

Installation Instructions for 81540 MIG100 Gasless Welder

PLEASE READ MANUAL CAREFULLY BEFORE USING.

SAFETY INFORMATION

Before using welder, please ensure that you know:

1. Arc welding can be dangerous.
2. This welding machine must be connected to a power source in accordance with appliance electrical codes.
3. For safety turn off and unplug machine when installing new wire spool, adjusting wire tension roller or replacing contact tip.
4. The contact tip is electrically "hot" and if it contacts the grounded work piece it will cause damage.
5. All installation, maintenance, repair operation of this equipment should be performed by qualified technicians in accordance with national, state and local codes.
6. Electric shock could kill.
7. Disconnect from power source before assembling, disassembly or maintenance of the torch or contact tip or changing wire spools.
8. Fumes and welding gases can be dangerous.
9. Welding sparks can cause fire or explosion.
10. Arc rays can burn.
11. Hot metal will burn.
12. Electromagnetic fields may be dangerous.

WARNING!

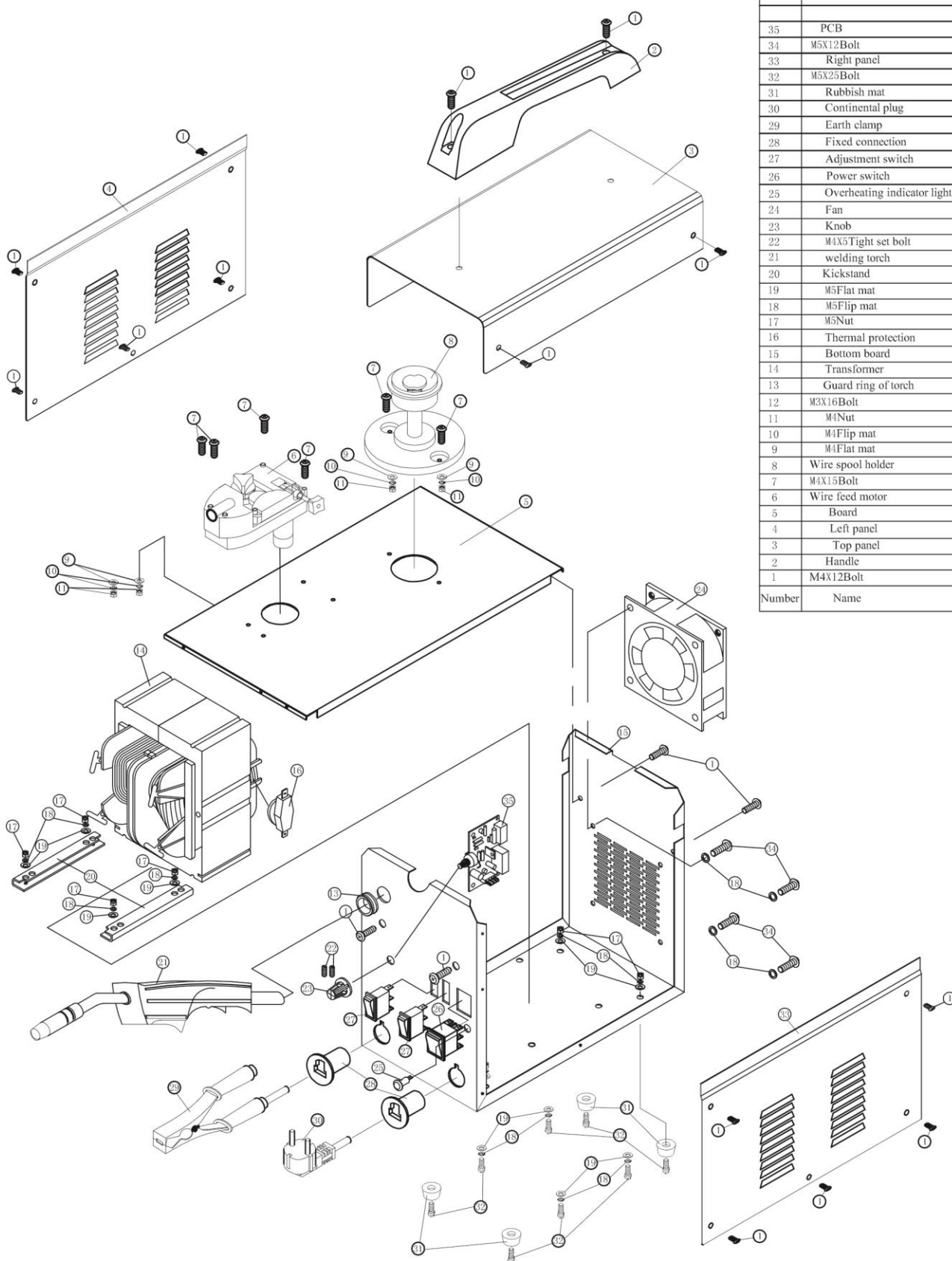
PLEASE BE REMINDED TO WEAR ALL PROTECTION DEVICES BEFORE WELDING IN A SAFE PLACE.

