

**Snap-on.**

# MIG220



# SERVICE MANUAL

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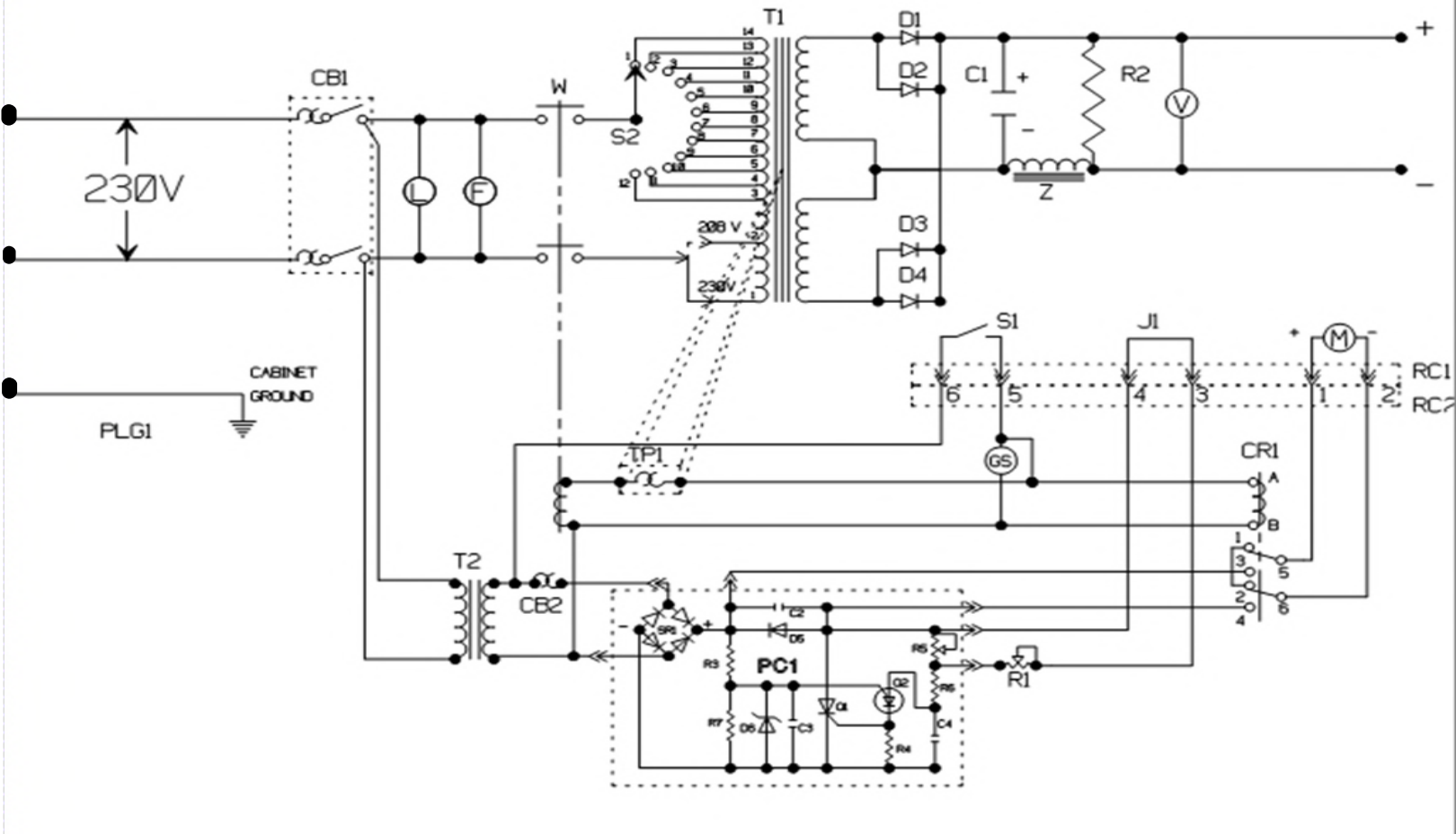


