



PM-288360B

2023-12

**Processes**



MIG (GMAW) Welding  
Pulsed MIG (GMAW-P)

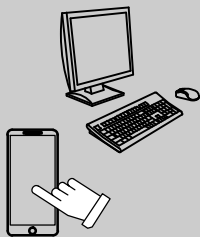
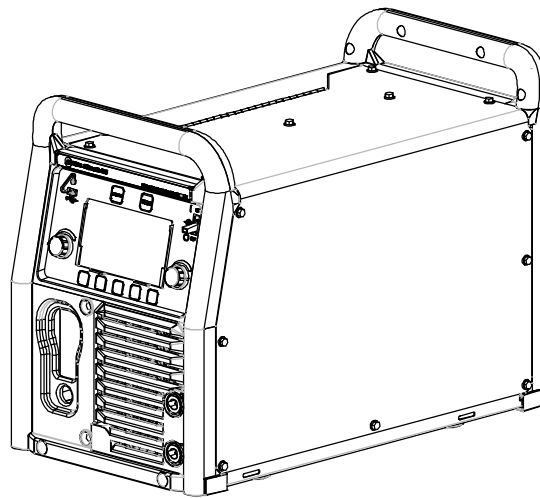
**Description**



Arc Welding Power Source  
Wire Feeder

# Millermatic<sup>®</sup> 355

Eff. w/Serial No. NC073001N




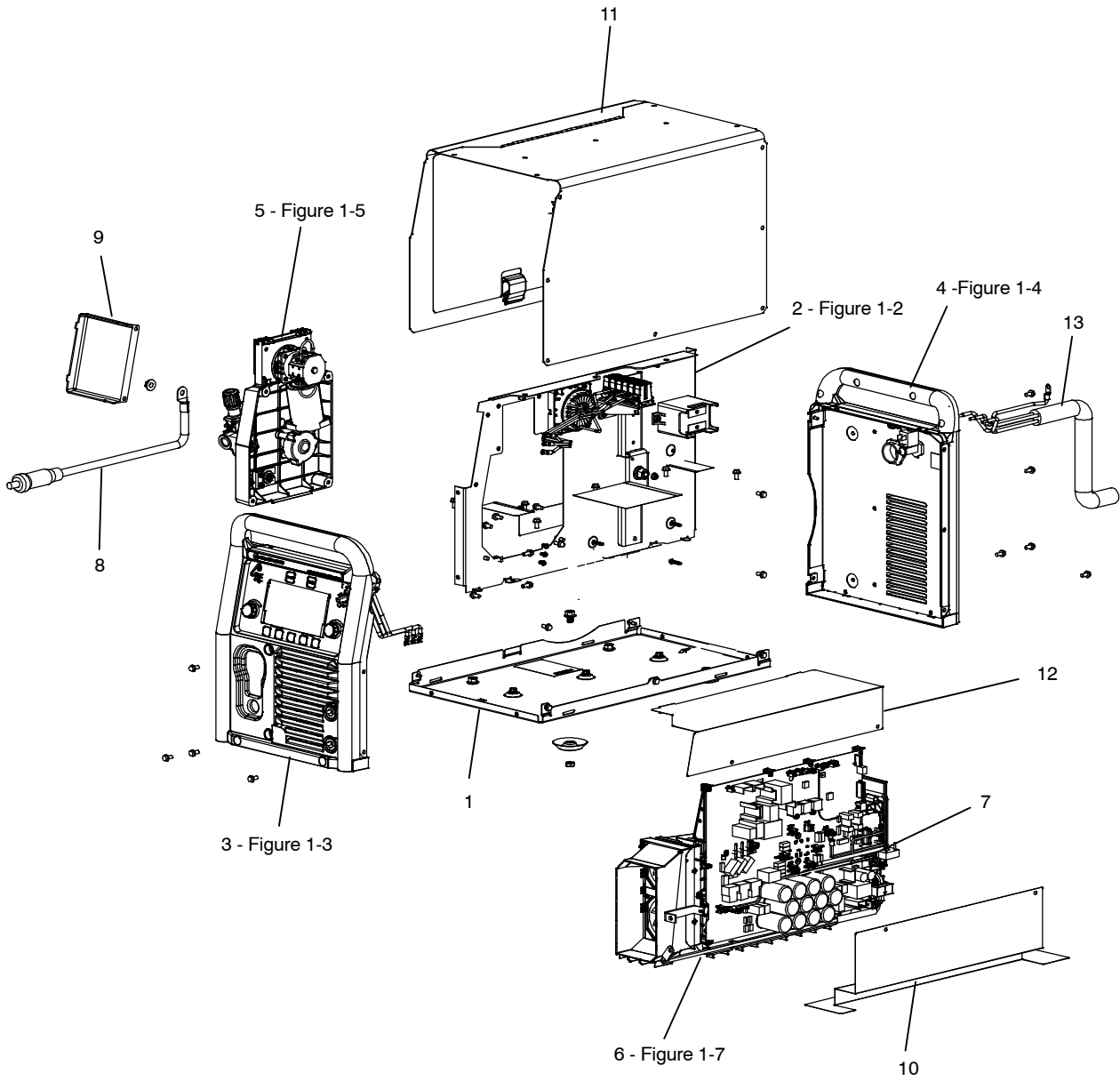
For product information,  
Owner's Manual translations,  
and more, visit

