MobileMaster IV cvcc

PORTABLE “OFF THE ARC” WIRE FEEDERS

Instruction Literature

This manual provides instructions for units starting with serial No. xxxJ102026

F15-610-E **04 / 2004**

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.

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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.

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.

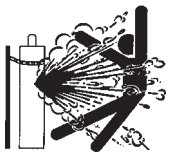
1. Be sure the power source frame (chassis) is connected to the ground system of the input power.
2. Connect the workpiece to a good electrical ground.
3. Connect the work cable to the workpiece. A poor or missing connection can expose you or others to a fatal shock.
4. Use well-maintained equipment. 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 33126, 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.

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

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

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

PRECAUCION DE SEGURIDAD

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 33126, 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"
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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."

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

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

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

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

PRÉCAUTIONS DE SÉCURITÉ

AVERTISSEMENT: Ces règles de sécurité ont pour objet d' assurer votre protection. Veillez à lire et à observer les précautions énoncées ci-dessous avant de monter l' équipement ou de commercer à l'utiliser. Tout défaut d'observation de ces précautions risque d'entraîner des blessures graves ou mortelles.

1. PROTECTION INDIVIDUELLE-- Les brûlures de la peau et des yeux dues au rayonnement de l'arc électrique ou du métal incandescent, lors du soudage au plasma ou à l'électrode ou lors du gougeage à l'arc, peuvent s'avérer plus graves que celles résultant d'une exposition prolongée au soleil. Aussi convient-il d'observer les précautions suivantes:

a. Portez un écran facial adéquat muni des plaques protectrices et des verres filtrants appropriés afin de vous protéger les yeux, le visage, le cou et les oreilles des étincelles et du rayonnement de l'arc électrique lorsque vous effectuez des soudures ou des coupes ou lorsque vous en observez l'exécution.
AVERTISSEZ les personnes se trouvant à proximité de façon à ce qu'elles ne regardent pas l'arc et à ce qu'elles ne s'exposent pas à son rayonnement, ni à celui du métal incandescent.

b. Portez des gants ignifugés à crispins, une tunique épaisse à manches longues, des pantalons sans rebord, des chaussures à embout d'acier et un casque de soudage ou une calotte de protection, afin d'éviter d'exposer la peau au rayonnement de l'arc électrique ou du métal incandescent. Il est également souhaitable d'utiliser un tablier ininflammable de façon à se protéger des étincelles et du rayonnement thermique.

c. Les étincelles ou les projections de métal incandescent risquent de se loger dans des manches retroussées, des bords relevés de pantalons ou dans des poches. Aussi convient-il de garder boutonnés le col et les manches et de porter des vêtements sans poches à l'avant.

d. Protégez des étincelles et du rayonnement de l'arc électrique les autres personnes travaillant à proximité à l'aide d'un écran ininflammable adéquat.

e. Ne jamais omettre de porter des lunettes de sécurité lorsque vous vous trouvez dans un secteur où l'on effectue des opérations de soudage ou de coupage à l'arc. Utilisez des lunettes de sécurité à écrans ou verres latéraux pour piquer ou meûler le laitier. Les piquetures incandescentes de laitier peuvent être projetées à des distances considérables. Les personnes se trouvant à proximité doivent également porter des lunettes de protection.

f. Le gougeage à l'arc et le soudage à l'arc au plasma produisent un niveau de bruit extrêmement élevé (de 100 à 114 dB) et exigent par conséquent l'emploi de dispositifs appropriés de protection auditive.

2. PRÉVENTION DES INCENDES-- Les projections de laitier incandescent ou d'étincelles peuvent provoquer de graves incendies au contact de matériaux combustibles solides, liquides ou gazeux. Aussi faut-il observer les précautions suivantes:

a. Éloigner suffisamment tous les matériaux combustibles du secteur où l'on exécute des soudures ou des coupes à l'arc, à moins de les recouvrir complètement d'une bâche non-inflammable. Ce type de matériaux comprend notamment le bois, les vêtements, la sciure, l'essence, le kérosène, les peintures, les solvants, le gaz naturel, l'acétylène, le propane et autres substances combustibles semblables.

b. Les étincelles ou les projections de métal incandescent peuvent tomber dans des fissures du plancher ou dans des ouvertures des murs et y déclencher une ignition lente cachée. Veiller à protéger ces ouvertures des étincelles et des projections de métal.

c. N'exécutez pas de soudures, de coupes, d'opérations de gougeage ou autres travaux à chaud à la surface de barils, bidons, réservoirs ou autres contenants usagés, avant de les avoir nettoyés de toute trace de substance susceptible de produire des vapeurs inflammables ou toxiques.

d. En vue d'assurer la prévention des incendies, il convient de disposer d'un matériel d'extinction prêt à servir immédiatement, tel qu'un tuyau d'arrosage, un seau à eau, un seau de sable ou un extincteur portatif.

e. Une fois le travail à l'arc terminé, inspectez le secteur de façon à vous assurer qu'aucune étincelle ou projection de métal incandescent ne risque de provoquer ultérieurement un feu.

3. CHOC ÉLECTRIQUE-- Le gougeage à l'arc et à l'arc au plasma exige l'emploi de tensions à vide relativement importantes; or, celles-ci risquent de causer des dommages corporels graves et même mortels en cas d'utilisation inadéquate. La gravité du choc électrique reçu dépend du chemin suivi par le courant à travers le corps humain et de son intensité.

a. Ne laissez jamais de surfaces métalliques sous tension venir au contact direct de la peau ou de vêtements humides. Veillez à porter des gants bien secs.

b. Si vous devez effectuer un travail sur une surface métallique ou dans un secteur humide, veillez à assu-rer votre isolation corporelle en portant des gants secs et des chaussures à semelles de ca-outchouc et en vous tenant sur une planche ou une plate-forme sèche.

c. Mettez toujours à la terre le poste de soudage/ coupage en le reliant par un câble à une bonne prise de terre.

d. N'utilisez jamais de câbles usés ou endommagés. Ne surchargez jamais le câble. Utilisez toujours un équipement correctement entretenu.

e. Mettez l'équipement hors tension lorsqu'il n'est pas en service. une mise à la masse accidentelle peut en effet provoquer une surchauffe de l'équipement et un danger d'incendie. Ne pas enrouler ou passer le câble autour d'une partie quelconque du corps.

f. Vérifiez si le câble de masse est bien relié à la pièce en un point aussi proche que possible de la zone de

levage, des câbles de grue ou divers chemins électriques.

g. Empêchez l'apparition de toute humidité, notamment sur vos vêtements, à la surface de l'emplacement de travail, des câbles, du porte-électrode et du poste de soudage/coupage. Réparez immédiatement toute fuite d'eau.

4. VENTILATION-- La respiration prolongée des fumées résultant des opérations de soudage/coupage, à l'intérieur, d'un local clos, peut provoquer des malaises et des dommages corporels. Aussi convient-il d'observer les précautions suivantes:

a. Assurez en permanence une aération adéquate de l'emplacement de travail en maintenant une ventilation naturelle ou à l'aide de moyens mécaniques. N'effectuez jamais de travaux de soudage ou de coupage sur des matériaux de zinc, de plomb, de beryllium ou de cadmium en l'absence de moyens mécaniques de ventilation capables d'empêcher l'inhalation des fumées dégagées par ces matériaux.

b. N'effectuez jamais de travaux de soudage ou de coupage à proximité de vapeurs d'hydrocarbure chloré résultant d'opérations voisines de dégraissage ou de pulvérisation. La chaleur dégagée ou le rayonnement de l'arc peut déclencher la formation de phosgène -- gaz particulièrement toxique -- et d'autres gaz irritants, à partir des vapeurs de solvant.

c. Une irritation momentanée des yeux, du nez ou de la gorge constatée au cours de l'utilisation de l'équipement dénote un défaut de ventilation. Arrêtez-vous de travailler afin de prendre les mesures nécessaires à l'amélioration de la ventilation. Ne poursuivez pas l'opération entreprise si le malaise persiste.

d. Certaines commandes comportent des canalisations où circule de l'hydrogène. L'armoire de commande est munie d'un ventilateur destiné à empêcher la formation de poches d'hydrogène, lesquelles présentent un danger d'explosion; ce ventilateur ne fonctionne que si l'interrupteur correspondant du panneau avant se trouve placé en position ON (Marche). Veillez à manœuvrer cette commande en vérifiant si le couvercle est bien en place, de façon à assurer l'efficacité de la ventilation ainsi réalisée. Ne jamais débrancher le ventilateur.

e. Les fumées produites par l'opération de soudage ou de coupage peuvent s'avérer toxiques. Aussi est-il nécessaire de disposer en permanence d'un dispositif adéquat de ventilation de type aspirant, afin d'élimi-ner du voisinage de l'opérateur tout dégagement de fumée visible.

f. Consultez les recommandations particulières en matière de ventilation indiquées à l'alinéa 6 de la norme Z49.1 de l'AWS.