FIGURE 1 - SCHEMATIC DIAGRAM

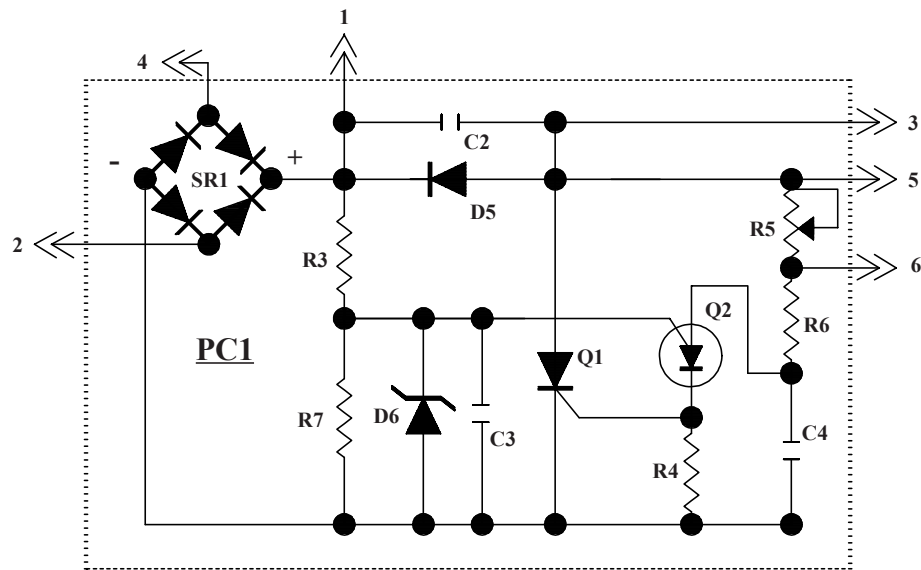


FIGURE 1A - SCHEMATIC, WIRE FEED CIRCUIT BOARD

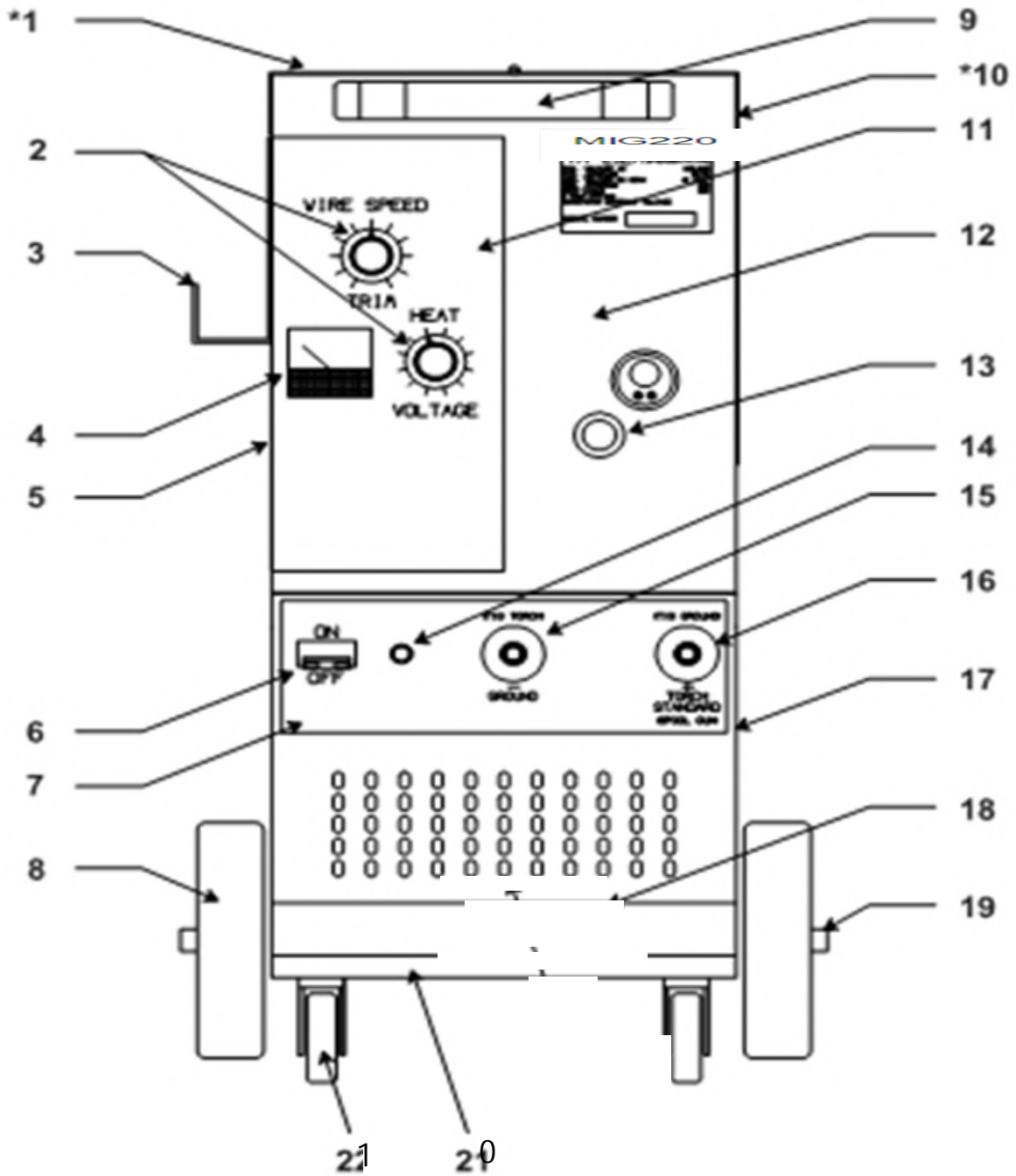


FIGURE A - FRONT ASSEMBLY

**FIGURE A**

ITEM NO.	DIA. MKGS.	PART NO.	DESCRIPTION	QTY.
*1		SN-407L	COVER, LEFT *(MUST BE PURCHASED AS A COMPLETE ASSY) .....	1
*		SN-427	COVER & ACCESS DOOR ASSEMBLY, COMPLETE .....	1
2		SN67	<del>ASSEMBLY, COMPLETE .....</del>	<del>1</del>
3		SN-330A	KNOB, HEAT & TRIM .....	1
4				
	V	SN-319	HANGER, CABLE .....	2
		SN-115	VOLTMETER .....	1
5		SN-306	SIDE, LEFT .....	1
6	CB1	SN-482	CIRCUIT BREAKER, 35 AMP .....	1
		SN-955	BREAKER BRACKET .....	1
7		LB-1121	LABEL, WELD CONNECTOR .....	1
8		SN-124-8	REAR WHEEL, 8" .....	2
9		SN-05	HANDLE .....	1
*10		SN-407R	ACCESS DOOR *(MUST BE PURCHASED AS COMPLETE ASSY) .....	1
11		LB-2201	LABEL, CONTROL .....	1
12		SN2208	FRONT .....	1
13		SN-71	BUSHING .....	1
14	L	SN-184	INDICATOR LAMP .....	1
15	-	SN-146	WELD CONNECTOR .....	1
		SN-72	NUT, WELD CONNECTOR .....	2
		SN-17810	GROUND CABLE ASSEMBLY, 10' (NOT SHOWN) .....	1
		SN-165	CLAMP, GROUND (NOT SHOWN) .....	1
16	+	SN-146C	WELD CONNECTOR W/GAS HOLE .....	1
17		SN-304	SIDE, RIGHT .....	1
18		SN-302	BASE .....	1
19		SN-171	AXLE .....	1
		SN-171C	AXLE, CAPS .....	2
		SN-217W	AXLE, WASHER .....	4
20		SN-213	CASTER BRACKET .....	1
21		SN-121-3	CASTER, FRONT 3" .....	2

