MIGSONIC252S power source
SS20 wire feeder

OWNER'S MANUAL

MIG (GMAW)
Flux cored (FCAW)

Arc Welding Power Source and wire feeder

Manufactured at

Certified Facility

Power Source Serial Number: _____

Wire feeder Serial Number: _____

Where Purchase: _____

Date of purchased: _____

Table of Contents

SECTION 1 SAFETY PRECAUTIONS

SECTION 1 CONSIGNES DE SÉCURITÉ

1-1. Symbol Usage Symboles utilisés

Means Warning! Watch Out! There are possible hazards with this procedure! The possible hazards are shown in the adjoining symbols.

Symbole graphique d'avertissement ! Attention ! Cette procedure comporte des risques possibles ! Les dangers éventuels sont représentés par les symboles graphiques joints.

▲ **Marks a special safety message.**
Indique un message de sécurité particulier

☞ **Means "Note"; not safety related.**
Signifie NOTE ; n'est pas relatif à la sécurité.

This group of symbols means Warning! Watch Out possible ELECTRIC SHOCK, MOVING PARTS, and HOT PARTS hazards. Consult symbols and related instructions below for necessary actions to avoid the hazards

Ce groupe de symboles signifie Avertissement! Attention! Risques d'ÉLECTROCUTION, ORGANES MOBILES et PARTIES CHAUDES. Consulter les symboles et les instructions afferents ci-dessous concernant les mesures à prendre pour supprimer les dangers.

1-2. Arc welding Hazards Dangers relatifs au soudage à l'arc

✶ **The symbols shown below are used throughout this manual to call attention to and identify possible hazards. When you see the symbol, watch out, and follow the related instructions to avoid the hazard.**

✶ **Only qualified persons should service, test, maintain, and re- pair this unit.**

✶ **During servicing, keep everybody, especially children, away**

✶ **Les symboles représentés ci-dessous sont utilisés dans ce manuelpour attirer l'attention et identifier les dangers possibles. Enprésence de l'un de ces symboles, prendre garde et suivre lesinstructions afférentes pour éviter tout risque. Les instructions enmatière de sécurité indiquées ci-dessous ne constituent qu'un sommaire des instructions de sécurité plus complètes fournies dans les normes de sécurité énumérées dans la Section 2-5. Lire et observer toutes les normes de sécurité.**

✶ **Seul un personnel qualifié est autorisé à installer, faire fonctionner, entretenir et réparer cet appareil.**

✶ **Pendant le fonctionnement, maintenir à distance toutes les personnes, notamment les enfants de l'appareil.**

ELECTRIC SHOCK can kill.
UNE DÉCHARGE ÉLECTRIQUE entraîner la mort.

- Do not touch live electrical parts.
- Wear dry, hole-free insulating gloves and body protection.
- Insulate yourself from work and ground using dry insulating mats or covers big enough to prevent any physical contact with the work or ground.
- Do not use AC output in damp areas, if movement is confined, or if there is a danger of falling.
- Use AC output ONLY if required for the welding process.
- If AC output is required, use remote output control if present on unit.
- Additional safety precautions are required when any of the following electrically hazardous conditions are present: in damp locations or while wearing wet clothing; on metal structures such as floors, gratings, or scaffolds; when in cramped positions such as sitting, kneeling, or lying; or when there is a high risk of unavoidable or accidental contact with the workpiece or ground. For these conditions, use the following equipment in order presented: 1) a semiautomatic DC constant voltage (wire) welder, 2) a DC manual (stick) welder, or 3) an AC welder with reduced open-circuit voltage. In most situations, use of a DC, constant voltage wire welder is recommended. And, do not work alone!
- Disconnect input power or stop engine before installing or servicing this equipment. Lockout/tagout input power according to OSHA 29 CFR 1910.147 (see Safety Standards).
- Properly install and ground this equipment according to its Owner's Manual and national, state, and local codes.
- Always verify the supply ground − check and be sure that input power cord ground wire is properly connected to ground terminal in disconnect box or that cord plug is connected to a properly grounded receptacle outlet.
- When making input connections, attach proper grounding conductor first − double-check connections.
- Frequently inspect input power cord for damage or bare wiring − replace cord immediately if damaged − bare wiring can kill.
- Turn off all equipment when not in use.
- Do not use worn, damaged, undersized, or

poorly spliced cables.

- Do not drape cables over your body.
- If earth grounding of the workpiece is required, ground it directly with a separate cable.
- Do not touch electrode if you are in contact with the work, ground, or another electrode from a different machine.
- Do not touch electrode holders connected to two welding machines at the same time since double open-circuit voltage will be present.
- Use only well-maintained equipment. Repair or replace damaged parts at once. Maintain unit according to manual.
- Wear a safety harness if working above floor level.
- Keep all panels and covers securely in place.
- Clamp work cable with good metal-to-metal contact to workpiece or worktable as near the weld as practical.
- Insulate work clamp when not connected to workpiece to prevent contact with any metal object.
- Do not connect more than one electrode or work cable to any single weld output terminal.

SIGNIFICANT DC VOLTAGE exists after removal of input power on inverters.

Il reste une TENSION DC NON NÉGLIGEABLE dans les sources de soudage onduleur quand on a coupe l'alimentation.

- Turn Off inverter, disconnect input power, and discharge input capacitors according to instructions in Maintenance Section before touching any parts.

- Ne pas toucher aux pièces électriques sous tension.
- Porter des gants isolants et des vêtements de protection secs et sans trous.
- S'isoler de la pièce à couper et du sol en utilisant des housses ou des tapis assez grands afin d'éviter tout contact physique avec la pièce à couper ou le sol.
- Ne pas se servir de source électrique à courant électrique dans les zones humides, dans les endroits confinés ou là où on risque de tomber.
- Se servir d'une source électrique à courant électrique UNIQUEMENT si le procédé de soudage le demande.
- Si l'utilisation d'une source électrique à courant électrique s'avère nécessaire, se servir de la fonction de télécommande si l'appareil en est équipé.
- D'autres consignes de sécurité sont nécessaires dans les conditions suivantes : risques électriques dans un environnement humide ou si l'on porte des vêtements mouillés ; sur des structures métalliques telles que sols, grilles ou échafaudages ; en position coincée comme assise, à genoux ou couchée ; ou s'il y a un risque élevé de contact inévitable ou accidentel avec la pièce à souder ou le sol. Dans ces conditions, utiliser les équipements suivants, dans l'ordre indiqué : 1) un poste à souder DC à tension constante (à fil), 2) un poste à souder DC manuel (électrode) ou 3) un poste à souder AC à tension à vide réduite. Dans la plupart des situations, l'utilisation d'un poste à souder DC à fil à tension constante est recommandée. En outre, ne pas travailler seul !
- Couper l'alimentation ou arrêter le moteur avant de procéder à l'installation, à la réparation ou à l'entretien de l'appareil. Déverrouiller l'alimentation selon la norme OSHA 29 CFR 1910.147 (voir normes de sécurité).
- Installer le poste correctement et le mettre à la terre convenablement selon les consignes du manuel de l'opérateur et les normes nationales, provinciales et locales.
- Toujours vérifier la terre du cordon d'alimentation. Vérifier et s'assurer que le fil de terre du cordon d'alimentation est bien raccordé à la borne de terre du sectionneur ou que la fiche du cordon est raccordée à une prise correctement mise à la terre.
- En effectuant les raccordements d'entrée, fixer d'abord le conducteur de mise à la terre approprié et contre-vérifier les connexions.
- Vérifier fréquemment le cordon d'alimentation afin de s'assurer qu'il n'est pas altéré ou à nu, le remplacer immédiatement s'il l'est. Un fil à nu peut entraîner la mort.
- L'équipement doit être hors tension lorsqu'il n'est pas utilisé.
- Ne pas utiliser des câbles usés, endommagés, de grosseur insuffisante ou mal épissés.
- Ne pas enrouler les câbles autour du corps.
- Si la pièce soudée doit être mise à la terre, le faire directement avec un câble distinct.
- Ne pas toucher l'électrode quand on est en contact avec la pièce, la terre ou une électrode provenant d'une autre machine.
- Ne pas toucher des porte électrodes connectés à deux machines en même temps à cause de la présence d'une tension à vide doublée.
- N'utiliser qu'un matériel en bon état. Réparer ou remplacer sur-lechamp les pièces endommagées. Entretenir l'appareil conformément à ce manuel.
- Porter un harnais de sécurité si l'on doit travailler au-dessus du sol.
- S'assurer que tous les panneaux et couvercles sont correctement en place.
- Fixer le câble de retour de façon à obtenir un bon contact métal-métal avec la pièce à souder ou la table de travail, le plus près possible de la soudure.
- Isoler la pince de masse quand pas mis à la pièce pour éviter le contact avec tout objet métallique.
- Ne pas raccorder plus d'une électrode ou plus d'un câble de masse à une même borne de sortie de soudage.
- Arrêter les convertisseurs, débrancher le courant électrique et décharger les condensateurs d'alimentation selon les instructions indiquées dans la partie Entretien avant de toucher les pièces.

STATIC (ESD) can damage PC boards.

LES CHARGES ÉLECTROSTATIQUES peuvent endommager les circuits imprimés.

- Put on grounded wrist strap BEFORE handling boards or parts.
- Use proper static-proof bags and boxes to store, move, or ship PC boards.
- Établir la connexion avec la arrette de terre avant de manipuler des cartes ou des pièces.
- Utiliser des pochettes et des boîtes antistatiques pour stocker, déplacer ou expédier des cartes PC.

FIRE OR EXPLOSION hazard.

Risque D'INCENDIE OU D'EXPLOSION.

- Do not place unit on, over, or near combustible surfaces.
- Do not service unit near flammables
- Do not overload building wiring − be sure power supply system is properly sized, rated, and protected to handle this unit.

- Ne pas placer l'appareil sur, au-dessus ou à proximité de surfaces inflammables.
- Ne pas installer l'appareil à proximité de produits inflammables.
- Ne pas surcharger l'installation électrique − s'assurer que l'alimentation est correctement dimensionnée et protégée avant de mettre l'appareil en service.

FLYING METAL can injure eyes.

DES PARTICULES VOLANTES peuvent blesser les yeux.

- Wear safety glasses with side shields or face shield during servicing.
- Be careful not to short metal tools, parts, or wires together during testing and servicing.

- Le soudage, l'écaillement, le passage de la pièce à la brosse en fil de fer, et le meulage génèrent des étincelles et des particules métalliques volantes. Pendant la période de refroidissement des soudures, elles risquent de projeter du laitier.
- Porter des lunettes de sécurité avec écrans latéraux ou un écran facial.

HOT PARTS can cause severe burns.

DES PIÈCES CHAUDES peuvent provoquer des brûlures graves.

- Do not touches hot parts bare handed.
- Allow cooling period before working on welding gun or torch

- Ne pas toucher des parties chaudes à mains nues.
- Prévoir une période de refroidissement avant d'utiliser le pistolet ou la torche.

MAGNETIC FIELDS can affect pacemakers.

LES CHAMPS MAGNÉTIQUES peuvent affecter les stimulateurs cardiaques.

- Pacemaker wearers keep away.
- Wearers should consult their doctor before going near arc welding, gouging, or spot welding operations.

- Porteurs de stimulateur cardiaque, rester à distance.
- Les porteurs d'un stimulateur cardiaque doivent d'abord consulter leur médecin avant de s'approcher des opérations de soudage à l'arc, de gougeage ou de soudage par points.

CYLINDERS can explode if damaged.

LES BOUTEILLES peuvent exploser si elles sont endommagées.

Shielding gas cylinders contain gas under high pressure. If damaged, a cylinder can explode. Since gas cylinders are normally part of the welding process, be sure to treat them carefully.

- Protect compressed gas cylinders from excessive heat, mechanical shocks, physical damage, slag, open flames, sparks, and arcs.
- Install cylinders in an upright position by securing to a stationary support or cylinder rack to prevent falling or tipping.
- Keep cylinders away from any welding or other electrical circuits.
- Never drape a welding torch over a gas cylinder.
- Never allow a welding electrode to touch any cylinder.
- Never weld on a pressurized cylinder − explosion will result.
- Use only correct shielding gas cylinders, regulators, hoses, and fittings designed for the specific application; maintain them and associated parts in good condition.
- Turn face away from valve outlet when opening cylinder valve.
- Keep protective cap in place over valve except when cylinder is in use or connected for use.
- Use the right equipment, correct procedures, and sufficient number of persons to lift and move cylinders.
- Read and follow instructions on compressed gas cylinders, associated equipment, and Compressed Gas Association (CGA) publication P-1 listed in Safety Standards.