5. ENTRETIEN DE L'ÉQUIPEMENT-- Un équipement entretenu de façon défectueuse ou inadéquate risque non seulement de réaliser un travail de mauvaise qualité mais, chose plus grave encore, d'entraîner des dommages corporels graves, voire mortels en déclenchant des incendies ou des chocs électriques. Observez par conséquent les précautions suivantes:

a. Efforcez-vous de toujours confier à un personnel qualifié l'installation, le dépannage et l'entretien du poste de soudage et de coupage. N'effectuez aucune réparation électrique sur l'équipement à moins d'être qua-lifié à cet effet.

b. Ne procédez jamais à une tâche d'entretien quelconque à l'intérieur du poste de soudage/coupage, avant d'avoir débranché l'alimentation électrique.

c. Maintenez en bon état de fonctionnement les câbles, le câble de masse, les branchements, le cordon d'alimentation et le poste de soudage/coupage. N'utilisez jamais le poste ou l'équipement s'il présente une défectuosité quelconque.

d. Prenez soin du poste de soudage et de coupage et des équipements accessoires. Gardez-les à l'écart des sources de charleur, notamment des fours, de l'humidité, des flaques d'eau maintenez-les à l'abri des traces d'huile ou de graisse, des atmosphères corrosives et des intempéries.

e. Laissez en place tous les dispositifs de sécurité et tous les panneaux de l'armoire de commande en veillant à les garder en bon état.

f. Utilisez le poste de soudage/coupage conformément à son usage prévu et n'effectuez aucune modification.

6. INFORMATIONS COMPLÉMENTAIRES RELATIVES À LA SÉCURITÉ--

Pour obtenir des informations complémentaires sur les règles de sécurité à observer pour le montage et l'utilisation d'équipements de soudage et de coupage électriques et sur les méthodes de travail recommandées, demandez un exemplaire du livret N° 52529 "Precautions and Safe Practices for Arc Welding, Cutting and Gouging" publié par ESAB. Nous conseillons également de consulter les publications sui-vantes, tenues à votre disposition par l'American Welding Society, 550 N.W. LeJuene Road, Miami, FL 32126:

a. "Safety in Welding and Cutting" AWS Z49.1

b. "Recommended Safe Practices for Gas-Shielded Arc Welding "AWS A6. 1.

c. "Safe Practices for Welding and Cutting Containers That Have Held Combustibles" AWS-A6.0.

d. "Recommended Safe Practices for Plasma Arc Cutting" AWS-A6. 3.

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

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

g. "Code For Safety in Welding and Cutting" CSA-Standard W117. 2.

- *Arc voltage feeder capable of use with CC or CV units.*
- *Available with "NAS" or "CC" torch connection.*
- *4 roll drive unit*
- *All units include 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 - a unique "rain gutter" door design keeps water from dripping into the wire compartment.*
- *Metal reinforced, flame retardant, molded composite 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 chatterfree 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.*
- *Three-year-warranty*

MobileMaster IV cvcc

Ordering Information

Each MobileMaster IV cvcc wire feeder includes gas solenoid and .045-1/16 in. (1.2-1.6 mm) dual groove serrated feed rolls.

MobileMaster IV cvcc, CC 0558001333
MobileMaster IV cvcc, NAS 0558001334
MobileMaster IV cvcc, CC w/Meters 0558001802
MobileMaster IV cvcc, NAS w/Meters ... 0558001801

Specifications

MobileMaster IV cvcc

Wire Speed Range* ..... 50 - 700 ipm (1.3 - 17.8 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 vdc
Maximum ..... 100 vdc (113v peak)
** not for use with AC power
Weight ..... 30 lbs (13 kg)

Common to MobileMaster IV cvcc

Standard - 2-in (5.1 cm) ID spindle hub
8 in. O.D. (20.3 cm) spools - require adaptor P/N 17511
10 in. O.D. (25.4 cm) spools - require adaptor P/N 34330
12 in. O.D. (30.5 cm) spools - no adaptor required
14 lb. (6.5 kg) coils - require adaptor P/N 37337

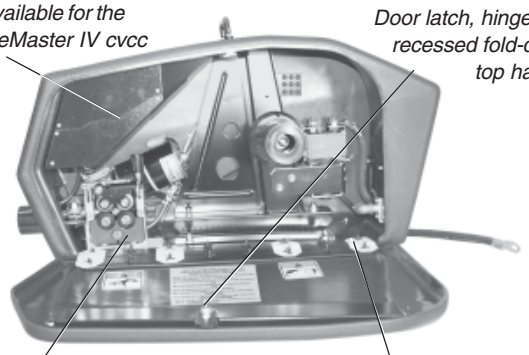
Physical Dimensions

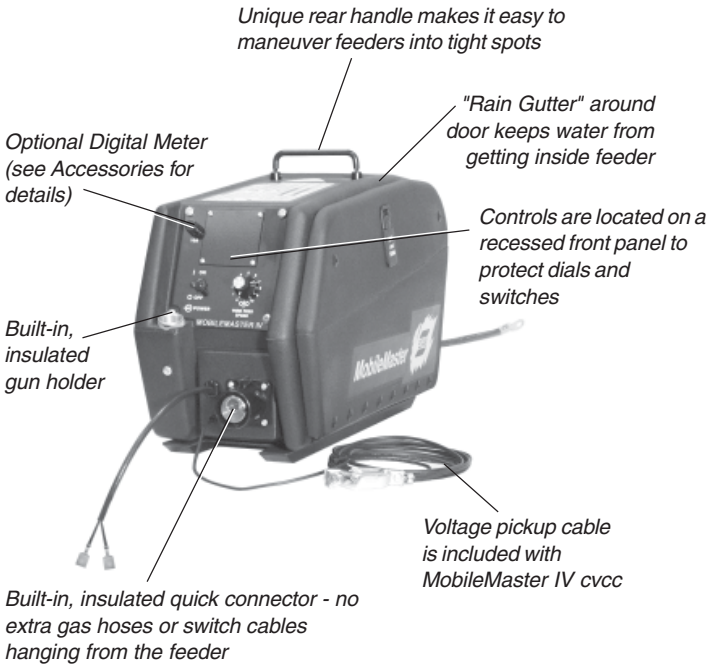
W x H x L ..... 9.5 in. (24.1 cm) x 14.0 in. (35.6 cm) x 26.9 in. (68.3 cm)

MobileMaster IV cvcc feeders will fit through 16 in. (41 cm) diameter hole.

Required Accessories

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





Optional Accessories

Gas Flowmeter Kit -
Includes an adjustable flowmeter with mounting hardware and protective guard that attaches to rear of MobileMaster IV cvcc feeders. Flow tube is calibrated in cubic feet per hour and liters per min.
For CO_2 shielding gas, order 37365
For Argon shielding gas mixtures, order 36658

Digital Meter Kit -
This kit provides a digital display of voltage and wire feed speed (ipm or m/min) 2354 0446

Gas Pre/Postflow w/Burnback Kit -
This kit provides adjustment for shielding gas preflow time (sec) and postflow time (sec). Adjustable burnback stops the wire feed before the arc is stopped and keeps the wire from sticking to the weld puddle.
..... 36661

Burnback Control Kit -
Adjustable burnback stops the wire feed before the arc is stopped 36657

Contactor Replacement 1373 5590

Coil Adaptor - adapting to 14 lb. (6.5 kg) coils 37337

Spool Adaptor -
Use for adapting to 8 in. (20.3 cm) diameter spools 17511

Spool Adaptor -
Use for adapting to 10 in. (25.4 cm) diameter spools 34330

Drive Roll and Guide Tube Selection

Wire Type & Diameter	Roll Drive*	Guide Tube NAS	Guide Tube EURO
Hard Wires ("V" groove)			
.035 in. (0.9 mm)	21156**	0558001498	0558001078
.045 in. (1.2 mm)	21156**	0558001498	0558001078
.052 in. (1.4 mm)	21157**	0558001497	0558001979
1/16 in. (1.6 mm)	21157**	0558001497	0558991079
Cored Wires (Knurled "V" groove)			
.035 in. (0.9 mm)	21160***	0558001499	0558001077
.040 in. (1.0 mm)	21161***	0558001498	0558001078
.045 in. (1.2 mm)	21161***	0558001498	0558001979
.052 in. (1.4 mm)	21161***	0558001497	0558001979
1/16 in. (1.6 mm)	21161***	0558001497	0558991079
5/64 in. (2.0 mm)	21162***	0558001497	0558001079
Soft (aluminum) Wire ("U" groove)			
.035 in. (0.9 mm)	21158**	0558001903	0558001897
3/64 in. (1.2 mm)	21159**	0558001904	0558001898
1/16 in. (1.6 mm)	21159**	0558001904	0558001898

* Two drive rolls are required for four roll drive systems.
** Use flat, plain pressure roll(s) (P/N 2361 2397) supplied with wire feeder.
*** Flat, knurled presssure roll(s) (P/N 3261 2369).