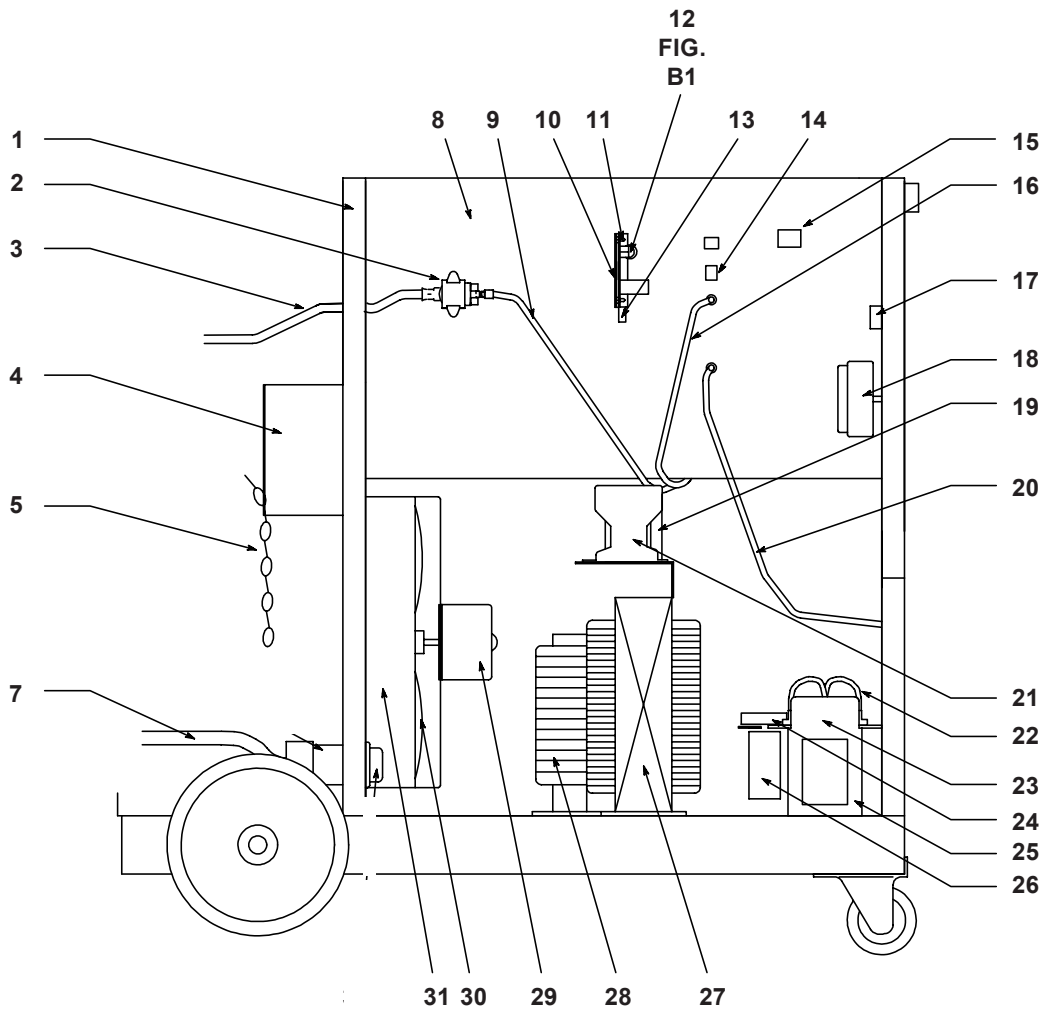


FIGURE B - LEFT SIDE VIEW & INTERNAL COMPONENTS

**FIGURE B**

ITEM NO.	DIA. MKGS.	PART NO.	DESCRIPTION	QTY.
1		SN-303F	BACK .....	1
2	GS	SN-126B	SOLENOID ASSEMBLY, 24VAC .....	1
3		SN-253A	GAS HOSE, PRIMARY .....	1
4		SN-211	CYLINDER BRACKET .....	1
5		SN-211C	CYLINDER CHAIN .....	1
7		20CP-0	POWER INPUT CABLE, 20' .....	1
	"			
		SN-220	STRAIN RELIEF .....	1
		SN-220N	NUT, STRAIN RELIEF .....	1
8		SN-305A	BAFFLE .....	1
9		SN-353S	GAS HOSE, SELECTOR .....	1
10		SN-6421U	BRACKET, CONTROL (U-BOARD) .....	1
11		SN-601	STAND OFF, NYLON BOARD .....	4
12	PC1	SN-774U	WIRE FEED CONTROL BOARD (FIGURE B1) .....	1
13		SN-685	TERMINAL HOUSING, HARNESS .....	1
		SN-685P	PIN, EDGE CONNECTOR .....	6
14	RC4	SN-861C	RECEPTACLE, FUNCTION .....	1
15		SN-236	SOCKET, RELAY 8 PIN .....	1
16		SN-353D	HOSE, BULKHEAD, (MIG FITTING) .....	1
17	R1	SN-35U	POTENTIOMETER, 75K OHM .....	1
18	S2	SN-163-12	HEAT SWITCH, 12 POSITION .....	1
19	T2	SN-287M	CONTROL TRANSFORMER, 230V-28V .....	1
20		SN-353E	HOSE, BULKHEAD, (MHG5-A FITTING) .....	1
21	W	SN-153	CONTACTOR, 24VAC .....	1
22	D1,2,3,4	SN-260	DIODE .....	4
23		SN-360	HEAT SINK ASSEMBLY, COMPLETE .....	1
24	R2	SN-162	RESISTOR, 100 OHM 25W .....	1
25		SN-255M	LEG, HEAT SINK .....	2
26	C1	SN-125S	CAPACITOR, 12,000UF 50V .....	6
27	T1	SN-886	TRANSFORMER, POWER .....	1
	TP1	SN-654	THERMAL SWITCH (N.C.) .....	1
28	Z	SN-188C	CHOKE .....	1
29	F	SN-117	FAN MOTOR, SMALL .....	1
30		SN-318R	FAN BLADE .....	1
31		SN-310A	FAN BRACKET W/SHROUD .....	1