Des bouteilles de gaz protecteur contiennent du gaz sous haute pression. Si une bouteille est endommagée, elle peut exploser. Du fait que les bouteilles de gaz font normalement artie du procédé de soudage, les manipuler avec précaution.

- Protéger les bouteilles de gaz comprimé d'une chaleur excessive, des chocs mécaniques, des dommages physiques, du laitier, des flammes ouvertes, des étincelles et des arcs.

- Placer les bouteilles debout en les fixant dans un support stationnaire ou dans un porte-bouteilles pour les empêcher de tomber ou de se renverser.
- Tenir les bouteilles éloignées des circuits de soudage ou autres circuits électriques.
- Ne jamais placer une torche de soudage sur une bouteille à gaz.
- Une électrode de soudage ne doit jamais entrer en contact avec une bouteille.
- Ne jamais souder une bouteille pressurisée – risque d'explosion.
- Utiliser seulement des bouteilles de gaz protecteur, régulateurs, tuyaux et raccords convenables pour cette application spécifique ; les maintenir ainsi que les éléments associés en bon état.
- Détourner votre visage du détendeur-régulateur lorsque vous ouvrez la soupape de la bouteille.
- Le couvercle du détendeur doit toujours être en place, sauf lorsque la bouteille est utilisée ou qu'elle est reliée pour usage ultérieur.
- Utiliser les équipements corrects, les bonnes procédures et suffisamment de personnes pour soulever et déplacer les bouteilles.
- Lire et suivre les instructions sur les bouteilles de gaz comprimé, l'équipement connexe et le dépliant P-1 de la CGA (Compressed Gas Association) mentionné dans les principales normes de sécurité.

FALLING UNIT can cause injury.

LA CHUTE DE L'APPAREIL peut blesser.

- Use lifting eye to lift unit only, NOT running gear, gas cylinders, or any other accessories.
- Use equipment of adequate capacity to lift and support unit.
- If using lift forks to move unit, be sure forks are long enough to extend beyond opposite side of unit

- Utiliser l'anneau de levage uniquement pour soulever l'appareil, NON PAS les chariots, les bouteilles de gaz ou tout autre accessoire.
- Utiliser un équipement de levage de capacité suffisante pour lever l'appareil.
- En utilisant des fourches de levage pour déplacer l'unité, s'assurer que les fourches sont suffisamment longues pour dépasser du côté opposé de l'appareil.

MOVING PARTS can cause injury.

DES ORGANES MOBILES peuvent provoquer des blessures.

- Keep away from moving parts such as fans.
- Keep all doors, panels, covers, and guards closed and securely in place.
- Have only qualified persons remove doors, panels, covers, or guards for maintenance as necessary.
- Reinstall doors, panels, covers, or guards when maintenance is finished and before reconnecting input power.

- S'abstenir de toucher des organes mobiles tells que des ventilateurs.
- Maintenir fermés et verrouillés les portes, panneaux, recouvrements et dispositifs de protection.
- Seules des personnes qualifiées sont autorisées à enlever les portes, panneaux, recouvrements ou dispositifs de protection pour l'entretien.
- Remettre les portes, panneaux, recouvrements ou dispositifs de protection quand l'entretien est terminé et avant de rebrancher l'alimentation électrique.

MOVING PARTS can cause injury.

DES ORGANES MOBILES peuvent provoquer des blessures.

- Keep away from moving parts
- Keep away from pinch points such as drive rolls

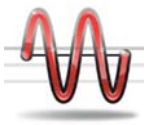
- Ne pas s'approcher des organes mobiles.
- Ne pas s'approcher des points de coincement tels que des rouleaux de commande.

OVERUSE can cause OVERHEATING.

L'EMPLOI EXCESSIF peut SURCHAUFFER L'ÉQUIPEMENT.

- Allow cooling period; follow rated duty cycle.
- Reduce current or reduce duty cycle before starting to weld again.
- Do not block or filter airflow to unit

- Prévoir une période de refroidissement ; respecter le cycle opératoire nominal.
- Réduire le courant ou le facteur de marche avant de poursuivre le soudage.
- Ne pas obstruer les passages d'air du poste.



H.F. RADIATION can cause interference.

LE SOUDAGE À L'ARC risque de provoquer des interférences.

- High-frequency (H.F.) can interfere with radio navigation, safety services, computers, and communications equipment.
- Have only qualified persons familiar with electronic equipment perform this installation.
- The user is responsible for having a qualified electrician promptly correct any interference problem resulting from the installation.
- If notified by the FCC about interference, stop using the equipment at once.
- Have the installation regularly checked and maintained.
- Keep high-frequency source doors and panels tightly shut, keep spark gaps at correct setting, and use grounding and shielding to minimize

the possibility of interference.

- Le rayonnement haute fréquence (HF) peut provoquer des interférences avec les équipements de radio-navigation et de communication, les services de sécurité et les ordinateurs.
- Demander seulement à des personnes qualifiées familiarisées avec des équipements électroniques de faire fonctionner l'installation.
- L'utilisateur est tenu de faire corriger rapidement par un electrician qualifié les interférences résultant de l'installation.
- Si le FCC signale des interférences, arrêter immédiatement l'appareil.
- Effectuer régulièrement le contrôle et l'entretien de l'installation.
- Maintenir soigneusement fermés les portes et les panneaux des sources de haute fréquence, maintenir les éclateurs à une distance correcte et utiliser une terre et un blindage pour réduire les interférences éventuelles.

READ INSTRUCTIONS.
LIRE LES INSTRUCTIONS.

- Consult the Owner's Manual for welding safety precautions.
- Use only genuine replacement parts

- Lire le manuel d'utilisation avant d'utiliser ou d'intervenir sur l'appareil.
- Utiliser uniquement des pièces de rechange.

1-3. Safety Standards Normes de sécurité

Safety in Welding, Cutting, and Allied Processes, ANSI Standard Z49.1, from Global Engineering Documents (phone: 1-877-413-5184, website: www.global.ihs.com).

Code for Safety in Welding and Cutting, CSA Standard W117.2, from Canadian Standards Association, Standards Sales, 178 Rexdale Boulevard, Rexdale, Ontario, Canada M9W 1R3 (phone: 800−463−6727 or in Toronto 416−747−4044, website: www.csa−international.org).

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1-4. EMF Information EMF Information

Considerations About Welding And The Effects Of Low Frequency Electric And Magnetic Fields

Welding current, as it flows through welding cables, will cause electro- magnetic fields. There has been and still is some concern about such fields. However, after examining more than 500 studies spanning 17 years of research, a special blue ribbon committee of the National Research Council concluded that: “The body of evidence, in the committee’s judgment, has not demonstrated that exposure to power- frequency electric and magnetic fields is a human-health hazard.” However, studies are still going forth and evidence continues to be examined. Until the final conclusions of the research are reached, you may wish to minimize your exposure to electromagnetic fields when welding or cutting.

To reduce magnetic fields in the workplace, use the following procedures:

1. Keep cables close together by twisting or taping them.

2. Arrange cables to one side and away from the operator.

3. Do not coil or drape cables around your body.

4. Keep welding power source and cables as far away from operator as practical.

5. Connect work clamp to work piece as close to the weld as possible.

About Pacemakers:

Pacemaker wearers consult your doctor first. If cleared by your doctor, then following the above procedures is recommended

Considérations sur le soudage et les effets de basse fréquence et des champs magnétiques et électriques.

Le courant de soudage, pendant son passage dans les câbles de soudage, causera des champs électromagnétiques. Il y a eu et il y a encore un certain souci à propos de tels champs. Cependant, après avoir examine plus de 500 études qui ont été faites pendant une période de recherché de 17 ans, un comité spécial ruban bleu du National Research Council a conclu : « L’accumulation de preuves, suivant le jugement du comité, n’a pas démontré que l’exposition aux champs magnétiques et champs électriques à haute fréquence représente un risque à la santé humaine ». Toutefois, des études sont toujours en cours et les preuves continuent à être examinées. En attendant que les conclusions finales de la recherché soient établies, il vous serait souhaitable de réduire votre exposition aux champs électromagnétiques pendant le soudage ou le coupage.

Pour réduire les champs magnétiques sur le poste de travail, appliquer les procédures suivantes :

1. Maintenir les câbles ensemble en les tordant ou en les enveloppant.

2. Disposer les câbles d’un côté et à distance de l’opérateur.

3. Ne pas courber pas et ne pas entourer pas les câbles autour de votre corps.

4. Garder le poste de soudage et les câbles le plus loin possible de vous.

5. Connecter la pince sur la pièce aussi près que possible de la soudure.

En ce qui concer ne les sti mulateurs cardiaques

Les porteurs de stimulateur cardiaque doivent consulter leur médecin avant de souder ou d’approcher des opérations de soudage. Si le médecin approuve, il est recommandé de suivre les procédures précédentes

SECTION 2 PACKING LIST

MigSonic252S+SS20 package (Part No: 07000340)		
Description	**Part no**	**Quantity**
MigSonic252S Power source come with 10 ft. (3 M) Power cord and NEMA 6-50P 230V AC Plug	07000342	1
SS-20 wire feeder	07000343	1
15 ft. (4.6M) WeldKing® NT2-15E industrial MIG torch w/ .035-.045 in (0.9-1.2 mm) liner.	07000411	1
Argon Regulator / Gauge/ Flow meter	07000510	1
Wire feeder Link cord assembly 10 ft (3M)	07001830	1
300 Amp ground clamp with 10 ft (3 M) lead	07000462	1
Owner's Manual	07000417	1

Table 2.1

SECTION 3 INSTALLATIONS

3-1. Welding power source and wire feeder specifications

MigSonic252S power source	
Welding Process	MIG/Flux cored wire Mig
Power supply	200(208)V/230V
Phase	Single
Rated output current(A)	250
Input Amps @ rated output(A)	50
Rated input (KW)	7.8
Open circuit voltage(V)	47
Amperage range(A)	50-300
Welding voltage(V)	13.5-26.5
Duty cycle (%) @ 40℃	60%@250A /26.5V
	100%@200A /24V
Power factor	0.72
Protection class	IP23
Insulation class	H
Operating temperature (°C)	-20 to +40 (-4°F to 104°F)
Storage temperature (°C)	-40 to +85 (-40°F to 185°F)
Machine dimension (HxWxD) (CM)	47.5x24x43(18.7x9.4x17in)
Power source weight (KG)	19.5(43lbs)
Packing dimension (HxWxD)(CM)	63x38x50(25x15x20in)

Packing weight(KG)	23.5(51.8lbs)

Table 3.1

CAUTION!

WELDING LONGER THAN RATED DUTY CYCLE CAN DAMAGE GUN AND VOID WARRANTY.

SS-20 wire feeder	
Type of Input power	24 Volts DC Single Phase 60 Hz
Wire Feed Speed Range(M/MIN)	1.5-18(59-709ipm)
Wire Diameter Range(MM)	0.6-1.2(0.023-0.045in)
Protection class	IP23
Max Spool Size Capacity(KG)	27 (60lbs) coil
Insulation class	H
Operating temperature (°C)	-20 to +40 (-4°F to 104°F)
Storage temperature (°C)	-40 to +85 (-40°F to 185°F)
Dimension (HxWxD) (CM)	60x29x46(24x11x18in)
weight (KG)	8.2(18lbs)
Packing dimension (HxWxD)(CM)	63x30x50(25x12x20in)
Packing weight(KG)	8.5(18.7lbs)

Table 3.2

3-2. MIG torch specifications

Model	NT2-15E (Part no.07000411)
Rated currency(A)	200A/CO2,150A/MIX
Rated Duty cycle (%)	60
Cool style	Air cooled
Wire diameter(mm)	0.6-1.2(0.023-0.045in)
Cable length(M)	4.6(15ft)
Connection	euro connection
Detailed gun specification please see separate torch manual.	

