TM 9-4940-567-13&P

This Manual Supercedes TM 9-4940-567-13&P, Dated 15 March 2002

TECHNICAL MANUAL

OPERATOR, UNIT, AND DIRECT SUPPORT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) FOR TRAILER MOUNTED WELDING SHOP SET (TMWSS)

Contract # DAAE20-99-D-0087
SHOP EQUIPMENT WELDING (SEW)
Contract # DAAE20-03-D-0092
NSN 4940-01-454-9877
LIN W48391
EIC 2FT

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HEADQUARTERS, DEPARTMENT OF THE ARMY

1 October 2003

WARNING SUMMARY

WARNING

The weld shop grounding rod must be inserted in the ground or connected to ground. Failure to properly ground the weld shop could result in electrical shock injuries or death to personnel.

WARNING

Diesel fuel for the engine is combustible. Extinguish all smoking materials and do not allow spark or open flames near the fuel tank or fuel system.

WARNING

The noise level of the engine and air compressor exceeds 85 dB. Wear earplugs within a 14-foot radius of the weld shop.

WARNING

High voltage is present within the welding equipment and can cause serious injury or death. Use caution when operating the welding equipment or performing maintenance.

WARNING

The tongue weight is over 500 pounds. Use the wheel caster crank when lowering or raising the tow ring.

WARNING

The weld shop contains three gas cylinders, use caution when utilizing/replacing these cylinders.

WARNING

Ensure the trailer handbrakes are engaged before releasing from the tow vehicle. Ensure stabilizer leg(s) are in place after the trailer is removed from the tow vehicle.

WARNING

Consult your local Industrial Hygienist before welding in confined spaces such as the interiors of vehicles and tanks. Failure to have appropriate ventilation could result in death. If using the weld shop indoors, ensure adequate ventilation is provided.

WARNING

Personnel should not stand between the trailer and the tow vehicle while tow vehicle is moving. Serious injury or death to personnel can occur.

WARNING

Personnel shall wear earplugs within a 14-foot radius of the weld shop while the engine or air compressor is operating.

WARNING

Use appropriate protective equipment (i.e., gloves, safety goggles, respirators, shielding) during all phases of welding, brazing, cutting, sanding or grinding operations. The correct particulate respirator to use during these operations is "Particulate Respirator N100 8233", NSN 4240-01-452-8348. This respirator is only good for a one-time use.

WARNING

Remove contaminated clothing prior to entering living areas to avoid contamination. Ensure to wash hands before eating, smoking or applying cosmetics.

WARNING

When sharpening thoriated electrodes, a dust hazard may be generated. Use of "Particulate Respirator N100 8233" NSN 4240-01-452-8348, is required for sharpening thoriated electrodes. This respirator is only good for a one-time use.

WARNING

Engine exhaust fumes can be very harmful if allowed to accumulate. Be sure to run the engine in a well-ventilated area where there are no people near the engine. Diesel engine exhaust contaminants are: sulfur dioxide, formaldehyde, ammonia and acrolein.

WARNING

When checking engine fluids for leaks use safety goggles.

WARNING

Anti-freeze contains poison. Wear rubber gloves and safety goggles to avoid personal injury.

WARNING

Avoid standing on the roof of the weld shop. The roof is not designed as a stand-on work surface.

WARNING

Welding produces fumes and gases. Breathing these fumes and gases can be hazardous to your health. The listing below identifies the health effects of welding fumes and hazardous gases.

COMPOUND	HEALTH EFFECT
Cadmium	Respiratory irritant, metal fume fever, pulmonary edema, kidney damage, cancer
Chromium	Respiratory irritation
Chrome 6+	Respiratory irritation, metal fume fever
Copper	Respiratory irritation, metal fume fever
Iron Oxide	Pneumoconiosis
Fluorides as Fluorine	Respiratory and mucosal irritation, nausea
Lead	Central nervous system damage, anemia, gastrointestinal disturbances, kidney damage
Manganese	Central nervous system damage, lung damage
Nickel	Pneumoconiosis, dermatitis, central nervous system damage, kidney damage, lung cancer
Vanadium	Respiratory irritation, lung disease
Titanium	Respiratory irritation
Welding Fumes (not otherwise classified)	Respiratory irritation, metal fume fever
Zinc	Respiratory irritation, metal fume fever
Carbon Dioxide	Headaches, dizziness, asphyxiation
Carbon Monoxide	Nausea, dizziness, loss of mental function, central nervous system damage, coma, death
Nitrogen dioxide	Respiratory irritation, pulmonary edema
Ozone	Respiratory irritation, dyspnea, chest pain

WARNING

Welding arcs can damage vision. Use protective screens or barriers to protect others from flash and glare; warn other personnel not to watch the arc.

WARNING

Personnel shall ensure that they are enrolled in the Occupational Vision Program and tested on an annual basis.

WARNING

Ensure wheel chocks are placed against the weld shop wheel before unhooking from the tow vehicle.

WARNING

Ensure that two safety chains and airbrake hose from the tow vehicle are properly connected to the weld shop.

WARNING

Before lifting the welder off the trailer, ensure lifting sling capacity is rated for 750 pounds or more.

WARNING

No cutting and welding shall be performed in a confined workspace (e.g., inside an M1A1 Tank) until an Industrial Hygienist has evaluated and approved the workspace for conducting such work.

WARNING

Loading and unloading OXYGEN and ARGON cylinders require the use of two operators.

WARNING

Welding on any vehicle with Depleted Uranium (DU) shall only be accomplished after decontamination. Respiratory protection (M25 or M17A2 protective mask with M13A2 filter element, and the accompanying head cover, or their equivalent) shall be worn by the welder. The local Radiation Safety Officer or NBC Non-commissioned officer shall be called upon to assist in evaluating armor damage to determine whether the exposed armor contains DU and to provide authorization for welding.

CHANGE NO. 1

HEADQUARTERS, DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 16 JUNE 2006

TECHNICAL MANUAL

OPERATOR, UNIT, AND DIRECT SUPPORT MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)
FOR
TRAILER MOUNTED WELDING SHOP SET (TMWSS)
Contract # DAAE20-99-D-0087
SHOP EQUIPMENT WELDING (SEW)
Contract # DAAE20-03-D-0092
NSN: 4940-567-9877
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1. Remove old pages and insert new pages as indicated below.

2. New or changed material is indicated by a vertical bar in the margin of the page. Illustration changes are indicated by a pointing hand or vertical bar adjacent to the illustrations.

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iii-iv	iii-iv
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2-17 thru 2-22	2-17 thru 2-22
2-25 thru 2-28	2-25 thru 2-28
NONE (NEW)	2-34.1 thru 2-34.3/2-34.4 blank
2-39 thru 2-40	2-39 thru 2-40.4 (incl NEW pgs 2-40 thru 40.2 blank)
2-49 thru 2-50	2-49 thru 2-50.2 (incl NEW pgs 2-50 thru 2-50.1)
NONE (NEW)	2-56.1 thru 2-56.2
2-57 thru 2-58	2-57 thru 2-58
3-1 thru 3-2	3-1 thru 3-2
4-1 thru 4-4	4-1 thru 4-4
4-27 thru 4-28	4-27 thru 4-28
4-35/4-36 blank	4-35/4-36 blank
4-43 thru 4-58	4-43 thru 4-58
4-63 thru 4-64	4-63 thru 4-64
4-67 thru 4-89/4-90 blank	4-67 thru 4-90

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Chief of Staff

Official:

JOYCE E. MORROW
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Page No.	***Change No.**	**Page No.**	***Change No.**
Cover	0	2-56.1 thru 2-58	1
Title	0	2-59/2-60 Blank	0
a-d	0	3-1 thru 3-2	1
A/(B blank)	0	3-3 thru 3-4	0
i-ii	0	4-1 thru 4-4	1
iii-iv	1	4-5 thru 4-26	0
1-1 thru 1-25/1-26 blank	1	4-27 thru 4-28	1
2-1 thru 2-16	0	4-29 thru 4-34	0
2-17 thru 2-22	1	4-35/4-36 blank	1
2-23 thru 2-24	0	4-37 thru 4-42	0
2-25 thru 2-28	1	4-43 thru 4-58	1
2-29 thru 2-34	0	4-59 thru 4-62	0
2-34.1 thru 2-34.3/2-34.4 Blank	1	4-63 thru 4-64	1
2-35 thru 2-38	0	4-65 thru 4-66	0
2-39 thru 2-40.4	1	4-67 thru 4-90	1
2-41 thru 2-48	0	-a- thru -b-	0
2-49 thru 2-50.2	1	Index-1 thru Index-3/Index-4 Blank	0
2-51 thru 2-56	0		

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HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 1 OCTOBER 2003

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WELD SHOP USER'S MANUAL
TABLE OF CONTENTS

Chapter	Description	Page/Tab	
1	Introduction	1-1	1
	Concept of Operation	1-3	
	Equipment Data Table	1-5	
	Warranty Information	1-5	
	Safety, Care & Handling	1-6	
	Equipment Description	1-9	
	Weld Shop Overview	1-9	
	Enclosure Layouts	1-10	
2	Operational Instructions	2-1	2
	Operator/Crew Preventive Maintenance Checks & Services (PMCS)	2-2	
	Operation Under Usual Conditions		
	Set-up Procedure: Emplacement	2-5	
	Preparation for Operation	2-10	
	Close-down/Transport Procedure	2-20	
	Description and Use of Operator Controls		
	External Power	2-24	
	Remote Operation	2-25	
	Operating the Air Compressor	2-26	
	Operation of Weld Machine	2-28	
	Shielded Metal Arc Welding SMAW/STICK Setup	2-31	
	Flux Cored Arc Welding/MIG Setup/Troubleshooting	2-35	
	GMAW Setup Using Spoolmatic w/WC-24 Contactor	2-40	
	GMAW Troubleshooting	2-43	
	GTAW/TIG Setup/Troubleshooting	2-46	
	AAC	2-54	
	Oxy-Fuel Cutting	2-57	
	Oxy-Fuel Brazing	2-58	
	Operation Under Unusual Conditions		
	Cold and Hot Temperature Operation	2-59	
	Emergency Procedures	2-59	
	Painting Enclosure	2-59	
3	Units/DS Maintenance Troubleshooting Procedures	3-1	3
	Electrical Circuitry	3-2	
	Weldshop A/C Circuitry	3-3	
	Trailer Lights Circuitry	3-4	
4	Maintenance Instructions	4-1	4
	Warranty Information	4-1	
	Periodic Maintenance Schedule	4-4	
	Troubleshooting/Repair/Maintenance Log	4-7	

Maintenance Allocation Chart 4-9
Maintenance and Repair of Weld Shop Subsystems 4-14
Removal/Replacement of Subsystems 4-16
Loading and Unloading Gas Cylinders 4-27
Trailer Tire Replacement 4-32
Storage or Shipping 4-33
Instructions for Requisitioning Parts 4-35
Requisitioning from Commercial Sources 4-35
Parts List, TMWSS 4-43
Tools & Supply Parts List 4-43
Repair Parts List 4-49
Replacement Fab Parts 4-53
Equipment Consumable Parts List 4-54
Inventory Control Form (Hand Receipt) 4-56
Parts List, SEW 4-67
Tools & Supply Parts List 4-67
Repair Parts List 4-72
Equipment Consumable Parts List 4-77
Inventory Control Form (Hand Receipt) 4-80
Miscellaneous
List of Acronyms/Abbreviations ..... -a-
Alphabetical Index ..... Index 1
Authentication Page .....
Copyright Release of Commercial Manuals .....
DA Form 2028 .....
PIN # .....

COMMERCIAL TECHNICAL MANUALS

Appendix	Description	Tab #
1	US Army M103-A3 Trailer	5
2	Miller Electric Trailblazer 300D NT Welder	6
	OR	
	Miller Electric Trailblazer 301D Welder	
	Owner's Manual	
	Technical Manual	
	OR	
	Miller Electric Trailblazer 302 Diesel Welder	
	Owner's Manual	
	Technical Manual	
3	Kubota Diesel Engine	7
4	Miller Electric HF251 High Frequency Unit	8
5	Miller Electric SP-32 Wire Feeder	9
	OR	
	Miller Electric 12VS Wire Feeder	
	OR	
	Miller Electric 8VS Wire Feeder	
	Miller Electric Spoolmatic 30 Spool Gun	

COMMERCIAL TECHNICAL MANUALS (CON'T)

Appendix	Description	Tab #
5	WC-24	9
6	MIG Gun	10
	Welding Nozzle	
	Oxy-fuel Cutting	
	Welding	
	Heating Equipment	
7	Air Compressor	11
	General Operating Instructions for Air Driven Tools	
	½" Reversible Drill	
	Reciprocating Saw	
	Grinder	
8	Hose Reels	12
	Oxy-acetylene Reel	
	Cable reel, 1200 series A/C power	
	Weld reels, 1400 series	

CHAPTER 1

TMWSS/SEW
INTRODUCTION

1.0 Scope – This technical manual contains instructions for operation, checks, and adjustments, and corrective maintenance for the Trailer Mounted Welding Shop Set (TMWSS, serial #s 101-580) and Shop Equipment Welding (SEW, serial #s 581 & higher). These units are basically identical as to equipment capability; enclosure layout storage has some differences that are identified in this manual.

TMWSS

SEW

Figure 1 – Weld Shop

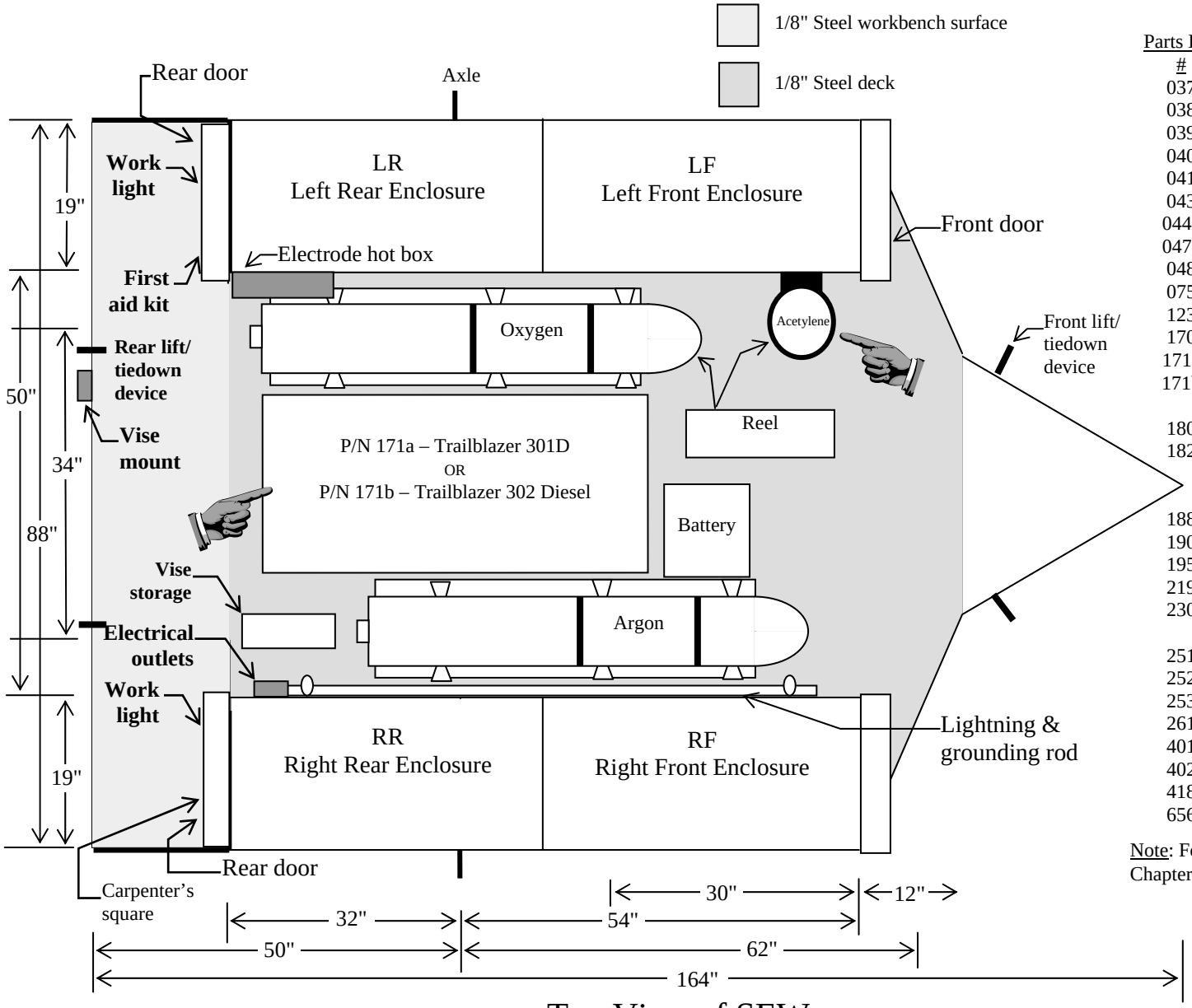
The TMWSS and SEW consist of selected tools and equipment integrated with an enclosure mounted on a 1½-ton two-wheel military trailer chassis model M103-A3. This self-contained shop set will enable Army maintenance personnel to perform a variety of welding processes for maintenance and repair of equipment in remote locations.

A top view layout of the SEW is illustrated on the next page. The major difference between this view and that of the TMWSS is the addition of a rod hot box, the storage of the vise being moved to the right rear of the weld enclosure, and different welder models.

1.1 Type of Manual – This manual is a comprehensive system commercial manual prepared in accordance with the Army specification TMWSS DFP381 and SEW DFP419. The contractor, in preparing this manual, followed the format of MIL-STD-40051.

This TM and associated manufacturers' manuals can be found on the Army Electronic Product Support (AEPS) website at: https://aeps2.ria.army.mil/Commodity/pubs/tacom/tmwss/tmwss.cfm An AEPS account and password are required to access the manuals. You may request access to AEPS via the AEPS home page at: http://aeps.ria.army.mil/

The contractor has established a website, www.weldsupply.net, for the weld shops program. Users are requested to utilize this website as a source of information, troubleshooting, and ordering of replacement parts.



Top View of SEW

Parts List #	Description
037	Argon cylinder
038	Roller, fixed 8"
039	Portable roller, 9"
040	Hose, argon-reel
041	Cylinder securing strap
043	Oxygen cylinder
044a	Hose, oxy-reel
047a	Acetylene cylinder
048	Hose, acetylene-reel
075	First aid kit
123	Carpenter square
170	Vise
171a	Trailblazer 301D welder OR
171b	Trailblazer 302 Diesel welder
180	Left front encl assy
182	L eft rear encl assy
188	Right front encl assy
190	Right rear encl assy
195	Front/rear door
219	Reel, oxy-prop
230	Work light, left & right
251	Battery
252	Battery cables
253	Battery box/cover
261	Ground rod
401	Portable roller frame
402	Vise mount assy
418	Work bench assy
656	Hot box

Note: For a complete parts list, refer to Chapter 4.

1.2 Model Number and Equipment Names of Major Weld Shop Subsystems – For a complete parts list refer to Chapter 4.

Item	Model #	TMWSS/SEW Parts List #
Trailer	M103-A3 (NSN 2330-00-141-8052)	177
Welder	Miller Electric Trailblazer 300D NT, 301D, or 302 Diesel	171, 171a, or 171b
High freq. box	Miller Electric High Frequency, 251D-1	128
Wire feeder	Miller Electric Wire Feeder, S-32P, 12VS, 8VS	146, 146a, or 146b (SEW)
MIG gun	Miller Electric, M-25	147&148 or 148a
TIG gun	WNI, 17FV-12-RX	130
Spool gun	Miller Electric, Spoolmatic 30A	671 (SEW)
Air compressor	DeVilbiss, F412 or Thomas, T-2820ST series	030 or 030a
Air hose reel	INSUL8, PAH4-50-SPEC (red)	214
Oxy-fuel dual hose reel	Cox, SHW-M-150	219
Argon gas reel	INSUL8, PAH4-50-SPEC (green)	213
Electric cable reels	INSUL8, 121120305011	217
Weld cable reels	INSUL8, 145010105011	220

1.3 Concept of Operation – The Welding Shop is a self-contained, integrated unit equipped for safe performance of a variety of welding and welding-related processes. The weld shop contains the tools, machinery, and expendable supplies necessary to perform these processes. The weld shop also provides compressed air on demand, electrical power for lights and electric hand tools, and an illuminated work surface with a vise. The TMWSS and SEW contain the items specified in the Army Components List. As appropriate, the shop components have been mounted on the trailer and plumbed or wired as necessary to form an integrated, fully functional unit.

This weld shop is qualified for transport over rough terrain and operates in a temperature range of -25°F to +120°F. Storage temperatures are -50°F to +160°F. The unit is very stable and has been designed and tested for transport via helicopter, rail, aircraft, ship and flatbed truck.

1.3.1 Arc Welding Processes – The weld shop provides capability to perform these arc welding processes as defined by the AWS Welding Handbook: Shielded Metal Arc Welding (SMAW) “STICK”, Flux Cored Arc Welding (FCAW), Gas Tungsten Arc Welding (GTAW) “TIG”, and Air-Carbon Arc Cutting (AAC) “Arc gouging”.

1.3.2 Oxy-fuel Gas Welding (OFW) – The weld shop provides capability to perform these OFW processes as defined by the AWS Welding Handbook: Oxy-fuel Gas Cutting (OFC) and Torch Brazing (TB).

1.3.3 Compressed Air – The weld shop provides compressed air on demand with sufficient pressure and volume for performing AAC. The combination of the compressor and the arc welding power source simultaneously provides at least 6 CFM of free air at 85 PSI and a Constant Amperage arc of at least 200 amps DC (100% duty cycle).

1.3.4 Operational Distance – The weld shop provides the capability to operate within a radius of at least 37 feet from the trailer without using tension to maintain the reach. This includes operation of electric power tools and lights as well as conduct of all welding, brazing, and cutting processes.

1.3.5 Workbench – The weld shop incorporates a workbench area on the rear of the trailer.

1.3.6 Vise – The weld shop includes a mount for the vise on the rear of the workbench and a storage mount in the front of the TMWSS weld compartment and the right rear of the SEW. When mounted, the vise has the full range of motion and uses anticipated by its design.

1.3.7 Strength – The workbench supports a load of at least 250 pounds. In addition, the vise mount and its supporting members (i.e. the workbench or other structure) are rigid enough and durable enough to withstand forces exerted on the vise without suffering damage or permanent deformation. They are capable of withstanding both clockwise and counter-clockwise torque of 100 foot pounds on each of the three axes of the vise while supporting the weight of the vise plus a 45 pound work piece.

1.3.8 Stability & Dimensions – Aberdeen testing certified that both weld shops are very stable with a low center of gravity. The trailer gross weight is approximately 5,400 lbs. for the TMWSS and 5,200 lbs. for the SEW. The tongue weight is less than 520 pounds. The maximum weight of either weld shop cannot exceed 5,740 lbs.

1.3.9 Lighting – The weld shop provides two permanently mounted lights for the workbench and a portable work light stored in a plastic box (LR3) on the second shelf of the left rear enclosure.

1.3.10 Orientation – Looking forward towards the trailer tongue defines the right and left sides of the weld shop.

1.4 Maintenance Forms, Records, and Reports – Use standard Army forms, records and reports. The weld shop has a website, www.weldsupply.net, for communication with the manufacturer.

1.5 Reporting of Manual Errors – You can help improve this manual. If you find mistakes or if you know of a way to improve any procedure, please let us know. You may mail, fax, or email your letter or DA Form 2028 direct to: AMSTA-LC-LPIT Tech Pubs, TACOM-RI, 1 Rock Island Arsenal, Rock Island, IL 61299-7630. The email address is TACOM-TECH-PUBS@ria.army.mil. The fax number is DSN 793-0726 or Commercial (309) 782-0726. DA Forms 2028 may also be submitted via the Internet on the Army Electronic Product Support (AEPS) website: http://aeps.ria.army.mil/.

1.6 Reporting Equipment Improvement Recommendations (EIR) – If your weld shop needs improvement, let us know. Send us an EIR via the AEPS website: http://aeps.ria.army.mil/. You, the user, are the best one to tell us what you do not like about your weld shop.

1.7 Corrosion Prevention and Control (CPC) – Corrosion Prevention and Control (CPC) of Army materiel is a continuing concern. It is important that any corrosion problems with the TMWSS/SEW be reported so that the problem can be corrected and improvements can be made to prevent the problem in future items.

While corrosion is typically associated with rusting of metals, it can also include deterioration of other materials, such as rubber and plastic. Unusual cracking, softening, swelling, or breaking of these materials may be a corrosion problem, please report such problems.

If a corrosion problem is identified, it can be reported using SF 368, Production Quality Deficiency Report. Use of key words such as "corrosion", "rust", "deterioration", or "cracking" will ensure that the information is identified as a CPC problem. This form should also be submitted to the address specified in DA PAM 750-8, The Army Maintenance Management System (TAMMS) User Manual. You can also use the AEPS website, http://aeps.ria.army.mil/, to submit any CPC reports.

1.8 Destruction of Army Materiel to Prevent Enemy Use – For procedures to destroy this equipment to prevent its use by the enemy, refer to TM 750-244-2, Procedures for Destruction of Electronic Materiel to Prevent Enemy Use.

1.9 Preparation for Storage or Shipment – To prepare the weld shop for storage or shipment, refer to the operational instructions for storage or shipment of the TMWSS/SEW in this manual.

1.10 Equipment Data

Dimensions (overall):	
Height:	
Closed transport configuration	81 inches
Work surface	36 Inches
Length:	
Closed transport configuration	13.75 ft
Width:	
Closed transport configuration	8 ft
Weight:	
Shipping weight	5200-5400 Lbs
Tongue weight	520 Lbs
Maximum weight	5,740 Lbs
Ground Clearance	16 Inches

1.11 Warranty Information – The weld shop contains various commercial equipments that were purchased with a warranty. Use the website, www.weldsupply.net to send an email with the weld shop serial number and item in need of repair and you will be given directions for how to proceed with the specific equipment you have identified. Refer to page 4-1 for more detailed Warranty information

1.11.1 Warranty Data – The TMWSS contract does not include a warranty period on the weld shop. The SEW has a 1-year warranty. Both contracts require any commercial warranties for equipments that are included in the procurement to be passed on to the Government.
The following equipments are provided with a warranty as described in the commercial manuals:

Item	Supplier
Trailblazer Welder	Miller Electric
High Frequency Box	Miller Electric
Wire Feeder	Miller Electric
Spool Gun	Miller Electric
Diesel Engine	Kubota
Air Compressor	DeVilbiss or Thomas

1.11.2 Miller Electric Limited Warranty (effective date of TMWSS/SEW delivery) – Covers all four Miller equipments. Refer to the Miller Electric website, www.millerwelds.com for more detailed warranty information.

5 years parts & 3 years labor
- Original main power rectifiers
- Inverters (input & output rectifiers only)

3 years parts & labor
- Transformer/rectifier power sources
- Plasmas arc cutting power sources
- Semi-automatic and automatic wire feeders
- Engine driven welding generators

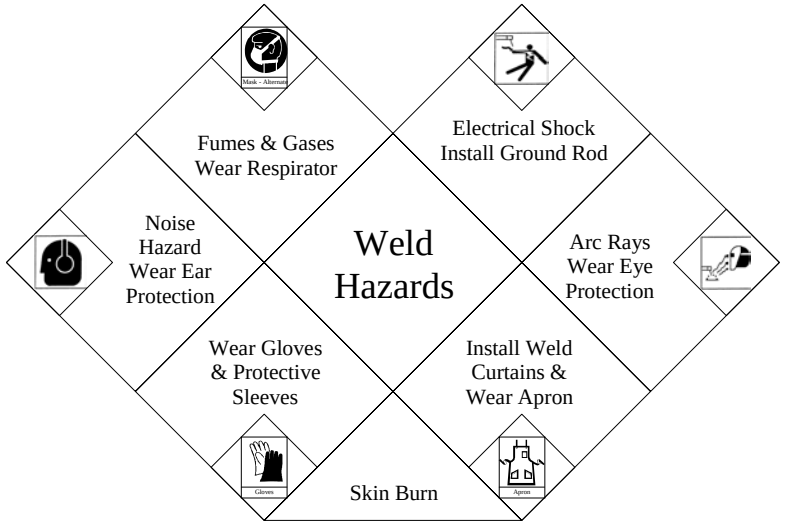
(Note: Engines are warranted separately by the engine manufacturer, Kubota.)