[www.MillerWelds.com](http://www.MillerWelds.com)

## PARTS MANUAL

# SECTION 1 – PARTS LIST

 Hardware is common and not available unless listed.



**Figure 1-1. Main Assembly**

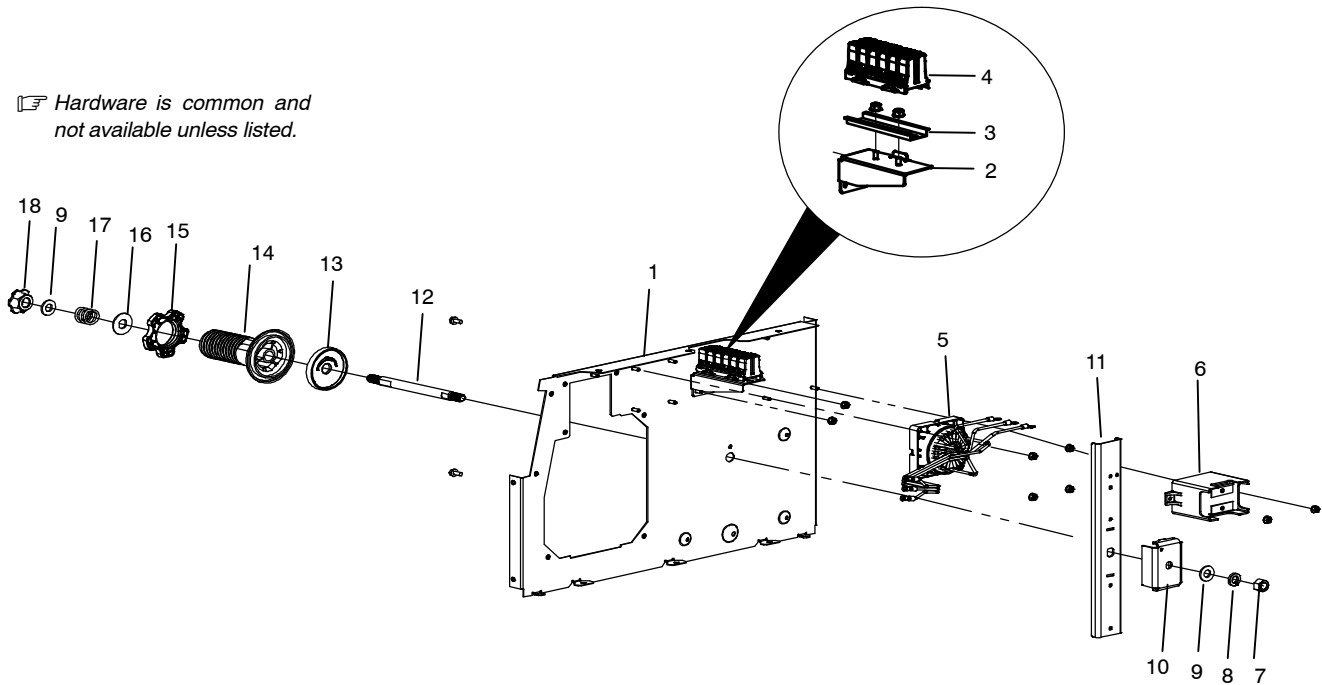
907808

Item No.	Dia. Mkgs.	Part No.	Description	Quantity
<b>Figure 1-1. Main Assembly</b>				
... 1		287839	.. Base	1
		229325	.. Foot, Mtg Unit	4
... 2		287842	.. Baffle Assy, Center (See Figure 1-2)	1
... 3		288301	.. Panel Assy, Front (See Figure 1-3)	1
... 4		287822	.. Panel Assy, Rear (See Figure 1-4)	1
... 5		288087	.. Drive Assy, Wire (See Figure 1-5)	1
... 6		288300	.. Windtunnel, W/Components (See Figure 1-7)	1
... 7	PC1	295819	.. Kit, Millermatic 355 Control Bd w/IGBT Replacement	1
... 8		289394	.. Lead Assy, MM355 Drive Polarity	1
... 9		277905	.. Enclosure, Electronics	1
... 10		290982	.. Insulator, MM355 Output Mylar	1
