

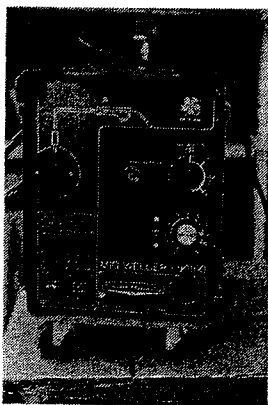
# INSTRUCTION MANUAL FOR SILVER BEAUTY MIG WELDER MODEL NO. 90100

**Important:** Read this instruction manual **before** operating the Silver Beauty Mig Welder 90100 and related equipment. This booklet has been prepared to help you operate the equipment properly and to its fullest potential.

**Remember: YOUR SAFETY DEPENDS ON YOU!**

Follow all safety rules and directions. This machine has been built for your efficient operation. You will get years of satisfactory use from this unit if you follow all safety guidelines.

**NOTHING CAN REPLACE GOOD  
COMMON SENSE**



## **SAFETY GUIDELINES FOR ARC WELDING**

**READ AND UNDERSTAND ALL SAFETY  
MATERIAL BEFORE USING WELDER!**

It is your job to protect yourself and others from the hazards associated with welding. To do this you must familiarize yourself with the safety rules for arc welding, handling high-pressure gas cylinders, and general safety rules.

The following is a brief and partial safety list to act as a reminder. It is important that you are aware of **all** safety rules before welding. We strongly recommend that you read:

### **SAFETY IN WELDING AND CUTTING ANSI STANDARD Z49.1**

Available from:  
American Welding Society  
P.O. Box 351040  
Miami, Florida 33135

## **EQUIPMENT SAFETY**

Have all electrical installations, maintenance, and repair work done by qualified electricians.

Always keep the welding machine clean, dry and in good working order.

Make sure that the ventilation openings are always clear and leave room (about 12") around machine so that it can breathe.

Be sure the power source is correctly wired to the primary source. Always unplug the welder before moving it from primary source.

The power source must be properly grounded.

Do not exceed the duty cycle or your power source. (Check name plate on the power source for your machine's duty cycle).

Keep your mig gun well maintained. A mig gun with broken or worn parts will contribute to poor welds and can often be unsafe.

Always have the correct type of fire extinguisher handy when welding.

## **ENVIRONMENTAL SAFETY**

Arc welding produces hot metal and sparks. Check welding area and remove all flammable material.

Do not weld near explosives or explosive materials such as gasoline tanks, etc.

When welding, make sure area is properly ventilated. **Important: Never use oxygen for ventilation.**

Do not weld or cut when strong fumes are present.

To prevent electrical shock, do not weld in wet areas.

Always check welding area one-half hour after welding for indications that a fire may be starting.

Do not weld around oil, grease, paint, etc. These materials may be flammable, and they often give off toxic fumes. Remove them before welding.

**Remember: Use adequate ventilation when welding!**

## **PERSONAL SAFETY**

You, the welder, are responsible for your own safety and the safety of others in the work area. You must know all safety rules and obey them.

**Electric shock can kill. All electric shocks are potentially fatal.**

Always wear dry gloves when arc welding.

Keep yourself well insulated from the floor when arc welding.

Wear thick soled shoes and keep them dry to keep yourself from becoming grounded.

If you feel the slightest electrical shock sensation, **Stop Welding at Once!** Do not use equipment until the problem is identified and repaired.

Always unplug welding machine from power outlet before you attempt to move or work on it.

Only qualified personnel can work on arc welding e.g., electric shock can result even if machine is unplugged.

**Arc Welding Gives Off Fumes** — which can be a potential health hazard.

Always use adequate ventilation when welding.

Some materials give off fumes which are toxic (poisonous). For example, galvanized and zinc coated metals. Prior to welding metals with these coatings, remove the coating from the weld zone by grinding or sanding.

**Arc Welding Makes Hot Metal, Hot Sparks, and Molten Metal Drips.**

Protect yourself from burns, fires and explosions.

Always wear safety glasses when under the welding hood.

Wear a welding hood with at least a #10 shade lense and proper cover plates. The hood and filter plates should conform to ANSI Z87.1.

Always wear dry, protective fire resistant clothing which are free from oil and grease.

Never carry matches, cigarette lighters, etc., in pockets, they could catch fire or explode.

**Arc Welding Gives Off Rays Which Can Burn the Skin and Eyes.**

Never look at the arc without the arc welding helmet and #10 shade lense.

All skin must be covered when welding. Exposed skin can be burned by the arc's rays.

Warn people in the vicinity of arc welding prior to striking an arc.

**REMEMBER:** The arc can flash or burn the eyes. The arc is considered dangerous for the distance of 50 feet. Protect your fellow workers.

## **SHIELDING GAS AND HIGH PRESSURE GAS CYLINDER PRECAUTIONS**

Gas content must always be identified before operating welder.

If gas leak occurs, immediately close the cylinder valve.

If regulator is faulty, close cylinder valve and remove it from service immediately. Regulator is faulty if any of the following occur:

1. Gas leaks detected externally.
2. Delivery pressure continues to rise with (down stream) valve closed.
3. If gauge needle does not move off stop pin when pressurized, nor returns to stop pin after pressure released.

Do not attempt repair of regulators or compressed gas handling equipment. Send faulty regulators for repair to manufacturer's designated repair location, where special techniques and tools are used by trained personnel.

Cylinders must be handled carefully to prevent leaks and damage to their walls, valves, or safety devices.

Identify gas content. Use only cylinders with names of gas marked on them. Do not rely on color to identify gas content. Notify supplier if unmarked. Never deface or alter name, number, or other markings on a cylinder. It is illegal and hazardous.

Always treat cylinders as if they are full.