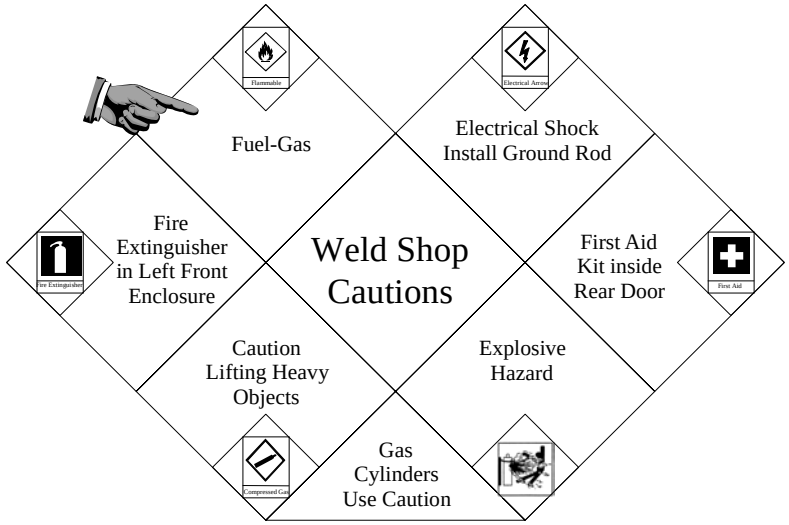
1 year parts & labor
- Process controllers
- Positioners & controllers
- IHPS power sources
- Water coolant systems
- HF units
- Plasma cutting torches

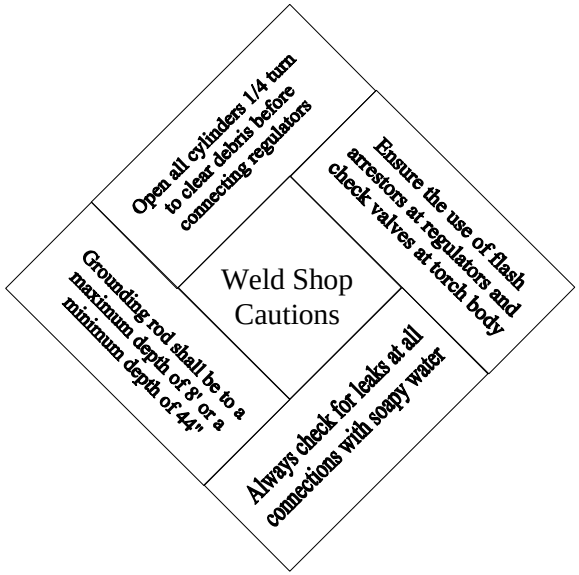
1.11.3 SEW Warranty – Consists of a one-year warranty for all non-consumable items plus the same extended Miller Electric/Kubota warranties as described above and in Tabs 6 & 7.

1.11.4 Kubota Engine Manual – The only portion of this manual which is applicable to the SEW Trailblazer is the actual engine. Miller Electric purchases only the engine from Kubota. Miller installs all the interface items with the engine. All the part numbers to the interface items for the Trailblazer are in the Miller Trailblazer manuals.

1.12 Safety, Care, and Handling – The following Tab 2 procedures should be reviewed when setting up, operating and preparing the TMWSS/SEW for transport.
- Refer to set-up procedures of this manual.
- Refer to close down procedures.
- Review the safety/caution labels installed on the weld shop on the following pages.

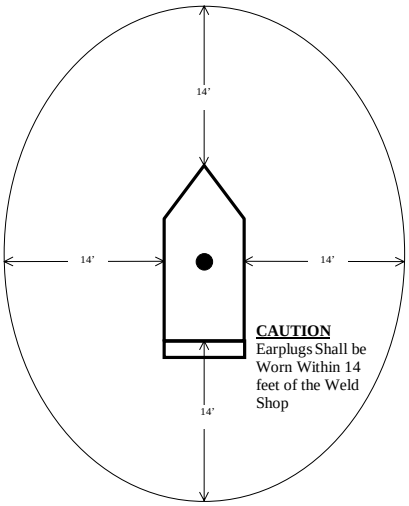






To protect the weld helmet lens, ensure it is <u>NOT</u> placed near or on a hot surface.

Check	**Engine Fluids Before Starting**		**Ground Rod Connection**	Check	**Helo Lift Four Roof Tiedown Straps**
Check	**Rear Stabilizer Leg(s) before Towing**	Check	**Caster Wheel is Pinned**	Check	**Tire Air Pressure should be 50 PSI**
CAUTION Caution - Alert	**When Lowering Stabilizer Leg Pinch Points**	CAUTION Caution - Alert	**Caution – This Item Exceeds 35 lbs, Requires Two Personnel to Lift**	CAUTION Caution - Alert	**Caution – Dispose of engine coolant and oil in accordance with state and local or country EPA regulations.**



CAUTION Caution - Alert	**CAUTION** **Do Not Touch!** **Air Compressor becomes very hot during operation. Keep enclosure door open during operation.**

Operational

- Refer to the operational procedures and commercial manuals in this document for details on any weld shop major equipments.

Prepare to Transport

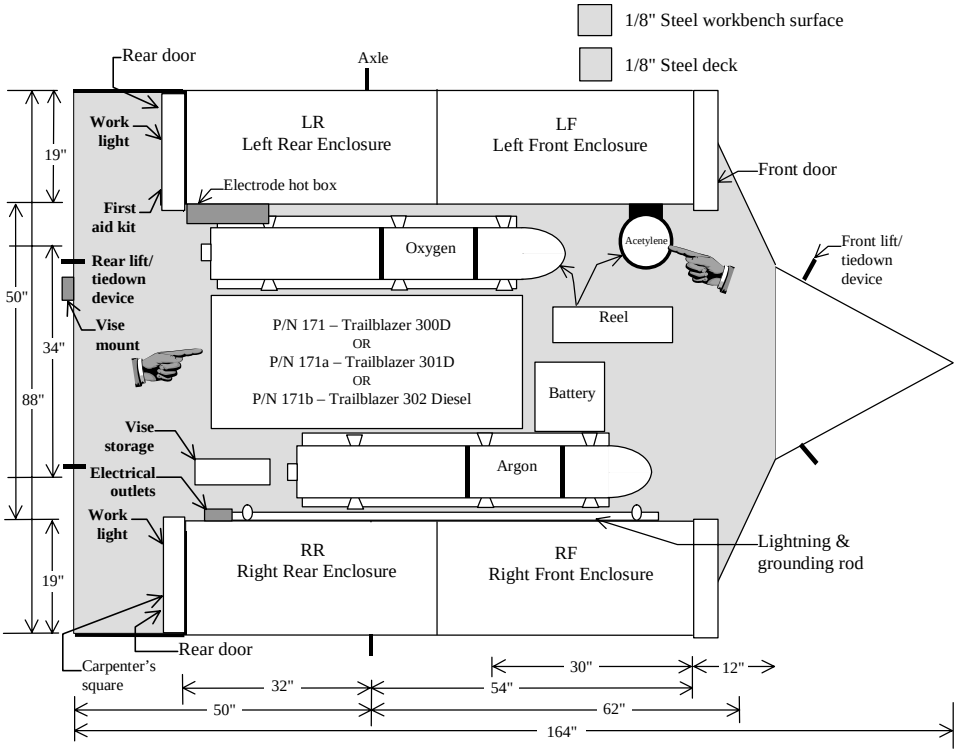
- Refer to detail procedures for storage and transport in this manual.

1.13 Calibration – None of the items in the weld shop require periodic calibration.

WELD SHOP EQUIPMENT DESCRIPTION

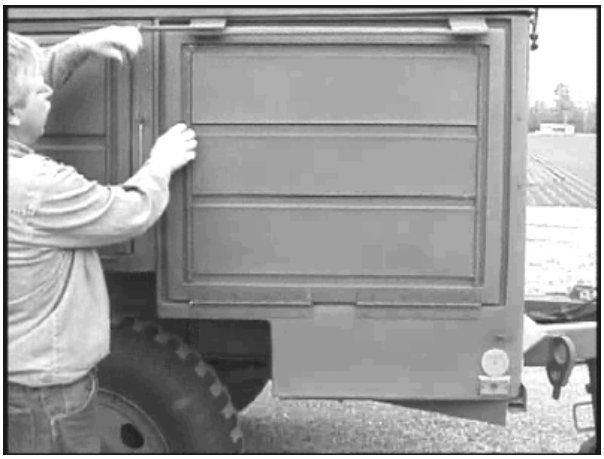
1.14 Weld Shop Overview – The weld compartment layout is illustrated below and each enclosure's contents are identified on the following pages. Each item's parts list number is included next to the bullet and the quantity of each item is identified in the ( ) after the description.

1.15 Location and Description of Major Components – This top view of the weld shop illustrates the major elements and their relative location.



Top View of M103 Highlighting Weld Compartment

Enclosure Layouts – The four side enclosure locking mechanisms can be unlocked and the doors opened by raising the lock bar and lowering the door down towards the ground. A label is mounted on the inside of each door identifying the items inside the enclosure.



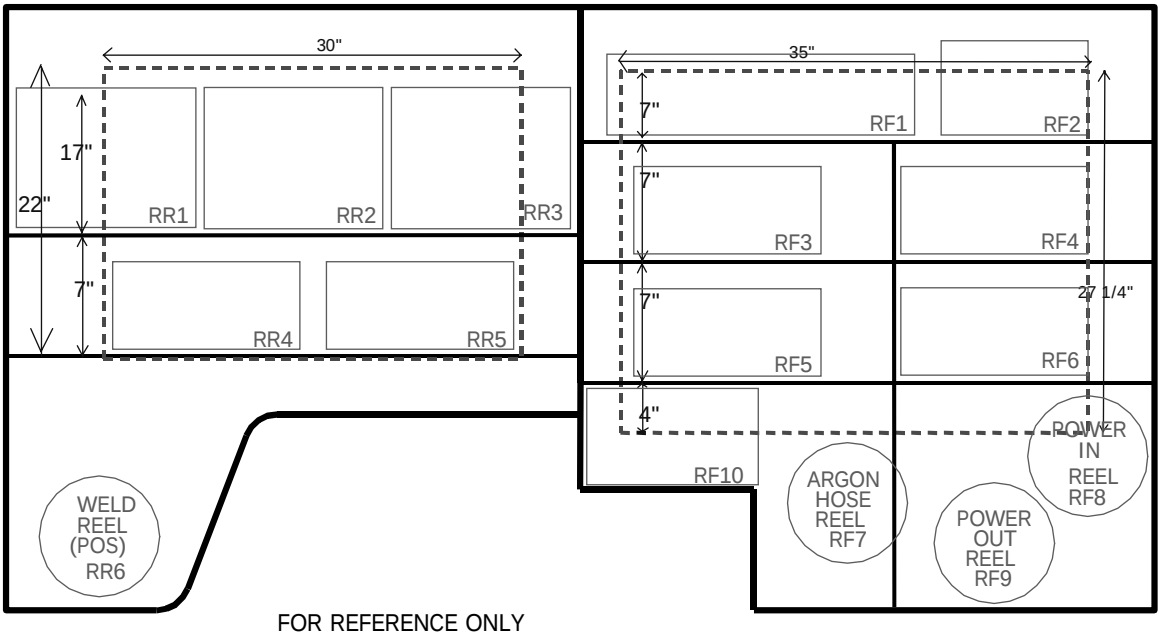
Label Configurations – Each weld shop set of labels will match the equipment/tools that are provided in that TMWSS/SEW serial number. Over time, equipment/tool suppliers may vary. When ordering parts, always identify the weld shop serial number as well as the label part number. [Refer to parts list in Chapter 4.]

1.16 Enclosure Layouts

TMWSS

Serial #s 101-580

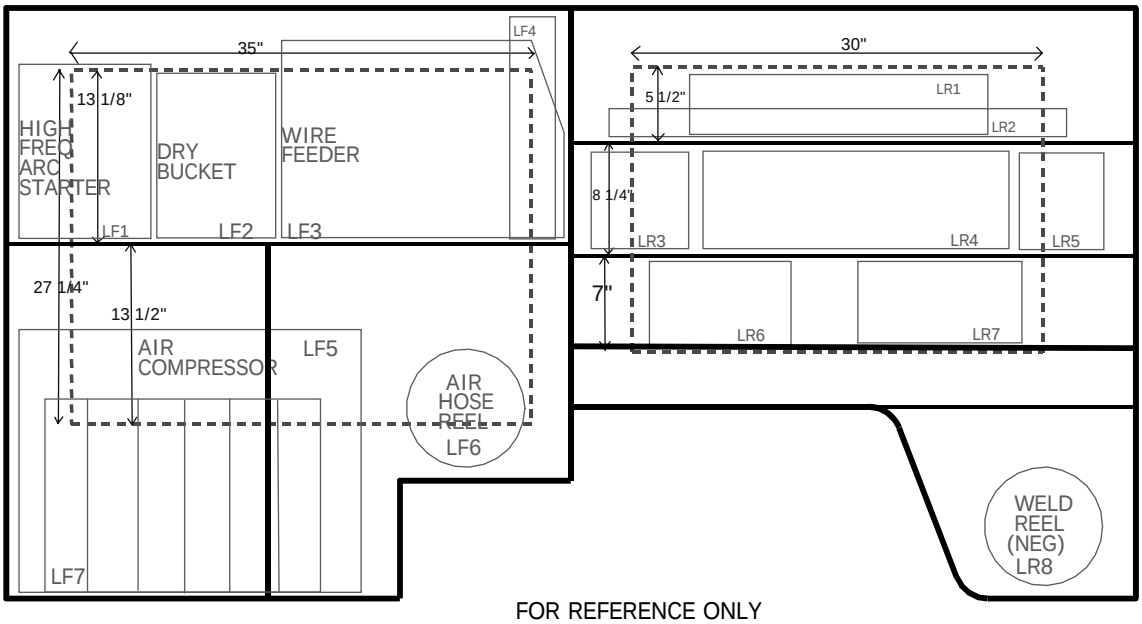
RIGHT SIDE



FOR REFERENCE ONLY

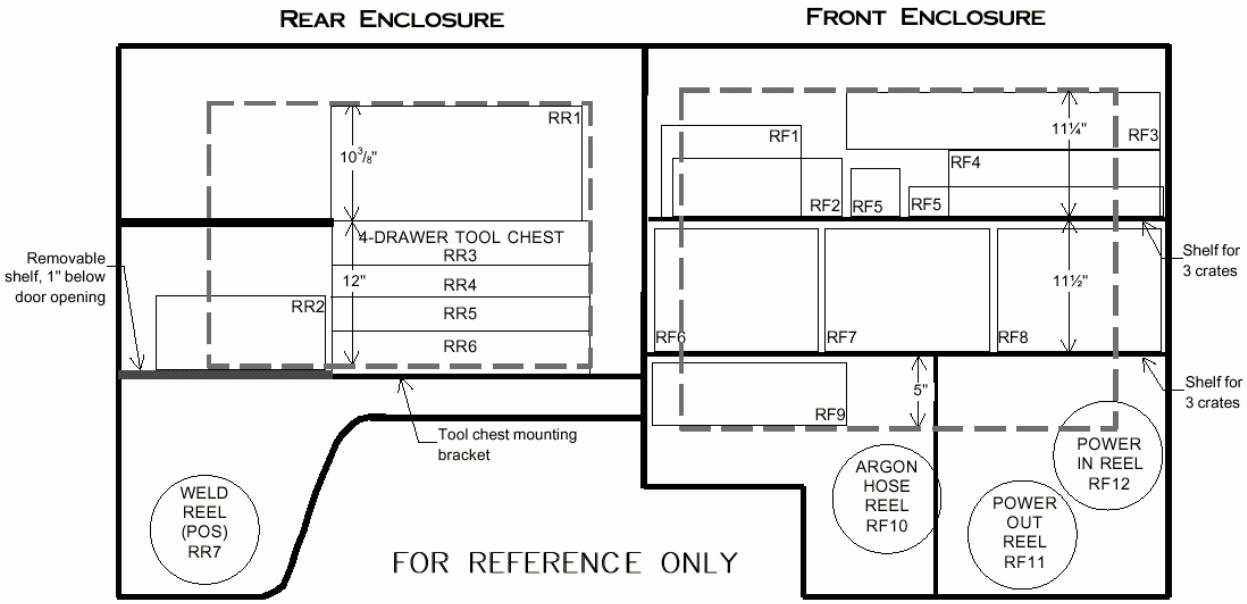
TMWSS

LEFT SIDE

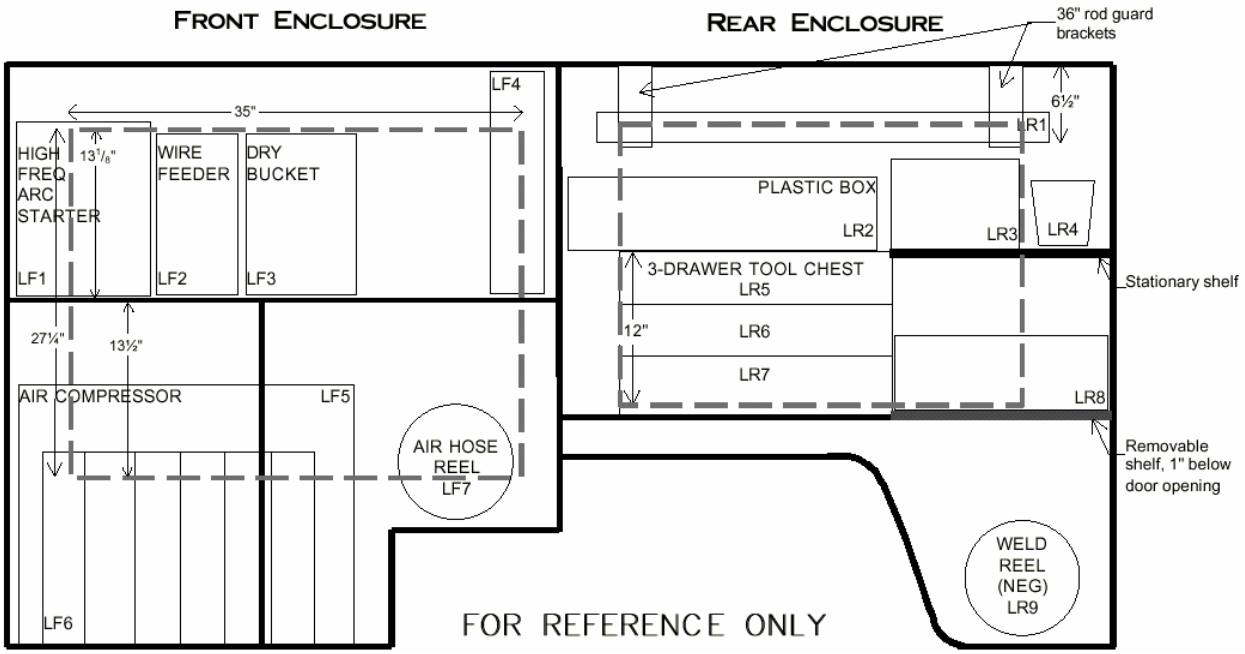


FOR REFERENCE ONLY

SEW
SERIAL #S 581 & HIGHER
RIGHT SIDE



SEW
LEFT SIDE



RIGHT FRONT ENCLOSURE
Top Shelf

TMWSS

RF1 – Large Flat Plastic Box (14 items)
- 129 Torch outfit, air arc gouging (1)
- 147 MIG whip, steel & liner (1)
- 148 MIG whip, aluminum & liner (1)
- 130 TIG handle w/thumb control (1)
- 027 Clamp, grounding (1)
- 093 Electrode holder (1)
- 400 Curtain rods (8)

RF2 – Misc. Items (3 items)
- 260 Wheel chocks (2)
- 250 Roof rope (1)

SEW

RF1 – Small Plastic Box (4 items)
- 296 Roof hold tie-down straps (4 sets)

RF2 – Screwdriver Set Box (22 items)
- 013 Screwdriver set (22 pcs)

RF3 – Toolbox Set (17 items)
- 120 Reciprocating Saw (1)
- – includes Allen wrench (1)
- 009 Saw blades, 14 teeth/inch (5)
- 010 Saw blades, 18 teeth/inch (5)
- 011 Saw blades, 24 teeth/inch (5)

RF4 – Toolbox Set (125 items)
- 173a 10” adjustable wrench (1)
- 174 Socket set (122 pcs)

  OR
- 174.1 GMTK (107 pcs)
- 175 Allen wrench set, std (1)
- 176 Allen wrench set, metric (1)

RF5 – Bundle (11 items)
- 250 Roof rope (1)
- 400 Curtain rod hooks (10)

TMWSS

SEW

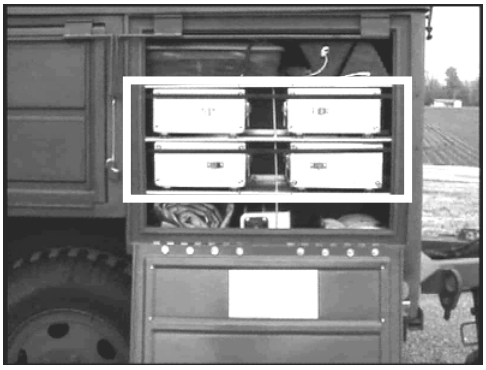
Note: Refer to Chapter 4 for a complete parts list.

RIGHT FRONT ENCLOSURE
Second Shelf

TMWSS

RF3 – Toolbox (14 items)
- 106 Ear plugs (5 boxes)
- 025 Light C-clamps, (2)
- 026 Medium C-clamps, (2)
- 028 Locking welding clamps, (2)
- 015 Scratch wire brush, (2)
- 090 Chipping hammer (1)

RF4 – Toolbox (3 items)
- 166 Argon gauge (1)
- 169 Propylene gauge (1)
- 168 Oxygen gauge (1)
- 229 Flash arrestors, (green attached to oxygen gauge, red attached to propylene gauge)



TMWSS Second & Third Shelves

TMWSS Third Shelf

RF5 – Toolbox (15 items)
- 155 Oxy-propylene torch set
- 156 Torch handle & 2 check valves (1)
- 157 Torch cutting attachment (1)
- 158 Brazing tip, size 3 (1)
- 159 Brazing tip, size 5 (1)
- 160 Brazing tip, size 9 (1)
- 161 Heating tip (1)
- 162 Preheat cutting tip, size 1 (1)
- 163 Preheat cutting tip, size 4 (1)
- 164 Preheat cutting tip, size 6 (1)
- 165 10-way wrench (1)

SEW

RF6 – Plastic Crate #1 (3 items)
- 070 Face shield (1)
- 071 Face shield head band (1)
- 084 Goggles, welder's (1)
- 091 Helmet, welder's (1)

RF7 – Plastic Crate #2 (9 items)
- 002 Welding apron, cloth (1)
- 003 Welding sleeves (1)
- 081 Welding gloves (1)
- 082 TIG welding gloves (1)
- 083 High heat mittens (1)
- 036 Welding curtains (4)

SEW

RF8 – Plastic Crate #3 (3 items)
- 070 Face shield (1)
- 071 Face shield, headband (1)
- 091 Helmet, welder's (1)
- 084 Goggles, welder's (1)

TMWSS

- 126 Temp stick 200° (1)
- 127 Temp stick 400° (1)
- 079 Flint tips (1 pack)
- 097 Striker (1)
- 029 Tip cleaners (1)

RF6 – Toolbox (37 items)

- 117 Grinder, 4½" (1)
- 118 Handle (1)
- 119 Disc wrench (1)
- 014 Wire cup brush (1)
- 049 24 grit disc (10 pcs)
- 050 36 grit disc (10 pcs)
- 051 Sanding backing pad (1)
- 052 Cutting disc (5)
- 053 Grinding wheel (1)
- 054 Arbor insert (1)
- 106 Ear plugs (5 boxes)

SEW

RIGHT FRONT ENCLOSURE
Bottom Shelf

TMWSS

RF7 – Argon Reel

- 213 Green hose

RF9 – Power-Out Reel

- 217 Black elec. cable reel

RF8 – Power-In Reel

- 217 Black elec. cable reel

RF10 – Roof Tarp

- 256 Green tarp

TMWSS

SEW

RF9

- 256 Roof tarp

RF10

- 213 Argon reel

RF11

- 217 Power-out reel

RF12

- 217 Power-in reel

SEW

RIGHT REAR ENCLOSURE
Top Shelf

TMWSS

RR1 – Plastic Crate #1 (9 items)

- 036 Welding curtains (3)
- 001 Welding apron, leather (1)
- 002 Welding apron, cloth (1)
- 003 Welding sleeves (1 pr)
- 081 Welding gloves (1 pr)
- 082 TIG welding gloves (1 pr)
- 083 High heat mittens (1 pr)

RR2 – Plastic Crate #3 (3 items)

- 091 Helmet (1)
- 070 Face shield/headband (1)
- 084 Goggles, welders (1)

RR3 – Aluminum Wire Storage Crate #2 (2 items)

- 061 Aluminum wire, 16 lb. spools (2)

TMWSS

SEW

RR1 – Large Plastic Box (6 items)

- 093 Holder, electrode (1)
- 129 Torch outfit, air arc gouging (1)
- 130 Torch outfit, TIG (1)
- 147 MIG gun w/steel liner (1)
- 148a Aluminum liner (1)
- 671e WC-24 control (1)

SEW

RIGHT REAR ENCLOSURE
Second Shelf

TMWSS

RR4 – Toolbox (13 items)

- 089 Hammer (1)
- 124 Combination square (1)
- 098 Torpedo level (1)
- 125 Measuring tape (1)
- 035 Soapstone holder (1)
- 012 6-in-1 screwdriver set (1)
- 103 Diagonal cutters (1)
- 104 Slip-joint pliers (1)
- 105 Needle-nose pliers (1)
- 108 Center punch (1)
- 024 Cold chisels (2)
- 004 Awl, scratch (1)

RR5 – Toolbox (35 items)

- 008 Hacksaw (1)
- 005 Hacksaw blades, 18 tooth (10)
- 006 Hacksaw blades, 24 tooth (10)
- 007 Hacksaw blades, 32 tooth (10)
- 072 File, flat, 10" (1)
- 073 File, half-round, 12" (1)
- 074 File, half-round, 14" (1)
- 107 Wrecking bar (1)

TMWSS

SEW

RR2 – Small Plastic Box (20 items)

- 109a Respirators (20)

RR3 – Tool Chest, Top Drawer #1 (57 items)

- 131,132,133 Gas TIG collets (3)
- 134,135,136 Gas lens collet body (3)
- 137,138,139 Ceramic TIG lens cups (3)
- 142 Gasket insulator (1)
- 140 TIG back cap, long (1)
- 140a TIG back cap, button (1)
- 151 Drive roller set, aluminum, w/wire guide (2 rollers @ 2 wires, 4 pcs)
- 152 Drive roller set, steel, w/wire guide (2 pcs)
- 034 Soap stone (20 pcs)
- 035 Soapstone holder (1)
- 671i Spool gun spare wire liner (1)
- 671l Spool gun T wrench (1)
- 671r Spool gun allen wrench (1)
- 671s Spool gun replacement contact tip (1)

Small Plastic Box, <u>TIG Torch parts:</u> (43 items)

- 143 Electrode, tungsten rods, 1/16" (3)
- 144 Electrode, tungsten rods, 3/32" (3)
- 145 Electrode, tungsten rods, 1/8" (3)
- 092 Clear lens, 2x4 (3)
- 085 #5 filter plate lens, 2x4 for item 084 (1)

SEW

SEW

RR4 – Tool Chest, Drawer #2 (9 items)

- 025 Light C-clamps (2)
- 026 Medium C-clamps (2)
- 015 Scratch wire brush (2)
- 072 File, flat, 10" (1)
- 073 File, half-round, 12" (1)
- 074 File, half-round, 14" (1)

RR5 – Tool Chest, Drawer #3 (16 items)

- 089 Hammer (1)
- 124 Combination square (1)
- 103 Diagonal cutters (1)
- 104 Slip-joint pliers (1)
- 105 Needle-nose pliers (1)
- 098 Torpedo level (1)
- 090 Hammer, chipping (1)
- 107 Wrecking bar (1)
- 125 Measuring tape (1)
- 012 6-in-1 screwdriver set (1)
- 004 Awl, scratch (2)
- 024 Cold chisels (3)
- 108 Center punch (1)

RR6 – Tool Chest, Drawer #4 (3 items)

- 671 Spool gun (1)
- 671a Spool gun cable (1)
- 671b Spool gun (wire holder) (1)

RIGHT REAR ENCLOSURE
Bottom Shelf

TMWSS

RR6 – Electrode Connection Weld Reel (under 2nd shelf)

- 220 Weld reel (pos) (1)

TMWSS

SEW

RR7 – Weld Cable Reel

- 220 Weld reel (pos) (1)

SEW

LEFT FRONT ENCLOSURE
Top Shelf

TMWSS

LF1
- 128 High frequency unit (1)

LF2
- 065 10 lb. spool wire fabshield (3)
- 066 Dry box

LF3
- 146 Wire feeder unit, S-32P (1)

  OR
- 146a Wire feeder, 12VS (1)

LF4
- 068 Fire extinguisher, 10 lb. (1)

TMWSS

SEW

LF1
- 128 High frequency unit (1)

LF2
- 146b Wire feeder, 8VS (1)

LF3 – 066 – Dry Storage Box (13 items)
- 065 10 lb. spool wire, flux coated(1)
- 061a 5-lb alum ER5356 (2)
- 292 1-lb alum (.030) ER4043 (5)
- 293 1-lb alum (.030) ER5356 (5)

LF4
- 068 Fire extinguisher, 10 lb. (1)

