# *MobileFeed 300 AVS*

Portable "Off The Arc" Wire Feeder




**Instruction Manual**

**0558005921** **03 / 2008**

**BE SURE THIS INFORMATION REACHES THE OPERATOR.**
**YOU CAN GET EXTRA COPIES THROUGH YOUR SUPPLIER.**

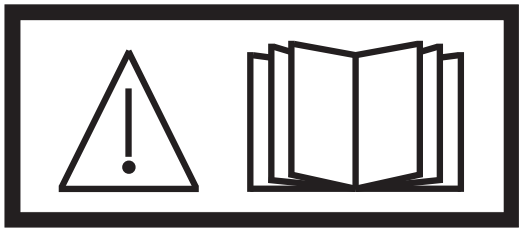
# CAUTION

**These INSTRUCTIONS are for experienced operators. If you are not fully familiar with the principles of operation and safe practices for arc welding and cutting equipment, we urge you to read our booklet, "Precautions and Safe Practices for Arc Welding, Cutting, and Gouging," Form 52-529. Do NOT permit untrained persons to install, operate, or maintain this equipment. Do NOT attempt to install or operate this equipment until you have read and fully understand these instructions. If you do not fully understand these instructions, contact your supplier for further information. Be sure to read the Safety Precautions before installing or operating this equipment.**

## USER RESPONSIBILITY

This equipment will perform in conformity with the description thereof contained in this manual and accompanying labels and/or inserts when installed, operated, maintained and repaired in accordance with the instructions provided. This equipment must be checked periodically. Malfunctioning or poorly maintained equipment should not be used. Parts that are broken, missing, worn, distorted or contaminated should be replaced immediately. Should such repair or replacement become necessary, the manufacturer recommends that a telephone or written request for service advice be made to the Authorized Distributor from whom it was purchased.

This equipment or any of its parts should not be altered without the prior written approval of the manufacturer. The user of this equipment shall have the sole responsibility for any malfunction which results from improper use, faulty maintenance, damage, improper repair or alteration by anyone other than the manufacturer or a service facility designated by the manufacturer.



**READ AND UNDERSTAND THE INSTRUCTION MANUAL BEFORE INSTALLING OR OPERATING.**

**PROTECT YOURSELF AND OTHERS!**

# DECLARATION OF CONFORMITY

according to the Low Voltage Directive 73/23/EEC, according to the EMC Directive 89/336/EEC

# FÖRSÄKRAN OM ÖVERENSSTÄMMELSE

enligt Lågspänningsdirektivet 73/23/EEG, enligt EMC-Direktivet 89/336/EEG

**Type of equipment** Materialslag
Wire feeder

**Brand name or trade mark** Fabrikatnamn eller varumärke
ESAB

**Type designation etc.** Typbeteckning etc.
MobileFeed «Off the Arc Wire Feeder»

**Manufacturer or his authorised representative established within the EEA**
**Name, address, telephone No, telefax No:** Tillverkarens namn, adress, telefon, telefax:

ESAB AB
Esabvägen, SE-695 81 LAXÅ, Sweden
Phone: +46 584 81 000, Fax: +46 584 411 924

**The following harmonised standards in force within the EEA have been used in the design:**
Följande harmoniserande standarder har använts i konstruktionen:

EN 60974-5, Arc welding equipment – Part 5: Wire feeders
EN 60974-10, Arc welding equipment – Part 10: Electromagnetic compatibility (EMC) requirements

**By signing this document, the undersigned declares as manufacturer, or the manufacturer's authorised representative established within the EEA, that the equipment in question complies with the safety requirements stated above.**
Genom att underteckna detta dokument försäkrar undertecknad såsom tillverkare, eller tillverkarens representant inom EES, att angiven materiel uppfyller säkerhetskraven angivna ovan.

**Date** Datum
Laxå 2006-02-15

**Signature** Underskrift

**Clarification** namnförtydligande
Henry Selenius

**Position** Befattning
Managing Director

# TABLE OF CONTENTS


| SECTION | TITLE | PAGE |
|---|---|---|
| | **SAFETY PRECAUTIONS** | 7 |
| **SECTION 1** | **DESCRIPTION** | **19** |
| 1.1 | General | 21 |
| 1.2 | Receiving-Handling | 21 |
| 1.3 | Description | 21 |
| **SECTION 2** | **INSTALLATION** | **23** |
| 2.1 | Drive Rolls | 23 |
| 2.2 | Welding Wire Speed | 23 |
| 2.3 | Torch Connections | 24 |
| 2.4 | Supply Connections | 24 |
| 2.5 | Threading the Welding Wire | 25 |
| 2.6 | Brake Drag Adjustment | 25 |
| **SECTION 3** | **OPERATION** | **27** |
| 3.1 | Controls | 27 |
| 3.1.1 | Power Switch | 27 |
| 3.1.2 | Wire Feed Speed (Arc Voltage Control) | 27 |
| 3.1.3 | Wire Feed Speed (Constant Speed) | 27 |
| 3.2 | Operating Procedures | 29 |
| 3.2.1 | Operating Safety Precautions | 29 |
| 3.3 | Changing Meter Display - IPM to MPM | 30 |
| 3.4 | Setting A Welding Procedure | 31 |
| 3.5 | Shutdown | 32 |
| **SECTION 4** | **MAINTENANCE** | **33** |
| 4.1 | Maintenance | 33 |
| 4.2 | Inspection and Service | 33 |
| 4.2.1 | Wire Feeder | 33 |
| 4.2.2 | Solenoid Valve Replacement | 33 |
| 4.2.3 | General Replacement | 33 |
| 4.3 | Troubleshooting | 34 |
| **SECTION 5** | **REPLACEMENT PARTS** | **37** |

# TABLE OF CONTENTS

## 1.0 Safety Precautions

**WARNING:** These Safety Precautions are for your protection. They summarize precautionary information from the references listed in Additional Safety Information section. Before performing any installation or operating procedures, be sure to read and follow the safety precautions listed below as well as all other manuals, material safety data sheets, labels, etc. Failure to observe Safety Precautions can result in injury or death.



**PROTECT YOURSELF AND OTHERS -- Some welding, cutting, and gouging processes are noisy and require ear protection. The arc, like the sun, emits ultraviolet (UV) and other radiation and can injure skin and eyes. Hot metal can cause burns. Training in the proper use of the processes and equipment is essential to prevent accidents. Therefore:**

1. Always wear safety glasses with side shields in any work area, even if welding helmets, face shields, and goggles are also required.
2. Use a face shield fitted with the correct filter and cover plates to protect your eyes, face, neck, and ears from sparks and rays of the arc when operating or observing operations. Warn bystanders not to watch the arc and not to expose themselves to the rays of the electric-arc or hot metal.
3. Wear flameproof gauntlet type gloves, heavy long-sleeve shirt, cuffless trousers, high-topped shoes, and a welding helmet or cap for hair protection, to protect against arc rays and hot sparks or hot metal. A flameproof apron may also be desirable as protection against radiated heat and sparks.
4. Hot sparks or metal can lodge in rolled up sleeves, trouser cuffs, or pockets. Sleeves and collars should be kept buttoned, and open pockets eliminated from the front of clothing.
5. Protect other personnel from arc rays and hot sparks with a suitable non-flammable partition or curtains.
6. Use goggles over safety glasses when chipping slag or grinding. Chipped slag may be hot and can fly far. Bystanders should also wear goggles over safety glasses.

### 1.1 Safety - English



**FIRES AND EXPLOSIONS -- Heat from flames and arcs can start fires. Hot slag or sparks can also cause fires and explosions. Therefore:**

1. Remove all combustible materials well away from the work area or cover the materials with a protective non-flammable covering. Combustible materials include wood, cloth, sawdust, liquid and gas fuels, solvents, paints and coatings, paper, etc.
2. Hot sparks or hot metal can fall through cracks or crevices in floors or wall openings and cause a hidden smoldering fire or fires on the floor below. Make certain that such openings are protected from hot sparks and metal."
3. Do not weld, cut or perform other hot work until the workpiece has been completely cleaned so that there are no substances on the workpiece which might produce flammable or toxic vapors. Do not do hot work on closed containers. They may explode.
4. Have fire extinguishing equipment handy for instant use, such as a garden hose, water pail, sand bucket, or portable fire extinguisher. Be sure you are trained in its use.
5. Do not use equipment beyond its ratings. For example, overloaded welding cable can overheat and create a fire hazard.
6. After completing operations, inspect the work area to make certain there are no hot sparks or hot metal which could cause a later fire. Use fire watchers when necessary.
7. For additional information, refer to NFPA Standard 51B, "Fire Prevention in Use of Cutting and Welding Processes", available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.



**ELECTRICAL SHOCK -- Contact with live electrical parts and ground can cause severe injury or death. DO NOT use AC welding current in damp areas, if movement is confined, or if there is danger of falling.**

1. Be sure the power source frame (chassis) is connected to the ground system of the input power.

2. Connect the workpiece to a good electrical ground.

3. Connect the work cable to the workpiece. A poor or missing connection can expose you or others to a fatal shock.

4. Use well-maintained equipment. Replace worn or damaged cables.

5. Keep everything dry, including clothing, work area, cables, torch/electrode holder, and power source.

6. Make sure that all parts of your body are insulated from work and from ground.

7. Do not stand directly on metal or the earth while working in tight quarters or a damp area; stand on dry boards or an insulating platform and wear rubber-soled shoes.

8. Put on dry, hole-free gloves before turning on the power.

9. Turn off the power before removing your gloves.

10. Refer to ANSI/ASC Standard Z49.1 (listed on next page) for specific grounding recommendations. Do not mistake the work lead for a ground cable.



**ELECTRIC AND MAGNETIC FIELDS — May be dangerous. Electric current flowing through any conductor causes localized Electric and Magnetic Fields (EMF). Welding and cutting current creates EMF around welding cables and welding machines. Therefore:**

1. Welders having pacemakers should consult their physician before welding. EMF may interfere with some pacemakers.

2. Exposure to EMF may have other health effects which are unknown.

3. Welders should use the following procedures to minimize exposure to EMF:

   A. Route the electrode and work cables together. Secure them with tape when possible.

   B. Never coil the torch or work cable around your body.

   C. Do not place your body between the torch and work cables. Route cables on the same side of your body.

   D. Connect the work cable to the workpiece as close as possible to the area being welded.

   E. Keep welding power source and cables as far away from your body as possible.



**FUMES AND GASES -- Fumes and gases, can cause discomfort or harm, particularly in confined spaces. Do not breathe fumes and gases. Shielding gases can cause asphyxiation. Therefore:**

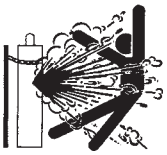
1. Always provide adequate ventilation in the work area by natural or mechanical means. Do not weld, cut, or gouge on materials such as galvanized steel, stainless steel, copper, zinc, lead, beryllium, or cadmium unless positive mechanical ventilation is provided. Do not breathe fumes from these materials.

2. Do not operate near degreasing and spraying operations. The heat or arc rays can react with chlorinated hydrocarbon vapors to form phosgene, a highly toxic gas, and other irritant gases.

3. If you develop momentary eye, nose, or throat irritation while operating, this is an indication that ventilation is not adequate. Stop work and take necessary steps to improve ventilation in the work area. Do not continue to operate if physical discomfort persists.

4. Refer to ANSI/ASC Standard Z49.1 (see listing below) for specific ventilation recommendations.

**5. WARNING: This product, when used for welding or cutting, produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety Code §25249.5 et seq.)**



**CYLINDER HANDLING -- Cylinders, if mishandled, can rupture and violently release gas. Sudden rupture of cylinder, valve, or relief device can injure or kill. Therefore:**

1. Use the proper gas for the process and use the proper pressure reducing regulator designed to operate from the compressed gas cylinder. Do not use adaptors. Maintain hoses and fittings in good condition. Follow manufacturer's operating instructions for mounting regulator to a compressed gas cylinder.

2. Always secure cylinders in an upright position by chain or strap to suitable hand trucks, undercarriages, benches, walls, post, or racks. Never secure cylinders to work tables or fixtures where they may become part of an electrical circuit.

3. When not in use, keep cylinder valves closed. Have valve protection cap in place if regulator is not connected. Secure and move cylinders by using suitable hand trucks. Avoid rough handling of cylinders.

4. Locate cylinders away from heat, sparks, and flames. Never strike an arc on a cylinder.

5. For additional information, refer to CGA Standard P-1, "Precautions for Safe Handling of Compressed Gases in Cylinders", which is available from Compressed Gas Association, 1235 Jefferson Davis Highway, Arlington, VA 22202.

**EQUIPMENT MAINTENANCE -- Faulty or improperly maintained equipment can cause injury or death. Therefore:**

1. Always have qualified personnel perform the installation, troubleshooting, and maintenance work. Do not perform any electrical work unless you are qualified to perform such work.

2. Before performing any maintenance work inside a power source, disconnect the power source from the incoming electrical power.

3. Maintain cables, grounding wire, connections, power cord, and power supply in safe working order. Do not operate any equipment in faulty condition.

4. Do not abuse any equipment or accessories. Keep equipment away from heat sources such as furnaces, wet conditions such as water puddles, oil or grease, corrosive atmospheres and inclement weather.

5. Keep all safety devices and cabinet covers in position and in good repair.

6. Use equipment only for its intended purpose. Do not modify it in any manner.

**ADDITIONAL SAFETY INFORMATION -- For more information on safe practices for electric arc welding and cutting equipment, ask your supplier for a copy of "Precautions and Safe Practices for Arc Welding, Cutting and Gouging", Form 52-529.**

The following publications, which are available from the American Welding Society, 550 N.W. LeJuene Road, Miami, FL 3300 AVS6, are recommended to you:

1. ANSI/ASC Z49.1 - "Safety in Welding and Cutting"

2. AWS C5.1 - "Recommended Practices for Plasma Arc Welding"

3. AWS C5.2 - "Recommended Practices for Plasma Arc Cutting"

4. AWS C5.3 - "Recommended Practices for Air Carbon Arc Gouging and Cutting"

5. AWS C5.5 - "Recommended Practices for Gas Tungsten Arc Welding“

6. AWS C5.6 - "Recommended Practices for Gas Metal Arc Welding"“

7. AWS SP - "Safe Practices" - Reprint, Welding Handbook.

8. ANSI/AWS F4.1, "Recommended Safe Practices for Welding and Cutting of Containers That Have Held Hazardous Substances."



**MEANING OF SYMBOLS - As used throughout this manual: Means Attention! Be Alert! Your safety is involved.**




**Means immediate hazards which, if not avoided, will result in immediate, serious personal injury or loss of life.**




**Means potential hazards which could result in personal injury or loss of life.**




**Means hazards which could result in minor personal injury.**

## 1.2 Safety - Spanish

**ADVERTENCIA:** Estas Precauciones de Seguridad son para su protección. Ellas hacen resumen de información proveniente de las referencias listadas en la sección "Información Adicional Sobre La Seguridad". Antes de hacer cualquier instalación o procedimiento de operación , asegúrese de leer y seguir las precauciones de seguridad listadas a continuación así como también todo manual, hoja de datos de seguridad del material, calcomanias, etc. El no observar las Precauciones de Seguridad puede resultar en daño a la persona o muerte.



**PROTEJASE USTED Y A LOS DEMAS-- Algunos procesos de soldadura, corte y ranurado son ruidosos y requiren protección para los oídos. El arco, como el sol , emite rayos ultravioleta (UV) y otras radiaciones que pueden dañar la piel y los ojos. El metal caliente causa quemaduras. EL entrenamiento en el uso propio de los equipos y sus procesos es esencial para prevenir accidentes. Por lo tanto:**

1. Utilice gafas de seguridad con protección a los lados siempre que esté en el área de trabajo, aún cuando esté usando careta de soldar, protector para su cara u otro tipo de protección.
2. Use una careta que tenga el filtro correcto y lente para proteger sus ojos, cara, cuello, y oídos de las chispas y rayos del arco cuando se esté operando y observando las operaciones. Alerte a todas las personas cercanas de no mirar el arco y no exponerse a los rayos del arco eléctrico o el metal fundido.
3. Use guantes de cuero a prueba de fuego, camisa pesada de mangas largas, pantalón de ruedo liso, zapato alto al tobillo, y careta de soldar con capucha para el pelo, para proteger el cuerpo de los rayos y chispas calientes provenientes del metal fundido. En ocaciones un delantal a prueba de fuego es necesario para protegerse del calor radiado y las chispas.
4. Chispas y partículas de metal caliente puede alojarse en las mangas enrolladas de la camisa , el ruedo del pantalón o los bolsillos. Mangas y cuellos deberán mantenerse abotonados, bolsillos al frente de la camisa deberán ser cerrados o eliminados.
5. Proteja a otras personas de los rayos del arco y chispas calientes con una cortina adecuada no-flamable como división.
6. Use careta protectora además de sus gafas de seguridad cuando esté removiendo escoria o puliendo. La escoria puede estar caliente y desprenderse con velocidad. Personas cercanas deberán usar gafas de seguridad y careta protectora.



**FUEGO Y EXPLOSIONES -- El calor de las flamas y el arco pueden ocacionar fuegos. Escoria caliente y las chispas pueden causar fuegos y explosiones. Por lo tanto:**

1. Remueva todo material combustible lejos del área de trabajo o cubra los materiales con una cobija a prueba de fuego. Materiales combustibles incluyen madera, ropa, líquidos y gases flamables, solventes, pinturas, papel, etc.
2. Chispas y partículas de metal pueden introducirse en las grietas y agujeros de pisos y paredes causando fuegos escondidos en otros niveles o espacios. Asegúrese de que toda grieta y agujero esté cubierto para proteger lugares adyacentes contra fuegos.
3. No corte, suelde o haga cualquier otro trabajo relacionado hasta que la pieza de trabajo esté totalmente limpia y libre de substancias que puedan producir gases inflamables o vapores tóxicos. No trabaje dentro o fuera de contenedores o tanques cerrados. Estos pueden explotar si contienen vapores inflamables.
4. Tenga siempre a la mano equipo extintor de fuego para uso instantáneo, como por ejemplo una manguera con agua, cubeta con agua, cubeta con arena, o extintor portátil. Asegúrese que usted esta entrenado para su uso.
5. No use el equipo fuera de su rango de operación. Por ejemplo, el calor causado por cable sobrecarga en los cables de soldar pueden ocasionar un fuego.
6. Después de termirar la operación del equipo, inspeccione el área de trabajo para cerciorarse de que las chispas o metal caliente ocasionen un fuego más tarde. Tenga personal asignado para vigilar si es necesario.
7. Para información adicional , haga referencia a la publicación NFPA Standard 51B, "Fire Prevention in Use of Cutting and Welding Processes", disponible a través de la National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.