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 MobileMaster IV cvcc is a push type portable wire feeder designed for maximum versatility. The unit operates 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 0.023" through 5/64" diameter with wire feed speed from 50 to 700 IPM. The feeder components are totally enclosed in a rugged case for optimum mobility.

NOTE

The MobileMaster IV cvcc is not recommended for short circuiting transfer using constant current power sources due to the limited short current available.

TABLE 1-1. SPECIFICATIONS

Wire Feed Speed	50 - 700 in./min. (1.3 - 17.8 m/min.)	
Maximum open circuit voltage	100 vdc	
Wire diameters	Hard: .023" (0.6mm), .030" (0.8mm), .035" (0.9mm), .045" (1.2mm), .052" (1.4mm), 1/16" (1.6mm) Soft: .035" (0.9mm), 3/64" (1.2mm), 1/16" (1.6mm) Cored: .030" (0.8mm), .035" (0.9mm), .045" (1.2mm), .052" (1.4mm), 1/16" (1.6mm), 5/64" (2.0mm)	
Wire supply	8" (203mm), 10" (254mm) and 12" (305mm) diameter spools or 14-lb. (6.4kg) coils*	
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.	
Height	14.0" (356mm)	The MobileMaster IV cvcc will fit through a 16" (406mm) dia. hole.
Width	9.5" (241mm)	
Length	26.9 (683mm)	
Weight (without spool and no contactor)	26 lbs. (11.8kg)	
Weight (with contactor, without spool)	30 lbs. (13.6mg)	

*8-in. spool requires spool adaptor P/N 17511; 10-in spool requires spool adaptor P/N 34330; and 14-lb coil requires coil adaptor P/N 37337.

2.1 DRIVE ROLLS

The unit is supplied ready to feed 0.045", .052" or 1/16" (1.2 to 1.6mm) diameter cored wires. (Other drive rolls are available to feed other sizes of hard wire, soft wire, and cored wire. See Table 2.1.) The drive roll has two grooves; the small groove feeds 0.045" diameter wire, the large groove feeds .052 and 1/16" diameter wire. The groove nearest the gear motor feeds the wire. If the required groove is not in that position or a different drive roll is required:

A. Release the pressure roll assembly lever and lift the assembly upward.
B. Remove the thumb screw holding the drive roll to the gear motor shaft.
C. Remove the drive roll and reverse or replace with the required size for the wire chosen.
D. Secure the screw removed in "B" and tighten.
E. Secure the pressure roll assembly.

2.2 WELDING WIRE SPOOL

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

A. Unscrew the spool nut from the hub.
B. Place the wire spool on the hub to rotate clockwise as the wire is unwound; hub pin must engage the hole in the wire spool.
C. Screw the spool nut into the hub.

NOTE: If using wire from an 8 or 10-in. spool or from a 14-lb. coil, install proper adaptor (see Optional Accessories).

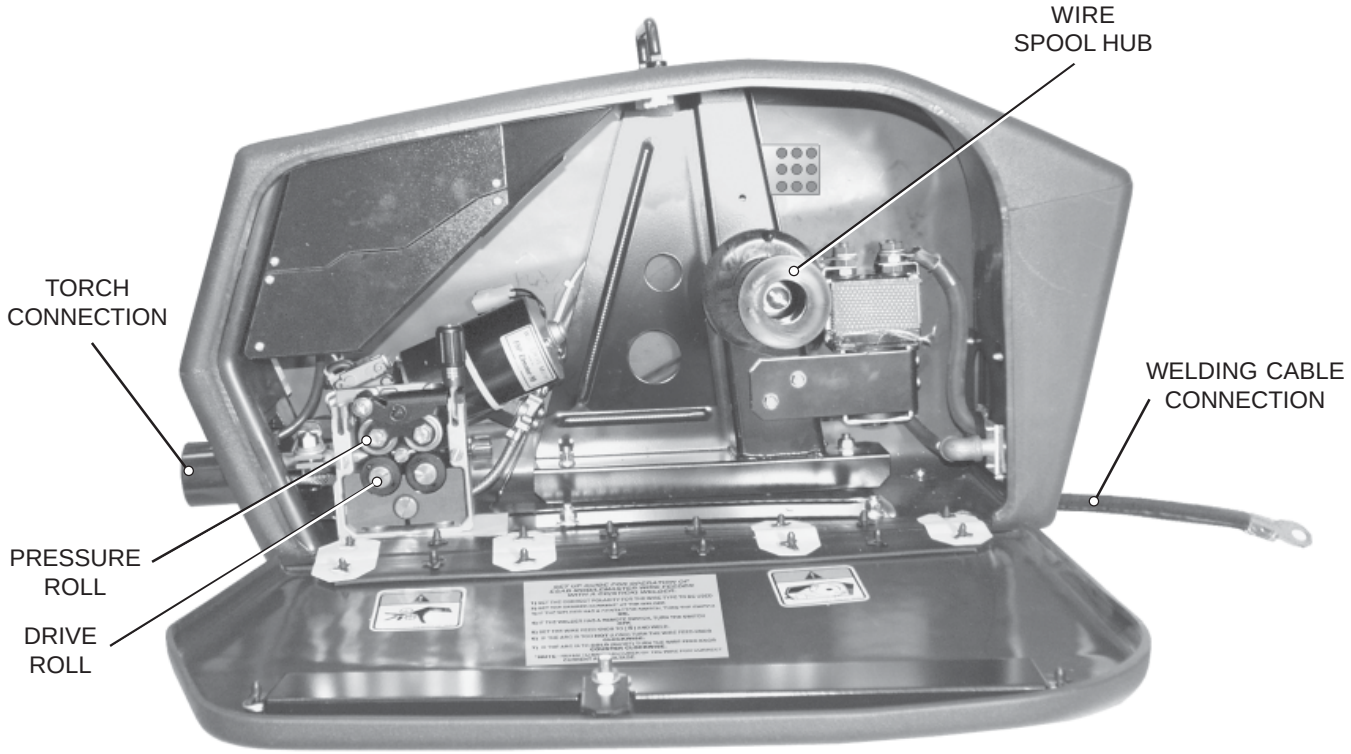


Figure 2.1 - Typical Set-up of MobileMaster IV cvcc

2.3 TORCH CONNECTIONS

The torch adaptor on the MobileMaster IV cvcc 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 or the holding screw on the NAS Adaptor. The NAS Adaptor requires the torch trigger leads to be connected separately.

⚠ 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 MobileMaster IV cvcc can be used with either polarity without modifications.

A. Connect the proper polarity output welding cable from the power source; positive terminal for gas shielded wires, or negative for most gasless self-shielded cored wires, to the weld cable lug connection extending from the rear of the MobileMaster IV cvcc 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 to the opposite polarity output connection on the power source and to the work piece.
C. Connect the wire feeder work lead 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. Open circuit voltage must be present to operate the wire feeder.
3. Turn the wire feeder ON and close the torch trigger.

⚠ 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.

4. Inspect all gas connections for leaks.
5. If using gas shielded wires, adjust the gas flowmeter to the desired flow rate.
6. Turn power source and wire feeder OFF.