Table 3.3

3-3. MIG welding connection diagram

MigSonic252S (208/230v input)

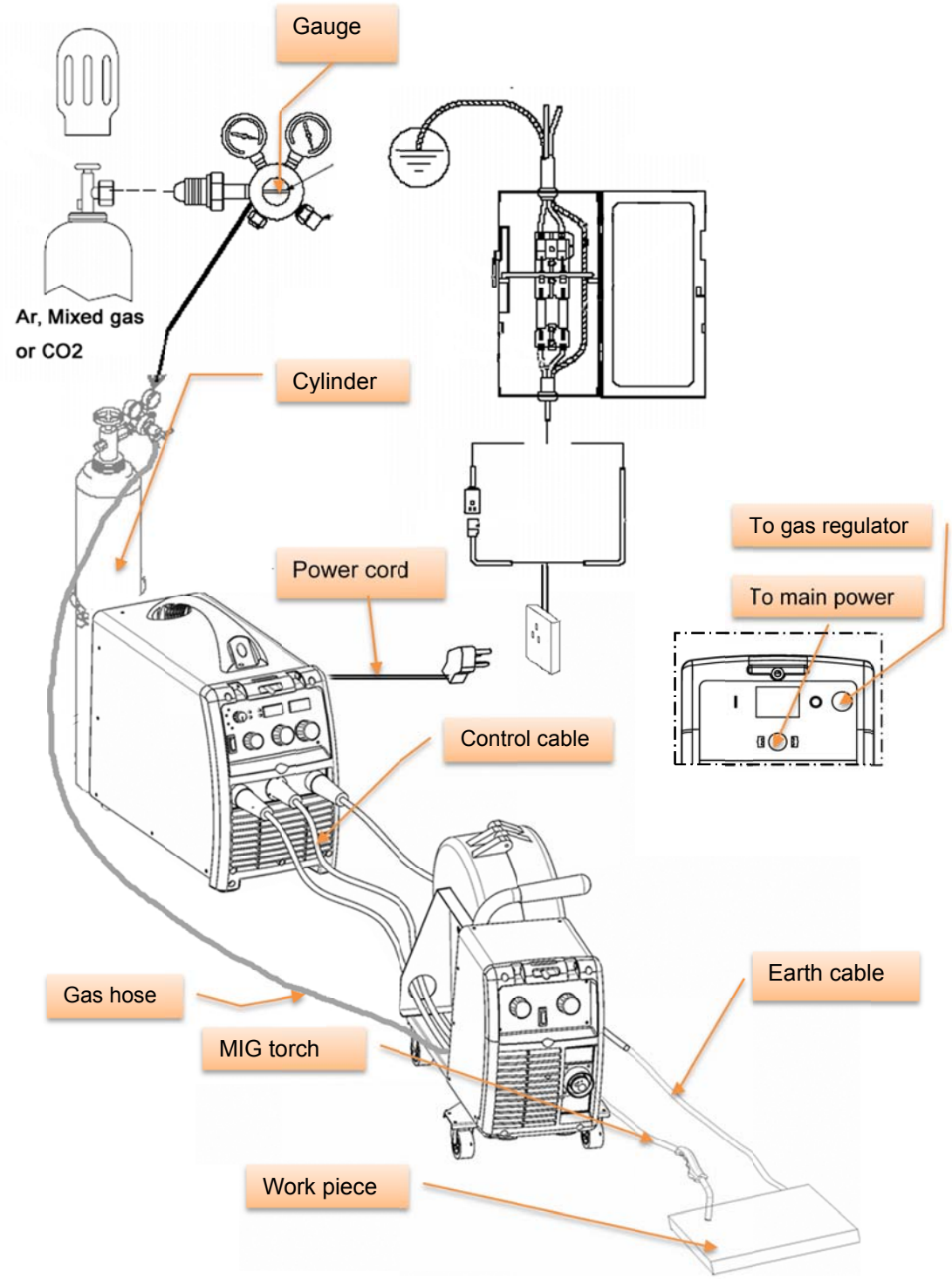


Figure 3.1

3-4. MIG/MAG Process/Polarity Table

Process	Polarity	Cable Connections	
		Cable To Gun	Cable To Work
GMAW—Solid wire with shielding gas	DCEP – Reverse polarity	Connect to positive(+) output terminal	Connect to negative(-)output terminal
FCAW – Self-shielding wire-no shielding gas	DCEN— Straight Polarity	Connect to negative(-) output terminal	Connect to positive(+)output terminal

Table 3.4

3-5. General Installation procedure for MIG/MAG welding

3-5.1. Welding machine should be installed in a stable position and with good ventilation. Avoid direct sun outdoors. Avoid transport in invert or side position.

3-5.2. Be sure machine is well grounded.

3-5.3. Before starting a new machine or the machine idled for a period, check the insulation resistance of circuit which is connected to the network. The resistance must be higher than 2.5M Ω; otherwise the machine must be dried.

3-5.4. Connect power source and wire feed with the link cord provided.

3-5.5. Connect torch, earth cable, wire, regulator, cylinder according to connection diagram. Note: Connection hardware must be tightened with proper tools. Do not just hands tighten hardware! A loose electrical connection will cause poor weld performance and excessive heating at the terminal block.

3-5.6. Make sure the spool gun selection switch locate inside drive motor compartment is set to “Mig gun”. If this switch is set to “spool gun”, the motor will not active when press the gun trigger.

3-5.7. Use Φ8 heat-resistant PVC hose connect the flow meter with the gas connection nipple at rear of the wire feeder.

3-5.8. Commission the machine after the machine is installed and tested:

- ✶ Release the pressure roller in the wire feeder, push the torch switch, and adjust voltage switch from low to high, Open circuit voltage should rise.
- ✶ Evenly adjust the current knob, the wire feed speed should increase evenly.

3-6. How to Install the wire spool

3-6.1. Install a spool of welding wire on the hub as follows: Press the upper side of spool case, and then pull the latch to open the cover. Unscrew spool nut from hub. Place wire spool on hub to rotate clockwise as wire is unwound; hub pin must engage hole in spool. Install spool nut.

3-6.2. The drive roll has two grooves; the small groove feeds 0.035 in. diameter wire, the large groove feeds 0.045 in. wire. The groove nearest the gear motor feeds the wire.

3-6.3. Release pressure drive roll assembly and lift upward. Check that proper wire diameter

groove is in the inner position. Feed the wire from the spool through the inlet guide, across the drive roll groove and into gun outlet guide. Lower pressures roll assembly and secure. Check that the gears mesh. Feed wire through to torch tip using the torch trigger.

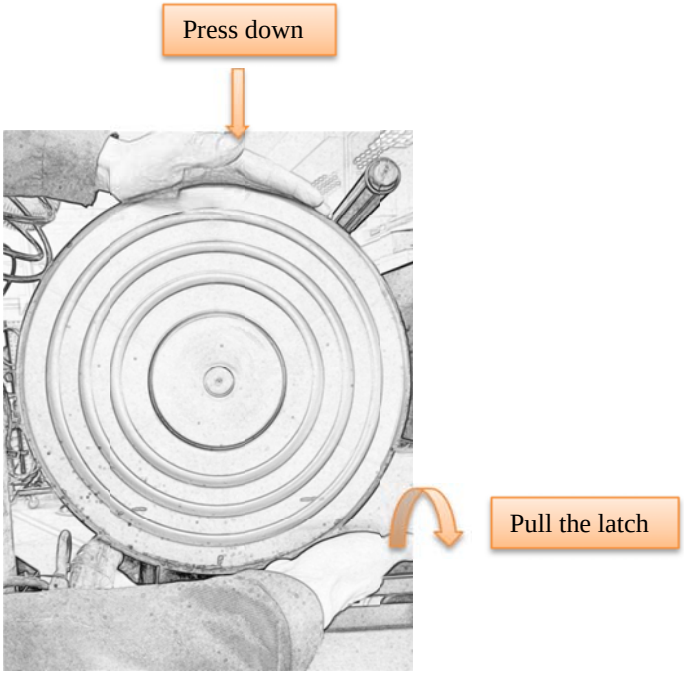


Figure 3.2

3-7. How to Adjust wire feed pressure

Make sure that the wire moves smoothly through the wire guide. Then set the pressure of the wire feeder's pressure rollers. It is important that the pressure is not too high. Feed out the wire against an insulated object, e.g. a piece of wood. When you hold the gun approx. 5 mm from the object, the feed rollers should slip. When hold the guan approx. 50mm from the object, the wire should be fed out and band. Now the pressure is properly set. See Figure 2.3.

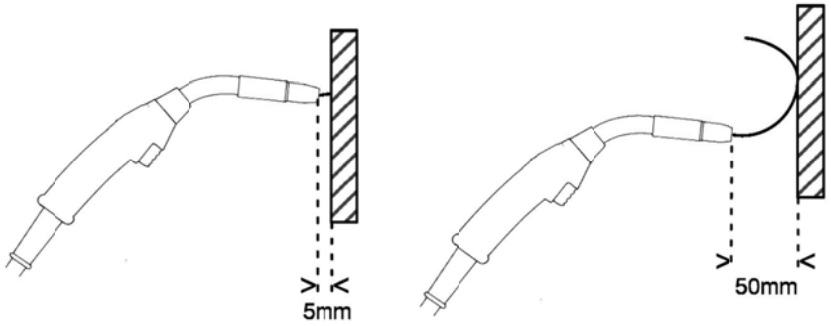


Figure 3.3

3-8. How to Install spool gun(optional)

MigSonic252S use WeldKing® SpoolKing-24DL (Part no. 07NS1010) only. Use other model may not work properly.

3-8.1. Connect spool gun to the euro receptacle. Connect control cable to control receptacle located at front penal of SS20 wire feeder.

3-8.2. Toggle the spool gun selection switch to “spool gun” selection(see figure 3.4)

3-8.3. Install wire and commission according to spool gun instruction manual.

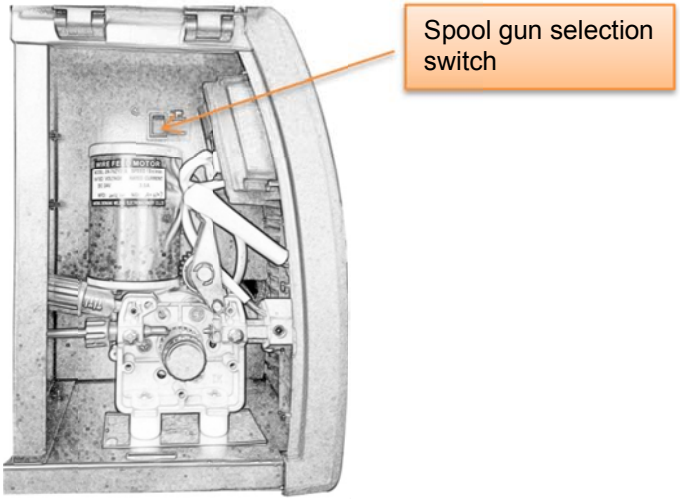


Figure 3.4

3-9. Electric service guide

CAUTION!

WARNING: THIS WELDING MACHINE MUST BE CONNECTED TO POWER SOURCE IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES

AVERTISSEMENT: LE RACCORDEMENT DE CETTE MACHINE DE SOUDAGE Á L’ALIMENTATION DOIT ÉTRE CONFORME AUX CODES D’ ÉLECTRICITÉ PERTINENTS

Input voltage(V)	208	230
Frequency(Hz)	60	60
Input Amperes at rated output(A)	41	37
Max recommended standard fuse Rating in Amp		
Circuit breaker, time delay	45	40
Normal operation	55	50

Min input conductor size in AWG	8	8
Min Grounding conductor Size in AWG	10	10

Table 3.5

3-10. Extension Welding Cable Selection Chart

CAUTION! USE SHORTEST CABLE POSSIBLE

Welding Amperes (A)	100	150	200
Maximum Cable Length allowed in Weld Circuit* (Ft)	**Cable Size (AWG)**		
<=100 (30 m)	4 (20mm2)	3 (30 mm2)	3 (30 mm2)
150 (45 m)	4 (20 mm2)	2 (35 mm2)	1 (50 mm2)
200 (60 m)	3 (30 mm2))	1 (50 mm2)	1/0 (60 mm2)

* The Cable Length in Weld Circuit is total of both weld cables and earth cables.

