



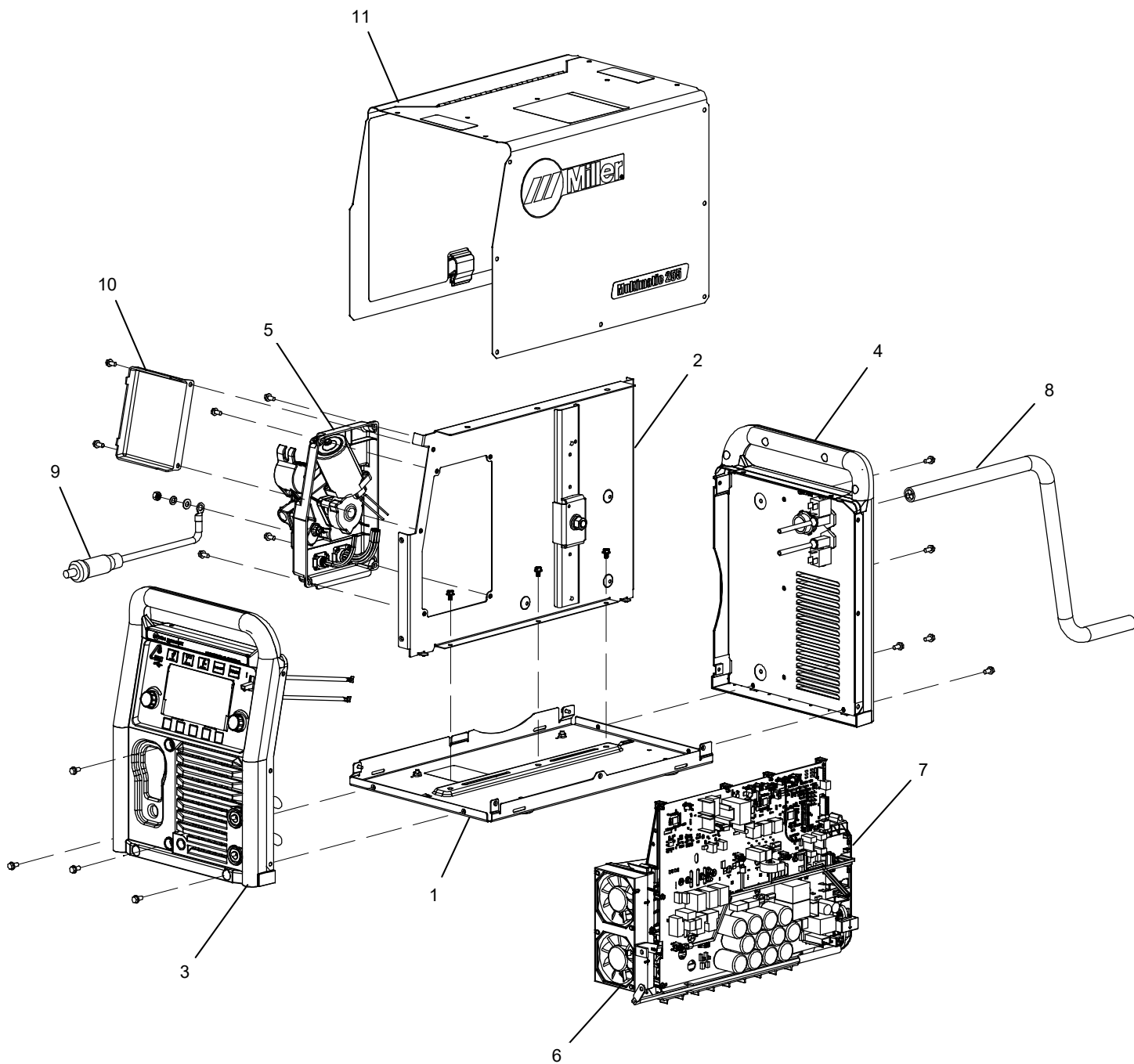
PM- 278174 C

Multimatic 255

Effective with Serial Number
MJ509225N - ZZ222222R



PARTS MANUAL



Main Assembly

Main Assembly

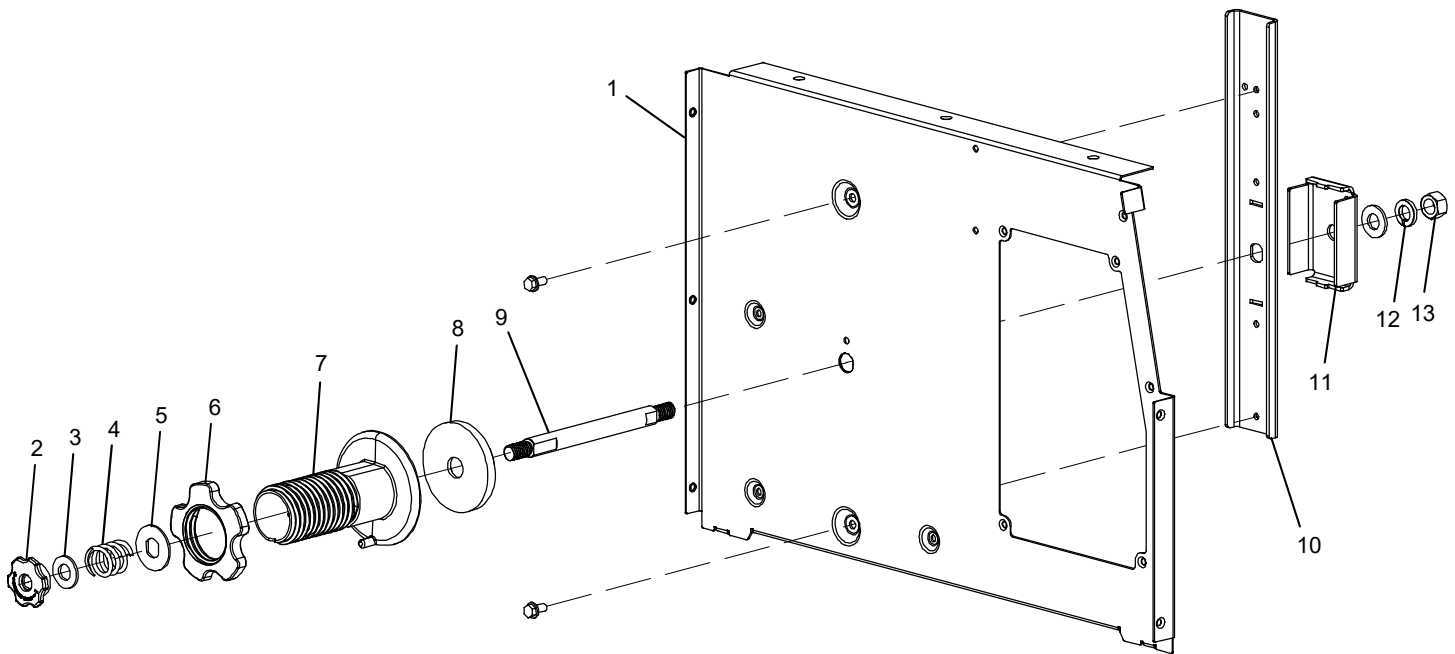
Item No.	Dia. Mkgs.	Part No.	Description	Qty
1		277329	Base	1
		229325	Foot, Mtg Unit	4
2		Center Baffle Assembly	(See following for subassembly information)	1
3		Front Panel Assembly	(See following for subassembly information)	1
4		Rear Panel Assembly	(See following for subassembly information)	1
5		Wire Feed Drive Assembly	(See following for subassembly information)	1
6		Windtunnel Assembly	(See following for subassembly information)	1
7	PC1	286024	Circuit Card Assy, Control w/IGBT Modules Mp	1
8		273869	Cord Set, 600V T Tng 10ga 3/C 12ft St Jkt	1
9		278556	Lead Assy, Drive Polarity	1
10		277905	Enclosure, Electronics	1
11		285532	Kit, Wrapper w/Labels	1
		277356	Wrapper Assy	1
		230363	Latch, Slide Flush Mtg Hole 1.750 Wide x 1.500 Lg	1
		278114	Label, Parameter/Polarity	1
		231983	Label, Warning General Precautionary (En/Sp)	1
		283727	Label, Warning Falling Equipment (En/Fr/Sp)	2
		277984	Plug Assy, Elect (Gas Valves)	1
		281222	Harness, Wrg Unit Main	1
	PLG15	117865	Conn, Rect Mini 045 14skt 2row Plug Cable Lkg	1
	RC53	189238	Conn, Circ Ms/Cpc 10skt Size 18 Rcpt Panel Pushin	1
	RC54	081560	Conn, Circ Cpc 4skt Size 11 Rcpt Panel Pushin	1
	PLG9	130693	Conn,Rect Mini 045 5skt 1row Plug Cable Lkg	1
		231985	Label, Warning Electric Shock	1