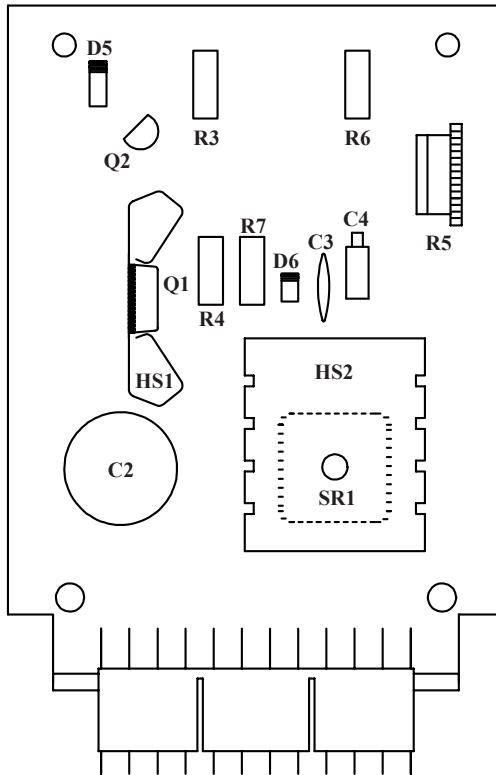


FIGURE B1 - PRINTED CIRCUIT BOARD (SN-774U)



**FIGURE B1**

ITEM NO.	DIA. MKGS.	PART NO.	DESCRIPTION	QTY.
C2	MI-623		CAPACITOR, 1000UF 50V .....	1
C3	HG-578		CAPACITOR, .02UF 100V .....	1
C4	MI-626		CAPACITOR, .68UF 50DC .....	1
D5	HG-579		DIODE, 2A .....	1
D6	HG-196		DIODE, ZENER 7.5V .....	1
HS1	CB-251		HEAT SINK, SCR .....	1
HS2	CB-250		HEAT SINK, BRIDGE RECTIFIER .....	1
Q1	HG-194A		SCR, 10A .....	1
Q2	MI-627		TRANSISTOR, PUT .....	1
R3,6	CB-043		RESISTOR, 1K OHM 1/2W .....	2
R4	MI-127		RESISTOR, 100 OHM 1/2W .....	1
R5	MI-135A		RESISTOR, TRIM 1 MEG OHM .....	1
R7	MI-159		RESISTOR, 330 OHM 1/2W .....	1
SR1	CB-048		RECTIFIER, BRIDGE .....	1