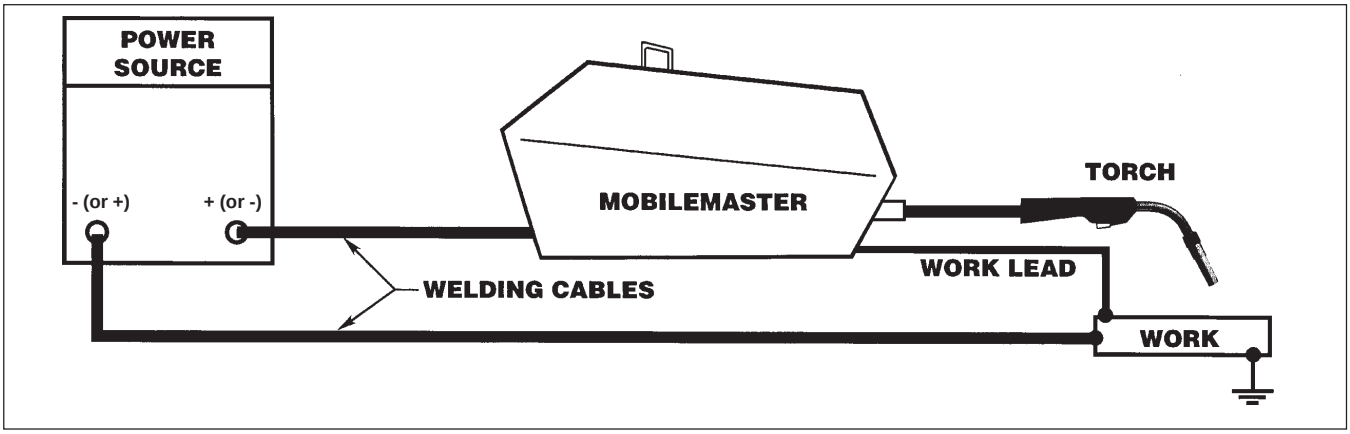


Figure 2.2 - Typical Set-up of MobileMaster IV cvcc

2.5 THREADING THE WELDING WIRE

WARNING

When the wire feeder is connected to the power source, the work lead from the power source connected to the work piece, the wire feeder work lead connected to the work, and the power source is turned on with the contactor closed, the wire feeder is energized when the wire feeder is turned on. 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 levers and check for the proper drive roll and groove position.

CAUTION

Before threading welding wire through the casing, 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 casing or liner.

C. Feed the wire from the spool through the inlet guide along the drive roll groove and into the torch inlet guide.
D. Lower the pressure roll assemblies 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. If adjustment is required, turn the adjusting screw clockwise to increase drag, counterclockwise to decrease drag. Drag should be just enough to limit wire overrun.

3.1 CONTROLS (See Figure 3.1)

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.

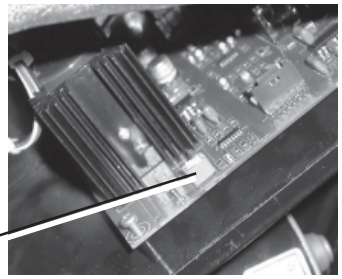
The MobileMaster IV cvcc wire feeder is equipped with automatic “Slow wire run-in”. If the wire feeder senses that the power source output voltage is in excess of 33 volts, the “run-in” wire speed automatically decreases to improve arc starts. When the arc is established, the wire feed speed is maintained by the wire feed speed control. If the arc is not established within approximately 1.5 seconds after the torch trigger is operated, the “slow wire run-in” is disabled allowing for high speed loading of the wire into the torch.

3.1.3 WIRE FEED SPEED (CONSTANT SPEED)

The MobileMaster IV cvcc 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. Factory settings are as follows: S1 - closed, S2 - open. For “Non” Voltage Control Mode locate dip switch SW1 on the pc board and position S1 and S2 as follows:

Position S1 - open
Position S2 - closed

See Dip Switch Table, Section 3.5, Table 3.1



3.1.4 OPTIONAL METER

The optional meter allows for monitoring the arc voltage while welding.

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.

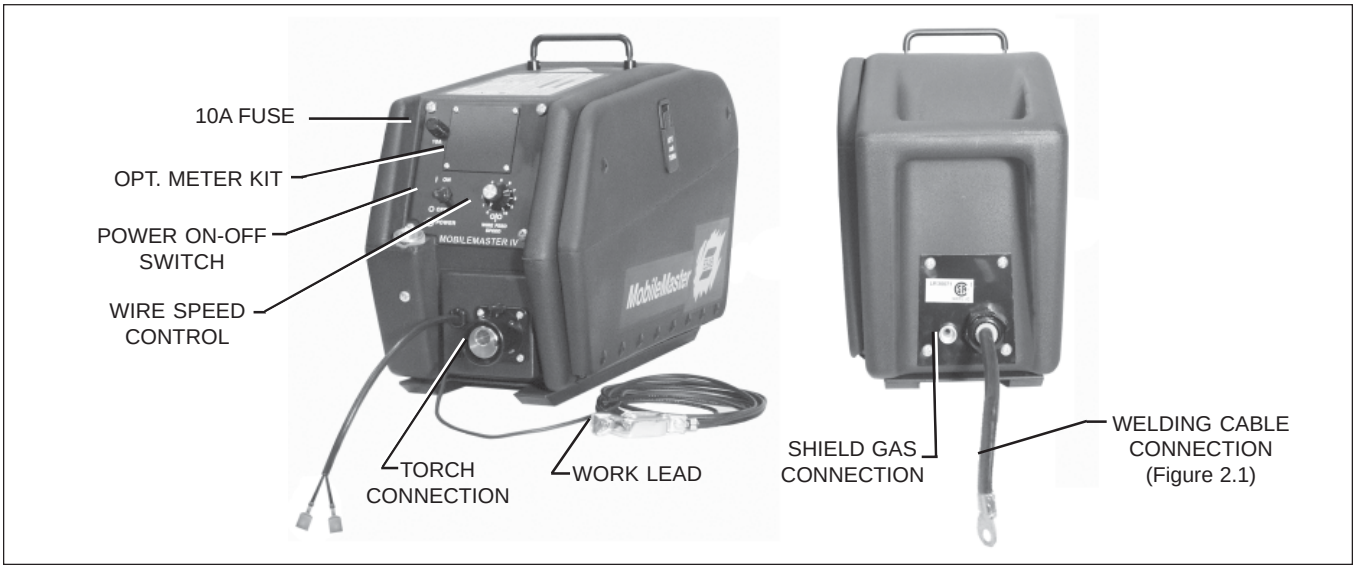


Figure 3.1 - Controls and Connections, MobileMaster IV cvcc

B. The radiant energy of the arc can be decomposed by 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 arcburn, sparks and flying hot metal.
I. Turn off welding power before adjusting or replacing electrodes.

3.3 WELDING PROCEDURE

A. DRIVE ROLL PRESSURE ADJUSTMENT -Thread the wire over the feed rolls and into the outlet guide tube. Adjust the drive roll pressure knob until no wire slippage occurs. DO NOT OVERTIGHTEN - EXCESSIVE PRESSURE CAN CAUSE WIRE FEEDING PROBLEMS.
B. Set the voltage or current control on the power source to the appropriate setting.
C. Adjust the wire feed speed control for the gauge of material to be welded. If material of two different thicknesses is to be welded, determine the average of the two and make the settings accordingly. When welding, aim the arc toward the heavier metal.
D. If using gas shielded wire, slowly open the valve on the shield gas cylinder or manifold and adjust the regulator or flowmeter to attain the desired gasflow.

⚠ 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.

E. Position the torch above the work piece. Depress the torch trigger and weld.

⚠ 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.

3.4 SHUTDOWN

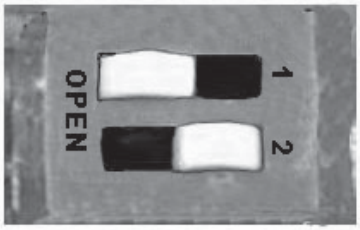
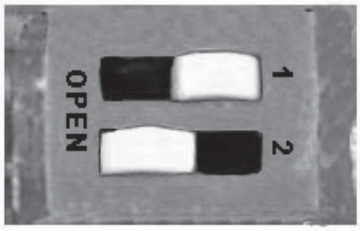
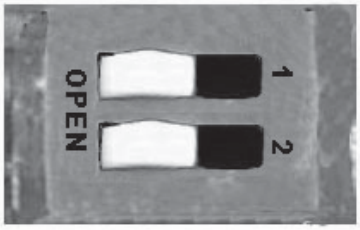
A. Release torch trigger to break the arc.

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.

3.5 MOBILEMASTER IV CVCC DIP SWITCH TABLE

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

TABLE 3-1. Dip Switch Function

Switch Position OPEN (OFF) CLOSED (ON)	Description
BLACK = ROCKER DOWN 	Factory Setting - Constant Current Operation ("Voltage Control Mode") In this operation mode the MobileMaster IV cvcc 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 (MobileMaster IV cvcc 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.
BLACK = ROCKER DOWN 	Alternate Setting - Constant Voltage Operation ("Constant Wire Feed Speed") 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 (MobileMaster IV cvcc 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.
BLACK = ROCKER DOWN 	Alternate Setting - Higher Wire Speed Range (CV or CC Operation) Typically the maximum MobileMaster wire feed speed is approximately 650 ipm. For some welding applications, higher wire feed speeds are required, for example, when using small diameter wires on heavy plate thicknesses. In this operation mode the maximum wire feed speed is increased to approximately 800 ipm. The "Slow Run-In" is enabled and the wire feed speed varies with arc voltage changes but the change in wre speed (ipm/arc volt) is less than the factory setting mode. A disadvantage of this operation mode is less resolution to the wire feed speed knob and more sensitivity to changes in the knob position.