*Recommended Spare Parts ~ Optional ↓ Item includes other parts. → Item is part of a subassembly.

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Center Baffle Assembly

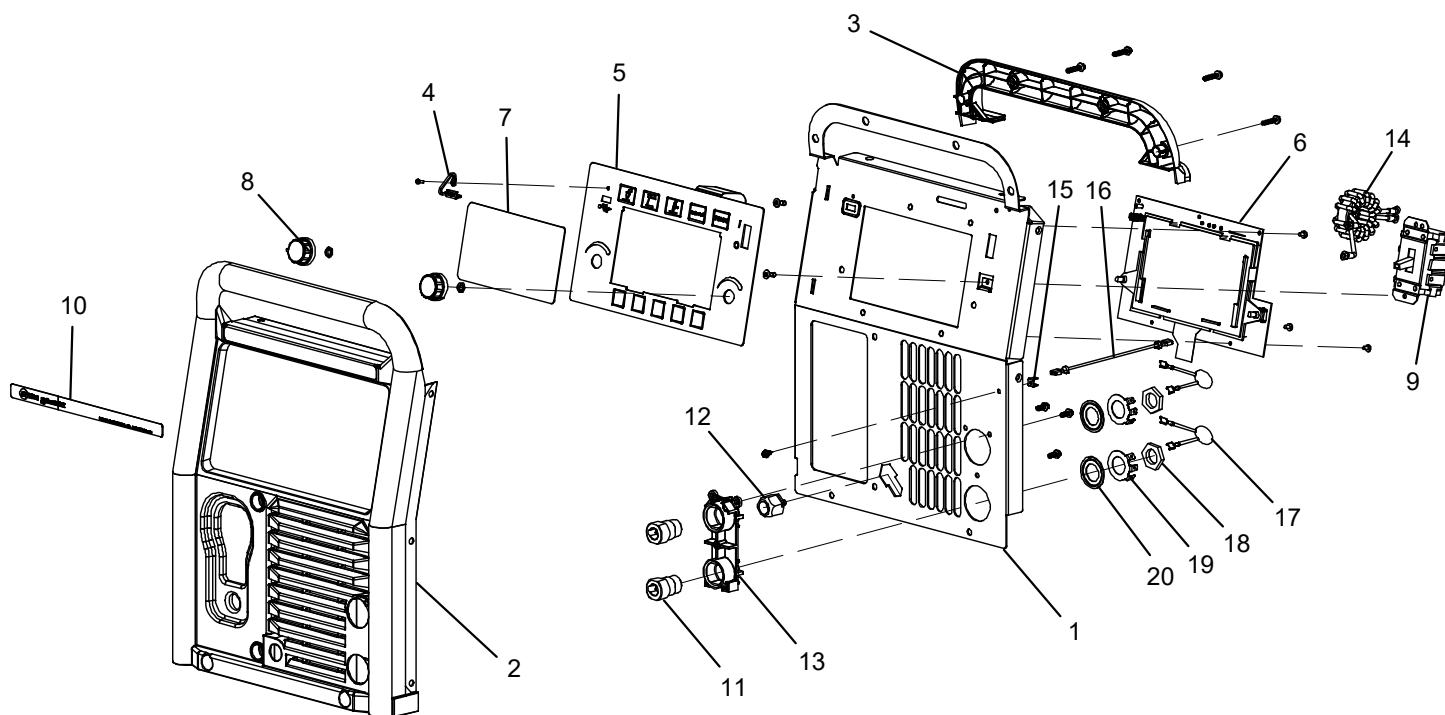
Item No.	Dia. Mkgs.	Part No.	Description	Qty
1		277359	Baffle, Center	1
2		279504	Knob, Tensioner 1/2-13 Thread	1
3		602247	Washer, Flat .531 Id x 1.062 Od x 0.95T Stl Pld Ansi .500	2
4		186437	Spring, Cprsn .845 Od x .110 Wire x 1.500	1
5		231211	Washer, Anti-Turn	1
6		280091	Nut, Hub	1
7		279587	Hub, Spool 12 Inch	1
8		287119	Washer, Brake Plastic	1
9		271415	Shaft, Support Spool	1
10		274304	Channel, Support Spool Hub	1
11		274305	Brace, Support Spool Shaft	1
12		602216	Washer, Lock .502 Id x 0.879 Od x .151T Stl Pld Split .500	1
13		601879	Nut, .500-12 .75 Hex .44H Stl Pld	1