SEW

LEFT FRONT ENCLOSURE
Bottom Shelf

TMWSS

LF5
- **030 Air compressor (1)**

LF6
- **214 Air reel assembly w/item 215 Female coupler (1)**

LF7 – Electrode Containers (6 items)
- **058 Carbon, 3/16" x 12" (50 pcs)**
- **059 Carbon, 5/32" x 12" (50 pcs)**
- **067 Welding, .156" (10 lbs.)**
- **067 Welding, .156" (10 lbs.)**
- **067 Welding, .156" (10 lbs.)**
- **116 Rod guard containers, 14", for 058, 059, 060 & 067 (6)**

TMWSS

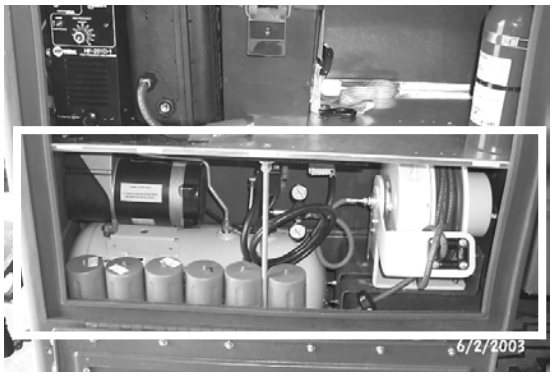
SEW

LF5
- **030 Air compressor (1), DeVilbiss**

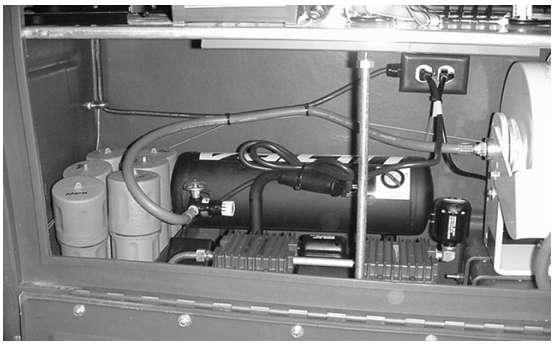
OR
- **030a Air compressor (1), Thomas**

LF6
- **116 Rod guard containers, 14", for 058, 059, 067 & 290 + 2 spares (6 items)**
- **058 Carbon, 3/16" x 12" (50 pcs)**
- **059 Carbon, 5/32" x 12" (50 pcs)**
- **067 Welding, .156" (10 lbs.)**
- **290 Electrode, stainless steel 308 (10 lbs)**

LF7
- **214 Air reel assembly w/item 215, female coupler (1)**



SEW, Air Compressor (mfr. DeVilbiss)



SEW, Air Compressor (mfr. Thomas, serial# 696 & higher)

LEFT REAR ENCLOSURE
Top Shelf

TMWSS

LR1 – Tool Kit (136 items)
- 173 Crescent wrench set (5 pcs)
- 174 Socket set (101 pcs)
  OR
- 174.1 GMTK (107 pcs)
- 175 Allen wrench set (15 pcs)
- 176 Allen wrench set, metric (15 pcs)

LR2 – Misc. Items (35 items)
- 112 36" brazing rods (flux coated bronze) (5 lbs)
- 113 36" weld rods (aluminum) (5 lbs)
- 114 36" weld rods (steel) (5 lbs)
- 102 Small bucket (1)
- 228 Funnel & hose (2)
- 115 Rod guard containers for items 112, 113 & 114 (3)
- 109a Respirators (20)
- Spare bungee straps (6)

TMWSS

SEW

LR1
- 115 Rod guard containers for items 112, 113 & 114 + 2 spares (5)
- 112 36" brazing rods (flux coated bronze) (5 lbs)
- 113 36" weld rods (aluminum) (5 lbs)
- 114 36" weld rods (steel) (5 lbs)

LR2 – Large Blue Box (3 items)
- 099 Light extension w/light bulb (1)
- 232 Operator's Manual (2)

LR3 – Small Plastic Box (2 items)
- 039 Portable rollers (2)

LR4 – Utility Pail (3 items)
- 102 Small bucket (1)
- 228 Funnel & hose (2)

SEW

LEFT REAR ENCLOSURE
Second Shelf

TMWSS

LR3 – Large Plastic Box (31 items)
- 232 Manual
- 106 Earplugs (10 boxes)
- 099 Drop light (1)
- 109 Respirators (20)

LR4 – Reciprocating Saw Box (17 items)
- 120 Reciprocating saw (1)
  –Allen wrench (1)
- 009 Saw blades (5), 14 teeth/inch
- 010 Saw blades (5), 18 teeth/inch
- 011 Saw blades (5), 24 teeth/inch

LR5 – Screwdriver Set Box (1 item)
- 013 Screwdriver set (22 pcs)

TMWSS

SEW

3-Drawer Tool Chest

LR5 – Top Drawer #1 (48 items)
- 005 Hacksaw blades, 18 tooth (10)
- 006 Hacksaw blades, 24 tooth (10)
- 007 Hacksaw blades, 32 tooth (10)
- 008 Hacksaw (1)
- 029 Tip cleaners (1)
- 079 Flint tips (1 pack)
- 097 Striker (1)
- 126 Temp stick 200° (1)
- 127 Temp stick 400° (1)
- 155a Torch Set Oxy-acetylene consisting of:
- 156 Torch handle w/check valves (1)
- 156a Flash arrestors to be installed on torch handle (2)
- 157 Torch cutting attachment (1)
- 158a Brazing tip, size 3 (1)
- 159a Brazing tip, size 5 (1)
- 160a Brazing tip, size 7 (1)
- 161a Heating tip (1)
- 162a Preheat cutting tip, size 1 (1)
- 163a Preheat cutting tip, size 4 (1)
- 164a Preheat cutting tip, size 6 (1)
- 165 10-way wrench (1)

SEW

LEFT REAR ENCLOSURE
Third Shelf

TMWSS

LR6 – Toolbox (61tems)

- 153 Spare MIG contact tips, .045 (5)
- 151 Drive roller set, aluminum, w/wire guide (1 set)
- 152 Drive roller set, steel, w/wire guide (1 set)

TIG Torch Parts:

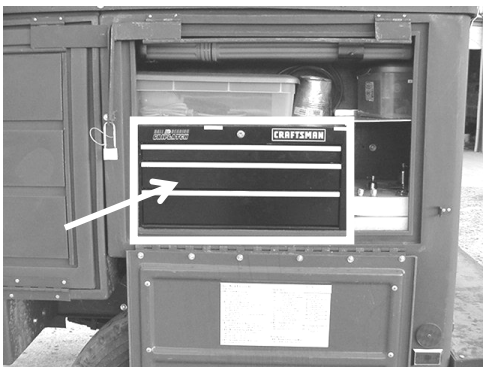
- 131,132,133 Gas TIG collets (3)
- 134,135,136 Gas lens collet body (3)
- 137,138,139 Ceramic TIG lens cups (3)
- 262 Back insulator (1)
- 142 Gasket insulator (1)
- 140 TIG back cap, long (2)
- 034 Soap stone (20 pcs)
- 080 Flux brazing powder (1)
- 121 95/5 solder (1)
- 122 Soldering flux (1)
- 085 #5 filter plate lens, 2x4 for item 084 (1)
- 092 Clear lens, 2x4 (5)
- 062 Aluminum cleaner (1)
- 063 Aluminum solder (1)
- 064 Aluminum flux (1)
- 143 Electrode, tungsten rods, 1/16" (3 pkgs)
- 144 Electrode, tungsten rods, 3/32" (3 pkgs)
- 145 Electrode, tungsten rods, 1/8" (3 pkgs)

TMWSS

SEW

LR6 – Tool Chest Middle Drawer #2 (29 items)

- 028 Clamp, welding pliers (2)
- 086 Gun, air blow (1)
- 088 Hammer, scaling (1)
- 088a Flat chisel (1)
- 088b Routing chisel (1)
- 088c Scaling chisel (1)
- 121 Solder, 95/5 (1 spool)
- 122 Flux, soldering (1)
- 106 Ear plugs (20 boxes)



SEW

TMWSS

LR7– Toolbox (10 items)

- 055 Drill bit box (1)
- 086 Air blower (1)
- 101 Hand-held oil gun (1)
- 088 Air hammer & assembly (1)
  - Chisels (4)
- 056 ½" drill (1)
  - Handle (1)

SEW

LR7 – Tool Chest Bottom Drawer #3 (35 items)

- 014 Wire cup brush (1)
- 049 24 grit disc (10 pcs)
- 050 36 grit disc (10 pcs)
- 051 Sanding backing pad (1)
- 052 Cutting disc (5)
- 054 Arbor insert (1)
- 055 Drill bit box (1)
- 056 ½" drill (1) & handle (1)
- 101 Oil hand pump (1)
- 117 Grinder, 4½" (1)
- 118 Handle for 117 (1)
- 119 Disc wrench (1)

LR8 – Foam Storage (5 items)

- 168 Oxygen regulator (1)
- 168a Oxygen guard attached to regulator
- 169b Acetylene regulator (1)
- 169a Acetylene guard attached to regulator
- 166 Argon regulator (1)
- 229 Flash arrestors, (green attached to oxygen gauge, red attached to acetylene gauge) (2)

LEFT REAR ENCLOSURE
Bottom Shelf

TMWSS

LR8 – Work Connection Reel (under 2nd shelf)

- 220 Welder work connection reel

TMWSS

SEW

LR9 – Work Connection Reel (under 2nd shelf)

- 220 Welder work connection reel

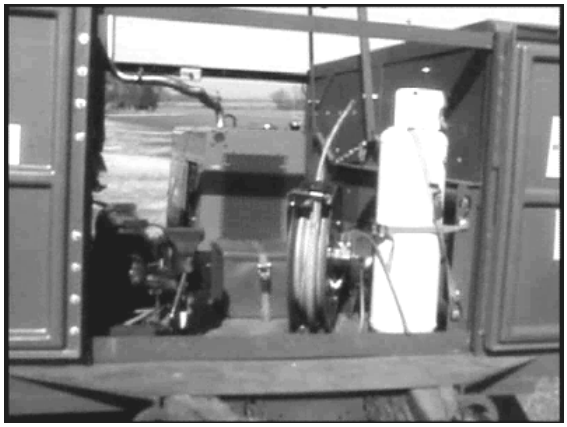
SEW

WELD ENCLOSURE COMPARTMENT
Front View

TMWSS

Front (13 items)

- 261 Ground rod (1)
- 170 Vise (1)
- 037 Argon cylinder (1)
- 040 Hose, argon (1)
- 043 Oxygen cylinder (1)
- 044 Hose ass'y, oxygen, (green)/propylene (red) (2)
- 047 Propylene cylinder (1)
- 219 Reel, oxygen-propylene (1)
- 251 Battery (1)
- 252 Battery cables (2)
- 253 Battery box (1)

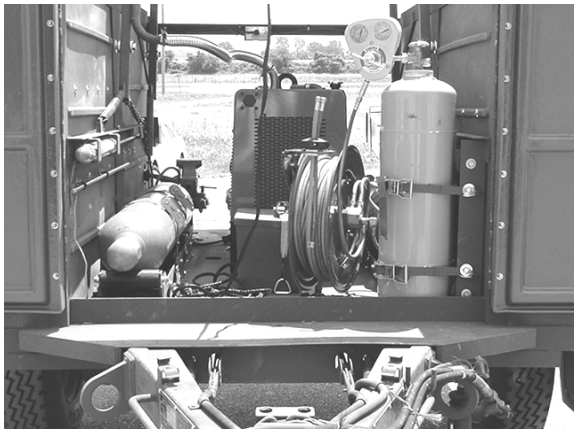


TMWSS

SEW

Front (12 items)

- 261 Ground rod (1)
- 037 Argon cylinder (1)
- 040 Hose, argon (1)
- 043 Oxygen cylinder (1)
- 044a Hose, oxygen, green (1)
- 044b Hose, acetylene, red (1)
- 047a Acetylene cylinder (1)
- 219 Reel, oxygen-acetylene (1)
- 251 Battery (1)
- 252 Battery cables (2)
- 253 Battery box (1)



SEW

WELD ENCLOSURE COMPARTMENT
Rear View

TMWSS

Rear (6 items)

- **230 Work lights, right & left (2)**
- **075 First aid kit (1)**
- **039 Portable roller, 8" (1)**
- **171 Welder, Trailblazer 300D NT (1)**
  OR
- **171a Welder, Trailblazer 301D (1)**
- **123 Carpenter's square (1)**

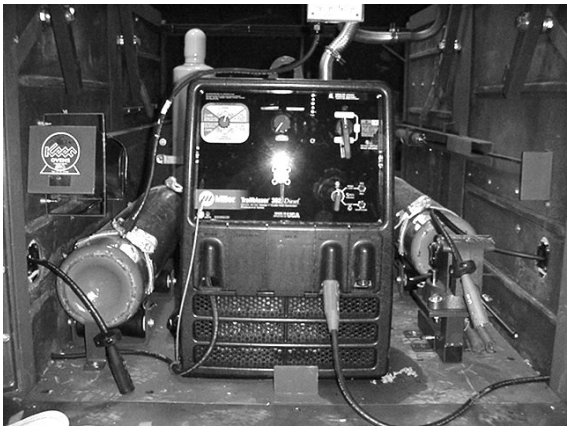
TMWSS

SEW

Rear (7 items)

- **230 Work lights, right & left (2)**
- **170 Vise (1)**
- **075 First aid kit (1)**
- **171a Welder, Trailblazer 301D (1)**
  OR
- **171b Welder, Trailblazer 302 Diesel (1)**
- **123 Carpenter's square (1)**
- **656 Hotbox (1)**

SEW w/ Trailblazer 301D



SEW w/ Trailblazer 302 Diesel
(Serial# 841 & higher)

CHAPTER 2
TMWSS/SEW
OPERATIONAL INSTRUCTIONS

WARNING

Welding on any vehicle with Depleted Uranium (DU) shall only be accomplished after decontamination. Respiratory protection (M25 or M17A2 protective mask with M13A2 filter element, and the accompanying head cover, or their equivalent) shall be worn by the welder. The local Radiation Safety Officer or NBC Non-commissioned officer shall be called upon to assist in evaluating armor damage to determine whether the exposed armor contains DU and provide authorization for welding.

WARNING

No cutting and welding shall be performed in a confined workspace (e.g., inside an M1A1 Tank) until an Industrial Hygienist has evaluated and approved the workspace for conducting such work.

WARNING

Consult your local Industrial Hygienist before welding in confined spaces such as the interiors of vehicles and tanks. Failure to have appropriate ventilation could result in death. If using the weld shop indoors, ensure adequate ventilation is provided.

WARNING

Helicopter transport requires the four roof tie-down straps be installed to ensure the roof is secured during flight.

OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS & SERVICES, PMCS TABLE

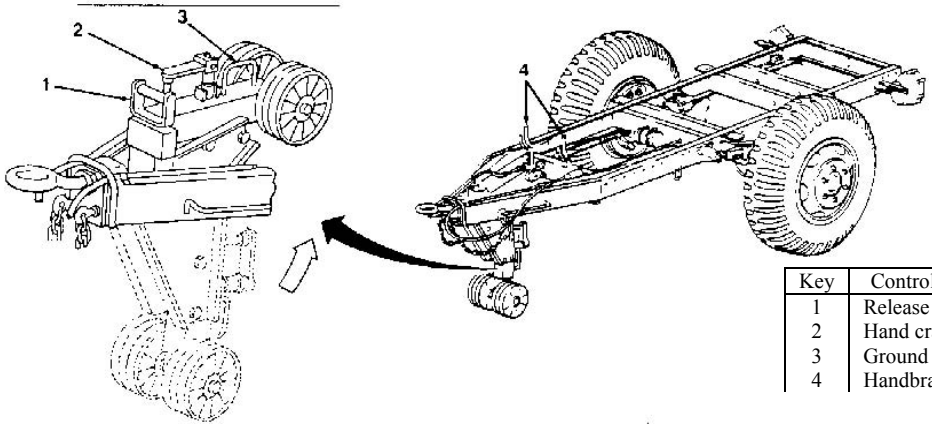
B – BEFORE towing TMWSS/SEW to the field location

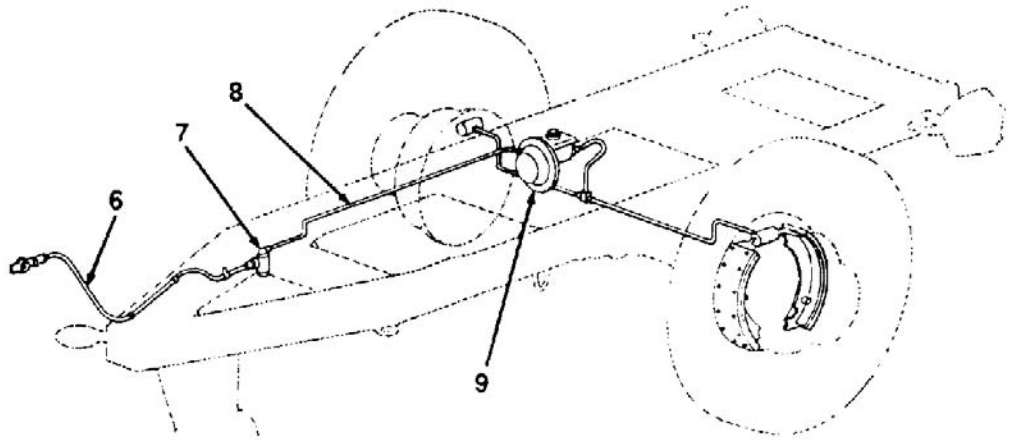
D – DURING field operation

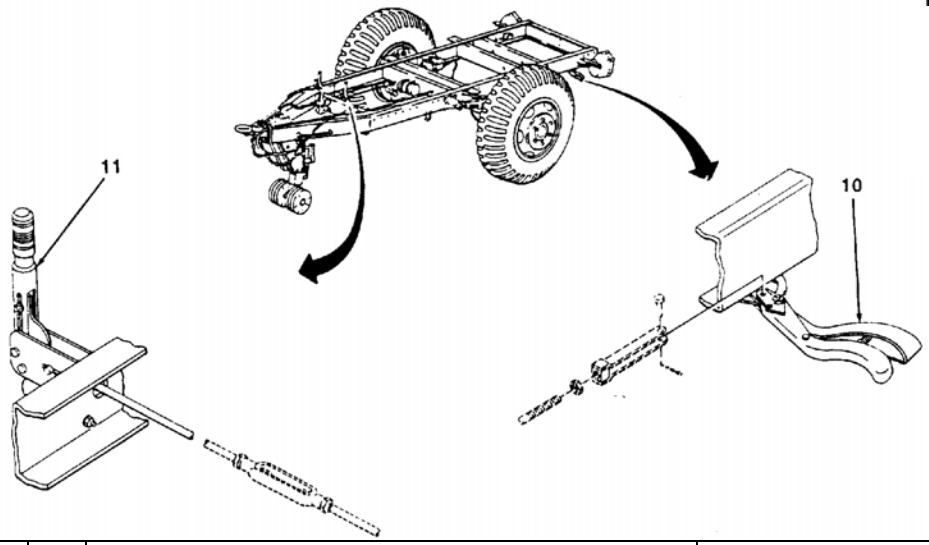
A – AFTER completing field operation and returning to storage area

WARNING

Ensure wheel chocks are placed against the wheel before unhooking from the tow vehicle.

Item #	B	D	A	Item to be inspected Procedure: check for & have repaired, filled or adjusted as needed	Equipment is not ready/available if:
For items 1-6, refer to Tab 5, Army TM 9-2330-213-14&P, M103 Series Chassis Trailer					
1			*	**WHEEL AND TIRES** a. Remove any glass, nails, or other debris embedded in tread.	
	*			b. Check tires for obvious damages such as cuts, bruises, bulges, and flats.	Unserviceable.
	*			c. Check for proper tire pressure, 50 psi (para 1-10).	Tire will not hold air pressure.
2	*			**ADJUSTABLE CASTER ASSEMBLY** a. Check adjustable caster assembly (2) for proper mounting, alignment, and general condition.	Release handle (1) damaged or not properly mounted.
	*			b. If cargo trailer is equipped with an old-style, single-wheel adjustable caster assembly, check that locking pin area of handle is free of dirt and debris and that locking pin works freely. If locking pin does not work freely, clean thoroughly and apply lubricant (Chapter 3, Section I).	
				a. M103 Series Chassis Trailer.  Key / Control or Indicator 1 Release Handle 2 Hand crank 3 Ground Pad Handle 4 Handbrake Levers	
3	*			**FRAME AND SUSPENSION** Check for cracks and broken welds.	Cracks or broken welds present.
4	*			**LIGHTS AND REFLECTORS** a. Check for obvious damage and loose lights, lenses, and reflectors.	Tail lights/brake lights are not operable.
	*			b. Check for proper operation.	
5	*			**INTER-VEHICULAR CABLE** Check general condition of intervehicular cable and plug.	

Item #	B	D	A	Item to be inspected Procedure: check for & have repaired, filled or adjusted as needed	Equipment is not ready/available if:
6	*			**BRAKE SYSTEM** a. Perform operational air leak check (para 3-7). **NOTE** • **Perform step "b".** • **Trailer Chassis Model M103-A3 (weld shop) has a dual line air/hydraulic brake system. Both right and left sides and emergency relay valve must be inspected.**	Air leaks are found.
	*			b. Check airlines (8), intervehicular air hoses (6), fittings, air filter (7), and airbrake chamber (9) for leaks and general condition.	
					
				WARNING **Cautiously feel each wheel hub and brakedrum. Wheel hubs or brakedrums may be hot. Failure to follow this warning may result in burns.**	
			*	c. Cautiously feel each wheel hub and brakedrum. Check for a wheel hub or brakedrum that is hotter or cooler than the other. Overheating could indicate improperly adjusted or defective wheel bearings, or a locked-up brake. A cool wheel hub and brakedrum could indicate an inoperative brake. IMMEDIATELY report any abnormal conditions to unit maintenance.	Brakedrum or hub is excessively hot or cool.
		*		d. Check for proper operation of service brakes.	Brakes do not operate properly.
			*	e. Drain air reservoir on M103-A3.	
	*			f. Check for proper operation of handbrake lever (10 or 11).	

Item #	B	D	A	Item to be inspected Procedure: check for & have repaired, filled or adjusted as needed	Equipment is not ready/available if:
					
	*			**NOTE** **Perform step "g".** g. Check for proper adjustment of handbrake level (11). Handbrake lever is properly adjusted when additional force is required to move handbrake lever beyond two-thirds distance of travel toward the applied position (para 3-6).	Handbrake not working correctly.
7				**ENCLOSURES/ROOF** (visual checks)	
	*			a. Check for cracks or holes on plastic structures.	
	*			b. Verify side doors/hinges have not been damaged.	
	*			c. Able to raise & lower the roof.	Roof cannot be raised & lowered correctly.
	*			d. Secure rubber straps on boxes.	
8				**GAS CYLINDERS**	
	*			a. Visually check cylinders are secured.	
				b. Verify cylinders are loaded with gas.	
	*			c. Verify cylinders are not leaking.	Replace faulty cylinders.
9				**BATTERY/WELDER/AIR COMPRESSOR**	
	*			a. Check the welder fluids (oil, fuel & antifreeze) and leaks.	Any Class 3 leaks or fluids not filled.
	*			b. Verify the battery is charged by starting the welder and allow to run for 15 minutes.	Battery not capable of starting the welder.
				c. Start the air compressor while welder is running and verify 125 psi.	Air cutting operations not available.
10				**MISCELLANEOUS SAFETY ITEMS**	
	*			a. First aid kit	Any of these safety items are missing or the extinguisher is not charged.
	*			b. Ten pound ABC fire extinguisher	
	*			c. Wheel chocks	
	*			d. Ear plugs	
	*			e. Gloves & welders helmet	
	*			f. Workbench lights	
	*			g. Grounding rod	

TMWSS/SEW OPERATIONAL INSTRUCTIONS
OPERATION UNDER USUAL CONDITIONS

SET-UP PROCEDURE: EMPLACEMENT

TRAILER – The weld shop is towable by a 2½ ton, 5-ton, or FMTV. Once the tow vehicle has positioned the weld shop in a desired position, the following procedural steps should be followed:

1) Remove wheel chocks from the TMWSS right front (RF) enclosure, top shelf, or the right underside of the SEW workbench as illustrated in the photo below, and place against the wheel.

WARNING

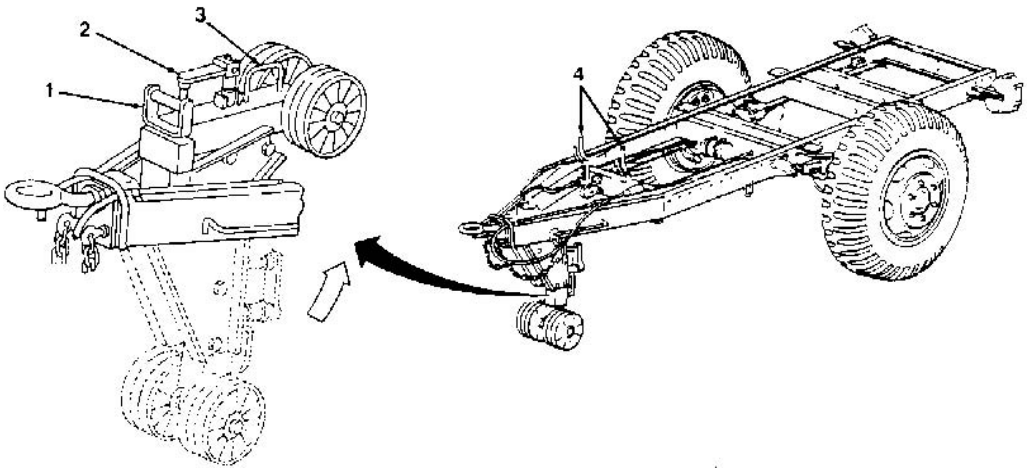
Ensure wheel chocks (stored in TMWSS right front enclosure top shelf) are placed against the wheel before unhooking from the tow vehicle.

TMWSS

SEW Wheel Chock Storage

2) Engage the M103-A3 two parking brakes. These are located on the top inside area of the trailer tongue. The parking brakes are both engaged by pulling the brake handles forward from a vertical position downward to a horizontal position.

3) Use one hand to hold the caster wheel (key #3) on the illustration below. Release the trailer caster assembly from the stored horizontal position in the tongue structure by pulling the release handle (key #1). Lower the caster assembly (using key #3) to a vertical position. Assure that the assembly is locked in the vertical position. (Note: the release handle (key #1) must be reseated back to the fully locked position when the caster assembly is in the vertical position.)



Key	Control or Indicator	Description
1	Release Handle	Secures the adjustable caster assembly in up or down position.
2	Handcrank	Operates the gearbox to raise or lower the adjustable caster assembly.
3	Ground Pad Handle	Used to raise or lower the adjustable caster assembly.
4	Handbrake Levers	Used to activate handbrakes when the trailer is stopped or parked.

4) Rotate the hand crank (key #2) until the casters engage the ground.
5) Disconnect the electrical cable from the tow vehicle and place the end of the cable in its storage bracket on the left side of the trailer tongue.

Handcrank

Electrical Cable

Electrical Cable

6) Disconnect the two hose brake assemblies (red & blue) from the tow vehicle and store on left and right side of the trailer tongue.

Remove from Tow Vehicle

Storing on Trailer Frame

Stored on Trailer Frame

7) Open the hitch on the tow vehicle and continue raising the trailer tongue until it clears the vehicle hitch.
8) Disconnect the safety chains from the tow vehicle and connect to their storage clips on the sides of the trailer tongue.

Trailer Tongue on Tow Vehicle

Right Side Safety Chain Stored

9) The tow vehicle is now safe to drive clear of the TMWSS/SEW trailer tongue.
10) Using the hand crank on the trailer caster, raise or lower the trailer to a level operating position after the tow vehicle is clear of the ring.

11) Set-up and lock rear stabilizer leg(s): Go to the rear of the weld shop to set-up the stabilizer leg(s). The TMWSS has two legs located on the right and left sides of the workbench. The SEW has one leg located under the center of the workbench.

TMWSS

SEW

a) To lower a leg, first pull the main stabilizer locking pin out of the stabilizer locking bracket, located on either corner of the chassis frame for the TMWSS or under the center of the workbench for the SEW. Allow the pin to hang by its lanyard.

TMWSS Side Leg

SEW Rear Leg

b) Hold the leg with one hand and then pull the second safety pin that locks the stabilizer in the storage position. Guide the stabilizer to the ground.

c) Adjust and lock each stabilizer to desired height by inserting the second safety pin into one of the position holes that approximate ground level.

d) Reinsert the main stabilizer locking pin at the top of the leg to hold the leg locked in the vertical position.

e) The SEW stabilizer leg is adjustable up or down by rotating the lower portion of the leg.

SEW Adjustable Stabilizer Leg

12) The weld shop is now in a set up position ready to be left unattended or to be opened for operational use as a welding shop.