Locate or secure cylinders so they cannot be knocked over.

For more information on safe practices when installing, or using pressurized cylinders and regulations, see CGA pamphlet P-1.

Never strike an arc on a cylinder.

The regulator must always be repaired by authorized manufacturer's service personnel.

Avoid exposing cylinder to high temperatures. (Above 110° F.)

## **STANDARD BOOKLET INDEX**

For more detailed and complete information relating to safety and equipment use, refer to these standards and their latest revisions and comply as applicable.

### **1. ANSI Standard Z49.1 — SAFETY IN WELDING AND CUTTING.**

This can be obtained from:

American Welding Society  
P.O. Box 352040  
Miami, Florida 33135

### **2. ANSI Standard Z87.1 — SAFE PRACTICE FOR OCCUPATION AND EDUCATIONAL EYE AND FACE PROTECTION.**

This can be obtained from:

American National Standards Institute  
1430 Broadway  
New York, New York 10018

### **3. AWS Recommended Practice F4.1 — RECOMMENDED SAFE PRACTICES FOR THE PREPARATION FOR WELDING AND CUTTING CONTAINERS AND PIPING THAT HAVE HELD HAZARDOUS SUBSTANCES.**

This can be obtained from:

American Welding Society  
P.O. Box 351040  
Miami, Florida 33135

### **4. NFPA Standard 51. — OXYGEN-FUEL GAS SYSTEMS FOR WELDING AND CUTTING.**

This can be obtained from:

National Fire Protection Association  
Battery March PAR IC  
Quincy, Maryland 02269

### **5. NFPA Standard 51B. — CUTTING AND WELDING PROCESSES.**

This can be obtained from the same source as item No. 4.

6. CGA Pamphlet P-1. SAFE HANDLING OF COMPRESSED GASES IN CONTAINERS.

This can be obtained from:

Compressed Gas Association  
1235 Jefferson Davis Highway  
Arlington, Virginia 22202  
1-703-979-0900

7. OSHA Standard 29 CFR, Part 1910, Subpart Q. — WELDING, CUTTING AND BRAZING.

## MIG WELDING — HOW IT WORKS

MIG (Metal Inert Gas) welding is a welding process in which a power wire electrode is fed continuously into the welding puddle at a controlled constant rate.

The wire is connected to the positive side of a rectified voltage supply. The workpiece is connected to the negative side of the supply.

When the wire is fed, it comes into contact with the workpiece and an arc is struck. The arc melts the wire and it is deposited onto the workpiece.

The wire, which is fed by the wire feed motor, is fed into the weld pool, burning itself off at a rate dependent upon the selected wire feed speed.

The faster the motor speed the higher the current drawn by the arc. Thus, wire feed speed controls welding current.

To protect the weld puddle from oxidation and impurities during the welding process, a shielding gas flows over and around the weld puddle.

This gas flow must be sufficient to protect the weld, but not wasteful.

**NOTE:** Poor gas coverage will result in poor welding. Excessive gas coverage is expensive.

## DUTY CYCLE

This welder is rated at a 20% duty cycle. This means that when welding with a current output of 105 amps over a period of 10 minutes, the total welding time is 2 minutes, and the rest time is 8 minutes.

## BENEFITS OF MIG WELDING

1. 50% faster welding time
2. Operator training time kept to a minimum.
3. There is no slag removal, thus eliminating almost all post-welding cleaning operations.
4. Minimum waste of welding consumables.
5. Overall, a faster more efficient way of getting the job done.

## ACCESSORY PARTS LIST

The items listed below are part of the standard accessory package that is included with the Silver Beauty MIG Welder Model 90100.

- ☐ TWO .024 in. (0.6MM) CONTACT TIPS
- ☐ TWO .030 in. (0.8MM) CONTACT TIPS
- ☐ ONE BINZEL TORCH (10'6")
- ☐ ONE 6 FT. GROUND CLAMP

- ☐ ONE 2 LB. SPOOL OF STEEL WIRE
- ☐ ONE GAS NOZZLE
- ☐ ONE WELDING SHIELD
- ☐ ONE GAS REGULATOR
- ☐ ONE CHAIN FOR GAS BOTTLE

## OPTIONAL AND REPLACEMENT ACCESSORIES

| PART # | DESCRIPTION                | PART # | DESCRIPTION                    |
|--------|----------------------------|--------|--------------------------------|
| 90002  | BINZEL TORCH (10'6")       | 90037  | DRIVE ROLLER FOR ALUMINUM      |
| 90020  | .024 CONTACT TIPS (10 PAK) | 90038  | DRIVE ROLLER FOR STEEL         |
| 90021  | .030 CONTACT TIPS (10 PAK) | 90040  | ANTI-STICK SPRAY               |
| 90026  | NOZZLE — STEEL             | 90042  | PLASTIC TORCH LINER            |
| 90027  | NOZZLE — ALUMINUM          | 90050  | .024 STEEL WIRE (10 LB. SPOOL) |
| 90025  | NOZZLE — SPOT              | 90051  | .030 STEEL WIRE (10 LB. SPOOL) |
| 90028  | NOZZLE — RIVET             | 90010  | SHRINK AND SOLDER TOOL         |
| 90016  | SPINDLE FOR SMALL SPOOLS   | 90011  | PUNCH AND FLANGE TOOL          |

