

INSTALLATION

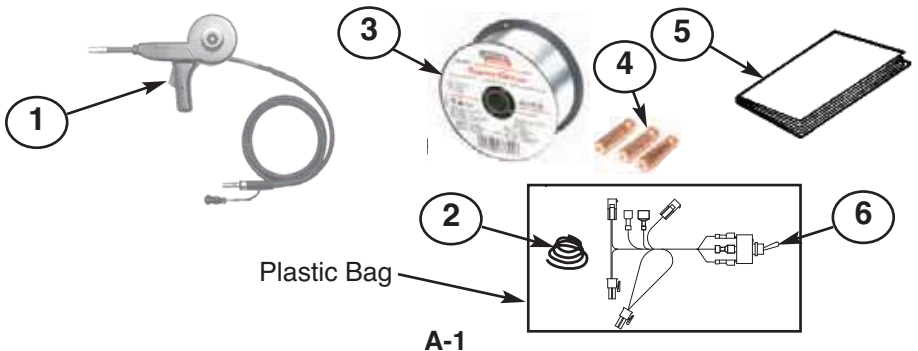
TECHNICAL SPECIFICATIONS - MAGNUM® 100SG SPOOL GUN K2532-1

MODEL	K2532-1 Magnum® 100SG Spool Gun
WELDING PROCESS	Aluminum GMAW (MIG), DC electrode positive polarity with 100% argon welding shielding gas.
WIRE ALLOYS	Aluminum only: alloys 4043 or 5356
WIRE SIZES (DIAMETERS)	Solid wire 0.030 or 0.035 inches (0.8 or 0.9 mm)
SPOOL SIZE	1 lb. weight, nominal 4 inch diameter spool
RATED WELDING CURRENT AND DUTY CYCLE	130 amps at 30% for 10-minute basis
OVERALL WEIGHT	3.5 lbs. with cable but without case or spool
CABLE LENGTH	10.0±0.2 feet
OVERALL SIZE (BOUNDING BOX)	In inches: 15.75 long x 10.50 high x 4.25 thick max., without case or gun cable.
METHOD OF GUIDANCE	Semiautomatic (manually-guided)
METHOD OF COOLING	Air-cooled

UNPACKING THE SPOOL GUN

The spool gun is factory-assembled and tested, and then packed in its own cushioned carrying case. It is shipped fully-equipped to weld with 0.035 inch diameter aluminum wire. After opening the case, check that it contains the following items:

1. One fully assembled K2532-1 spool gun.
2. One T11862-65 Conical Compression Spring for use with alloy 5356 wire (spool not included).
3. One spool of 0.035 aluminum alloy 4043 wire
4. Three S19726-3 contact tips
5. One instruction manual (IM913)
6. One M21182 electrical harness with toggle switch.



INSTALLATION SAFETY PRECAUTIONS

WARNING



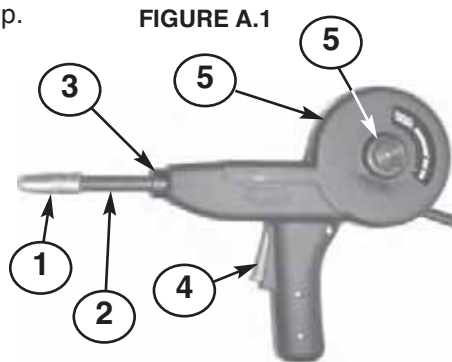
ELECTRIC SHOCK CAN KILL.

- Turn the input power OFF at the welding power source before installation or changing drive rolls and/or guides.
- Do not touch electrically live parts.
- When inching with the gun trigger, electrode and drive mechanism are "hot" to work and ground and could remain energized several seconds after the gun trigger is released.

LOCATING SPOOL GUN COMPONENTS AND FEATURES

(See Figure 1.A for Items 1 thru 6)

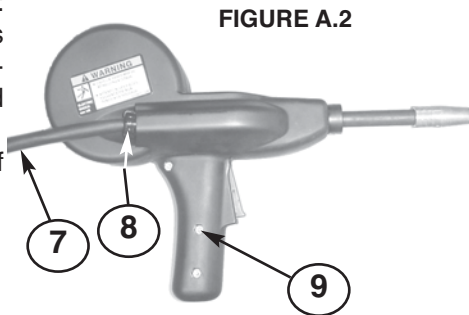
1. Gas Cone Assembly and Contact Tip.
2. Straightened Gun Tube Assembly.
3. 1/4-Turn Locking Collar.
4. Trigger Assembly.
5. Spool Cover: Provides easy, wide-open access to spool and wire drive.
6. Locking Knob: Captive in spool cover.