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Front Panel Assembly

Front Panel Assembly

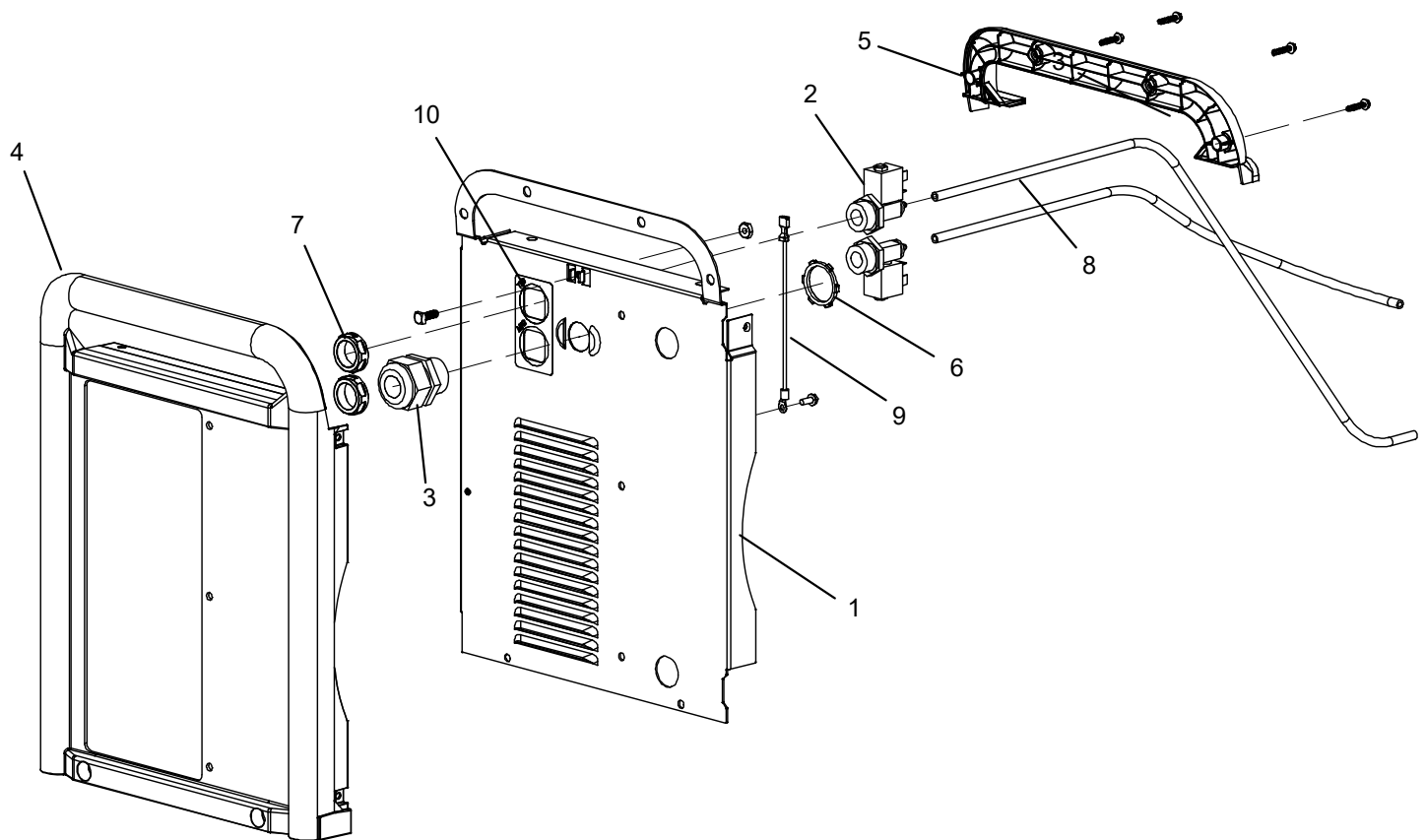
Item No.	Dia. Mkgs.	Part No.	Description	Qty
1		282075	Panel Assy, Front w/Pems	1
2		277362	Bezel, Front	1
3		277653	Handle, Half	1
4		278541	Cover, Dust Usb w/Tether	1
		236343	Screw, 008-15 x .37 Hexwhd w/Gndrng Stl Pld Sif Tpg	1
5		277656	Membrane, Switch Control	1
6	PC2	276813	Circuit Card Assy, Interface Lcd Display	1
		276416	Cable, Ethernet Cat5E Utp Rj45 24.000 In Lg (Blue)	1
		249747	Core, Ferrite Round Cable .201 Id Clamp-On Emi Supp	1
7		277663	Lens Cover, Replaceable	1
8		266591	Knob, Encoder 1.250 Dia x 6mm Id Push On w/Spring	2
9		278971	Switch, Tgl Dpst 40A 600 Vac Scr Term Narrow Tgl	1
10			Label, Nameplate	1
11		279111	Receptacle, Twist Lock Brass Fem Panel Mtg (Dinse)	2
12		277691	Fitting, Gas	1
13		277690	Insulator, Bulkhead 50mm	1
14		291522	Choke, Common Mode 8 Turns 10Ga	1
15		600760	Term, Frict .250 x .032 Uninsul Male .130 Stud Mtg 1pr	1
16		277973	Lead List, Small (Gnd)	1
17		284861	Capacitor, Cer Disc .01 uF 1000 Vdc	2
18		185717	Nut, M20-1.5 1.00Hex .19H Brs Locking	2
19		278163	Terminal, Connector Friction Three Position	2
20		229338	Washer, Domed Load .812 Id x 1.450 Od x .070 Thk	2