TMWSS/SEW
OPERATION UNDER USUAL CONDITIONS

PREPARATION FOR OPERATION

Once the trailer has been set in place, the weld shop set-up steps are as follows:

1) Unlock and raise the roof.
   a) If the roof tarp is installed, remove the hold down ties and pull the tarp off the roof. The tarp has a designated storage area on the bottom of right forward enclosure, just aft of where the three cable reels are mounted. Fold and store tarp in this location.

   b) Remove the two locks from the front and rear doors of the weld shop.

c) Remove the front lock bar and then the rear lock bar which will be used to assist the operator in raising the roof after all the latches holding the roof are released. Release the four roof latching devices located on the four corner areas of the roof.

Rubber Tiedown

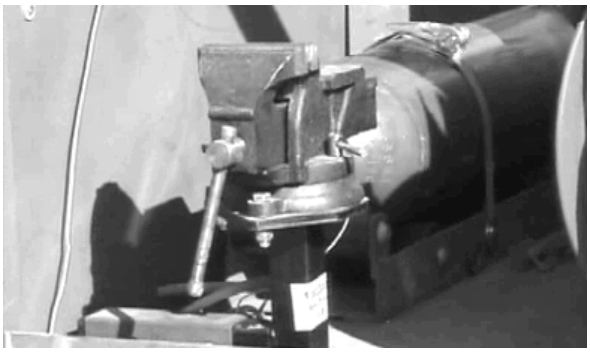
d) Raising the Roof – If operator prefers to lower the roof using the front rope pull down method, the rope should be attached to the front of the roof prior to raising the roof. This method of lowering the roof requires less force. Remove the rope stored on the top shelf of the RF enclosure and attach to the locking mechanism on the front of the roof. Position the rope to be free to raise with the roof.

The roof is spring-loaded. Place the flat end of the lock bar against the lock bracket on the rear end of the roof and lift upward (do not push forward, first push upward and allow the roof to clear the enclosures).

As the roof rises, step backward continuing to push the roof upward, the roof springs will lock the roof into its raised position.

2) Open the front and rear doors to access the weld compartment. The front and rear doors, when opened, can be retained in the open position via the rubber door latch to the side of the enclosure using the mechanism on each door.

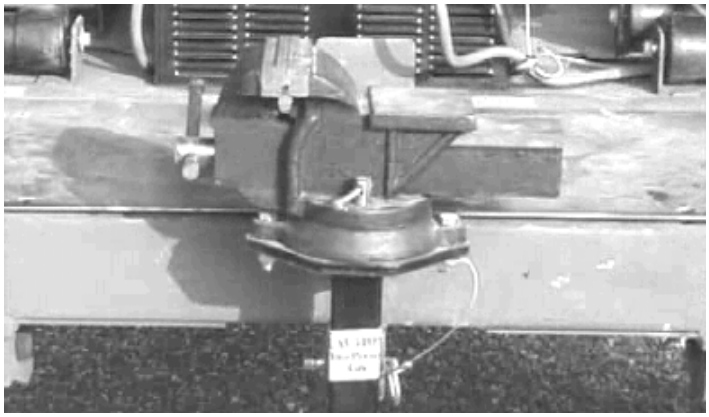
a) Installation of the vise – The operator should remove the vise from its storage/transport location inside the front door of the TMWSS or inside the right rear of the SEW. The vise is locked in place via a safety pin. Remove the pin and pull the vise out of the storage area.



TMWSS Front Storage

SEW Rear Storage

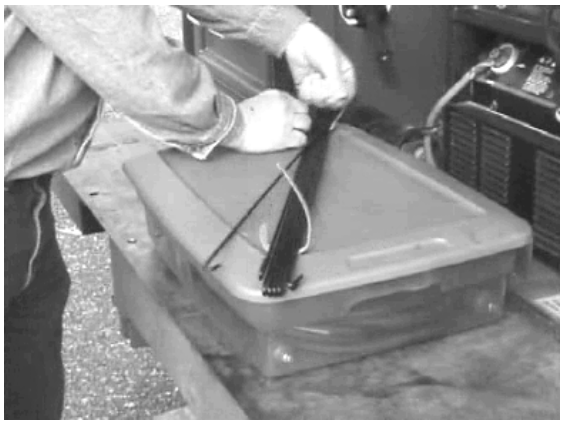
The vise caution label states the vise exceeds 35 lbs. and should be carried by two personnel. Install the vise tube in the workbench vise mount located under the workbench. Secure in place via the same locking pin. Occasionally add some lubricant to the vise mount structure.



b) Installation of Welding Curtains – The welding curtains are stored in a basket (TMWSS: on the top shelf of the right rear enclosure; SEW: on the second shelf of right front enclosure). Remove the other weld helmet basket crate and place the baskets on the workbench.

TMWSS: Remove the large flat plastic box, RF1, on the top shelf of the TMWSS right front enclosure. Attached to the box cover are eight welding curtain hooks used to hang three welding curtains. This box also contains weld tools.

SEW: The ten welding curtain hooks for the SEW are located in the right front enclosure on the top shelf. The ten welding curtain hooks are used to hang four welding curtains.

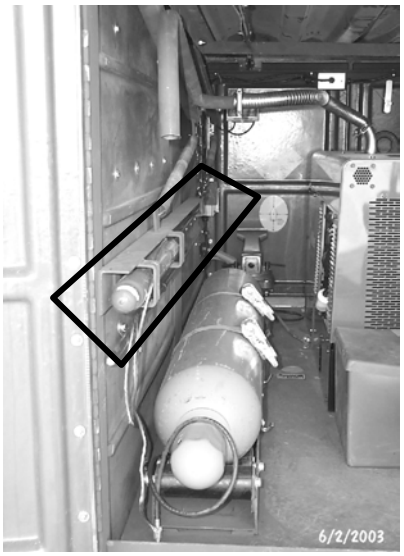


TMWSS

SEW

Remove the hooks and connect two hooks to each side of the roof curtain rods. Take one curtain at a time from the box and hang from the hook-holes starting on the inner edge of the side roof and then around the workbench area. The TMWSS has three welding curtains to be installed. The SEW has four welding curtains to be installed.

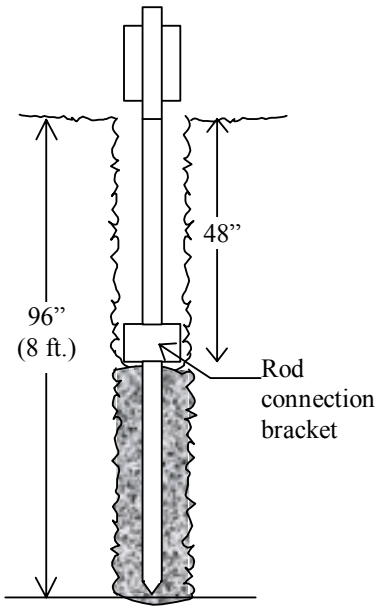
Weld Curtain



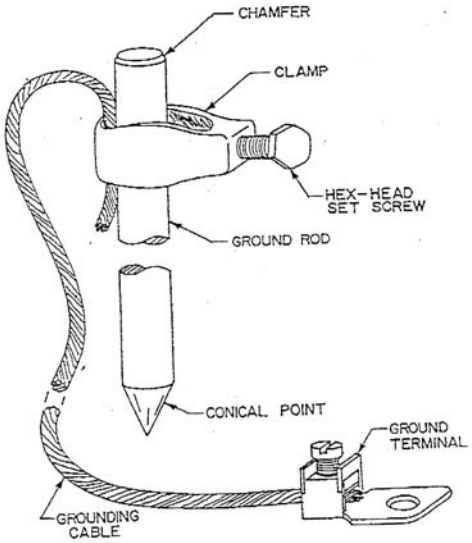
Ground Rod

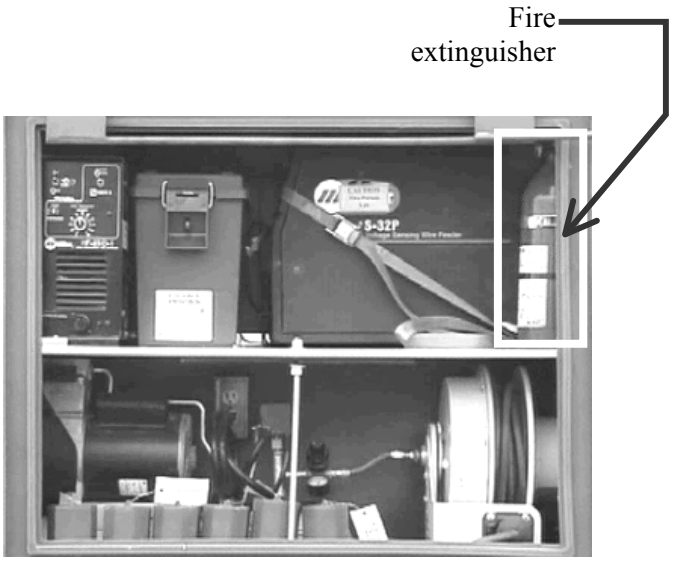
c) Installation of Ground Rod and Fire Extinguisher

- Before digging any holes or installing any grounding electrodes, check for any underground electrical, gas, water, or other utility lines.
- Wear gloves to protect hands when handling or inspecting grounding electrodes, conductors, and connections. Wear safety goggles when driving ground rods to protect from flying metal chips.
- Drive the rod through to the moist subsoil. The ground rod should be installed straight if possible, but can be installed up to an angle of 45°.
- Add water as often as needed to keep the soil moist around the ground rod.
- At sites where the soil quality is very poor or very dry, special steps need to be taken to enhance the soil conductivity near the earth ground electrode. The first option is to drive the rod deep enough to reach the moist subsoil, if possible. Use a multiple-section rod assembly, possibly using an added section. If there is no moist subsoil or if the soil condition won't allow for deep penetration, drive the rod as deeply as you can and apply water at regular intervals to keep the soil moist. However, the best way to substantially improve the earth ground electrode resistance is to use salt and water. For safety, install the lightning/grounding rod, which is stored in the front of the weld compartment. Select a location that will minimize the possibility of someone tripping on the wire or rod. To install the grounding rod, hammer the rod at least 8 feet into the ground location closest to the trailer. Use the hammer stored in right rear enclosure toolbox to drive the smaller rod into the ground, and then connect the larger rod with the built-in slam hammer to finish driving both rods into the ground. After driving the ground rod into the ground, connect the ground cable to the rod as illustrated on the next page.



Verify the ground cable is secured to the trailer grounding lug, which is located just below the ground rod storage area on the weld compartment deck. This wire is permanently connected.





Fire Extinguisher Use and Maintenance

Remove the fire extinguisher from the right rear enclosure, top shelf right side as illustrated below, and place on the ground near the workbench.

Use - The fire extinguisher available for use with the weld shop has a rating of 10ABC. This fire extinguisher may be used on three classes of fire:

Class A – Ordinary combustibles
Class B – Liquids
Class C – Electrical Equipment

To operate the fire extinguisher, remember the word "PASS".

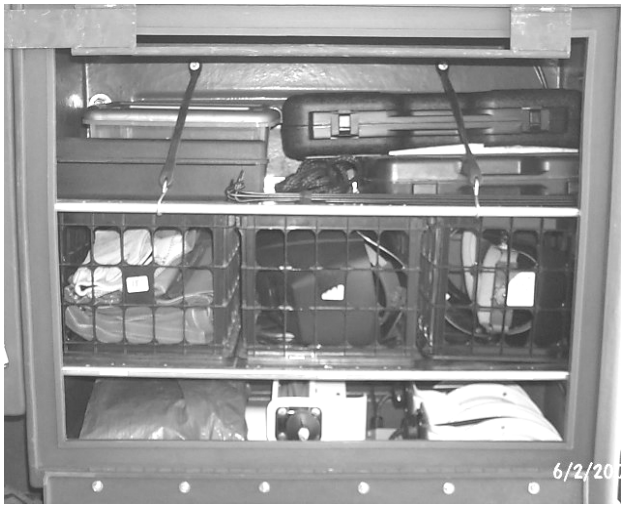
"P" Pull the pin that unlocks the operating lever. (Some models may have other lever- release mechanisms).
"A" Aim low – point the extinguisher nozzle or hose at the base of the fire.
"S" Squeeze the lever above the handle to discharge the extinguishing agent. To stop the discharge, release the lever. (Some models may have a button instead of a lever.)
"S" Sweep the nozzle or hose from side-to-side, moving carefully forward.

Maintenance – Inspect fire extinguisher for damage and make sure it is fully charged once a month. Rechargeable extinguishers need to be serviced after each use. Contact the local fire department for recharging fire extinguishers.

d) Welder Set-up – Refer to the Miller welder manual for pre-start checks (Tab 6) and to the PMCS table located at the beginning of this chapter.

e) Safety Wear – Safety-wear (aprons, gloves, goggles, etc.) for welding operations is located in the right rear enclosure containers, RR1 and RR2 on the TMWSS. The SEW safety-wear is located in the right front enclosure, RF7.

TMWSS



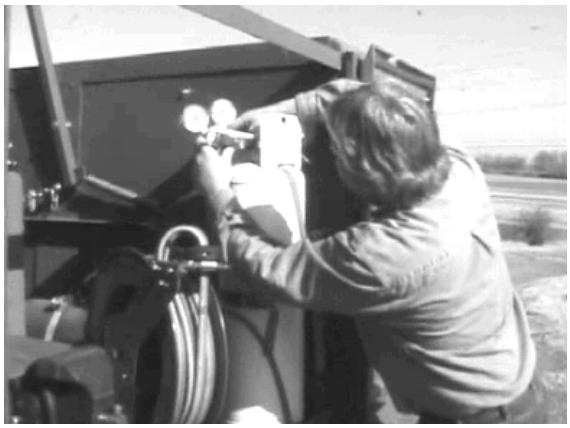
SEW

f) Installation of Regulators – If gas cylinders are expected to be utilized, the appropriate regulators should be removed from storage box **RF4** in the TMWSS or from the left rear second shelf in the SEW.

Caution Note – When toolboxes are extended, as illustrated, do not use the toolbox as a shelf, as the extra weight may damage the slide devices.

TMWSS, RF Enclosure **SEW, LF Enclosure**

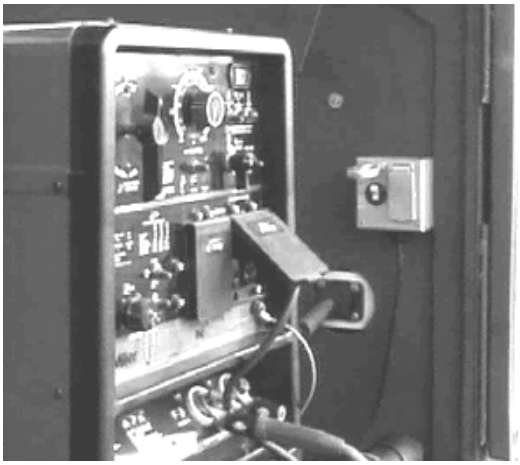
Install regulators according to the attached vendor regulator manual (Tab 10) with the exception that the argon and oxygen cylinders shall remain in the stowed horizontal positions. The gas cylinders do not have to be moved from their secured positions to be used. Remove only to replace with filled cylinders.



TMWSS Regulator **SEW Regulator & Guard**

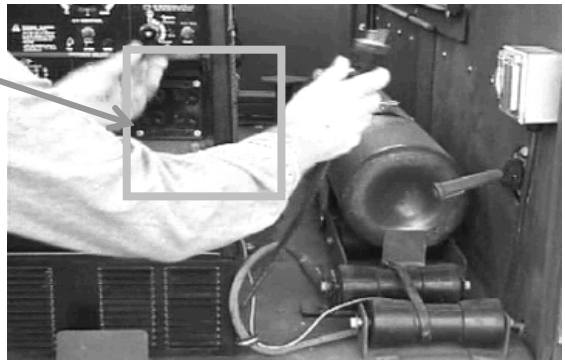
The SEW oxygen and fuel-gas regulators include guards attached to the regulators.

g) A/C Power – The trailer normally generates its own 110v AC power from the on-board welder generator. If the welder generator is not being started, the operator has the option of using an external source of 110v AC power. A power source selector switch determines the source of AC power for equipment such as the air compressor, workbench lights, power service outlets, and the 50-ft. output power extension cable.

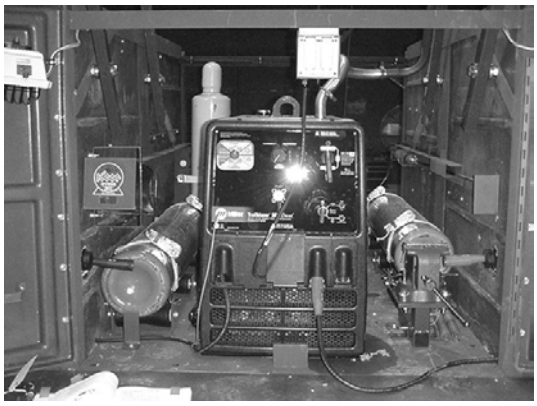


Note: The power selector switch is a three-position switch. When this switch is in the center position, the switch is off and neither GEN nor EXT power is available.

To use the on-board welder generator as the source of 110 volt power, the short AC power cable connected to the selector box must be plugged into one of the welder control panel 120v outlets and the power selector switch must be in the down (GEN) position.



Trailblazer 301D

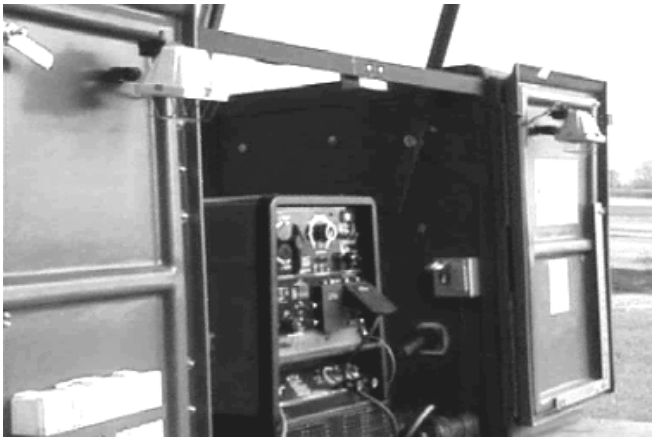


Trailblazer 302 Diesel
110V plug-in

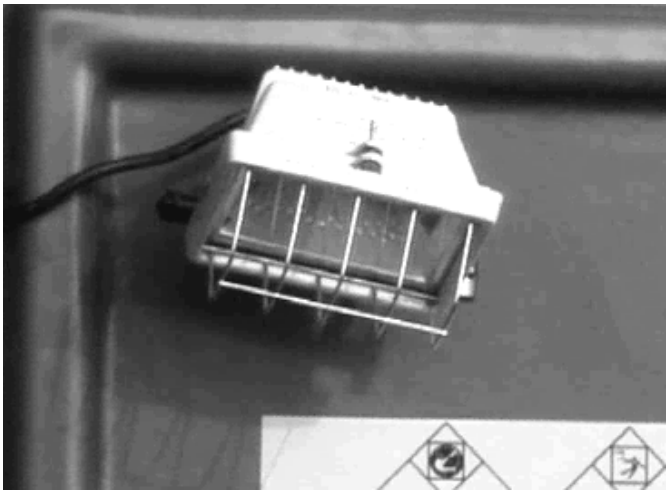
To use 110v AC power from an external source, deploy the 50-ft. power input cable located in the right forward enclosure, as illustrated below, and plug it into the external 110v AC power source. Ensure this cable is plugged into a 20-amp receptacle. Also position the power selector switch in the up (EXT) position.

Right Forward (RF) 50-ft Power Input Cable

h) Work Lights – The two adjustable workbench lights, mounted on the inside of the rear doors, provide lighting at the workbench area. To turn them on, use the individual ON/OFF switch mounted on the top back of each light.



Use caution when repositioning the lights, as they become very hot after a short period of operation. There also is a portable work drop-light (located in LR3) that can be used with the 50-ft. power output cable reel, **RF9**.

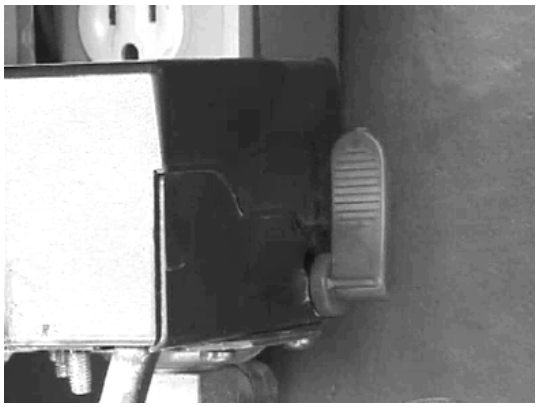


The equipment is now ready to be functionally utilized as required.

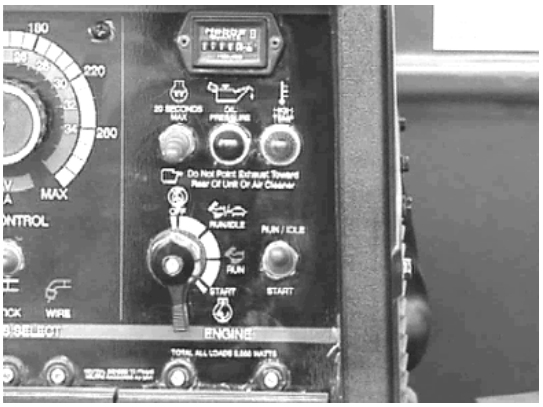
TMWSS/SEW
OPERATION UNDER USUAL CONDITIONS

CLOSEDOWN PROCEDURE
AFTER OPERATIONAL USE:

a) Verify that the air compressor ON/OFF switch is off and the welder has been shut off. Open the air compressor drain valve to drain the storage tank.

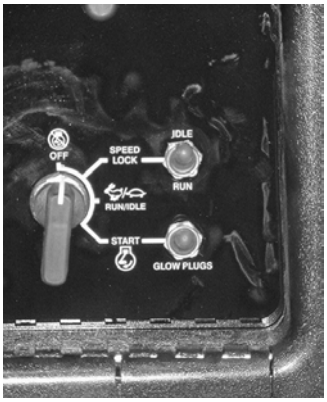


DeVilbiss Air Compressor On/Off Switch



Trailblazer 301D

Thomas Air Compressor On/Off Switch



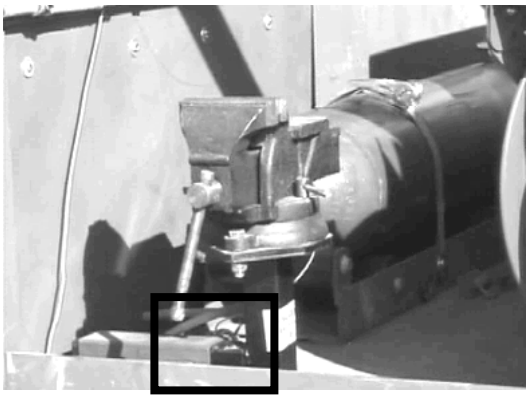
Trailblazer 302 Diesel

b) Verify the gas valves are closed. Remove all gas cylinder regulators and store in box **RF4** of the TMWSS or in the left rear enclosure of the SEW. Replace/verify the valve caps on the three cylinders, oxygen, argon and acetylene, are secured in place.

c) Replace all tools, hoses, and safety wear in appropriate storage areas.

d) Remove and store the weld curtains and rods in appropriate basket.

e) Remove vise from workbench and store in forward weld compartment area of the TMWSS or the right rear of the SEW next to the welder. Secure the vise in its storage location with the locking pin.



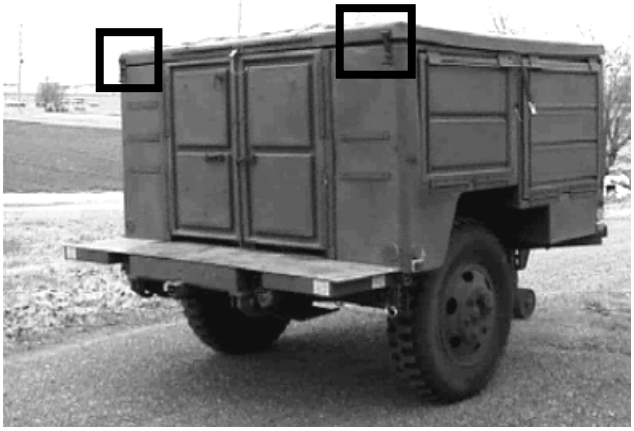
f) Remove the grounding rod and store appropriately in forward weld area.

g) Close and latch the front and rear doors of the weld compartment.

h) Insert the rear door lock bar on the rear roof pin, and push the bar against the roof towards the front of the trailer. The roof springs will lower the roof over the enclosures. Or, using the roof rope assembly attached to the front roof pin, pull the roof forward. Remove the rope assembly and store in the RF enclosure, top shelf.

i) Latch the four corner roof locking devices and then insert the rear locking bar and lock the rear lock.

j) Lock the front locking bar.



Roof Tiedowns

k) Close and lock the side enclosure doors. The weld shop is now in an in-place storage configuration, with the wheel chocks in place, the stabilizer leg(s) down, and the parking brakes engaged.

IF WELD SHOP IS TO BE TOWED:

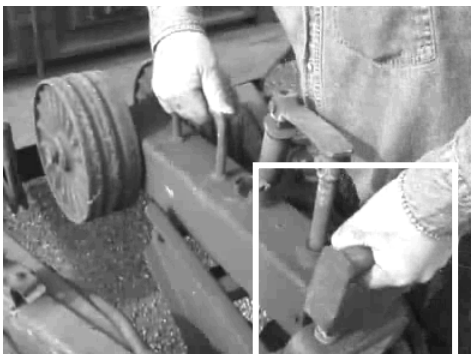
WARNING

Personnel should not stand between the trailer and the tow vehicle while tow vehicle is moving. Serious injury or death to personnel can occur.

a) Using the handle on the front caster jack, raise the trailer tongue to position it just above (1-2") the height of the tow vehicle hitch and guide the tow vehicle backward until lined up with the ring.

b) When the tow vehicle hitch is under the trailer tow ring, verify the tow vehicle brake is set, and then lower the caster wheel until the wheel is clear of the ground and the trailer tongue is resting securely on the tow vehicle. Close the vehicle hitch latch and insert safety pin.

c) Attach the two safety chains and connect the air brake hose assemblies to the tow vehicle mating connectors, verify these are properly mated to the tow vehicle.



WARNING

Ensure that two safety chains and air brake hose from the tow vehicle are properly connected to the weld shop.

d) Fully retract the caster wheel so that it can be raised to its storage position. Raise the trailer caster assembly and lock in the horizontal position.

e) Go to the rear of the weld shop and raise and pin the rear stabilizer leg(s) under the workbench (two legs for TMWSS or one leg for SEW).

TMWSS Side Stabilizer Leg

SEW Rear Stabilizer Leg

f) Remove the wheel chocks and store in RF enclosure, top shelf of the TMWSS or store under the workbench for the SEW.
g) Close and lock the side enclosure doors.
h) Inspect the weld shop to ensure all four locks are properly in place.
i) Release the two parking brake levers on the front tongue area.

The weld shop is now ready to be towed.

If the weld shop is being helicopter transported, remove the four orange roof tiedown straps from RF1 and install the four straps as illustrated below in the front-to-rear and side-to-side configurations.

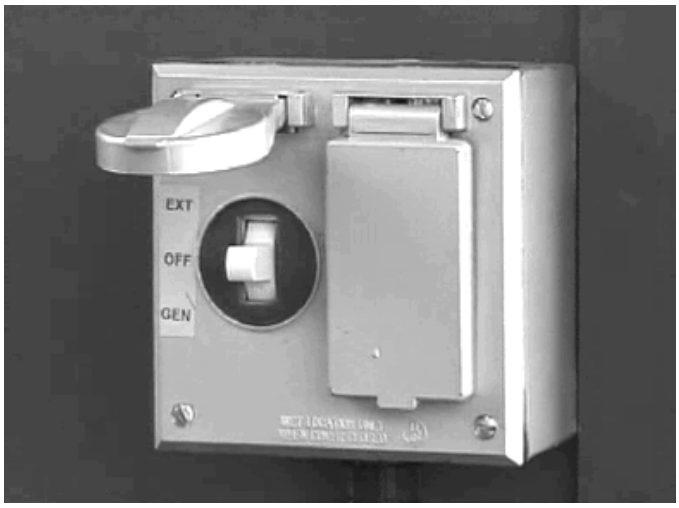
Helicopter Front-to-Rear

Helicopter Side-to-Side Tiedowns

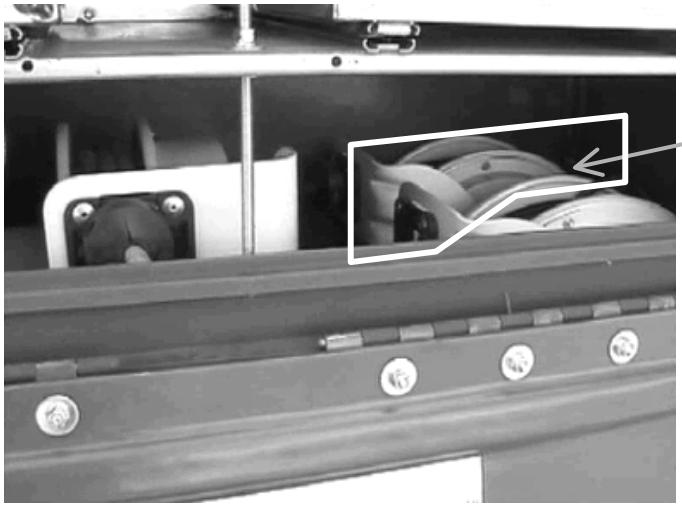
TMWSS/SEW
DESCRIPTION AND USE OF OPERATOR CONTROLS

EXTERNAL POWER – If the welder is not being used and external A/C power is available, the weld shop can provide electrical power for the operations of the air compressor, power tools and work lights.

