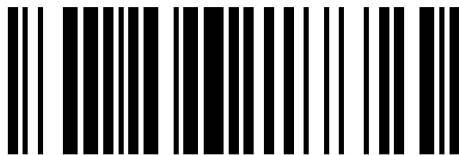
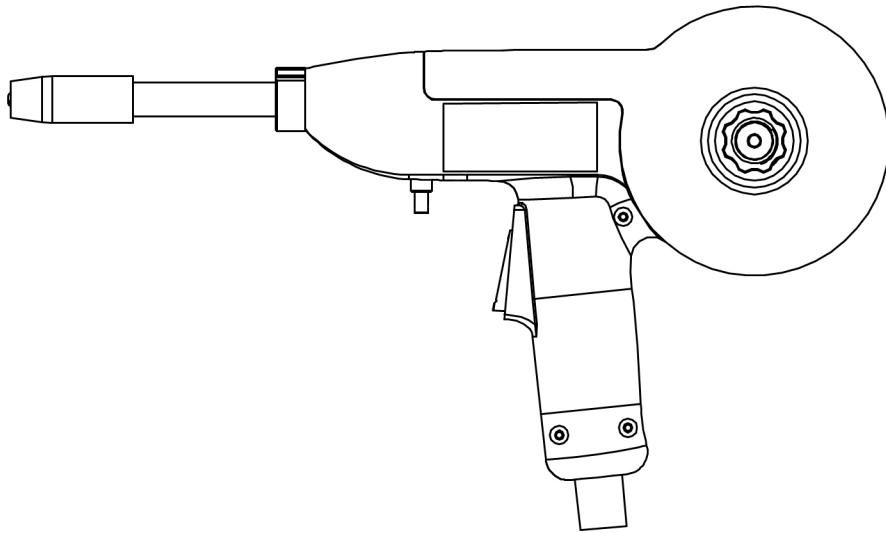


# SMART WELD SG10

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## SPOOL GUN

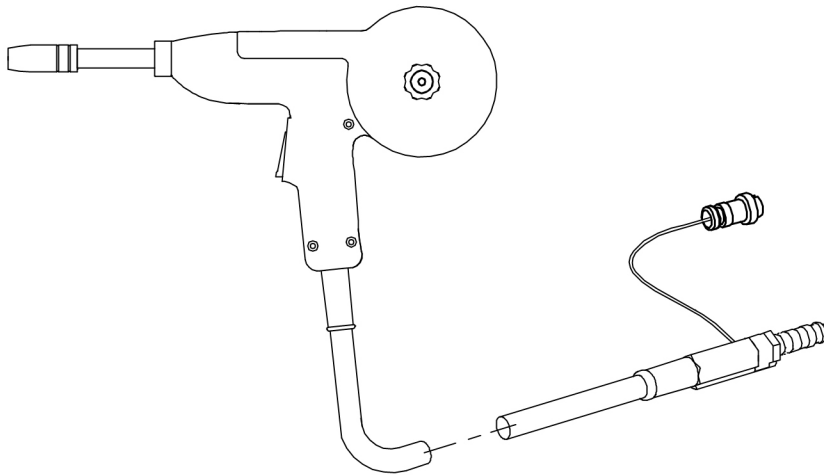


PJ0010

# SG10 Spool Gun

## Operation Manual

Please Carefully read the operation manual prior to using, installing and maintaining the electric welding machine for the purpose of preventing damages such as fire, electric shock and etc from occurring. Please keep the manual for the reference in the future.



### Specifications and Parameters

Model	SG10 Spool Gun
Welding Process	Aluminum GMAW(MIG)
Wire Sizes(Diameters)	Solid wire 0.030 or 0.035 inches
Spool Size	4 inch diameter spool
Rated Welding Current	130amps @30% duty cycle
Rated Input Voltage	12VDC
Wire Feed Rate	1.0-13m/min

**NOTE:** DUTY CYCLE is a welding equipment specification, which defines the number of minutes, within a given time interval, during which a given welding machine can safely produce a particular welding current. It is usually expressed as a ratio of the uninterrupted no-load duration to the total time (usually 10 minutes)



## WARNING

### ARC WELDING can be hazardous

When using tool, basic safety precautions should always be followed to reduce the risk of personal injury and damage to equipment. Read all instructions before using this tool!

#### **ELECTRIC SHOCK can KILL .**

Improper use of electric arc welders can cause electric shock, injury, and death! Take all precautions described in this manual to reduce the possibility of electric shock.