Left Side View

(See Figure A.2 for these following items)

7. Integrated Single-Piece Cable:
The Magnum® design provides neat and clean appearance; simplifies cable management and reduces entanglements.
8. Standard Durable Strain Relief Clamp.
9. Three Captive Hex Nuts.

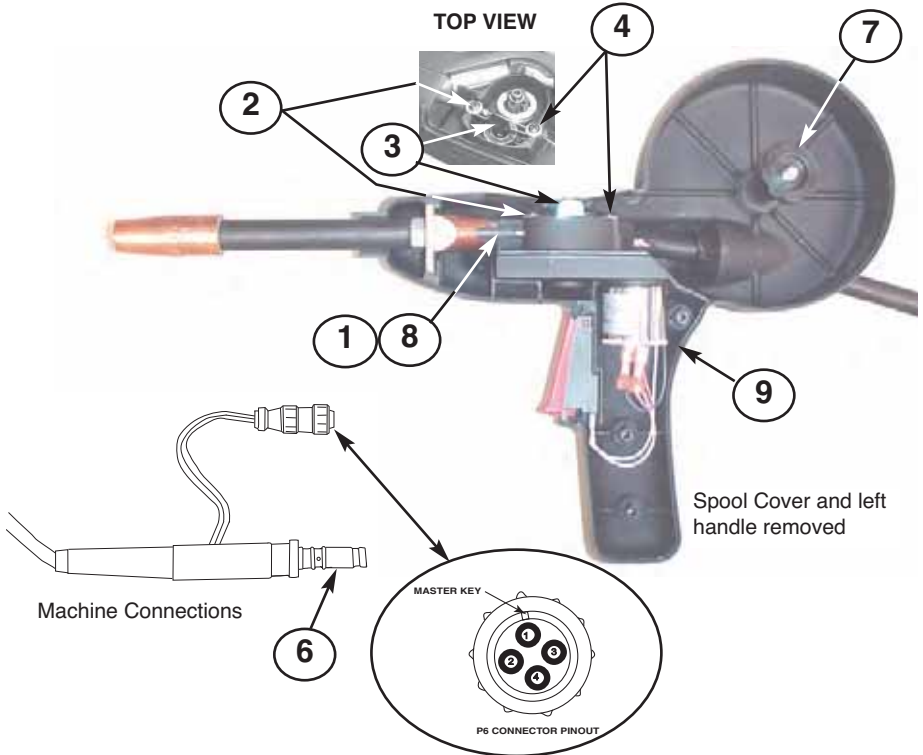


Right Side View

INSTALLATION

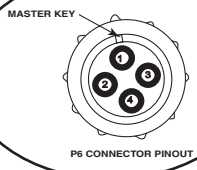
ASSEMBLY OF ITEMS INSIDE THE MAGNUM® SPOOL GUN

FIGURE A,3



Spool Cover and left handle removed

Machine Connections



- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Liner Assembly feeds all specified wire. 2. Drive Roll: This Drive Roll feeds all specified wires. 3. Idle Roll Assembly: Non-adjustable tension setting for all specified wires 4. Incoming Wire Guide: Highly wear-resistant. 5. P6 Connector Control Leads: Motor Power and Trigger. (See Maintenance Section for more details) 6. Welding Power and Shielding Gas Machine connection (Sealed with 2 o-rings). | <ol style="list-style-type: none"> 7. Locking Knob: Independently retains the wire spool on the spindle. 8. Liner Assembly: Includes a gas seal with the cable connector and is the outgoing wire guide. 9. Only 4 sub-assemblies: gun tube; cable; wire drive; trigger. 10. Conical spring (not shown) serves as the spool brake (use only with aluminum alloy 5356). |
|---|--|

INSTALLATION

SAFETY PRECAUTIONS

WELDING MACHINES

CAUTION



- Read and understand the welding machine's instruction manual and all hazard warnings on equipment and in the manual.
 - Wear the proper personal protective equipment for welding, including but not limited to, safety glasses, hearing protection, welding helmet, welding gloves, and welding leathers.
-

SPOOL GUN

WARNING



ELECTRIC SHOCK CAN KILL.