Power selector switch controls the power distribution within the weld shop. When in the EXT position, A/C power can be input from an external source via



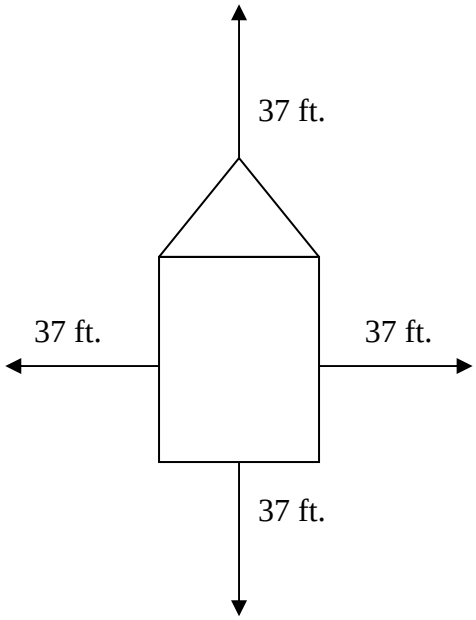
the power input 50-ft. electrical cable illustrated in the photo below. This cable is mounted in the right forward enclosure on the reel and is wired directly to the power selector switch. Verify the external power source has a 20-amp circuit breaker.



TMWSS/SEW
DESCRIPTION AND USE OF OPERATOR CONTROLS

REMOTE OPERATION

The weld shop is equipped to perform all the functional performance tasks within a minimum of 37 feet and a maximum of 50 feet of the trailer depending on the specific hose reels to be utilized.



Top View of Weld Shop

This is achievable by use of the seven 50 ft. reel hoses mounted in the enclosure compartments. The reels are all spring loaded and internally capable of rewinding. Refer to the reel commercial manuals in Tab 12 for details.

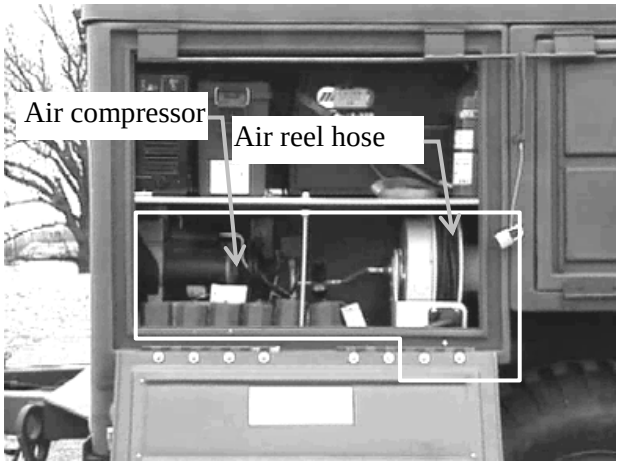
Gas Hoses	Location
• Oxy-fuel gas dual hose reel	Front of weld compartment
• Argon hose reel	Right forward enclosure
• Air compressor hose reel	Left forward enclosure
Electrical	
• External A/C power-in cable reel	Right forward enclosure
• Output A/C power cable reel	Right forward enclosure
Welding	
• Electrode, red, connector reel	Right rear enclosure
• Work, black, connector reel	Left rear enclosure

TMWSS/SEW
DESCRIPTION AND USE OF OPERATOR CONTROLS

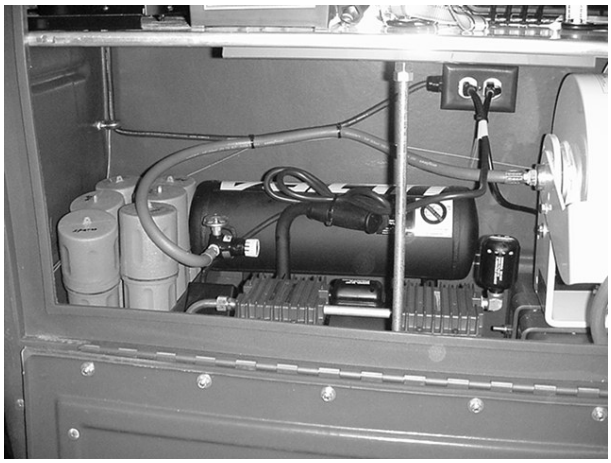
OPERATING THE AIR COMPRESSOR

AIR COMPRESSOR & AIR REEL

- Located in the left forward enclosure and already electrically connected to AC power via the control switch. To use the air hose reel assembly, pull out the end of the hose and connect to the desired tool device.

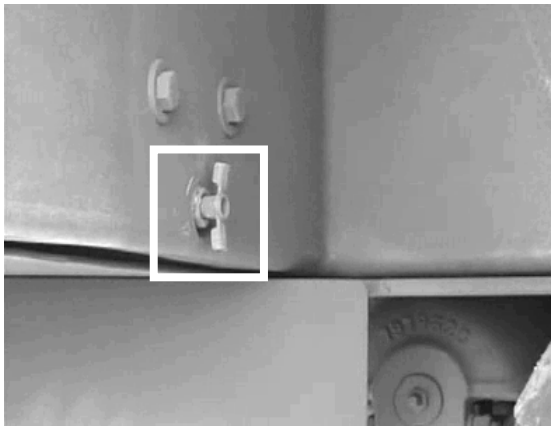


DeVilbiss Air Compressor, 030

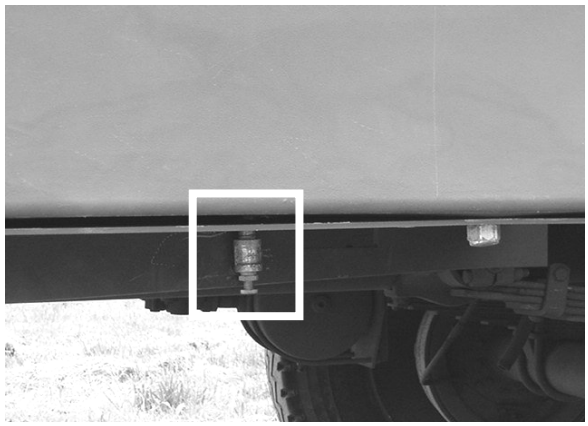


Thomas Air Compressor, 030a, "Ultra Air Pac" Oilless Heavy Duty Air Compressor, WOB-L Piston Compressor

- The air compressor tank has a drain valve that is accessible via the bottom outside of the enclosure in the wheel well. Verify the tank drain valve is open before starting the air compressor. Close the valve when the water has stopped blowing out of the tank.

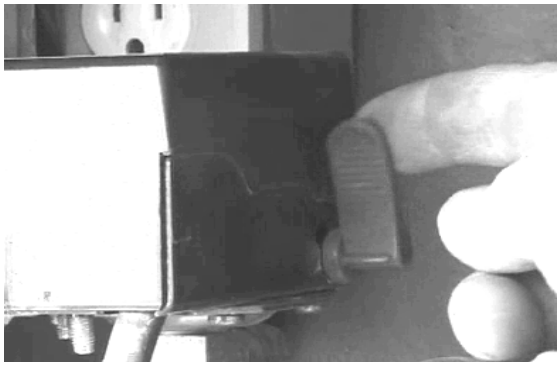


TMWSS

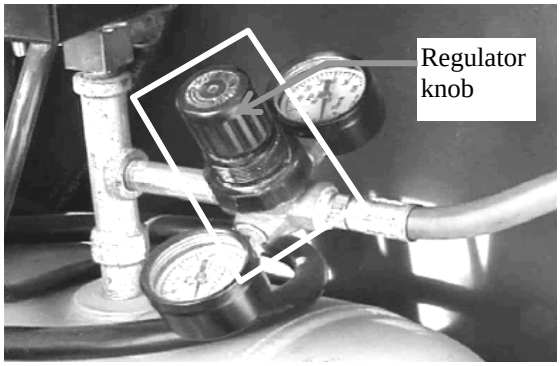


SEW

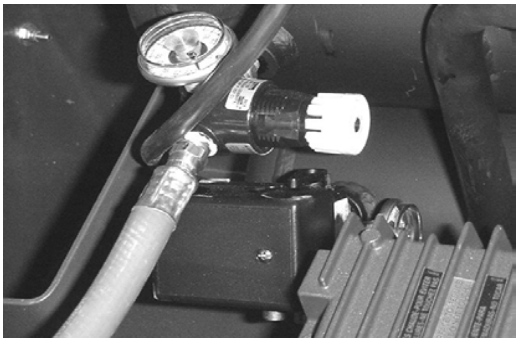
- Note that the air compressor is oilless.
- To start the air compressor verify A/C power is available, and then rotate the red start knob on the air compressor.



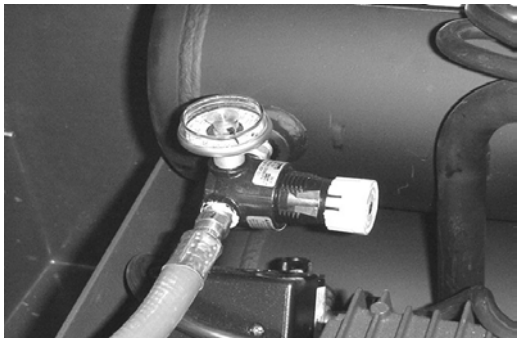
DeVilbiss Air Compressor On/Off Switch



DeVilbiss Air Compressor Regulator



Thomas air compressor on/off switch



Thomas air compressor regulator

- Allow the air compressor to run until the outlet pressure gauge indicator reaches 85 psi before using the air.
- Working air is not accessible until the tank pressure is above that required at the air outlet.
- This air compressor engine should not be <u>continuously</u> running for more than 30 minutes at a time.
- The tank pressure gauge indicates the reserve air pressure in the tank.
- The outlet pressure gauge indicates the air pressure available at the outlet side of the regulator. This pressure is always less than or equal to the tank pressure.
- The air pressure coming from the air tank is controlled by the regulator knob. Turn the knob clockwise to increase pressure and counterclockwise to decrease pressure. To avoid minor readjustment after making a change in pressure setting, always approach the desired pressure from a lower pressure. When reducing from a higher to a lower setting, first reduce to some pressure less than that desired, and then bring up to the desired pressure. Depending on the air requirements of each particular accessory, the outlet regulated air pressure may have to be adjusted while you are operating the accessory.
- There is a thermal overload that will automatically shut the engine off if the motor overheats.
- There is an air intake filter that must be periodically checked if the pressure does not build up.
- Refer to Tab 11 of the air compressor manual for additional information.

TMWSS/SEW
DESCRIPTION AND USE OF OPERATOR CONTROLS

OPERATION OF WELD MACHINE

WELDER OPERATION – Refer to specific areas of the Miller Trailblazer commercial manual, Tab 6, for detailed information as illustrated. Also refer to the Periodic Maintenance Schedule table in Chapter 4.

- Pre-start checklist
- Adjusting MIG weld puddle consistency
- Operating Welding Generator – Front Control Panel
- Remote voltage control
- Operating auxiliary equipment

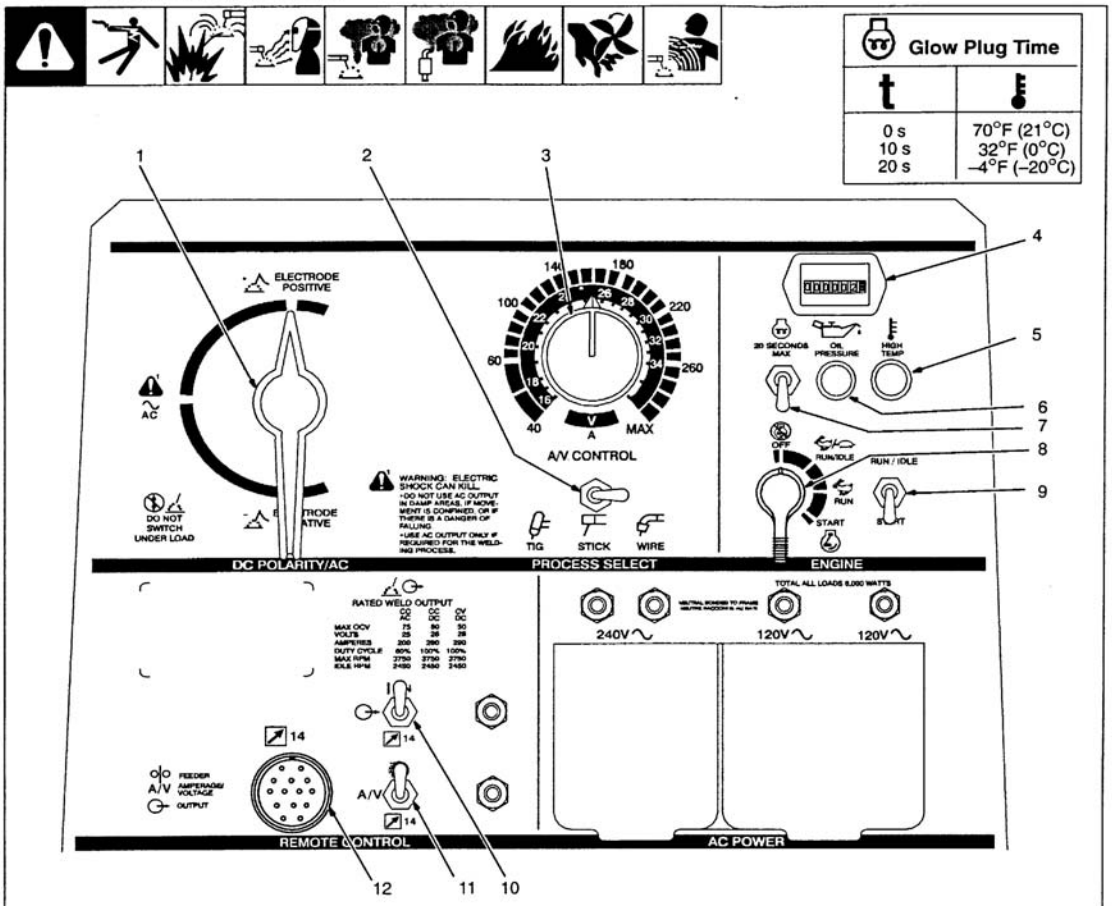
Trailblazer 300D Control Panel

Trailblazer 301D Control Panel

Trailblazer 302 Diesel Control Panel

SECTION 4 – OPERATING WELDING GENERATOR

4-1. Front Panel Controls



Ref. ST-187 602-A

1 DC Polarity/AC Switch

▲ **Do not switch under load.**

Use switch to select AC weld output or polarity of DC weld output.

2 Process Select Switch

▲ **Do not switch under load.**

Use switch to select output for weld process.

3 A/V Control

Use control to select weld voltage or amperage. Control may be adjusted while welding.

4 Engine Hour Meter

5 High Engine Temperature Light

Light goes on and engine stops if engine temperature is too high.

▲ **Do not run engine until trouble is fixed.**

6 Low Oil Pressure Light

Light goes on and engine stops if engine oil pressure is too low.

▲ **Do not run engine until trouble is fixed.**

7 Glow Plug Switch

If necessary, push switch up before start-up (see table above).

▲ **Do not use glow plugs longer than 20 seconds.**

8 Engine Control Switch

Use switch to start engine, select speed, and stop engine. In Run/Idle position, engine runs at idle speed at no load, and weld/power speed under load. In Run position, engine runs at weld/power speed.

☞ *Place switch in Run position to operate most GMAW equipment.*

9 Idle Lock Switch

Use switch to lock engine in idle speed during start-up. In Start position and Engine Control switch in Run or Run/Idle, engine is locked in idle speed. In Run/Idle position and Engine Control switch in Run/Idle, engine runs at idle speed at no load and weld/power speed under load.

To start: move idle lock switch and engine control switch to Start. Release engine control switch when engine starts. Do not crank engine if engine is still turning.

To Stop: turn Engine Control switch to Off position.

☞ *Close fuel valve to stop engine if Engine Control switch does not work (see Section 3-2).*

10 Output (Contactor) Switch

Use switch to control remote contactor if connected to remote 14 receptacle RC1 (see Section 4-2). Place switch in Remote 14 position if using remote contactor.

▲ **Weld output terminals are energized when Output (Contactor) switch is in On position and engine is running.**

11 Remote Amperage/Voltage Switch

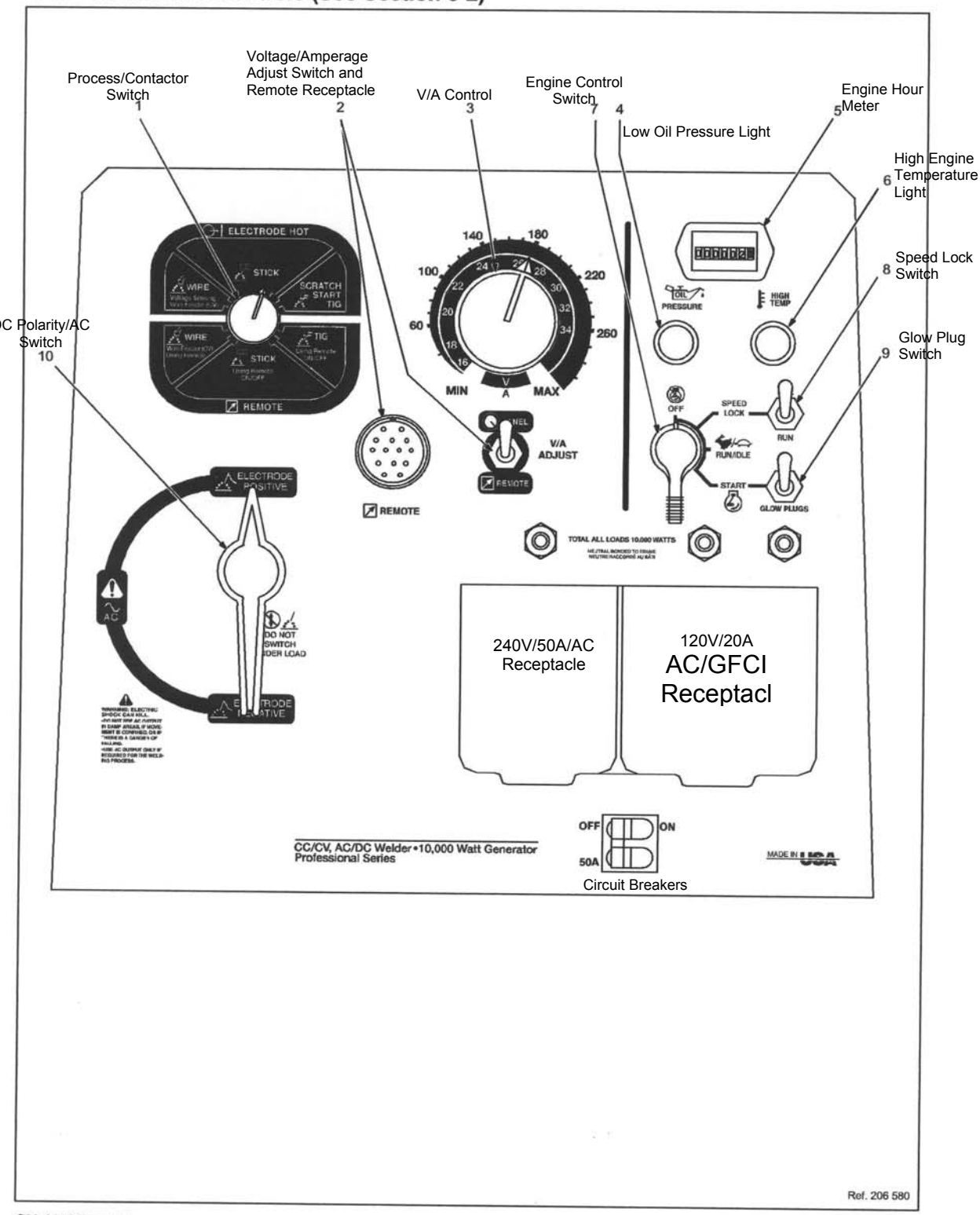
Use switch to select front panel or remote amperage/voltage control (see Section 4-2).

12 Remote 14 Receptacle RC3

Use receptacle to connect remote control (see Sections 3-7 and 4-2).

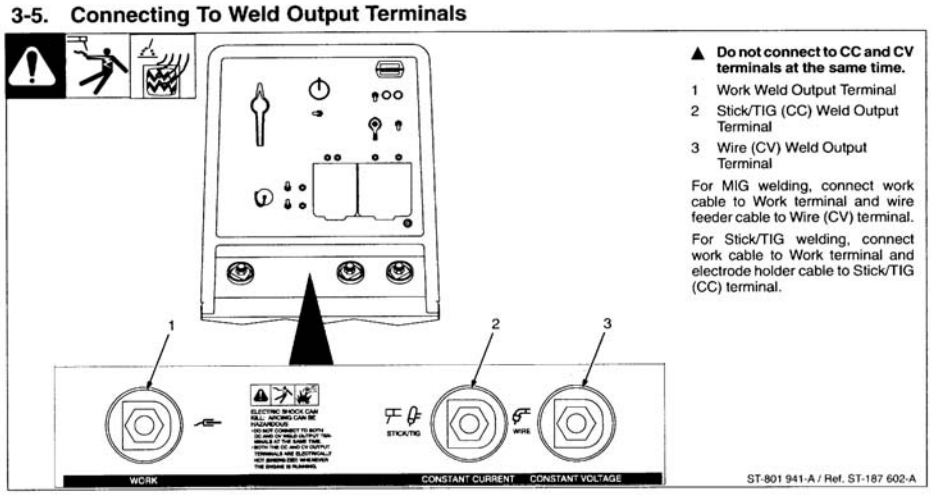
SECTION 5 – OPERATING WELDING GENERATOR

5-1. Front Panel Controls (See Section 5-2)

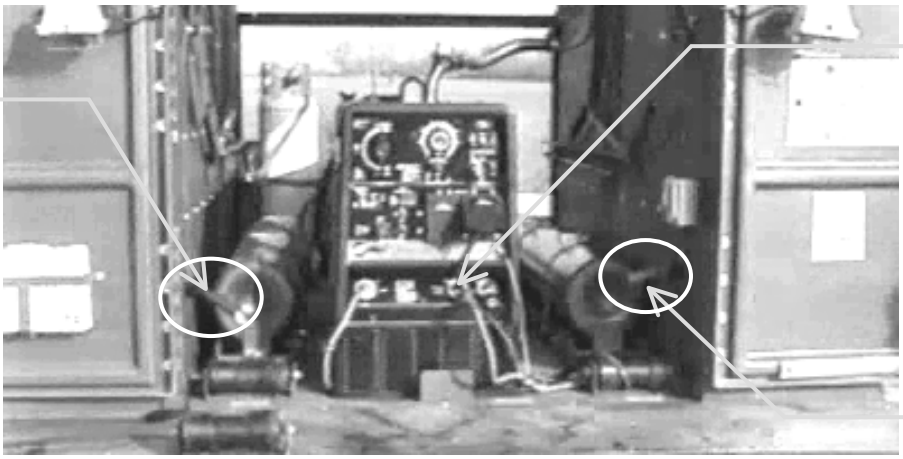


SMAW/STICK welding detail set-up procedure for Trailblazer 300D NT welder.

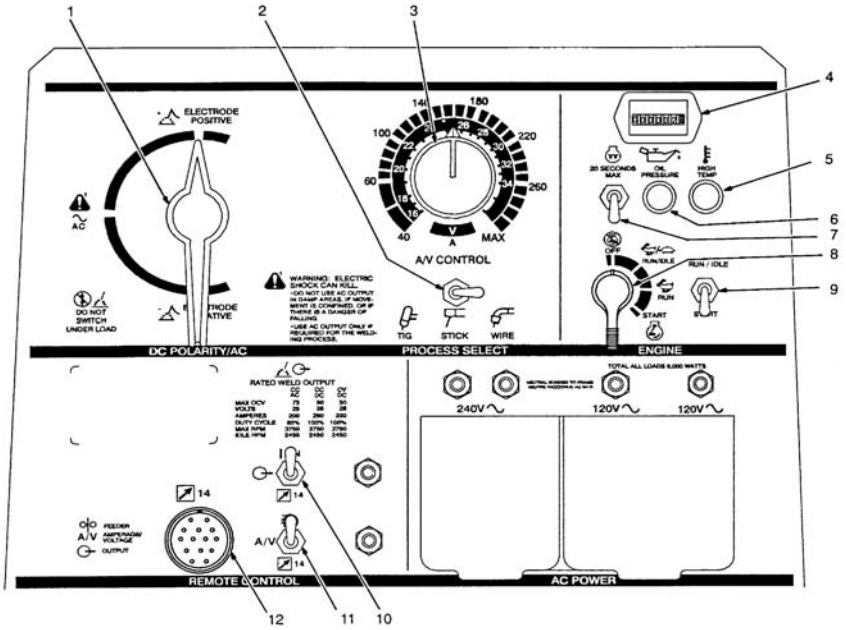
1. Put on the necessary safety gear:
   a. Welder's apron
   b. Welding sleeves
   c. Welding gloves
   d. Welding helmet
   e. Install welding curtains to the roof canopy of the trailer.
2. Weld Cable connections to the Trailblazer 300D NT (Refer to Trailblazer owner's manual, Tab 6, OM-487, Section 4-6):
   a. Verify/connect the black male quick disconnect attached to the short work/ground lead cable to the female quick disconnect of the 50-ft. cable reel, LR8 (arrow #1).
   b. Verify/connect the red male quick disconnect positive lead from the weld cable reel to the female quick disconnect terminal marked "Constant Current" on the Trailblazer welder (arrow #2).



   c. Verify/connect the red male quick disconnect lead on the short electrode holder cable to the red female quick disconnect on the 50-ft. weld cable reel.



3. Trailblazer 300D NT control panel set-up (refer to Trailblazer front panel controls):
   a. Set the “DC Polarity/AC Switch” to the recommended position for electrode type and size being used. (Switch #1)
   b. Set the “Process Select Switch” to the center “Stick” position. (Switch #2)
   c. Set the “A/V Control” switch to the recommended amps dependent on electrode selection and work requirements. (Switch #3)
   d. Set the “Output Contactor Switch,” (Switch # 10) to the “On” position.
   e. Set the “A/V” toggle switch (Switch #11) to the “panel” position.
   f. Set the “Idle Lock Switch” (Switch #9) to the “Start” position.
4. Starting the Trailblazer 300D Welder (Refer to Tab 6):
   a. Hold the “Glow Plug” (Switch #7) in the “ON” position for a maximum of 20 seconds.
   b. Turn the engine control switch to the “Start” position until the engine begins to run – then release immediately. (Switch #8)
   c. Turn the “Idle Lock” Switch to the “Run/Idle” position prior to using weld or auxiliary power. (Switch #9)
   d. Note: If Trailblazer does not operate, refer to Tab 6 (owner’s manual for troubleshooting).

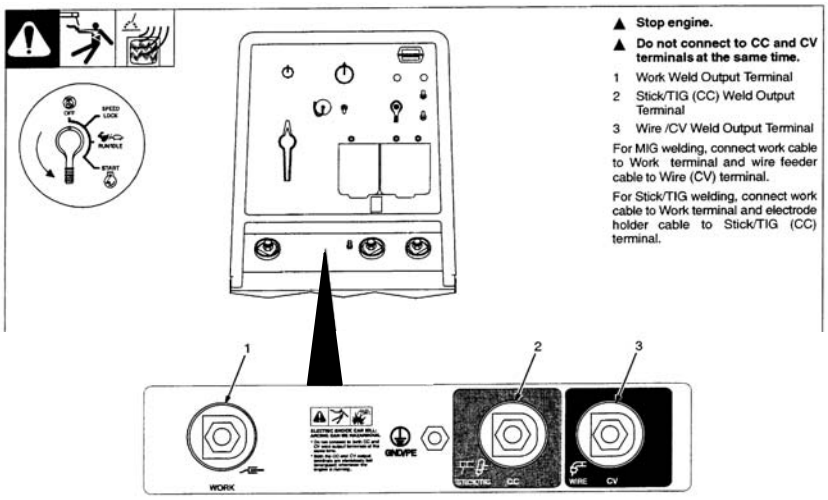


5. Don the welding helmet.
6. Using welding gloves, clamp the ground/work clamp to the work piece and assure there is a good contact.
7. With welding gloves on hands, install the desired electrode into the electrode holder. <u>Caution!! While the electrode is installed in the electrode holder, the system is functional while the welder is running!</u>
8. Strike an arc and the welder is ready to weld.
9. Shut down:
   a. Turn the “Engine Control Switch” to the “Off” position. (Switch #8)
   b. Remove the tooling and store in the appropriate locations.