**CHOQUE ELECTRICO -- El contacto con las partes eléctricas energizadas y tierra puede causar daño severo o muerte. NO use soldadura de corriente alterna (AC) en áreas húmedas, de movimiento confinado en lugares estrechos o si hay posibilidad de caer al suelo.**

1. Asegúrese de que el chasis de la fuente de poder esté conectado a tierra através del sistema de electricidad primario.
2. Conecte la pieza de trabajo a un buen sistema de tierra física.
3. Conecte el cable de retorno a la pieza de trabajo. Cables y conductores expuestos o con malas conexiones pueden exponer al operador u otras personas a un choque eléctrico fatal.
4. Use el equipo solamente si está en buenas condiciones. Reemplaze cables rotos, dañados o con conductores expuestos.
5. Mantenga todo seco, incluyendo su ropa, el área de trabajo, los cables, antorchas, pinza del electrodo, y la fuente de poder.
6. Asegúrese que todas las partes de su cuerpo están insuladas de ambos, la pieza de trabajo y tierra.
7. No se pare directamente sobre metal o tierra mientras trabaja en lugares estrechos o áreas húmedas; trabaje sobre un pedazo de madera seco o una plataforma insulada y use zapatos con suela de goma.
8. Use guantes secos y sin agujeros antes de energizar el equipo.
9. Apage el equipo antes de quitarse sus guantes.
10. Use como referencia la publicación ANSI/ASC Standard Z49.1 (listado en la próxima página) para recomendaciones específicas de como conectar el equipo a tierra. No confunda el cable de soldar a la pieza de trabajo con el cable a tierra.



**CAMPOS ELECTRICOS Y MAGNETICOS - Son peligrosos. La corriente eléctrica fluye através de cualquier conductor causando a nivel local Campos Eléctricos y Magnéticos (EMF). Las corrientes en el área de corte y soldadura, crean EMF alrrededor de los cables de soldar y las maquinas. Por lo tanto:**

1. Soldadores u Operadores que use marca-pasos para el corazón deberán consultar a su médico antes de soldar. El Campo Electromagnético (EMF) puede interferir con algunos marca-pasos.

2. Exponerse a campos electromagnéticos (EMF) puede causar otros efectos de salud aún desconocidos.

3. Los soldadores deberán usar los siguientes procedimientos para minimizar exponerse al EMF:

   A. Mantenga el electrodo y el cable a la pieza de trabajo juntos, hasta llegar a la pieza que usted quiere soldar. Asegúrelos uno junto al otro con cinta adhesiva cuando sea posible.
   B. Nunca envuelva los cables de soldar alrededor de su cuerpo.
   C. Nunca ubique su cuerpo entre la antorcha y el cable, a la pieza de trabajo. Mantega los cables a un sólo lado de su cuerpo.
   D. Conecte el cable de trabajo a la pieza de trabajo lo más cercano posible al área de la soldadura.
   E. Mantenga la fuente de poder y los cables de soldar lo más lejos posible de su cuerpo.



**HUMO Y GASES -- El humo y los gases, pueden causar malestar o daño, particularmente en espacios sin ventilación. No inhale el humo o gases. El gas de protección puede causar falta de oxígeno.**

**Por lo tanto:**

1. Siempre provea ventilación adecuada en el área de trabajo por medio natural o mecánico. No solde, corte, o ranure materiales con hierro galvanizado, acero inoxidable, cobre, zinc, plomo, berílio, o cadmio a menos que provea ventilación mecánica positiva . No respire los gases producidos por estos materiales.
2. No opere cerca de lugares donde se aplique substancias químicas en aerosol. El calor de los rayos del arco pueden reaccionar con los vapores de hidrocarburo clorinado para formar un fosfógeno, o gas tóxico, y otros irritant es.
3. Si momentáneamente desarrolla inrritación de ojos, nariz o garganta mientras est á operando, es indicación de que la ventilación no es apropiada. Pare de trabajar y tome las medidas necesarias para mejorar la ventilación en el área de trabajo. No continúe operando si el malestar físico persiste.
4. Haga referencia a la publicación ANSI/ASC Standard Z49.1 (Vea la lista a continuación) para recomendaciones específicas en la ventilación.

**5. ADVERTENCIA-- Este producto cuando se utiliza para soldaduras o cortes, produce humos o gases, los cuales contienen químicos conocidos por el Estado de California de causar defectos en el nacimiento, o en algunos casos, Cancer. (California Health & Safety Code §25249.5 et seq.)**



**MANEJO DE CILINDROS-- Los cilindros, si no son manejados correctamente, pueden romperse y liberar violentamente gases. Rotura repentina del cilindro, válvula, o válvula de escape puede causar daño o muerte. Por lo tanto:**

1. Utilize el gas apropiado para el proceso y utilize un regulador diseñado para operar y reducir la presión del cilindro de gas . No utilice adaptadores. Mantenga las mangueras y las conexiones en buenas condiciones. Observe las instrucciones de operación del manufacturero para montar el regulador en el cilindro de gas comprimido.

2. Asegure siempre los cilindros en posición vertical y amárrelos con una correa o cadena adecuada para asegurar el cilindro al carro, transportes, tablilleros, paredes, postes, o armazón. Nunca asegure los cilindros a la mesa de trabajo o las piezas que son parte del circuito de soldadura . Este puede ser parte del circuito elélectrico.

3. Cuando el cilindro no está en uso, mantenga la válvula del cilindro cerrada. Ponga el capote de protección sobre la válvula si el regulador no está conectado. Asegure y mueva los cilindros utilizando un carro o transporte adecuado. Evite el manejo brusco de los

**MANTENIMIENTO DEL EQUIPO -- Equipo defectuoso o mal mantenido puede causar daño o muerte. Por lo tanto:**

1. Siempre tenga personal cualificado para efectuar l a instalación, diagnóstico, y mantenimiento del equipo. No ejecute ningún trabajo eléctrico a menos que usted esté cualificado para hacer el trabajo.
2. Antes de dar mantenimiento en el interior de la fuente de poder, desconecte la fuente de poder del suministro de electricidad primaria.
3. Mantenga los cables, cable a tierra, conexciones, cable primario, y cualquier otra fuente de poder en buen estado operacional. No opere ningún equipo en malas condiciones.
4. No abuse del equipo y sus accesorios. Mantenga el equipo lejos de cosas que generen calor como hornos, también lugares húmedos como charcos de agua , aceite o grasa, atmósferas corrosivas y las inclemencias del tiempo.
5. Mantenga todos los artículos de seguridad y coverturas del equipo en su posición y en buenas condiciones.
6. Use el equipo sólo para el propósito que fue diseñado. No modifique el equipo en ninguna manera.

**INFORMACION ADICIONAL DE SEGURIDAD -- Para más información sobre las prácticas de seguridad de los equipos de arco eléctrico para soldar y cortar, pregunte a su suplidor por una copia de "Precautions and Safe Practices for Arc Welding, Cutting and Gouging-Form 52-529.**

Las siguientes publicaciones, disponibles através de la American Welding Society, 550 N.W. LeJuene Road, Miami, FL 3300 AVS6, son recomendadas para usted:

1. ANSI/ASC Z49.1 - "Safety in Welding and Cutting"

2. AWS C5.1 - "Recommended Practices for Plasma Arc Welding"

3. AWS C5.2 - "Recommended Practices for Plasma Arc Cutting"

4. AWS C5.3 - "Recommended Practices for Air Carbon Arc Gouging and Cutting"



**SIGNIFICADO DE LOS SIMBOLOS -- Según usted avanza en la lectura de este folleto: Los Símbolos Significan ¡Atención! ¡Esté Alerta! Se trata de su seguridad.**




**Significa riesgo inmediato que, de no ser evadido, puede resultar inmediatamente en serio daño personal o la muerte.**




**Significa el riesgo de un peligro potencial que puede resultar en serio daño personal o la muerte.**




**Significa el posible riesgo que puede resultar en menores daños a la persona.**

## 1.3 Safety - French

**AVERTISSEMENT :** Ces règles de sécurité ont pour but d'assurer votre protection. Ils récapitulent les informations de précaution provenant des références dans la section des Informations de sécurité supplémentaires. Avant de procéder à l'installation ou d'utiliser l'unité, assurez-vous de lire et de suivre les précautions de sécurité ci-dessous, dans les manuels, les fiches d'information sur la sécurité du matériel et sur les étiquettes, etc. Tout défaut d'observer ces précautions de sécurité peut entraîner des blessures graves ou mortelles.



**PROTÉGEZ-VOUS -- Les processus de soudage, de coupage et de gougeage produisent un niveau de bruit élevé et exige l'emploi d'une protection auditive. L'arc, tout comme le soleil, émet des rayons ultraviolets en plus d'autre rayons qui peuvent causer des blessures à la peau et les yeux. Le métal incandescent peut causer des brûlures. Une formation reliée à l'usage des processus et de l'équipement est essentielle pour prévenir les accidents. Par conséquent:**

1. Portez des lunettes protectrices munies d'écrans latéraux lorsque vous êtes dans l'aire de travail, même si vous devez porter un casque de soudeur, un écran facial ou des lunettes étanches.
2. Portez un écran facial muni de verres filtrants et de plaques protectrices appropriées afin de protéger vos yeux, votre visage, votre cou et vos oreilles des étincelles et des rayons de l'arc lors d'une opération ou lorsque vous observez une opération. Avertissez les personnes se trouvant à proximité de ne pas regarder l'arc et de ne pas s'exposer aux rayons de l'arc électrique ou le métal incandescent.
3. Portez des gants ignifugiés à crispin, une chemise épaisse à manches longues, des pantalons sans rebord et des chaussures montantes afin de vous protéger des rayons de l'arc, des étincelles et du métal incandescent, en plus d'un casque de soudeur ou casquette pour protéger vos cheveux. Il est également recommandé de porter un tablier ininflammable afin de vous protéger des étincelles et de la chaleur par rayonnement.
4. Les étincelles et les projections de métal incandescent risquent de se loger dans les manches retroussées, les rebords de pantalons ou les poches. Il est recommandé de garder boutonnés le col et les manches et de porter des vêtements sans poches en avant.
5. Protégez toute personne se trouvant à proximité des étincelles et des rayons de l'arc à l'aide d'un rideau ou d'une cloison ininflammable.
6. Portez des lunettes étanches par dessus vos lunettes de sécurité lors des opérations d'écaillage ou de meulage du laitier. Les écailles de laitier incandescent peuvent être projetées à des distances considérables. Les personnes se trouvant à proximité doivent également porter des lunettes étanches par dessus leur lunettes de sécurité.



**INCENDIES ET EXPLOSIONS -- La chaleur provenant des flammes ou de l'arc peut provoquer un incendie. Le laitier incandescent ou les étincelles peuvent également provoquer un incendie ou une explosion. Par conséquent :**

1. Éloignez suffisamment tous les matériaux combustibles de l'aire de travail et recouvrez les matériaux avec un revêtement protecteur ininflammable. Les matériaux combustibles incluent le bois, les vêtements, la sciure, le gaz et les liquides combustibles, les solvants, les peintures et les revêtements, le papier, etc.
2. Les étincelles et les projections de métal incandescent peuvent tomber dans les fissures dans les planchers ou dans les ouvertures des murs et déclencher un incendie couvant à l'étage inférieur Assurez-vous que ces ouvertures sont bien protégées des étincelles et du métal incandescent.
3. N'exécutez pas de soudure, de coupe ou autre travail à chaud avant d'avoir complètement nettoyé la surface de la pièce à traiter de façon à ce qu'il n'ait aucune substance présente qui pourrait produire des vapeurs inflammables ou toxiques. N'exécutez pas de travail à chaud sur des contenants fermés car ces derniers pourraient exploser.
4. Assurez-vous qu'un équipement d'extinction d'incendie est disponible et prêt à servir, tel qu'un tuyau d'arrosage, un seau d'eau, un seau de sable ou un extincteur portatif. Assurez-vous d'être bien instruit par rapport à l'usage de cet équipement.
5. Assurez-vous de ne pas excéder la capacité de l'équipement. Par exemple, un câble de soudage surchargé peut surchauffer et provoquer un incendie.
6. Une fois les opérations terminées, inspectez l'aire de travail pour assurer qu'aucune étincelle ou projection de métal incandescent ne risque de provoquer un incendie ultérieurement. Employez des guetteurs d'incendie au besoin.
7. Pour obtenir des informations supplémentaires, consultez le NFPA Standard 51B, "Fire Prevention in Use of Cutting and Welding Processes", disponible au National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.



**CHOC ÉLECTRIQUE -- Le contact avec des pièces électriques ou les pièces de mise à la terre sous tension peut causer des blessures graves ou mortelles. NE PAS utiliser un courant de soudage c.a. dans un endroit humide, en espace restreint ou si un danger de chute se pose.**

1. Assurez-vous que le châssis de la source d'alimentation est branché au système de mise à la terre de l'alimentation d'entrée.
2. Branchez la pièce à traiter à une bonne mise de terre électrique.
3. Branchez le câble de masse à la pièce à traiter et assurez une bonne connexion afin d'éviter le risque de choc électrique mortel.
4. Utilisez toujours un équipement correctement entretenu. Remplacez les câbles usés ou endommagés.
5. Veillez à garder votre environnement sec, incluant les vêtements, l'aire de travail, les câbles, le porte-électrode/torche et la source d'alimentation.
6. Assurez-vous que tout votre corps est bien isolé de la pièce à traiter et des pièces de la mise à la terre.
7. Si vous devez effectuer votre travail dans un espace restreint ou humide, ne tenez vous pas directement sur le métal ou sur la terre; tenez-vous sur des planches sèches ou une plate-forme isolée et portez des chaussures à semelles de caoutchouc.
8. Avant de mettre l'équipement sous tension, isolez vos mains avec des gants secs et sans trous.
9. Mettez l'équipement hors tension avant d'enlever vos gants.
10. Consultez ANSI/ASC Standard Z49.1 (listé à la page suivante) pour des recommandations spécifiques concernant les procédures de mise à la terre. Ne pas confondre le câble de masse avec le câble de mise à la terre.



**CHAMPS ÉLECTRIQUES ET MAGNÉTIQUES — comportent un risque de danger. Le courant électrique qui passe dans n'importe quel conducteur produit des champs électriques et magnétiques localisés. Le soudage et le courant de coupage créent des champs électriques et magnétiques autour des câbles de soudage et l'équipement. Par conséquent :**

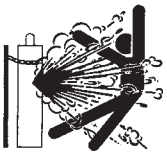
1. Un soudeur ayant un stimulateur cardiaque doit consulter son médecin avant d'entreprendre une opération de soudage. Les champs électriques et magnétiques peuvent causer des ennuis pour certains stimulateurs cardiaques.
2. L'exposition à des champs électriques et magnétiques peut avoir des effets néfastes inconnus pour la santé.
3. Les soudeurs doivent suivre les procédures suivantes pour minimiser l'exposition aux champs électriques et magnétiques :
   A. Acheminez l'électrode et les câbles de masse ensemble. Fixez-les à l'aide d'une bande adhésive lorsque possible.
   B. Ne jamais enrouler la torche ou le câble de masse autour de votre corps.
   C. Ne jamais vous placer entre la torche et les câbles de masse. Acheminez tous les câbles sur le même côté de votre corps.
   D. Branchez le câble de masse à la pièce à traiter le plus près possible de la section à souder.
   E. Veillez à garder la source d'alimentation pour le soudage et les câbles à une distance appropriée de votre corps.



**LES VAPEURS ET LES GAZ -- peuvent causer un malaise ou des dommages corporels, plus particulièrement dans les espaces restreints. Ne respirez pas les vapeurs et les gaz. Le gaz de protection risque de causer l'asphyxie. Par conséquent :**

1. Assurez en permanence une ventilation adéquate dans l'aire de travail en maintenant une ventilation naturelle ou à l'aide de moyens mécanique. N'effectuez jamais de travaux de soudage, de coupage ou de gougeage sur des matériaux tels que l'acier galvanisé, l'acier inoxydable, le cuivre, le zinc, le plomb, le berylliym ou le cadmium en l'absence de moyens mécaniques de ventilation efficaces. Ne respirez pas les vapeurs de ces matériaux.
2. N'effectuez jamais de travaux à proximité d'une opération de dégraissage ou de pulvérisation. Lorsque la chaleur
   ou le rayonnement de l'arc entre en contact avec les vapeurs d'hydrocarbure chloré, ceci peut déclencher la formation de phosgène ou d'autres gaz irritants, tous extrêmement toxiques.
3. Une irritation momentanée des yeux, du nez ou de la gorge au cours d'une opération indique que la ventilation n'est pas adéquate. Cessez votre travail afin de prendre les mesures nécessaires pour améliorer la ventilation dans l'aire de travail. Ne poursuivez pas l'opération si le malaise persiste.
4. Consultez ANSI/ASC Standard Z49.1 (à la page suivante) pour des recommandations spécifiques concernant la ventilation.