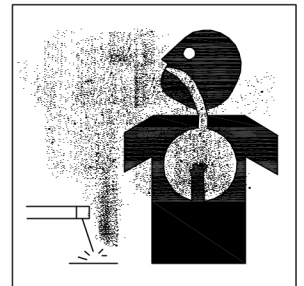


#### **FUMES AND GASES can be dangerous .**

Do not breathe fumes that are produced by the arc welding operation. These fumes are dangerous.

Keep the head and face out of the welding fumes.

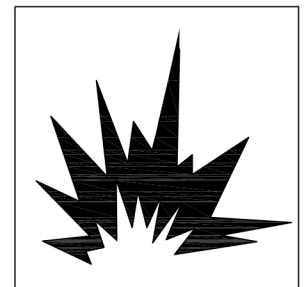
Shielding gases used for arc welding can displace air and cause injury or death. Always use enough ventilation, especially in confined areas, to insure breathing air is safe.



#### **WELDING SPARKS can cause fire or explosion.**

Do not operate any electric arc welder in areas where flammable or explosive vapors may be present.

Take precautions to be sure that flying sparks and heat do not cause flames in hidden areas, cracks, etc. Always keep a fire extinguisher accessible while performing arc welding operations.

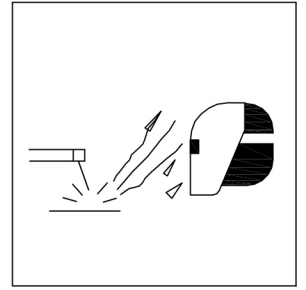


Before starting or servicing any electric arc welder, read and understand all instructions. Failure to follow safety precautions or instructions can cause equipment damage and/or serious personal injury or death.

All installation, maintenance, repair, and operation of this equipment should be performed by qualified persons only in accordance with national, state, and local codes.

## **ARC RAYS can burn.**

Use a shield with the proper filter and cover plates to protect your eyes from sparks and the rays of the arc when welding or observing open arc welding. Headshield and filter lens should conform to ANSI Z87.1 standards.



Use suitable clothing made from durable flame-resistant material to protect your skin and that of your helpers from the arc rays.

Protect other nearby personnel with suitable non-flammable screening and/or warn them not to watch the arc nor expose themselves to the arc rays or to hot spatter or metal.

## **Heat metal can burn**

Electric arc welding operations cause sparks and heat metal to temperatures that can cause severe burns! Use protective gloves and clothing when performing any metal working operation .

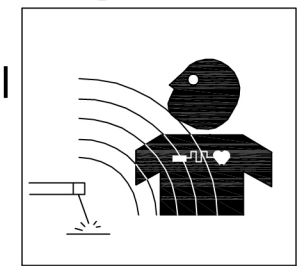


Make sure that all persons in the welding area are protected from heat, sparks, and ultraviolet rays. use additional face shields and flame resistant barriers as needed.

Never touch work pieces until completely colded.

## **ELECTRIC AND MAGNETIC FIELDS may be dangerous**

The electromagnetic field that is generated during arc welding may interfere with the operation of various electrical and electronic devices such as cardiac pacemakers. Persons using such devices should consult with their physician prior to performing any electric arc welding operations .



Route the wire gun and work cables together and secure with tape when possible.

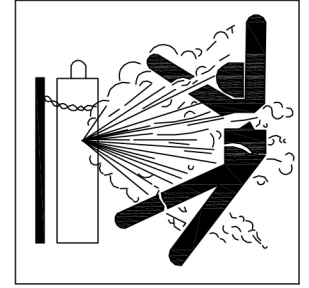
Never wrap arc welder cables around the body.

Always position the wire gun and work leads so that they are on the same side of the body.

Exposure to electromagnetic fields during welding may have other health effects which are not known.

## **CYLINDER may explode if damaged.**

Use only compressed gas cylinders containing the correct shielding gas for the process used and properly operating regulators designed for the gas and pressure used. All hoses, fittings, etc. should be suitable for the application and maintained in good condition.



Always keep cylinders in an upright position securely chained to an undercarriage or fixed support.

Cylinders should be located: Away from areas where they may be struck or subjected to physical damage.

A safe distance from arc welding or cutting operations and any other source of heat, sparks, or flame.

Never allow the electrode, electrode holder or any other electrically "hot" parts to touch a cylinder.

Keep your head and face away from the cylinder valve outlet when opening the cylinder valve. Valve protection caps should always be in place and hand tight except when the cylinder is in use or connected for use.