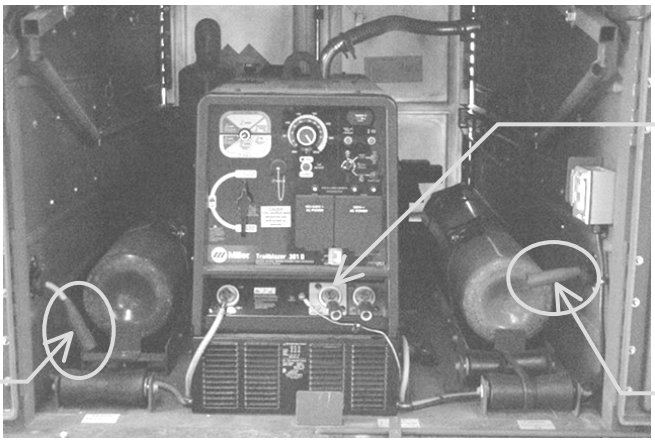
SMAW/STICK welding detail set-up procedure for Trailblazer 301D welder.

1. Put on the necessary safety gear:
   a. Welder's apron
   b. Welding sleeves
   c. Welding gloves
   d. Welding helmet
   e. Install welding curtains to the roof canopy of the trailer.
2. Weld Cable connections to the Trailblazer 301D (Refer to Trailblazer Owner's Manual, Tab 6, OM4410, Section 4-7):
   a. Verify/connect the black male quick disconnect attached to the short work/ground lead cable to the female quick disconnect of the 50-ft. cable reel, LR8 (arrow #1).
   b. Verify/connect the red male quick disconnect positive lead from the weld cable reel to the female quick disconnect terminal marked "Stick/TIG" on the Trailblazer 301D welder (arrow #2).

4-7. Connecting to Weld Output Terminals



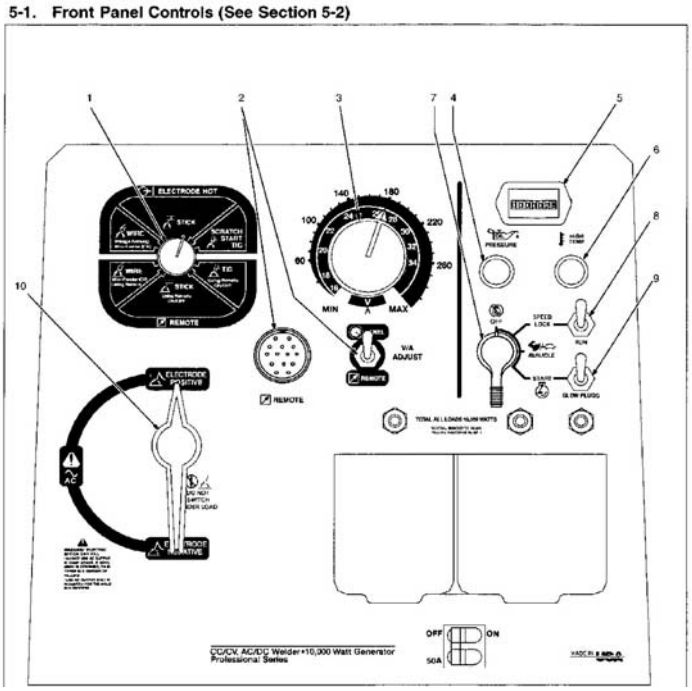
   c. Verify/connect the red male quick disconnect lead on the short electrode holder cable to the red female quick disconnect on the 50-ft. weld cable reel.



3. Trailblazer 301D control panel setup (refer to Trailblazer front panel controls, Tab 6, OM-4410, Section 5-1):
   a. Set the “DC Polarity/AC Switch” to the “Electrode Positive” position. (Switch #10)
   b. Set the “Process Select Switch” to the “Stick” position in the “Electrode Hot” area. (Switch #1)
   c. Set the “V/A Control” switch to recommended settings dependent on electrode type and size. (Switch #3)
   d. Set the “V/A Adjust” toggle switch (Switch #2) to the “panel” position.

4. Starting the Trailblazer 301D Welder (Refer to Tab 6):
   a. Hold the “Glow Plug” (Switch #9) in the “ON” position for a maximum of 20 seconds.
   b. Turn the engine control switch to the “Start” position until the engine begins to run – then release immediately. (Switch #7)
   c. Note: If Trailblazer does not operate, refer to Tab 6, sections 7 & 8 (owner’s manual for troubleshooting).

5-1. Front Panel Controls (See Section 5-2)

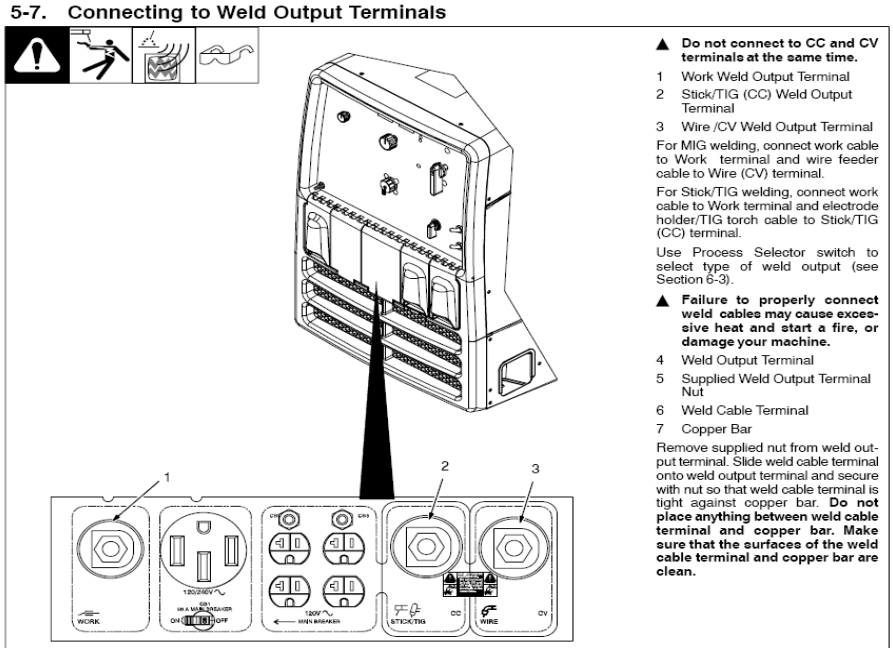


5. Don the welding helmet.
6. Using welding gloves, clamp the ground/work clamp to the work piece and assure there is a good contact.
7. With welding gloves on hands, install the desired electrode into the electrode holder. <u>Caution!! While the electrode is installed in the electrode holder, the system is functional while the welder is running!</u>
8. Strike an arc and the welder is ready to weld.
9. Shut down:
   a. Turn the “Engine Control Switch” to the “Off” position. (Switch #7)
   b. Remove the tooling and store in the appropriate locations.

SMAW/STICK welding detail set-up procedure for Trailblazer 302 Diesel welder

1. Put on the necessary safety gear:
   a. Welder's apron
   b. Welding sleeves
   c. Welding gloves
   d. Welding helmet
   e. Install welding curtains to the roof canopy of the trailer.
2. Weld Cable connections to the Trailblazer 302 Diesel (Refer to Trailblazer Owner's Manual, Tab 6, OM-217454B, Section 5-7):
   a. Verify/connect the black male quick disconnect attached to the short work/ground lead cable to the female quick disconnect of the 50-ft. cable reel, LR8 (arrow #1).
   b. Verify/connect the red male quick disconnect positive lead from the weld cable reel to the female quick disconnect terminal marked "Stick/TIG" on the Trailblazer 302 Diesel welder (arrow #2).

5-7. Connecting to Weld Output Terminals



▲ **Do not connect to CC and CV terminals at the same time.**

1 Work Weld Output Terminal
2 Stick/TIG (CC) Weld Output Terminal
3 Wire /CV Weld Output Terminal

For MIG welding, connect work cable to Work terminal and wire feeder cable to Wire (CV) terminal.

For Stick/TIG welding, connect work cable to Work terminal and electrode holder/TIG torch cable to Stick/TIG (CC) terminal.

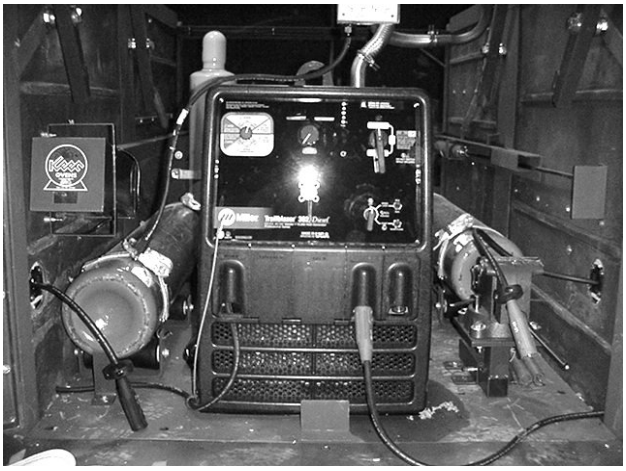
Use Process Selector switch to select type of weld output (see Section 6-3).

▲ **Failure to properly connect weld cables may cause excessive heat and start a fire, or damage your machine.**

4 Weld Output Terminal
5 Supplied Weld Output Terminal Nut
6 Weld Cable Terminal
7 Copper Bar

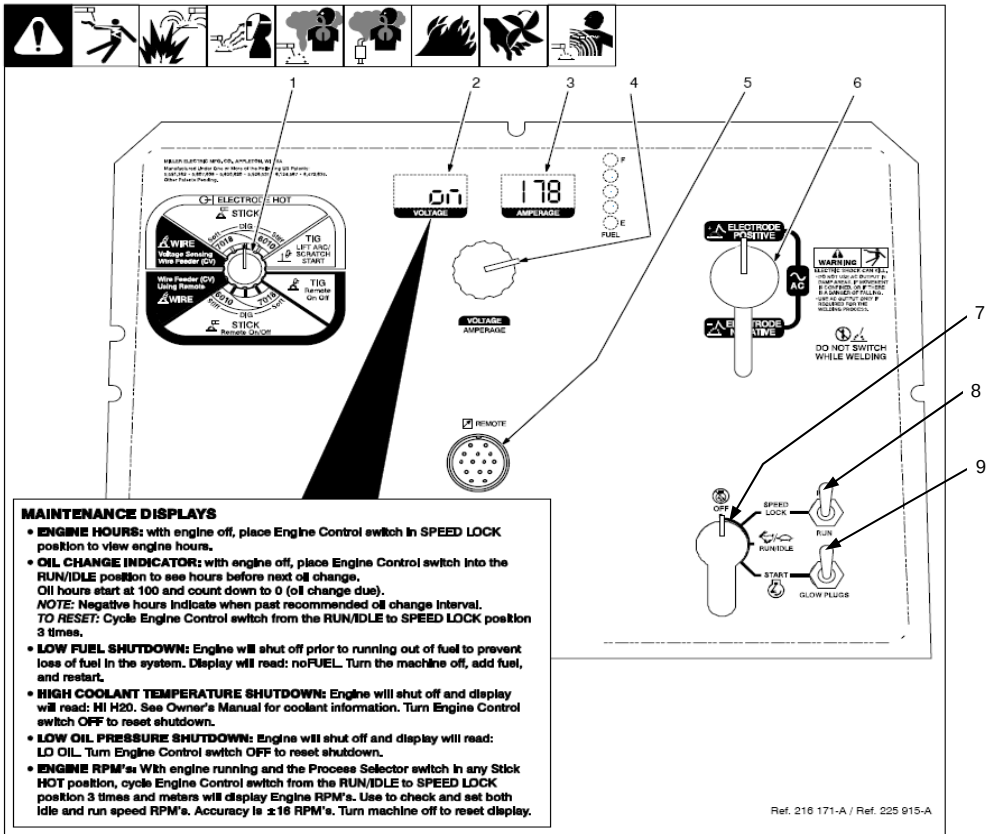
Remove supplied nut from weld output terminal. Slide weld cable terminal onto weld output terminal and secure with nut so that weld cable terminal is tight against copper bar. **Do not place anything between weld cable terminal and copper bar. Make sure that the surfaces of the weld cable terminal and copper bar are clean.**

   c. Verify/connect the red male quick disconnect lead on the short electrode holder cable to the red female quick disconnect on the 50-ft. weld cable reel.



3. Trailblazer 302 Diesel control panel setup (refer to Trailblazer front panel controls, Tab 6, OM217454B, Section 6-2):
   a. Set the “DC Polarity/AC Switch” to the “Electrode Positive” position (Switch #6).
   b. Set the “Process Select Switch” to the “Stick” position in the “Electrode Hot” area (Switch #1).
   c. Set the “V/A Control” switch to recommended settings dependent on electrode type and size (Switch #4).
4. Starting the Trailblazer 302 Diesel Welder (Refer to Tab 6):
   a. Hold the “Glow Plug” (Switch #9) in the “ON” position for a maximum of 20 seconds.
   b. Turn the engine control switch to the “Start” position until the engine begins to run – then release immediately (Switch #7).
   c. Note: If Trailblazer does not operate, refer to Tab 6, sections 7 & 8 (owner’s manual for troubleshooting).

6-2. Weld Output Controls



1 Process/Contactor Switch

See Section 6-3 for Process/Contactor switch information.

2 And 3 Displays

Displays can show weld process information (voltage and amperage) or engine and maintenance information.

Meter Weld Functions: In Wire modes, Voltmeter displays preset weld voltage when not welding. Meters display actual voltage and amperage when welding and for five seconds after welding has stopped.

In Stick and TIG modes, Voltmeter reads ON and Ammeter displays preset amperage when the contactor is on and not welding. The Voltmeter reads 0 (zero) when in remote with the contactor off. Meters display actual voltage and amperage when welding and for five seconds after welding has stopped.

Meter Engine And Maintenance Functions: See inset from maintenance label.

4 Voltage/Amperage Control

Use control to select weld voltage or amperage. Control may be adjusted while welding.

With Process/Contactor switch in any Stick or TIG setting, use control to adjust amperage. With Process/Contactor switch in any Wire position, use control to adjust voltage. When a remote voltage/amperage control is connected to Remote receptacle RC4, control sets the maximum amperage in Stick and TIG modes, but has no effect in MIG modes.

5 Remote Receptacle

Use receptacle to connect remote control or wire feeder.

When a remote voltage/amperage control is connected to the Remote receptacle, the Auto Sense Remote feature automatically switches voltage/amperage control to the remote control (see Sections 5-9 and 6-6).

With remote voltage/amperage control connected, weld output in CC mode is determined by a combination of front panel and remote control voltage/amperage settings. In CV mode, weld output is controlled through remote control only.

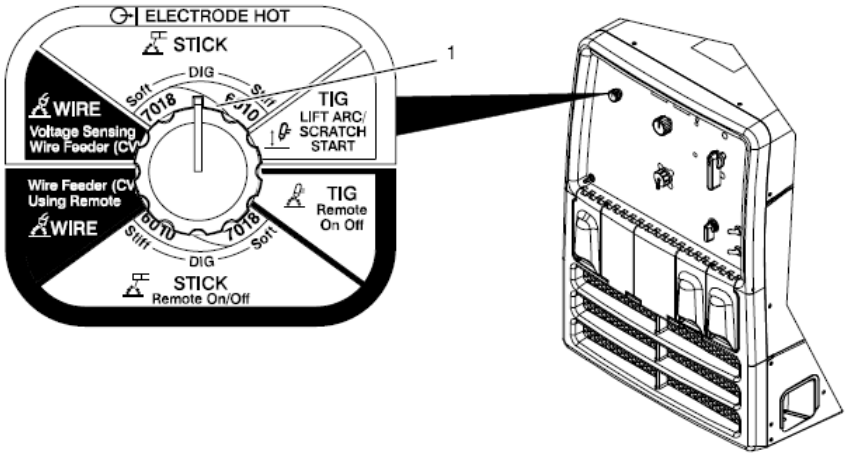
If no remote voltage/amperage control is connected to the Remote receptacle, the front panel Voltage/Amperage control adjusts voltage and amperage.

6 DC Polarity/AC Switch

☞ *Do not switch while welding.*

Use switch to select AC weld output or polarity of DC weld output.

6-3. Process/Contactor Switch



Ref. 804 195-A / Ref 216 171-A

1 Process/Contactor Switch

▲ **Weld output terminals are energized when Process/Contactor switch is in an Electrode Hot position and the engine is running.**

☞ *The unit will not return to idle speed when Process/Contactor switch is in a Wire position and the remote contactor is on (closure between pins A and B on remote receptacle).*

Use switch to select weld process and weld output on/off control (see table below and Section 5-9).

Place switch in Remote positions to turn weld output on and off with a device connected to the remote receptacle.

Place switch in Electrode Hot positions for weld output to be on whenever the engine is running.

Wire Positions:

Use Wire positions for MIG welding using a voltage sensing wire feeder (Electrode Hot) or wire feeder using remote control.

Stick Positions:

Use Stick positions for stick (SMAW) and air carbon arc (CAC-A) cutting and gouging.

When switch is in a Stick mode, select one of four dig settings to provide additional amperage during short arc length conditions and help prevent electrodes from "sticking". See Stick position descriptions following (reading L to R):

Soft Arc (E 7018) (Position 1) - This setting provides a low dig/arc force setting for smooth weld performance. A stable weld puddle with little arc "snap" gives excellent weld bead appearance with minimal spatter.

Medium Soft Arc (Position 2) - This setting provides a low to medium dig/arc force that gives a slightly more fluid weld puddle, more arc "snap", and reduces the potential for electrode sticking at shorter arc lengths.

Medium Stiff Arc (Position 3) - This setting provides medium dig/arc force for open root vertical up joints or joints that do not require additional current for fit up inconsistencies.

Stiff Arc (E6010) (Position 4) - This setting provides a high dig/arc force for open root vertical down joints where additional current is needed to compensate for tight joint fit up without the need to increase overall welding current. This setting is recommended for those who prefer a very stiff arc with 6010 electrodes.

TIG Positions:

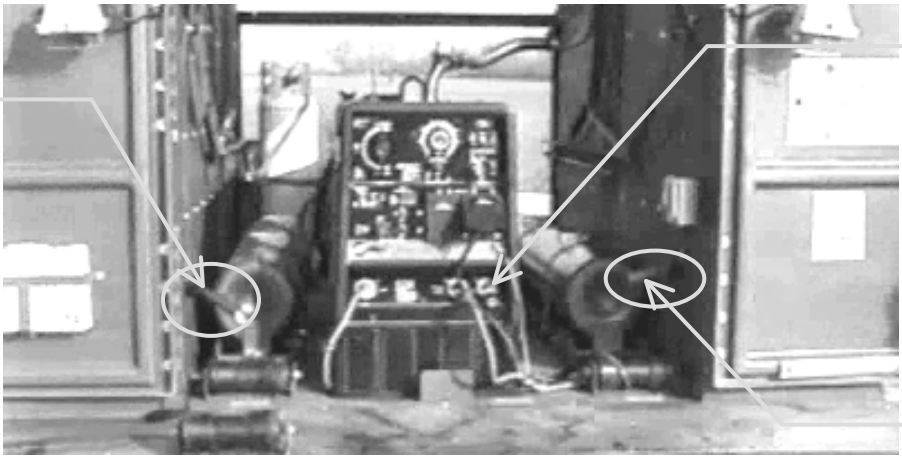
TIG – Remote On/Off – Use this position for TIG welding using remote on/off control.

Electrode Hot – Lift-Arc™/Scratch Start TIG (Provides great DC starts with either starting method) - With switch in this position, normal open-circuit voltage is not present between the electrode and workpiece. A solid-state contactor energizes after the electrode touches the workpiece, preventing overheating, sticking, or contamination of the electrode (see Sections 6-4 and 6-5).

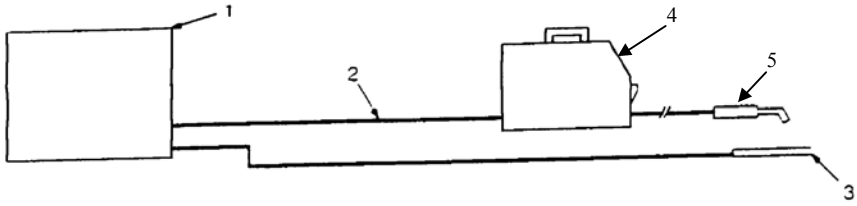
5. Don the welding helmet.
6. Using welding gloves, clamp the ground/work clamp to the work piece and ensure there is a good contact.
7. With welding gloves on hands, install the desired electrode into the electrode holder. <u>Caution!! While the electrode is installed in the electrode holder, the system is functional while the welder is running!</u>
8. Strike an arc and the welder is ready to weld.
9. Shut down:
   a. Turn the "Engine Control Switch" to the "Off" position (Switch #7).
   b. Remove the tooling and store in the appropriate locations.

FCAW (MIG) for Trailblazer 300D NT welder

1. Put on the necessary safety gear:
   a. Welder's apron
   b. Welding sleeves
   c. Welding gloves
   d. Welding helmet
   e. Install welding curtains to the roof canopy of the trailer.
2. Weld Cable connections to the Trailblazer 300D NT (Refer to Trailblazer Owner's Manual, Tab 6, OM-487, Section 4-6):
   a. Connect the black male quick disconnect attached to the short work/ground lead cable to the female quick disconnect of the 50-ft. cable reel, LR8 (arrow #1).
   b. Connect the red male quick disconnect positive lead from the weld cable reel to the female quick disconnect terminal marked "Constant Voltage" on the Trailblazer welder front lower panel (arrow #2).

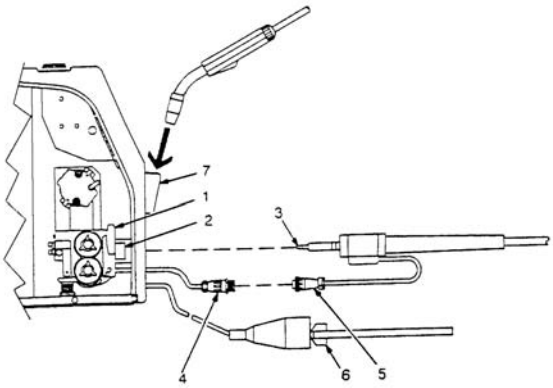


   c. Connect the red female quick disconnect lead from the cable reel to the male quick disconnect terminal/lead at the rear of the wire feeder (refer to Tab 9).



1. Welder
2. Electrode Cable
3. Work Cable
4. Wire Feeder
5. MIG Gun

   d. Install the .045" size wire drive roll set and guide (refer to Wire Feeder Owners Manual, Tab 9).
   e. Install the MIG gun to the Wire Feeder.
   f. Connect the "Gun Trigger Receptacle" to the "Gun Trigger Plug" on the Wire Feeder.

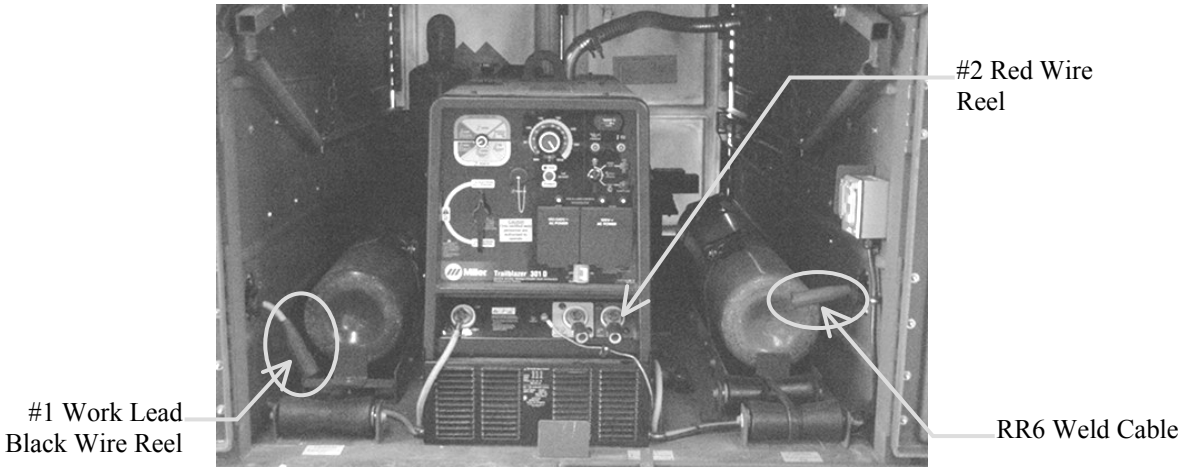


1. Gun Securing Knob
2. Gun Block
3. Gun Outlet Wire Guide
   (Loosen knob, insert gun end into block. Position outlet wire guide as close as possible to drive rolls without touching. Tighten knob.)
4. Gun Trigger Plug
5. Gun Trigger Receptacle
6. Voltage Sensing Clamp
   (Connect to workpiece.)
7. Gun Holder

   g. Install a .045" contact tip into the MIG gun.
   h. Load the weld wire into the Wire Feeder and feed the wire through the rollers and wire guide approximately 5-6 inches into the MIG gun.
   i. Close the roller "Pressure Assembly Adjustment Knob" and adjust tension (refer to OM-1590, section 3-8).
   j. Close and latch the side cover of the Wire Feeder.
   k. Hook the voltage sensing clamp from the Wire Feeder to the work piece.
   l. Clamp the Work/Ground to the work piece also.
3. Trailblazer 300D NT control panel setup (refer to Trailblazer Manual, Tab 6, OM-487, Section 4-6):
   a. Set the "DC Polarity/AC Switch" to the recommended setting depending on electrode wire specifications.
   b. Set the "Process Select Switch" to the "Wire" position.
   c. Set the "A/V Control" switch to desired/recommended amps.
   d. Set the "Output Contactor Switch," to the "On" position.
   e. Set the "A/V" toggle switch to the "panel" position.
   f. Set the "Idle Lock Switch" to the "Start" position.
   g. Set the "Engine Control Switch" to the "Run/Idle" position.
4. Starting the Trailblazer 300D NT Welder:
   a. Hold the "Glow Plug" (Switch #7, OM-487) in the "ON" position for a maximum of 20 seconds.
   b. Turn the Engine Control Switch to the "Start" position until the engine begins to run – then release immediately.
   c. Turn the "Idle Lock" Switch to the "Run/Idle" position prior to using weld or auxiliary power.
   d. Note: If Trailblazer does not operate, refer to Tab 6 (owner's manual for troubleshooting).
5. Set the wire feed speed control on the front panel of the Wire Feeder to 75.
6. Thread the weld wire by pressing the MIG Gun trigger until the wire comes out of the gun.
7. Turn on the welding helmet and position on welder's head.
8. Strike an arc and begin welding.
9. Shut down:
   a. Turn the "Engine Control Switch" to the "Off" position.
   b. Return all tools to their assigned storage locations on the trailer.

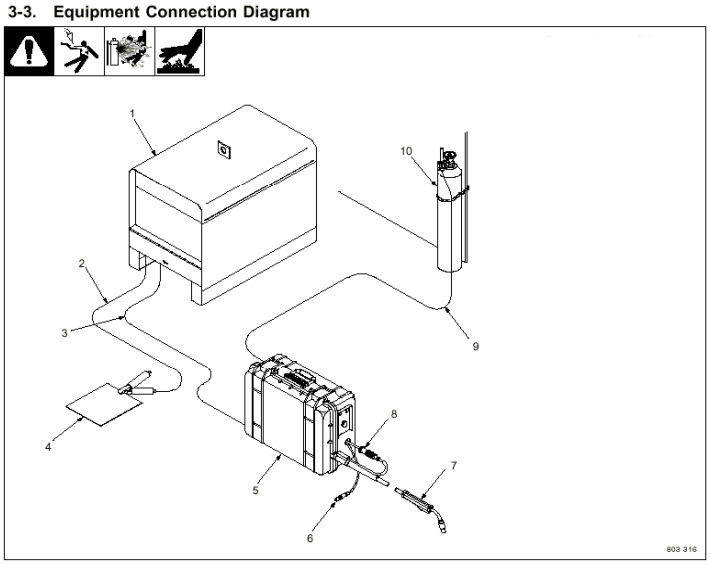
FCAW (MIG) for Trailblazer 301D welder

1. Put on the necessary safety gear:
   a. Welder's apron
   b. Welding sleeves
   c. Welding gloves
   d. Welding helmet
   e. Install welding curtains to the roof canopy of the trailer.
2. Weld Cable connections to the Trailblazer 301D NT (Refer to Trailblazer Owner's Manual, Tab 6, OM-4410, Section 4-7):
   a. Connect the black male quick disconnect attached to the short work/ground lead cable to the female quick disconnect of the 50-ft. cable reel, LR8 (arrow #1).
   b. Connect the red male quick disconnect positive lead from the weld cable reel to the female quick disconnect terminal marked "Wire" on the Trailblazer welder front lower panel (arrow #2).



   c. Connect the red female quick disconnect lead from the cable reel to the male quick disconnect terminal/lead at the rear of the wire feeder (refer to Tab 9).