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Rear Panel Assembly

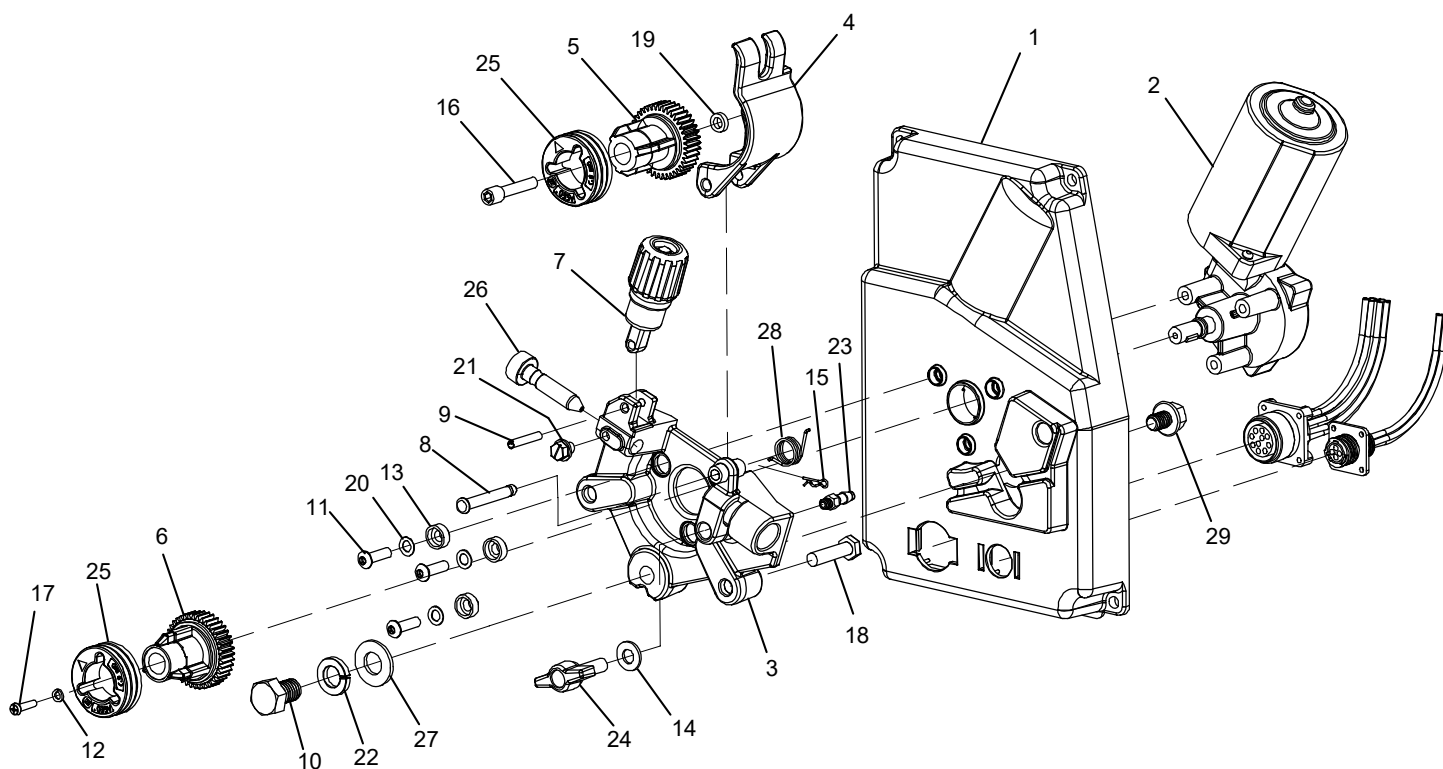
Item No.	Dia. Mkgs.	Part No.	Description	Qty
1		277949	Panel, Rear	1
2		262572	Valve, 24 Vdc 1Way 750-14 Thd 2mm Orf 100Psi	2
3		282261	Bushing, Strain Relief .709/.984 Id x 1.375 Mtg Hole	1
4		277950	Bezel, Rear	1
5		277653	Handle, Half	1
6		182445	Nut, Conduit 1.000 Npt Pld 1.688 Od x .200 Thk	1
7		272186	Nut, .750-14 Nps 1.312Hex .413H Nyl	2
8		250864	Hose, Gas 27 In (MIG)	2
9		285815	Kit, Gas Valve Assy	1
10		278406	Label, Gas Valve MIG/TIG	1