## WELDER SPECIFICATIONS

### PRIMARY OR INPUT POWER DATA

Primary Volts  
Primary Amps (max)  
Frequency

### MODEL 90100

118 Volts  
25 Amps  
60 HZ



### SECONDARY or OUTPUT POWER DATA

Secondary Volts (max) 20 Volts  
Secondary Amps 105 Amps  
Duty Cycle 20%

### USABLE WIRE SIZES

.024 — .030 Steel Wire (Recommended E70S6)  
.030 Aluminum Wire

### USABLE GASSES

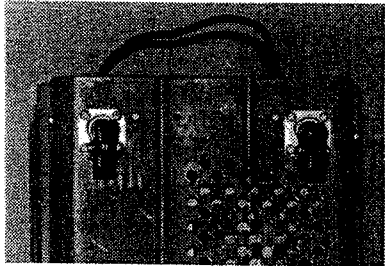
75% Argon 25% CO<sup>2</sup> — Thin Sheet Metal, Mild Steel  
100% Argon — Welding Aluminum  
100% CO<sup>2</sup> — Mild Steel  
92% Argon 8% Oxygen — Stainless Steel  
90% Argon 10% CO<sup>2</sup> — High Strength Steel,  
Low Carbon Mild Steel  
89% Argon 6% CO<sup>2</sup> 5% — High Speed Welding On  
Mild Steel.

Gas regulators with manual controls should be set, at 20-35 cubic feet per hour (9-16 liters per minute).

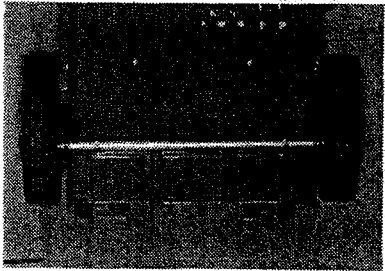
## WELDER SET-UP PROCEDURE

### WELDER PREPARATION

1. Unpack the welder and check for a complete accessory package.
2. Secure the front caster to the welder using Phillips head screws, which are provided.



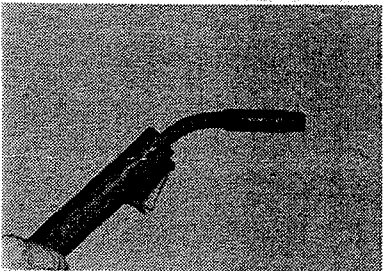
3. Secure the rear axle to the welder using Phillips head screws, which are provided.



4. Place the wheels on axle and secure with wheel plugs, which are provided.

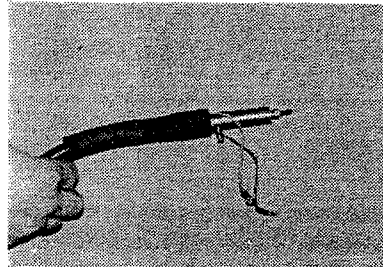
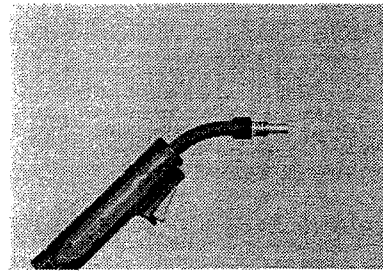
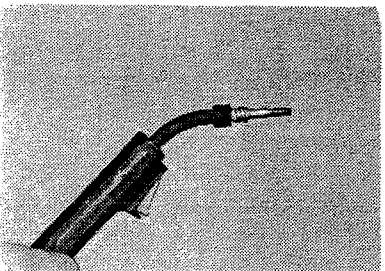
### TORCH PREPARATION

1. Lay the torch on a table as straight as possible.

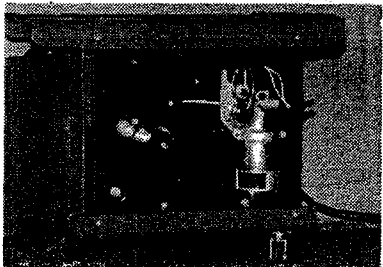
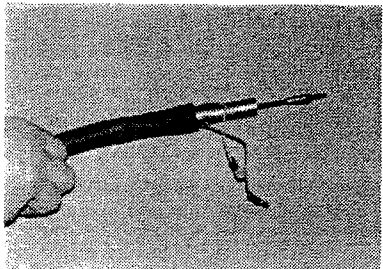


2. Remove the contact tip and gas nozzle.

**NOTE:** To remove and replace the nozzle always twist clockwise and pull to remove and push to replace.

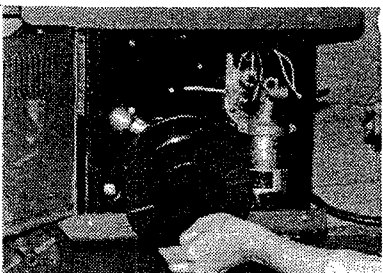


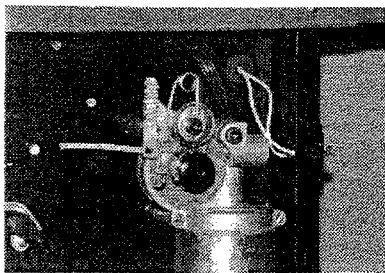
3. For liner cleaning and replacement, unscrew liner collet from the torch connector end and pull the liner out. (see diagram)



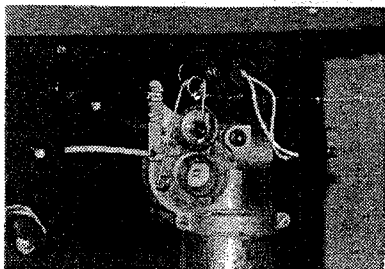
### WIRE FEED PREPARATION

1. Place the spool of wire on the spindle, so the wire will feed over the top of the spool.

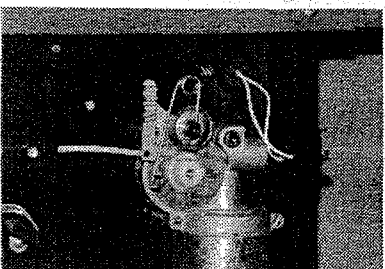




2. Relieve all the tension on the wire feed motor, and unscrew the hand nut. This will enable the user to select the proper drive roller size.