Table 3.6

3-11. 9-pin spool gun connection receptacle

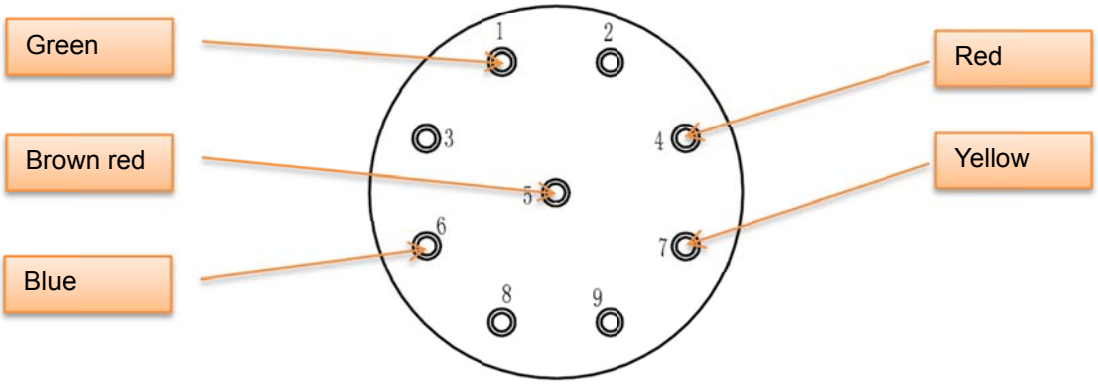


Figure 3.5

Socket pin	Function	Notes
1	Spool gun motor (-)	Green
2	Not used	
3	Not used	
4	Spool gun motor (+)	Red
5	Spool gun C.C.W potentiometer(3)	Brown red
6	Spool gun C.W potentiometer(1)	Blue
7	Spool gun wiper potentiometer(2)	Yellow

8	Not used	
9	Not used	

Table 3.7

3-12. 7-pin link cord receptacle

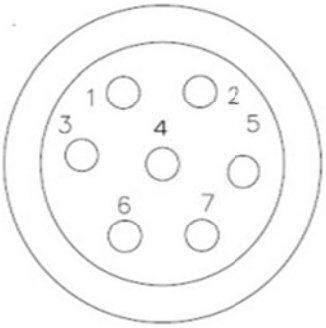


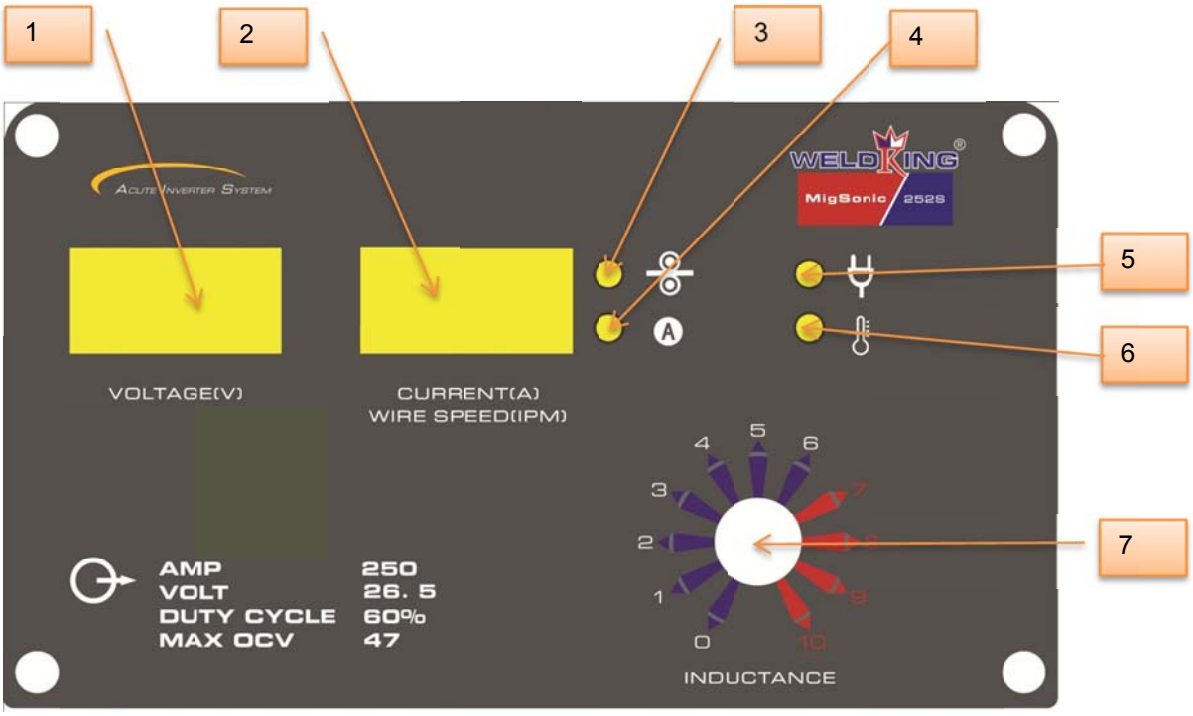
Figure 3.6

Socket pin	Function	Notes
1	Drive motor ground	Black
2	Solenoid valve ground	
3	Mig gun switch	
4	Voltage and wire feeding speed signal	2.5V-24V DC reference to pin 1
5	Common ground for voltage, wire feeding speed signal and gun switch	
6	Power supply to drive motor and solenoid valve	+24V DC reference to pin1 and pin2
7	To purge switch	

Table 3.8

SECTION 4 OPERATION

4-1. Power source panel layout and description



1. Welding voltage meter (digital)

2. Welding current/wire feeding speed meter (digital)

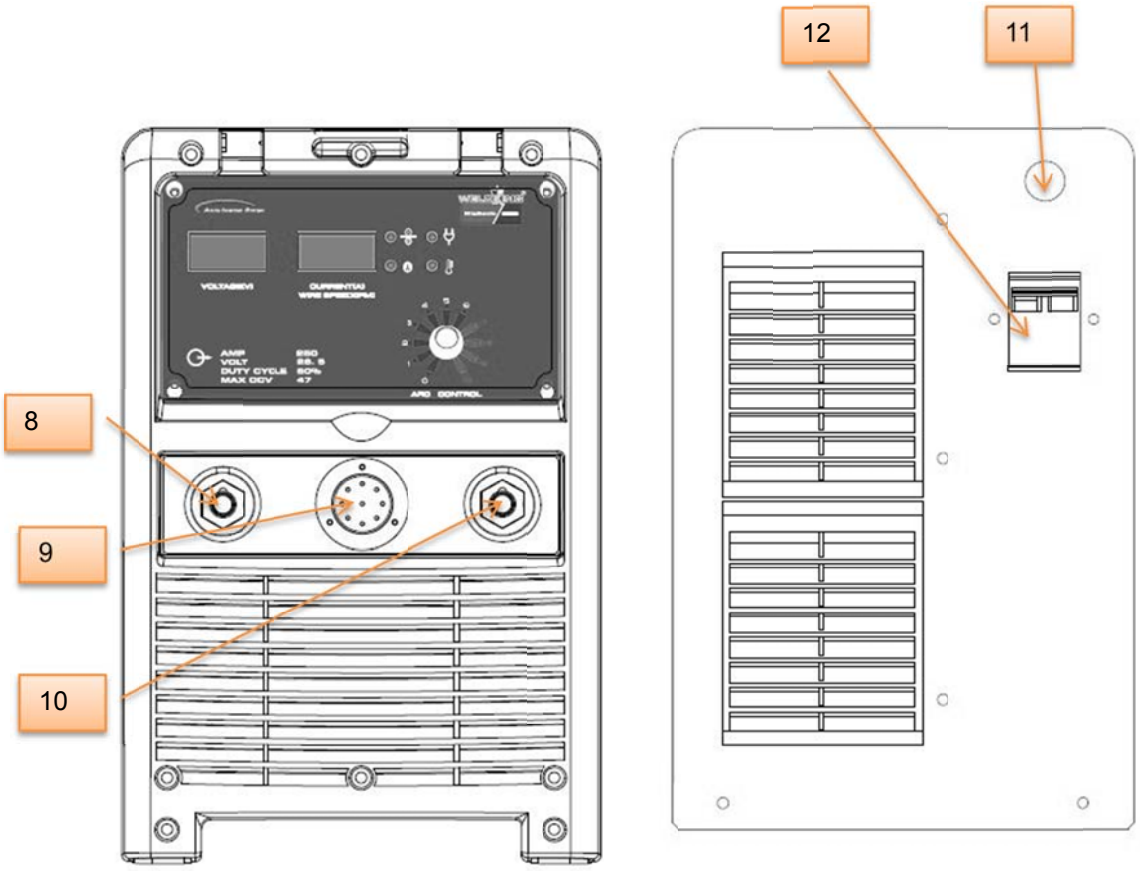
3. Wire feeding speed display indication light

4. Current display indication light

5. Power indication light

6. Protection indication light

7. Inductance adjustment knob



8. Negative output (Earth clamp) connection

9. 9 pin control connection (to wire feeder)

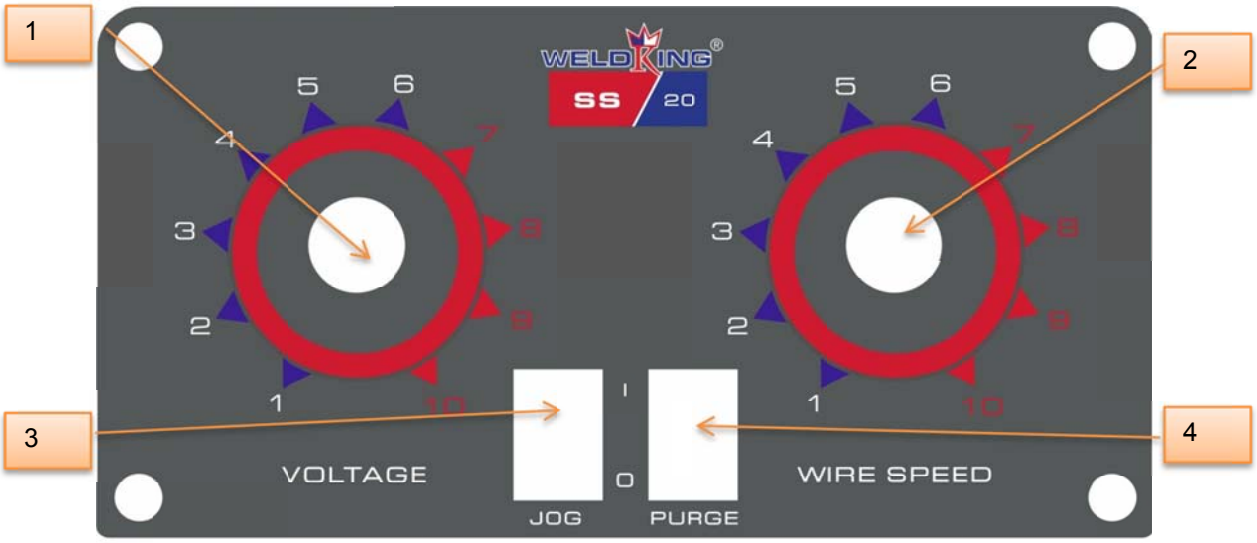
10. Positive output (to wire feeder)

11. Power cord

12. Main switch

Figure 4.1

4-2. SS-2- wire feeder panel layout and description

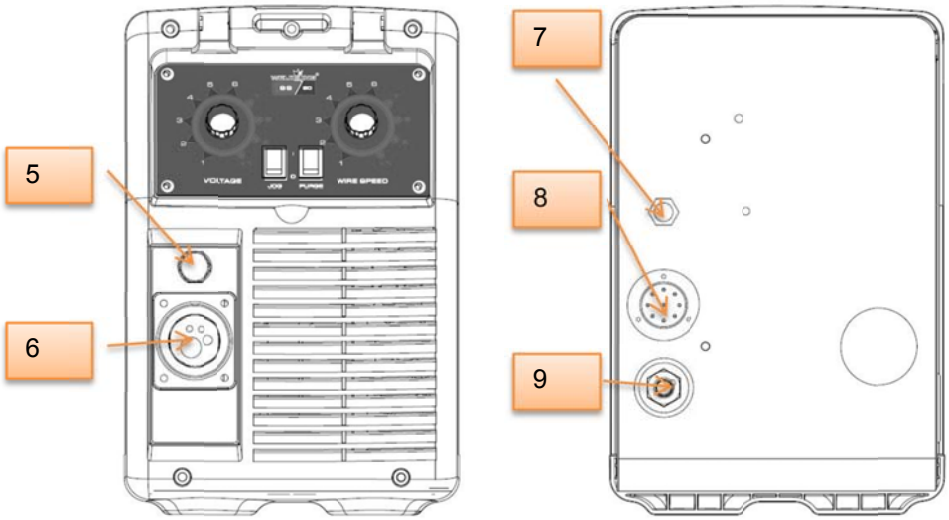


1. Welding voltage adjustment knob

2. Welding current/wire feeding speed adjustment knob

3. Jog toggle switch

4. Purge toggle switch



5. Spool gun control connection

6. MIG torch euro connection

7. Gas inlet

8. 9 pin control connection (to power source)

9. Positive input (to power source)

Figure 4.2

4-3. Operation

USE SINGLE PHASE 208/230V POWER SUPPLY.

4-3.1.Switch on the power source.

4-3.2.Set the welding voltage knob to proper position and wire feed speed knob to a start value and refine during welding(referring to the voltage/wire feeding speed selection chart)。

4-3.3.The display value of digital voltage meter will change when you turn the voltage knob to pre-set the welding voltage. And during welding, the voltage meter will reflect actual welding voltage. The display value of digital current meter will change when you turn the wire feed knob to pre-set the wire feed speed. The feeding speed light will illuminate indicating the meter is displaying wire feeding speed in inches per minute. The current light will illuminate and current meter will reflect actual welding current during welding.