... 11		289550	.. Kit, Wrapper W/Labels (Includes)	1
		288305	.... Wrapper Assy, Millermatic 355	1
		230363	.... Latch, Slide Flush Mtg Hole 1.750 Wide X 1.500 Lg	1
		275316	.... Label, Warning Falling Equipment (En/Fr/Sp)	2
		291186	.... Label, Quick Reference Guide	1
		231983	.... Label, Warning General Precautionary (En/Fr/Sp)	1
		281222	.. Harness, Wrg Unit Main	1
... 12		289596	.. Insulator, Mylar Terminal Block	1
... 13		288963	.. Cable, Power 10Ft 6 In 6ga 4/C	1

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

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287842

**Figure 1-2. Center Baffle Assembly (Figure 1-1 Item 2)**

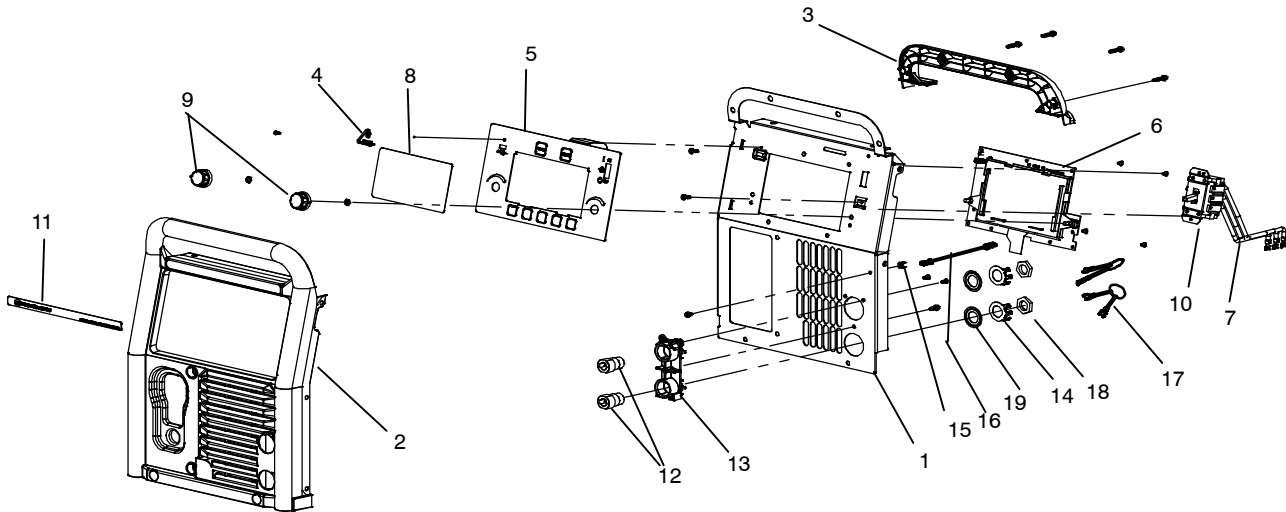
Item No.	Dia. Mkgs.	Part No.	Description	Quantity
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**Figure 1-2. Center Baffle Assembly**

