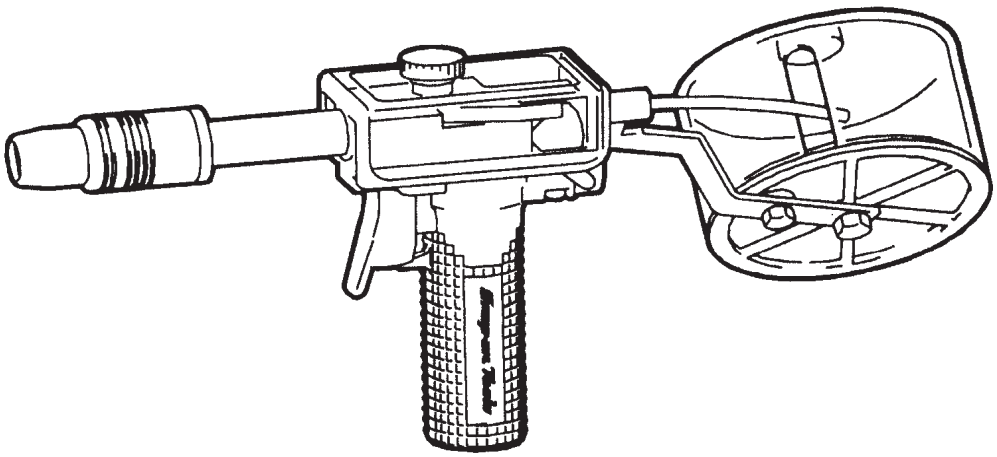
Snap-on®

OWNER'S MANUAL

MHG5-A MIG GUN SYSTEM



THE MHG5-A
"MOTORIZED HAND GUN" SYSTEM
WITH THE SPEED CONTROL IN THE GUN HANDLE,
REPRESENTS THE LATEST STATE OF THE ART
IN MIG EQUIPMENT FOR ALUMINUM WELDING.

MODEL NUMBER **MHG5-A**

FOR TECH. SERVICE, CALL TOLL-FREE 1-800-232-9353

INSTALLATION
OPERATION
REPLACEMENT PARTS

FORM WC5385 **Rev. 9/00**

MANUFACTURER'S LIMITED WARRANTY

This equipment is warranted against defects in materials and workmanship for a period of ***ninety (90) days*** from the date of purchase. Should it become defective for such reason, the Manufacturer will repair it without charge, if it is returned to the Manufacturer's factory, freight prepaid. This warranty does not cover: (1) failure due to normal wear and tear; (2) consumable parts, such as, but not limited to, torch contact tips, gas cups and insulating bushings; (3) damage by accident, force majeure, improper use, neglect, unauthorized repair or alteration; (4) anyone other than the original purchaser.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. THE MANUFACTURER SHALL NOT BE LIABLE FOR ANY INJURY TO PERSONS, INCLUDING DEATH; OR LOSS OR DAMAGE TO ANY PROPERTY, DIRECT OR CONSEQUENTIAL, INCLUDING, BUT NOT LIMITED TO, LOSS OF USE, ARISING OUT OF THE USE, OR THE INABILITY TO USE, THE PRODUCT. THE USER ASSUMES ALL RISK AND LIABILITY WHATSOEVER IN CONNECTION WITH THE USE OF THE PRODUCT, AND BEFORE DOING SO, SHALL DETERMINE ITS SUITABILITY FOR HIS INTENDED USE, AND SHALL ASCERTAIN THE PROPER METHOD OF USING IT.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, OR THE EXCLUSIONS OR LIMITATIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES. SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY HAVE OTHER RIGHTS WHICH MAY VARY FROM STATE TO STATE.

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Snap-on Tools Corporation Kenosha, WI 53141-1415

INTRODUCTION

The Snap-On Tools **MHG5-A** is the latest "State of the Art" in MIG spool guns for aluminum welding. The **MHG5-A** System is designed for Gas Metal Arc Welding (GMAW or MIG) of aluminum material using .023", .030", .035" or 3/64" aluminum wire packaged on 4 inch diameter spools. To weld steel, optional equipment is required (see pages 4 and 5 - use .030" or .035" steel wire). Wire speed is controlled by a dial located in the gun handle.

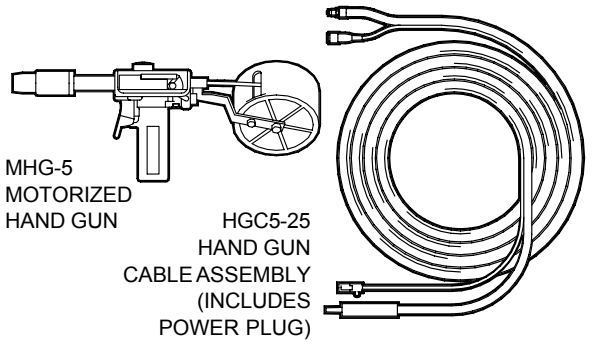


FIGURE 1. MHG5-A SYSTEM COMPONENTS

The **MHG5-A** System is designed specifically for operation with Snap-On Tools FM140A, M140i, YA204C, YA212A and YA212A "INDUSTRIAL" MIG Combination Units.

THE MIG PROCESS AS APPLIED TO THE MHG5-A

The MIG process uses a bare, consumable electrode in the form of spooled wire, which is fed by a controllable speed feed unit through the gun barrel to the weld. The emerging wire and the weld are shielded by a stream of Argon gas which prevents oxidation of the molten weld puddle. Aluminum is MIG welded with reverse polarity [electrode positive (+)]. In this mode, the electrons move from the work to the electrode (welding wire) causing a cathode cleaning effect of the weld area.

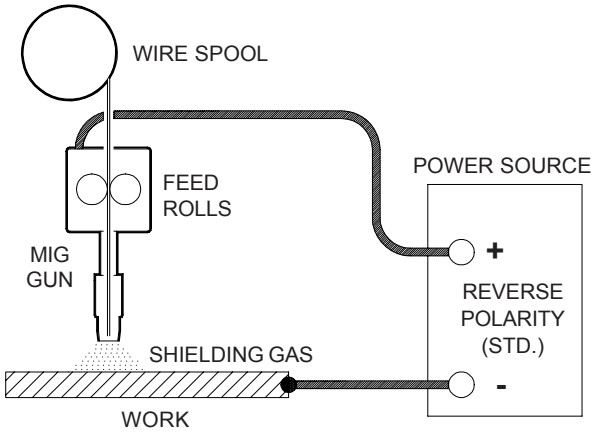


FIGURE 2. SCHEMATIC OF MIG PROCESS

The consumable electrode wire is melted and transferred to the weld puddle by any of three arc modes; short arc transfer, globular transfer, or spray arc transfer. The **MHG5-A** is capable of performing all modes, depending on the power source being used.

SHORT ARC OR DIP TRANSFER

Short arc transfer occurs at 12 to 22 arc volts (voltage while welding), depending on wire size. Welding commences as the arc is struck and a weld pool is formed. The tip of the electrode wire dips into the pool and causes a short circuit. The short circuit current flow causes a rapid temperature rise in the electrode wire and the end of the wire is melted off. An arc is immediately formed between the tip of the wire and the weld pool, maintaining the electrical circuit and producing sufficient heat to keep the weld pool fluid. The electrode continues to feed and again dips into the pool.

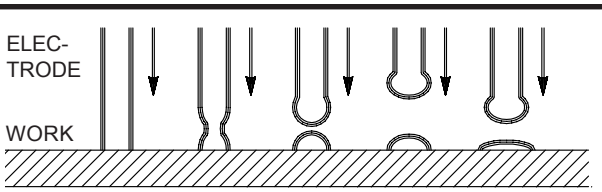


FIGURE 3. SHORT ARC TRANSFER

In short arc transfer, the sequence of events is repeated up to 200 times per second. Short arc is suitable for positional welding. The heat input to the workpiece is kept to a minimum which limits distortion and makes possible the welding of thin sheet material.

GLOBULAR TRANSFER

Globular transfer occurs at the intermediate range of 22 to 24 arc volts, depending on wire size. As the name implies, the transfer takes place in the form of irregularly shaped globules. Globular transfer is useful in cases where a lower heat input than that of true spray is required.

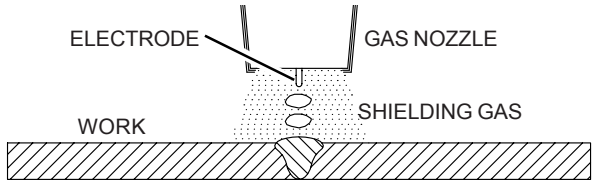


FIGURE 4. GLOBULAR TRANSFER

SPRAY TRANSFER

Spray transfer occurs at 22 to 28 arc volts, depending on wire size. The length of the arc is held constant by the voltage available. The higher voltage and current causes the electrode wire to melt off before touching the workpiece. The molten metal crosses the gap to the workpiece in a spray form. Spray transfer is used in the down-hand position and provides higher deposition rates than short arc transfer or globular transfer.