- The spool of wire may fall out of the gun if the locking knob is not installed.
 - Metal parts may be at welding voltage (electrically "hot").
 - Metal parts remain at welding voltage for several seconds after trigger is released. Read warning label on gun.
 - This product shall not be used in precipitation, or in wet or damp locations.
-

INSTALLATION

RECOMMENDED WELDING MACHINES			
MACHINE NAME	K-NUMBER	CODE NUMBER	INSTALLATION OF M21182 HARNESS AND SELECTOR SWITCH
POWER MIG 216	K2816-1	11588	NOT REQUIRED
POWER MIG 215XT	K2700-1	11521	NOT REQUIRED
POWER MIG 180C	K2473-1	11257	REQUIRED
POWER MIG 140C	K2471-1	11255	REQUIRED
POWER MIG 180 DUAL	K3018-1	11659	NOT REQUIRED
POWER MIG 180C AU	K2668-1	11444	REQUIRED
POWER MIG 180C CE	K2661-1	11442	REQUIRED
POWER MIG 140T	K2470-1	11254	REQUIRED
POWER MIG 180T	K2472-1	11256	REQUIRED
PRO CORE 125	K2479-1	11631	SPOOL GUN USE NOT AVAILABLE
		11300	REQUIRED
PRO MIG 140	K2480-1	11634	NOT REQUIRED
		11173	REQUIRED
WELD PAK 125 HD	K2513-1	11632	SPOOL GUN USE NOT AVAILABLE
		11302	REQUIRED
WELD PAK 140 HD	K2514-1	11635	NOT REQUIRED
		11303	REQUIRED
MIG PAK 140	K2658-1	11636	NOT REQUIRED
		11440	REQUIRED
EASY CORE 125	K2696-1	11633	SPOOL GUN USE NOT AVAILABLE
		11503	REQUIRED
EASY MIG 140	K2697-1	11637	NOT REQUIRED
		11504	REQUIRED
WORK PAK 125	K2699-1	11638	SPOOL GUN USE NOT AVAILABLE
		11506	REQUIRED
CORE PACK 125	K2785-1	11639	SPOOL GUN USE NOT AVAILABLE
		11550	REQUIRED
PRO MIG 180	K2481-1	11646	REQUIRED
		11175	REQUIRED
WELD PAK 180HD	K2515-1	11647	REQUIRED
		11304	REQUIRED
MIG PAK 180	K2659-1	11648	REQUIRED
		11441	REQUIRED
SP-140T	K2688-1	11658	REQUIRED
		11501	REQUIRED
SP-180T	K2689-1	11649	REQUIRED
		11502	REQUIRED
EASY MIG 180	K2698-1	11650	REQUIRED
		11505	REQUIRED

NOTE: THE MACHINE CODE NUMBER IS LISTED ON THE BACK OF THE MACHINE.

INSTALLATION

NOTE: Installation of the M21182 harness and spool gun selector switch is not required for all machines. If a spool gun switch is pre-installed in the machine's wire drive compartment, then the **SPOOL GUN / WIRE DRIVE SLECTOR SWITCH INSTALLATION SECTION** can be disregarded.

SPOOL GUN / WIRE DRIVE SELECTOR SWITCH INSTALLATION

1. Install the M21182 electrical adapter harness that came with the spool gun per the following instructions.

ELECTRIC SHOCK CAN KILL.

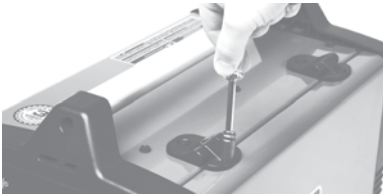
WARNING



2. Disconnect input power from the machine.

OPEN THE MACHINE

3. Remove two 5/16" hex hinge screws from door.



4. Remove ten 5/16" hex screws from cover.



5. Remove screws from cover. (A) is the location of two 3/4" long screws.



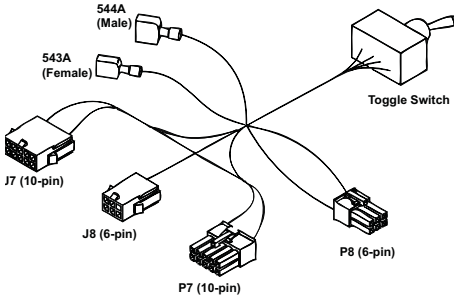
6. Remove cover.