...	1	287841	.. Panel Assy, Center Baffle w/Pems	1
...	2	290857	.. Assy, Terminal Block Bracket w/Pems	1
...	3	250585	.. Rail, Din Mtg Component	1
...	4	TE1 291680	.. Terminal Block, 3 Pole 6 Positions 85A 600V	1
...	5	L3 288486	.. Assy, Common Mode Choke 3-Phase 70A Rms Panel Mount	1
...	6	C3 280863	.. Capacitor, Polyp Met Film 30 Uf 550Vdc 10%	1
...	7	601879	.. Nut, 500-13 .75 Hex .44H Stl Pld	1
...	8	602216	.. Washer, Lock .502ldx0.879Odx.151T Stl Pld Split .500	1
...	9	602247	.. Washer, Flat .531ldx1.062Odx.095T Stl Pld Ansi .500	2
...	10	274305	.. Brace, Support Spool Shaft	1
...	11	274304	.. Channel, Support Spool Shaft	1
...	12	271415	.. Shaft, Support Spool	1
...	13	287119	.. Washer, Brake Plastic	1
...	14	279587	.. Hub, Spool 12 Inch	1
...	15	280091	.. Nut, Hub	1
...	16	231211	.. Washer, Anti-Turn	1
...	17	172918	.. Spring	1
...	18	279504	.. Knob, Tensioner 1/2-13 Thread	1

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288301

**Figure 1-3. Front Panel Assembly (Figure 1-1 Item 3)**

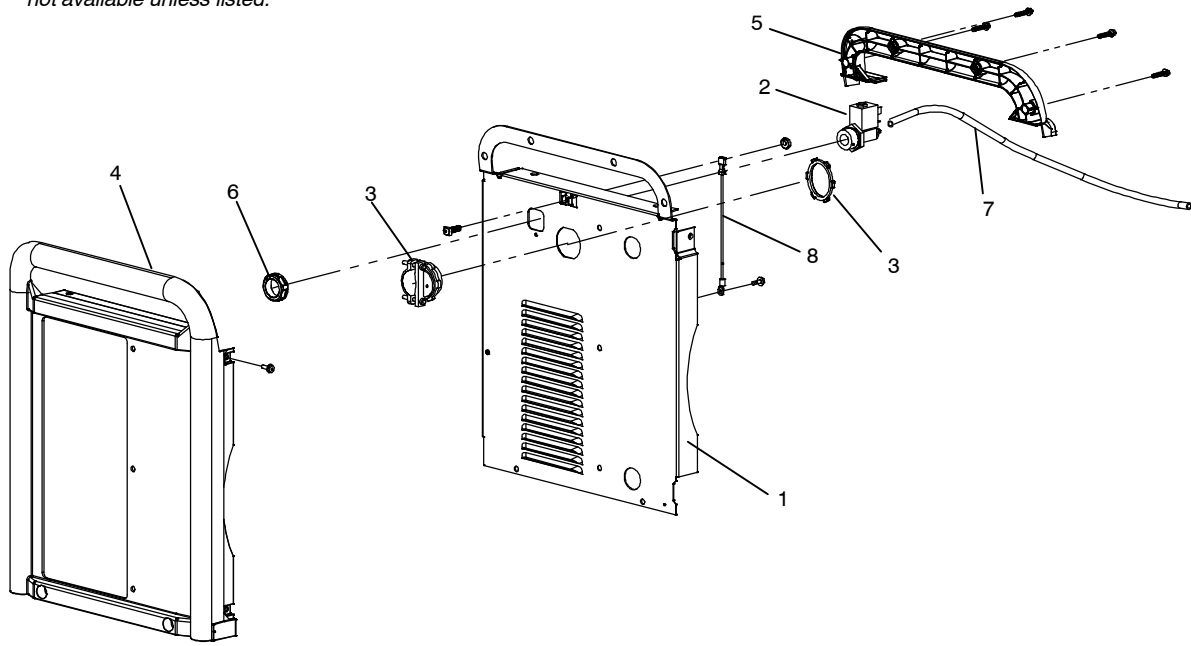
Item No.	Dia. Mkgs.	Part No.	Description	Quantity
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**Figure 1-3. Front Panel Assembly**