4-3.4.Set the Arc control (inductance) knob to a start value according to the voltage/wire feeding speed selection chart you can adjust the knob during welding to obtain best result. Inductance is the rate of current response to a change in current. What this means is that when MIG welding with a short arc you can adjust how fast current is applied to the shorts. The less inductance you have the crisper the arc will appear and the wires will start easier. This will also make the bead taller and narrower. More inductance will make the arc appear "softer" with a flatter wider appearance and if too much is used, wires will stumble during starts. Typically when short arcing steel only a little inductance is used in order to get a crisp arc. Low thermal conductivity materials such as stainless need more inductance to get acceptable wetting when short arcing.

4-3.5.Push up “jog” switch to momentarily feed welding wire at speed set on Wire Speed control without energizing welding circuit or shielding gas valve. Push up “purge” switch to momentarily energize gas valve to purge air from gun or adjust gas regulator.

4-3.6.Turn on the gas valve, adjust gas volume to 3-5L/MIN. Press the torch switch check if wire feed and gas is normal, check if there is gas leaking.

4-3.7.Hold the torch and keep nozzle 8-12mm above the work piece, and tilt 10-20 ° to vertical direction. Aim wire to the welding seam.

4-3.8.Press torch switch, after arc is ignited, move the torch along seam evenly while keeping the stick-out. Fine tune the welding parameter to obtain exquisite welding seam. Release the torch switch to finish a welding cycle.

4-3.9.After finish operation, turn off the gas valve, loose the pressure handle at wire feeder, press torch switch to clear the residual gas in the regulator. At the end, turn off welding power source and wall switch.

4-4. Voltage/Wire speed selection chart

- : setting not recommended.
The setting in the following chart is just for start only and can be fine tune during welding.
6.5(Wire feed speed∅)/4.5(Voltage “V”)/7.5(Induction)

MIG/MAG WELDING	Polarity setting: DCRP(wire positive); Shield gas for steel: 80% Ar, 20%CO2. Stainless steel and Al: 100% Ar.										
Material	Steel						Stainless steel			Aluminum	
Wire type	Solid ER70S-6			Flux core E71T-1			ER308,ER308L,ER 308LSi			ER4043	
Wire size (in) (mm)	0.023” 0.6	0.035” 0.9	0.045” 1.2	0.023” 0.6	0.035” 0.9	0.045” 1.2	0.023” 0.6	0.035” 0.9	0.045” 1.2	0.035” 0.9	0.045” 1.2
1/2” (12.7mm)	-	-	4.5/7.5/9	-	-	-	-	-	-	-	-
3/8” (9.5mm)	-	5.5/6.5/9	3.5/6.5/9	-	-	2.5/6/9	-	5.2/6.2/9	3.2/6.2/9	5.1/6.3/8	3.1/6.2/9
1/4” (6.4mm)	-	4.5/5.5/7.5	3.5/5.5/7.5	-	3.5/5.2/7	2.5/5.3/7.5	-	4.3/5.3/7.5	3/5.2/7.5	4.2/5.2/7.5	3.1/5.2/7
3/16” (4.8mm)	6.5/4.5/7.5	3.5/4.5/7.5	2.5/4.5/7.5	5/4/7.5	2.5/4/7	1.5/4.2/7.5	6/4.2/7	3.3/4.3/7	2.3/4.2/7	3.2/4.1/7.5	2.1/4.2/7
1/8” (3.2mm)	5.5/4.5/7.5	3.5/4.5/7.5	2.5/4.5/7.5	4.5/4/7.5	2.5/4/7	1.5/4.2/7.5	5/4.2/7	3.2/4.3/7	2.3/4.3/7	3/4.2/7.	2.1/4.2/7
14ga. (2.0mm)	4.5/3.5/5	2.5/3.5/5	2.5/3.5/5	3.5/3.2/5	1.5/3/5	1.5/3.2/5	4/3/4	2.2/3.3/5	2.2/3.3/5	2.1/3.2/5	2.1/3.2/5
16ga. (1.6mm)	3.5/3.5/4	2.5/3.5/4	2.5/3.5/4	2.5/3.3/4	1.5/3/4	-	3.2/3.4/3	2.2/3.3/4	2.2/3.3/4	-	-
18ga. (1.2mm)	3.5/3.5/2.5	2.5/3.5/2.5	1.5/3.5/2.5	-	-	-	3.2/3.4/2.5	2.3/3.5/2.5	1.3/3/2	-	-
20ga (0.9mm)	2.5/2.5/1.5	1.5/2.5/1.5	-	-	-	-	2.3/2.5/1.5	1.3/2.5/1.5	-	-	-
22ga. (0.8mm)	2.5/2.5/1.5	-	-	-	-	-	2.2/2.5/1.5	-	-	-	-

Table 4.1

SECTION 5 TROUBLE SHOOTING

5-1. General trouble shooting

No.	Problem		Cause	Solution
1	Power Indication lamp does not on after switch on the main switch		Loose contact at input lead	Check contact situation
			Lamp malfunction, poor contact	Check contact situation. Replace lamp
			Main switch malfunction	Check switch, replace if necessary
2	Cooling fan stops to rotate after machine has worked a period	Power indication lamp on	Cooling fan circuit malfunction	Check fan circuit
			Cool fan failure	Check fan, replace if necessary
		Power indication lamp off	See No. 1	
11	Overheat light on		Work excess the rate duty circle	Use under rate duty circle
			Input voltage is too high	Use under rate input voltage
10	Power supply switch jump		Rectifier short circuit	Check and replace
			Main transformer short circuit	Check and replace

		Control transformer short circuit	Check and replace
		Solenoid valve short circuit	Check and replace
		Cooling fan short circuit	Check and replace

Table 5.1

5-2. GMAW/FCAW welding trouble shooting

No.	Problem	Cause	Solution
3	No gas flow out after pushing the gun trigger	Gas pressure not enough	Check gas pressure
		Poor gas hose connection	Check gas connection
		Gun trigger failure	Check gun trigger
		Solenoid valve failure	Check and replace Solenoid valve
		Gas passage problem	Check and repair the gas passage
		Torch gas hose problem	Check and repair torch cable
		Control circuit failure	Replace circuit board
		Control transformer failure	Replace transformer
4	Failure of arc to ignite or does not ignite properly	Fuse melt or poor contact	Check and repair
		Main power switch failure	Check, repair,

			replace
		Control circuit board failure	Check and repair the circuit board
		Welding cable broken or poor contact	Check the connection
		Gun trigger wire broken	Replace cable
		Gun cable broken	Replace cable
		Voltage adjustment knob failure or poor contact	Check, repair, replace
		Control transformer failure	Check, repair, replace
		Main transformer failure or poor contact	Check, repair, replace
5	Unstable arc	Gas hose not installed properly, gas mixed by air	Connect the gas hose firmly
		Gas not pure	Changes gas
		Wire liner or gun cable broken and leak cause insufficient gas volume.	Check, repair, replace
		Wire pressure not setup properly	Adjust pressure
		Wire feed speed not stable	See No.9
		Control circuit failure	Check, repair, replace circuit board
		Gas heating failure	Check 20A Fuse, repair, replace
		the work piece surface contaminated by oil	Clean the workpiece surface
		Poor contact inside the gun	Check, repair, replace
6	Arc ignited but the wire does not melt	Rectifier tube failure	Check, replace
		Output reactor failure	Check, replace
		Output capacitor failure	Check, replace
7	Wire does not feed while the feed roller is rotating	Wire pressure not proper	Adjust pressure
		Wire liner or contact tip jammed	Check, repair, replace
		Used wrong groove at the feeding roller	Use the right groove

8	Cannot stop the gas	Solenoid valve contaminated	Check, repair, replace solenoid
		Contactor failure	Check, replace the contactor
		Control board failure	Check, repair, replace
9	Wire feeding not stable	Wire out of feeding roller groove	Put wire back
		Wire feed pressure not set properly	Adjust pressure
		Feeding roller deformed	Check and replace
		Pressure roller deformed	Check and replace
		Feeding motor failure	Check and replace
		Current adjust potential meter failure	Check and replace
		Circuit board plug socket not properly contacted	Check and repair or replace
		Control circuit failure	Check and repair or replace
		Welding hose deformed	Check and replace
		Input voltage fluctuated	Use under rated input voltage

Table 5.2

SECTION 6 MAINTENANCE

6-1. Maintenance

Periodic maintenance is necessary for keeping the machine work properly.

CAUTION!

DISCONNECT POWER INPUT AND SWITCH OFF THE MAIN POWER SWITCH BEFORE START OF MAINTENANCE.

Regular Check and Inspection	
Power source	**Wire feeder**
• Check the function of all switches. • Check if the fan rotates properly and if there is air venting out from back of the machine. • Pay Attention to the abnormal vibration, noise, smell and gas leakage during operation. • Check if the welding cables are over heated. • Check if the cable connections are over heated? • Check if the cable is connected firmly and properly, if it is broken and cause bad insulation? • Check the cover grounded properly	• The pressure of the wire feeder's pressure rollers must be set properly. • If metal chips or dust pile up between the guide tube and feeding roller, clean and check if the feeding tube diameter is proper and is aligned with the center of the feeding roller. Also check if the feeding roller groove is same as the wire diameter and if there are objects inside groove. • Check pressure roller rolls smoothly and if it has been worn out. • Check if straightening roller it has been contaminated by oil, dust or metal chips.

Table 6.1

Regular Check and Inspection	
MIG torch	**Cable**
• Clean spatter inside the nozzle when continuously use the machine. • Check liner frequently, change if it has been contaminated by oil, deformed or worn out. • Check and change broken or deformed contact tip and nozzle to avoid damage to the torch and machine.	• Check if the welding cables are over heated. • Check if the cable connections are over heated? • Check if the cable is connected firmly and properly, if it is broken and cause bad insulation?

Table 6.2

6 Month Routine Maintenance
• Blow out with dry clean pressure air or vacuum inside machine, especially transformer coil and power component. • Check the electric connection of input/output bar to avoid bad contact caused by loose or rusted screw. • Check the contactors and relays in the machine or on the PCB work properly. • Check the lubrication of the gear box in the feeder, replace or fill lubricates oil if necessary. • Check and clean the oil or other contamination in the feeding roller and feeding tube. If the V grooves have worn out change feeding roller immediately to avoid slipping or unstable feeding

Table 6.3

6-2. Safety precaution

6-2.1. Welders must be equipped with welding mask, gloves and tie the sleeves and collar properly. Use Table 6.4 to choose proper glass shade, also can reference to ANSI Z49.1 listed in Safety Standards. There should be an arc shield around welding field to protect others from arc shock.

6-2.2. Do not weld near flammable, explosive materials or gases.

6-2.3. Gas cylinder must be located at a safe and steady place to avoid injury others.

6-2.4. Keep finger, hair and clothing away from the rotating fan.

6-2.5. The power source must be grounded when welding.

6-2.6. When yellow protection light is enlightened during welding, it is indicating that the welder is over current or over heat, and automatic protection will be triggered. Stop welding immediately and wait until welder cool down.

6-2.7. Welding machine should not work in a flammable and toxic environment, avoid moisture, rain, and do not directly expose to sun.

6-2.8. Do not switch off the welder during welding!

6-2.9. Periodically maintain the machine and clean the dust inside.