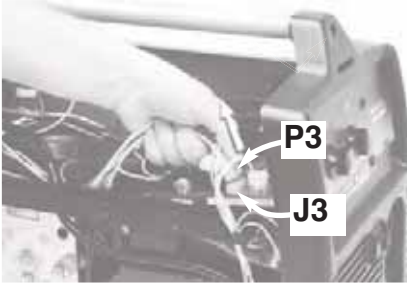
7. If machine has a plastic handle (A), then remove screw (B).

INSTALLATION

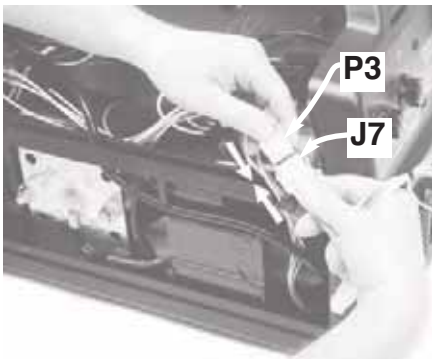
ELECTRICAL CONNECTIONS



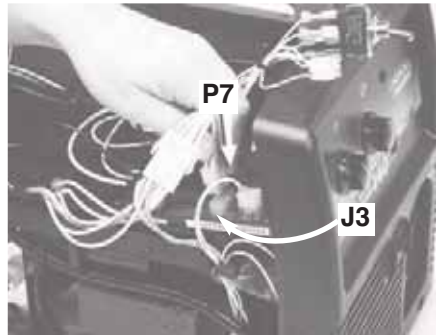
8. Adapter harness. All 6 connections shown are used, and each one is unique. (Proceed as follows)



9. A. Remove P3 (10-pin) from board J3 (10-pin).

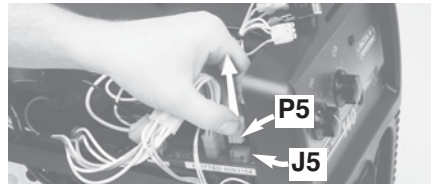


9.B. Connect P3 (10-pin) to harness J7 (10-pin).

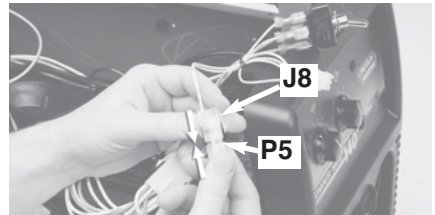


10. Connect harness P7 (10-pin) to board J3 (10-pin).

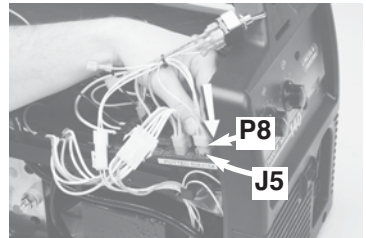
IF MACHINE DOES NOT HAVE OPTIONAL SPOT TIMER. (11.A. thru 11.D.)



11.A. Remove P5 (6-pin) from board J5 (6-pin).

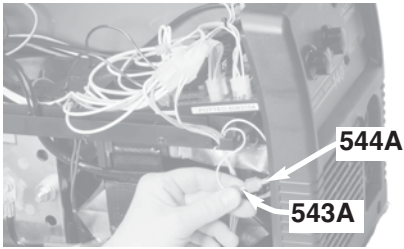


11.B. Connect P5 (6-pin) to harness J8 (6-pin).



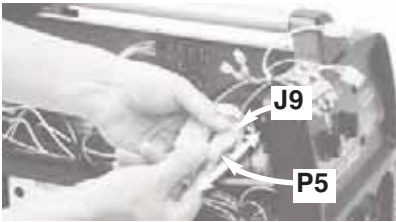
11.C. Connect harness P8 (6-pin) to board J5 (6-pin).

INSTALLATION

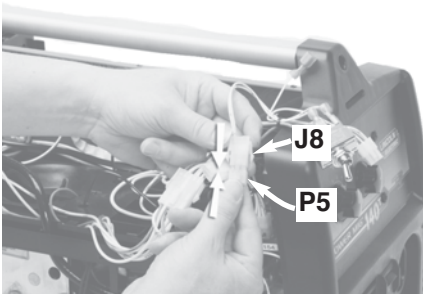


11.D. Find assembled pair of machine terminals (leads 543A & 544A) and disconnect. Go to step 13.