...	1	283119	.. Panel Assy, Front W/Pems	1
...	2	279060	.. Bezel, Front	1
...	3	277653	.. Handle, Half	1
...	4	278541	.. Cover, Dust Usb W/Tether	1
...		600760	.. Term, Frict 250x032 Uninsul Male .130 Stud Mtg 1pr	1
...		236343	.. Screw, 008-15x .37 Hexwhd W/Gndrng Stl Pld Slf Tpg	1
...	5	279061	.. Membrane, Switch Control	1
...	6	PC2 288729	.. 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	288728	.. Lead List, Large (Switch)	1
...	8	277663	.. Lens Cover, Replaceable	1
...	9	266591	.. Knob, Encoder 1.250 Dia X 6mm Id Push On W/Spring	2
...	10	SW1 288591	.. Switch, Tgl Dpst 40A 600VAC Scr Term Narrow Tgl	1
...	11		.. Label, Nameplate (Order by Model and Serial Number)	1
...	12	279111	.. Receptacle, Twist Lock Brass Fem Panel Mtg (Dinse)	2
...	13	277690	.. Insulator, Bulkhead 50mm	1
...	14	278163	.. Terminal, Connector Friction Three Position	2
...	15	287198	.. Cover, Dinse Plastic	1
...	16	277973	.. Lead List, Small (Gnd)	1
...	17	C1, C2 284861	.. Capacitor, Cer Disc .01 uF 1000 VDC W/Terms	2
...	18	185717	.. Nut, M20-1.5 1.00hex .19h Brs Locking	2
...	19	229338	.. Washer, Domed Load .812 Id X 1.450 Od X .070 Thk	2

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287822

**Figure 1-4. Rear Panel Assembly (Figure 1-1 Item 4)**

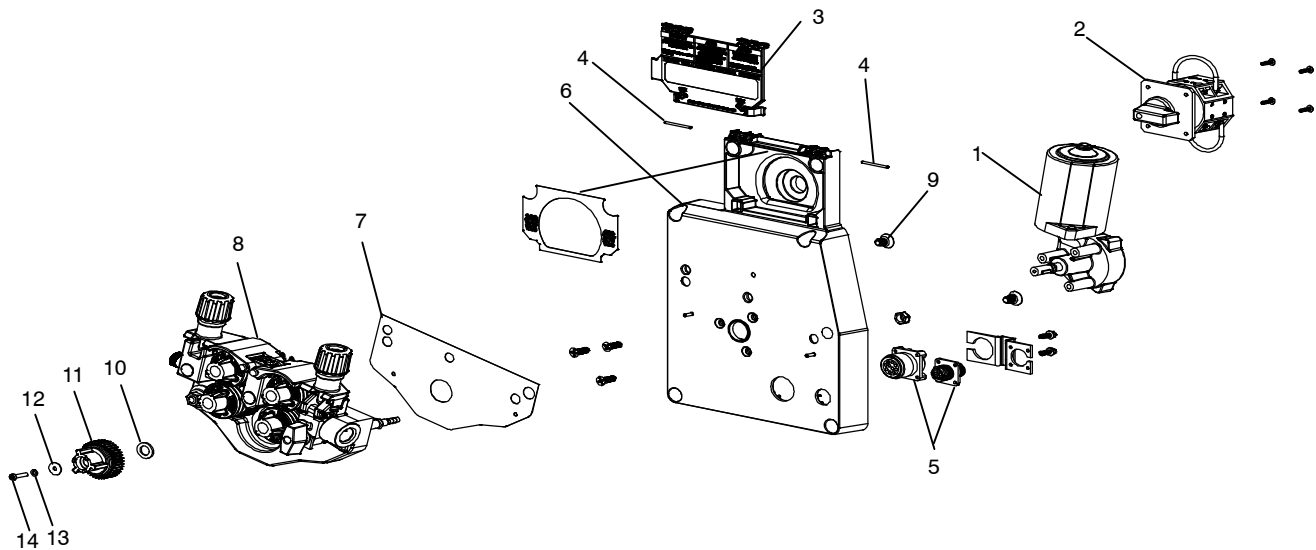
Item No.	Dia. Mkgs.	Part No.	Description	Quantity
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**Figure 1-4. Rear Panel Assembly**

...	1	279064	.. Panel, Rear	1
...	2	GS1 262572	.. Valve, 24VDC 1Way .750-14 Thd 2Mm Orf 100Psi	1
...	3	247765	.. Conn, Clamp Cable1.250	1
...	4	277950	.. Bezel, Rear	1
...	5	277653	.. Handle, Half	1
...	6	272186	.. Nut, 750-14 Nps 1.312 Hex .413H Nyl	1
...	7	250864	.. Hose, Gas 27 in.	1
...	8	285212	.. Lead List, Small (Rear Panel Gnd)	1