Lens Shade Selector Guide

Operation /Process	Arc Current (Amperes)	Minimum Protective Shade	Suggested* Shade No. (Comfort)
Gas metal arc welding (GMAW) and flux cored arc welding (FCAW)	Less than 60 60−160 160−250 250−550	7 10 10 10	— 11 12 14

Table 6.4

SECTION 7 PARTS LIST

7-1. MigSonic252S Power Source

Item	Order No.	Description	Note	Qty
1	7.305.132	Shunt	FL-1 75mv 300A short	1
2	8.055RM.227-CA	Bottom plate	MIG 250F-1 c/w (S.004RM.227)	1
3	8.065RM.078-B	Front output panel	MIG 250F-1 c/w (S.004RM.227-CA）	1
4	8.069.004	Front panel	Lincoln(arcweld 250i-ST DV）c/w(3.111.004）	1
5	7.152.312-A	Quick connector/Female(zhengyun)	CX58 35-70MM	2
6	7.132.055	7 pin receptacle	YD20K7Z(black）	1
7	7.458.220-R	Knob	2004-3(ID20)(KNOBS ERIES）(black/red with red needle white line)	1
8	8.306RM.152	Control panel	S.00RRM.227-CA control penal	1
9	W.496RM.135-G	Front panel	Base board:B.067RM.135-G	1
10	8.301RM.229	Cover	MIG-315F c/w 3.004RM.229	1
11	8.253.035	Handle	lincoln（arcweld 250i-ST DV）c/w(3.111.004）	1
12	W.496RM.142-C	MIG250/315/350F power PCB	Base board(B.067RM.142-C)	1
13	8.123RM.052	Seal box	MIG-250 c/w 3.004RM.204	1
14	8.124RM.227-CA	Separating plate	MIG 315F	1
15	8.123RM.904	Supporting plate	Nylon c/w 3.004RM.203 3.004RM.204	1
16	8.422RM.054	IGBT heat sink(1)	168*61*44 (section bar 7.800.063） c/w 3.004RM.206	1

17	7.425RM.001	Single IGBT	FGH60N60SMD	8
18	7.411.010	Rectifier bridge	GBPC5010(plug typle)	2
19	7.231.061	Thermostat (constant open)	TH-B2D75-K（c/w metal press plate ）（SY）	2
20	7.155.021	Cable bracket	M2012B6-12	1
21	7.205.212	Circuit breaker	DZ47-60-2P D63A/(60A)	1
22	7.154.438-G	Power cord with plug	UL.SJ00W 12/3AWG (300V) 105/XN650P-A plug UL322682 Cable UL313867,3.3M	1
23	8.123RM.064	Circuit breaker bracket	galvanized sheet 1.0 c/w 3.004RM.206	1
24	8.068RM.227	Real penal	MIG 250F-1 c/w （S.004RM.227）	1
25	8.304RM.004	Fan mesh	92 fan mesh.123*100*58.5 with trench. c/w (3.004RM.206)(3.004RM.207)	2
26	7.720.280-A	fan	3610SB05WB60EOO cable length 300（XinWei）	2
27	5.496RM.091-B	Drive PCB for MIG250S	Base board（8.067RM.091-B）	1
28	8.713RM.204	Insulator	0.3 polyester film 162.3*249 （MIG-250）	1
29	5.496RM.059-A	MIG250 MUR PCB	Base board 8.067RM.059-A 1.6*170*121mm PCB	4
30	8.423RM.007	MUR heat sink(1)	168*61*44（7.800.064）	6
31	8.422RM.055	IGBT heat sink(2)	64.5*61*44 （section bar 7.800.063） c/w 3.004RM.206	1
32	7.421.690	Fast restore diode	STTH60P03SW	8
33	8.423RM.008	MUR heat sink(2)	168*61*44（7.800.064）	1
34	8.422RM.056	IGBT heat sink(3)	76.5*61*44 （section bar 7.800.063）c/w 3.004RM.206	1

35	6.185RM.206	Main transformer	MIG-250S c/w 3.004RM.206	1
36	7.321.130	inductor	270mm length with cable 0.3sq mm 200round	1
37	6.271RM.203	inductance	MIG-250 c/w 3.004RM.023 3.004RM.204	1
38	7.731.031	Control transformer	220V input, 36V output(50W)	1
39	W.496RM.387	Push-pull gun/spool gun selection PCB, 3 function,50V power supply	Base board B.067RM.387	1

Table 7.1

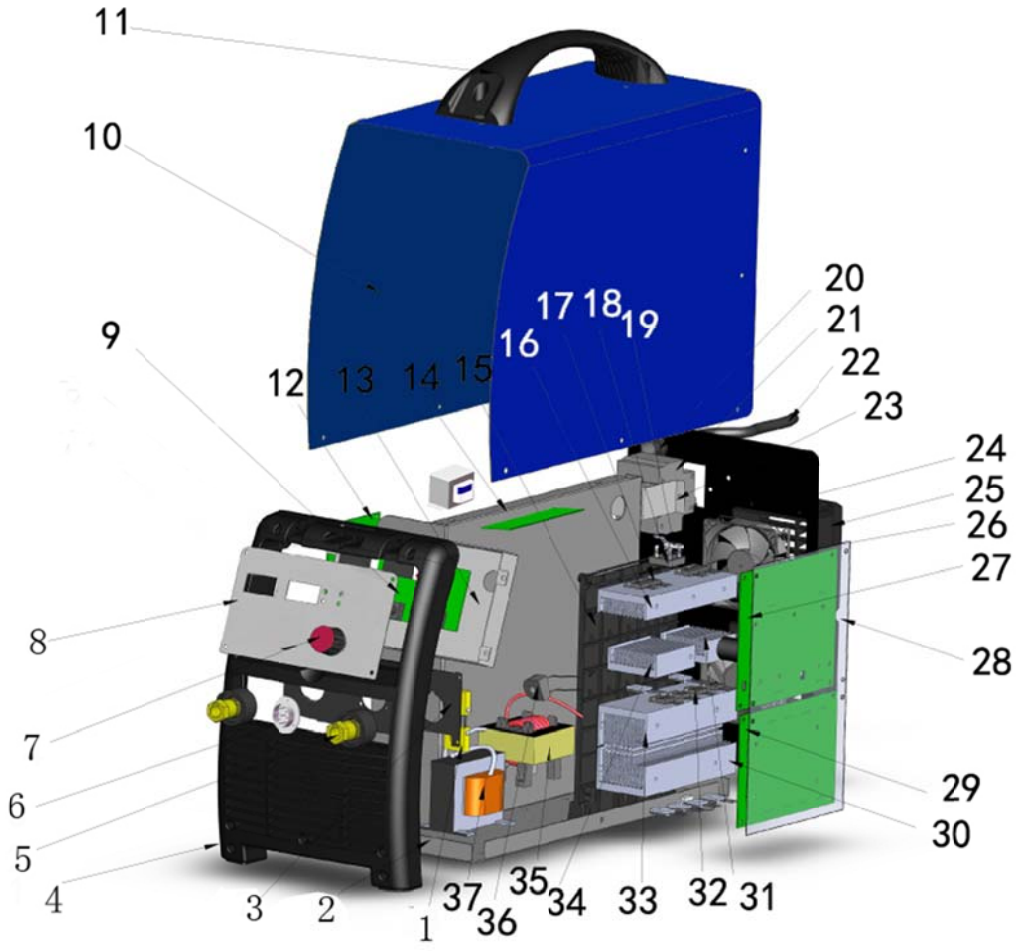

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Figure 7.1

7-2. SS-20 Wire feeder

Item	Order No.	Description	Note	Qty
1	8.051RM.901-CA	Right side plate	S.054RM.901-CA right side plate	1
2	7.686.048	Hinge	CL219-3 black matt(oubao)	2
3	8.050RM.901-CA	Left side plate	S.054RM.901-CA left side plate	1
4	7.686.300	Latch	MS725-2 electric cabinet lock	1
5	7.227RM.001-A	Toggle switch	R13 12A 125VAC 6A 250VAC 2*2	1
6	W.496RM.364	MIG250F-1 push/pull torch convert PCB	Base plate：B.067RM.364	1
7	8.123RM.220	Solenoid valve attach plate	Box style wire feeder(c/w S.054RM.901-CA）	1
8	7.253.014	Solenoid valve	Model:YG2T-2,working pressure:0-0.8MPa,power supply:DC24V(gas inlet φ8）	1
9	8.124RM.901-CA	Middle separating plate	S.054RM.901-CA middle separating plate	1
10	8.069RM.906-D	Front panel	Box style wire feeder （ S.054RM.901-CA ） front penal	1
11	7.456.905	carbon potentiometer	RV24YN/20S B502（TOCOS）	2
12	8.123RM.221	Control Panel	Box style wire feeder(c/wS.054RM.901-CA）	1
13	7.458.360-R	Knob	2004-1（extra largeφ36*23） (black/red with needle and white line)	2
14	7.227.017	Toggle switch	R9-32B/2A250V 1×2	2
15	7.132.009	9 pin receptacle	WEIPU SP2112/S9 SERIES CE	1
16	7.667RM.203-A	Euro torch connection	Box style wire feeder S.054RM.901	1
17	7.510RM.001	Insulation flange	MIG160R plastic ABS	1

18	8.177RM.203-A	Connection bar	Box style wire feeder S.054RM.901	1
19	8.178RM.203-A	Wire guide tube	Box style wire feeder S.054RM.901	1
20	8.462RM.030	WEIPU receptacle locking nut	M21*1 S27	1
21	8.940.001	Copper nut	M10×1	1
22	8.123RM.920-A	Euro connector attach plate	ABS with attach hole	1
23	7.682.112	caster	2#Polyurethane, brown red	2
24	8.123RM.176	Caster attach plate	Box style wire feeder S.054RM.901	1
25	8.713RM.207	Insulation film	Single drive motor insulation film 50*110, heat resistant polyester filmδ0.3	1
26	8.712.002	Insulation sleeve	Φ22/Φ10.2 L=15mm	2
27	7.662.801	Insulation cap	JYM	2
28	7.710.887	Motor	76YZ01 c/w 0.9-1.2 wire feeding roller, motor at left side	1
29	7.132.507	7 pin receptacle	YD20K7Z(black）	1
30	7.152.312-A	Quick connector female(zhengyuan)	CX58 35-70MM	1
31	7.682.012	Wheel	2#Polyurethane, brown red	2
32	8.123RM.177	Wheel attach plate	Box style wire feeder S.054RM.901	1
33	8.055RM.901-CA	Bottom plate	S.054RM.901-CA bottom PCB	1
34	7.803.002	Europe spool box	Nanjing Dingrui 2 HOLE	1
35	7.803.203	Europe spool axle	Nanjing Dingrui 2 AXLE	1
36	7.626.204	Handel cover	Nanjing Dingrui 651	1

37	8.303RM.901	Middle separating plate	Box style wire feeder S.054RM.901	1
38	8.068RM.901-CA	Rear plate	S.054RM.901-CA REAR PLATE	1
39	7.941.009	Nut	GB/T6170 M12	1
40	8.462.641	Gas inlet	GT-2000	1

Table 7.2

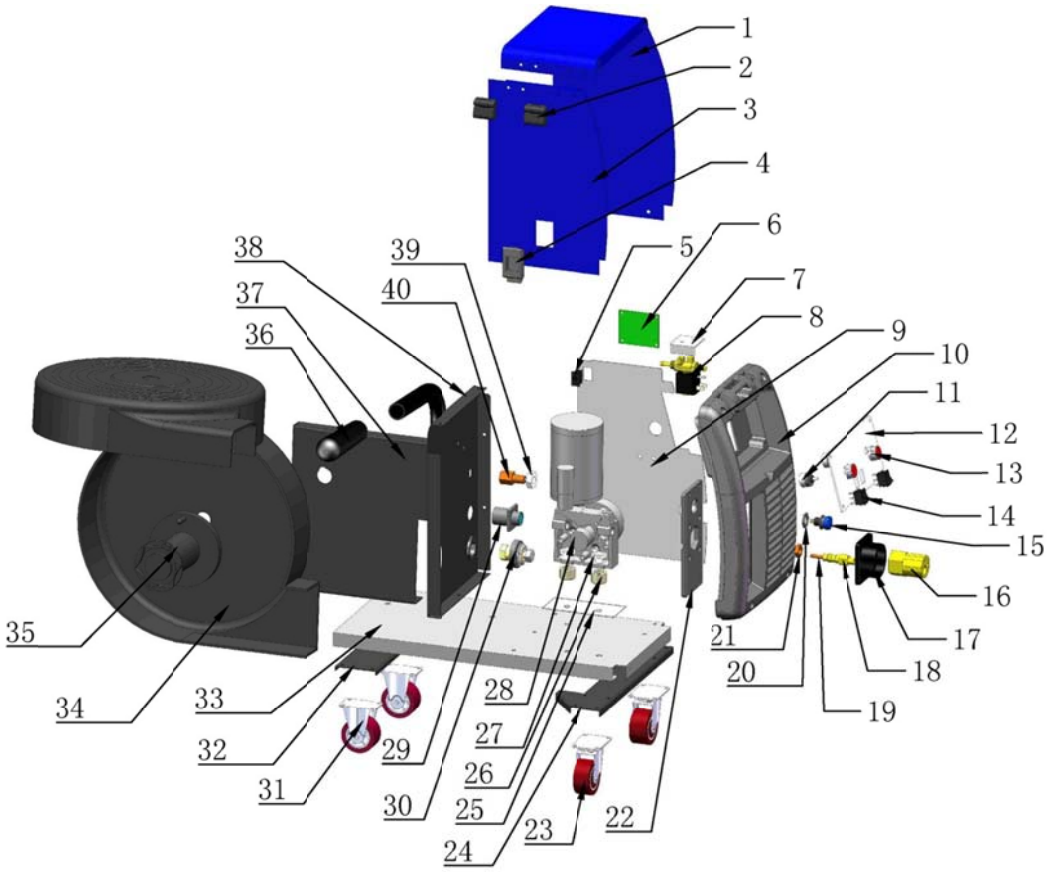
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Figure 7.2

7-3. Wire driving system

Model 60/76ZY-01 with bracket.