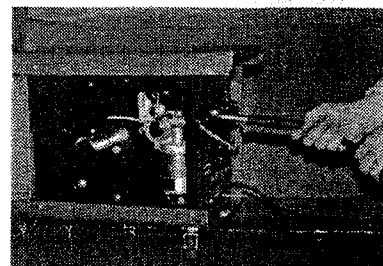


3. To obtain the proper drive roller size, remove the drive roller from the wire feed motor. Notice the drive roller has two grooves. Each groove is for a specific size wire.

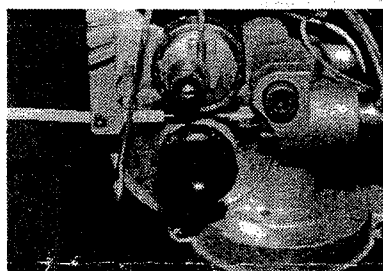


The size of the wire being used will determine which side of the drive roller is facing out. (The side facing out should match the wire size).

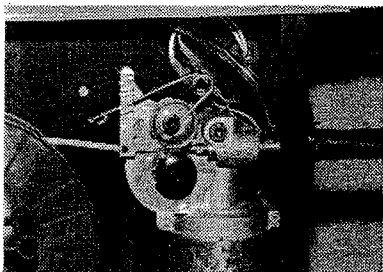
4. After determining the correct drive roller size, replace the roller (with the correct side out) in the wire feed motor and tighten the hand nut.
5. Insert the torch connector into the wire feed motor through the front of the welder, and tighten the set screw. (Do not overtighten the set screw; a cracked wire feed motor housing will result if done so.) Connect the gas hose and wires to torch.



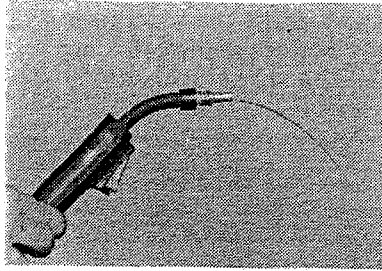
6. Manually feed the wire from the spool through the teflon guide tube, over the drive roller and into the torch assembly.



7. Place the tension adjustment spring into the first position, or the lowest tension setting. (After a period of time, when the drive rollers wear, the tension may need to be increased.)

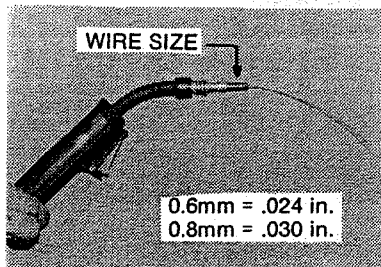


8. Plug the welder into an outlet and pull the trigger on the torch. This will feed the wire through the torch. Stop feeding the wire after it is sticking out of the tip of the torch about 6 inches.

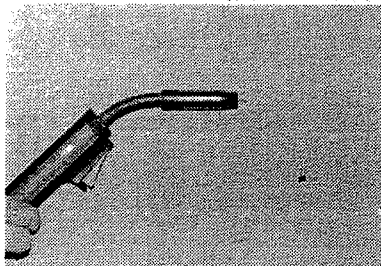


9. Screw the contact tip into the end of the torch, by sliding it over the wire that is extended and thread it completely in.

**NOTE:** The size of the contact tip should be matched to the size of the wire. Contact tips are marked with the size stamped on the tip itself.



10. Replace gas nozzle by turning it clockwise and push it onto the torch.



## AS PREPARATION

1. The types of gasses that can be used in mig welding are:

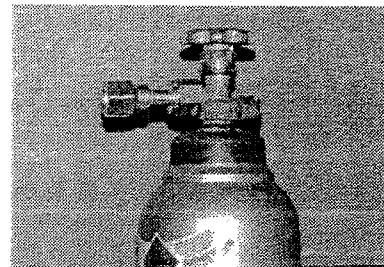
75% Argon 25% CO<sup>2</sup> — For Steel  
100% CO<sup>2</sup> — For Steel  
100% Argon — For Alum.

Whatever type is being used, the set-up procedure is the same.

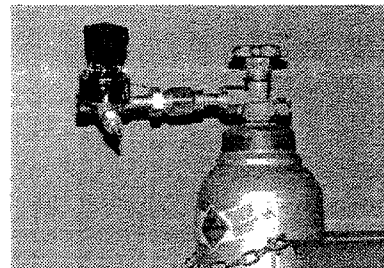
2. Small cylinders (cylinders with an outside diameter of 5½ inches or less) can be placed and chained to the back of the welder.



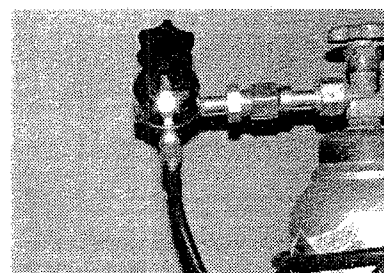
3. Large cylinders (cylinders with an outside diameter larger than 5½ inches) can be placed and chained to a nearby wall.
4. After the bottle is securely placed and chained, remove the cap from the bottle.
5. If needed install CO<sup>2</sup> cylinder adaptor.
6. Thread the regulator into the bottle and tighten.



7. Connect the gas hose fitting to the regulator.



8. Slide the gas hose on the gas hose fitting and secure with the hose clamp.





9. Open the gas cylinder valve completely.
10. Set the regulator with a gas flow of 20-35 CFH (9-16 LPM).

### ALUMINUM WELDER SET-UP (ADDITIONAL KIT REQUIRED, ORDER 90016 SPINDLE ADAPTOR)

1. Place spool of aluminum wire on the small spindle.
2. Change drive roller to a drive roller for aluminum.
3. Feed wire through the torch using the same procedure used for steel welding.
4. Change gas to 100% argon.