# Unpacking

When unpacking, check to make sure the following parts are included (see Figure A-1)

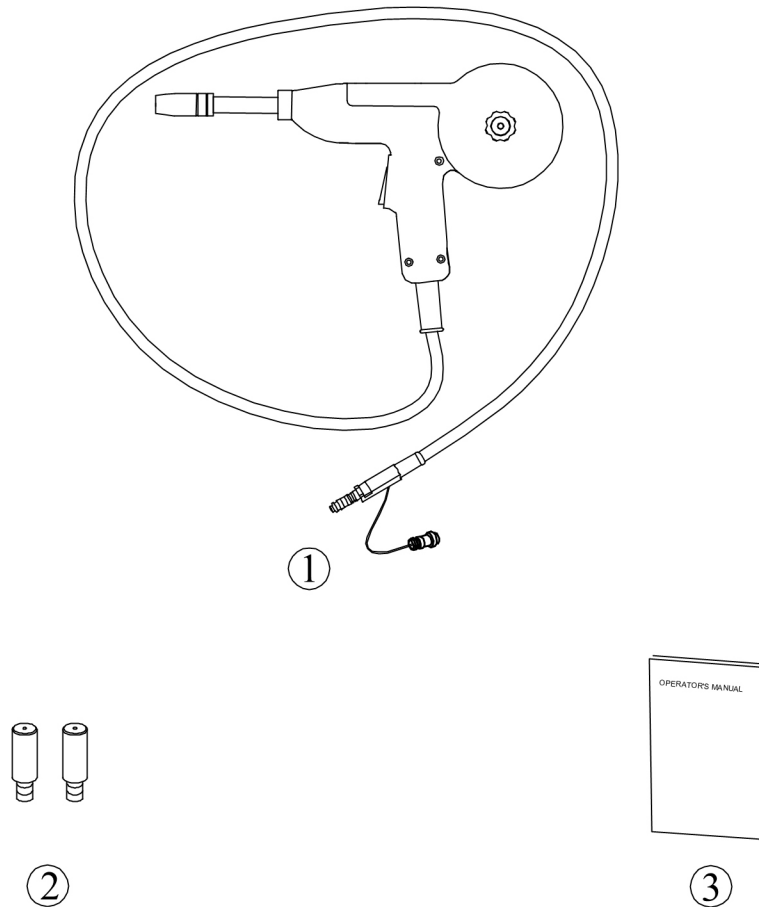


Figure A-1

**1. Torch SG10**

**2. 0.9mm Contact tip**

**3. Operator's manual**

## Components and Controls ( See Figure B-1 )

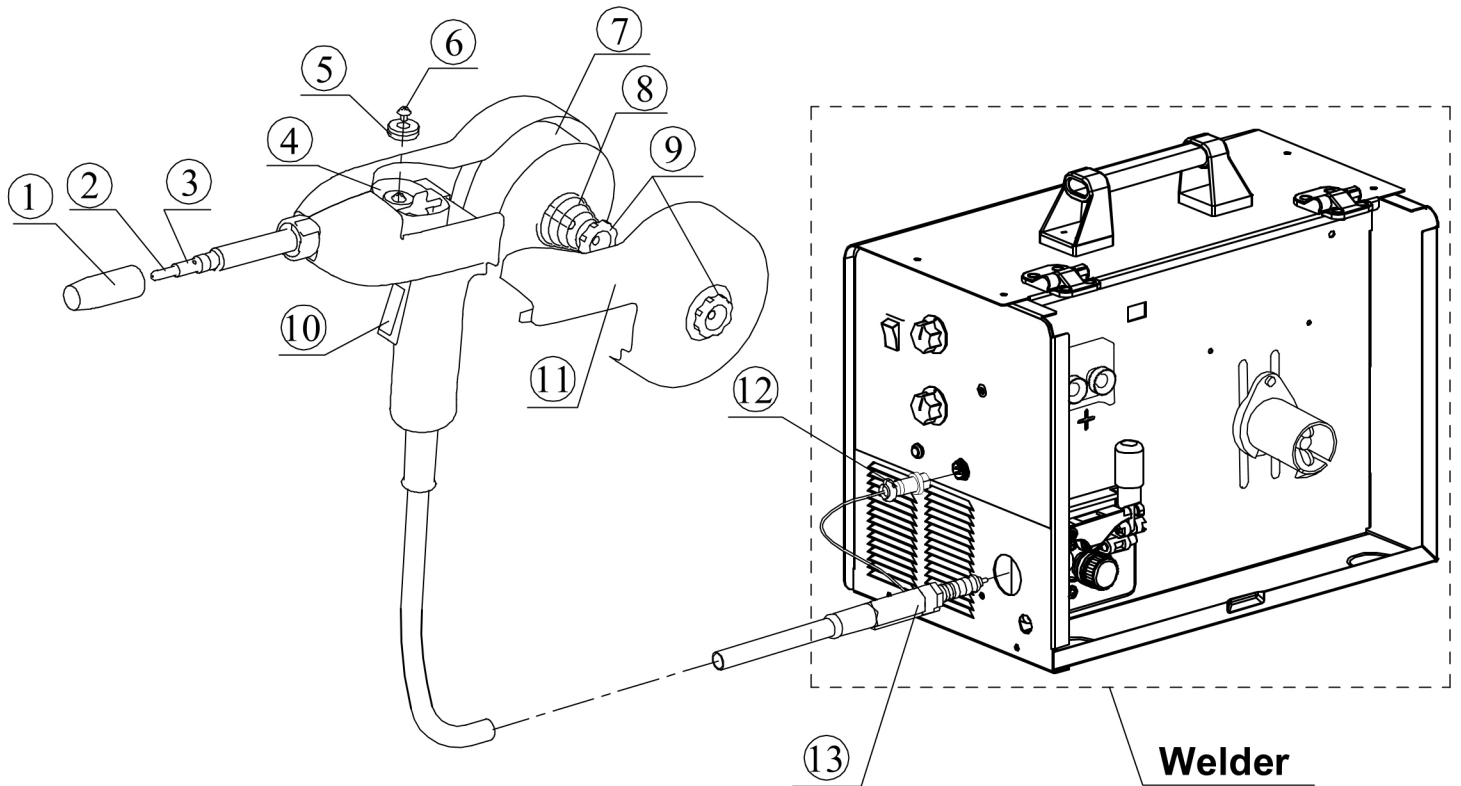


Figure B-1

1. Nozzle 2. Contact Tip 3. Diffuser 4. Wire Driver Assembly  
5. Drive Roll 6. Screw 7. Spool of Wire 8. Press Spring 9. Nut  
10. Trigger 11. Left Cover 12. Connector 13. Handle

## Installation Spool Gun ( See Figure B-1 )

Connecting the gun to the welding machine