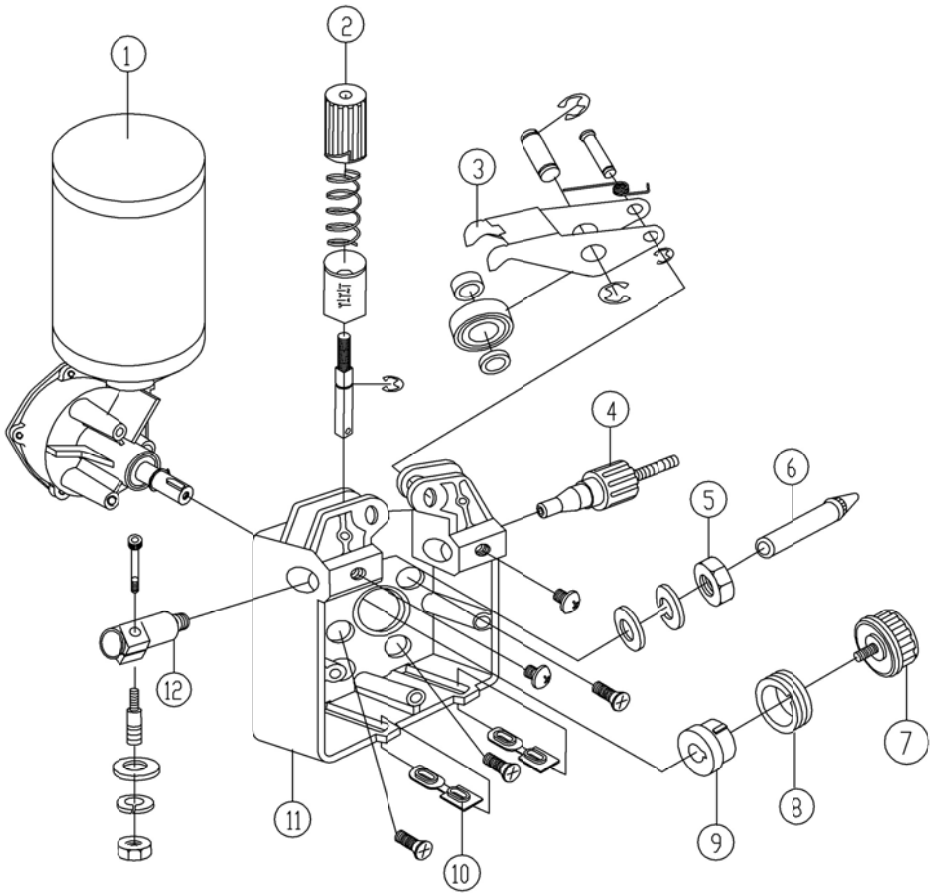

Figure 7.3

ITEM	DESCRIPTION	ORDER NO	QUANTIT	NOTE
1	Motor	82010019	1	60/76ZY01 servo motor
2	Handle assembly	0603033	1	
3	Pressure roller assembly	0603035	1	
4	Inlet wire guide	0603019	1	
5	Hex nut	1911019	1	
6	Outlet wire guide	0400093	1	
7	Press knob	0603016	1	

8	Drive roller	1507xxx	1	Default0.9/1.2(0.035/0.045)
9	connection sleeve	0603015	1	
10	Insulation sleeve	0603022	2	
11	Bracket	0603031	1	
12	Torch connection	0603017	1	

Table 7.3

Drive roller selection

ITEM	DESCRIPTION	ORDER NO	NOTE
1	V groove (0.9/1.2mm)(0.035/0.045)(default)	07261030	For solid wire
2	V groove (0.6/0.8mm)(0.023/0.030)	07261031	For solid wire
3	Knurled groove (0.9/1.2mm)(0.035/0.045)	07261032	For flux cored wire
4	U groove drive 0.9/1.2mm (0.035 /0.045)	07261033	For Aluminum wire

Table 7.4

7-4. Spool holder module

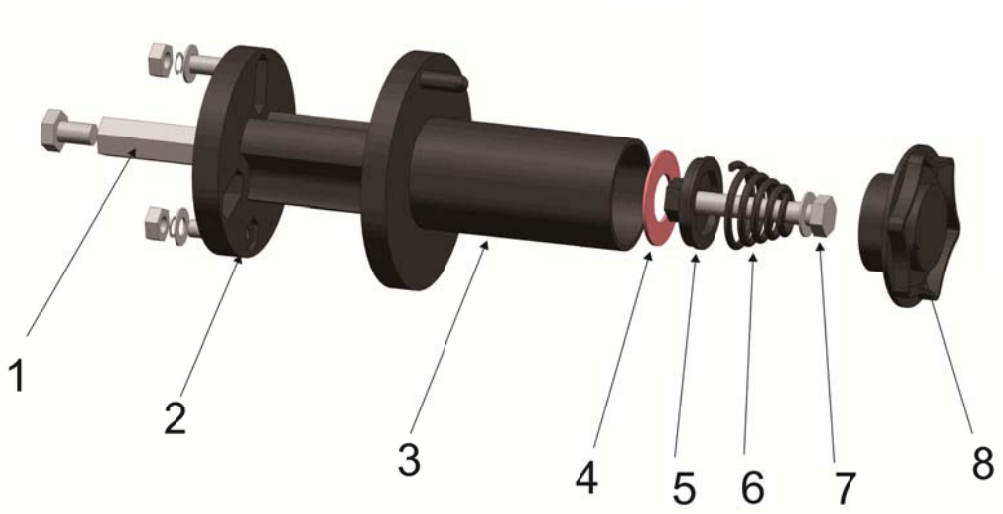

Figure 7.4

ITEM	DESCRIPTION	ORDER NO	QUANTITY
1	Axle	071709	1
2	Axle seat inside	071715	1
3	Axle seat outside	071710	1
4	Damping washer	071711	1
5	Cap bracket	071708	1
6	Lock spring	071707	1
7	Lock nut	071703	1
8	Cap	071706	1

Table 7.5

7-4. MIG torch

WeldKing® NT2-15E, Order No. 07000411

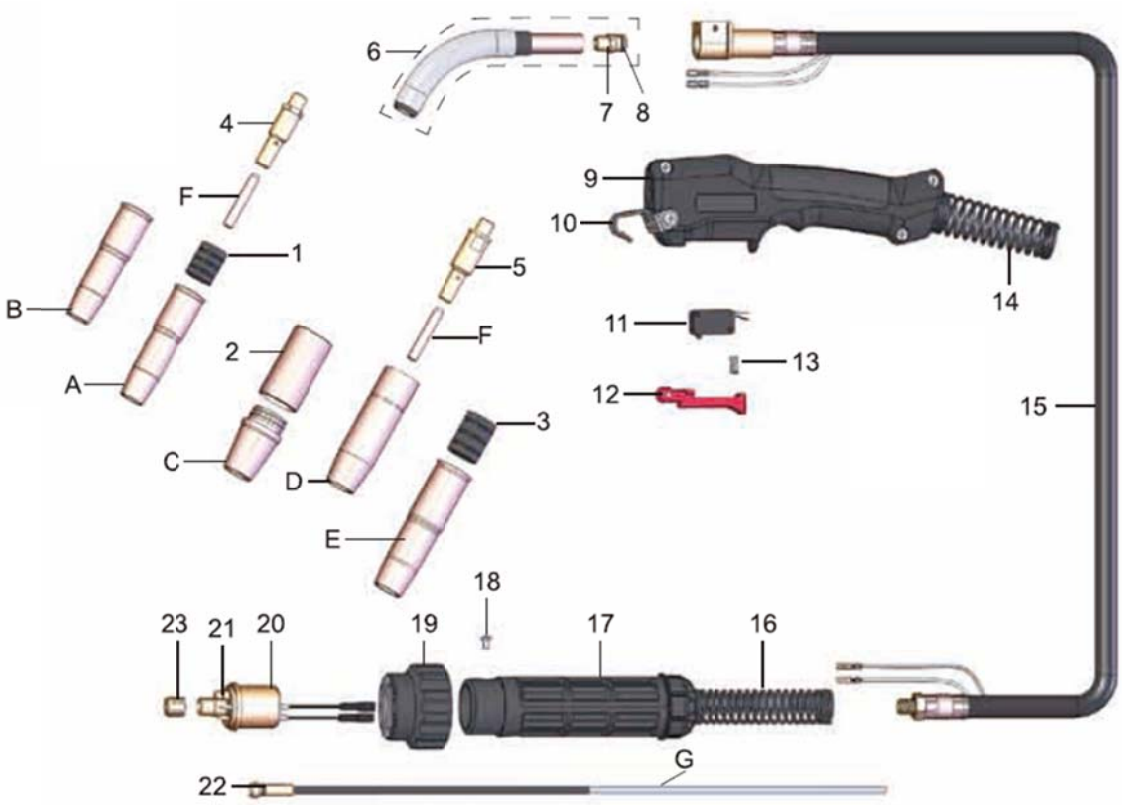

Figure 7.5

Nozzles

ITEM	DESCRIPTION	ORDER NO.	
1	Nozzle Adjustable	22-50*	A
2	Nozzle Adjustable	22-62	A
3	Nozzle Self Insulated	22-50F	B
4	Nozzle Fixed Coarse Thread	24CT60S	C
5	Nozzle Fixed Coarse Thread	24CT62S	C
6	Nozzle Fixed Coarse Thread	24CT75S	C
7	Nozzle Self Shielding	23-50	D
8	Nozzle Self Insulated	23-62	D
9	Nozzle Self Insulated	23-75	D

10	Nozzle Adjustable	24A50	E
11	Nozzle Adjustable	24A62	E
12	Nozzle Adjustable	24A75	E

Table 7.6

Contact Tips

ITEM	DESCRIPTION	ORDER NO.	
1	Contact Tip 0.023”/0.6mm Ecu	14-23	F
2	Contact Tip 0.030”/0.8mm Ecu	14-30	F
3	Contact Tip 0.035”/0.9mm Ecu	14-35*	F
4	Contact Tip 0.040”/1.0mm Ecu	14-40	F
5	Contact Tip 0.045”/1.2mm Ecu	14-45	F

Table 7.7

Liners

ITEM	DESCRIPTION	ORDER NO.	
1	Steel Liner 0.030”-0.035”/0.8-0.9mm X15ft	42-3035-15	G
1	Steel Liner 0.040”-0.045”/1.0-1.2mm X15ft	42-4045-15*	G
2	Teflon Liner 0.035”-0.045”/0.9-1.2mm X15ft	42T-3545-15	G

Table 7.8

* Default

Component

ITEM	DESCRIPTION	PART No.
1	Adjustable Nozzle Insulator	32*
2	Nozzle Insulator Coarse thread	34CT
3	Adjustable Nozzle Insulator	34A

4	Gas Diffuser	52
5	Gas Diffuser	52FN
6	Jacketed goose heck 45°	62A45J
	Jacketed goose heck 60°	62A60J*
	goose heck 45°	62A45
	goose heck 60°	62A60
7	Gas Nipple	TEF2212
8	O-Ring 8x1.5	Q508015S
9	Handle	TEH2101
10	Hanger Hook	TEG2001
11	Switch, OMRON	Q711
12	Trigger	KJ3003
13	Trigger Spring	Q60512
14	Front Spring Cable Support	HS2101
15	Cable assembly 15’	TEL2015
16	Back Spring Cable Support	ES2201
17	Gun Plug Housing	EH2201
18	Screw M4X6	EH2211
19	Gun Plug Nut	EP3001
20	Tweco Euro Gun Plug	TEU1001
21	O-Ring 4x1	Q504010
22	O-Ring 4x1.8	Q504018
23	Nut M11X1	TEU1011