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288087

**Figure 1-5. Wire Feed Drive Assembly (Figure 1-1 Item 5)**

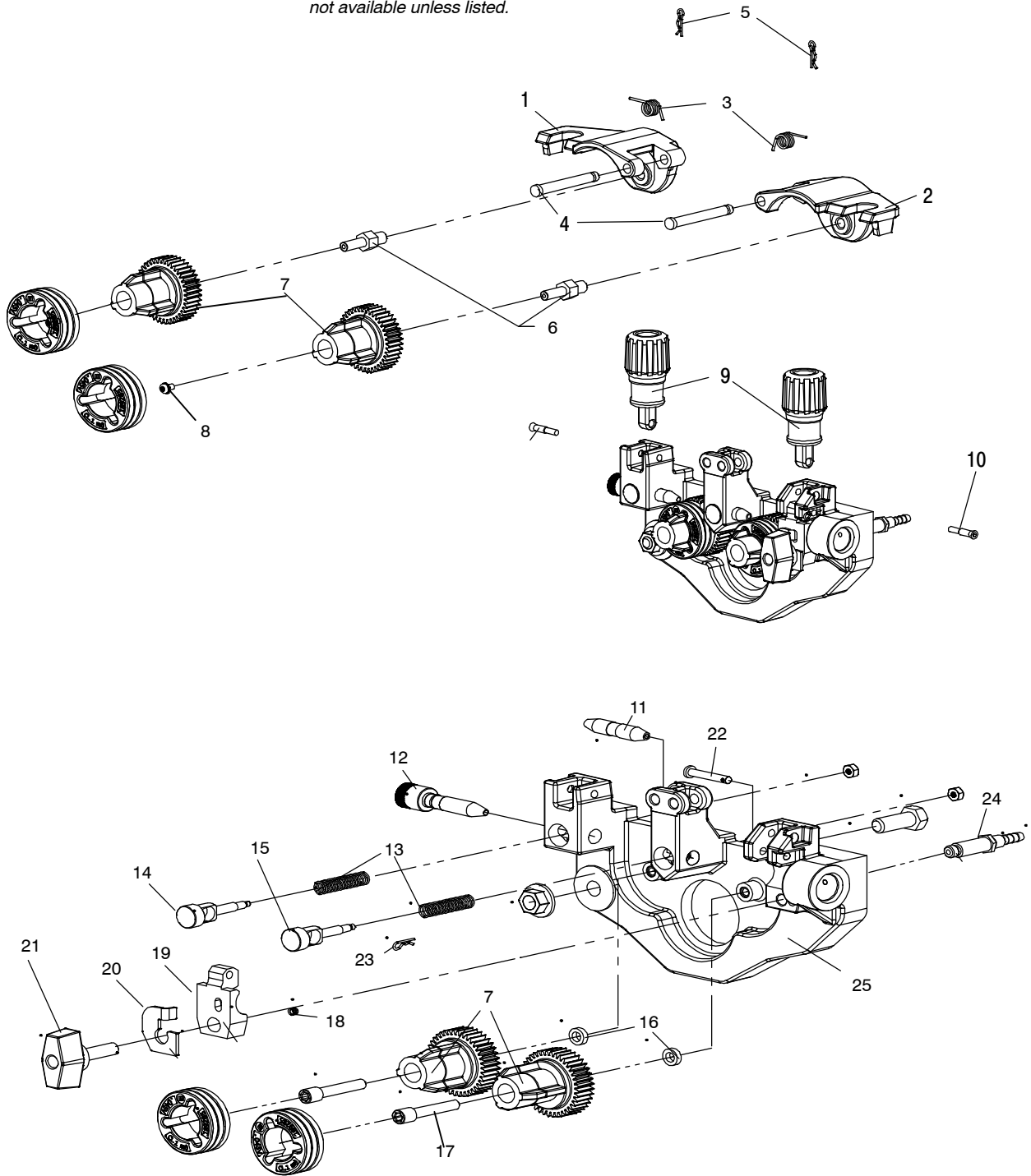
Item No.	Dia. Mkgs.	Part No.	Description	Quantity
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**Figure 1-5. Wire Feed Drive Assembly**

