Clamp, Hose .250 - .625 Clp Dia	2
.. 12		226935	.. Housing, Flow Indicator	1
.. 13		233606	.. Paddle, Flow Indicator	1
.. 14		166566	.. O-Ring, 1.301 Id x .070 Cs	1
.. 15		186005	.. Lens, Flow Indicator	1
.. 16		166608	.. Cap, Tank Screw-on w/Vent	1
.. 17		168254	.. Clip, Filtering Mounting	1
.. 18		231400	.. Hose, Rubber Braided .375 Id x .650 Od x 17.250	2
.. 19		255481	.. Hose, Pick-up Coolant w/Clamp	1
.. 20		255483	.. Hose, Coolant Return w/Clamp	1
.. 21		236084	.. Hose, Rubber Braided .375 Id x .650 Od x 10.500	1
.. 22		196991	.. Hose, Nprn Brd No 1 x .250 Id x 3.00	1
.. 23		255485	.. Hose, Rubber Braided .375 Id x .650 Od x 3.750	1
.. 24		284051	.. Clamp, Pump	1
.. 25		010323	.. Clamp, Hose .25-.625 Clp Dia	1
.. 26		284058	.. Coupler, Drive	1
.. 27		284057	.. Ring, Insulator	1
.. 28		285201	.. Blank, Switch	1
.. 29		166560	.. Ring, Rtnng Ext. .500 Shaft x .042 Thk E Style Bowed	1
.. 30		084173	.. Clamp, Hose .460-.545 Clp Dia Slftrng	1
.. 31		082193	.. Screw, 010-32 x .37 Hexwhd-Slt Stl Pld Slftrng Tap-Rw	5
.. 32		129351	.. Screw, 008-32 x .50 Hexwhd .34D w/Spl Gndrng Stl Pld	2
.. 33		602237	.. Washer, Flat .172 Id x 0.500 Od x .048 T Stl Pld Blk	2
.. 34		235065	.. Screw, 010-32 x .75 Pan Hd-Torx Stl Zc Pld	1
.. 35		145217	.. Screw, K40 x 12 Pan Hd-Phl Stl Pld Pt Thread Forming	2

+When ordering a component originally displaying a precautionary label, the label should also be ordered.

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SECTION 3 – COOLER RUNNING GEAR PARTS LIST FOR SERIAL NO. NA250396L AND FOLLOWING

 Hardware is common and not available unless listed.



805624-C

Figure 3-1. Main Assembly

Eff w/ Serial No. NA250396L And Following

Item No.	Dia. Mkgs.	Part No.	Description	Quantity
Figure 3-1. Main Assembly				
.. 1		285051	.. Handle, Left	1
.. 2		284149	.. Handle, Right	1
.. 3		+284535	.. Bracket, Bottle	1
.. 4		210224	.. Chain, Straight Link 1/0 x 27.000 Zinc Pld	1
.. 5		284533	.. Tray Assy, Bottle	1
.. 6		121614	.. Ring, Rtnng Ext. .750 Shaft x .085 Thx E Style Pld	2
.. 7		235506	.. Spacer	2
.. 8		209869	.. Wheel, Poly-Olefin 10 in Dia x 2.000 W .750 Hub Dia	2
.. 9		+284529	.. Base, Runner Assy	1
.. 10		279881	.. Label, Warning General Precautionary Stat (En/Fr/Sp)	2
.. 11		008999	.. Caster, Swvl 4.00 In Polyolefin	2
.. 12		246626	.. Holder, Foot Pedal	1
.. 13		284182	.. Label, Warning Cyl May Explode If Damaged (En/Fr/Sp)	1
.. 14		285052	.. Cap, Tube .875 Dia x .500 Lg	2
.. 15		245520	.. Bushing, Snap-In Nyl 1.062 Id x 1.500 Mtg Hole Cent	1
.. 16		006086	.. Blank, Snap-In Nyl 1.500 Mtg Hole Black	1
.. 17		286577	.. Bracket, Mtg Cooler	1

+When ordering a component originally displaying a precautionary label, the label should also be ordered.

To maintain the factory original performance of your equipment, use only Manufacturer's Suggested Replacement Parts. Model and serial number required when ordering parts from your local distributor.

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