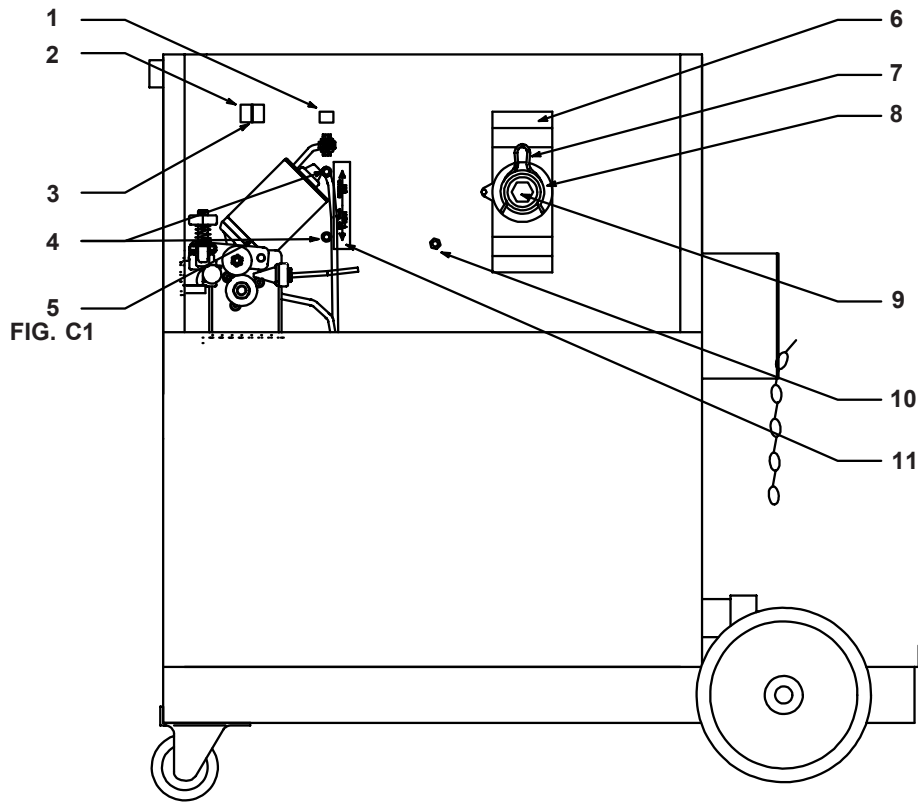


FIGURE C - WIRE FEED COMPARTMENT

**FIGURE C**

ITEM NO.	DIA. MKGS.	PART NO.	DESCRIPTION	QTY.
1	CB2	SN-519	BREAKER, MINI 5A .....	1
2	CR1	SN-276S	RELAY, 8 PIN 24VAC .....	1
3		SN-276CL	RELAY CLIP, 8 PIN .....	1
4		SN-500A	BULKHEAD ASSEMBLY, FEMALE .....	2
		SN-501	BULKHEAD, MALE .....	2
		SN-501K	BULKHEAD KIT, COMPLETE .....	2
		SN-880	COVER, THREAD .....	1
5		SN-138C24B	WIRE DRIVE ASSEMBLY (FIGURE C1) .....	1
6		SN-323	SPOOL BRACKET .....	1
7		SN-22	SPOOL CLIP .....	1
8		SN-122	SPOOL HUB ASSEMBLY .....	1
		SN-15	SHAFT .....	1
		SN-16	BUSHING .....	2
		SN-18	TENSION SPRING .....	1
		SN-19	WASHER, SPOOL HUB .....	3
9		SN-20B	BOLT, TENSION .....	1
10		SN-120	BASE, 4" ADAPTER (OPTIONAL).....	1
11		SN-1055	LABEL, SELECTION .....	1