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

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.

To aid in checking and servicing, use Schematic, Figure 4.1.

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, use schematic diagram, Figure 4.1.

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.

1		
2	PCB1	CONTROL P/C BOARD
	S1	SWITCH POWER
	F1	FUSE SLO-BLO 10A
3	R1	POTENTIOMETER, 10K, 2W
4	BR1	BRIDGE RECTIFIER,35A,400V
	BR2	BRIDGE RECTIFIER,35A,400V
	SOL1	SOLENOID SWITCH 24v
5	M1	MOTOR,GEAR

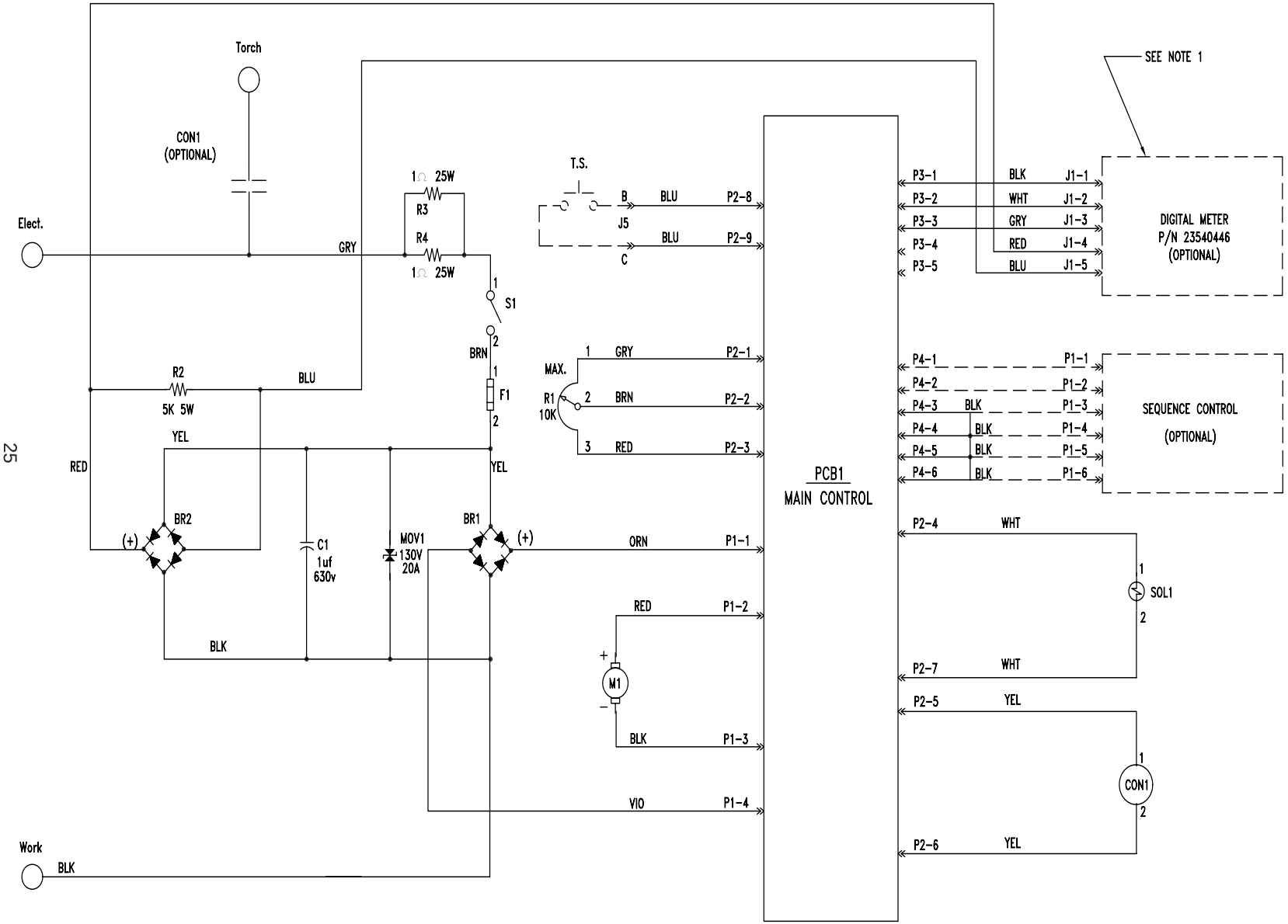


Figure 4.1 - Schematic Diagram, MobileMaster IV cvcc

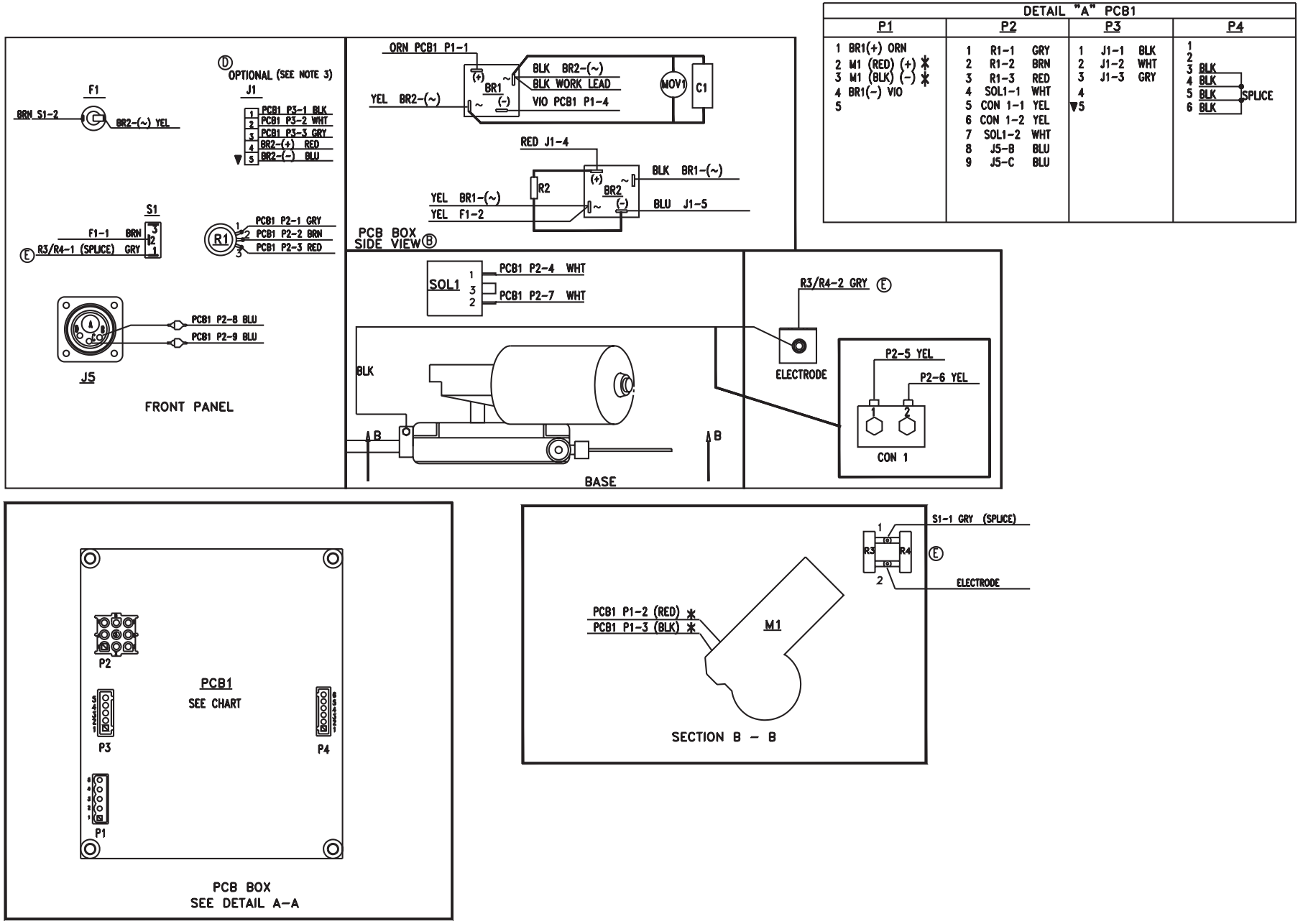


Figure 4.2 - Wiring Diagram, MobileMaster IV cvcc

5.1 GENERAL

Replacement parts are illustrated on the following figures. When ording replacement parts, order by part number and part name. DO NOT ORDER BY PART NUMBER ALONE.

Always provide the series or 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 assure 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 distributor. Be sure to indicate any special shipping instructions when ordering replacement parts.