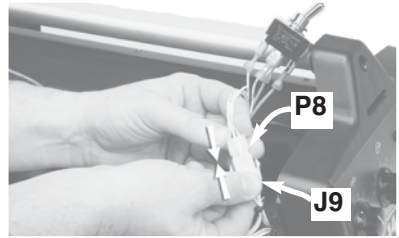
IF MACHINE DOES HAVE OPTIONAL SPOT TIMER.
(12.A. thru 12.D.)



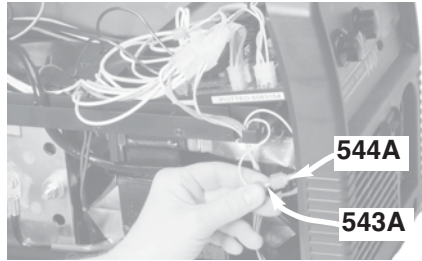
12.A. Remove P5 (6-pin) from spot timer harness J9 (6-pin).



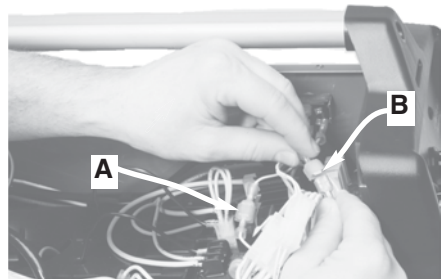
12.B. Connect P5 (6-pin) to adapter harness J8 (6-pin).



12.C. Connect adapter harness P8 (6-pin) to spot timer harness J9 (6-pin).



12.D. Find assembled pair of machine terminals (leads 543A & 544A) and disconnect.



13. Connect terminals:

(A) connect machine male (lead 543A) to adapter harness female (lead 543A).

(B) connect machine female (lead 544A) to adapter harness male (lead 544A).

14. Ensure that the locking tabs on all connectors are latched closed.

INSTALLATION

MOUNTING THE SWITCH



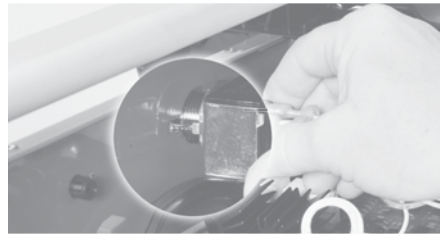
15. Remove the plug button from the panel hole.



16. Plug button is no longer needed. Discard.



17. Remove mounting nut from switch. Keep mounting nut for installation.



18. Install switch into panel hole. Ensure washer tab is fully seated into smaller hole.



19. Reinstall mounting nut onto switch. Wrench tighten.

RE-ASSEMBLE MACHINE AS FOLLOWS:

20. Reinstall screw into plastic handle (if so equipped).
21. Reinstall cover.
22. Reinstall door.
23. Reconnect input power to the machine.

INSTALLATION

ROUTINE WELDING MACHINE PREPARATION

WARNING



ELECTRIC SHOCK CAN KILL.

1. Disconnect input power to the machine.
-
2. Machine polarity setting: Set to DC electrode positive polarity per the machine's Instruction Manual.
 3. Gas selection and flow rate: Connect 100% welding grade argon gas supply to the machine's gas solenoid valve. Set the supply regulator to deliver a gas flow rate of 20 to 50 SCFH thru the spool gun.]
 4. Flip the machine's wire drive selector switch (behind the access door) to "Magnum® 100SG". (See Figure A.4)

FIGURE A.4



PREPARING THE SPOOL GUN

WARNING



ELECTRIC SHOCK CAN KILL.

1. Disconnect input power to the machine.
-
2. The Conical Spring is used as the spool brake only when feeding the stronger and harder aluminum alloy 5356. The Conical Spring must be removed from the spool gun whenever using the softer aluminum alloy 4043.

INSTALLATION

LOADING ALUMINUM WIRE

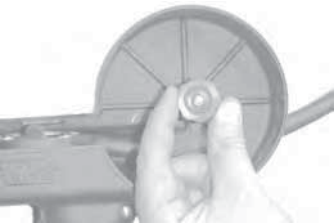
1. Remove gas cone and contact tip. Remove spool cover by unscrewing captive locking knob.

FIGURE A.5



2. Remove locking knob from spindle bolt by unscrewing it.

FIGURE A.6



3. Select wire alloy and diameter needed. Alloy 4043 and 0.035 wire size shown. Remove packaging and data sheet from wire spool.