**5. AVERTISSEMENT : Ce produit, lorsqu'il est utilisé dans une opération de soudage ou de coupage, dégage des vapeurs ou des gaz contenant des chimiques considéres par l'état de la Californie comme étant une cause des malformations congénitales et dans certains cas, du cancer. (California Health & Safety Code §25249.5 et seq.)**



**MANIPULATION DES CYLINDRES -- La manipulation d'un cylindre, sans observer les précautions nécessaires, peut produire des fissures et un échappement dangereux des gaz. Une brisure soudaine du cylindre, de la soupape ou du dispositif de surpression peut causer des blessures graves ou mortelles. Par conséquent :**

1. Utilisez toujours le gaz prévu pour une opération et le détendeur approprié conçu pour utilisation sur les cylindres de gaz comprimé. N'utilisez jamais d'adaptateur. Maintenez en bon état les tuyaux et les raccords. Observez les instructions d'opération du fabricant pour assembler le détendeur sur un cylindre de gaz comprimé.
2. Fixez les cylindres dans une position verticale, à l'aide d'une chaîne ou une sangle, sur un chariot manuel, un châssis de roulement, un banc, un mur, une colonne ou un support convenable. Ne fixez jamais un cylindre à un poste de travail ou toute autre dispositif faisant partie d'un circuit électrique.
3. Lorsque les cylindres ne servent pas, gardez les soupapes fermées. Si le détendeur n'est pas branché, assurez-vous que le bouchon de protection de la soupape est bien en place. Fixez et déplacez les cylindres à l'aide d'un chariot manuel approprié. Toujours manipuler les cylindres avec soin.
4. Placez les cylindres à une distance appropriée de toute source de chaleur, des étincelles et des flammes. Ne jamais amorcer l'arc sur un cylindre.
5. Pour de l'information supplémentaire, consultez CGA Standard P-1, "Precautions for Safe Handling of Compressed Gases in Cylinders", mis à votre disposition par le Compressed Gas Association, 1235 Jefferson Davis Highway, Arlington, VA 22202.

**ENTRETIEN DE L'ÉQUIPEMENT -- Un équipement entretenu de façon défectueuse ou inadéquate peut causer des blessures graves ou mortelles. Par conséquent :**

1. Efforcez-vous de toujours confier les tâches d'installation, de dépannage et d'entretien à un personnel qualifié. N'effectuez aucune réparation électrique à moins d'être qualifié à cet effet.
2. Avant de procéder à une tâche d'entretien à l'intérieur de la source d'alimentation, débranchez l'alimentation électrique.
3. Maintenez les câbles, les fils de mise à la terre, les branchements, le cordon d'alimentation et la source d'alimentation en bon état. N'utilisez jamais un équipement s'il présente une défectuosité quelconque.
4. N'utilisez pas l'équipement de façon abusive. Gardez l'équipement à l'écart de toute source de chaleur, notamment des fours, de l'humidité, des flaques d'eau, de l'huile ou de la graisse, des atmosphères corrosives et des intempéries.
5. Laissez en place tous les dispositifs de sécurité et tous les panneaux de la console et maintenez-les en bon état.
6. Utilisez l'équipement conformément à son usage prévu et n'effectuez aucune modification.

**INFORMATIONS SUPPLÉMENTAIRES RELATIVES À LA SÉCURITÉ -- Pour obtenir de l'information supplémentaire sur les règles de sécurité à observer pour l'équipement de soudage à l'arc électrique et le coupage, demandez un exemplaire du livret "Precautions and Safe Practices for Arc Welding, Cutting and Gouging", Form 52-529.**

Les publications suivantes sont également recommandées et mises à votre disposition par l'American Welding Society, 550 N.W. LeJuene Road, Miami, FL 3300 AVS6 :

1. ANSI/ASC Z49.1 - "Safety in Welding and Cutting"
2. AWS C5.1 - "Recommended Practices for Plasma Arc Welding"
3. AWS C5.2 - "Recommended Practices for Plasma Arc Cutting"
4. AWS C5.3 - "Recommended Practices for Air Carbon

**SIGNIFICATION DES SYMBOLES**

**Ce symbole, utilisé partout dans ce manuel, signifie "Attention" ! Soyez vigilant ! Votre sécurité est en jeu.**

**DANGER**

**Signifie un danger immédiat. La situation peut entraîner des blessures graves ou mortelles.**

**AVERTISSEMENT**

**Signifie un danger potentiel qui peut entraîner des blessures graves ou mortelles.**

**ATTENTION**

**Signifie un danger qui peut entraîner des blessures corporelles mineures.**

- *Arc voltage feeder capable of use with Constant Current (CC) or Constant Voltage (CV) units*
- *Available with "CC" torch connection*
- *4 roll drive stand*
- *Secondary contactor*
- *Built for harsh environments such as construction sites, pipe lines, shipyards, offshore, general fabrication, mobile welding rigs and more*
- *Totally enclosed, impact-resistant case protects welding wire from dirt, metal grit, moisture and other contaminants.*
- *Flame retardant, molded plastic case will stand extreme abuse like hot slag, grinding sparks, corrosive chemicals, knocks, bumps, drops and more*
- *Operates with reverse polarity (wire DC +) or straight polarity (wire DC-)*
- *Permanent magnet drive motor with PWM drive, solid state control - provides powerful, dependable wire feeding and controlled wire acceleration for smooth arc starts and chatter-free solenoid operation*
- *Electronic Dynamic Braking*
- *Safety features include insulated case, low voltage torch trigger circuit and overload protection*
- *Designed to meet the most rigid standards. CSA certified for USA and Canadian requirements. Meets IEC-974-1 specifications.*





**MobileFeed 300 AVS Feeder**
(**AVS** = **A**rc **V**oltage **S**ensing)

## *Ordering Information*

Each MobileFeed wire feeder includes gas solenoid and dual groove feed rolls and digital meter.

**MobileFeed 300 AVS LC40** ..... 0558005729
**MobileFeed 300 AVS LC40 Push/Pull** ..... 0558005745
Includes .045 - 1/16 in. (1.2 - 1.6 mm) serrated groove drive rolls.

**MobileFeed 300 AVS OKC CE** ..... 0558005728
**MobileFeed 300 AVS OKC Push/Pull CE** ... 0558005832
Includes .035 - .045 in. (0.9 - 1.2 mm) V groove drive rolls.

**Note:**
0558005729 and 0558005745 have LC40 type cable connector
and
0558005728 and 0558005832 have OKC type cable connector.

## *Specifications*

**MobileFeed 300 AVS**
Wire Speed Range* ..... 50 - 800 ipm (1.3 - 20.3 m/min)
* actual speed range will depend on the arc voltage
Wire Diameter Capacity ..... .030 - 5/64 in. (0.8 - 2.0 mm)
Primary Input** (open circuit voltage or arc voltage)
Minimum ..... 16.5vdc
Maximum ..... 100vdc (113v peak)
** not for use with AC power
Weight ..... 32 lbs (14.5 kg)

### Common to MobileFeed 300 AVS

Standard - 2-in (5.1 cm) ID spindle hub
12 in. OD (30.5 cm) spools - no adaptor required

### Physical Dimensions

Case W x H x L ..... 8.56" x 17.19" x 20.69"
..... (217mm x 437mm x 526mm)

MobileFeed feeders will fit through 17.75 in. (451mm) diameter hole.

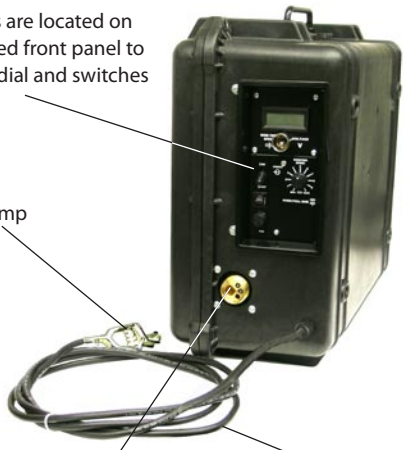
## *Required Accessories*

Drive Rolls & Guide Tubes ..... **see table on next page**



Shock mounts and a flexible base provide "give" to the case enabling the wire feeder to survive a drop, even fully loaded

Wire drive system uses dual groove feed rolls



Controls are located on a recessed front panel to protect dial and switches

Clamp

Voltage pickup cable is included with MobileFeed 300 AVS

Built-in, insulated quick connector - no extra gas hoses or switch cables hanging from the feeder

## Drive Rolls and Guide Tubes for: MobileFeed 300 AVS

| Wire Diameter | Desc. | +Roll | Qty | Outlet Guide Tube EURO | Qty | Center Guide | Qty | Inlet Guide | Qty |
|---|---|---|---|---|---|---|---|---|---|
| .030 in. (0.8 mm) | V-Groove | 0369 557 002 | 2 | 0558001077 | 1 | 0558001757 | 1 | 0558001758 | 1 |
| .040 in. (1.0 mm) | V-Groove | 0369 557 002 | 2 | 0558001078 | 1 | 0558001757 | 1 | 0558001758 | 1 |
| .040 in. (1.0 mm) | V-Groove | 0369 557 003* | 2 | 0558001078 | 1 | 0558001757 | 1 | 0558001758 | 1 |
| .045 in. (1.2 mm) | V-Groove | 0369 557 003* | 2 | 0558001078 | 1 | 0558001757 | 1 | 0558001758 | 1 |
| .045 in. (1.2 mm) | V-Groove X2 | 0369 557 010 | 2 | 0558001078 | 1 | 0558001757 | 1 | 0558001758 | 1 |
| .052 in. (1.4 mm) | V-Groove | 0369 557 013 | 2 | 0558001079 | 1 | 0558001757 | 1 | 0558001758 | 1 |
| .062 in. (1.6 mm) | V-Groove | 0369 557 013 | 2 | 0558001079 | 1 | 0558001757 | 1 | 0558001758 | 1 |
| .030 in. (0.8 mm) | K-Cored | 21160 | 2 | 0558001077 | 1 | 0558001757 | 1 | 0558001758 | 1 |
| .035 in. (0.9 mm) | K-Cored | 21160 | 2 | 0558001078 | 1 | 0558001757 | 1 | 0558001758 | 1 |
| .045 in. (1.2 mm) | K-Cored | 21161 | 2 | 0558001079 | 1 | 0558001757 | 1 | 0558001758 | 1 |
| .052 in. (1.4 mm) | K-Cored | 21161 | 2 | 0558001079 | 1 | 0558001757 | 1 | 0558001758 | 1 |
| 1/16 in. (1.6 mm) | K-Cored | 21161 | 2 | 0558001079 | 1 | 0558001757 | 1 | 0558001758 | 1 |
| 5/64 in. (2.0 mm) | K-Cored | 21162 | 2 | 0558001079 | 1 | 0558001757 | 1 | 0558001758 | 1 |
| 3/64 in. (1.2 mm) | U-Soft | 21159 | 2 | 0558001898 | 1 | 0558001895 | 1 | 0558001758 | 1 |
| 1/16 in. (1.6 mm) | U-Soft | 21159 | 2 | 0558001898 | 1 | 0558001895 | 1 | 0558001758 | 1 |

*As delivered on 0558005796, 0558005728 and 0558005832

Two lower drive rolls are required for four roll drive systems.

+ Use flat, plain pressure roll(s) (P/N 0455 907 001) supplied with wire feeder.

## 1.1 GENERAL

This manual has been prepared especially for use in familiarizing personnel with the design, installation, operation, maintenance, and troubleshooting of this equipment. All information presented here-in should be given careful consideration to assure optimum performance of this equipment.

## 1.2 RECEIVING-HANDLING

Prior to installing this equipment, clean all packing material from around the unit and carefully inspect for any damage that may have occurred during shipment. Any claims for loss or damage that may have occurred in transit must be filed by the purchaser with the carrier. A copy of the bill of lading and freight bill will be furnished by the carrier on request if occasion to file claim arises.

## 1.3 DESCRIPTION

The MobileFeed 300 AVS is a portable wire feeder designed for maximum versatility. The unit is powered entirely on the arc voltage from a constant current or constant voltage welding power source. All models include a secondary contactor for added operator safety.

The unit is designed for use with hard, soft, and cored electrodes (gas shielded or self-shielded) from 0.03" (0.8mm) through 5/64" (1.98mm) diameter with wire feed speed from 50 to 800 IPM (1.8-20.3 m/min.). The feeder components are totally enclosed in a rugged case for optimum mobility.

**NOTE**

The MobileFeed 300 AVS is not recommended for short-circuiting transfer using constant current power sources due to the limited short circuit current available on constant current power sources.

**TABLE 1-1 SPECIFICATIONS**

| | |
|---|---|
| Wire Feed Speed | 50 - 800 in./min. (1.3 - 20.3 m/min.) |
| Maximum open circuit voltage | 100 vdc (113 vdc peak) |
| Wire diameters | Hard: .030" (0.8mm), .035" (0.9mm), .045" (1.2mm), .052" (1.4mm), 1/16" (1.6mm)<br>Soft: .035" (0.9mm), 3/64" (1.2mm), 1/16" (1.6mm)<br>Cored: .030" (0.8mm), .035" (0.9mm), .045" (1.2mm), .052" (1.4mm), 1/16" (1.6mm), 5/64" (2.0mm) |
| Wire package | 12" (305mm) diameter spool |
| Motor type | DC permanent magnet pre-lubricated, totally enclosed |
| Brake type (wire) | Drag |
| Control | Solid State |
| Feed System | Push |
| On-Off Switch | Standard |
| Run in start | Automatic if required. The MobileFeed 300 AVS will fit through a 17.75" (451mm) dia. hole. |
| Height | 17.19" (437mm) |
| Width | 8.56" (217mm) |
| Length | 20.69" (526mm) |
| Weight (with contactor, without spool) | 32 lbs. (14.5Kg) |
| Enclosure class | IP-23 |
| Permissible load at | |
| 80% duty cycle | 450 A |
| 100% duty cycle | 400 A |
| Input voltage range | 15/99V @ 7A |

## 2.1 DRIVE ROLLS AND GUIDE TUBES

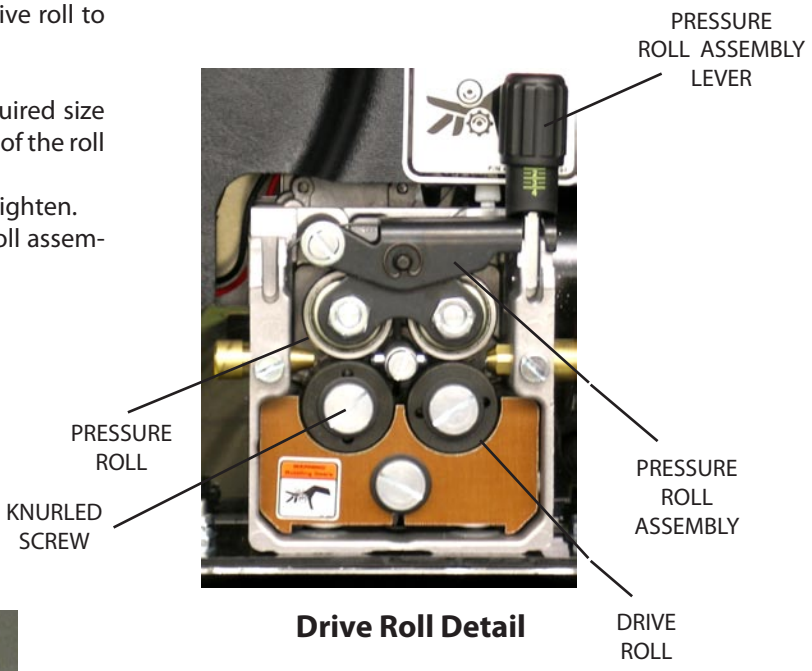
The drive rolls have two grooves. The unit is supplied ready to feed 0.045", .052" or 1/16" (1.2 to 1.6mm) diameter cored wires or .035 - .045 (0.9 - 1.2mm) hard wires depending on the part number ordered. (Other drive rolls are available to feed other sizes of hard wire, soft wire, and cored wire. See Drive Roll and Guide Tube Selection Chart and Table 1-1).

A. Release the pressure roll assembly lever and lift the Pressure Roll Assembly upward.
B. Remove the knurled screw holding the drive roll to the gear adaptor.
C. Check and install proper guide tubes.
D. Reverse or replace drive rolls with the required size designation which is imprinted on the side of the roll facing out.
E. Replace the screw removed in Step B and tighten.
F. Thread the wire and secure the pressure roll assembly.

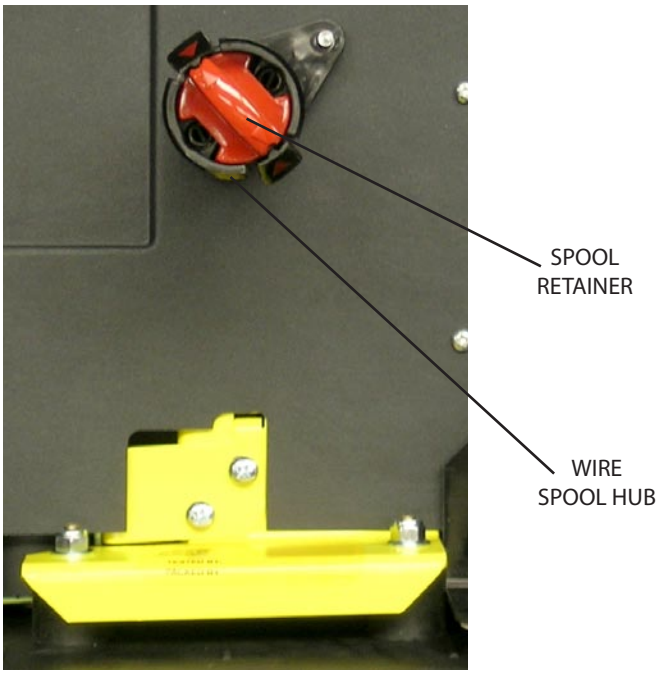
## 2.2 WELDING WIRE INSTALLATION

Install a spool of welding wire on the hub as follows:

A. Turn the red spool retainer in the hub as shown in picture below.
B. Place the wire spool on the hub to rotate counterclockwise as the wire is unwound; hub pin must engage the hole in the wire spool.
C. Turn the red spool retainer in the hub to lock the retaining tabs.