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

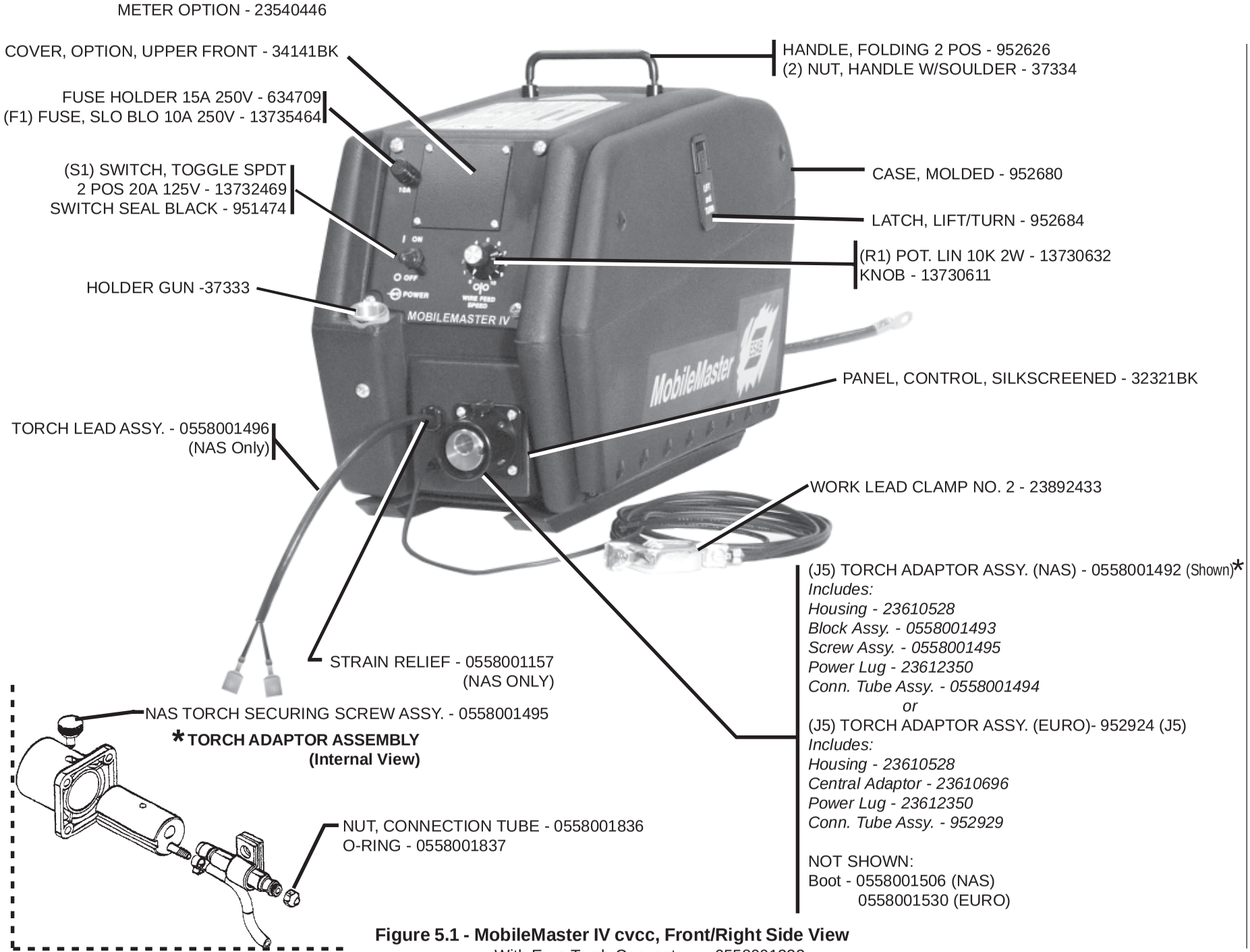


Figure 5.1 - MobileMaster IV cvcc, Front/Right Side View
With Euro Torch Connector - 0558001333
With NAS Torch Connection - 0558001334