## FUNCTION OF CONTROLS

### FRONT VIEW



1. **TORCH ADAPTOR SOCKET** — This is the socket that the torch is connected to.
2. **POWER INDICATOR** — This indicates whether the welder is on or off.
3. **HEAT SELECTOR** — This control turns the welder on and off and selects the heat settings.
4. **WIRE FEED** — This control adjusts the rate of wire feed.
5. **GROUND PLUG CONNECTOR** — This is the socket that the ground cable is connected to.

### WIRE SIZE SPECIFICATION CHART (STEEL)

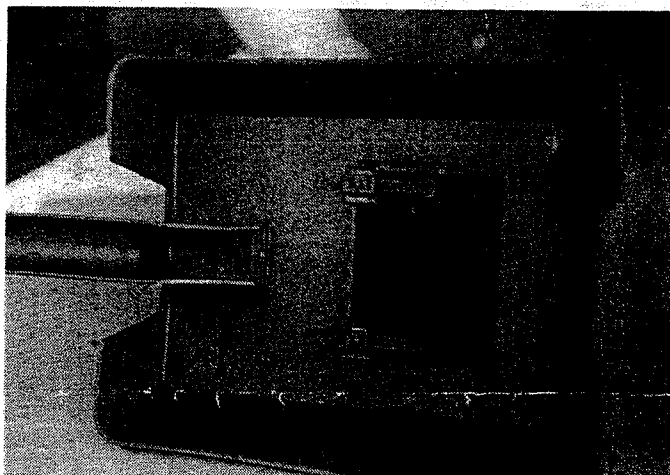
| WORKPIECE THICKNESS (INCHES) | WELDING WIRE .024 (0.6MM) |                   | WELDING WIRE .030" (0.8MM) |                   |
|------------------------------|---------------------------|-------------------|----------------------------|-------------------|
|                              | WELDING POS.              | WIRE SPD. ADJUST. | WELDING POS.               | WIRE SPD. ADJUST. |
| .024 - .032                  | 1                         | 2                 | 1                          | —                 |
| .032 - .036                  | 2                         | 4                 | 2                          | 2                 |
| .036 - .125                  | 3                         | 6                 | 3                          | 4                 |
| .125 - .210                  | 4                         | 9                 | 4                          | 6                 |

### ALUMINUM

| WORKPIECE THICKNESS (INCHES) | WELDING WIRE .030" (0.8MM) |                   |
|------------------------------|----------------------------|-------------------|
|                              | WELDING POS.               | WIRE SPD. ADJUST. |
| —                            | 1                          | —                 |
| .075                         | 2                          | 3                 |
| .075 - .125                  | 3                          | 5                 |
| .125 - .187                  | 4                          | 8                 |

## FACE SHIELD ASSEMBLY

1. Install lens with frame facing down
2. Seat the 2 u-clips onto the studs of the lens supports.
3. Slide the handle into it's slot.



## WELDING TECHNIQUES

Before welding, **READ SAFETY INSTRUCTIONS** carefully; make sure flammable materials are removed from work area.

Keep a fire extinguisher handy. Wear protective clothing so that all skin areas are covered. Use approved helmet and gloves and safety glasses.

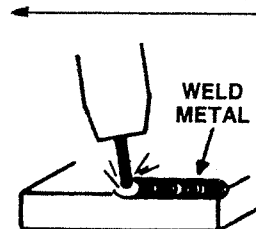
**TO SET HEAT:** Use proper stick out. Wire stick out is the distance from the **CONTACT TIP** to the **WORK**. Wire stick out (sometimes incorrectly called arc length) should be between 3/8" to 1/2" to achieve optimum welding conditions and sound.

1. First turn heat (voltage) setting to desired number. Lower settings for light sheet metal, higher settings for thicker metal.
2. Next adjust wire feed speed. Start with a piece of scrap metal that is free of paint and rust. Attach the ground clamp to the scrap metal. Turn the wire feed to a high setting. Pull trigger, initiate an arc and start to turn the wire feed down slowly. Listen as you continue to decrease the wire feed speed. The sound will go from a sputter to a high pitched buzz (like the sound of bacon frying). This buzz will indicate the proper wire speed setting for the thickness of metal you are welding.

You must retune the wire speed whenever the heat setting is changed. Always start with a higher wire feed speed setting. This will reduce the number of contact tips that are burned up during the welder tuning procedure.

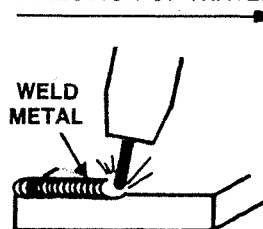
As you weld, the gun should be held at approximately a 45 degree angle. Keep the bottom of the nozzle 1/4" to 1/2" from work.