**Drive Roll Detail**




**Spindle Detail**

### 2.3 TORCH CONNECTIONS

The torch adaptor on the MobileFeed connects directly to the wire feeder wire drive assembly, power and shielding gas supply. Line up the torch connector with the wire feeder adaptor, push on firmly and hand tighten the locking collar on the Euro Connector.

**CAUTION**

**Make sure the torch chosen is of the proper rating for the welding current to be used, has the proper size and type of liner, the proper contact tip and the proper guide tube.**

### 2.4 SUPPLY CONNECTIONS

**WARNING**

**Before making any connections between the wire feeder and the welding power source, turn off power to the welding power source and the wire feeder.**

The MobileFeed 300 AVS can be used with either DCEP or DCEN polarity without modifications.

A. Connect the welding cable from the power source; positive terminal for gas shielded flux cored or solid wires, or negative for most gasless self-shielded cored wires, to the weld cable lug connection extending from the rear of the MobileFeed 300 AVS feeder.

**WARNING**

**Be sure to properly insulate this connection before applying power to the power source. Uninsulated cable and parts can arc when contacting a grounded surface. The arc may damage eyes or start a fire. Body contact with an uninsulated weld cable connector, or uncovered conductor can shock, possibly fatally.**

B. Connect a second welding cable (work lead) between the opposite polarity output connection on the power source and the work piece.
C. Connect the wire feeder work lead (voltage pick-up) alligator clip to the work piece.
D. If using with gas shielded wire, connect the inlet gas hose to the gas inlet connections on the rear of the feeder.

1. Make sure all hose and cable connections are tight.
2. Turn power source "ON" and close the contactor if power source is equipped with an output contactor control switch. Open circuit voltage must be present to operate the wire feeder.
3. Turn wire feeder power switch "ON".
4. Inspect all gas connections for leaks.

**WARNING**

**Unless starting to weld, do not allow the welding wire to touch a grounded metal surface. The welding wire becomes electrically hot when the secondary contactor is closed. Keep fingers clear of the drive rolls; they will start turning when the torch trigger is pressed.**

5. If using gas shielded wires, adjust the gas flowmeter to the desired flow rate by closing the gun trigger switch.
6. Turn power source and wire feeder OFF when not in use.

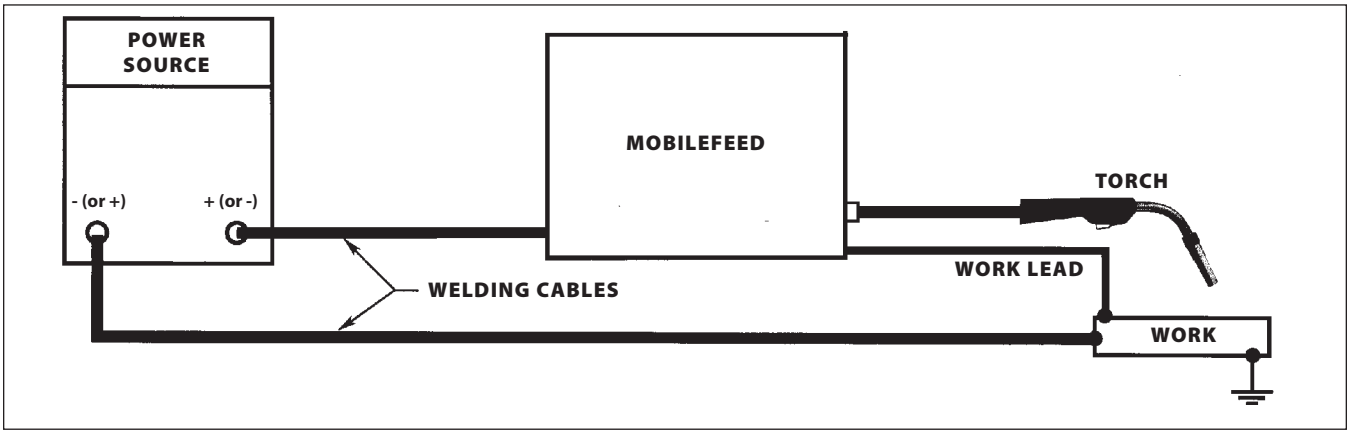



**Figure 2.2 - Typical Set-up of MobileFeed 300 AVS**

## 2.5 THREADING THE WELDING WIRE

**WARNING**

**When the wire feeder is connected to the power source, the work lead from the power source is connected to the work piece and the power source is energized, closing the torch trigger will cause the welding wire to become electrically hot and will cause the drive rolls to turn. Keep fingers clear!**

A. Turn OFF the power source and the wire feeder.
B. Release the pressure roll assembly lever and check for the proper drive roll, groove position and wire guides.

**CAUTION**

**Before threading welding wire, make sure the chisel point and burrs have been removed from the end of the wire to prevent the wire from jamming in the torch liner.**

C. Feed the wire from the spool through the inlet guide along the drive roll groove and into the outlet guide tube.
D. Lower the pressure roll assembly and adjust the drive roll pressure to assure no wire slippage, but not too tight to create excess pressure.
E. Turn ON the power source and the wire feeder. Close the torch trigger to feed wire through the torch.

## 2.6 BRAKE DRAG ADJUSTMENT

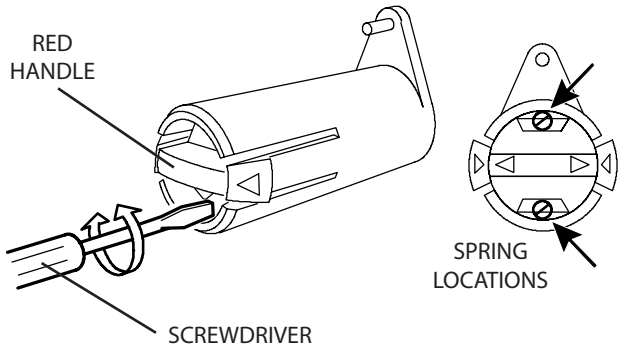
Brake disc friction should provide enough drag to keep the wire spool from spinning freely after the wire feed stops.

The brake hub is adjusted when delivered, if readjustment is required, follow the instructions below. Adjust the brake hub so that wire is slightly slack when wire feed stops.

**Adjusting the braking torque:**
- Turn the red handle to the locked position.
- Insert a screwdriver into the springs in the hub.

Turn the springs clockwise to reduce the braking torque

Turn the springs counterclockwise to increase the braking torque. Turn both springs through the same amount.



## 3.1 CONTROLS

### 3.1.1 POWER SWITCH

The ON-OFF switch on the front of the wire feeder case energizes the wire feeder when the feeder is connected to the power source and the work piece, and the power source is turned ON with the contactor closed.

### 3.1.2 WIRE FEED SPEED (ARC VOLTAGE CONTROL)

The wire feed speed is controlled by the wire feed speed dial on the front of the wire feeder case. When connected to a constant voltage (cv) type power source, the wire feed speed dial controls the welding current. Turning the dial clockwise increases welding current; turning it counterclockwise decreases welding current.

When connected to a constant current (cc) type power source, the wire feed speed dial controls the arc voltage. Turning the wire feed speed dial clockwise decreases arc voltage; turning it counterclockwise increases arc voltage. The actual wire feed speed for any given setting varies with the arc voltage. Increasing arc voltage causes an increase in wire feed speed.

The MobileFeed 300 AVS wire feeder is equipped with automatic "Slow wire run-in". If the wire feeder senses that the power source output voltage is in excess of 33 volts, the "run-in" wire speed automatically decreases for a fixed period of time (250ms) to improve arc starts. When the arc is established, the wire feed speed is controlled by the wire feed speed control knob on the MobileFeed front panel.

### 3.1.3 WIRE FEED SPEED (CONSTANT SPEED)

The MobileFeed 300 AVS can be switched to a "Non" Voltage Control Mode where the wire feed speed remains relatively constant and will not change speed with changes in arc voltage. Locate switch SW1 on the PC board and position S1 and S2. See Figure 3-2. Factory settings are as follows: S1 - closed, S2 - open.

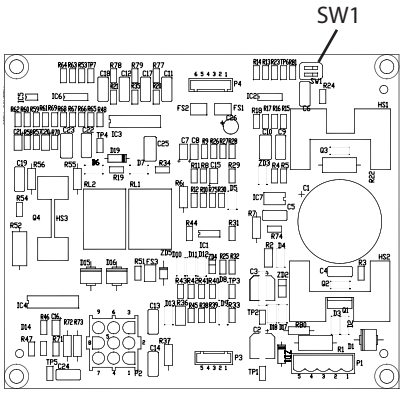



**Figure 3.2**

**DIP Switch Functions:**

The DIP switches are located on the control PCB mounted inside the upper compartment of the wire feeder. See following table for switch positions and description.

### 3.1.4 5 amp CIRCUIT BREAKER (CB1)

This resettable 5 amp circuit breaker, in series with motor armature, protects the control board from damage if the motor is stalled.

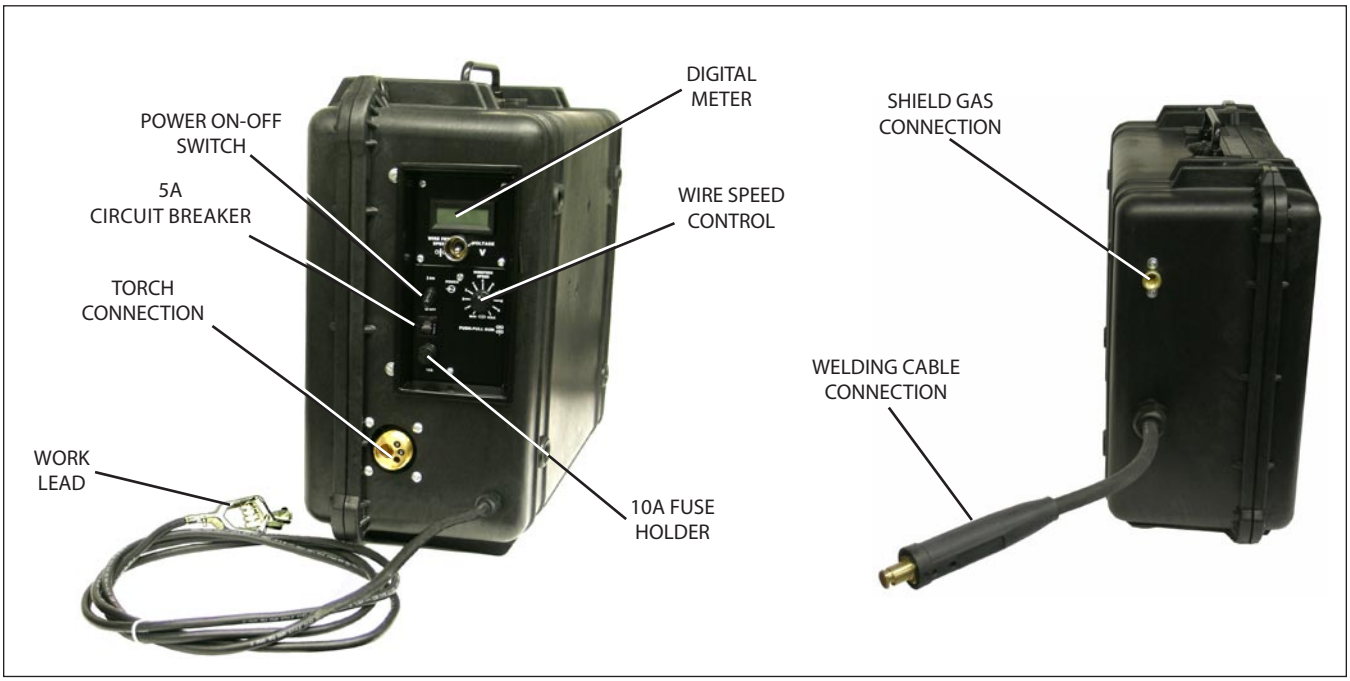
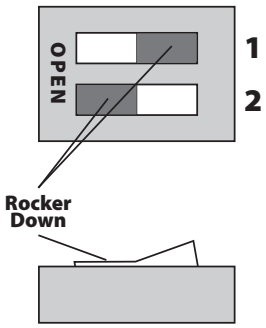
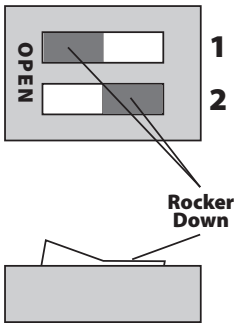



**Figure 3.1 - Controls and Connections, MobileFeed 300 AVS**

## MobileFeed Dip Switch Table

| Switch Position OPEN (OFF) CLOSED (ON) | Description |
|---|---|
|  | **Factory Setting - Constant Current Operation ( "Voltage Control Mode" )**<br>In this operation mode the MobileFeed feeder is ready for connection to a " Constant Current " power source which typically provides a high open circuit voltage and low short circuit current which makes arc starting difficult. Therefore, "slow run-in" of the wire is automatically enabled if OCV exceeds 33 volts to provide good and reliable arc starting. The arc length during welding is determined by a combination of the wire feed speed knob position (MobileFeed feeder front panel) and the weld "Current" setting on the CC power source. When a good welding condition is achieved, the arc length will be maintained by changes in wire feed speed provided by arc voltage control. Variables causing changes in arc voltage, for example, wire "stick-out", wire density or shielding variations, will cause the wire feed speed to compensate to maintain the arc length preset. |
|  | **Alternate Setting - Constant Voltage Operation ( "Constant Wire Feed Speed" )**<br>In this operation mode the feeder is ready for connection to " Constant Voltage " power source which is typically used for most GMAW (MIG/MAG) welding. CV power sources provide high short circuit currents for good arc starting and wire burn-off. "Slow run-in" of the wire is automatically disabled. The arc length while welding is determined by a combination of the wire feed speed knob position (MobileFeed feeder front panel) and the weld "Voltage" setting on the CV power source. When a good welding condition is achieved, the arc length will be maintained by the power source and the wire feed speed will remain constant. Any variations in wire "stick-out", wire density or shielding variations, could cause the arc length (arc voltage) variations. |

**NOTE:**

If both switches are placed in the OPEN (Off ) position the wire feed motor is disabled and the motor will NOT run.

## 3.2 OPERATING PROCEDURES

### 3.2.1 OPERATING SAFETY PRECAUTIONS

Comply with all ventilation, fire and other safety requirements for arc welding as established in the SAFETY Section at the front of this manual.

A. Because of the radiant energy of the welding arc and the possibility of drawing an arc before the helmet is lowered over the face, the operator should wear flash goggles with filter lenses under his helmet. The helmet filter plate should be shade number 11 (nonferrous) or 12 (ferrous). All those viewing the arc should use helmets with filter plates, as well as flash goggles. Nearby personnel should wear flash goggles.

B. The radiant energy of the arc can decompose chlorinated solvent vapors, such as trichloroethane and perchlorethylene, to form phosgene, even when these vapors are present in low concentrations. DO NOT weld where chlorinated solvents are present in atmospheres in or around the arc.

C. DO NOT touch the electrode, contact tip or metal parts when power is ON: all are electrically energized (HOT) and can cause a possibly fatal shock. DO NOT allow electrode to touch grounded metal. It will create an arc flash that can injure eyes. It may also start a fire or cause other damage.

D. When working in a confined space, be sure it is safe to enter. The confined space should be tested for adequate oxygen (at least 19%) with an approved oxygen measuring instrument. The confined space should not contain toxic concentrations of fumes or gases. If this cannot be determined, the operator should wear an approved air supplied breathing apparatus. Avoid gas leaks in a confined space, as the leaked gas can dangerously reduce oxygen concentration in the breathing air. DO NOT bring gas cylinders into confined spaces. When leaving a confined space, shut OFF gas supply at the source to prevent gas from leaking into the space. Check the breathing atmosphere in the confined space to be sure it is safe to reenter.

E. Never operate the equipment at currents greater than the rated ampere capacity. Overheating will occur.

F. Never operate equipment in a damp or wet area without suitable insulation for protection against shock. Keep hands, feet and clothing dry at all times.

G. Whenever the equipment is left unattended, turn OFF all control power, power supply switches and gas supplies. Open the main line switch.