1. Disconnect input power to the machine
2. Fully insert gun cable connection (welding power and gas supply)
3. Plug P6 Connector Control Leads into the P6 Connector Key Way on the machine and turning until it be located in the position.

## P6 Connector Pin-out (See Table B-2 and Figure B-3)

Pin No.	Function	Gun Cable Lead Color
1	Trigger	Yellow
2	Trigger	Green
3	+ Motor	Red
4	- Motor	White

Table B-2

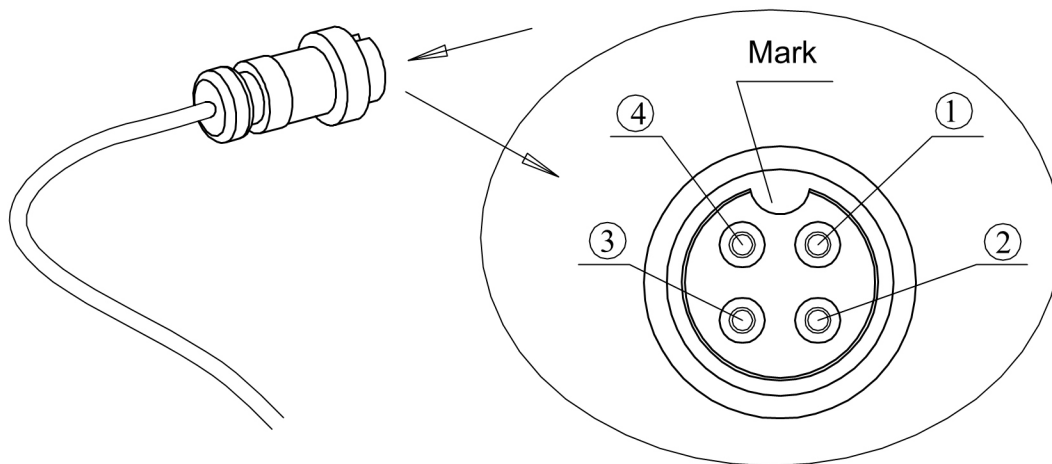


Figure B-3

## Drive Roll Replacement (See Figure B-1)

One piece of 0.9mm roll for SG10 installed in factory.