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Wire Feed Drive Assembly

Wire Feed Drive Assembly

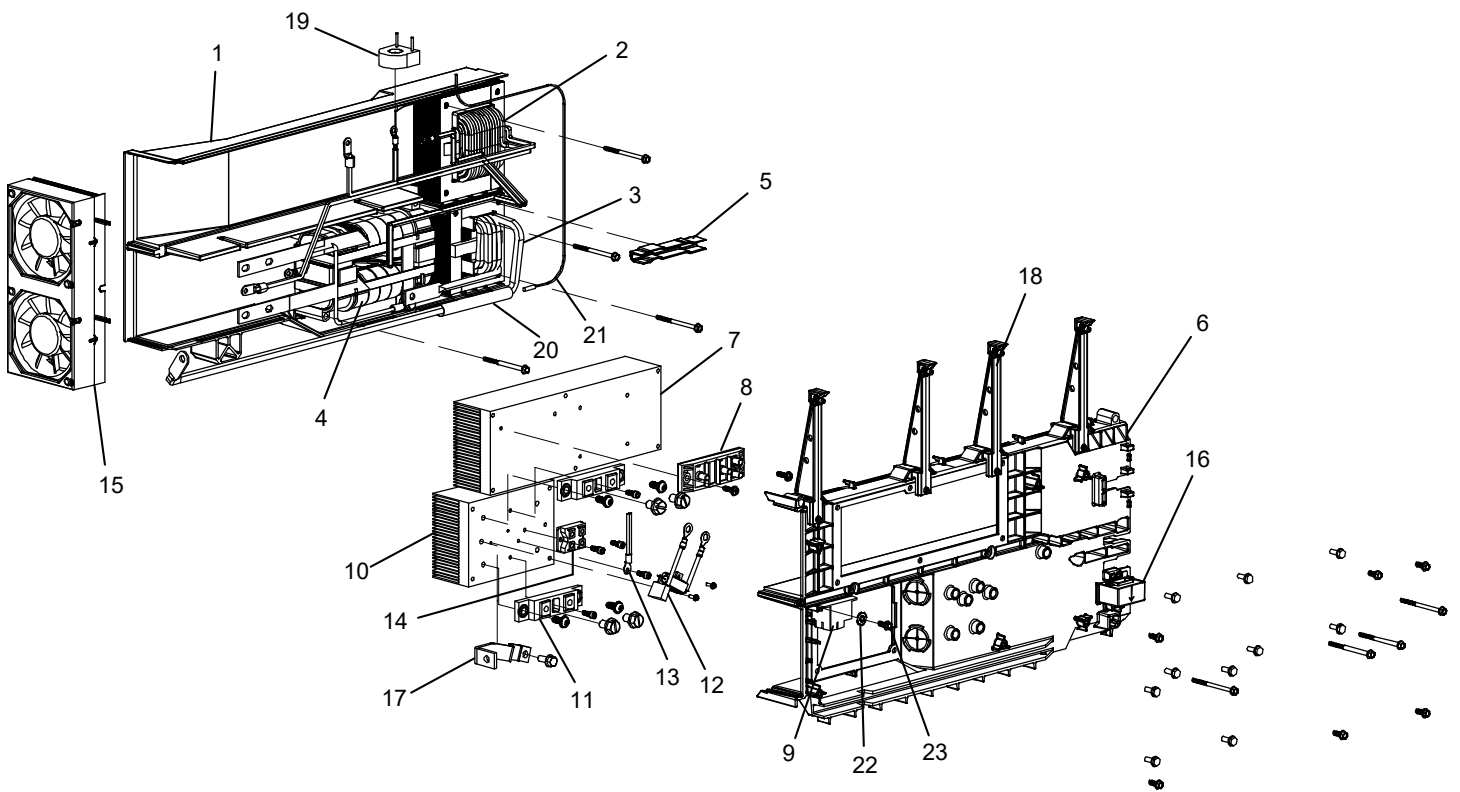
Item No.	Dia. Mkgs.	Part No.	Description	Qty
1		277437	Insulator	1
2		281378	Motor, Wire Drive w/Lead Assemblies	1
3		277657	Housing, Drive (Machined)	1
4		277795	Lever, Pressure Roll (Machined)	1
5		172075	Carrier, Drive Roll w/Components 24 Pitch	1
6		173619	Carrier, Drive Roll w/Components 24 Pitch 10mm Shaft	1
7		221976	Knob, Tension Adjust Assy	1
8		273112	Pin, Clevis .250 Od x 1.751 Lg w/Groove and Cham	1
9		010224	Pin, Spring CS .187 x 1.000	1
10		282942	Screw, 500-13 x .75 Hex Hd-Phl Stl Pld Sif Tpg Ab	1
11		174610	Screw, M 6 - 1.0 x 20 Soc Hd Button Cap Blk	3
12		602200	Washer, Lock .168 Id x 0.293 Od x .040T Stl Pld Split #8	1
13		173620	Bushing, Motor Mtg	3