SPECIFICATION

| Process(s) | Flux-Cored MIG welding |
|------------------------------------|------------------------|
| GAS/FLUX | Flux |
| Input Voltage | 110 V AC |
| Input Current | 20 A |
| Input Frequency | 60 Hz |
| Output Current Range | 50-90A |
| Rated Duty Cycle | 20% @90A |
| Open Circuit Voltage | 27V AC |
| Wire Feed Speed | Infinite adjustable |
| Current Settings | 4 Position |
| Flux cored welding wire dia.(inch) | 0.03"-0.035" |
| Insulation class | F |
| Protection class | IP21S |



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| | | |
|--------|-----------------------------|----------|
| | | 1 |
| | | 1 |
| 35 | PCB | 1 |
| 34 | M5X12Bolt | 4 |
| 33 | Right panel | 1 |
| 32 | M5X25Bolt | 8 |
| 31 | Rubbish mat | 4 |
| 30 | Continental plug | 1 |
| 29 | Earth clamp | 1 |
| 28 | Fixed connection | 2 |
| 27 | Adjustment switch | 1 |
| 26 | Power switch | 1 |
| 25 | Overheating indicator light | 1 |
| 24 | Fan | 1 |
| 23 | Knob | 1 |
| 22 | M4X5Tight set bolt | 2 |
| 21 | welding torch | 1 |
| 20 | Kickstand | 2 |
| 19 | M5Flat mat | 14 |
| 18 | M5Flip mat | 10 |
| 17 | M5Nut | 10 |
| 16 | Thermal protection | 1 |
| 15 | Bottom board | 1 |
| 14 | Transformer | 1 |
| 13 | Guard ring of torch | 1 |
| 12 | M3X16Bolt | 2 |
| 11 | M4Nut | 2 |
| 10 | M4Flip mat | 2 |
| 9 | M4Flat mat | 2 |
| 8 | Wire spool holder | 1 |
| 7 | M4X15Bolt | 6 |
| 6 | Wire feed motor | 1 |
| 5 | Board | 4 |
| 4 | Left panel | 1 |
| 3 | Top panel | 1 |
| 2 | Handle | 1 |
| 1 | M4X12Bolt | 20 |
| Number | Name | Quantity |

REMINDER:

1. MIG100 welder is a no gas (flux) function. It could weld max 1kgs (2.2lbs) welding wire. Please remember to use the correct size wire.
2. The nozzle size and wire roller size should be the same. For example, 0.8mm (0.30") wire should use 0.8mm (0.30") electrode in the torch and select 0.8mm (0.30") side of feeding roller.
3. When torch nozzle touches the work piece, there will be an arc. When you press torch button, it starts feeding wire and welding.