Replace the drive roll if necessary. The procedure of replacement is as follows.

1. Unscrew the screws ⑥
2. Take out the roll ⑤
3. Put the roll in position and screw to secure it ⑥



## Loading Aluminum Wire See Figure C-1

1. Remove left cover (9), nut (8), conical spring (7) in sequence. Load 4" (100mm) wire (6) on the spindle, (note: the direction of the wire running is counterclockwise). Then install back all removed parts followed by conical spring, nut, left cover.
2. Extend approximately 12 inches of wire (2) from spool. Straighten it out by back-bending it. Use care to prevent the wire from dereeling.
3. Cut off bent end of wire, leaving 100mm long straight section
4. Gently pull open the idle roll assembly to expose the drive roll groove. Guide straightened wire through inlet wire guide (4) and toward drive roll groove (3). While holding open the idle roll (5), slide end of wire through drive roll's groove and toward gun tube liner (1).
5. Release the idle roll assembly and the straightened wire.

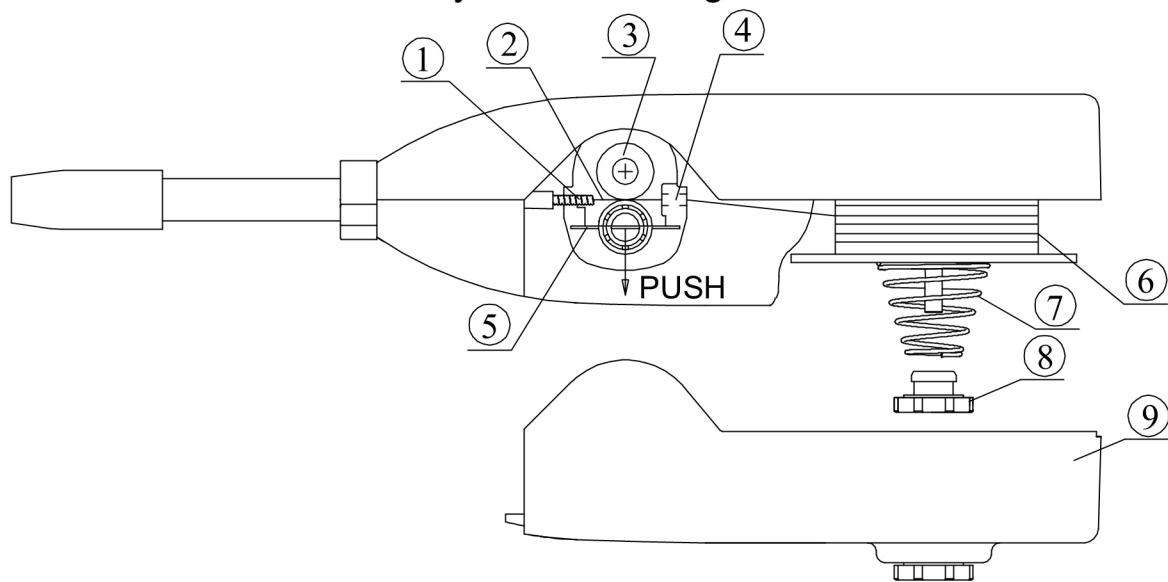


Figure C-1

## Welding Procedure

1. Connect input power to the machine.
2. Screw off the nozzle and contact tip.
3. Press the trigger, then the driver feeds the wire into the gun. Release the trigger when wire come out from the mouth of the gun.
4. Screw on the contact tip and nozzle.
5. Cut off the aluminum wire so that it extends about 1/4 inches (6-10mm) from the contact tip.

### When welding

1. Select suitable wire and gas according to the type and thickness of the workpiece refer to related Welding Manual.
2. According to the wire and thickness of the workpiece set wire speed and

voltage tap settings.

3. Check the wire and then choose the polarity and decide if the gas should be used.
4. Connect earth clamp to the workpiece and be sure the connection is in good condition and in correct polarity.
5. Protecting with helmet press the trigger to weld. Keep the contact tip and the workpiece in a distance of 5-10mm.
6. To stop weld by just releasing the trigger.
7. Close the valve of the gas bottle (if the gas is used) when the welding work finished, then press the trigger to discharge the compressed air inside the hose. Turn off the power in the last.