Table 7.9

NOTES

SECTION 8 ELECTRIC DIAGRAM

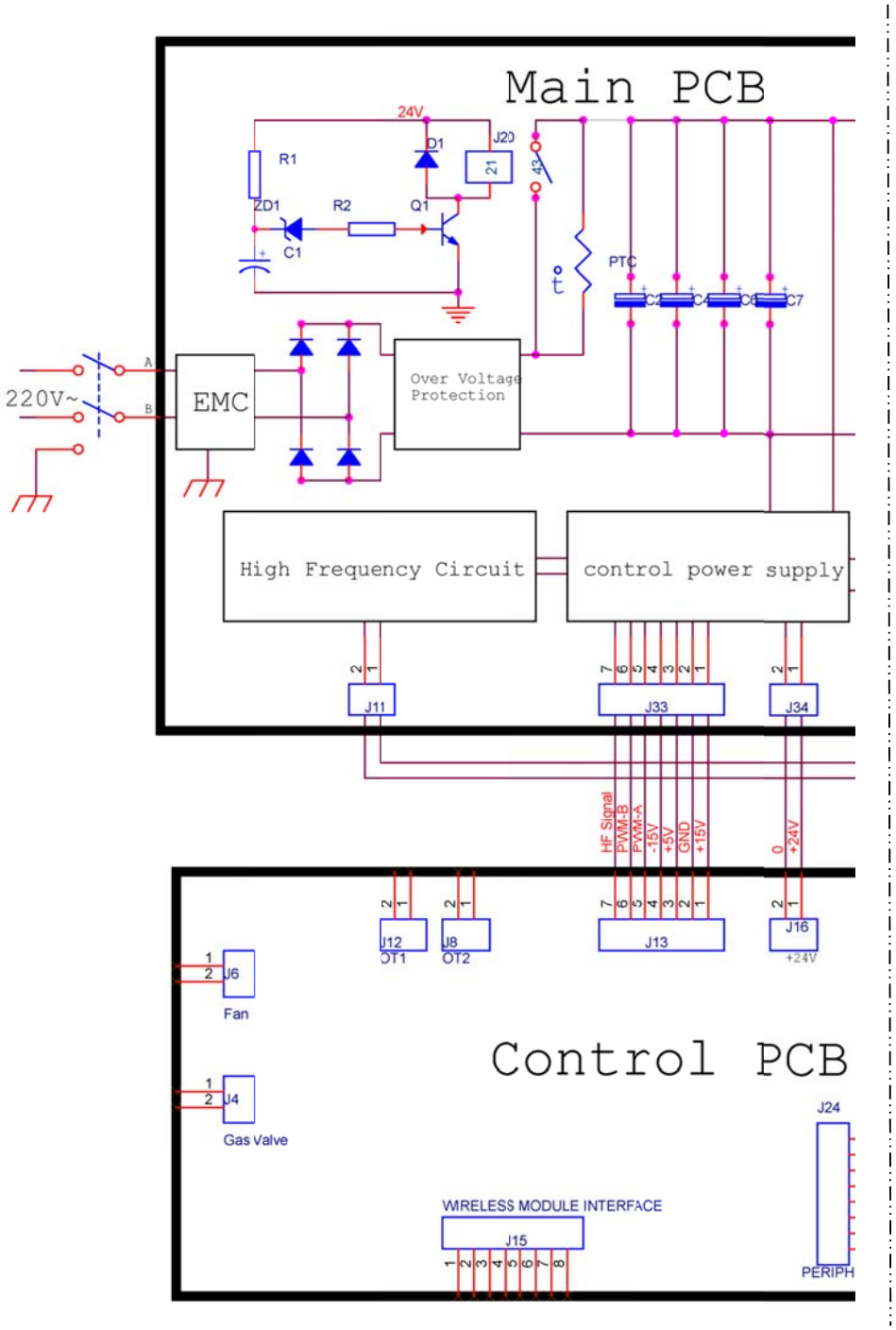

Figure 8.1

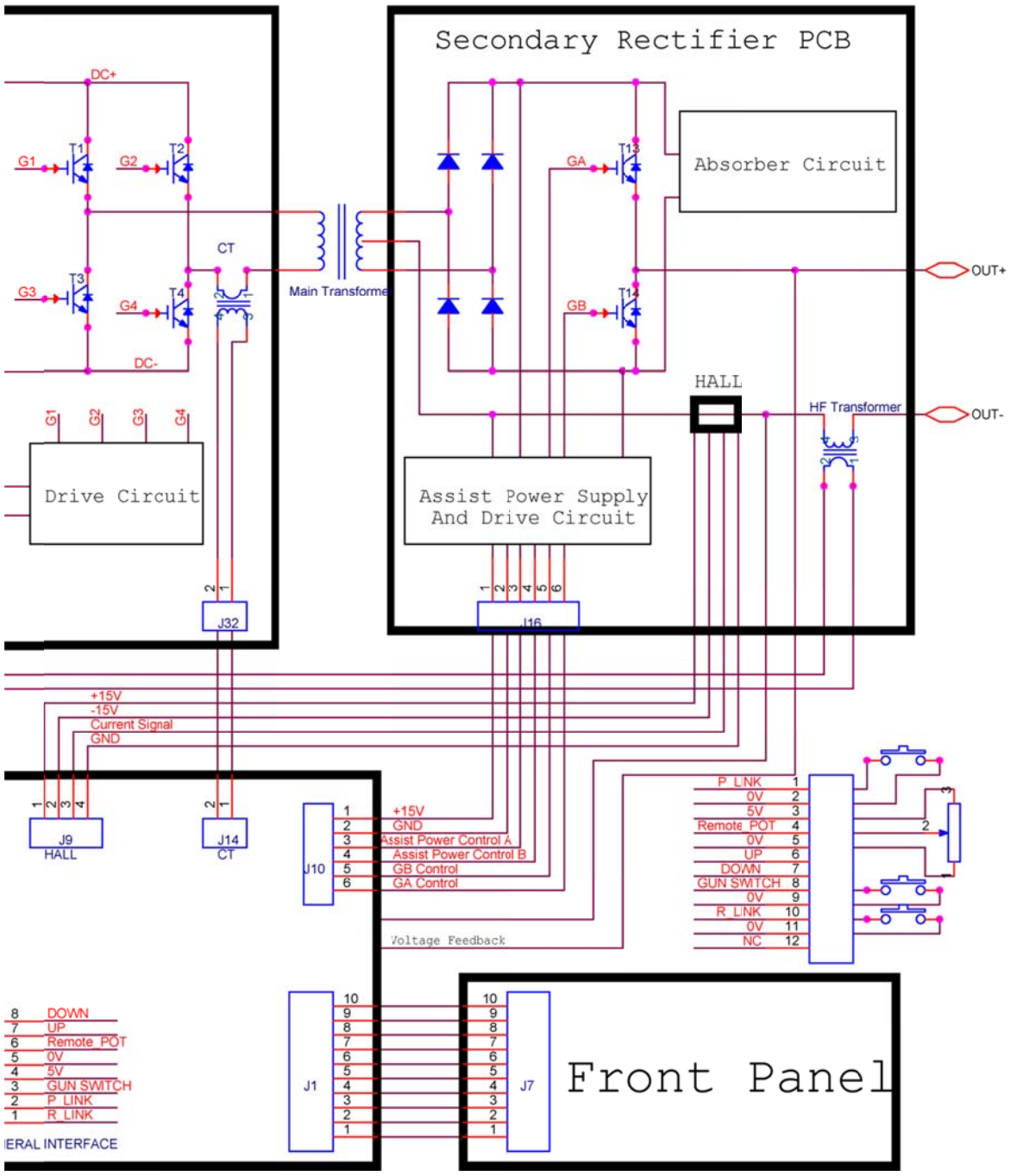
Secondary Rectifier PCB
DC+
G1
G2
T1
T2
CT
G3
G4
T3
T4
DC-
Main Transforme
GA
GB
T13
T14
Absorber Circuit
OUT+
OUT-
HALL
HF Transformer
Drive Circuit
Assist Power Supply
And Drive Circuit
J32
J16
+15V
-15V
Current Signal
GND
J9
HALL
J14
CT
J10
+15V
GND
Assist Power Control A
Assist Power Control B
GB Control
GA Control
Voltage Feedback
P_LINK
0V
5V
Remote_POT
0V
UP
DOWN
GUN SWITCH
0V
R_LINK
0V
NC
DOWN
UP
Remote_POT
0V
5V
GUN SWITCH
P_LINK
R_LINK
ERAL INTERFACE
J1
J7
Front Panel

Figure 8.2

SECTION 9 WARRANTY POLICY

Malo Welding Products Ltd., Warranty Policy

Effective August 1st, 2004, revision at April 1st, 2011

LIMITED WARRANTY - Subject to the terms and conditions below, Malo Welding Products Ltd.(WELDKING®) endeavors to provide high quality products and product support to its customers and therefore backs up all of its new products purchased from Malo Welding Products Ltd.(WELDKING®) or any authorized Malo Welding Products Ltd.(WELDKING®) distributor/service center after the effective date of this limited warranty and is free of defects in material and workmanship at the time it is shipped. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE FACE OF THE MALO WELDING PRODUCTS LTD.(WELDKING®) WARRANTY. MALO WELDING PRODUCTS LTD.(WELDKING®) DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING THE PRODUCTS, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT. IN THE UNITED STATES, SOME STATES DO NOT ALLOW THE EXCLUSION OF THE IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU.

Malo Welding Products Ltd.(WELDKING®) shall honor warranty claims on warranted equipment listed below in the event of such a failure within the warranty time periods. All warranty time periods start on the date that the equipment was delivered to the original retail purchaser, or one year after the equipment is sent to a North American distributor.

(1) 3 Years - Parts and Labor

Power Sources

Wire Feeders

(2) 90 Days - Parts (No Labor)

Guns

Remote Controls

Accessory Kits

Replacement Parts (No labor)

Malo Welding Products Ltd.(WELDKING®)'s limited Warranty shall not apply to:

(1) Consumable components; such as contact tips, cutting nozzles, contactors, brushes, slip rings, relays or parts that fail due to normal wear.

(2) All limited warranties are void for, and Malo Welding Products Ltd.(WeldKing®) does not warrant in any way, any product that evidences misapplication, improper installation, abuse, lack of maintenance, negligence in use or care, abnormal use, alteration of design, use of incompatible or corrosive chemicals, and/or servicing, installation of parts, or repairs by anyone other than Malo Welding Products Ltd.(WELDKING®) or a Malo Welding Products Ltd.(WELDKING®) authorized distributor or service center. Malo Welding Products Ltd.(WELDKING®) may make changes in products it manufactures and markets at any time; these changes are made without obligation to change, retrofit, or upgrade any product previously sold or manufactured.

MALO WELDING PRODUCTS LTD.(WELDKING®) 'S PRODUCTS ARE FOR COMMERCIAL/INDUSTRIAL USE AND PERSONS TRAINED AND EXPERIENCED IN THE USE AND MAINTENANCE OF WELDING/PLASMA CUTTING EQUIPMENT.

In the event of a warranty claim covered by this warranty, the exclusive remedies shall be, at Malo Welding Products Ltd.(WELDKING®)'s option: (1) repair; or (2) replacement; or, where authorized in writing by Malo Welding Products Ltd.(WELDKING®), in appropriate cases, (3) the reasonable cost of repair or replacement at an authorized service station; or (4) payment of or credit for the purchase price (less reasonable depreciation based upon actual use) upon return of the goods at customer's risk and expense. No compensation or reimbursement for transportation costs of any kind will be allowed.

LIMITATION OF DAMAGES: THE REMEDY OF REPLACEMENT OR REPAIR OF ANY DEFECTIVE GOODS SHALL BE THE EXCLUSIVE REMEDY UNDER ANY WARRANTY MADE BY MALO WELDING PRODUCTS LTD.(WELDKING®), WHETHER EXPRESS OR IMPLIED. IN NO EVENT SHALL MALO WELDING PRODUCTS LTD.(WELDKING®) BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, PROPERTY DAMAGES, OR PERSONAL INJURIES.

ANY EXPRESS WARRANTY NOT PROVIDED HEREIN AND ANY IMPLIED WARRANTY, GUARANTY OR REPRESENTATION AS TO PERFORMANCE, AND ANY REMEDY FOR BREACH OF CONTRACT TORT OR ANY OTHER LEGAL THEORY WHICH, BUT FOR THIS PROVISION, MIGHT ARISE BY IMPLICATION, OPERATION OF LAW, CUSTOM OF TRADE OR COURSE OF DEALING, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE, WITH RESPECT TO ANY AND ALL EQUIPMENT FURNISHED BY MALO WELDING PRODUCTS LTD.(WELDKING®), IS EXCLUDED AND DISCLAIMED BY MALO WELDING PRODUCTS LTD.(WELDKING®).

If any provision or portion of this limited warranty policy is found to be unenforceable, then the remaining provisions and portions shall remain valid and enforceable. If any provision or portion of this limited warranty policy is found to be limited by law, then that provision or portion shall be construed to make it effective within the bounds of law.

To obtain warranty service you must active your product(s)'s warranty online at weldking.com or mail the product registration card included in the package to Malo Welding Products Ltd.(WELDKING®) right after the purchase. When there is a warranty issue, return the defective welding machine or plasma cutting machine along with proof of purchase to any WeldKing® Authorized Warranty Depot. For the location of the nearest WeldKing® Authorized Warranty depot or for service information in the United States or Canada, please telephone toll free: 1-866-686-5088 or visit www. weldking.com (USA & Canada).available, but may vary from province to province.

SECTION 10 AUTHORIZED SERVICE CENTER

Please go to our website www.weldking.com to fill the warranty registration form. Malo Welding Products Ltd. will not distribute of disclose customer's private information to any third party and will not sent promotion material to the customer.

Find your nearest warranty center at:

http://www.weldking.com/servicelocations.aspx

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