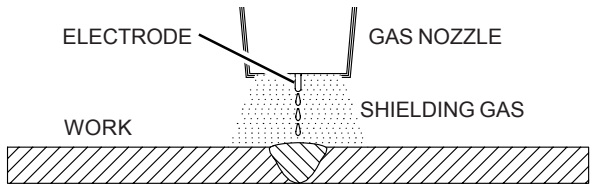


FIGURE 5. SPRAY TRANSFER

DESCRIPTION

The **MHG5-A** consists of the gun and the gun cable assembly.

The Motorized Hand Gun (MHG-5) used on the **MHG5-A** System is the latest model. It incorporates the following features.

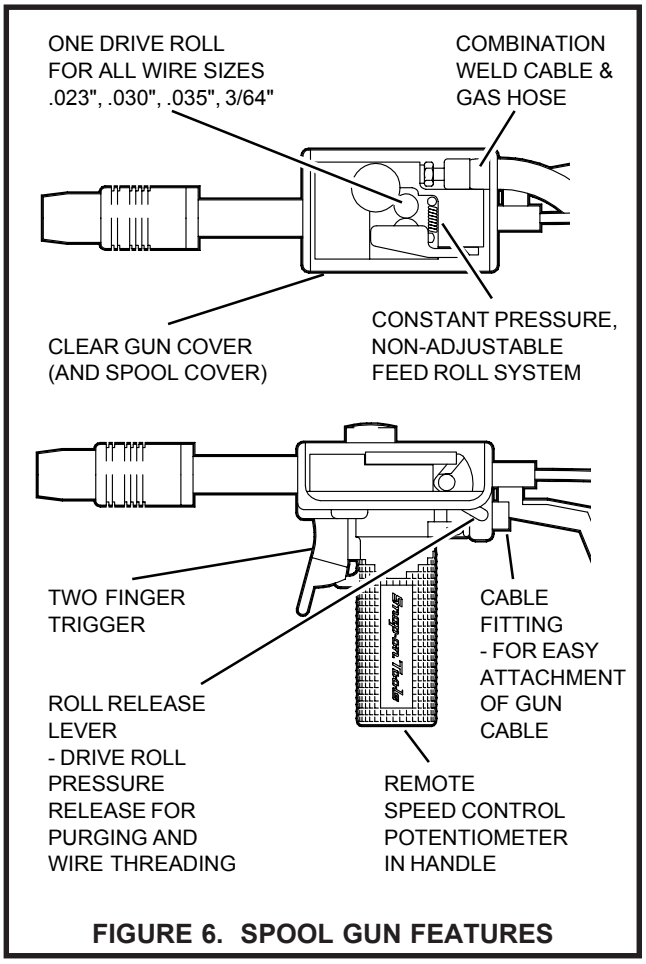


FIGURE 6. SPOOL GUN FEATURES

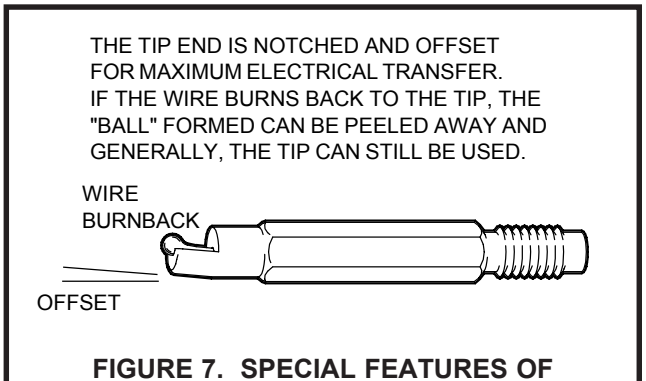


FIGURE 7. SPECIAL FEATURES OF MG-T25, MG-T30, MG-T35 & MG-T364 NOTCHED END CONTACT TIPS

DESCRIPTION (Cont.)

The Hand Gun Cable Assembly (HGC5-25) consists of (1) a concentric Weld Cable/Gas Hose with fittings and Power Plug, and (2) a Control Cable with fittings. The standard cable assembly is 25 feet long. 35 foot (HGC5-35) and 50 foot (HGC5-50) assemblies are extra cost options.

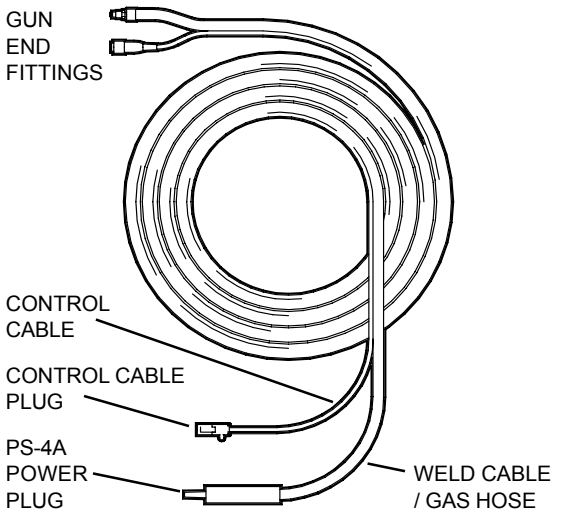


FIGURE 8. CABLE ASSEMBLY

The Power Plug (PS-4A) (installed on the Weld Cable/Gas Hose) plugs directly into the "Torch Standard" terminal on the front panel of the welding machine. The Weld Cable/Gas Hose carries the welding current and shielding gas. Gas flow is controlled by the gas solenoid in the welding machine.

The Control Cable plugs into the function receptacle in the welding machine. It carries power to the gun motor and returns the contactor actuation signal to the welding machine.

SPECIFICATIONS

PART NUMBER: **MHG5-A**

AMPERAGE RATING:
- 60% Duty Cycle 250 Amps
- 100% Duty Cycle 200 Amps

SPECIFICATIONS (Cont.)

DUTY CYCLE TIME PERIOD:
10 minutes

WIRE TYPE: aluminum, steel

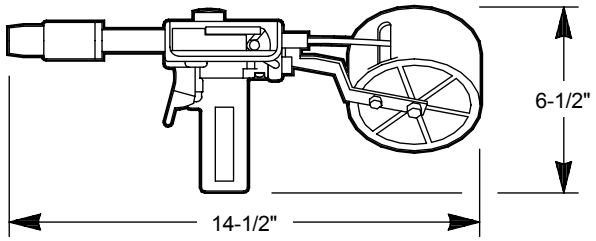
WIRE SIZES: .023", .025", .030", .035", 3/64" aluminum
.030" - .035" steel

WIRE FEED SPEED RANGE:
50 - 650 inches per minute

SHIELDING GAS:
For Aluminum 100% Argon
For Steel 75% Argon + 25% CO2

WEIGHT:
- Gun 2-3/4 pounds
- Gun and Cable 14 pounds

DIMENSIONS:
See Illustration



CHECK LIST

THE SNAP-ON TOOLS MHG5-A SYSTEM INCLUDES THE FOLLOWING:

1- MHG-5 Spool Gun

1- HGC5-25 Hand Gun Cable Assembly - 25 foot

1- PS-4A Power Plug (installed on gun cable assembly)

7- MG-TXX Contact Tip (one installed in gun)

1- M35-NA62 Nozzle Assembly (installed on gun)

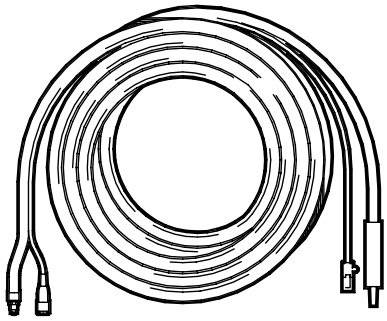
1- M35-D Gas Diffuser (installed in gun)

1- 4043-XX Spool of Aluminum Wire

OPTIONAL EXTRAS
(designate when ordering spool gun)
Example: MHG5-A w/HGC5-50

HGC5-35 35 foot Gun Cable Assembly

HGC5-50 50 foot Gun Cable Assembly

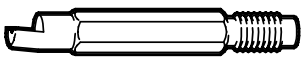


MG-T25 .023" - .025" Notched End Contact Tip - for aluminum welding.

MG-T30 .030" Notched End Contact Tip - for aluminum welding.

MG-T35 .035" Notched End Contact Tip - for aluminum welding.

MG-T364 3/64" Notched End Contact Tip - for aluminum welding.

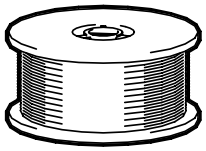


4043-23 .023" type 4043 Aluminum Welding Wire on 4 inch spool

4043-30 .030" type 4043 Aluminum Welding Wire on 4 inch spool

4043-35 .035" type 4043 Aluminum Welding Wire on 4 inch spool

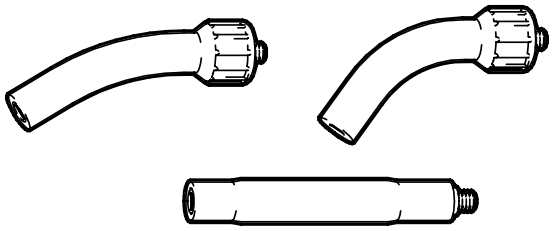
4043-364 3/64" type 4043 Aluminum Welding Wire on 4 inch spool



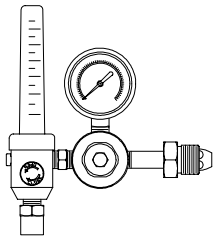
MG-CBA-60 60 degree Curved Barrel Assembly

MG-CBA-45 45 degree Curved Barrel Assembly

MG-FBA Flexible Barrel Assembly



GR-FM Argon Gas Regulator and Flowmeter



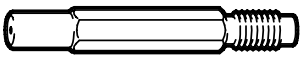
OPTIONS FOR WELDING STEEL (AND OTHER HARD WIRES - STAINLESS STEEL, BRONZE, ETC.)