H. Wear dark substantial clothing to protect exposed skin from arc burn, sparks and flying hot metal.

I. Turn off welding power before adjusting or replacing electrodes.

**WARNING**

**When the power switch is ON, and torch trigger is depressed, the electrode wire becomes electrically hot and the wire feed rolls are activated. Do not touch the wire as it may cause a possibly fatal shock. Unless welding, do not allow wire to touch a grounded metal surface as it will cause an arc flash. Keep clear of feed rolls and drive gears.**

**WARNING**

**Prior to welding, it is imperative that proper protective clothing (welding coat and gloves) and eye protection (glasses and/or welding helmet) be put on. Failure to comply may result in serious injury.**

**CAUTION**

**Do not terminate the arc by removing the torch from the weld area. Release the torch trigger to stop welding before removing the torch.**

**WARNING**

**Failure to shut OFF shield gas in a confined space may result in a build-up of fumes, displacing oxygen.**

### 3.3 CHANGING METER DISPLAY - IPM TO MPM

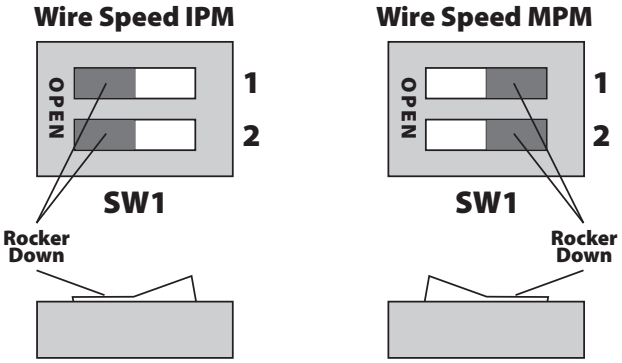
**WARNING**

**TO PREVENT ACCIDENTAL ELECTRIC SHOCK, BE SURE CONTROL CABLE IS DISCONNECTED FROM POWER SOURCE BEFORE WORKING INSIDE THE WIRE FEEDER.**

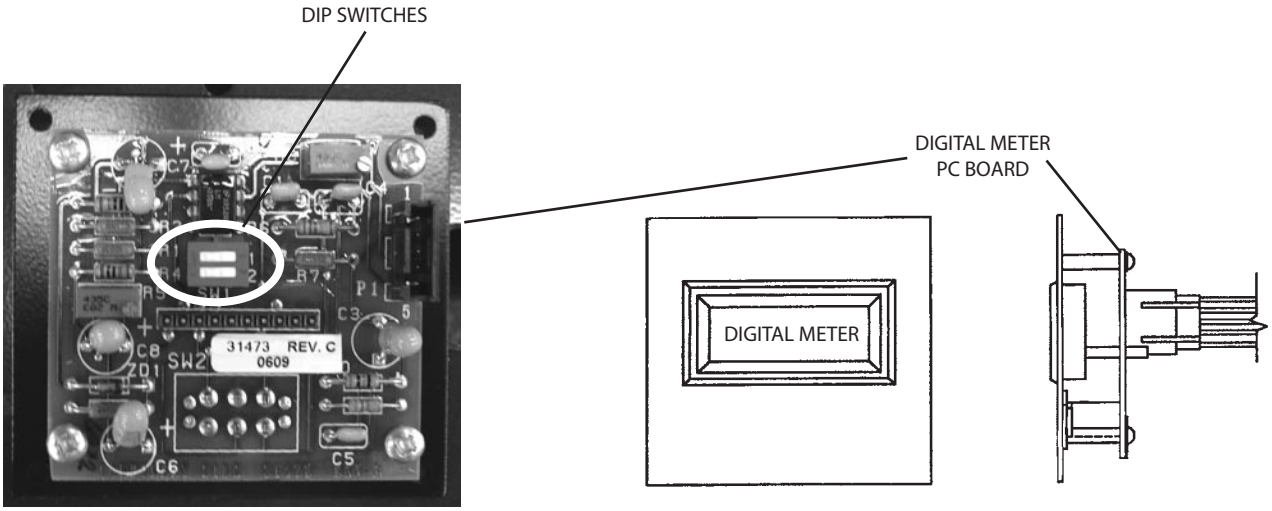
1. Make sure control cable is removed from the power source.

2. Remove meter panel from front panel of the wire feeder. Retain mounting screws.

3. Check the setting of the "dip switches" on the digital meter board. These switches can be set up for meter to read in inches per minute (IPM) or in meters per minute (MPM) as shown below. The meter is factory set in IPM positions.




Set the switch on the digital meter to the desired mode of operation. If the IPM mode is selected, the meter will read the PRE-SET wire speed when not feeding wire and the ACTUAL wire speed when feeding wire. If the VOLTS mode is selected, the meter will only read the ACTUAL voltage.



### 3.4 SETTING A WELDING PROCEDURE




**QUICK SET-UP PROCEDURE**

1. For Constant Voltage (CV) Power Source - Set the arc voltage desired on the P/S.
2. For Constant Current (CC) power source - Set the weld CURRENT desired.
3. On the MobileFeed Unit - Set the wire feed speed knob at #5.

## WELD DATA TABLE

| WIRE / DIAMETER | | WIRE FEED SPEED (IPM) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 |
| FLUX CORE E70T-1 & 2 | .045 | | | 29/150 | | 29/210 | | 30/250 | | 33/290 | | 34/330 | |
| | .052 | | 25/155 | | 30/300 | | 33/460 | | 36/500 | | | 37/500 | |
| | 1/16 | | 27/190 | | 30/300 | 33/365 | 33/410 | 33/450 | | 39/500 | | | |
| METAL CORE | .045 | | | | | 28/250 | 29/260 | 30/270 | 32/300 | 32/350 | | | |
| | .052 | | | | 29/275 | 29/300 | 30/325 | | | | | | |
| | 1/16 | | | 30/300 | 30/350 | 32/400 | 34/450 | | | | | | |
| STEEL SOLID WIRE | .035 | | | | | | | 25/180 | 25/200 | 26/215 | 27/230 | 28/245 | |
| | .045 | | | | | 25/260 | 26/280 | 27/300 | 28/320 | 30/340 | | | |
| | 1/16 | | | 26/290 | 27/340 | 30/400 | | | | | | | |
| AL / Si ALUMINUM | 3/64 | | | 25/110 | 25/140 | 26/150 | 26/190 | 27/205 | 27/220 | | | | |
| | 1/16 | | | 26/200 | 23/260 | 30/300 | 32/350 | | | | | | |
| AL / Mg ALUMINUM | 3/64 | | 22/100 | 23/150 | 23/175 | 24/190 | 25/205 | 25/220 | | | | | |
| | 1/16 | | | 23/200 | 25/250 | 27/280 | 27/290 | 28/340 | | | | | |
| | | ARC VOLTS / AMPS (WELD CURRENT) | | | | | | | | | | | |

### MobileFeed 300 with Digital meter and CONSTANT CURRENT Power Source

1. Using the table, select the weld VOLTAGE / CURRENT needed for the wire type and diameter to be welded.
2. Set the power supply CURRENT using the current control knob on the front panel of the power source.
3. Read the WIRE FEED SPEED (WFS) at the top of the column for the wire type, diameter and weld VOLTAGE / CURRENT chosen.
4. Flip the MobileFeed digital display switch to the WFS position.
5. Release the pressure roll assembly and pull the gun trigger then set the WFS on the digital display using the VOLTS / WFS knob.
6. Reset the pressure roll assembly and strike an arc then trim the arc length as needed using the VOLTS / WFS knob.

### MobileFeed 300 with Digital meter and CONSTANT VOLTAGE Power Source

1. Using the table, select the weld VOLTAGE / CURRENT needed for the wire type and diameter to be welded.
2. Set the power supply VOLTAGE using the voltage control knob on the front panel of the power source.
3. Read the WIRE FEED SPEED (WFS) at the top of the column for the wire type, diameter and weld VOLTAGE / CURRENT chosen.
4. Flip the MobileFeed digital display switch to the WFS position.
5. Release the pressure roll assembly and pull the gun trigger then set the WFS on the digital display using the VOLTS / WFS knob.
6. Reset the pressure roll assembly and strike an arc then trim the arc length as needed using the VOLTS / WFS knob.

**NOTE**

Using the "Constant Feed" dip switch settings when using a CC power source is NOT RECOMMENDED. Extreme wire feed speed sensitivity exists making it difficult to set stable welding condition. The arc stability is very dependant on maintaining constant TTW distance which is almost impossible to control when welding manually. "Constant Speed" settings is only recommended for use with CV power sources.

Typical welding voltages for 5000 Aluminum are between 21 and 25 volts which limits the wire feed speed of the MobileFeed especially if trying to weld with 035" diameter 5356 alloy. Welding with wire diameters ≤3/64" and/or below 22 arc volts could cause problems with limited wire feed speed and the inability to achieve a good welding condition.

# WIRE FEED SPEED TABLE

| * Wire Speed Set | 19 V | 20 V | 21 V | 22 V | 23 V | 24 V | 25 V | 26 V | 27 V | 28 V | 29 V | 30 V | 31 V | 32 V | 33 V | 34 V |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Min | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 4 | 5 | 5 | 6 | 6 | 7 | 7 | 7 | 9 | 11 | 12 | 15 | 14 | 13 | 13 | 11 |
| 2 | 44 | 51 | 56 | 65 | 70 | 74 | 77 | 85 | 90 | 93 | 95 | 103 | 102 | 102 | 101 | 100 |
| 3 | 99 | 109 | 116 | 129 | 136 | 140 | 144 | 155 | 165 | 173 | 179 | 196 | 198 | 200 | 201 | 205 |
| 4 | 152 | 163 | 170 | 184 | 196 | 204 | 211 | 230 | 241 | 250 | 256 | 275 | 282 | 287 | 291 | 302 |
| 5 | 210 | 225 | 235 | 255 | 270 | 281 | 290 | 315 | 329 | 339 | 347 | 370 | 379 | 385 | 390 | 405 |
| 6 | 267 | 282 | 292 | 312 | 331 | 345 | 356 | 388 | 412 | 430 | 443 | 483 | 490 | 495 | 499 | 510 |
| 7 | 334 | 354 | 368 | 395 | 415 | 430 | 441 | 475 | 503 | 524 | 540 | 587 | 594 | 599 | 603 | 615 |
| 8 | 380 | 411 | 431 | 472 | 494 | 511 | 523 | 560 | 589 | 610 | 626 | 675 | 685 | 693 | 698 | 715 |
| 9 | 385 | 427 | 454 | 510 | 536 | 556 | 571 | 615 | 649 | 674 | 693 | 750 | 770 | 785 | 796 | 830 |
| Max | 395 | 435 | 462 | 515 | 544 | 565 | 581 | 630 | 667 | 695 | 716 | 779 | 803 | 820 | 833 | 873 |

* MobileFeed Wire Feed Speed Knob Position

**NOTE**

On many CV power sources the actual welding arc voltage is usually less the "Open Circuit Voltage" (OCV) set on the power source front panel. Therefore, an extra 3 to 6 volts should be added to the power source front panel setting to achieve the "actual" arc voltage needed or shown in the tables.

## 3.5 SHUTDOWN

A. Release torch trigger to break the arc.

B. When leaving the equipment unattended, always shut OFF and disconnect all power to the equipment and shut off the shielding gas supply at source.

## 4.1 MAINTENANCE

**WARNING**

**Be sure the branch circuit or main disconnect switch is OFF or electrical input circuit fuses are removed from the power source main supply before attempting any inspection or work on the inside of the wire feeder. Placing the power switch on the welding machine in the OFF position does not remove all power from inside of the equipment.**

**WARNING**

**Inspection, troubleshooting, and repair of this equipment should be undertaken by a competent individual having at least general experience in the maintenance and repair of semi-conductor electronic equipment. Maintenance or repair should not be undertaken by anyone not having such qualifications.**

As an aid in checking and servicing, refer to the following pages; Schematic Diagram and/or Wiring Diagram.

## 4.2 INSPECTION AND SERVICE

Keep equipment in clean and safe operating condition, free of oil, grease, and (in electrical parts) liquid and metallic particles which can cause short-circuits.

Regularly check cylinder valves, regulators, hoses, and gas connections for leaks with soap solution.

Check for and tighten loose hardware including electrical connections. Loose power connections overheat during welding.

Immediately replace all worn or damaged power cables and connectors. Check for frayed and cracked insulation, particularly in areas where conductors enter Equipment.

The electrode wire and all metal parts in contact with it are electrically energized while welding. Inspect these parts periodically for defective insulation and other electrical hazards.

**WARNING**

**If uninsulated cable and parts are not replaced, an arc caused by a bared cable or part touching a grounded surface may damage unprotected eyes or start a fire. Body contact with a bared cable, connector, or uncovered conductor can shock, possibly fatally.**

Keep power cables dry, free of oil and grease, and protected at all times from damage by hot metal and sparks.

Clean dirt and metal particles from drive roll groove weekly; replace roll if badly worn.

### 4.2.1 WIRE FEEDER

When soft wire is fed, the drive rolls may pick up metal from the wire surface. Accumulation on the rolls may score the wire with resulting unwanted friction and improper feeding.

Inspect the rolls regularly and clean them with a fine-wire power brush. Avoid roughening, or removing the hardness of groove surfaces in grooved rolls. Any roughening may score the wire, just as the accumulation being removed may do.

### 4.2.2 SOLENOID VALVE REPLACEMENT

If there is no gas flow through the wire feeder, the gas solenoid valve may be clogged or electrically malfunctioning and it should be replaced. When replacing the gas solenoid valve, the inlet (with the word IN) must face the rear of the unit.

### 4.2.3 GENERAL REPLACEMENT

The views in the Parts Section indicate wire drive and feeder parts.

### 4.3 TROUBLESHOOTING

If welding equipment does not work properly, inspect as follows:

A. With all power controls ON and other operating controls at required settings, visually check all power cables and connections for evidence of overheating or sparking.

**WARNING**

**To avoid shock, do not touch electrode wire or parts in contact with it, or uninsulated cable or connections.**

B. Check all gas hoses and connections, flowmeters, and regulators for possible sources of leakage, breakdown, or intermittent failure.

C. Isolate trouble to one part of the welding installation: primary power supply, power source, wire feeder, or wire guide train (casing, drive rolls, liners, and contact tip). If this inspection indicates trouble in the wire feeder, refer to the following pages; Schematic Diagram and/or Wiring Diagram.

**WARNING**

**Many troubleshooting situations require that the power remain on and that power terminals in the equipment carry voltage. Exercise extreme caution when working on "live" equipment. Avoid contact with electrical components, except when testing with an appropriate instrument.**

**CAUTION**

**Do not make any repairs to equipment unless you are fully qualified, as described in the maintenance section.**

NOTE:
Schematics on 279.4mm x 431.8mm
(11" x 17") paper are included
inside the back cover of this manual.

# 5.0 Replacement Parts

## 5.1 General

Always provide the serial number of the unit on which the parts will be used. The serial number is stamped on the unit nameplate.

## 5.2 Ordering

To ensure proper operation, it is recommended that only genuine ESAB parts and products be used with this equipment. The use of non-ESAB parts may void your warranty.

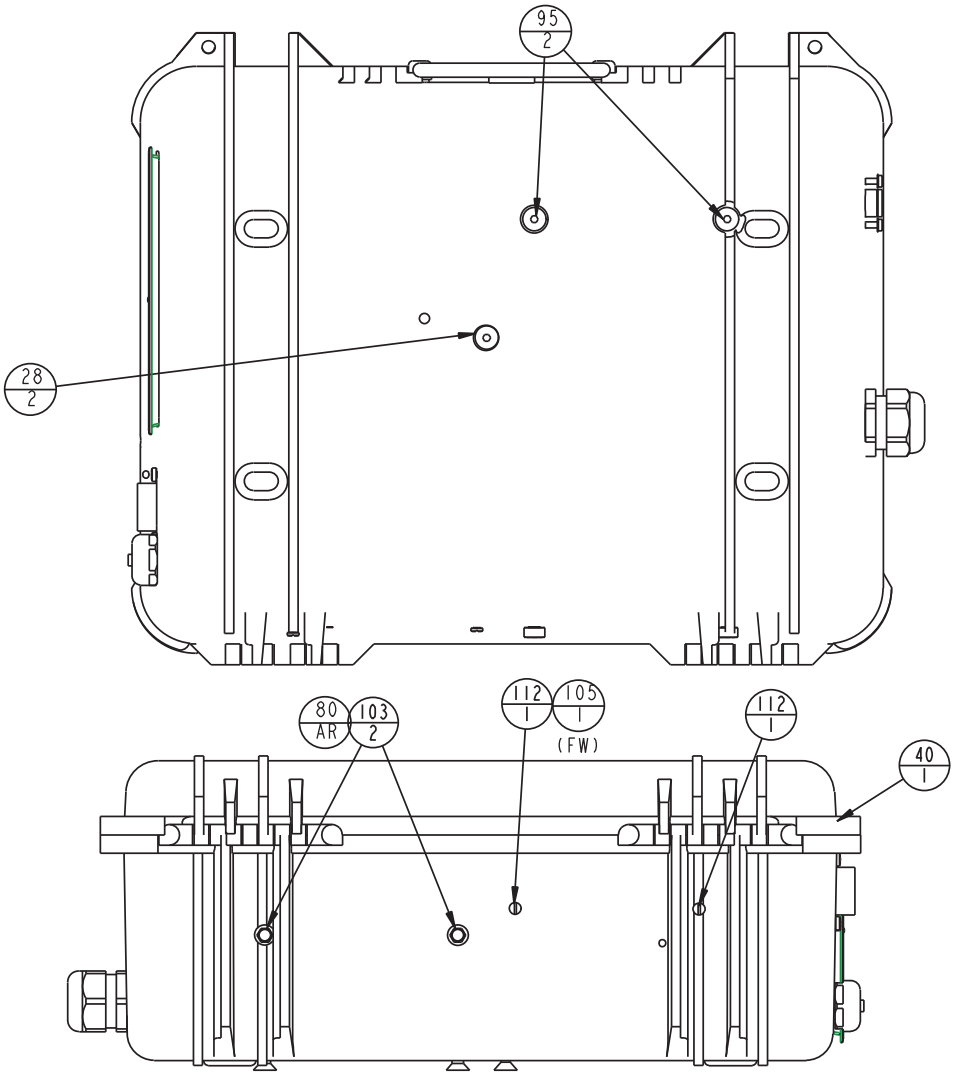
Replacement parts may be ordered from your ESAB Distributor.