FIGURE A.7



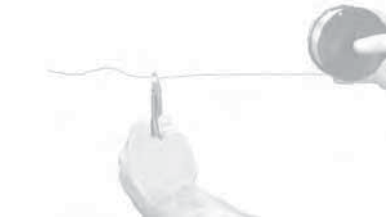
4. Extend approximately 12 inches of wire from spool. Straighten it out by back-bending it. Use care to prevent the wire from dereeling.

FIGURE A.8



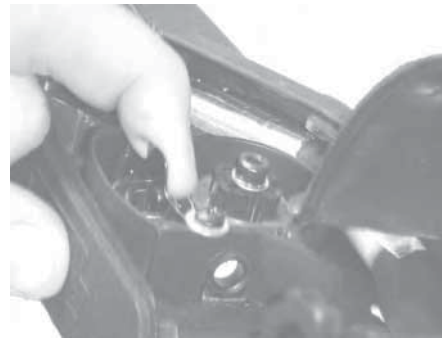
5. Cut off bent end of wire, leaving straight section.

FIGURE A.9



6. Gently pull open the idle roll assembly to expose the drive roll groove.

FIGURE A.10



INSTALLATION

7. Guide straightened wire through inlet wire guide and toward drive roll groove.

FIGURE A.11



8. While holding open the idle roll, slide end of wire through drive roll's groove and toward gun tube liner.

FIGURE A.12



9. Slide the wire into the liner until it extends approximately 1 inch beyond the end of the gas diffuser. Release idle roll tab without snapping it.

FIGURE A.13



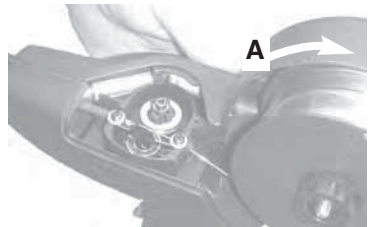
- 10a. Alloy 4043: Roll up remaining wire back onto spool and place spool onto gun spindle. Install locking knob and finger-tighten. Go to step 11.

FIGURE A.14



- 10b. Alloy 5356: Install Conical Spring, small end first, onto gun spindle (A). Roll up remaining wire back onto spool and place spool onto gun spindle. Install locking knob and finger-tighten.

FIGURE A.15



11. Grasp the free end of the wire at the gas diffuser and slowly pull approximately 12 to 24 inches of wire through the spool gun. There should only be 1 to 2 lbs. of resistance. If force is greater than 2 lbs. wire is binding in the gun (also see Troubleshooting guide).

FIGURE A.16



INSTALLATION

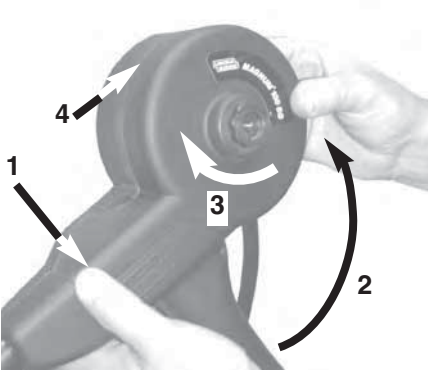
12. Cut off excess wire 1 to 2 inches from gas diffuser. Install properly-sized contact tip slightly past hand-tight. Install gas cone and hand-tighten.

FIGURE A.17



13. Reinstall spool cover. 1: tuck cover's tab in place at arrow and hold with thumb. 2: swing cover closed. 3: finger-tighten locking knob. 4: check for uniform fit all around cover.

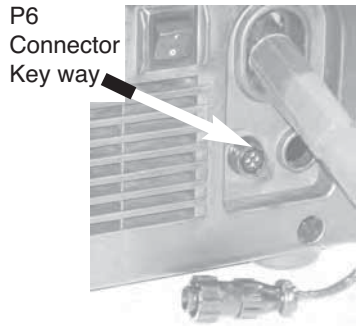
FIGURE A.18



CONNECTING THE GUN TO THE WELDING MACHINE

1. Disconnect input power to the machine.
2. Make sure that the gun locking knob is loosened. (See Figure 20).
3. Fully insert gun cable connection (welding power and gas supply) into machine. Note that the master Key way for P6 connector is located at the arrow.

FIGURE A.19



4. Check that the cable connector's end is flush with insulator at A. Tighten gun locking knob (B) onto cable connector.

FIGURE A.20