SN-2160K Knurled Drive Roll - for feeding steel wire.

M5-T25 .023" - .025" Contact Tip - for steel welding.

M5-T30 .030" Contact Tip - for steel welding.

M5-T35 .035" Contact Tip - for steel welding.

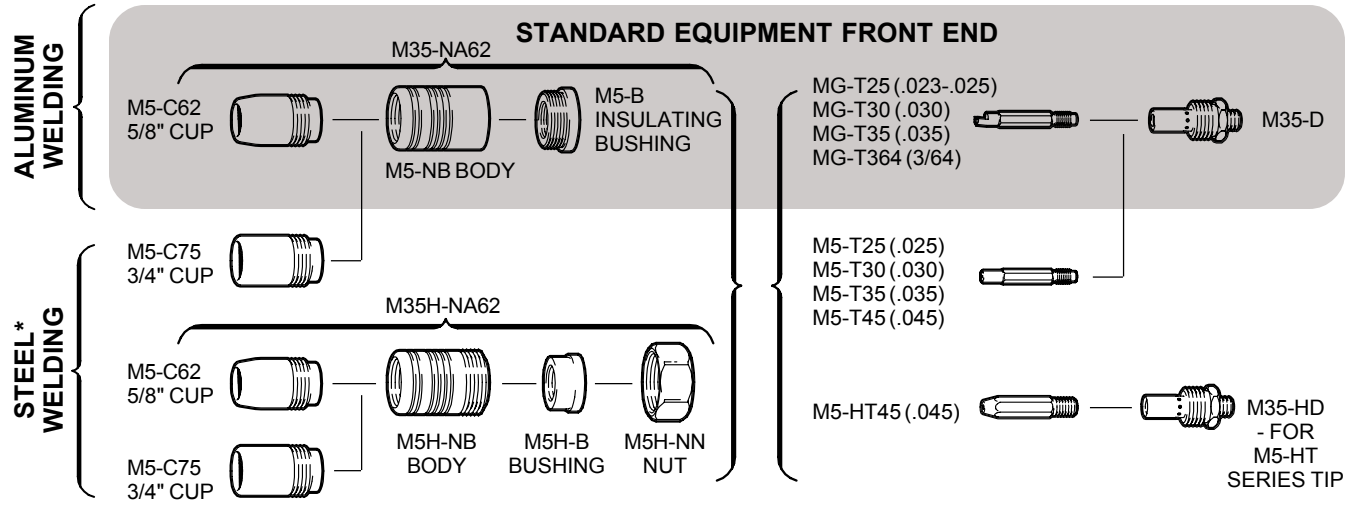


See the "FRONT END CONSUMABLE PARTS" chart on the following page for a complete listing of available nozzles, contact tips, etc. for aluminum welding and for steel welding.

FRONT END CONSUMABLE PARTS

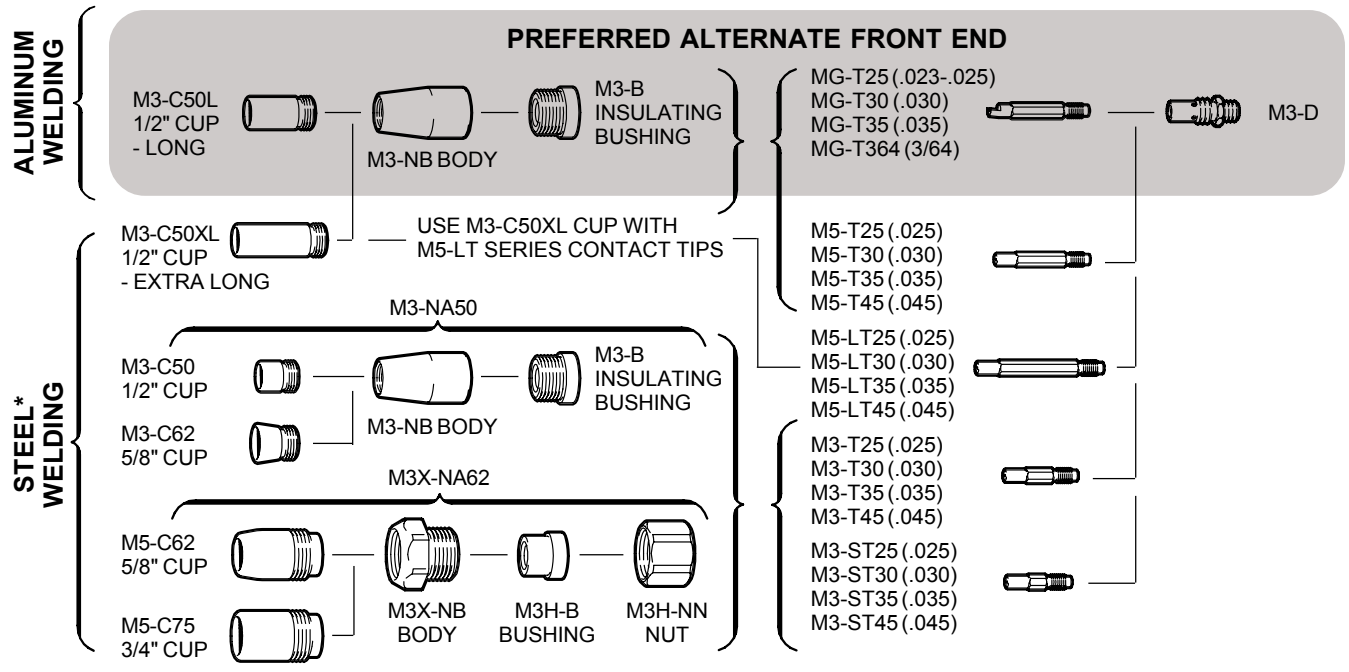
HEAVY DUTY FIXED NOZZLE FRONT END

APPL.	NOZZLE, NOZZLE ASSEMBLY	CONTACT TIP	GAS DIFFUSER



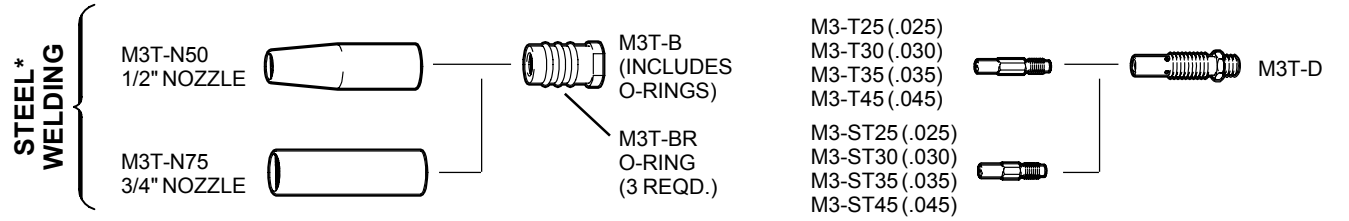
FIXED NOZZLE FRONT END

APPL.	NOZZLE, NOZZLE ASSEMBLY	CONTACT TIP	GAS DIFFUSER



ADJUSTABLE NOZZLE FRONT END

APPL.	NOZZLE	INSULATOR	CONTACT TIP	GAS DIFFUSER



***SN-2160K-KNURLED DRIVE ROLL IS REQUIRED FOR STEEL WELDING**

ITEMS REQUIRED FOR MIG WELDING WHICH ARE NOT PROVIDED WITH THE MHG5-A SYSTEM

1. DC welding machine

> **NOTE**
> The **MHG5-A** System operates with the following Snap-On Tools MIG Combination Units **ONLY**: FM140A (serial nos. 840-500 through 840-790 and 840-2000 and later), M140i (all), YA204C (serial nos. 804-2123 and later), YA212A (serial nos. 812-2625 and later), YA212A INDUSTRIAL (serial nos. 812I-3227 and later).

2. Full cover welding helmet with proper colored lens (shade 10 or darker).

3. Pure Argon gas and cylinder (or 75% Argon + 25% CO2 for welding steel).

4. Argon gas regulator (available as an optional extra).

5. Leather welding gloves.

6. Ground cable and clamp.

INSTALLATION

The **MHG5-A** System operates with the following Snap-On Tools MIG Combination Units **ONLY**:

FM140A (serial nos. 840-501 through 840-790 and 840-2000 and later),
M140i (all).
YA204C (serial nos. 804-2123 and later),
YA212A (serial nos. 812-2625 and later),
YA212A INDUSTRIAL (serial nos. 812I-3227 and later),

> **NOTE**
> The MIG Combination Unit must have either (1) BULKHEAD FITTINGS and SELECTOR HOSE (current model welders) or (2) TOGGLE VALVE ASSEMBLY (factory installed or TV-5A Kit - depending on welder model and serial number). This section contains installation instructions for both types. The welders covered by each set of instructions are identified by model number and serial number at the beginning of the instructions. Be sure to follow the correct set of instructions.