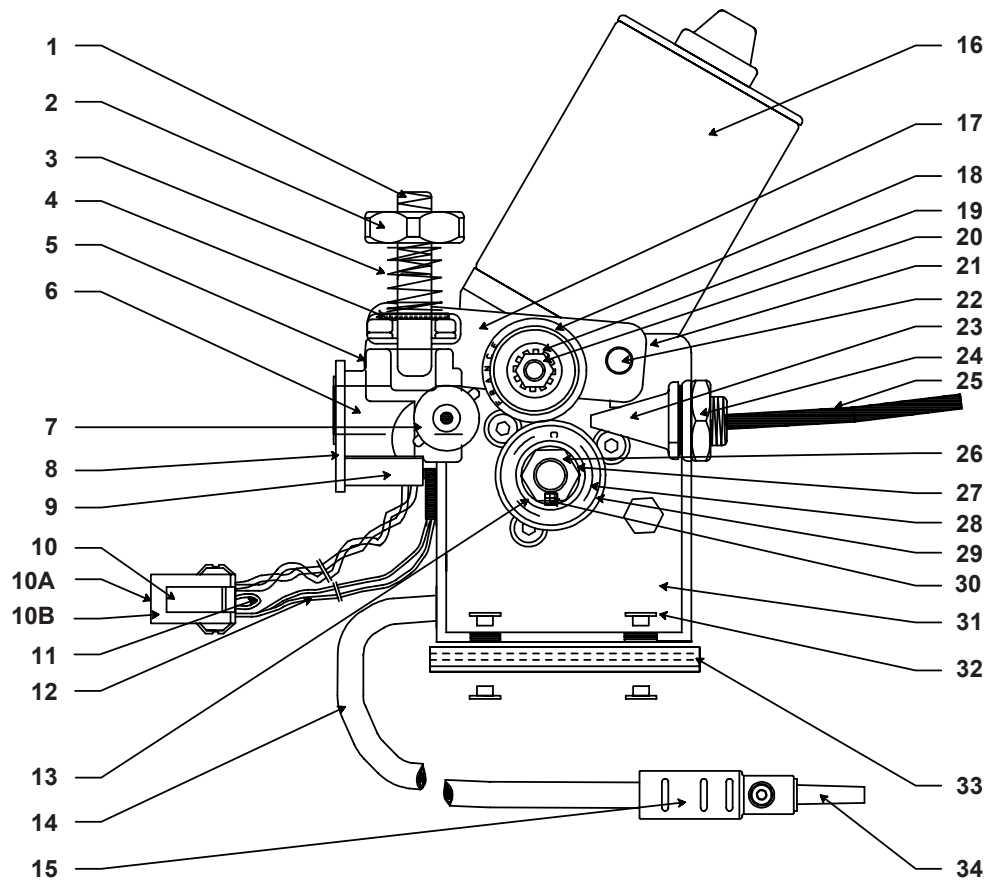


FIGURE C1 - WIRE DRIVE ASSEMBLY (SN-138C24B)

**FIGURE C1**

ITEM NO.	DIA. MKGS.	PART NO.	DESCRIPTION	QTY.
1		SN-48	PRESSURE ROLL TENSION BOLT .....	1
2		SN-51	TENSION NUT .....	1
3		SN-50F	PRESSURE SPRING .....	1
4		SN-49	TENSION BOLT WASHER .....	1
5		SN-47	TENSION BOLT PIN .....	1
6		SN-24	GAS FITTING, BRASS .....	1
7		M3-906	THUMB SCREW .....	1
8		M3-900C	TORCH PANEL MOUNT .....	1
9		SN-604	WIRE CONNECTOR, 90 DEG. ....	2
10	RC3	SN-860C	FUNCTION PLUG ASSEMBLY .....	1
10A		SN-860	PIN HOUSING .....	1
10B		SN-860M	MALE PIN CONNECTOR .....	6
11	J1	AD-10	BLUE JUMPER .....	1
12		SN-237	CONTROL WIRE ASSEMBLY .....	2
13		SN-62	DRIVE ROLL WASHER .....	1
14		SN-278C	TORCH SELECTOR CABLE ASSEMBLY .....	1
15		SN-169A	TERMINAL INSULATOR .....	1
16	M	SN-138C24	24VDC MOTOR .....	1
17		SN-53F	ROCKER ARM .....	1
18		SN-158	PRESSURE ROLL .....	1
19		SN-55F	BEARING SPACER .....	1
20			1/4-20 KEP NUT .....	1
21		SN-89	SPRING WASHER .....	1
22		SN-52	SHOULDER BOLT .....	1
23		SN-33F	INLET GUIDE .....	1
24		SN-34	NUT, INLET GUIDE .....	1
		HW-58ILW	LOCK WASHER, INTERNAL .....	1
25		SN-136C	INLET GUIDE TUBE .....	1
26		SN-64	DRIVE ROLL NUT .....	1
27		SN-65	DRIVE ROLL LOCK WASHER .....	1
28		SN-603	ADJUSTING COLLAR (BEHIND) .....	1
29		3045DR	DRIVE ROLL .....	1
30		SN-61C	1/2 WOODRUFF DRIVE KEY .....	1
31		SN-131E	MOTOR BRACKET, ADJUSTABLE .....	1
32		SN-40	INSULATING WASHER .....	4
33		SN-139	MOTOR BASE INSULATOR .....	1
34		SN-168A	CABLE TERMINAL .....	1
		SN-170A	CABLE TERMINAL ASSEMBLY, COMPLETE .....	1