### DIRECTION OF TRAVEL



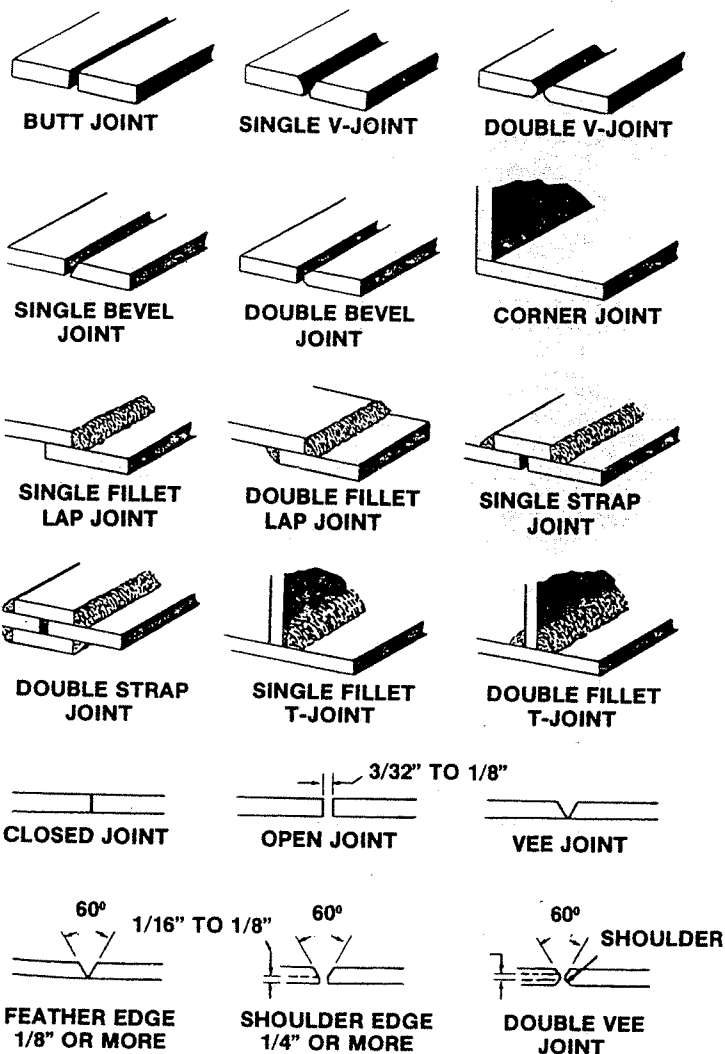
**FOREHAND WELDING** — A welding technique in which the welding torch or gun is directed toward the progress of welding.

### DIRECTION OF TRAVEL



**BACKHAND WELDING** — A welding technique in which the welding torch or gun is directed opposite to the progress of welding. Sometimes referred to as the "pull technique."

## TYPES OF JOINTS



## SPOT WELDING TECHNIQUES

Spot welding is very effective in auto body repair, especially where high strength steel is used. Spot welding can also be used in any thin metal fabrication where a continuous weld is not desired. If used correctly, spot welding can almost eliminate warpage.

**LAP SPOT** — This type of weld is used when one piece of steel is lapped over another. The weld puddle penetrates the bottom piece and flows into the edge of the top piece.

**PLUG WELDS** — This type of weld is used extensively in replacing sheet metal panels in auto body repair. The weld puddle fills the hole in the top piece while penetrating the bottom piece, insuring a good weld and smooth top surface after welding.

**BURN THROUGH** — Similar to a plug weld. The weld puddle burns through the top piece and penetrates the bottom piece. A tight fit is very important between overlapping services.

## STITCH WELDING TECHNIQUES

Stitch welding is used when a continuous weld is desired on thin or rusty metal, but burn-through and warpage are a problem.

Stitch welding is basically a series of spot welds which overlap slightly and which have time to cool between each weld.

1. Set heat and wire speed according to chart on page
2. Hold gun at a 45 degree angle to the material.
3. Pull trigger and weld for about 1 second.
4. Move the gun slightly along the seam and press the trigger again. Let the red color, of the weld, disappear before repeating weld.

## HOLE FILLING TECHNIQUE

1. Fully clean the area of the hole.
2. Make a short weld on the inside wall of the hole and let the weld cool.
3. Make another short tack weld on each side of the first weld and let these cool.
4. Make two longer welds overlapping the first three by rotating the gun while welding. Allow these to cool.
5. Repeat the process working across the hole.

## WELDING HINTS

1. Hold the gun at a 45° angle to the work with the nozzle about 1/4" from the surface. The closer the gun, the deeper the weld.
2. Move the gun smoothly and steadily as you weld.
3. Avoid welding in very drafty areas. A weak pitted weld will result due to air blowing away the welding gas.
4. Keep wire and wire liner clean.
5. Always apply antispatter welding spray when the nozzle and the tip are hot. This prevents slag build-up and allows proper gas flow.
6. Sharp bends or kinks on the welding torch should be avoided.
7. The gun liner should be cleaned when you change a spool of wire. Soak liner in solvents or use compressed air.
8. Using low pressure air, occasionally blow the dust from the inside of the welder. This keeps the machine running cooler.