CONNECTING THE GUN TO A MIG UNIT WITH BULKHEAD GAS FITTINGS / SELECTOR HOSE SYSTEM (See Figures 9 & 10)

All current model Snap-On Tools MIG Combination Units are equipped with bulkhead gas fittings for quick and easy change-over to spool gun operation using the **MHG5-A** Gun. The following MIG Units have this system.

FM140A (serial nos. 840-6072 and later),
M140i (serial nos. 940i-2180 and later).
YA204C (serial nos. 804-2325 and later),
YA212A (serial nos. 812-4121 and later),
YA212A INDUSTRIAL (serial nos. 812I-6747 and later),

1. Open the access door of the MIG Combination Unit.

2. Remove the thread cap from the bulkhead fitting marked **"SPOOL GUN"**.

(continued on following page)

CONNECTING THE GUN TO A MIG UNIT WITH BULKHEAD GAS FITTINGS / SELECTOR HOSE SYSTEM (Cont.)

3. Unscrew the selector hose from the **"MIG TORCH"** bulkhead fitting.

4. Move the selector hose to the **"SPOOL GUN"** fitting and tighten it.

5. Install the thread cap (removed in step 2) on the **"MIG TORCH"** fitting to prevent dirt and other contaminants from entering the unused line.

6. Disconnect the MIG Unit's wire drive motor by removing the wire feed motor plug from the function receptacle.

7. Plug the spool gun control cable plug into the MIG Unit's function receptacle.

8. Remove the torch selector cable from the positive (+) terminal on the front panel of the MIG Unit. Allow the torch selector cable to hang free. Make sure the ground cable is plugged into the negative (-) terminal.

9. Plug the spool gun power plug (on the end of the welding cable / gas hose) into the positive (+) terminal.

NOTE

To change back to standard MIG torch operation, reverse the procedure and change the shielding gas.

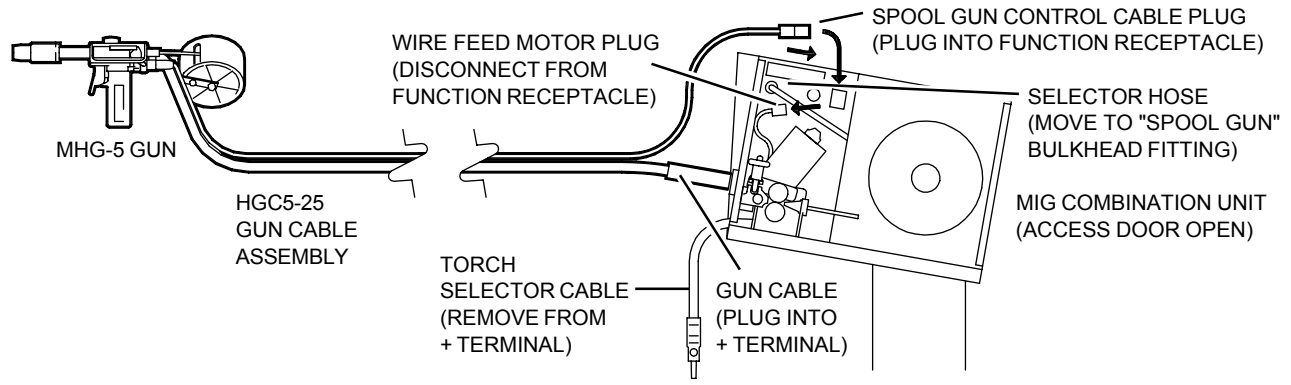


FIGURE 9. CONNECTION DIAGRAM - FOR FM140-A & M140i MIG COMBINATION UNITS

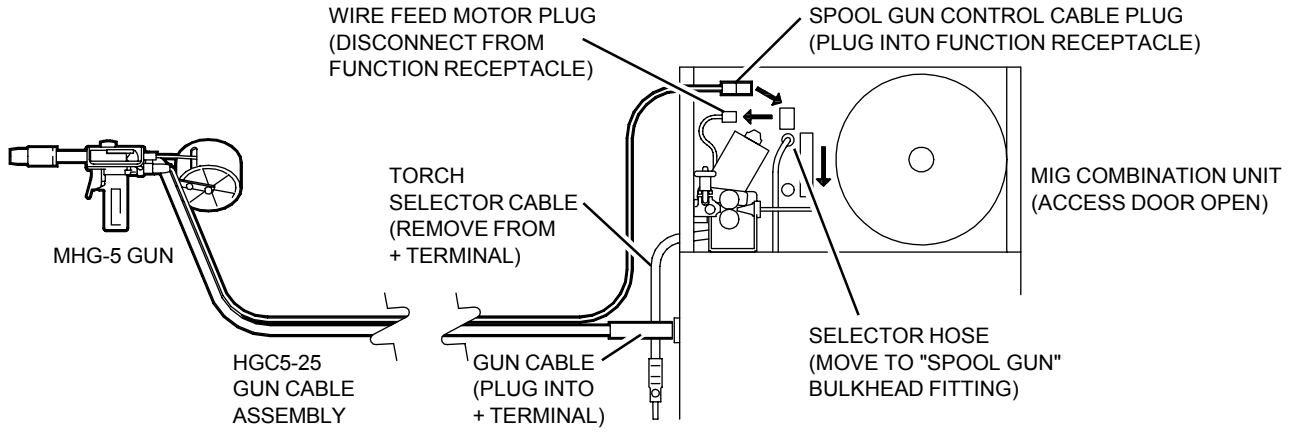


FIGURE 10. CONNECTION DIAGRAM - FOR YA204C, YA212A, YA212A INDUSTRIAL MIG UNITS

CONNECTING THE GUN TO A MIG UNIT WITH A GAS TOGGLE VALVE. (See Figures 11 and 12)

The following MIG Combination Units have a factory installed toggle valve.

YA204C (serial nos. 804-2123 through 804-2324),
YA212A (serial nos. 812-2625 through 812-4120),
YA212A INDUSTRIAL (serial nos. 812I-3227 through 812I-6746).

The following MIG Combination Units require the installation of a TV-5A Toggle Valve Kit prior to connecting the spool gun.

FM140A (serial nos. 840-500 through 840-790 and 840-2000 through 840-6071),
M140i (serial nos. 84i-2111 through 84i-2130 and 940i-2000 through 940i-2179).

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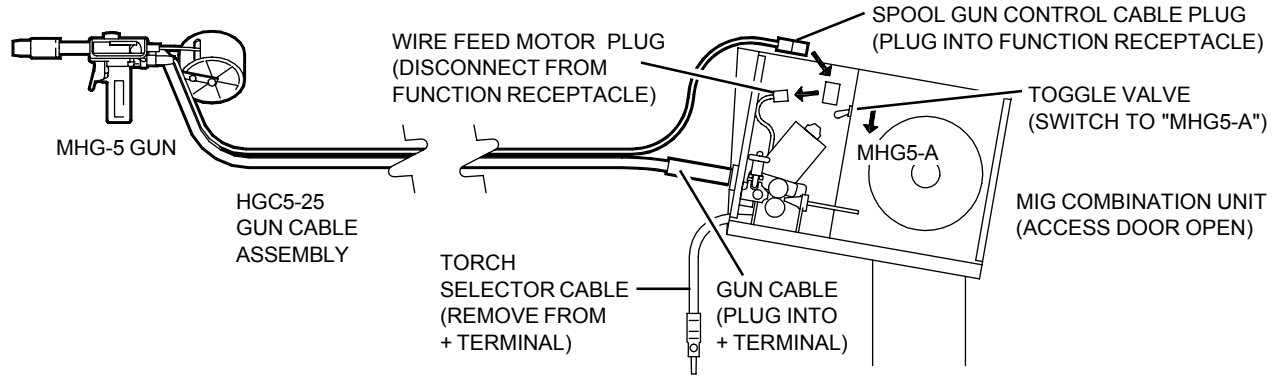

FIGURE 11. CONNECTION DIAGRAM - FOR FM140-A & M140i MIG COMBINATION UNITS

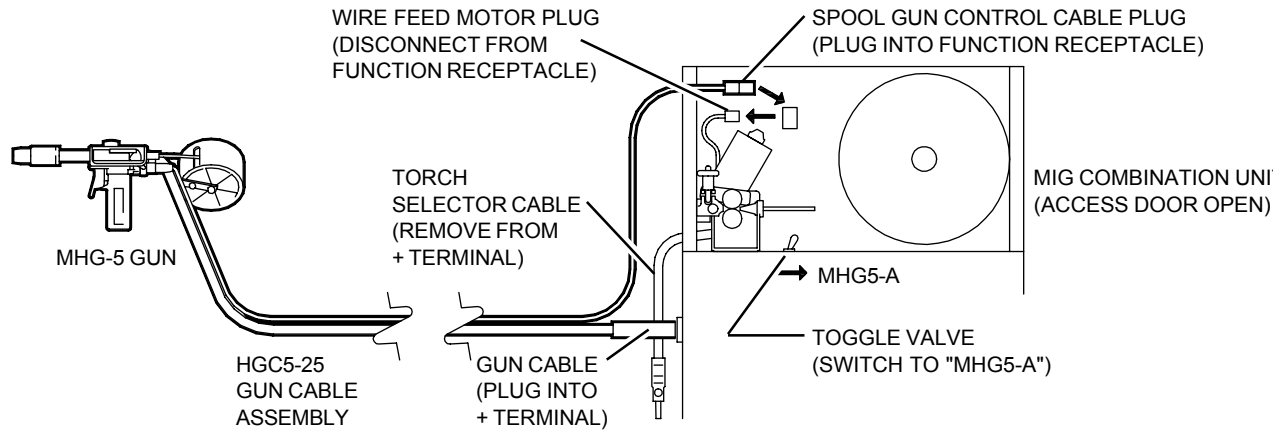

FIGURE 12. CONNECTION DIAGRAM - FOR YA204C, YA212A, YA212A INDUSTRIAL MIG UNITS

CONNECTING THE GUN TO A MIG UNIT WITH A GAS TOGGLE VALVE. (Cont.)