...	1	281378	Motor, Wire Drive W/Lead Assemblies	1
...	2	SW2 289004	Switch, Primary Link	1
...	3	289603	Cover, Primary Voltage Switch	1
...	4	274918	Pin, Dowel Sst .094 Dia x 1.250 Lg	2
...	5	281222	Harness, Wrg Unit Main	1
...	6	287801	Insulator, Drive Housing Millermatic 355	1
...	7	287816	Insulator, Mylar Millermatic 355	1
...	8	287797	Drive Assy, Wire MM355 "Figure 1-6"	1
...	9	281348	Screw, .312-18 x .50 Flathd-Phl Stl Pld w/Lkg Patch	2
...	10	290995	Washer, Flat .453 ID x 0.750 OD x .062T SSTL	1
...	11	173618	Carrier, Drive Roll 10 MM Shaft	1
...	12	195802	Washer, Flat .175 ID x 0.590 OD x .040T Stl Pld	1
...	13	602200	Washer, Lock .168 ID x 0.293 OD x .040T Stl Pld Split #8	1
...	14	209079	Screw, M4-.7 x 16 Pan Hd-Phl Pld Din 7985	1

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287797

Figure 1-6. Wire Feed Drive Assembly



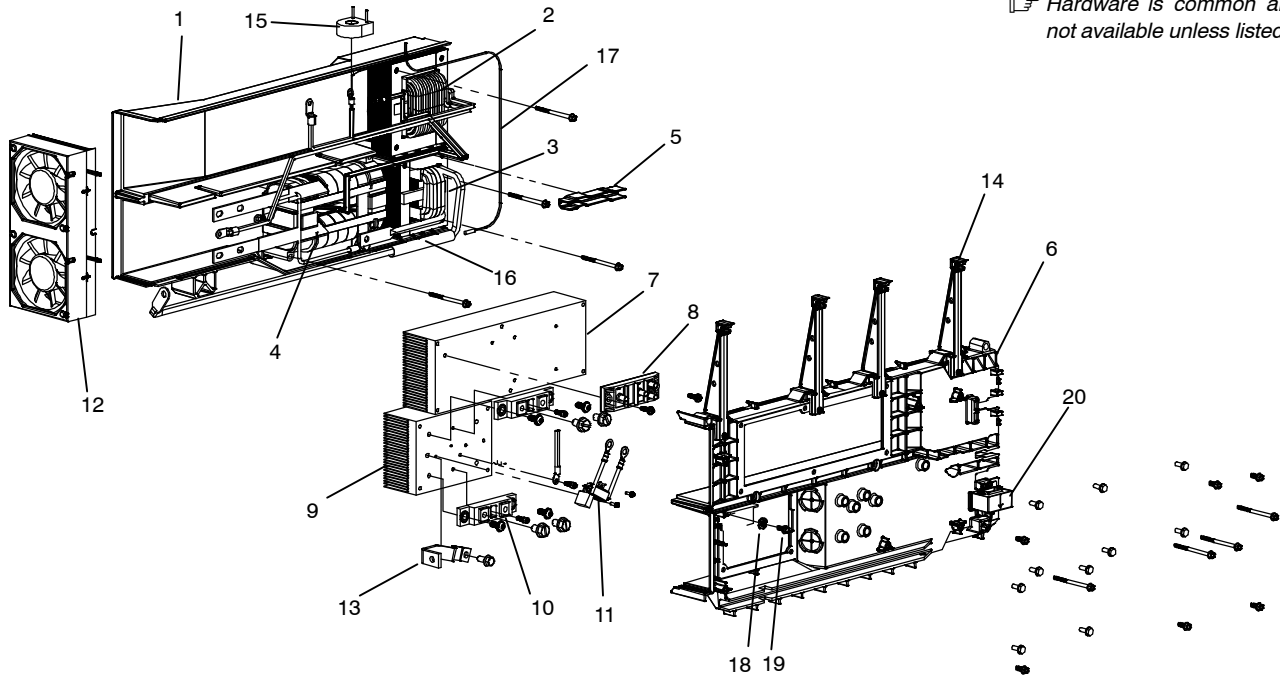
Item No.	Dia. Mkgs.	Part No.	Description	Quantity
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**Figure 1-6. Wire Feed Drive Assembly**