14		604538	Washer, Flat .344 Id x 0.688 Od x .065T Stl Pld Ansi .312	1
15		151828	Pin, Cotter Hair .042 x .750	1
16		602009	Screw, .250-20 x 1.25 Soc Hd-Hex Gr8 Pln	1
17		209079	Screw M4 x 0.7 x 16	1
18		604534	Screw, .312-18 x 1.25 Hex Hd-Pln Gr5 Pld	1
19		166072	Spacer, Gear	1
20		192029	Washer, Flat .250 Id x 0.437 Od x .015T Stl Pln	3
21		233030	Screw, .250-20 x .25 Hexwhd Machine Stl Pld	1
22		602216	Washer, Lock .502 Id x 0.879 Od x .151T Stl Pld Split .500	1
23		263411	Fitting, Barbed Gas	1
24		222035	Knob, T 1562 Bar w/312-18 Stud 1000 Lg Plstc	1
25		189285	Roll, Drive V Groove .035-.045 Wire	2
26		221912	Guide, Wire Inlet Nylon .023 - .052	1
27		602247	Washer, Flat .531 Id x 1.062 Od x 0.95T Stl Pld Ansi .500	1
28		230801	Spring, Torsion	1
29		280210	Bolt, Hex Head Flange Stl .375-16 x .500 Gr8 Pld Zc	1