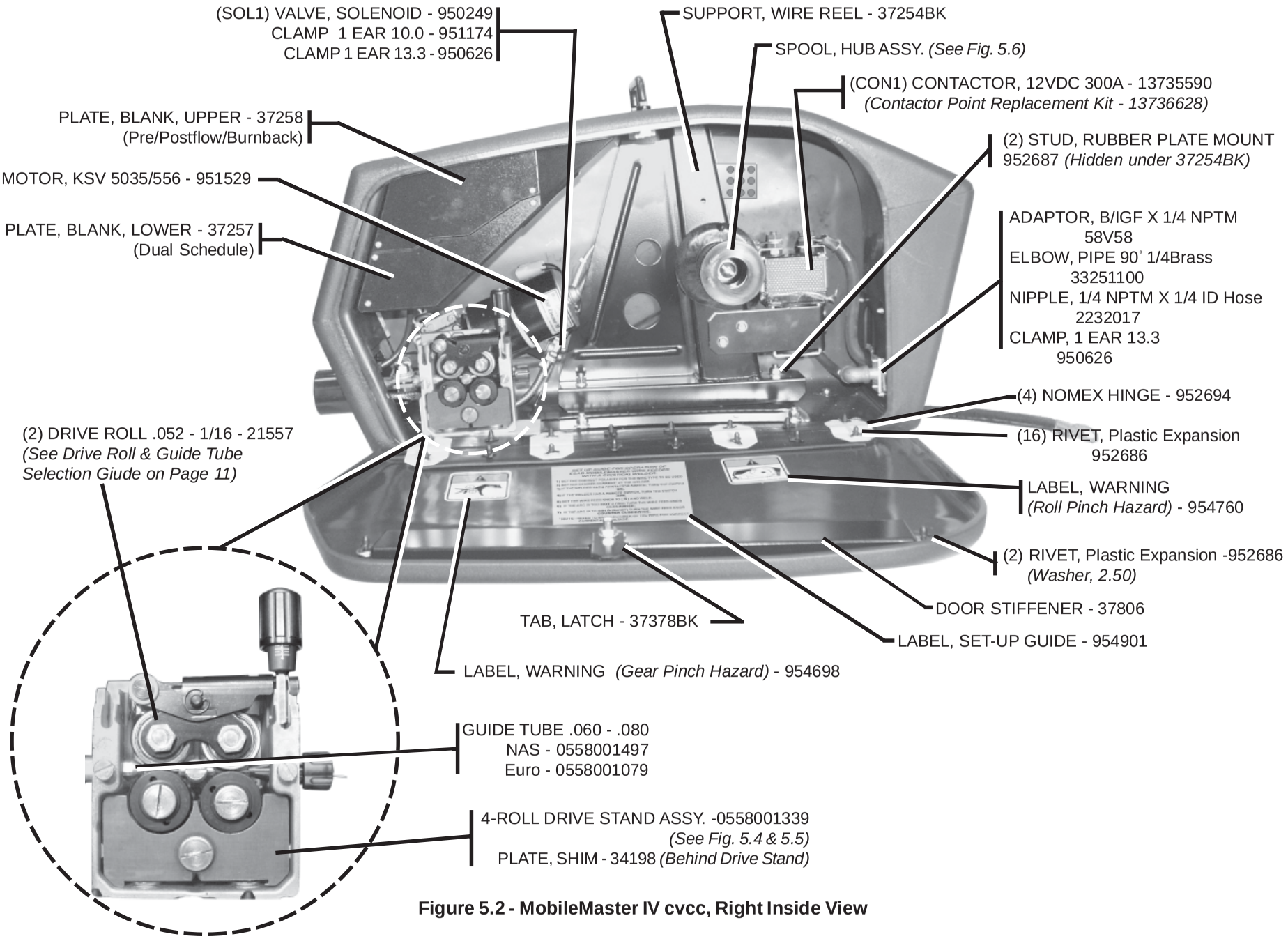


Figure 5.2 - MobileMaster IV cvcc, Right Inside View

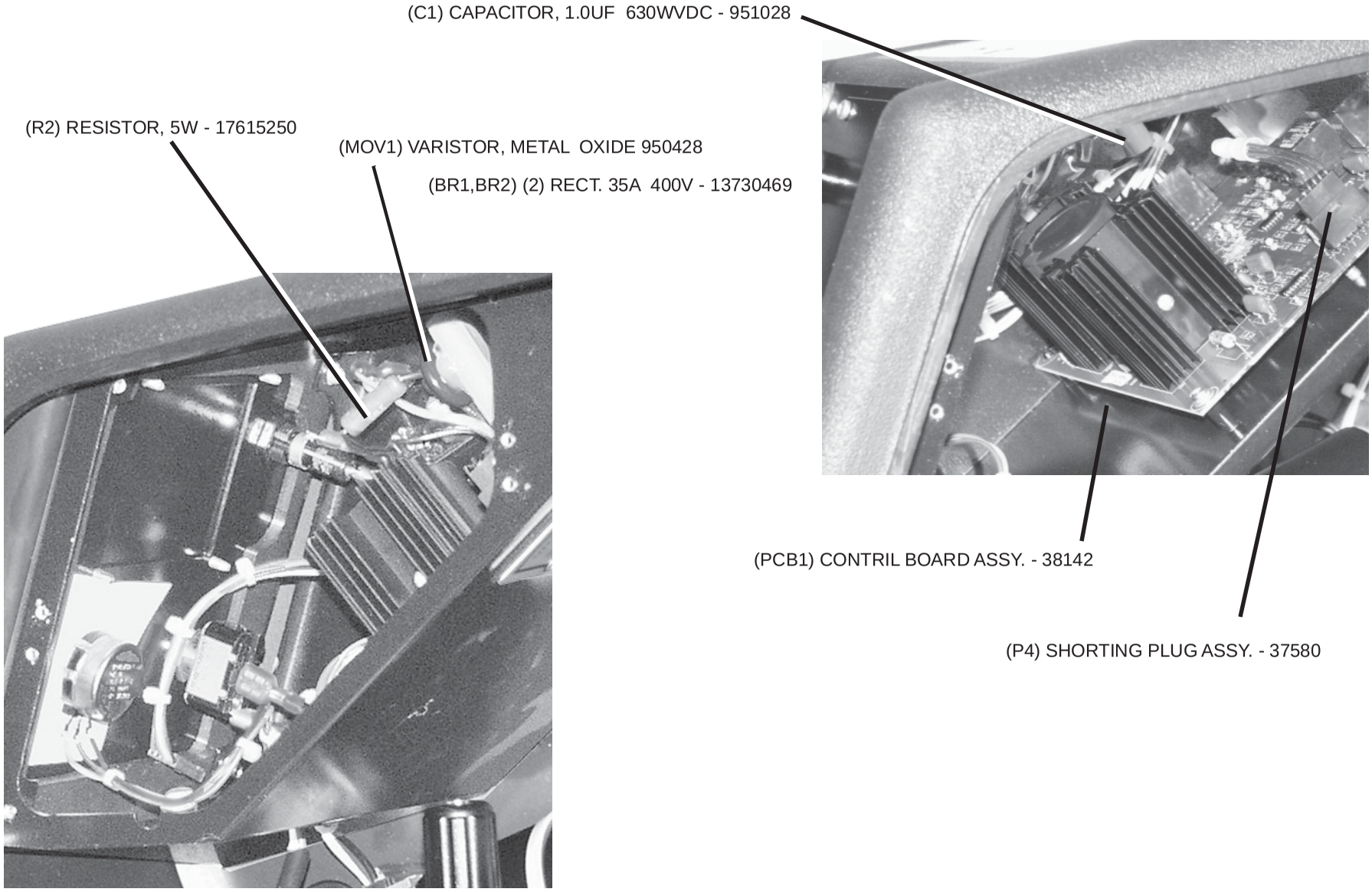


Figure 5.3 - MobileMaster IV cvcc, Right Inside View With Upper and Lower Blanking Plates Removed

For units with serial numbers xxxJ228001 (Mid July 2002 forward)

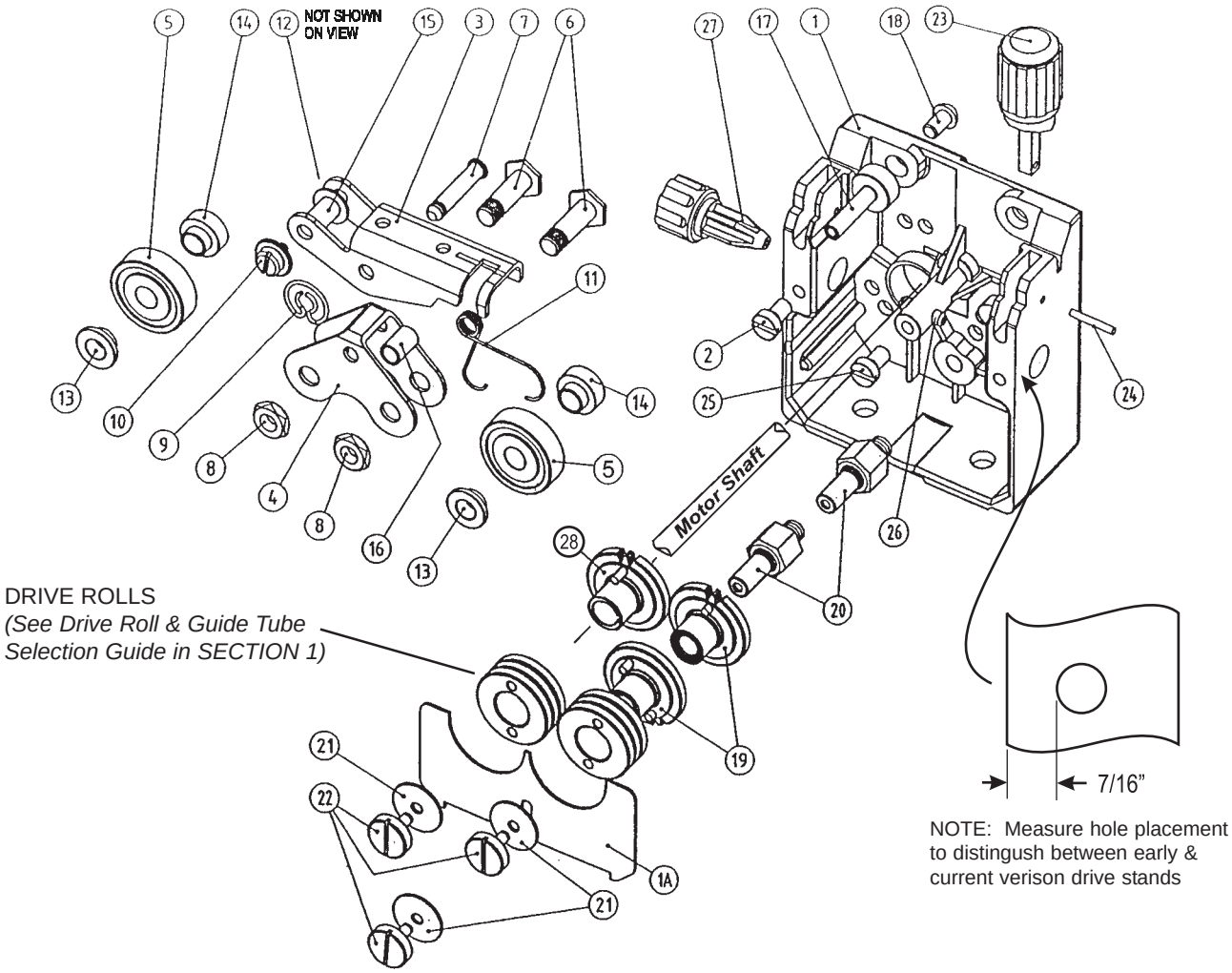


Figure 5.4 - Auto-Lift Mini Four Roll Geared Wire Drive System - 0558001339
For units with serial numbers starting xxxJ228001 (Mid July 2002 forward)

ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.
1	0558003543	Feed Plate	1	15	0558001752	Spacer Tube Pressure Arm Auto Lift	1
1A	0558001744	Safety Guard	1	16	0558001753	Spacer Tube Bogie	1
2	952927	Screw, Thumb (M6X12)	1	17	0558001754	Axle Pressure Arm	1
3	0558001745	Pressure Arm	1	18	0558001755	Allen Screw	1
4	0558001746	Bogie	1	19	23612386	Gear Adaptor Feed Roll	2
5	23612368	Pressure Roll	2	20	0558003540	Axle Gear Adaptor Feed Roll	2
6	23612477	Axle Pressure Roll	2	21	34608	Washer, Retaining Screw	3
7	0558001747	Locating Pin	1	22	952925	Knurled Screw	3
8	23612474	Nut, Pressure Roll Axle	2	23	23612460	Pressure Device W/Scale	1
9	23612472	Circlip	1	24	23612470	Locating Pin, 2.5 x 12 Pressure Device	Pkt. 5
10	34609	Retaining Screw Pressure Arm	1	25	0558003541	Screw Intermediate Guide	1
11	0558001748	Spring Bogie Auto Lift	1	26	0558001757	Center Guide (Hard Wire)	1
12	0558001749	Spring to Pressure Arm Auto Lift	1		0558001895	Center Guide for (Aluminum)	1
13	0558003538	Spacer Tube, Small	2	27	0558003544	Inlet Guide (Aluminum & Steel)	1
14	0558003539	Spacer Tube, Big	2	28	0558003542	Main Gear Drive	1