**TRIPLE-A SPECIALTY COMPANY**

5750 West 51st Street, Chicago, IL 60638

**312-458-7200**



# SILVER BEAUTY TROUBLE SHOOTING GUIDE MIG WELDERS 90100

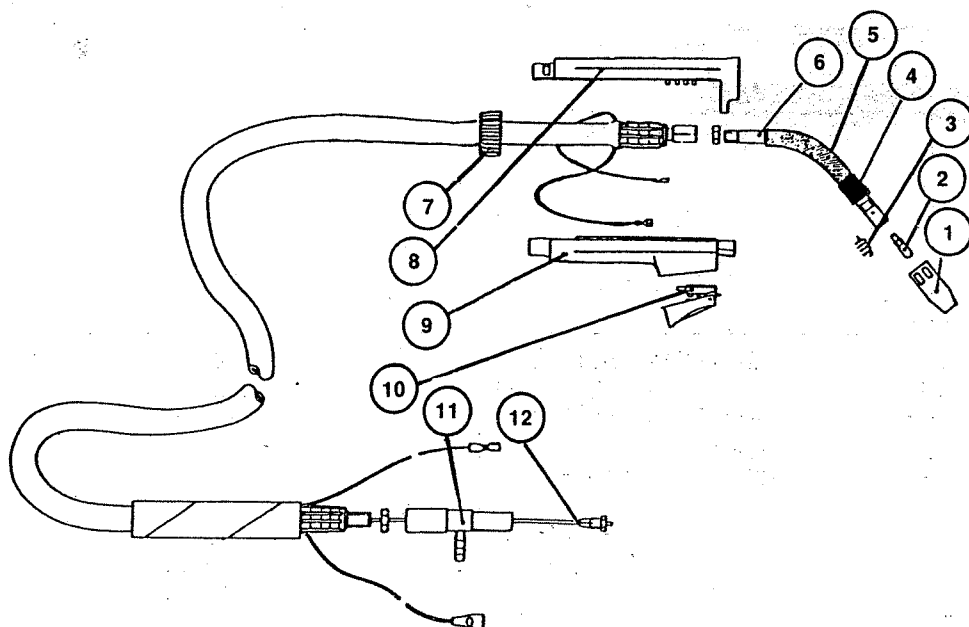
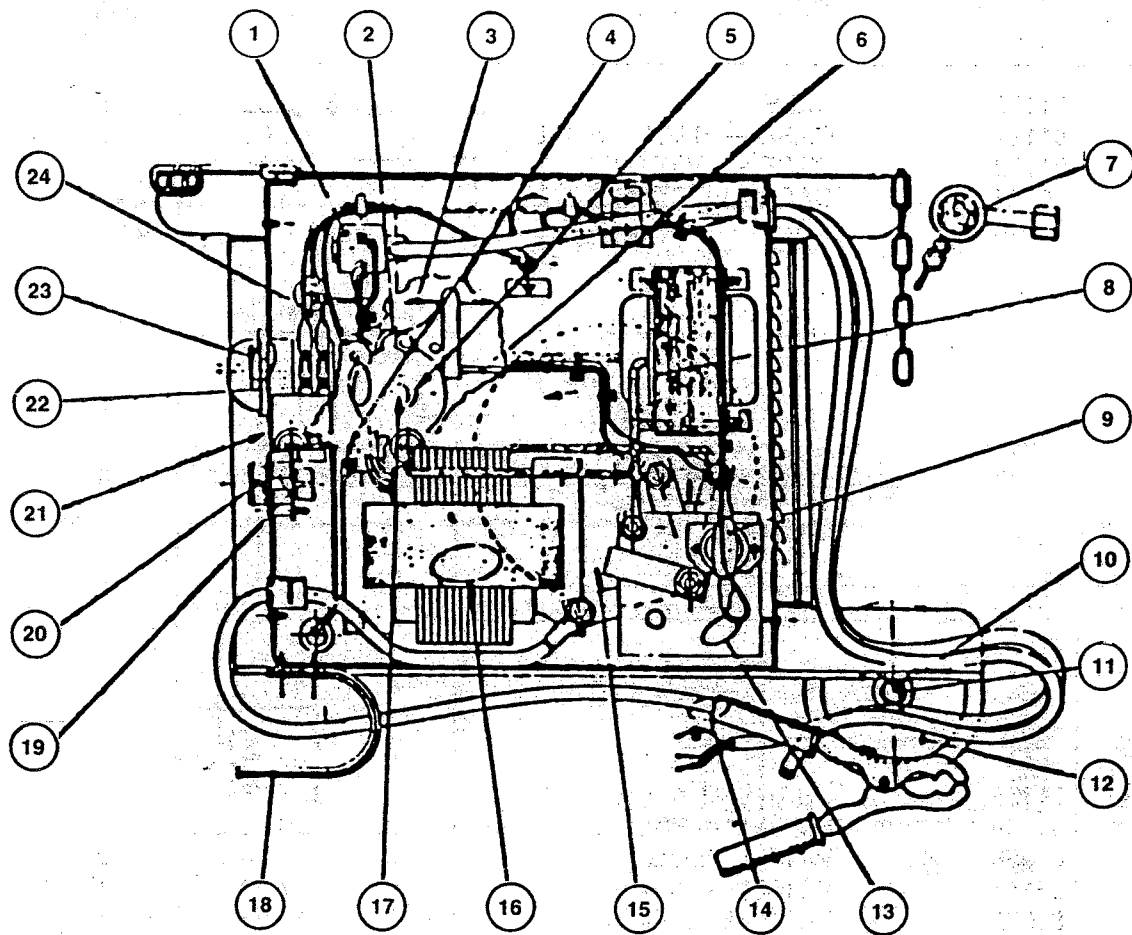
| PROBLEM                                     | PROBABLE CAUSE  | POSSIBLE REMEDY   |
|---|---|---|
| Power source stops.                         | Overheating protection activated due to over load.  | The protection automatically resets when the transformer has cooled.  |
| Lamp on.<br>No Weld current.                | Bad connection between ground clamp and workpiece.  | Clean or wire brush the work surface.   |
| Wire does not feed or pulsate.              | Pressure roller improperly adjusted.<br>Dirt or copper dust has collected in the liner.<br>Welding wire old and corroded.<br>Contact tip dirty or worn out.<br>Drive roller groove dirty.<br>Drive roller deformed. | Increase tension.<br>Blow out line with compressed air, or replace.<br>Replace with new wire.<br>Clean or replace tip.<br>Anti spatter spray prolongs tip life.<br>Clean the groove.<br>Replace the roller. |
| Unstable arc.                               | Wire feed setting incorrect.<br>Impurities on base metal.<br>Contact tip dirty or worn.   | Increase the speed until a steady buzz is heard like frying bacon.<br>Clean with wire brush.<br>Clean or replace.   |
| Wire stubs into work piece (popping sound). | Wire speed too high.  | Decrease the speed until a steady buzz is heard.  |
| Wire is birds nesting.                      | Wire tension too great.<br>Torch not seated properly.   | Decrease the tension on the drive roller.<br>Seat the torch completely in the housing.  |
| Electrode welds to tip.                     | Wire speed too slow, poor technique.  | Increase wire speed. Hold torch at 45° angle to work.   |
| Porous weld.                                | No gas.<br>Torch nozzle clogged.<br>Draft blowing away gas.<br>Dirty base metal.<br>Gas leak.   | Open and adjust regulator.<br>Clean or replace.<br>Increase flow or screen off the welding area.<br>Clean with wire brush.<br>Check hose, connections, regulator and torch.                                 |
| Weld bead too narrow and raised.            | Weld current too low.<br>Travel speed too fast.   | Switch to high and adjust wire speed.<br>Move the torch slower and weave more.  |
| Weld bead too wide.                         | Weld current too high.<br>Travel speed too slow.<br>Arc too long.   | Switch to low and adjust wire speed.<br>Move the torch faster and weave less.<br>Hold the torch closer to workpiece.  |
| Fuse blowing.                               | Wire tension too great.<br>Contact tip dirty or worn.   | Loosen the tension on the drive roller.<br>Clean or replace the contact tip.  |