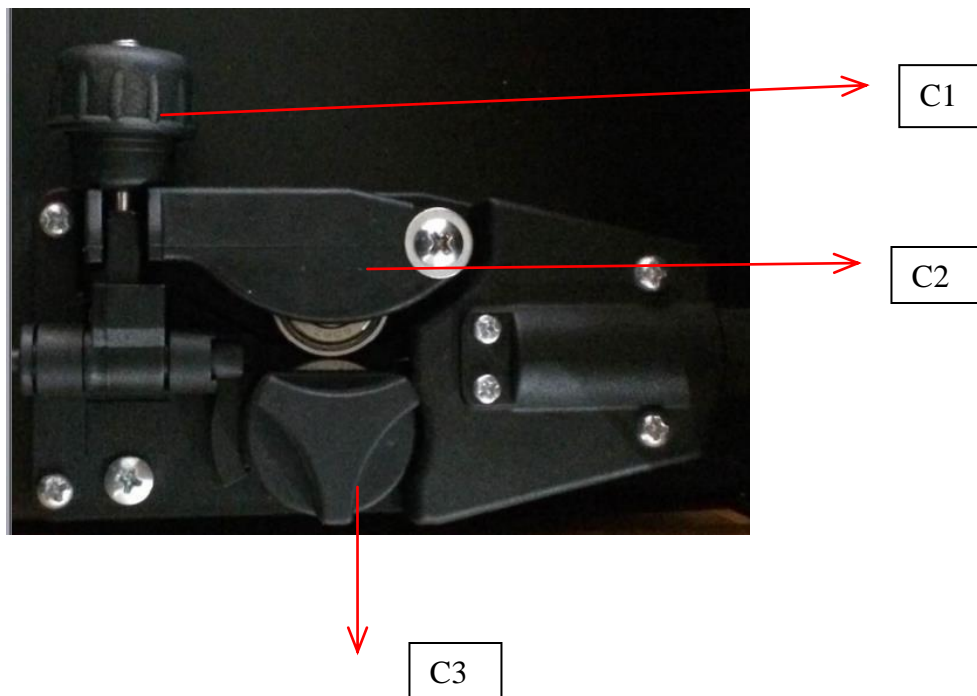
OPERATION**CONNECTING THE WELDER TO A POWER SOURCE**

The MIG100 welder requires a dedicated 120 AC, 60 Hz power input. Do not use on power sources that have voltages less than 105V AC or higher than 132V AC. If using an extension cord, use a minimum 12 AWG cord for up to 25 feet.

CHANGING THE DRIVE ROLLER

The MIG100 comes set up and ready to use 0.035" (0.9mm) Flux-Core Wire. If 0.03" (0.8mm) wire is to be used, the drive roller needs to be adjusted. Adjust the drive roller according to the following procedure:

1. Open the top door of the welder.
2. Lift the Pressure Adjuster (**PIC. C1**) out of the way and move the Rocker Arm (**PIC. C2**) away from the drive roller.
3. Remove the Drive Roller Thumb Screw (**PIC. C3**) by turning it counter clockwise and pulling it away from the roller.
4. Remove the Drive Roller and view the wire sizes stamped on each side of the roller.
5. Install the Drive Roller in the orientation so that the size of the wire you are using is facing you on the side of the drive roller.
6. Reinstall the Drive Roller Thumb Screw (**PIC. C3**).
7. Put the Rocker Arm (**PIC. C2**) back in place and reset the Pressure Adjuster (**PIC. C1**).



INSTALLING THE WIRE

The MIG100 should be used with a 4" wire spool only. To install the wire spool follow the procedure listed below:

1. Open the door of the welder and remove the wing nut (**PIC. C1**) and spacer from the Wire Spool Spindle.
2. Slide the 4" Wire Spool onto the Wire Spindle and reinstall the spacer and wing nut.