3-3. Equipment Connection Diagram

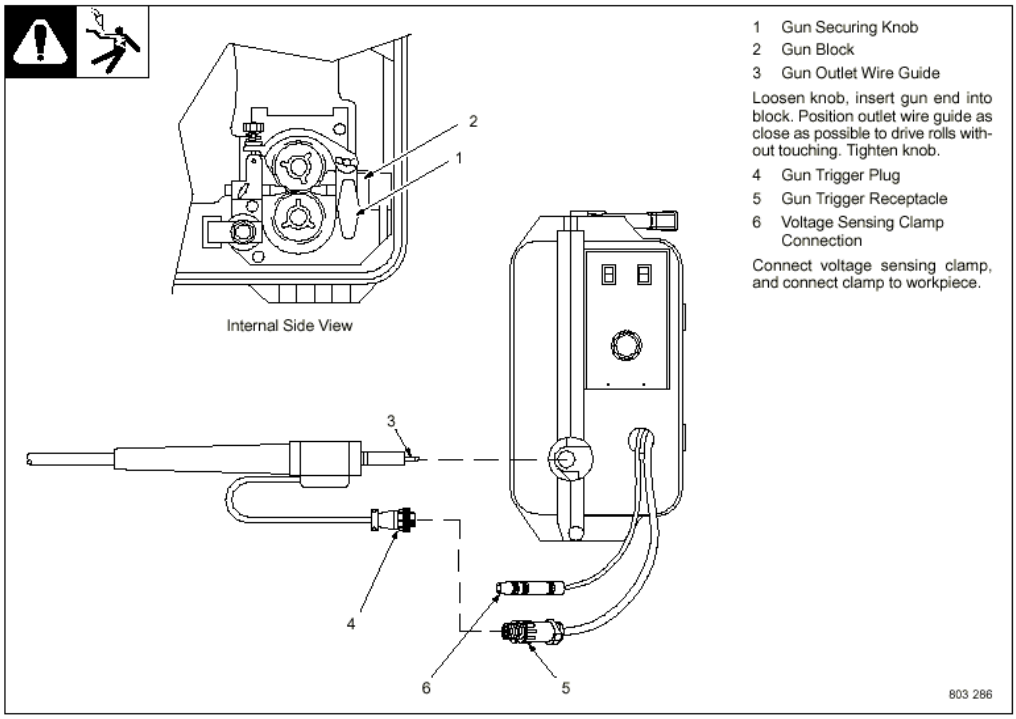


For aluminum GMAW, connect argon gas hose to rear of wire feeder. For flux core, gas connection is not required.

1. Constant Voltage (CV) welding power source supplying 24 VAC to feeder
   Use optional PSA-2 adapter for power sources having only 115 VAC supply.
2. Negative (-) Weld Cable
3. Positive (+) Weld Cable
4. Workpiece
5. Wirefeeder, S-32P or 8VS
6. Voltage Sensing Lead
7. Gun
8. Gun Trigger Receptacle
9. Gas Hose
10. Gas Cylinder

d. Install the .045" size wire drive roll set and guide (refer to the Wire Feeder Owners Manual).
e. Install the MIG gun to the wire feeder.
f. Connect the “Gun Trigger Receptacle” to the “Gun Trigger Plug” on the wire feeder.

3-5. Connecting Welding Gun And Voltage Sensing Lead



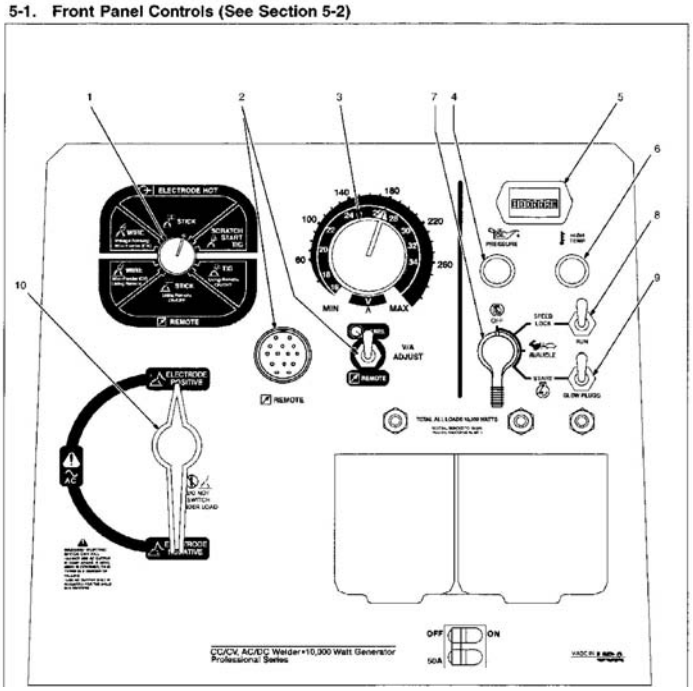
g. Install a .045" contact tip into the MIG gun.
h. Load the weld wire into the Wire Feeder and feed the wire through the rollers and wire guide approximately 5-6 inches into the MIG gun.
i. Close the roller “Pressure Assembly Adjustment Knob” and adjust tension.
j. Close and latch the side cover of the Wire Feeder.
k. Hook the voltage sensing clamp from the Wire Feeder to the work piece.
l. Clamp the Work/Ground to the work piece also.

3. Trailblazer control panel setup (refer to Trailblazer Manual, Tab 6, OM-4410, Section 5-1):
   a. Set the “DC Polarity/AC Switch” to the desired/recommended position dependent on electrode size and type. (Switch #10)
   b. Set the “Process/Contactor Switch” to the “Wire, voltage sensing wire feeder, CV” position in the “Electrode Hot” area. (Switch #1)
   c. Set the “V/A Control” to desired/recommended amps.
   d. Set the “V/A Adjust” toggle switch to the “panel” position. (Switch #2)

4. Starting the Trailblazer 301D Welder:
   a. Hold the “Glow Plug” (Switch #9, OM-4410) in the “ON” position for a maximum of 20 seconds.
   b. Turn the Engine Control Switch to the “Start” position until the engine begins to run – then release immediately (Switch #7).
   c. Turn the “Idle Lock” Switch to the “Run/Idle” position prior to using weld or auxiliary power (Switch #9).
   d. Note: If Trailblazer does not operate, refer to Tab 6 (owner’s manual for troubleshooting).

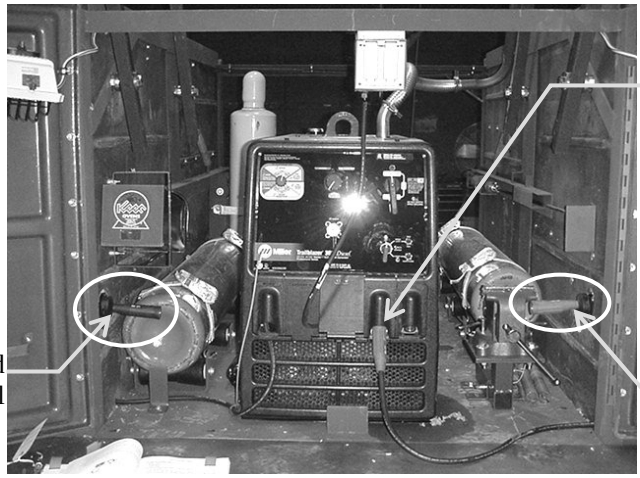
5. Set the HI/LO range switch on the wirefeeder to LO (refer to OM-1500-8, section 3-8). Set the Wire Speed Control to 340. (Note that actual wirefeed speed is ½ of reading in LO.) Thread the weld wire by pressing the MIG Gun trigger until the wire comes out of the gun (refer to OM-1500-8, section 3-8).
6. Turn on the welding helmet and position on welder’s head.
7. Strike an arc and begin welding.
8. Shut down:
   a. Turn the “Engine Control Switch” to the “Off” position.
   b. Return all tools to their assigned storage locations on the trailer.

5-1. Front Panel Controls (See Section 5-2)



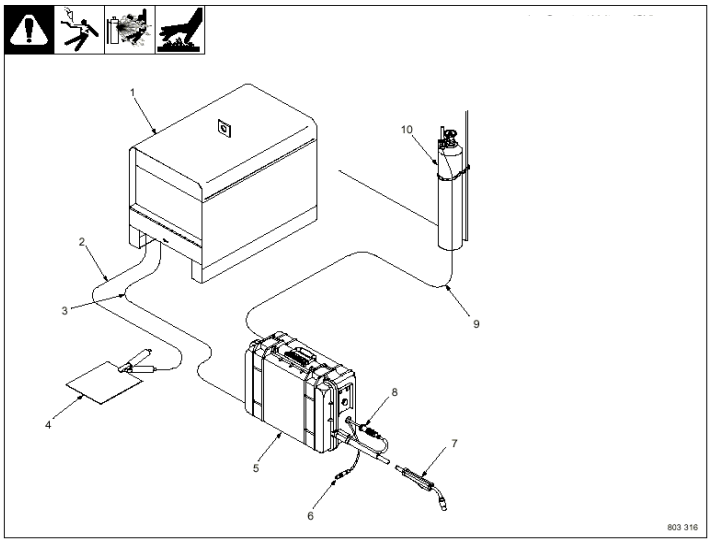
FCAW (MIG) for Trailblazer 302 Diesel welder

1. Put on the necessary safety gear:
   a. Welder's apron
   b. Welding sleeves
   c. Welding gloves
   d. Welding helmet
   e. Install welding curtains to the roof canopy of the trailer.
2. Weld Cable connections to the Trailblazer 302 Diesel welder (Refer to Trailblazer Owner's Manual, Tab 6, OM-217454B, Section 5-7):
   a. Connect the black male quick disconnect attached to the short work/ground lead cable to the female quick disconnect of the 50-ft. cable reel, LR8 (arrow #1).
   b. Connect the red male quick disconnect positive lead from the weld cable reel to the female quick disconnect terminal marked "Wire" on the Trailblazer welder front lower panel (arrow #2).



   c. Connect the red female quick disconnect lead from the cable reel to the male quick disconnect terminal/lead at the rear of the wire feeder (refer to Tab 9).

Equipment Connection Diagram

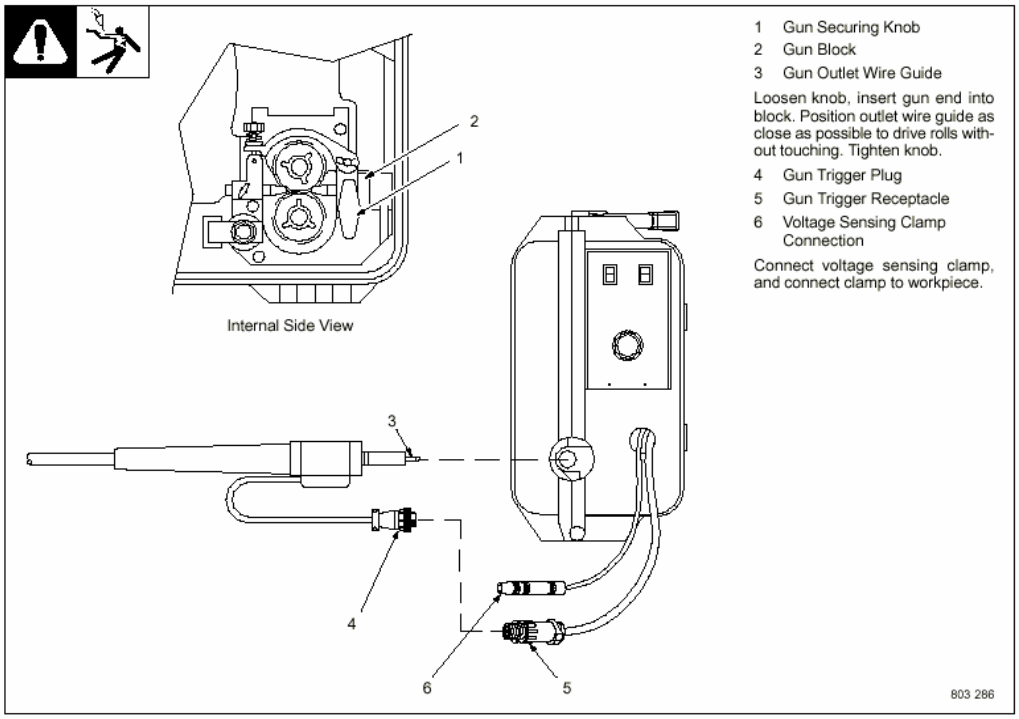


For aluminum GMAW, connect argon gas hose to rear of wire feeder. For flux core, gas connection is not required.

1. Constant Voltage (CV) welding power source supplying 24 VAC to feeder
   Use optional PSA-2 adapter for power sources having only 115 VAC supply.
2. Negative (-) Weld Cable
3. Positive (+) Weld Cable
4. Workpiece
5. Wire feeder, S-32P or 8VS
6. Voltage Sensing Lead
7. Gun
8. Gun Trigger Receptacle
9. Gas Hose
10. Gas Cylinder

d. Install the .045" size wire drive roll set and guide (refer to the Wire Feeder Owners Manual).
e. Install the MIG gun to the wire feeder.
f. Connect the “Gun Trigger Receptacle” to the “Gun Trigger Plug” on the wire feeder.

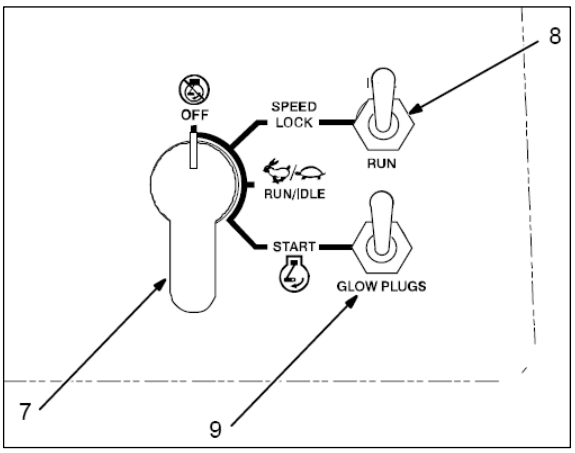
Connecting Welding Gun And Voltage Sensing Lead



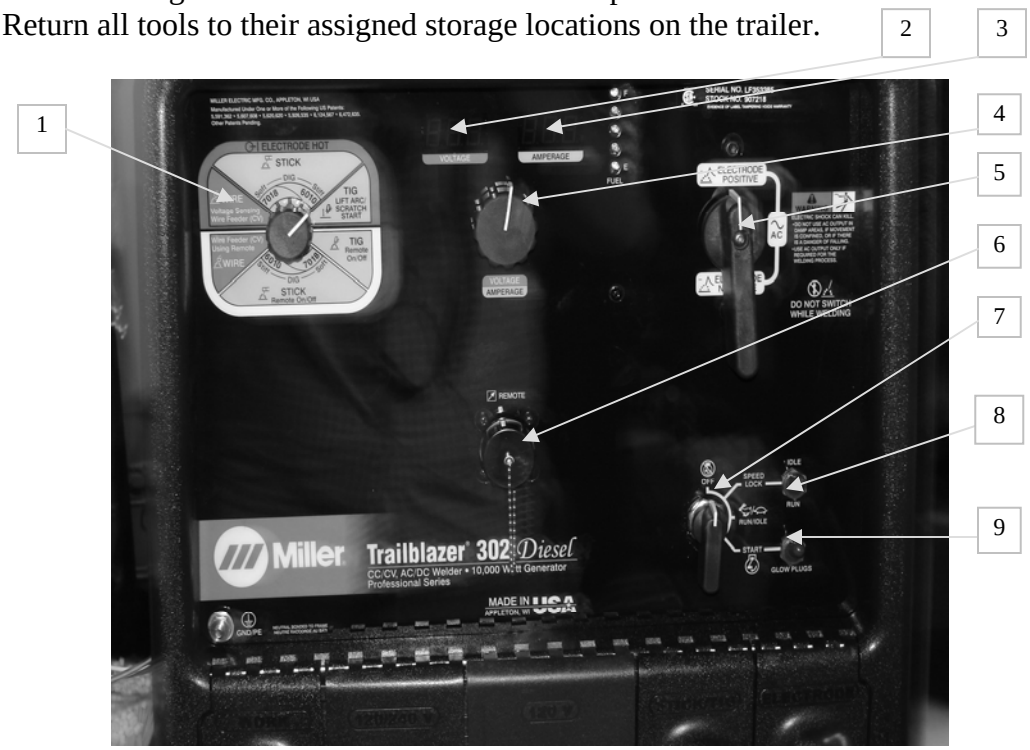
g. Install a .045" contact tip into the MIG gun.
h. Load the weld wire into the Wire Feeder and feed the wire through the rollers and wire guide approximately 5-6 inches into the MIG gun.
i. Close the roller “Pressure Assembly Adjustment Knob” and adjust tension.
j. Close and latch the side cover of the Wire Feeder.
k. Hook the voltage sensing clamp from the Wire Feeder to the work piece.
l. Clamp the Work/Ground to the work piece also.

3. Trailblazer control panel setup (refer to Trailblazer Manual, Tab 6, OM-217454B, Section 6-2):
   a. Set the “DC Polarity/AC Switch” to the desired/recommended position dependent on electrode size and type (Switch #6).
   b. Set the “Process/Contactor Switch” to the “Wire, voltage sensing wire feeder, CV” position in the “Electrode Hot” area (Switch #1).
   c. Set the “V/A Control” to desired/recommended voltage.

4. Starting the Trailblazer 302 Diesel Welder:
   a. Hold the “Glow Plug” (Switch #9, OM-4410) in the “ON” position for a maximum of 20 seconds.
   b. Turn the Engine Control Switch to the “Start” position until the engine begins to run – then release immediately (Switch #7).
   c. Turn the “Idle Lock” Switch to the “Run/Idle” position prior to using weld or auxiliary power (Switch #9).
   d. Note: If Trailblazer does not operate, refer to Tab 6 (owner’s manual for troubleshooting).

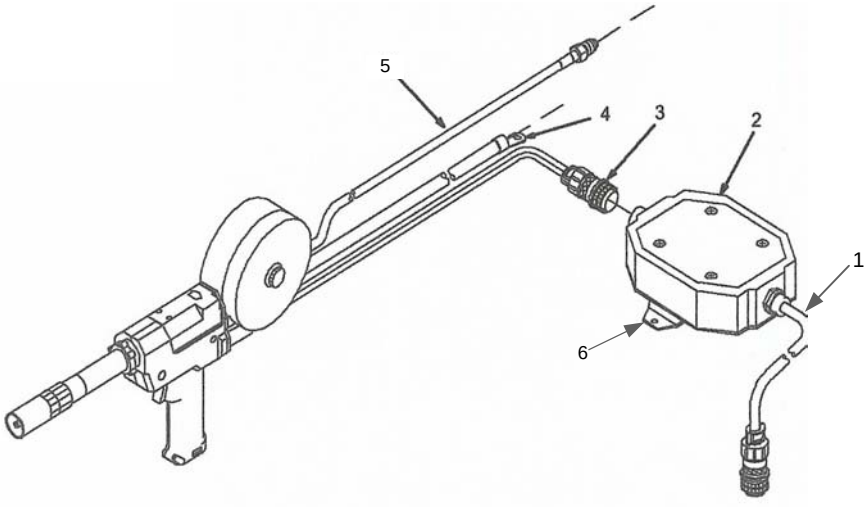


5. Set the HI/LO range switch on the wire feeder to LO (refer to OM-1500-8, section 3-8). Set the Wire Speed Control to 340. (Note that actual wire feed speed is ½ of reading in LO.) Thread the weld wire by pressing the MIG Gun trigger until the wire comes out of the gun (refer to OM-1500-8, section 3-8).
6. Turn on the welding helmet and position on welder’s head.
7. Strike an arc and begin welding.
8. Shut down:
   a. Turn the “Engine Control Switch” to the “Off” position.
   b. Return all tools to their assigned storage locations on the trailer.



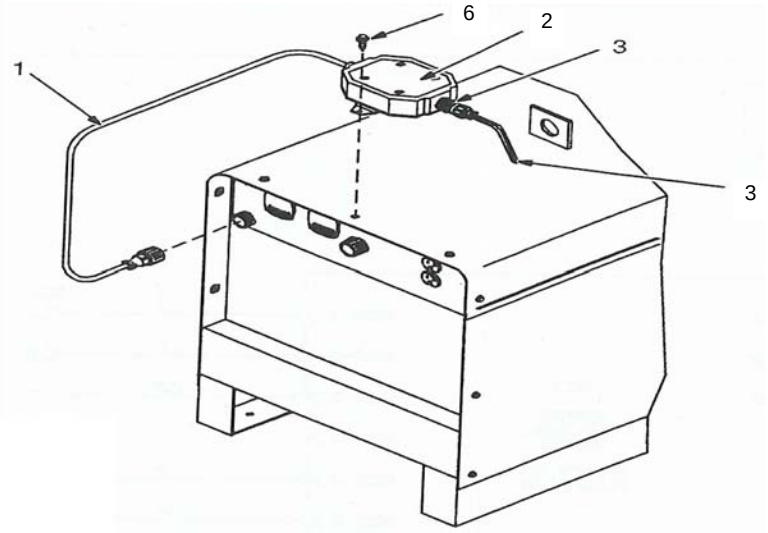
GMAW Setup Using Spoolmatic Gun with WC-24 Control

1. Put on the necessary safety gear:
   a) Welder's apron
   b) Welding sleeves
   c) Welding gloves
   d) Welding helmet
   e) Install welding curtains to the roof canopy of the trailer if applicable.



1. 14-pin connector
2. WC-24 unit
3. Spoolmatic 10-pin cable
4. Spoolmatic power cable
5. Gas line-Spoolmatic to argon gas
6. Mounting bracket

2. Install Argon flow meter to argon gas cylinder making sure valve is closed on the flow meter.
3. Connect Spoolmatic gas line (#5) to flow meter on argon cylinder.
4. Connect WC-24 control box (#2) to Spoolmatic 10-pin cable (#3).
5. Connect the RED male quick disconnect that is attached to the short work lead cable to the RED female quick disconnect of the 50-ft. cable reel. Connect Spoolmatic (+) power cable (#4) to the RED quick disconnects on another 50-ft spool reel.



1. 14-pin connector
2. WC-24 unit
3. Spoolmatic 10-pin cable
6. Mounting bracket bolt

6. Connect the 14-pin connector (#1) to the welder/generator. Diagram depicts the WC-24 being mounted on welder/generator, this configuration can be achieved but your unit is delivered with the WC-24 as a stand-alone device (not mounted)
7. Connect the black male quick disconnect attached to the short work/ground lead cable to the black female quick disconnect of the 50-ft. cable reel. Connect the ground clamp from the 50-ft cable reel to your desired work.
8. Install the desired electrode spool wire, contact tip, nozzle, and rollers ensuring they all match the diameter wire size you are using. Refer to the Spoolmatic Operators Manual for complete instructions.
9. Start up the welder/generator using the start up procedures outlined earlier in this manual or refer to the start up procedures outlined in the welder/generators operator manual.
10. Open the argon cylinder valve located on top of the argon cylinder and while depressing the Spoolmatic trigger control, set regulator to desired PSI. Allowing the gas to flow out of the Spoolmatic while setting the PSI will give you a more accurate working pressure.
11. Cut off any excess wire protruding from Spoolmatic nozzle.
12. Begin welding.
13. For troubleshooting and maintenance, please refer to the corresponding operators manuals located in the rear of this manual.

GMAW Troubleshooting (Wire Feeder, Tab 9)

Wire Feeder Doesn't Start	Starts & Doesn't Weld Well	Poor Wire Feeding	Unacceptable Welds	
PRIMARY (CB1)	LOOSE SECONDARY CABLES	CONTACT TUBE	LOOSE CONNECTIONS	REGULATOR/FLOWMETER
BREAKER SWITCH	BAD TRIGGER	LINER	BAD GROUND	FLOWMETER/FLOW RATE
FUSE (F1)	LOOSE TRIGGER CONNECTION	INTERMEDIATE GUIDE	WRONG POLARITY	GAS LINE
MACHINE ON/OFF SWITCH	BLOWN FEEDER MOTOR FUSE	DRIVE ROLL ALIGNMENT	SLOPE SETTING	GAS SOLENOID
OCV (TRIGGER PULLED)	POWER SUPPLY TO FEEDER	WORN OUT DRIVE ROLLS		GAS HOSE FROM SOLENOID
	FEEDER ON/OFF SWITCH	DRIVE ROLL PRESSURE		O-RINGS
		SPOOL BRAKE		GAS CONNECTIONS
				PLUGGED DIFFUSER
				DIRTY BASE METAL
				DIRTY WIRE

GMAW TROUBLESHOOTING

When troubleshooting gas metal-arc welding process and equipment problems it is well to isolate and classify them as soon as possible into one of the following categories:

1. Electrical
2. Mechanical
3. Process

This eliminates much needless lost time and effort. The data collected here for your benefit discusses some of the common problems of gas metal-arc welding processes. A little thought will probably enable you to solve your particular problem through the information provided.

The assumption of this data is that a proper welding condition has been achieved and has been used until trouble developed. In all cases of equipment malfunction the manufacturer's recommendations should be strictly adhered to and followed.

PROBLEM 1: Electrode wire stops feeding while welding	
PROBABLE CAUSES	**SUGGESTED REMEDY**
1. Welding machine's contactor open.	Check for open circuit volts.
2. Fuse blown in welding machine's primary.	Replace fuse.
3. Welding machine's control circuit fuse blown.	Replace fuse.
4. Primary power line fuse blown.	Replace fuse.
5. Wire feeder's control relay defective.	Replace control relay.
6. Wire feeder's protective fuse blown.	Replace fuse. Find overload cause.
7. Wire feeder's drive rolls misaligned.	Realign drive rolls.
8. Drive roll pressure too great or too little.	Loosen and readjust drive rolls.
9. Wire feeder's spindle friction too great.	Loosen and readjust nut pressure.
10. Excess loading of drive motor.	Clear resistance in drive assembly.
11. Drive rolls worn; slipping.	Replace drive rolls.
12. Feeder drive motor burned out.	Test motor; replace if necessary.
13. Gun liner dirty, restricted.	Remove liner, blow out with compressed air.
14. Broken or damaged gun casing or liner.	Replace faulty part.
15. Gun's trigger switch defective.	Replace switch; check connection.
16. Contact tube opening restricted; burnback of electrode.	Replace contact tube.
17. Friction in gun liner.	Check wire liner – clean, replace parts as required.
18. Sharp or excessive bend in gun cables or liners.	Straighten gun cables and/or replace liners.

PROBLEM 2: Electrode wire feeds but is not energized. Little or no welding arc.	
PROBABLE CAUSE	**SUGGESTED REMEDY**
1. Primary power line fuse blown.	Replace line fuse.
2. Machine's contactor plug not tight in receptacle.	Tighten plug in receptacle.
3. Machine's contactor control leads broken.	Repair or replace.
4. Machine's Remote-Standard switch defective or in wrong position.	Repair or replace; position correctly.

5. Machines's primary contactor coil defective.	Replace.
6. Machine's contactor points defective.	Replace points or contactor.
7. Welding cables loose on machine terminals.	Tighten connections.
8. Work connection loose (or incomplete circuit due to rust or paint, etc.)	Connect properly to work; clean and tighten connections.
9. Wire feeder contactor plug not properly connected.	Tighten plug.
10. Contact relay defective.	Repair or replace.

PROBLEM 3: Porosity in weld.	
PROBABLE CAUSE	**SUGGESTED REMEDY**
1. Dirty base metal; heavy oxides, mill scale.	Clean metal before welding.
2. Gas cylinder valve off.	Turn cylinder valve on.
3. Gas regulator's diaphragm defective.	Replace diaphragm or regulator.
4. Flowmeter cracked or broken.	Replace and repair.
5. Gas hose connections loose.	Tighten fittings.
6. Gas hose leaks.	Repair or replace.
7. Not enough gas flow.	Increase flow rate.
8. Moisture in shielding gas.	Replace gas cylinder or supply.
9. Freezing of CO_2 regulator/ flowmeter.	Thaw unit; install gas line heater or high volume CO_2 regulator.
10. Wrong gas for type of wire or type of transfer.	Install proper gas.
11. Wire feeder's gas solenoid defective.	Replace solenoid.
12. Too much wire feed speed (amperage).	Reduce WFS.
13. Gun and/or cables leaking gas.	Test; repair or replace faulty parts.
14. Contact tube extended too far out from nozzle for short circuit transfer.	Move distance from nozzle end to max. of 1/8".
15. Nozzle-to-work distance too great.	Should be as recommended by wire manufacturer.
16. Improper gun angle.	Use correct gun angle.
17. Welding travel speed too fast.	Adjust conditions for slower speed.
18. Electrode not centered in nozzle.	Adjust contact tube, nozzle and wire.
19. Voltage (arc length) too high.	Lower voltage.
20. Short circuit current too high. (Not enough slope.)	Adjust slope setting if adjustable.

PROBLEM 4: Electrode wire stubs into workpiece.	
PROBABLE CAUSE	**SUGGESTED REMEDY**
1. Too much slope. (Too much droop.)	Reduce slope settings as required. (Find flatter Volt-Amp curve.)
2. Arc voltage too low.	Increase voltage.
3. Too much WFS.	Reduce WFS.
4. Poor work connection.	Connect properly.