# REPAIR KIT LIST FOR 90100 WELDER

| ITEM<br>NUMBER | REPAIR<br>NUMBER | DESCRIPTION                      | PRICE   | QTY/<br>PACK |
|----------------|------------------|----------------------------------|---------|--------------|
| 10             | 81120            | AXLE                             | \$ 2.02 | 1            |
|                | 81121            | CASE — BACK PANEL                | 11.00   | 1            |
|                | 81122            | CASE — BOTTOM                    | 42.74   | 1            |
|                | 81123            | CASE — COVER                     | 26.41   | 1            |
| 21             | 81026            | CASE — DOOR SPRING               | .40     | 1            |
|                | 81125            | CASE — FRONT PANEL               | 15.40   | 1            |
|                | 81027            | CASE — HANDLE                    | 2.16    | 1            |
|                | 81127            | CASE — SIDE DOOR                 | 17.65   | 1            |
|                | 81128            | CASE — SIDE PANEL                | 11.79   | 1            |
|                | 81010            | CONTACTOR                        | 33.44   | 1            |
| 19             | 81129            | ELECTRONIC CONTROL BOARD         | 79.95   | 1            |
| 1              | 81013            | ELECTROVALVE — GAS               | 20.94   | 1            |
|                | 81070            | FUSE 4 AMP                       | .22     | 5            |
| 14             | 81130            | GROUND CABLE AND CLIP            | 3.52    | 1            |
|                | 81131            | KNOB — HEAT SELECTOR             | .97     | 1            |
| 20             | 81132            | KNOB — WIRE FEED                 | 1.10    | 2            |
|                | 81133            | LINE CORD                        | 10.56   | 1            |
| 13             | 81134            | RECTIFIER ASSEMBLY               | 58.64   | 1            |
|                | 81135            | SPINDLE                          | 14.25   | 1            |
| 23             | 81142            | SWITCH — HEAT SELECTOR           | 28.08   | 1            |
| 9              | 81017            | THERMOSTAT — RECTIFIER           | 5.90    | 1            |
|                | 81137            | TRANSFORMER — CHOKE              | 82.96   | 1            |
| 16             | 81138            | TRANSFORMER — POWER              | 197.58  | 1            |
| 18             | 81139            | WHEEL — FRONT TURNING            | 6.82    | 1            |
| 11             | 81058            | WHEEL PLUGS                      | .04     | 2            |
| 12             | 81141            | WHEEL — REAR                     | 7.39    | 1            |
| 2              | 81072            | WIRE FEED COUNTER ROLLER         | 10.25   | 1            |
| 5              | 81060            | WIRE FEED DRIVE REDUCER          | 2.02    | 1            |
| 22             | 81033            | WIRE FEED MOTOR                  | 160.29  | 1            |
| 4              | 81034            | WIRE FEED MOTOR BRUSHES          | 3.70    | 2            |
|                | 81032            | WIRE FEED MOTOR INSULATORS       | 1.54    | 5            |
| 6              | 81031            | WIRE FEED TEFLON GUIDE TUBE      | .62     | 5            |
| 17             | 81061            | WIRE FEED TENSION NUT            | 1.54    | 2            |
| 3              | 81030            | WIRE FEED TENSION SPRING         | .92     | 2            |
|                | 81067            | FAN — BLADE                      | 1.58    | 1            |
|                | 81233            | FAN — COOLING                    | 24.11   | 1            |
|                | 81121            | CASE — BACK PANEL -W-FAN BRACKET |         |              |

# REPAIR LIST FOR 90100 TORCH

| ITEM<br>NUMBER | REPAIR<br>NUMBER | DESCRIPTION               | PRICE   | QTY/<br>PACK |
|----------------|------------------|---------------------------|---------|--------------|
| 11             | 81111            | GAS CONNECTOR             | \$28.07 | 1            |
| 7              | 81106            | HANDLE - LOCK RING        | 13.55   | 1            |
| 9              | 81109            | HANDLE - COMPLETE         | 56.36   | 1            |
| 9              | 81108            | HANDLE - LOWER HALF       | 18.79   | 1            |
| 8              | 81107            | HANDLE- UPPER HALF        | 18.79   | 1            |
| 4              | 81103            | INSULATING TIP FOR LANCE  | 4.00    | 5            |
| 5              | 81104            | INSULATING TUBE FOR LANCE | 3.39    | 1            |
| 6              | 81105            | LANCE WITH DIFFUSER       | 35.11   | 1            |
| 10             | 81110            | PUSHBUTTON                | 19.71   | 1            |
| 3              | 81092            | SPRING FOR NOZZLE         | 1.94    | 5            |



# MODEL 90100