1. Open the access door of the MIG Combination Unit.

2. Disconnect the wire drive motor by removing the wire feed motor plug from the function receptacle.

3. Plug the spool gun control cable plug into the welder function receptacle.

4. Remove the torch selector cable from the positive (+) terminal on the front panel of the welding machine. Allow the torch selector cable to hang free. Make sure the ground cable is plugged into the negative (-) terminal.

5. Plug the spool gun power plug (on the end of the welding cable / gas hose) into the positive (+) terminal.

6. Switch the toggle valve inside the machine from the "MIG" setting to the "MHG5-A" setting. This redirects the gas flow from the wire drive assembly to the positive (+) terminal.

> **NOTE**
> To change back to standard MIG torch operation, reverse the procedure and change the shielding gas.

SHIELDING GAS CONNECTIONS

> **NOTE**
> Make sure the welder primary gas hose and regulator/ flowmeter are connected to a cylinder of the proper shielding gas - 100% Argon for aluminum and 98% Argon + 2% O2 for stainless steel and 75% Argon + 25% CO2 for steel welding.

1. Place a cylinder of the appropriate shielding gas in the rack at the rear of the welding machine and secure it with the chain provided.

2. Rapidly open and close the cylinder valve. This will purge dust and foreign matter from the valve.

> **CAUTION**
> Take care to point the valve outlet away from yourself or other people, as escaping high pressure gas may be dangerous.

3. Attach a gas regulator - flowmeter to the cylinder valve using a suitable wrench.

4. Fit the gas hose from the welder to the regulator outlet fitting and tighten it with a wrench. Open the cylinder valve.

5. Check that the gas regulator is properly adjusted. When welding aluminum, the gas flow rate is 40 CFH. When welding steel, the gas flow rate is 30 CFH.

> **NOTE**
> The **Welding machine** must be turned "ON" and the **MHG5-A** trigger depressed, before the gas flow rate can be adjusted.

FITTING THE ELECTRODE WIRE

1. Remove the gun cover, spool cover, nozzle assembly and contact tip. Remove the spool brake assembly from the spool spindle and place a 4 inch spool of welding wire on the spindle.

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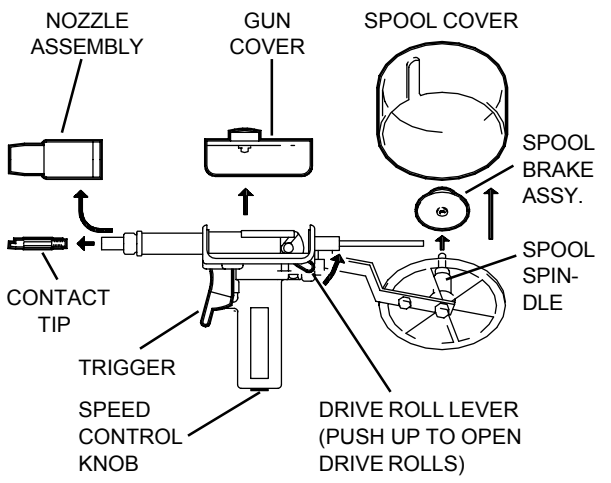


FIGURE 13. SPOOL GUN COMPONENTS

2. Replace the spool brake assembly.

> **NOTE**
> The spool brake assembly must bottom out against the spool hub nut when installed. The spring in the spool brake assembly provides the proper tension on the wire spool.

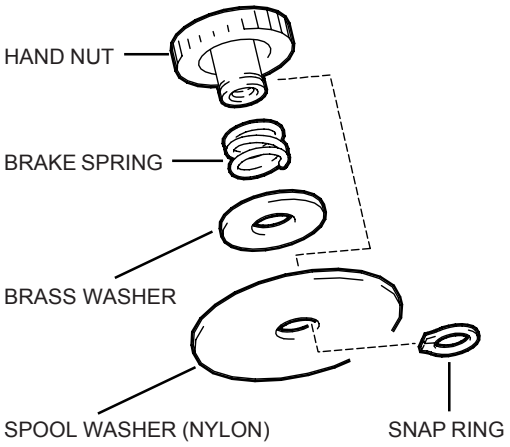


FIGURE 14. SPOOL BRAKE ASSEMBLY

SPOOL BRAKE ADJUSTMENT

The specifications for the 4 inch spool allow a variation in the width of the spool of up to 1/16 inch (±1/32 inch tolerance). The spool brake spring will handle most spool width variations. The following adjustments can be made if required.

If the spool brake is not applying enough tension on the spool:

1. Remove the spool brake assembly and the spool of wire.
2. Remove the spool hub nut and the lock washer.
3. Remove shim washer(s) as needed.
4. Remove the spool hub bolt and place the removed shim washer(s) under the bolt head.
5. Reassemble all components except for the spool cover.

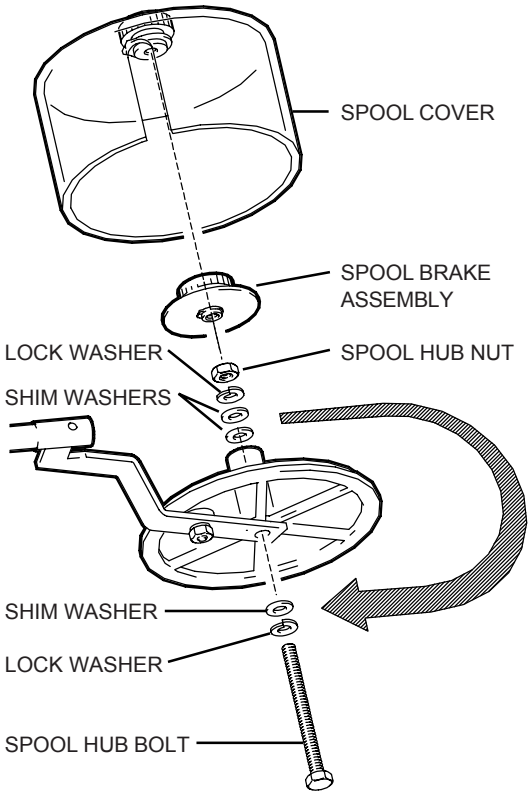


FIGURE 15. INCREASING BRAKE TENSION ON THE SPOOL

If the spool brake is applying too much tension on the spool:

1. Remove the spool brake assembly and the spool of wire.

2. Remove the spool hub nut and the lock washer.

3. Remove the spool hub bolt.

4. Remove shim washer(s) as needed from under the bolt head.

5. Place the removed shim washer(s) under the spool hub nut.

6. Reassemble all components except for the spool cover.

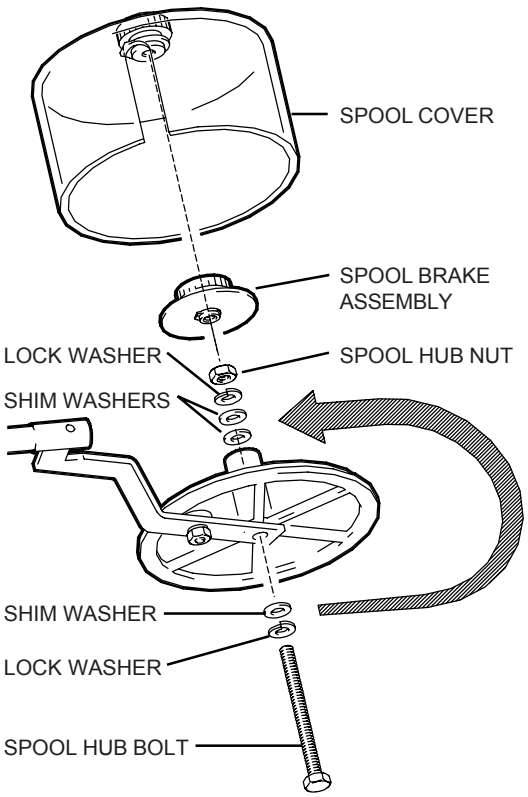


FIGURE 16. DECREASING BRAKE TENSION ON THE SPOOL

THREADING THE ELECTRODE WIRE

1. Make sure the feed roll is properly installed to match the wire size.

   To change the feed roll setting:

   a. Loosen but do not remove the setscrew.

   b. Slide the feed roll off the motor shaft.

   c. Turn the feed roll over and reinstall it on the motor shaft.

   d. Tighten the setscrew securely.