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Windtunnel Assembly

Windtunnel Assembly

Item No.	Dia. Mkgs.	Part No.	Description	Qty
		278704	Assembly, Magnetics Windtunnel	1
1		277435	Windtunnel, Lh	1
2	L1	277108	Inductor, Input	1
3	L2	277336	Inductor, Output	1
4	T1	277859	Xfmr, Multi-Process Main	1
5		278705	Channel, Wire Plastic	1
		278707	Assembly, Heat Sink Windtunnel	1
6		277436	Windtunnel, Rh	1
7		277439	Heat Sink, Boost Inverter/Input Rectifier	1
8		275288	Rectifier, Integ Bridge 90. Amp 1600V 1ph	1
9		206258	Relay, Encl 24 Vdc Spst 30A/240 Vac 4-Pin Flange Mtg	1
	D1,D2	281796	Assembly, Output Rectifier Heat Sink	1
10		281797	Heat Sink, Output Rectifier	1
11		290137	Diode, Ultra-Fast 164Ns 400A 600V Dual To-244	2
12		280976	Resistor/Capacitor Assy	1
13	RT1	278442	Thermistor, NTC 30K Ohm @ 35 Deg C 30in Lead	1
14		199952	Diode Power Module 55 Amp 600V 1PH Fast Recovery	1
15		278711	Assembly, Fan	1
		277505	Holder, Plastic Front Fan	1
	FM1,FM2	278710	Fan, Muffin 24 Vdc 8000 Rpm 175 Cfm 3.248 Mtg Holes	2
16	CT1	277506	Transducer, Current 300A Module Supply V +/- 15v	1
		277676	Cable, Lem 23 In	1
17		278726	Bus Bar, Positive Output	1
18		279057	Bracket, Mtg Circuit Card Assy	4
19		277697	Xfmr, Current Sensing 200/1 Encapsulated w/6in Lds	1
		278885	Grommet, Rubber	2
20		281133	Tubing, Htshnk Clear Mfp .500/.250 Dia x 4.000	1
21	RT2	277948	Thermistor, NTC 30k Ohm @ 25 Deg C 22.00in Lead	1
22		282223	Washer, Lock Stl Intl/Ext Tooth No 10 Zc Pld Sftmtl	1
23		265408	Screw, K50 x 12 Hexwhd Stl Pld Blk Pt Thread Forming	6

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Drive Roll And Wire Guide Kits

Base selection of drive rolls upon the following recommended usages:

- 1 V-Grooved rolls for hard wire.
- 2 U-Grooved rolls for soft and soft shelled cored wires
- 3 U-Cogged rolls for extremely soft shelled wires (usually hard surfacing types).
- 4 V-Knurlled rolls for hard shelled cored wires.
- 5 Drive roll types may be mixed to suit particular requirements (example: V-Knurlled roll in combination with U-Grooved)

Wire Diameter			Kit No.	Drive Roll		Inlet Wire Guide
Fraction	Decimal	Metric		Part No.	Type	
.023/.025 in.	.023/.025 in.	0.6 mm	087131	087130	V-Grooved	056192
.030/.035 in.	.030/.035 in.	0.8/0.9 mm	204579	203526	V-Grooved	056192
.030 in.	.030 in.	0.8 mm	079594	053695	V-Grooved	056192
.035 in.	.035 in.	0.9 mm	079595	053700	V-Grooved	056192
.045 in.	.045 in.	1.2 mm	079596	053697	V-Grooved	056193

Ref. S-0026-B/7-91