C4

THREADING WELDING WIRE THROUGH THE DRIVE MOTOR TO THE WELDING GUN

This welder uses only self-shielding flux-core wire in either 0.030" or 0.035" size (0.8 or 0.9mm). To install the welding wire follow the procedure outlined below:

1. Turn the power switch to the off position and unplug the welder from the power supply.
2. Remove the contact tip and nozzle from the end of the torch.
3. Ensure that the drive roller is installed in the proper position for the wire size being used.
4. Unlock the Pressure Adjuster (**PIC. C1**) and lift up on the Rocker Arm (**PIC. C2**). Ensure that the wire drive roller is appropriate to the welding wire size see the previous section describing the installation of the drive roller. The drive roller comes installed for 0.035" (0.9mm) wire.
5. Pull out the welding wire from the wire spool carefully. **NOTE:** Do not let go of the wire or the entire spool could unravel.
6. Cut off a small piece of the curved segment at the front of welding wire and straighten the welding wire to approximately 3" long.
7. Thread the welding wire through the Guide Pipe (**PIC. C4**) and over the wire Drive Roller and into the torch hole.
8. Reattach the Rocker arm and reset the Pressure Adjuster.
9. Turn on the machine and set the wire speed.
10. With the gun pointed away from you and others, depress the trigger to begin feeding wire. **NOTE:** Watch the drive roller to see if any slippage is occurring between the roller and wire, if so, turn the machine off and tighten the Pressure Adjuster turn and test again.
11. Once the wire exits the end of the torch, install the contact tip and nozzle. Cut the wire about 1/4" from the end of the contact tip.

USAGE

Your MIG100 can be used to perform a large number of different types of welds, all of which will require practice and testing before using on an actual project piece. This following welding process is just a baseline to get you started.

1. Connect your ground clamp to the work pieces that are to be welded. Make sure the ground clamp contacts are placed on a clean piece of metal free of paint, grease, rust, oils, etc. It is recommended to place your ground clamp as close to the weld area as possible.
2. Assess your weld area and make sure the welding area is also cleaned of any paint, grease, rust, oils, etc.
3. Plug in the welder and switch to the ON position.
4. Depress the Welding Gun trigger pointing the welding gun away from your body and then let go of the trigger and cut the wire back to ~1/4" stick out length.
5. Wearing your welding helmet, gloves, long sleeve shirt and pants, put the end of the wire sticking out of the gun into the joint to be welded.
6. Position the Welding Gun so that it is perpendicular to the base metal with 15~20° tilt back.



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7. When torch nozzle touches the work piece, there will be an arc starting. Depress the trigger to start the wire feed. NOTE: A push, perpendicular, or drag technique can be used to weld the pieces together.
8. Once you depress the trigger and the arc has started, you will notice a molten puddle will form; this puddle is the weld bead and will follow the motion of the Welding Gun. Watching the size of the puddle dictates how fast you should be moving with the torch. If you burn through the material you are either moving too slow or you need to set the machine to "LOW" voltage. If you're not penetrating the base metal you're either moving too fast or you need to set the machine to "HIGH" voltage.
9. Release the trigger on the Welding Gun to stop the weld.
10. After finished welding, turn off the welder.

TROUBLE SHOOTING

| Problem | Possible Causes |
|---|--|
| Arc unable, excessive spatter | Welding output too high |
| | Torch moved too slowly |
| Lack of weld penetration | Welding output too low |
| | Torch moved too fast |
| | Input voltage too low |
| Burning holes in work piece | Welding output too high |
| | Torch moved too slowly |
| Welder does not operate(mains indicator not lit, no arc produced) | Check main supply connection |
| | Check supply fuse |
| Welder does not operate with trigger pressed | Check main supply connection |
| | Check supply fuse |
| | Check torch trigger and it's connections |
| | Thermal overload cut out - allow welder to cool |
| | Check PCB correct or not – replace PCB |
| Break in welding circuit | Incorrect size of contact tip for wire |
| | Contact tip damaged – replace contact tip |
| | Contact tip loose – tighten contact tip |
| | Feed rollers worn – replace feed rollers |
| | Welding wire corroded – replace welding wire |
| | Pressure roller adjustment incorrect – adjust roller |
| | Pressure roller sticking – lubricate or replace roller |