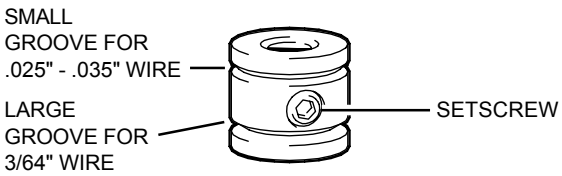


FIGURE 17. FEED ROLL

2. Set the welding machine WIRE SPEED control to **"10"** to provide full range speed control at the MHG-5 spool gun.

3. Turn the wire feed control in the spool gun handle clockwise to the **maximum setting**.

4. Turn on the welding machine to supply power to the gun. Open the rolls on the gun by pushing the Drive Roll Lever up.

5. Thread the wire through the inlet guide, between the feed and pressure rolls and into the barrel liner. The wire must be straight when it is threaded.

(continued on following page)

THREADING THE ELECTRODE WIRE (Cont.)

6. Release the drive roll lever and pull the gun trigger. Wire will be pushed out the front of the gun. Run out approximately 6 inches of wire. Reinstall the contact tip, nozzle assembly, gun cover and spool cover.

7. Cut off the electrode wire even with the front of the nozzle assembly.

8. Actuate the drive roll lever to open the rolls and pull the gun trigger to purge the system of contaminants. Purge for two minutes. Release the trigger and the drive roll lever.

YOU ARE NOW READY TO WELD

OPERATION

1. Attach the WORK (ground) cable from the negative (-) terminal on the welding machine to a CLEAN spot on the material to be welded.

2. Set the HEAT (voltage) control on the welding machine to the desired setting.

3. Set the WIRE SPEED control on the welding machine to **"10"**.

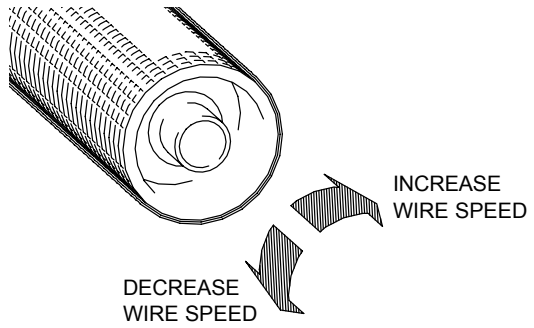


FIGURE 18. SPEED CONTROL KNOB

4. Turn the Speed Control Knob in the bottom of the gun handle clockwise to the **maximum setting.**

5. With the proper hood, gloves and other protective equipment in place, locate the gun over the joint to be welded and bring the nozzle to 1/2 to 5/8 inch from the workpiece. The recommended position of the gun and direction of travel for welding aluminum are shown in Figure 19.

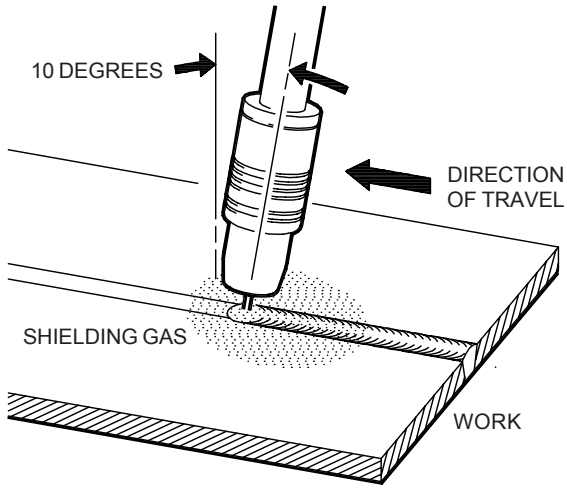


FIGURE 19.
TORCH POSITION FOR WELDING ALUMINUM

6. Actuate the gun trigger. The shielding gas will flow, the welding wire will advance and an arc will be formed. Adjust the Speed Control Knob in the gun handle to obtain the correct arc characteristics. As the weld is deposited, move the gun slowly along the weld seam at a constant speed, while maintaining a constant arc length and a constant tip-to-work distance.

7. Refer to the "RECOMMENDED WELDING VALUES" charts on the following pages for recommended arc voltage, wire speed, etc.

RECOMMENDED WELDING VALUES

SHORT ARC TRANSFER

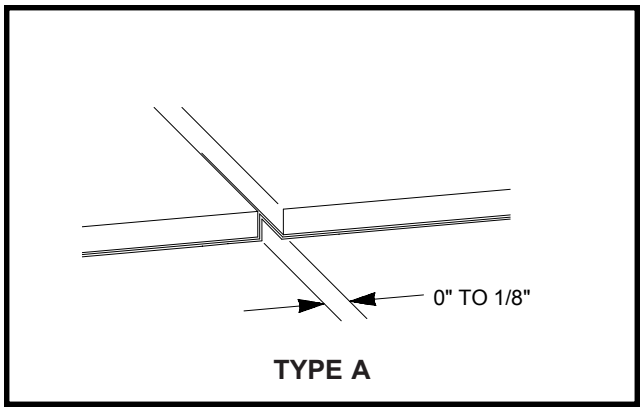
METAL THICKNESS	AMPS (DCRP)	WIRE SIZE	WIRE SPEED	WELD SPEED
.040"	40	.030"	240 IPM	20 IPM
.050"	50	.030"	290 IPM	15 IPM
.063"	60	.030"	340 IPM	15 IPM
.093"	90	.030"	410 IPM	15 IPM
.040"	40	.035"	200 IPM	24 IPM
.050"	50	.035"	240 IPM	18 IPM
.063"	60	.035"	290 IPM	18 IPM
.093"	90	.035"	350 IPM	18 IPM

SPRAY ARC TRANSFER

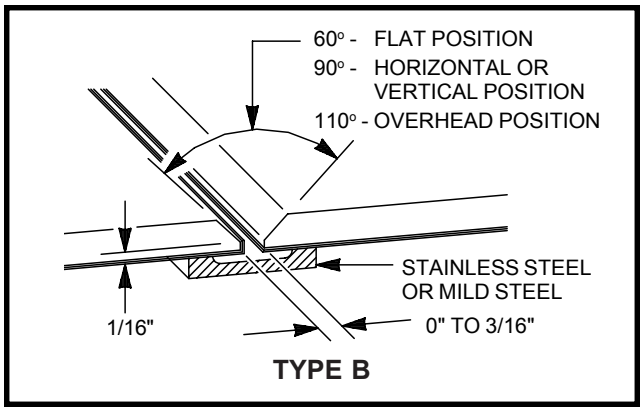
METAL THICK.	JOINT PREP.	AMPS (DCRP)	WIRE SIZE	ARC VOLTS	WIRE SPEED
1/8"	Type A	100	.030"	24-26	450 IPM
3/16"	Type B	150	.030"	24-26	500 IPM
1/4"	Type B	180	.030"	28-29	560 IPM
3/8"	Type C	200	.030"	28-30	600 IPM
1/8"	Type A	100	.035"	24-26	400 IPM
3/16"	Type B	150	.035"	24-26	450 IPM
1/4"	Type B	180	.035"	28-29	530 IPM
3/8"	Type C	200	.035"	26-30	560 IPM
1/2"	Type C	220	.035"	26-30	600 IPM
1/8"	Type A	110	3/64"	20-21*	175 IPM
3/16"	Type B	160	3/64"	20-21*	220 IPM
1/4"	Type B	180	3/64"	27-28	250 IPM
3/8"	Type C	200	3/64"	25-30	260 IPM
1/2"	Type C	220	3/64"	25-31	270 IPM
3/4"	Type C	250	3/64"	25-31	290 IPM

* SHORT ARC TRANSFER

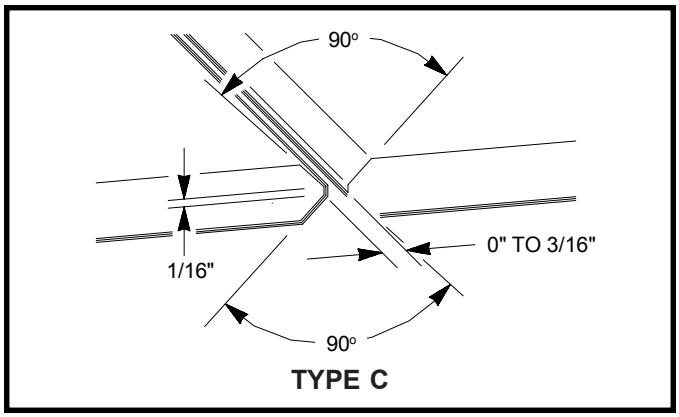
DETAILS OF JOINT PREPARATION
(see "Spray Arc Transfer" chart above)



TYPE A



TYPE B



TYPE C

RECOMMENDED WELDING VALUES (Cont.)