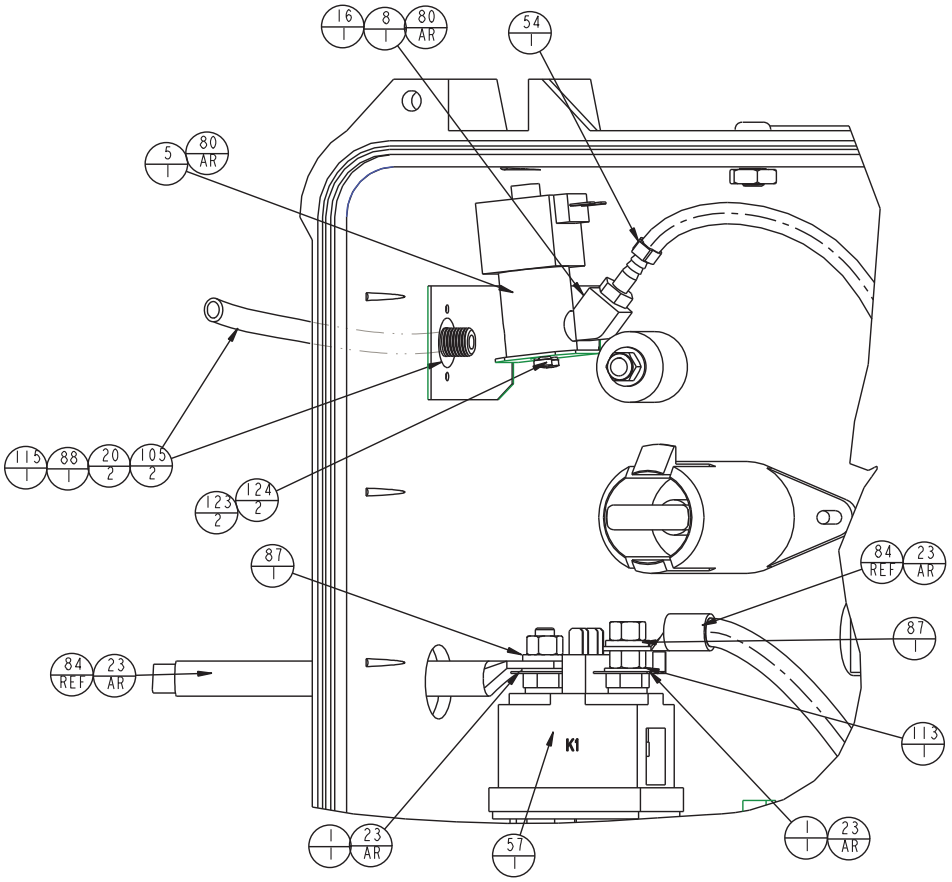
Be sure to indicate any special shipping instructions when ordering replacement parts.

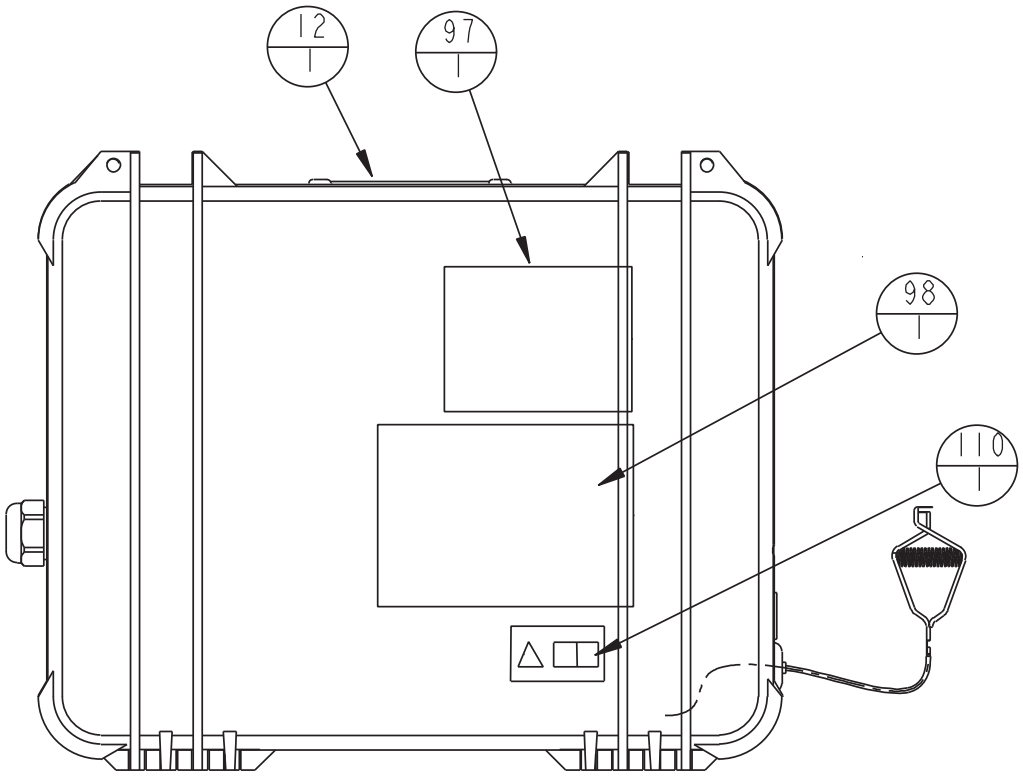
Refer to the Communications Guide located on the back page of this manual for a list of customer service phone numbers.

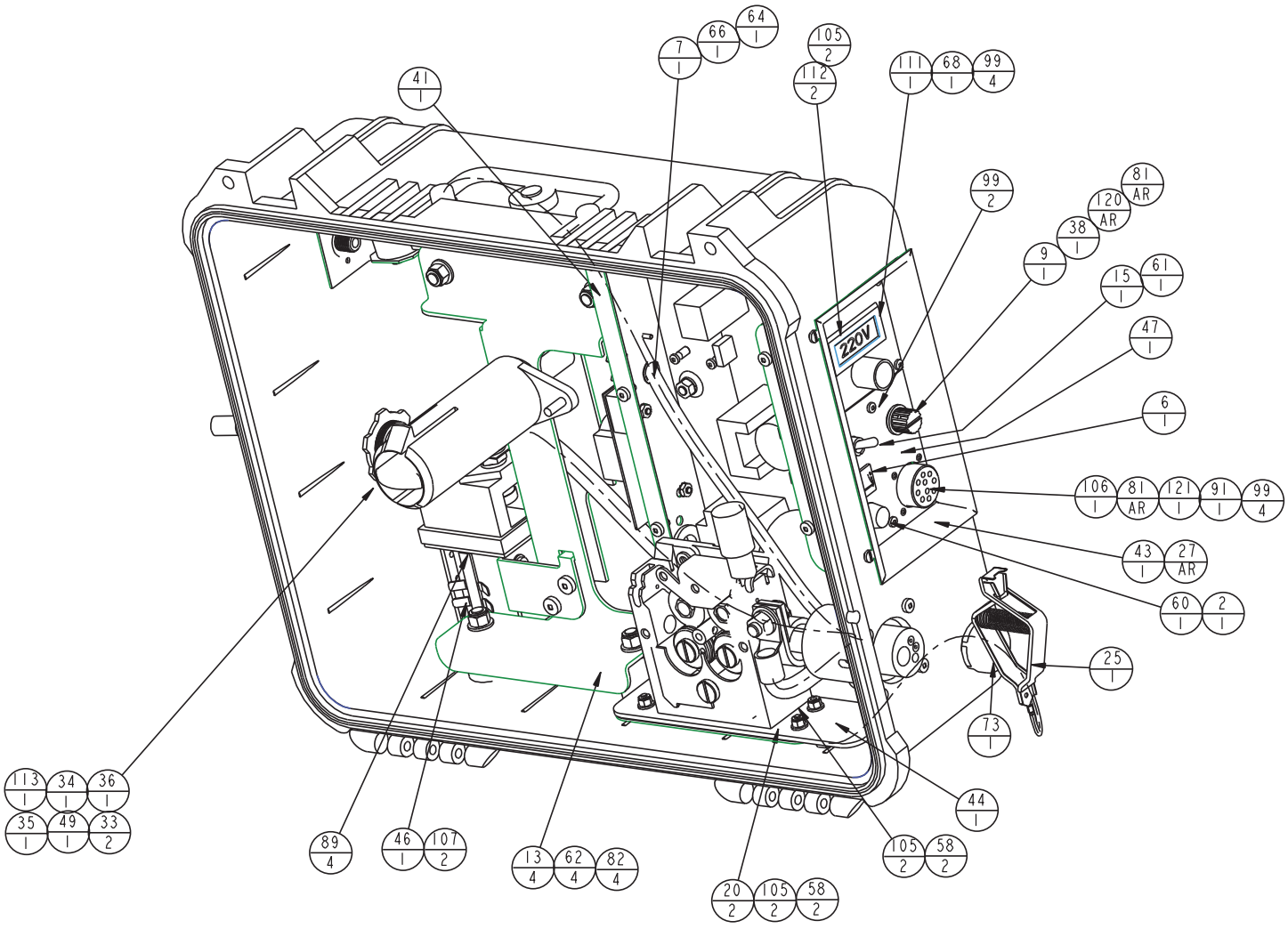
**Note**

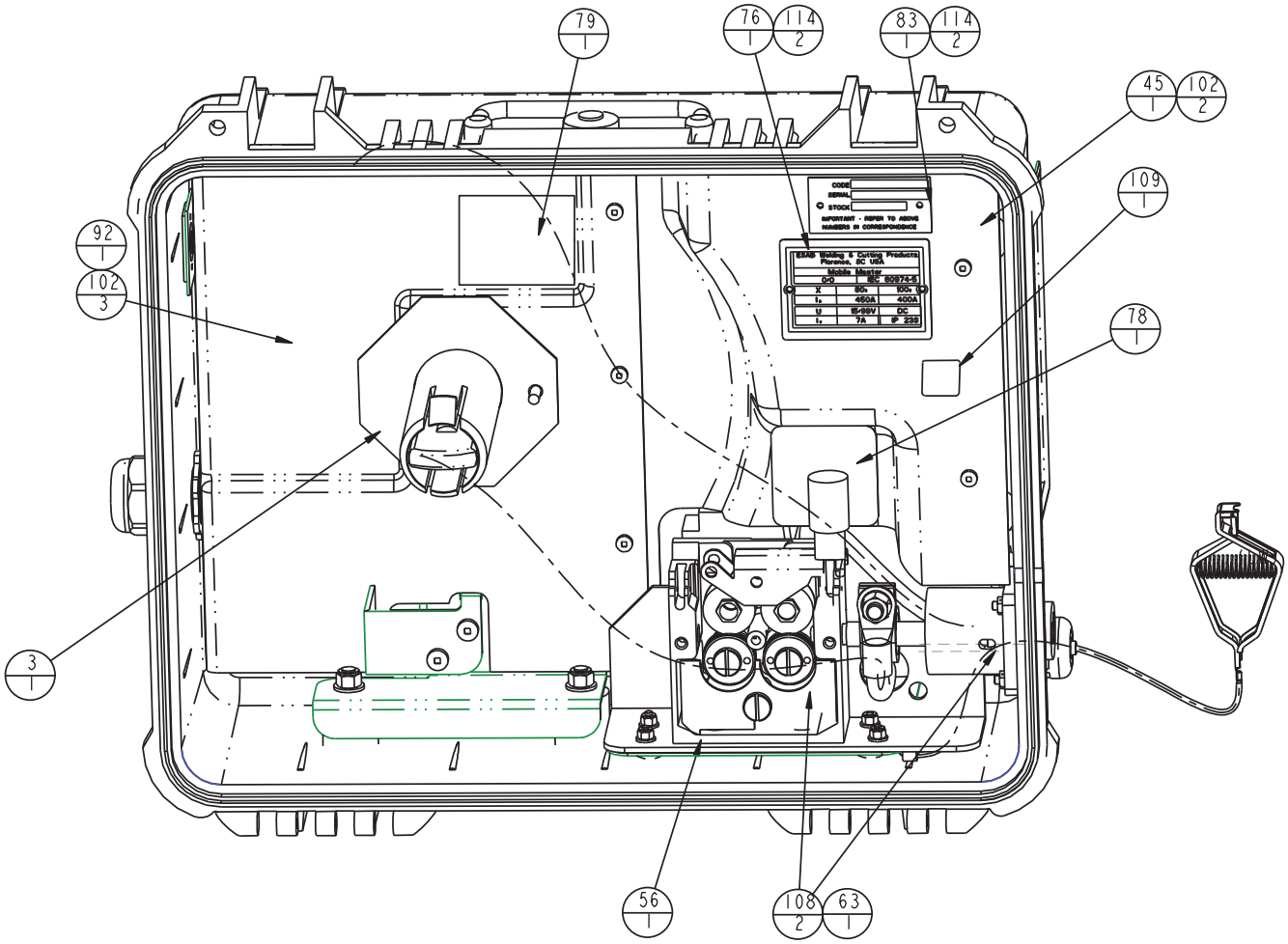
Bill of material items that have blank part numbers are provided for customer information only. Hardware items should be available through local sources.

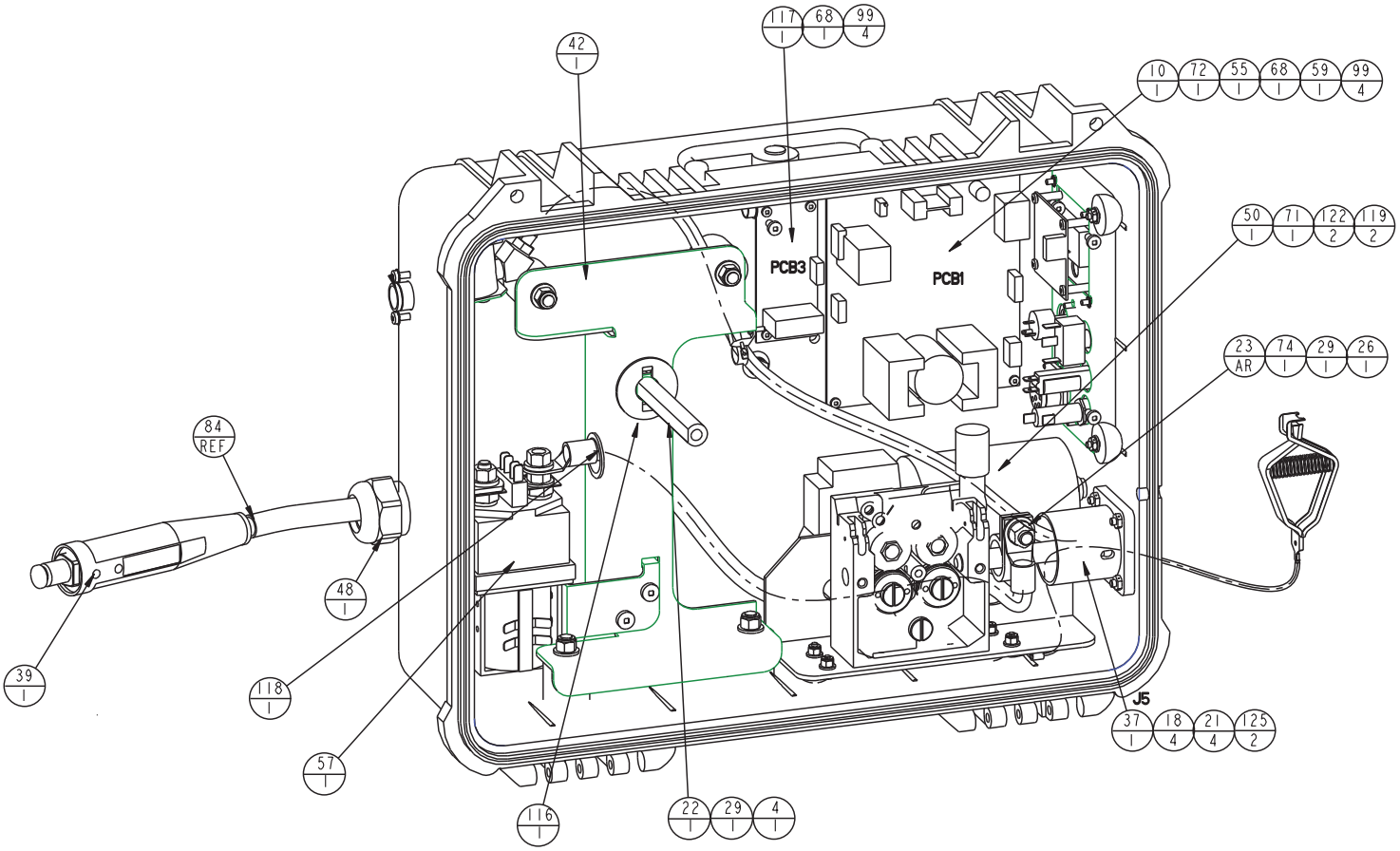

95
2
28
2
80
AR
103
2
112
1
105
1
(FW)
112
1
40
1

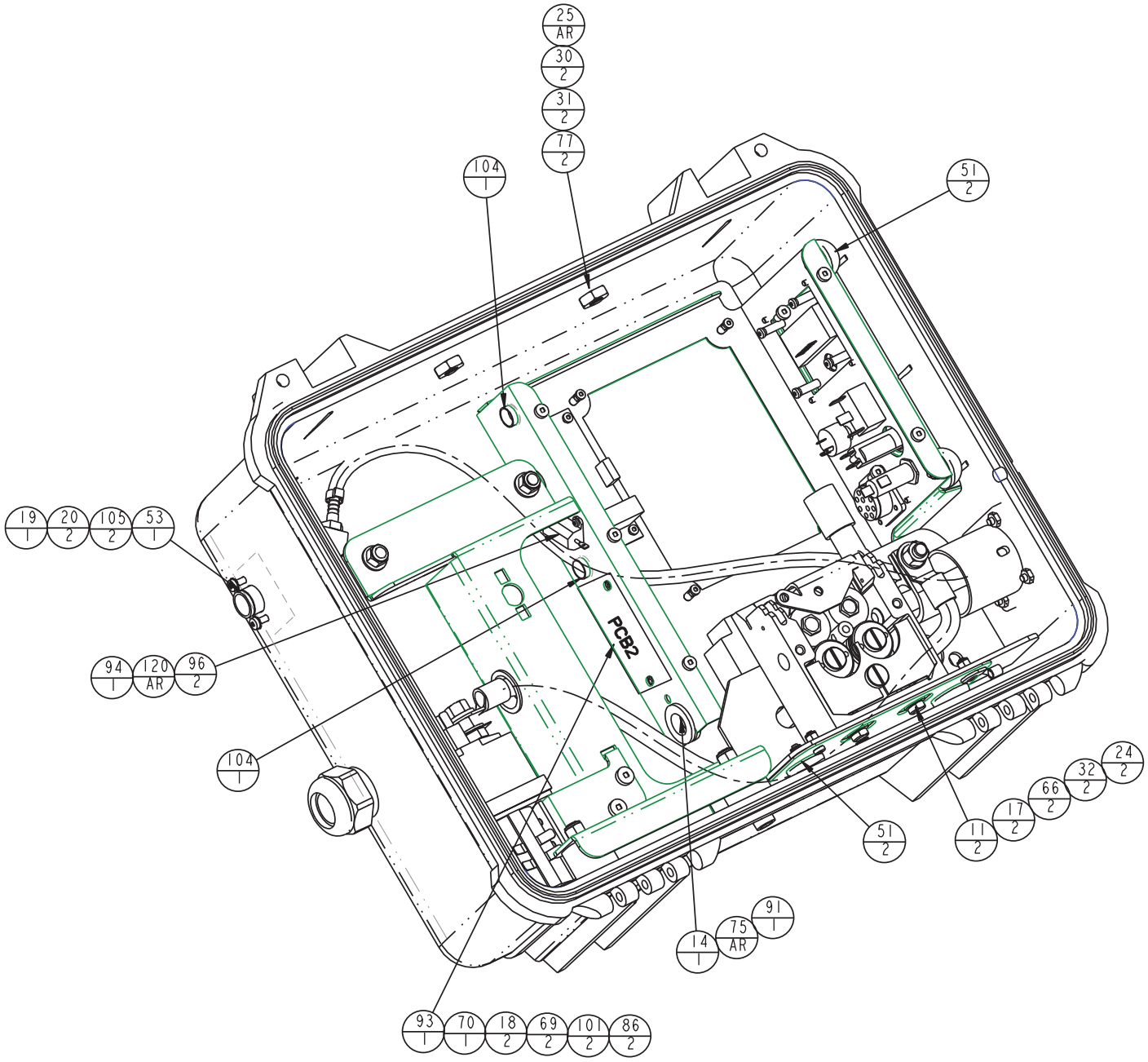

16 1
8 1
80 AR
54 1
5 1
80 AR
115 1
88 1
20 2
105 2
123 2
124 2
87 1
84 REF
23 AR
87 1
84 REF
23 AR
K1
113 1
1 1
23 AR
1 1
23 AR
57 1