... 1		279181	... Lever, Mtg Pressure Gear Rear L Side/Front R Side	1
... 2		279179	... Lever, Mtg Pressure Gear Front L Side/Rear R Side	1
... 3		279257	... Spring, Torsion	2
... 4		279255	... Pin, Hinge	2
... 5		151828	... Pin, Cotter Hair .042 x .750	2
... 6		252238	... Stand-Off, Drive Roll Carrier	2
... 7		172075	... Carrier, Drive Roll W/Cmpnts 24 Pitch	4
... 8		228562	... Screw, 006-32 x .25 Pan Hd-Plt w/Ext Washer (Sems) Stl	2
... 9		248631	... Knob, Tension Adjust Assy w/Cupped Washer MM350	2
... 10		281870	... Screw, 010-32 x .94 Flthd-Soc Stl Pld (Customized)	2
... 11		056209	... Guide, Wire Intermediate 1/16-5/64	1
... 12		221030	... Guide, Wire Inlet Anti-Wear One Pc (.023 To 5/64)	1
... 13		279263	... Spring, Cprsn .312 OD x .250 ID Rate 5.2 LBS/IN	2
... 14		279261	... Button, Lock Guide Inlet	1
... 15		279262	... Button, Lock Guide Intermediate	1
... 16		166072	... Spacer, Gear	2
... 17		273794	... Screw, .250-20 x 1.38 Soc Hd-Hex Gr8 Pln	2
... 18		281784	... Spring, Cprsn .180 OD x .018 Wire x.531 Pld	1
... 19		279259	... Clamp, Power Pin	1
... 20		237188	... Lock, Pin Power	1
... 21		151437	... Knob, T 1.500 Bar w/.312-18 Stud 1.125 Lg Plstc	1
... 22		234073	... Pin, Hinge	1
... 23		280558	... Pin, Cotter Hair .047 X .625 Zinc Pld	1
... 24		279256	... Fitting, Hose Brs Barbed w/Voltage Sense Mtg	1
... 25		279167	... Housing, Wire Drive 4 Roll (Push Button)	1

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288300-A

**Figure 1-7. Windtunnel Assembly (Figure 1-1 Item 6)**

Item No.	Dia. Mkgs.	Part No.	Description	Quantity
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**Figure 1-7. Windtunnel Assembly**

.....		288320	.. Assembly, Magnetics Windtunnel (Includes)	1
... 1		277435	... Windtunnel, Lh	1
... 2	L1	288804	... Inductor, Input	1
... 3	L2	287579	... Inductor, Output	1
... 4	T1	288321	... Xfmr, Main	1
... 5		278705	... Channel, Wire Plastic	1
.....		288318	.. Assembly, Heat Sink Windtunnel (Includes)	1
... 6		277436	... Windtunnel, Rh	1
... 7		277439	... Heat Sink, Boost Inverter/Input Rectifier	1
... 8	D131	285624	... Rectifier, Integ Bridge 90. Amp 1600V 1ph	1
.....		289968	... Assembly, Output Rectifier Heat Sink (Includes)	1
... 9		281797	... Heat Sink, Output Rectifier	1
... 10	D1, D2	290137	... Diode, Ultra-Fast 164Ns 400A 600V Dual To-244	2
... 11		280976	... Resistor/Capacitor Assy	1
.....		278442	... Thermistor, NTC 30K Ohm @ 35 Deg C 30in Lead	1
... 12		278711	.. Assembly, Fan (Includes)	1
.....		277505	... Holder, Plastic Front Fan	1
.....	FM1, FM2	278710	... Fan, Muffin 24VDC 8000 Rpm 175 Cfm 3.248 Mtg Holes	2
.....		278709	... Rivet, Plastic .163 Hole X .295-.335 Grip Push	4
... 13		278726	.. Bus Bar, Positive Output	1
... 14		279057	.. Bracket, Mtg Circuit Card Assy	4
... 15	CT1	277697	.. Xfmr, Current Sensing 200/1 Encapsulated W/6in Lds	1
.....		278885	.. Grommet, Rubber	2
... 16		281133	.. Tubing, Htshnk Clear Mfp .500/.250 Dia X 4.000	1
... 17	RT	277948	.. Thermistor, Ntc 30k Ohm @ 25 Deg C 22.00in Lead	1
... 18		282223	.. Washer, Lock Stl Intl/Ext Tooth No 10 Zc Pld Sftmtl	1
... 19		265408	.. Screw, K50X 12 Hexwhd Stl Pld Blk Pt Thread Forming	1
... 20	HD2	277506	.. Transducer, Current 300A Module Supply V +/- 15V	1

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