SHIELDING GAS PERFORMANCE

PROCESS	SHIELDING GAS	PERFORMANCE
Gas Metal Arc Welding (GMAW or MIG)	Argon	Best Metal Transfer Excellent Arc Stability Excellent Cleaning Action Low Spatter
	Helium	Deep Penetration - for heavy plate

SHIELDING GAS FLOW RATES

MATERIAL THICKNESS	WELDING POSITION	FLOW RATES
1/16 in.	Flat	25 CFH
3/32 - 1/8 in.	Flat, Vertical, Horizontal, Overhead	30 CFH
3/16 in.	Flat, Vertical, Horizontal, Overhead	30 CFH
1/4 in.	Flat	30 CFH
	Vertical, Horizontal	35 CFH
	Overhead	40 CFH
3/8 in.	Flat	30 CFH
	Vertical, Horizontal	35 CFH
	Overhead	40 CFH
3/4 in.	Flat	35 CFH
	Vertical, Horizontal, Overhead	40 CFH

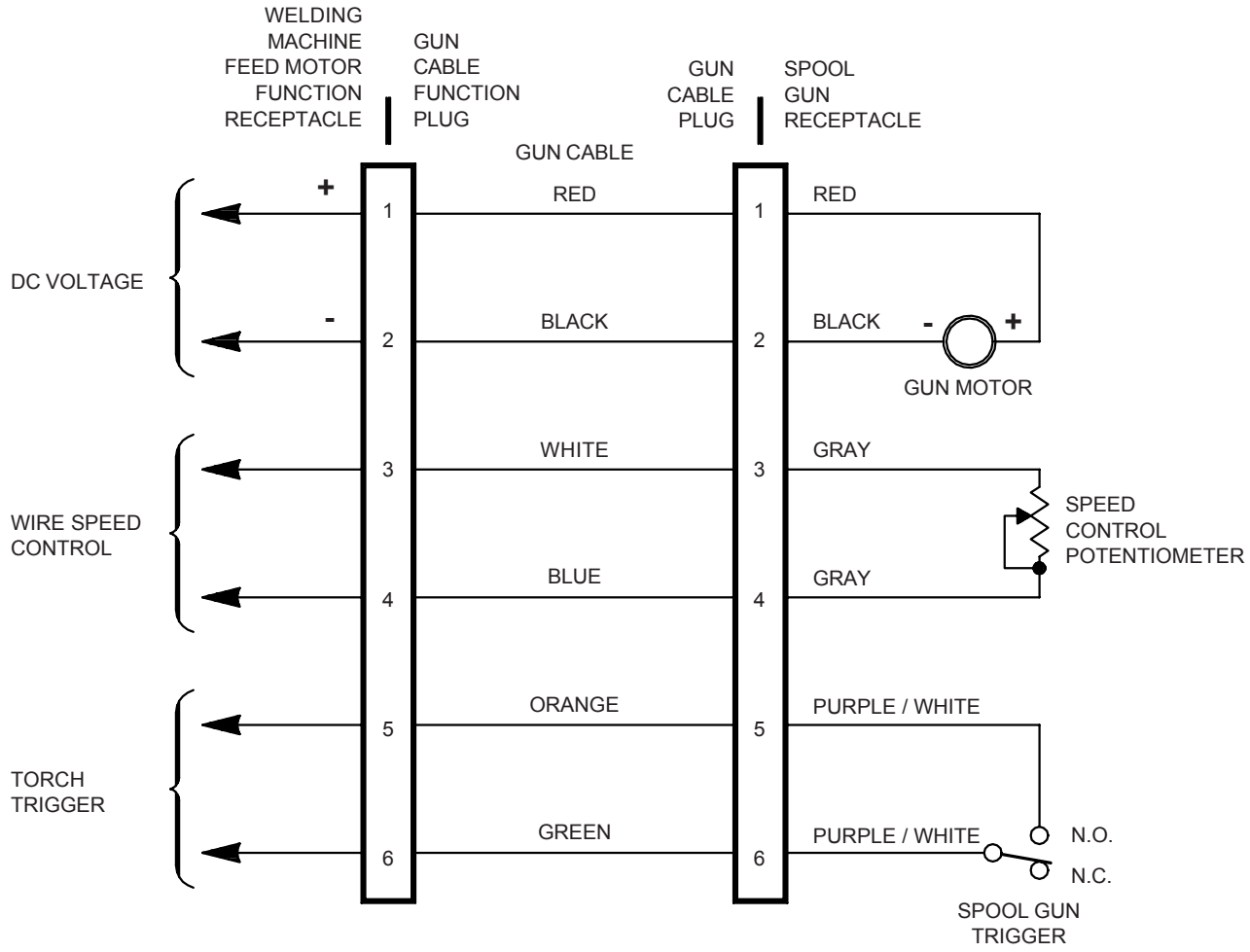
RECOMMENDED FILLER METALS CHART

Base Metal / Base Metal	6061, 6063, 6101, 6151, 6201, 6351	5083, 5456	5454	5154	5086	5052	5005, 5050	3004 & Alclad 3004	2219	1100, 3003 & Alclad 3003	1060, 1350
1060, 1350	4043	5356	4043	4043	5356	4043	1100 4043	4043	4145	1100 4043	1100 4043
1100, 3003, Alclad 3003	4043	5356	4043 5356	4043	4043 5356	4043 5356	4043 5356	4043 5356	4145	1100 4043	
2219	4043	4043	4043	4043	4043	4043	4043	4043	2319 4043		
3004, Alclad 3004	4043 5356	5356	5356 5654	5356 5654	5356	4043 5356	4043 5356	4043 5356			
5005, 5050	4043 5356	5356	5356 5654	5356 5654	5356	4043 5356	4043 5356				
5052	4043 5356	5356	5356 5654	5356 5654	5356	4043 5654					
5086	5356	5356	5356 5654	5356 5654	5356						
5154	4043 5356	5356 5654	5356 5654	5356 5654							
5454	4043 5356	5356 5654	5554								
5083, 5456	5356	5556									
6061, 6063, 6101, 6151, 6201, 6351	4043 5356										

RECOMMENDED FILLER WIRE

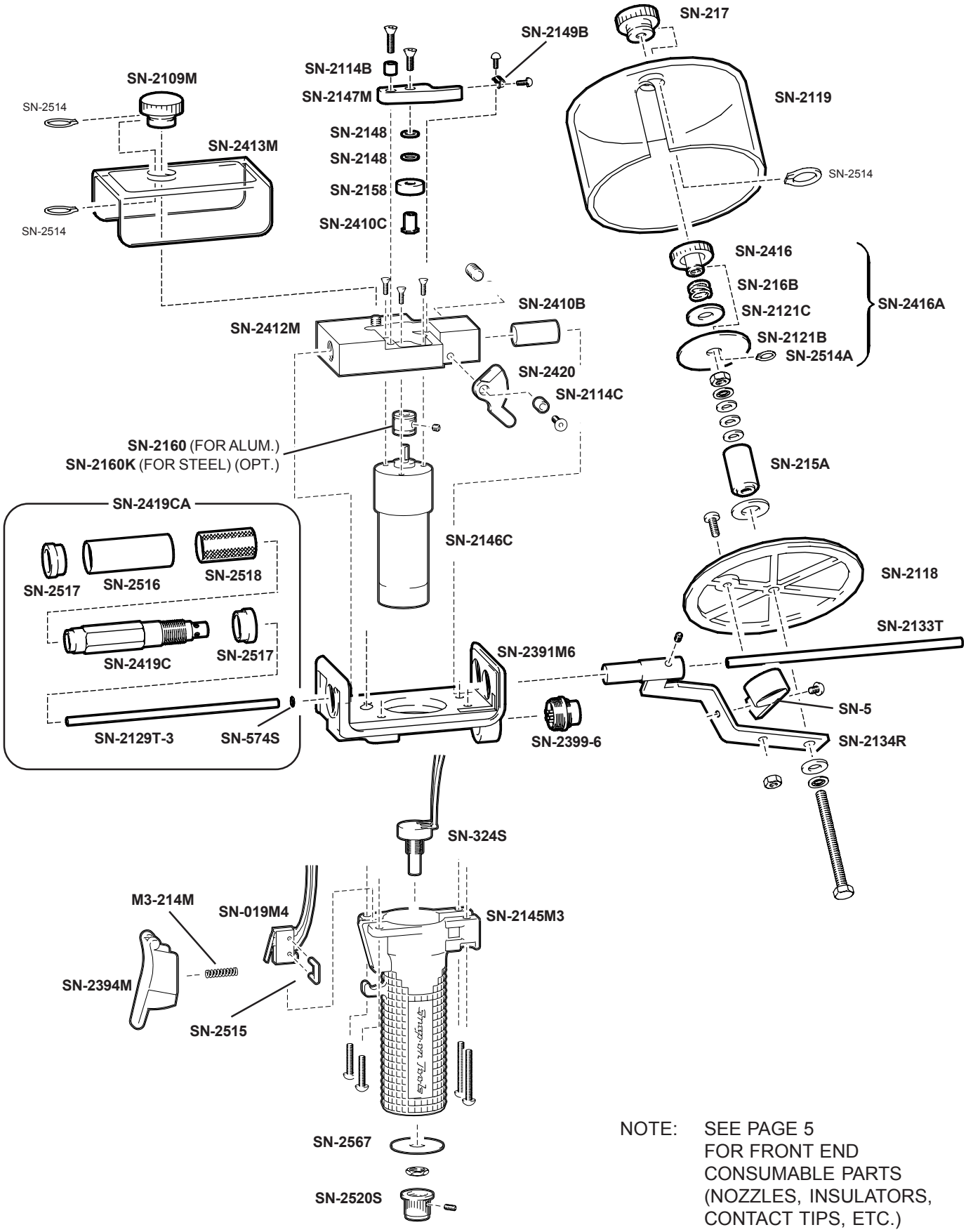
NOTES:
1. 5183 or 5356 may be used in place of 5556.
2. 5183, 5356, 5554 or 5556 may be used in place of 5654.
3. 5183 or 5556 may be used in place of 5356.