12 1
97 1
98 1
110 1


220V
41 1
7 1
66 1
64 1
105 2
112 2
111 1
68 1
99 4
99 2
81 AR
120 AR
38 1
9 1
15 1
61 1
47 1
6 1
106 1
81 AR
121 1
91 1
99 4
43 1
27 AR
60 1
2 1
25 1
73 1
44 1
105 2
58 2
20 2
105 2
58 2
13 4
62 4
82 4
89 4
46 1
107 2
113 1
34 1
36 1
35 1
49 1
33 2


79 1
76 1
114 2
83 1
114 2
45 1
102 2
109 1
92 1
102 3
78 1
3 1
56 1
108 2
63 1


117 1
68 1
99 4
42 1
10 1
72 1
55 1
68 1
59 1
99 4
50 1
71 1
122 2
119 2
23 AR
74 1
29 1
26 1
PCB3
PCB1
84 REF
48 1
39 1
118 1
57 1
116 1
22 1
29 1
4 1
J5
37 1
18 4
21 4
125 2


25 AR
30 2
31 2
77 2
104 1
51 2
19 1
20 2
105 2
53 1
94 1
120 AR
96 2
104 1
PCB2
51 2
11 2
17 2
66 2
32 2
24 2
14 1
75 AR
91 1
93 1
70 1
18 2
69 2
101 2
86 2

# BILL OF MATERIALS

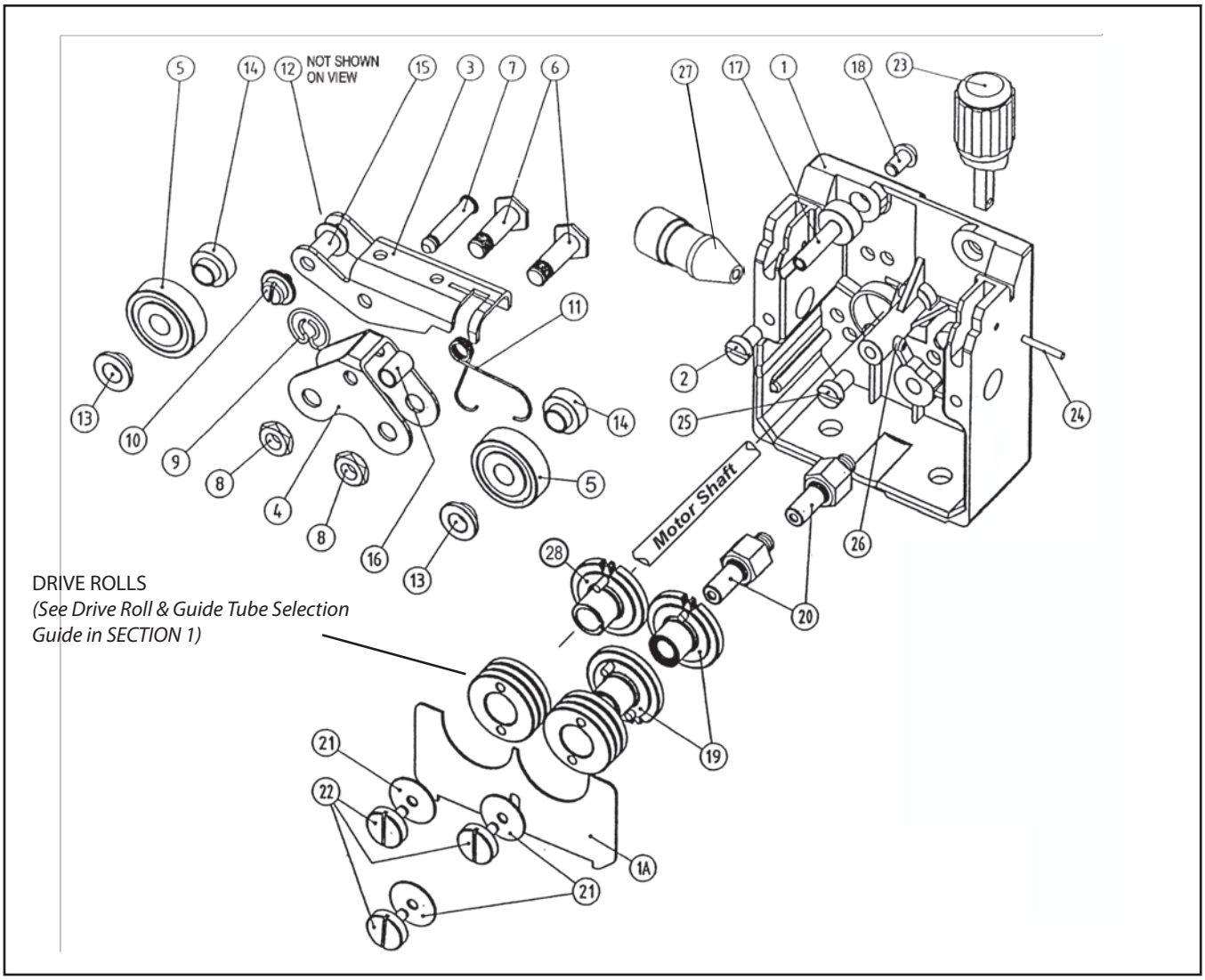
| ITEM NO. | PART OR CODE NO. | SYMBOL (ELEC-AY | DESCRIPTION |
|---|---|---|---|
| 1 | 34916 | | BUSBAR TAB |
| 2 | 634709 | | FUSE HOLDER |
| 3 | 0558005827B | | REEL PLATE |
| 4 | 0558002993 | | "D" SHAFT CRSTL .625D X 5.75LG |
| 5 | 950249 | SOL1 | VALVE SOL 1/4NPT 24VAC |
| | 0558006156 | SOL1 | VALVE SOL 1/8NPT 24VAC |
| 6 | 2062161 | CB1 | CIRCUIT BREAKER 5A |
| 7 | 993837 | | GROMMET .441D .56GD |
| 8 | 950263 | | NPL HEX 1/4 NPTM 3/16*ID HOSE |
| | 993108 | | NPL HEX 1/8 NPTM 3/16*ID HOSE |
| 9 | 0558001176 | R1 | POT 10K 3W |
| 10 | 0558038286 | PCB1 | PCB MAIN CONTROL |
| 11 | 950302 | | WASHER SHLDR |
| 12 | 952626 | | HANDLE FOLDING TWO POSITION |
| 13 | 952687 | | STUD RUBBER PLAT MT |
| 14 | 92W57 | | GROMMET RUB .631DX.88 GD |
| 15 | 634517 | S1 | SW TGGL DPST 2POS 15A 125V Q/D |
| 16 | 0558006693 | | FIT BRS ELBOW 1/4 NPT 45° |
| | 0558006692 | | FIT BRS ELBOW 1/8 NPT 45° |
| 17 | | | SCREW MACH HEXHD .250-20X1.00 |
| 18 | | | SCR 10-24 X .75 |
| 19 | 58V58 | | ADAPT B/A-F GAS 1/4 NPTM BKHD |
| 20 | | | SCREW PHTF #8-32 X .50 |
| 21 | | | LOCK NUT #10 |
| 22 | | | SCREW HEX CAP 3/8-16 X .75 |
| 23 | 73585980 | | CMPD ELEC JNT ALCOA 2 EJC |
| 24 | | | NUT 30001 STLZPC 0.250-20 |
| 25 | 0558008042 | | CABLE WORK 10 FT |
| 26 | | | NUT HEX 3/8-16 |
| 27 | 2234503 | | FOAM STRIP .063X.750 |
| 28 | | | SCR 1/4-20X.75 SKT FLT HX |
| 29 | | | WASHER LOCK .375 |
| 30 | | | WASHER FLAT 1/2" |
| 31 | | | WASHER LOCK 1/2" |
| 32 | | | WASHER LOCK 1/4 |
| 33 | 0146969001 | | PRESSURE SPRING |
| 34 | | | SCR .375 NYLOC HX CAP |
| 35 | 0146970001 | | BRAKE PAD |
| 36 | 0147315001 | | LOCK KEY |
| 37 | 0558001082 | J5 | COMPACT/EURO TORCH ADAPTOR PKG |
| 38 | 0558002033 | | KNOB .787 DIA. |
| 39 | 0558004715 | | CABLE PLUG-LC-40 |
| | 13733936 | | CABLE PLUG 400A |
| 40 | 055800581 1 | | MACHINE CASE 300AVS FEEDER |
| 41 | 0558005815 | | CHASSIS FEEDER 300AVS |
| 42 | 05580058 16Y | | SPOOLER SUPPORT BRKT 300AVS |

## BILL OF MATERIALS

| ITEM NO. | PART OR CODE NO. | SYMBOL (ELEC-AY | DESCRIPTION |
|---|---|---|---|
| 43 | 0558005810B | | CONTROL GUARD 300AVS |
| 44 | 0558004916 | | DRIVE STAND INSULATOR |
| 45 | 0558005818 | | COVER PCB 300AVS |
| 46 | 0558006152Y | | CONTA TOR SUPPORT LONG |
| 47 | 0558005817B | | PLATE DISPLAY 300AVS P/P |
| | 0558005824B | | PLATE[C] DISPLAY 300AVS |
| 48 | 0558003353 | | STRAIN RELIEF INPUT NPT 3/4 |
| 49 | 0146968880 | | HUB SPOOL 300AVS |
| 50 | 951529 | M1 | MOTOR GEAR KSV 5035/556 (TAC) |
| 51 | 182W12 | | FOOT RUBBER |
| 52 | | | SCR .164-32X.38 PAN QX |
| 53 | 60909636 | | CLOS PE CAPLUG #6 |
| 54 | 951126 | | CLAMP 1-EAR 10.0 GER |
| 55 | 2062348 | P2 | PLUG HOUSING *9 POS NYLON |
| 56 | 0558001339 | | COMPACT 4 ROLL WDS -66964 |
| 57 | 13735590 | K1 | CONTACT 1 POLE *12VDC 500ADC |
| 58 | " | | NUT .164 NYLOC |
| 59 | 37580 | P4 | ASSY SHORTING PLUG 6 PIN |
| 60 | 13735464 | F1 | FUSE SLO-BLO 10 AMP |
| 61 | 951474 | | SWITCH SEAL BLACK |
| 62 | | | WSR FLAT .312 |
| 63 | 0558001079 | | GUIDE TUBE |
| | 0558001078 | | COM/EURO .035/.045 GUIDE TUBE |
| 64 | | | NUT 1/4-20 LOCK |
| 65 | | | WSR 52002 STLZPC 0.190 |
| 66 | | | WSR PLAIN STLZPC .250 |
| 67 | " | | #8 LOCK WSR |
| 68 | 950097 | P1,P3 | HOUSING CONTACT 5 PIN |
| 69 | " | | WSR 53001 STLZPC 0.190 |
| 70 | 951009 | P1 | RCPT 6 POS 10A 300V |
| 71 | 950995 | | CABLE TIE 14.6"LG |
| 72 | 951007 | P1 | RCPT P/C* *5POS 10A 300V |
| 73 | 951283 | | STRAIN RELIEF 1/2" |
| 74 | | | SCREW HEX CAP 3/8-16 X 1.0 |
| 75 | " | | ADH LOCTITE Q-SET 495 |
| 76 | 0558954033 | | RATING LABBEL MOBILEFEED |
| 77 | 37334 | | NUT HANDLE |
| 78 | 954698 | | LABEL WARN GEAR PINCH HAZARD |
| 79 | 0558954057 | | LABEL WARN ROLL PINCH HAZARD |

# BILL OF MATERIALS

| ITEM NO. | PART OR CODE NO. | SYMBOL (ELEC-AY | DESCRIPTION |
|---|---|---|---|
| 80 | . | | ADH LOCTITE #242 |
| 81 | 76200103 | | SOLDER KESTER 24-6040-0027 |
| 82 | | | LOCK NUT .312 |
| 83 | 13730763 | | NAME PLATE CODE SERIAL STOCK |
| 84 | 0558004722 | | KIT CABLE MOBILE FEED |
| 85 | 0558005820 | | WIRE KIT 300AVS |
| 86 | .. | | NUT 30024 STLZPC 0.190-24 |
| 87 | . . | | WSR LOCK 0.438 |
| 88 | 0558005822B | | BRKT SOLENOID |
| 89 | . . | | SCR #10-32X.38 W/LOCK |
| 90 | | | |
| 91 | | | TYWRAP SMALL |
| 92 | 0558005813 | | COVER WIRE REEL 300AVS |
| 93 | 0558038284 | PCB2 | PCB RECTIFIER |
| 94 | 17725003 | R2 | RESISTOR 25W 3 Ohm |
| 95 | | | SCR 5/16-18X.625BLK SKT FLT HEX |
| 96 | . | | SCR #4 X .375LG |
| 97 | 954470 | | LABEL ESAB 3.63 X 6.00 |
| 98 | 2091514 | | LABEL WARNING GENL 7.0W X 5.06 |
| 99 | . | | SCR #6-32 X .38 PH TTF |
| 100 | | | |
| 101 | . . | | WASHER LOCK #10 |
| 102 | .. | | SCR #10-24 X .38 PH TTF |
| 103 | . | | SCR 5/16-18X.75 BLK SL HEX |
| 104 | 13730222 | | SNAP BUSING 9/16 |
| 105 | . . . | | WSR 53001 STLZPC 0.164 |
| 106 | 636692 | J1 | CONN BOX RCPT 10FS SHELL 18 |
| 107 | .. | | SCR 1/4-20 X .50 QUADRX |
| 108 | .21161 | | FEED ROLL (045-1/16) SERRATED |
| | .21156 | | FEED ROLL (.035/.045) V-SMOOTH |
| 109 | 954565 | | LABEL CE LOGO |
| 110 | 955269 | | LABEL CAUTION READ MANUAL |
| 111 | 23540446 | PCB4 | DIGITAL METER |
| 112 | ... | | SCR #8-32 X 1.5 |
| 113 | | | WSR FLT .375 BRASS |
| 114 | 99510492 | | RIVET 1/8 GRIP .251-.312 |
| 115 | 0558005821 | | HOSE ASSEMBLY 18" MOBILEFEED CE |
| 116 | 0156617001 | | BRAKE WASHER |
| 117 | 0558038250 | PCB3 | PCB PUSH-PULL CONTROL |
| 118 | 13730600 | | SNAP BUSHING |
| 119 | 71200732 | | ADV .S1-RBR CLR |
| 120 | 90863125 | | TUBING SHRINK .125 |
| 121 | 35N81 | | TUBING .173X0.02W |
| 122 | 950906 | | FAST-ON TERM 1/4 X 18 AWG |
| 123 | . . | | SCR.164-32 x .38 |
| 124 | . . . | | WSR LOCK .164 |
| 125 | 0558006743 | | INSULATOR PIN |




**Auto-Lift Mini Four Roll Geared Wire Drive System - 0558001339**

| ITEM | PART NO. | DESCRIPTION | QTY. | ITEM | PART NO. | DESCRIPTION | QTY. |
|---|---|---|---|---|---|---|---|
| 1 | 0558001743 | Feed Plate | 1 | 16 | 0558001753 | Spacer Tube Bogie | 1 |
| 1A | 0558001744 | Safety Guard | 1 | 17 | 0558001754 | Axle Pressure Arm | 1 |
| 2 | 952927 | Screw, Thumb (M6X12) | 1 | 18 | 0558001755 | Allen Screw | 1 |
| 3 | 0558001745 | Pressure Arm | 1 | 19 | 0459441880 | Gear Adaptor Feed Roll | 2 |
| 4 | 0558001746 | Bogie | 1 | 20 | 0558003540 | Axle Gear Adaptor Feed Roll | 2 |
| 5 | 23612368 | Pressure Roll | 2 | 21 | 34608 | Washer, Retaining Screw | 3 |
| 6 | 23612477 | Axle Pressure Roll | 2 | 22 | 952925 | Knurled Screw | 3 |
| 7 | 0558001747 | Locating Pin | 1 | 23 | 23612460 | Pressure Device W/Scale | 1 |
| 8 | 23612474 | Nut, Pressure Roll Axle | 2 | 24 | 23612470 | Locating Pin, 2.5 x 12 Pressure Device | Pkt. 5 |
| 9 | 23612472 | Circlip | 1 | 25 | 23612462 | Screw (Center) Guide | 1 |
| 10 | 34609 | Retaining Screw Pressure Arm | 1 | 26 | 0558001757 | Center Guide (Hard Wire) | 1 |
| 11 | 0558001748 | Spring Bogie Auto Lift | 1 | | 0558001895 | Center Guide for (Aluminum) | 1 |
| 12 | 0558001749 | Spring to Pressure Arm Auto Lift | 1 | 27 | 0558001758 | Inlet Guide (Aluminum & Steel) | 1 |
| 13 | 0558003538 | Spacer Tube, Small | 2 | 28 | 0558003542 | Main Gear Drive | 1 |
| 14 | 0558003539 | Spacer Tube, Big | 2 | | | | |
| 15 | 0558001752 | Spacer Tube Pressure Arm Auto Lift | 1 | | | | |

# REVISION HISTORY

Original release 01 / 2006.