For units with serial Numbers between xxxJ102026-xxxJ228001 (Prior to Mid July 2002)

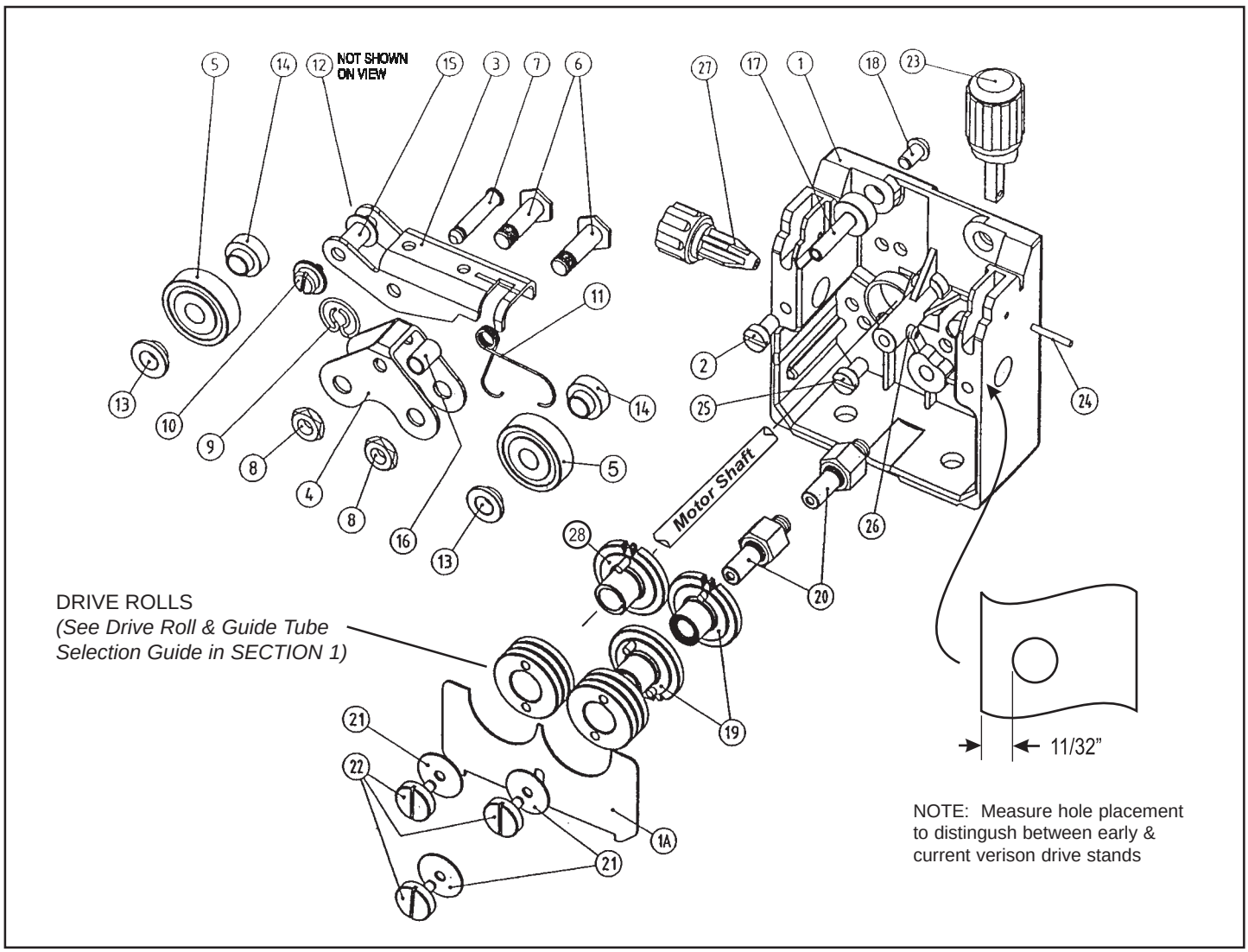


Figure 5.5 - Auto-Lift Mini Four Roll Geared Wire Drive System - 0558001339
For units with serial Numbers between xxxJ102026 - xxxJ228001 (Prior to Mid July 2002)

ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.
1	0558001743	Feed Plate	1	15	See Fig. 5.4	Same as new style	
1A	See Fig. 5.4	Same as new style		16	See Fig. 5.4	Same as new style	
2	See Fig. 5.4	Same as new style		17	See Fig. 5.4	Same as new style	
3	See Fig. 5.4	Same as new style		18	See Fig. 5.4	Same as new style	
4	See Fig. 5.4	Same as new style		19	See Fig. 5.4	Same as new style	
5	See Fig. 5.4	Same as new style		20	0558001756	Axle Gear Adaptor Feed Roll	2
6	See Fig. 5.4	Same as new style		21	See Fig. 5.4	Same as new style	
7	See Fig. 5.4	Same as new style		22	See Fig. 5.4	Same as new style	
8	See Fig. 5.4	Same as new style		23	See Fig. 5.4	Same as new style	
9	See Fig. 5.4	Same as new style		24	See Fig. 5.4	Same as new style	
10	See Fig. 5.4	Same as new style		25	23612462	Screw Intermediate Guide	1
11	See Fig. 5.4	Same as new style		26	See Fig. 5.4	Same as new style	
12	See Fig. 5.4	Same as new style					
13	0558001750	Spacer Tube, Small	2	27	0558001758	Inlet Guide (Aluminum & Steel)	1
14	0558001751	Spacer Tube, Big	2	28	0558002149	Main Gear Drive	1

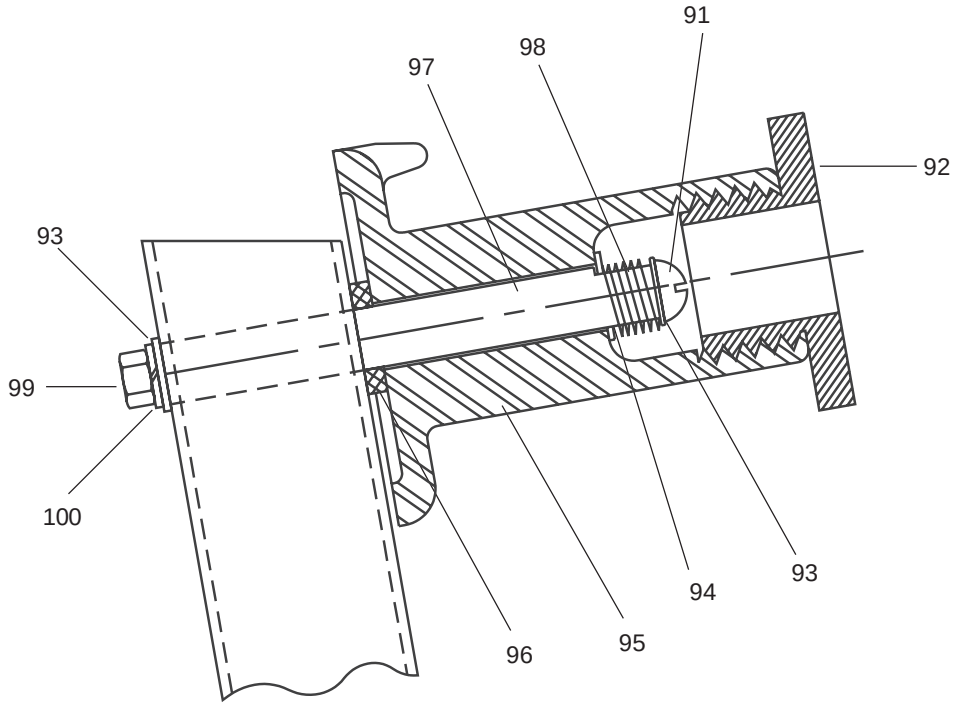


Figure 5.6 - Wire Spool Hub Assembly

Item No.	Qty Req.	Part No.	Description	Ckt. Symbol
91	2	92040101	SCREW R.H.M. 3/8-16X.75	
92	1	23600010	NUT, PLASTIC	
93	AR	64304125	WASHER, FLAT 3/8"	
94	1	23600952	WASHER	
95	1	23606237	HUB REEL	
96	1	23600255	BRAKE DISC	
97	1	36756	"D" SHAFT	
98	1	23600982	SPRING	

NOTES

REVISION HISTORY

1. The "D" edition (11/03) changed the replacement parts for the clamp, P/N 952860 to P/N 950626 1 ear 13.3 GER. Various editorial changes were also made.

2. The "E" edition (04/04) added section 3.5 MobileMaster IV cvcc Dip Switch Table per Service Bulletin # M_04_006.

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