ELECTRICAL DIAGRAM



MHG5-A SPOOL GUN SYSTEM

REPLACEMENT PARTS - MHG-5 GUN



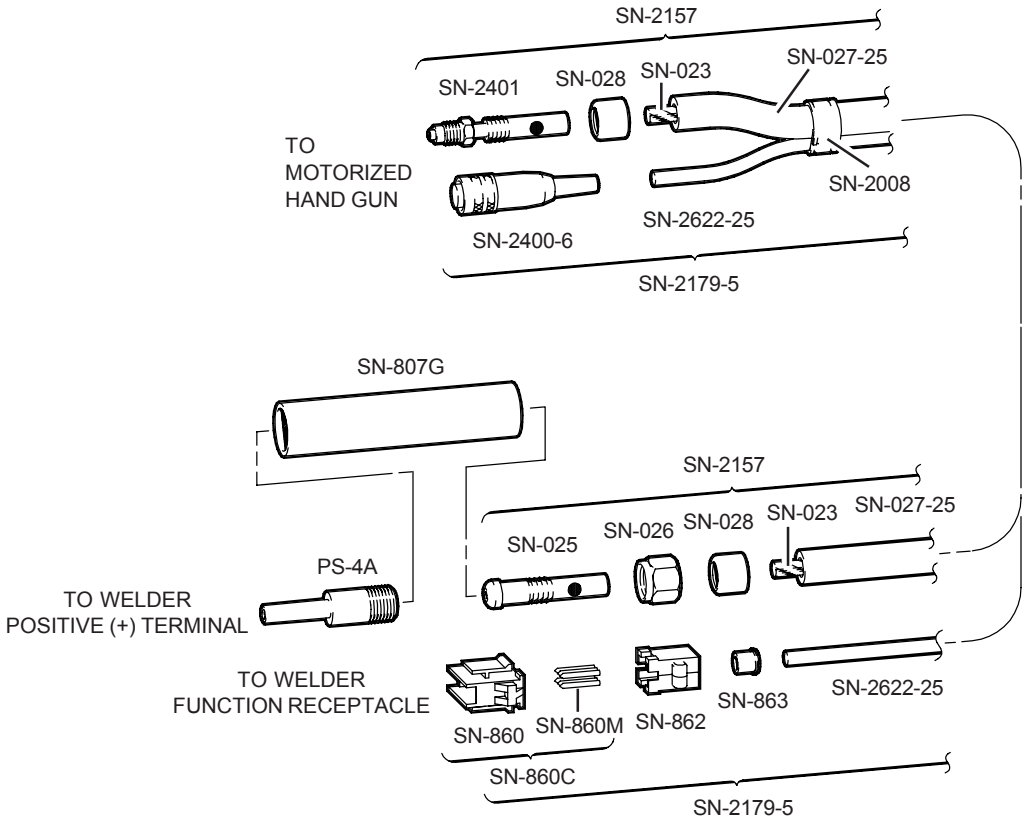
NOTE: SEE PAGE 5 FOR FRONT END CONSUMABLE PARTS (NOZZLES, INSULATORS, CONTACT TIPS, ETC.)

REPLACEMENT PARTS - MHG-5 GUN (Cont.)

PART NO.	DESCRIPTION
M3-214M	TRIGGER SPRING
SN-5	CABLE CLIP - H. H. SMITH 780
	ATTACHING HARDWARE
	8-32 X 3/8" RND. HD. SCREW (1)
SN-019M4	SWITCH - WIRED
SN-215A	SPOOL SPINDLE
	ATTACHING HARDWARE
	1/4-20 X 3" HEX HD. BOLT (1) 1/4" INTERNAL TOOTH LOCK WASHER (2) 1/4" FLAT WASHER (1) 1/4" SPRING (SHIM) WASHER (3) 7/16" STEEL WASHER (1) 1/4-20 JAM NUT (1)
SN-217	HAND NUT - SPOOL COVER
SN-324S	POTENTIOMETER - 100K - WITH ATTACHING NUT
SN-2109M	HAND NUT - TOP COVER
SN-2114B	ROLL BLOCK BUSHING
SN-2114C	ROLL LEVER BUSHING
SN-2118	SPOOL DISC
	ATTACHING HARDWARE
	8-32 X 1/2" RND. HD. SCREW (1) 8-32 KEP NUT (1)
SN-2119	SPOOL COVER
SN-2133T	INLET GUIDE TUBE
	ATTACHING HARDWARE
	8-32 X 1/4" NYLOC SET SCREW(1)
SN-2134R	REEL SUPPORT
	ATTACHING HARDWARE
	1/4-20 X 1/4" SET SCREW (1)
SN-2145M3	HANDLE
	ATTACHING HARDWARE (HANDLE AND BASE TO BODY BLOCK)
	8-32 X 3/4" RND. HD. SCREW (2) 8-32 X 1-1/4" RND. HD. SCREW (2)
SN-2146C	MOTOR (BOTTOM TERMINALS)
	ATTACHING HARDWARE (MOTOR TO BODY BLOCK)
	4-40 X 3/8" FLAT HD. SCREW (3)
SN-2147M	ROLL BLOCK
	ATTACHING HARDWARE
	8-32 X 1/2" FLAT HD. SCREW (1)
SN-2148	PRESSURE ROLL SPACER (2 REQD.)

PART NO.	DESCRIPTION
SN-2149B	SPRING - ROLL PRESSURE
	ATTACHING HARDWARE
	4-40 X 1/4" RND. HD. SCREW (2)
SN-2158	PRESSURE ROLL
SN-2160	FEED ROLL (FOR ALUMNIUM)
	ATTACHING HARDWARE
	8-32 X 1/8" SET SCREW (1)
SN-2160K	KNURLED FEED ROLL (FOR STEEL) (OPTIONAL)
	ATTACHING HARDWARE
	8-32 X 1/8" SET SCREW (1)
SN-2399-6	6 PIN RECEPTACLE
SN-2391M6	MOULDED BASE
SN-2394M	TRIGGER
SN-2410B	SPOOL INSULATOR BUSHING
SN-2410C	PRESSURE ROLL BUSHING
	ATTACHING HARDWARE
	8-32 X 3/8" FLAT HD. SCREW (1)
SN-2412M	BODY BLOCK
SN-2413M	TOP COVER
SN-2416A	SPOOL BRAKE ASSEMBLY
	CONSISTING OF:
SN-2416	• HAND NUT
SN-216B	• SPRING BRAKE
SN-2121C	• BRASS WASHER - 3/8"
SN-2121B	• SPOOL WASHER
SN-2514A	• SNAP RING - 3/8"
SN-2419CA	BARREL ASSEMBLY
	CONSISTING OF:
SN-574S	• O-RING - BARREL LINER
SN-2129T-3	• BARREL LINER - TEFLON
SN-2419C	• BARREL
SN-2516	• BARREL OUTER SLEEVE
SN-2517	• SPACER/SEAL (2 REQUIRED)
SN-2518	• BARREL INSULATOR SHEATH
SN-2420	LEVER - ROLL RELEASE
	ATTACHING HARDWARE
	8-32 X 3/8" FLAT HD. SCREW (1)
SN-2514	SNAP RING - 5/8" (3 REQUIRED)
SN-2515	RETAINING CLIP - SWITCH
SN-2520S	CONTROL KNOB
SN-2567	SPEED INDICATOR DIAL

REPLACEMENT PARTS - HGC5-25 GUN CABLE ASSEMBLY



PART NO.	DESCRIPTION
PS-4A	POWER PLUG
SN-807G	BOOT/CABLE COVER
SN-2008	CABLE TIE (AS REQUIRED)
SN-2157	CABLE AND HOSE ASSEMBLY WITH FITTINGS - 25 FOOT
	CONSISTING OF:
SN-023	• WELD CABLE (ONLY) (24'-10")
SN-025	• CABLE FITTING
SN-026	• GAS HOSE NUT
SN-027-25	• GAS HOSE (ONLY) SAE100R6FW-27W (3/8"I.D. X 25')
SN-028	• HOSE FERRULE (2 REQUIRED)
SN-2401	• CABLE FITTING

PART NO.	DESCRIPTION
SN-2179-5	CONTROL CABLE ASSEMBLY WITH FITTINGS - 25 FOOT
	CONSISTING OF:
SN-860C	• PLUG ASSEMBLY
	CONSISTING OF:
SN-860	• • HOUSING
SN-860M	• • MALE PINS (6 REQUIRED)
SN-862	• STRAIN RELIEF - WITH SCREW
SN-863	• GROMMET
SN-2400-6	• 6 SOCKET PLUG
SN-2622-25	• POWER CORD (ONLY) 20-6 ALPHA (25'-6")