06 / 2006 - Updated per Joe DeVito inputs.

07 / 2006 - Updated per Joe DeVito inputs.

10 / 2006 - Updated pictures and updated Replacement Parts subsection.

04 / 2007 - Updated Drive Roll and Guide Tube table in Section 1 per Mike Palumbo inputs.

03 / 2008 - Updated pictures and updated Replacement Parts section per CN#083002.

**ESAB Welding & Cutting Products, Florence, SC Welding Equipment**
**COMMUNICATION GUIDE - CUSTOMER SERVICES**

A. CUSTOMER SERVICE QUESTIONS:
Telephone: (800)362-7080 / Fax: (800) 634-7548 Hours: 8:00 AM to 7:00 PM EST
Order Entry Product Availability Pricing Order Information Returns

B. ENGINEERING SERVICE:
Telephone: (843) 664-4416 / Fax : (800) 446-5693 Hours: 7:30 AM to 5:00 PM EST
Warranty Returns Authorized Repair Stations Welding Equipment Troubleshooting

C. TECHNICAL SERVICE:
Telephone: (800) ESAB-123/ Fax: (843) 664-4452 Hours: 8:00 AM to 5:00 PM EST
Part Numbers Technical Applications Specifications Equipment Recommendations

D. LITERATURE REQUESTS:
Telephone: (843) 664-5562 / Fax: (843) 664-5548 Hours: 7:30 AM to 4:00 PM EST

E. WELDING EQUIPMENT REPAIRS:
Telephone: (843) 664-4487 / Fax: (843) 664-5557 Hours: 7:30 AM to 3:30 PM EST
Repair Estimates Repair Status

F. WELDING EQUIPMENT TRAINING
Telephone: (843)664-4428 / Fax: (843) 679-5864 Hours: 7:30 AM to 4:00 PM EST
Training School Information and Registrations

G. WELDING PROCESS ASSISTANCE:
Telephone: (800) ESAB-123 Hours: 7:30 AM to 4:00 PM EST

H. TECHNICAL ASST. CONSUMABLES:
Telephone : (800) 933-7070 Hours: 7:30 AM to 5:00 PM EST

**IF YOU DO NOT KNOW WHOM TO CALL**

Telephone: (800) ESAB-123
Fax: (843) 664-4462
Hours: 7:30 AM to 5:00 PM EST
or
visit us on the web at http://www.esabna.com
The ESAB web site offers
Comprehensive Product Information
Material Safety Data Sheets
Warranty Registration
Instruction Literature Download Library
Distributor Locator
Global Company Information
Press Releases
Customer Feedback & Support

**0558005921** **03 / 2008**

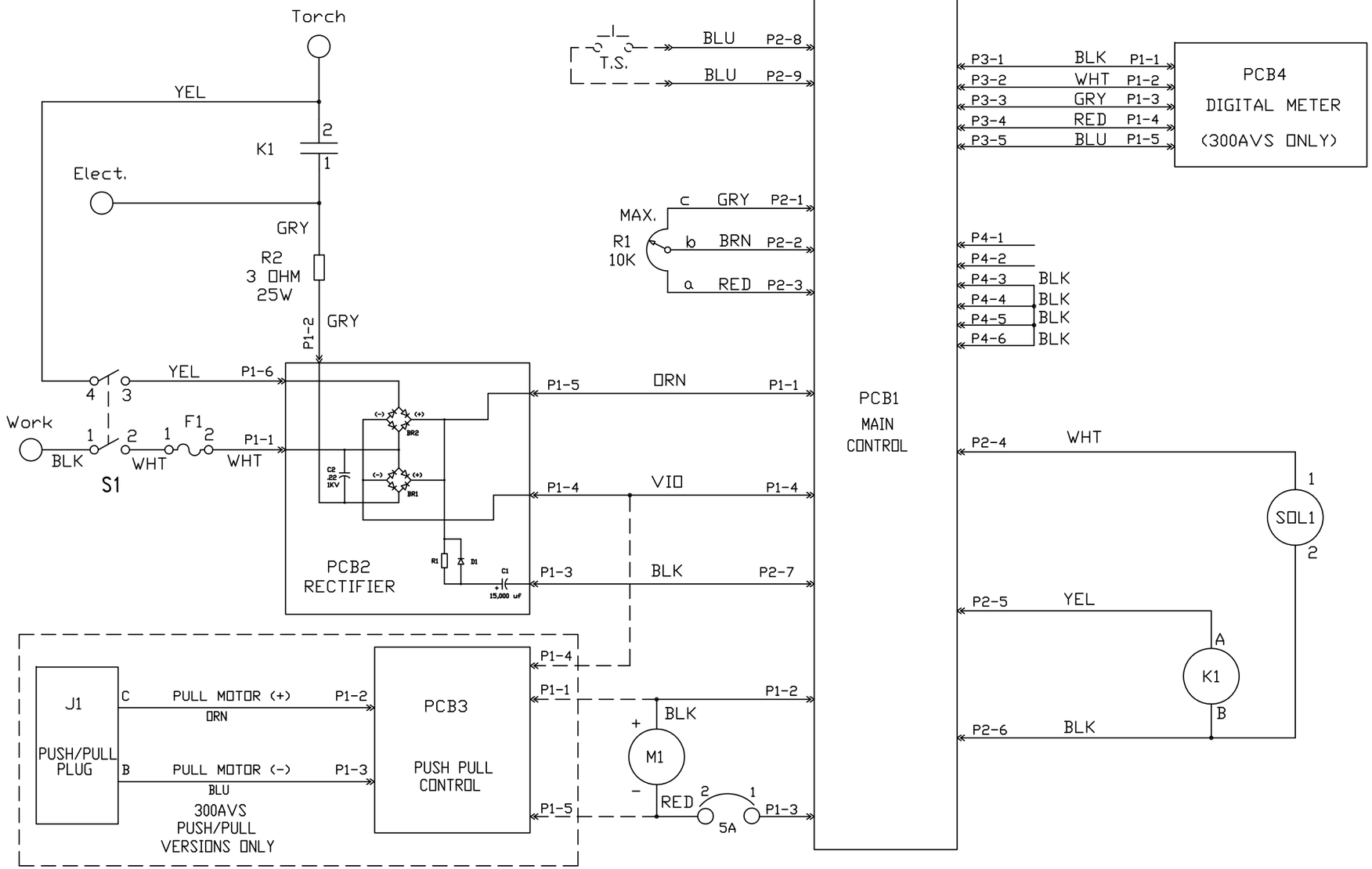
ESAB® ESAB Welding & Cutting Products
PO Box 100545, Florence SC 29501-0545

D-0558004755

THIS DRAWING CONTAINS PROPRIETORIAL INFORMATION OF ESAB WELDING & CUTTING PRODUCTS AND IS LOANED WITH THE EXPRESS AGREEMENT THAT THIS DRAWING (1) WILL NOT BE REPRODUCED OR COPIED, (2) WILL NOT BE USED OTHER THAN IN WORK FOR ESAB WELDING & CUTTING PRODUCTS AND (3) WILL NOT BE DISCLOSED EXCEPT TO EMPLOYEES OF THE PARTY TO WHOM THIS DRAWING IS LOANED AND ON A CONFIDENTIAL BASIS.

## COMPONENT LEGEND

| LOCATION NUMBER | ITEM | DESCRIPTION |
|---|---|---|
| A | PCB1 | PCB MAIN CONTROL |
| | PCB2 | PCB RECTIFIER |
| C | PCB3 | PCB, PUSH/PULL CONTROL |
| | PCB4 | DIGITAL METER |
| | R1 | POTENTIOMETER, 10K, 2W |
| | S1 | SWITCH POWER |
| | F1 | FUSE SLO-BLO 10A |
| | T.S. | TORCH SWITCH |
| | SOL1 | SOLENOID SWITCH 24v |
| | M1 | MOTOR,GEAR |
| C | J1 | PUSH/PULL PLUG |
| C | K1 | CONTACTOR |




| M | LTR | CHANGE | BY | DATE | CHK'D |
|---|---|---|---|---|---|
| | E | CN-083002 | BLP | 1/16/06 | JBM |
| | D | CN-063016 | BLP | 1/19/06 | RDH |
| | C | CN-053172 | JDW | 12-21-05 | DCG |
| | B | CN-053067 | SMC | 5-24-05 | DCG |
| | A | CN-053029 | TDG | 3/22/05 | DCG |

**REFERENCE DRAWINGS:**

| | |
|---|---|
| 200AVS | WIRING DIAGRAM – D-0558004756<br>WIRE KIT – A-0558004719 |
| 300AVS | WIRING DIAGRAM – D-0558005823<br>WIRE KIT – A-0558005820 |

ENGLISH DWG.
UNLESS OTHERWISE SPECIFIED, DIM ARE IN INCHES.
TOL .XX ± .015
.XXX ± .005
ANGLES ± 1°
SURFACE ROUGHNESS IS IN MICROINCHES
ROUGHNESS 125
REMOVE ALL BURRS
BREAK SHARP EDGES

PA-6100-04-03 — RELEASED FOR — 2/9/04 DATE

ESAB WELDING & CUTTING PRODUCTS
FLORENCE SC 29501

TITLE
SCHEM DIAG MOBILEFEED AVS WF...

REPRO MADE FROM

SCALE NONE — SIMILAR TO

FIRST MADE FOR — SUP.

| DRAWN | CHECKED | APPROVED | SUP. BY |
|---|---|---|---|
| BY TDG | BY DCG | BY MEA | D-0558004755 |
| DATE 3/17/04 | DATE 3/17/04 | DATE 3/17/04 | |

OCT 1995

D-0558005823

THIS DRAWING CONTAINS PROPRIETORIAL INFORMATION OF ESAB WELDING & CUTTING PRODUCTS AND IS LOANED WITH THE EXPRESS AGREEMENT THAT THIS DRAWING (1) WILL NOT BE REPRODUCED OR COPIED, (2) WILL NOT BE USED OTHER THAN IN WORK FOR ESAB WELDING & CUTTING PRODUCTS AND (3) WILL NOT BE DISCLOSED EXCEPT TO EMPLOYEES OF THE PARTY TO WHOM THIS DRAWING IS LOANED AND ON A CONFIDENTIAL BASIS.

## BILL OF MATERIALS

QUANTITIES ARE IN U/M ESTIMATED BY INVENTORY

| SYMBOL | ITEM NO. | PART OF CODE NO. | QTY. | DESCRIPTION |
|---|---|---|---|---|

**PCB1**

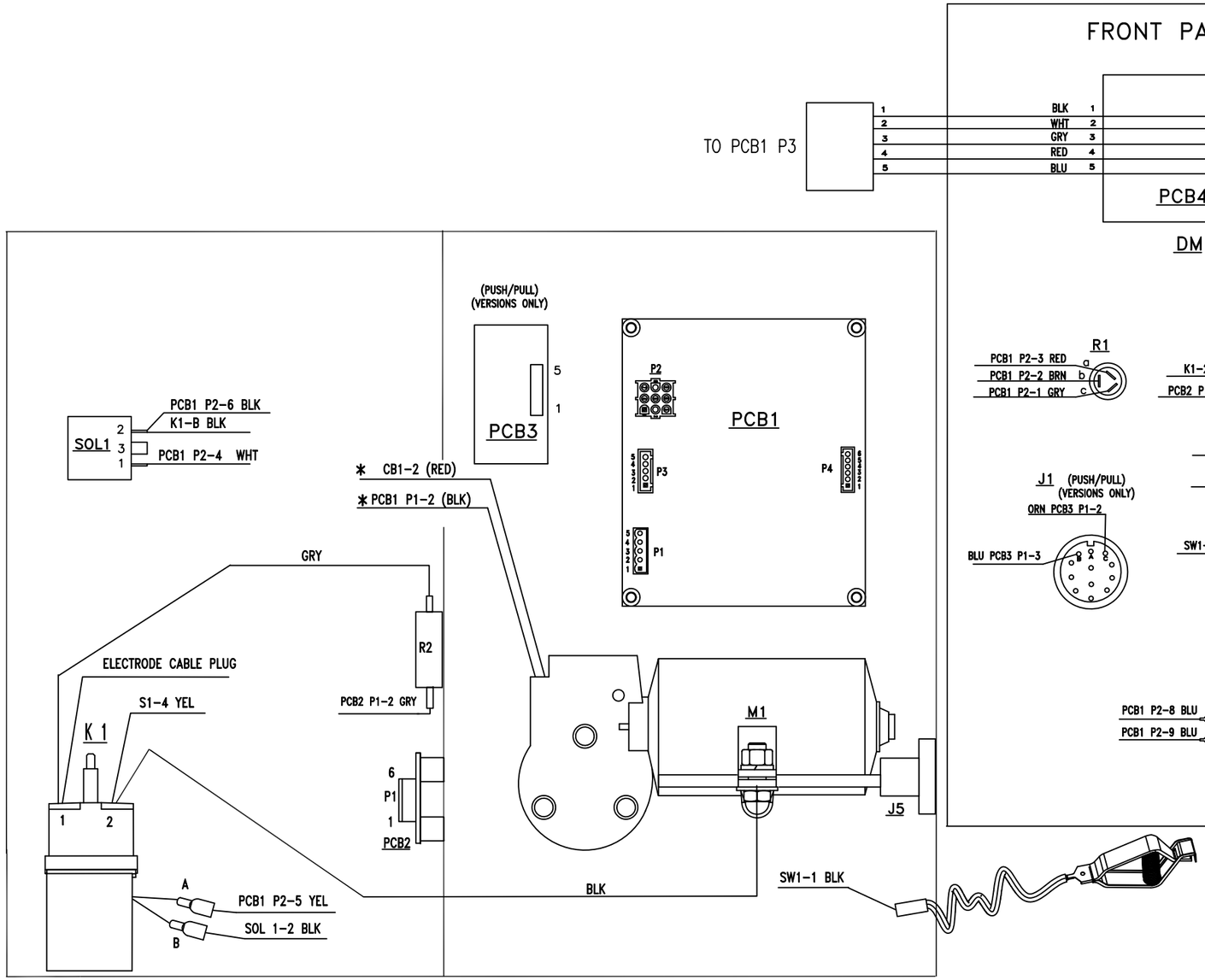
| P1 | P2 | P3 | P4 |
|---|---|---|---|
| 1 PCB2 P1-5 ORN | 1 R1-1 GRY | 1 DM-1 BLK | 1 |
| 2 M1 (BLK) (+) * | 2 R1-2 BRN | 2 DM-2 WHT | 2 |
| PCB3 P1-1 BLK | 3 R1-3 RED | 3 DM-3 GRY | 3 BLK |
| 3 CB1-1 RED * | 4 SOL1-1 WHT | 4 DM-4 RED | 4 BLK |
| PCB3 P1-5 RED | 5 K1-A YEL | 5 DM-5 BLU | 5 BLK SPLICE |
| 4 PCB2 P1-4 VIO | 6 SOL 1-2 BLK | | 6 BLK |
| PCB3 P1-4 VIO | 7 PCB2 P1-3 BLK | | |
| 5 | 8 J5-B BLU | | |
| | 9 J5-C BLU | | |

**PCB3**

| P1 | | |
|---|---|---|
| 1 | PCB1 P1-2 | BLK |
| 2 | J1-C | ORN |
| 3 | J1-B | BLU |
| 4 | PCB1 P1-4 | VIO |
| 5 | PCB1 P1-3 | RED |

**PCB2**

| P1 | | |
|---|---|---|
| 1 | F1-2 | WHT |
| 2 | R2-2 | GRY |
| 3 | PCB1 P2-7 | BLK |
| 4 | PCB1 P1-4 | VIO |
| 5 | PCB1 P1-1 | ORN |
| 6 | S1-3 | YEL |




NOTES:
1. * DENOTES SELF LEADS.

REFERENCE DRAWINGS:
SCHEMATIC D-0558004755
WIRE KIT A-0558005820

| M | LTR | CHANGE | BY | DATE | CHK'D |
|---|---|---|---|---|---|
| | A | CN-083002 | BLP | 1/14/06 | JBM |

| | | |
|---|---|---|
| ENGLISH DVG. UNLESS OTHERWISE SPECIFIED, DIM ARE IN INCHES. TOL .XX ± .015, .XXX ± .005, ANGLES ± 1°, CHAMFERS & C'SINKS ±2°, SURFACE ROUGHNESS IS IN MICROINCHES. 125, REMOVE ALL BURRS BREAK SHARP EDGES | PA-6100-05-06 RELEASED FOR | 9/2/05 DATE |
| | ESAB WELDING & CUTTING PRODUCTS FLORENCE SC 29501 | |
| | TITLE DIAGRAM WIRING 300AVS | |
| | REPRO MADE FROM | |
| SCALE NONE | SIMILAR TO | |
| FIRST MADE FOR | | SUP. |
| DRAWN BY BLP DATE 12/22/05 | CHECKED BY RDH DATE 12/22/05 | APPROVED BY RDH DATE 12/22/05 / SUP. BY |
| | D-0558005823 | |

OCT 1995