PROBLEM 5: Excessive spatter while welding.	
PROBABLE CAUSE	**SUGGESTED REMEDY**
1. Too much voltage.	Reduce voltage.
2. Not enough slope or inductance. (Too flat of a slope.)	Increase slope or inductance as needed. (Add more droop.)
3. Too high of a gas flow.	Reduce flow rate as required.
4. Contact tube recessed too far inside nozzle.	Use longer contact tube.
5. Wrong electrode wire.	Use correct electrode wire.
6. Wrong welding technique.	Use proper technique.

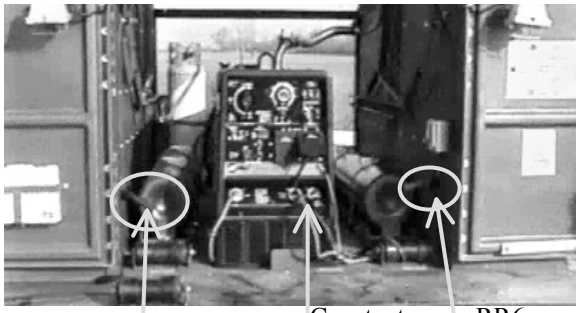
PROBLEM 6: Weld bead appearance shows a need for more amperage and/or larger bead.	
PROBABLE CAUSE	**SUGGESTED REMEDY**
1. Volt-amp (WFS) condition too low.	Increase voltage and WFS slowly.
2. Too much slope.	Decrease slope. (Find a flatter Volt/Amp curve.)
3. WFS too slow.	Increase WFS.

PROBLEM 7: Weld bead appearance shows a need for less amperage and/or smaller bead.	
PROBABLE CAUSE	**SUGGESTED REMEDY**
1. Volt-amp (WFS) condition too high.	Reduce voltage and WFS slowly.
2. Not enough slope.	Increase slope. (Find a slope with more droop.)

GTAW (TIG) – WELDING ALUMINUM for Trailblazer 300D NT welder

1. Put on the necessary safety gear located in right rear enclosure, top shelf:
   a. Welder's apron
   b. Welding sleeves
   c. Welding gloves
   d. Welding helmet
2. Install welding curtains to the roof canopy of the trailer. Put on necessary safety gear--the split leg apron, welding sleeves, welding gloves, and safety goggles.
3. Connect weld cable connections to the Trailblazer (#1) and HF 251D-1 High Frequency (#3) unit (refer to owner's manual).

   NOTE: Due to the use of High Frequency during GTAW operations, you must ensure that both current carrying cables are completely unwound from their perspective spools and do not overlap/coil while on the ground. Failure to do so will result in poor welding output at the torch tip.

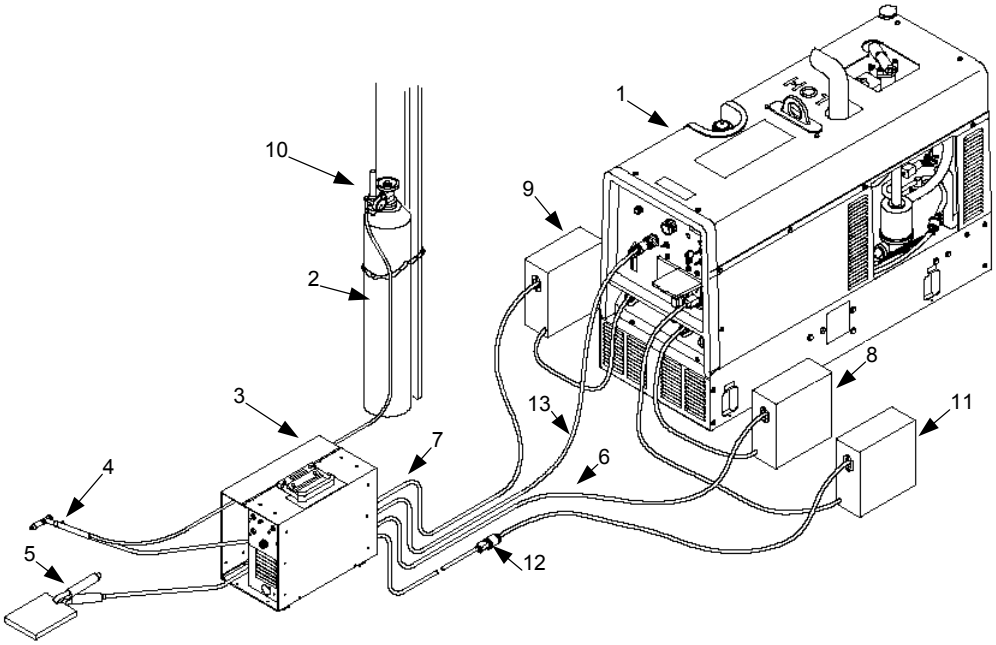


   a. Connect/verify the red male quick disconnect attached to the 50-ft. cable reel, right rear, to the female Constant Current terminal on the Trailblazer welder front lower panel.
   b. Connect the red female quick disconnect from cable reel (#8) to the red male quick disconnect terminal ("Electrode In" terminal) at the rear of the HF-251 unit (#6).

   NOTE: Ensure this 50-ft reel is pulled all the way out and is not overlapped while on the ground. If practical, walk the cable around the entire trailer enclosure.

   c. Connect the black female quick disconnect from the work/ground cable reel (#9), LR8, to the male quick disconnect terminal at the rear of the HF-251 unit (#7).

   NOTE: Ensure this 50-ft reel is also pulled all the way out.



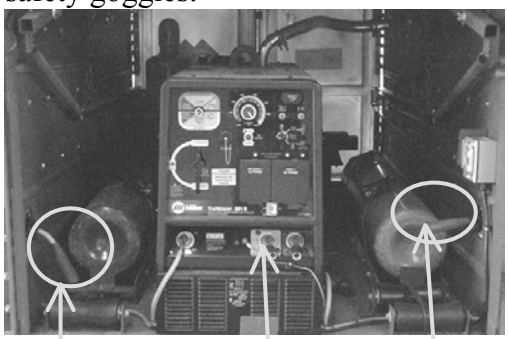
1. Welder
2. Argon Gas Cylinder
3. HF Unit
4. Torch
5. Work Clamp
6. Weld Cable
7. Ground Cable
8. Weld Reel
9. Ground Reel
10. Argon Flow Meter
11. A/C Power-out Reel
12. A/C Power
13. HF Control Cable

   d. Connect the black male quick disconnect from the short “Work clamp cable” to the black female connector at the front of the HF unit.
   e. Connect and install the TIG handle to the front of the HF-251 unit.
   f. Connect the argon hose from hose reel to gas fitting on the HF-251 unit.
4. Install argon flowmeter (#10) onto the argon cylinder, making sure valve is closed on the flowmeter. Turn on argon cylinder valve slowly and adjust flow rate to 20 cfm.
5. Trailblazer 300D NT control panel setup (refer to Trailblazer manual):
   a. Set the “DC Polarity/AC Switch” to the “AC” position.
   b. Set the “Process Select Switch” to the “TIG” position.
   c. Set the amperage based on material to be welded thickness. For 1/8" aluminum, set the “A/V Control” switch to “125” amps.
   d. Set the “Output Contactor Switch,” (Switch #10) to the “Remote” position.
   e. Set the “A/V” toggle switch (Switch #11) to the “Remote” position.
   f. Set the “Idle Lock Switch” (Switch #9) to the “Start” position.
   g. Set the “Engine Control Switch” (Switch #8) to the “Run/Idle” position.
6. Starting the Trailblazer Welder 300D NT (refer to Tab 6):
   a. Hold the “Glow Plug” (Switch #7) in the “ON” position for a maximum of 20 seconds.
   b. Turn the engine control switch to the “Start” position until the engine begins to run – then release immediately.
   c. Turn the “Idle Lock” Switch to the “Run/Idle” position prior to using weld or auxiliary power.
   d. Note: If Trailblazer does not operate, refer to Tab 6 (owner’s manual for troubleshooting).
7. HF-251 switch settings:
   a. For aluminum, set the high frequency switch on the TIG module to the “Continuous” position.
   b. Set the High Frequency Selector Switch to the “Remote” position.
8. Turn on the welding helmet and position on welder’s head.
   a. Set the power switch to “On.”
   b. Once welding has started, adjust the High Frequency Intensity as necessary to maintain the arc.
9. Begin welding.

GTAW (TIG)—WELDING ALUMINUM for Trailblazer 301D Welder

1. Put on the necessary safety gear located in right rear enclosure, top shelf:
   a. Welder's apron
   b. Welding sleeves
   c. Welding gloves
   d. Welding helmet
2. Install welding curtains to the roof canopy of the trailer. Put on necessary safety gear--the split leg apron, welding sleeves, welding gloves, and safety goggles.
3. Connect weld cable connections to the Trailblazer 301D (#1) and HF 251D-1 High Frequency (#3) unit (refer to owner's manual).

   NOTE: Due to the use of High Frequency during GTAW operations, you must ensure that both current carrying cables are completely unwound from their perspective spools and do not overlap/coil while on the ground. Failure to do so will result in poor welding output at the torch tip.

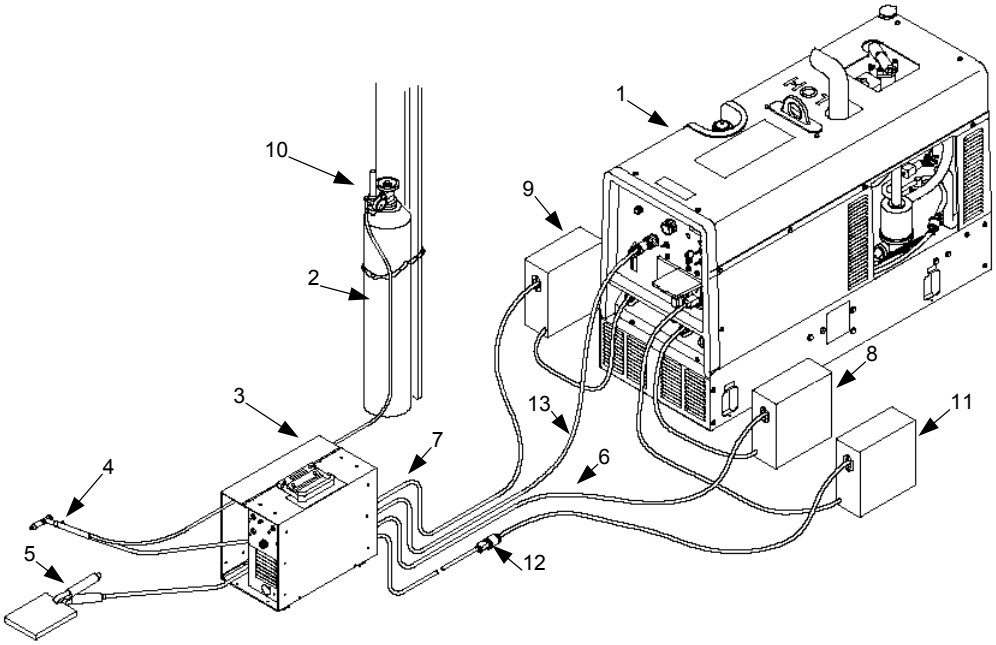


   a. Connect/verify the red male quick disconnect attached to the 50-ft. cable reel to the female Constant Current terminal on the Trailblazer welder front lower panel.
   b. Connect the red female quick disconnect from cable reel (#8) to the red male quick disconnect terminal ("Electrode In" terminal) at the rear of the HF-251 unit (#6).

   NOTE: Ensure this 50-ft reel is pulled all the way out and is not overlapped while on the ground. If practical, walk the cable around the entire trailer enclosure.

   c. Connect the black female quick disconnect from the work/ground cable reel (#9) to the male quick disconnect terminal at the rear of the HF-251 unit (#7).

   NOTE: Ensure this 50-ft reel is also pulled all the way out.



1. Welder
2. Argon Gas Cylinder
3. HF Unit
4. Torch
5. Work Clamp
6. Weld Cable
7. Ground Cable
8. Weld Reel
9. Ground Reel
10. Argon Flow Meter
11. A/C Power-out Reel
12. A/C Power
13. HF Control Cable

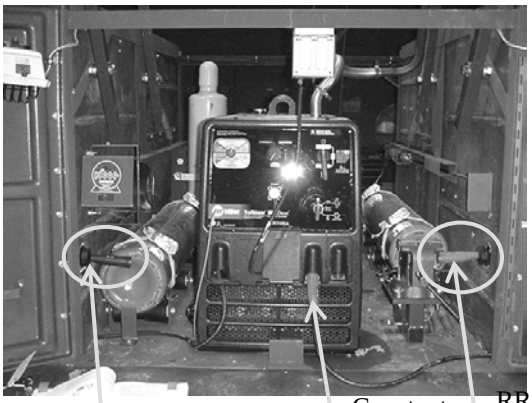
d. Connect the black male quick disconnect from the short “Work clamp cable” to the black female connector at the front of the HF unit.
e. Connect and install the TIG torch to the front of the HF-251 unit.
f. Connect the argon hose from hose reel RF7 to gas fitting on the HF-251 unit.

4. Install argon flowmeter (#10) onto the argon cylinder, making sure valve is closed on the flowmeter. Turn on argon cylinder valve slowly and adjust flow rate to 20 cfm.
5. Trailblazer control panel setup (refer to Trailblazer OM-4410, section 5):
   a. Set the “DC Polarity/AC Switch” to the “AC” position.
   b. Set the “Process Select Switch” to TIG.
   c. Set the amperage based on material to be welded thickness. For 1/8" aluminum, set the “A/V Control” switch to “125” amps.
   d. Set the “A/V” toggle switch (Switch #11, OM-4410) to the “Remote” position.
   e. Set the “Idle Lock Switch” (Switch #9, OM-4410) to the “Start” position.
   f. Set the “Engine Control Switch” (Switch #8, OM-4410) to the “Run/Idle” position.
6. Starting the Trailblazer 301D Welder (refer to Tab 6):
   a. Hold the “Glow Plug” (Switch #7, OM-4410) in the “ON” position for a maximum of 20 seconds.
   b. Turn the engine control switch to the “Start” position until the engine begins to run – then release immediately.
   c. Turn the “Idle Lock” Switch to the “Run/Idle” position prior to using weld or auxiliary power.
   d. Note: If Trailblazer does not operate, refer to Tab 6 (owner’s manual for troubleshooting).
7. HF-251 switch settings:
   a. For aluminum, set the high frequency switch on the TIG module to the “Continuous” position.
   b. Set the High Frequency Selector Switch to the “Remote” position.
8. Turn on the welding helmet and position on welder’s head.
   a. Set the power switch to “On.”
   b. Once welding has started, adjust the High Frequency Intensity as necessary to maintain the arc.
9. Begin welding.

GTAW (TIG)—WELDING ALUMINUM for Trailblazer 302 Diesel Welder

1. Put on the necessary safety gear located in right rear enclosure, top shelf:
   a. Welder's apron
   b. Welding sleeves
   c. Welding gloves
   d. Welding helmet
2. Install welding curtains to the roof canopy of the trailer. Put on necessary safety gear--the split leg apron, welding sleeves, welding gloves, and safety goggles.
3. Connect weld cable connections to the Trailblazer 302 Diesel (#1) and HF 251D-1 High Frequency (#3) unit (refer to owner's manual).

   NOTE: Due to the use of High Frequency during GTAW operations, you must ensure that both current carrying cables are completely unwound from their perspective spools and do not overlap/coil while on the ground. Failure to do so will result in poor welding output at the torch tip.

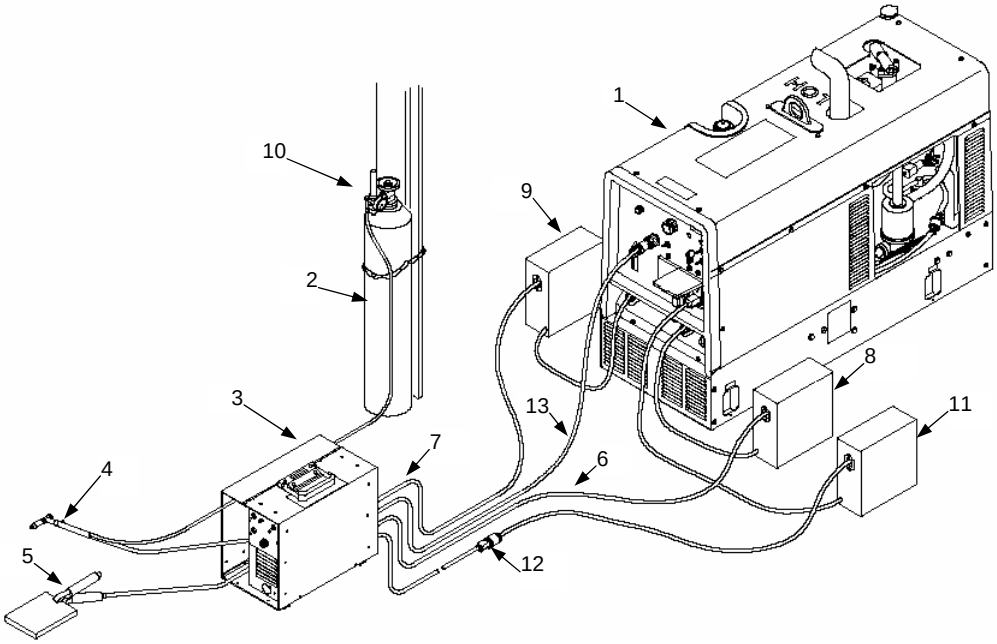


   a. Connect/verify the red male quick disconnect attached to the 50-ft. cable reel to the female Constant Current terminal on the Trailblazer welder front lower panel.
   b. Connect the red female quick disconnect from cable reel (#8) to the red male quick disconnect terminal ("Electrode In" terminal) at the rear of the HF-251 unit (#6).

   NOTE: Ensure this 50-ft reel is pulled all the way out and is not overlapped while on the ground. If practical, walk the cable around the entire trailer enclosure.

   c. Connect the black female quick disconnect from the work/ground cable reel (#9) to the male quick disconnect terminal at the rear of the HF-251 unit (#7).

   NOTE: Ensure this 50-ft reel is also pulled all the way out.



1. Welder
2. Argon Gas Cylinder
3. HF Unit
4. Torch
5. Work Clamp
6. Weld Cable
7. Ground Cable
8. Weld Reel
9. Ground Reel
10. Argon Flow Meter
11. A/C Power-out Reel
12. A/C Power
13. HF Control Cable

   d. Connect the black male quick disconnect from the short “Work clamp cable” to the black female connector at the front of the HF unit.
   e. Connect and install the TIG torch to the front of the HF-251 unit.
   f. Connect the argon hose from hose reel RF7 to gas fitting on the HF-251 unit.
4. Install argon flowmeter (#10) onto the argon cylinder, making sure valve is closed on the flowmeter. Turn on argon cylinder valve slowly and adjust flow rate to 20 cfm.
5. Trailblazer control panel setup (refer to Trailblazer OM-217454B, Section 6-2):
   a. Set the “DC Polarity/AC Switch” to the “AC” position.
   b. Set the “Process Select Switch” to TIG Remote On/Off.
   c. Set the amperage based on material to be welded thickness. For 1/8" aluminum, set the “A/V Control” until 125 is displayed on the digital amperage display.
   d. Set the “Idle Lock Switch” (Switch #8, OM-217454B) to the “Start” position.
   e. Set the “Engine Control Switch” (Switch #7, OM-217454B) to the “Run/Idle” position.
6. Starting the Trailblazer 302 Diesel Welder (refer to Tab 6):
   a. Hold the “Glow Plug” (Switch #9, OM-217454B) in the “ON” position for a maximum of 20 seconds.
   b. Turn the engine control switch to the “Start” position until the engine begins to run – then release immediately.
   c. Turn the “Idle Lock” Switch to the “Run/Idle” position prior to using weld or auxiliary power.
   d. Note: If Trailblazer does not operate, refer to Tab 6 (owner’s manual for troubleshooting).
7. HF-251 switch settings:
   a. For aluminum, set the high frequency switch on the TIG module to the “Continuous” position.
   b. Set the High Frequency Selector Switch to the “Remote” position.
8. Turn on the welding helmet and position on welder’s head.
   a. Set the power switch to “On.”
   b. Once welding has started, adjust the High Frequency Intensity as necessary to maintain the arc.
9. Begin welding.

GTAW TROUBLESHOOTING (Tab 8)

When troubleshooting Gas Tungsten Arc Welding process and equipment problems it is well to isolate and classify them as soon as possible into one of the following categories:

1. Electrical
2. Mechanical
3. Process

This eliminates much needless lost time and effort. The data collected here for your benefit discusses some of the common problems of the TIG welding processes. A little thought will probably enable you to solve your particular problem through the information provided.

The assumption of this data is that a proper welding condition has been achieved and has been used until trouble developed. In all cases of equipment malfunction the manufacturer's recommendations should be strictly adhered to and followed.

PROBLEM 1: Excessive Electrode Consumption	
PROBABLE CAUSES	**SUGGESTED REMEDY**
1. Inadequate gas flow.	Increase flow.
2. Operation on reverse polarity.	Use large electrode or switch to straight polarity.
3. Improper size electrode for current used.	Use larger electrode.
4. Excessive heating in torch body.	Check torch components for tightness and proper collet contact.
5. Electrode oxidation during cooling.	Keep shielding gas flowing 10 – 15 seconds after arc stoppage.
6. Use of gas containing oxygen or CO_2.	Use proper gas.

PROBLEM 2: Tungsten Contamination of Workpiece	
PROBABLE CAUSES	**SUGGESTED REMEDY**
1. Use of Scratch Start method.	Use of copper striker plate or high frequency start.
2. Electrode melting into weld pool.	Use less current or larger electrode. Use thoriated or zirconium electrode.
3. Touching tungsten to weld pool.	Keep tungsten from contacting weld pool.

PROBLEM 3: Porosity in Weld Bead/Poor Bead Color	
PROBABLE CAUSES	**SUGGESTED REMEDY**
1. Entrapped gas impurities in line.	Blow out all air and moisture condensation from lines before welding.
2. Condensation or loose fittings in torch.	Check torch fittings and condition.
3. Inadequate gas flow.	Increase flow rate.
4. Defective gas hose or loose connection.	Check hose and connections for leaks.
5. Contaminated or improper type filler metal.	Check filler metal type or use appropriate cleaning method.
6. Contaminated base metal.	Use appropriate cleaning method.

PROBLEM 4: Yellow Powder or Smoke on Cup — Tungsten Discolor	
PROBABLE CAUSES	**SUGGESTED REMEDY**
1. Shielding gas flow rate too low.	Increase flow rate.
2. Incorrect shielding gas or mixture.	Use proper gas.
3. Inadequate post flow.	Increase length of post flow.
4. Improper tungsten size or cup size.	Match tungsten size and cup size to joint being welded.

PROBLEM 5: Unstable Arc (DC)	
PROBABLE CAUSES	**SUGGESTED REMEDY**
1. Weld circuit polarity is incorrect.	Check power source polarity switch; check polarity of weld cables.
2. Tungsten is contaminated.	Remove contaminated portion and redress tungsten.
3. Joint too narrow.	Open joint groove. Decrease voltage.
4. Arc too long.	Shorten arc length.
5. Base metal is contaminated.	Use appropriate cleaning method.

PROBLEM 6: Unstable Arc (AC)	
PROBABLE CAUSES	**SUGGESTED REMEDY**
1. Excessive rectification in base metal.	Increase travel speed. Increase balance control toward penetration.
2. Improper shielding gas.	Reduce helium percentage in argon/helium mix or use straight argon.
3. Incorrect arc length.	Increase arc length.
4. Contaminated tungsten.	Remove contaminated portion and re-dress tungsten.
5. Base metal is contaminated.	Use appropriate cleaning method.

PROBLEM 7: High Frequency Present — No Arc Power	
PROBABLE CAUSES	**SUGGESTED REMEDY**
1. Incomplete weld circuit.	Check work connection. Check all cable connections.
2. No shielding gas.	Check for presence of gas.
3. Power source switches in wrong position.	Place switches in proper position.

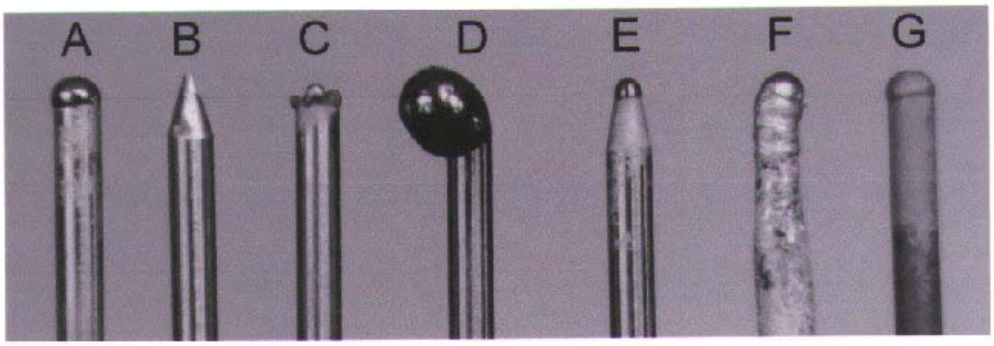
PROBLEM 8: Arc Wanders (DC)	
PROBABLE CAUSES	**SUGGESTED REMEDY**
1. Improper arc length/tungsten in poor condition.	Shorten arc length. Clean and sharpen tungsten.
2. Improperly prepared tungsten.	Use proper grinding method.
3. Excessive resistance in weld circuit.	Check weld cable size, length, and connections.
4. Improper gas flow.	Check shielding gas flow rate.

PROBLEM 9: Arc Wanders (AC)	
PROBABLE CAUSES	**SUGGESTED REMEDY**
1. Improper tungsten preparation.	Prepare balled end tungsten. Reduce size of ball if problem continues.
2. Contaminated tungsten.	Discard contaminated portion and redress tungsten.
3. Contaminated base metal.	Use appropriate cleaning method.
4. Incorrect balance control setting.	Increase balance toward penetration.
5. Improper tungsten size and type.	Select proper size and type.
6. Excessive rectification in base metal.	Increase travel speed.
7. Improper shielding gas flow.	Check gas flow rate.

PROBLEM 10: Arc will Not Start or is Difficult to Start (DC)	
PROBABLE CAUSES	**SUGGESTED REMEDY**
1. No shielding gas.	Check for proper gas flow.
2. Incorrect power supply switch positions.	Place switches in proper positions.
3. Improper tungsten electrode.	Ensure pure tungsten not being used.
4. Incorrect cable installation.	Check routing, polarity, and cable connections.
5. Incomplete weld circuit.	Make sure work clamp is connected. Check jumper links, circuit breaker and fuses.
6. Improper tungsten size.	Use smaller electrode.

PROBLEM 11: Arc will Not Start or is Difficult to Start (AC)	
PROBABLE CAUSES	**SUGGESTED REMEDY**
1. Incomplete weld circuit.	Check work clamp.
2. Incorrect cable installation.	Check jumper links, circuit breaker and fuses. Check cable routing and connections.
3. No shielding gas.	Check gas flow.
4. Loss of high frequency.	Check intensity control setting. Make sure torch cable is not close to grounded metal. Check torch and cables for cracked insulation or bad connections. Check spark gaps and adjust if necessary.
5. Improper tungsten size.	Use smaller electrode.

Possible Tungsten Problems



ELECTRODE "A" has the "ball" end. This pure tungsten was used with alternating current on aluminum. Notice the end is uniform in shape and possesses a "shiny bright" appearance.

ELECTRODE "B" is a 2% thoriated tungsten ground to a taper and was used with direct current straight polarity.

ELECTRODE "C" is a 2% thoriated tungsten used with alternating current on aluminum. Note that this electrode has several small ball shaped projections rather than a round complete "ball end" like the pure tungsten.

ELECTRODE "D" is a pure tungsten used with alternating current on aluminum. This electrode was subjected to a current above the rated capacity. Notice the "ball" started to droop to one side. It became very molten during operation and continuing to operate would have caused the molten end to drop into the weld pool.

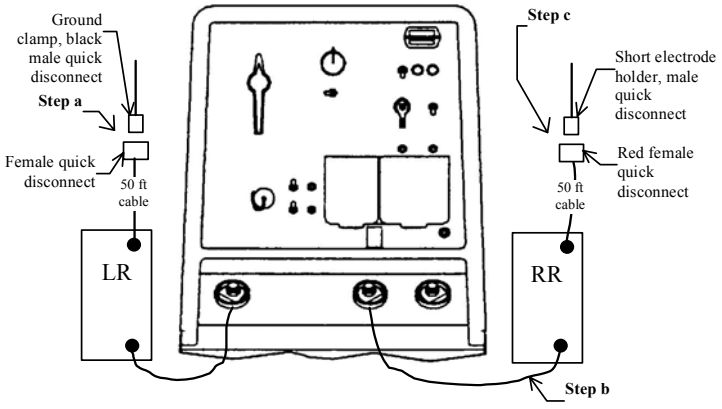
ELECTRODE "E" is a pure tungsten that was tapered to a point and used on direct current straight polarity. Notice the "ball" tip characteristic of the pure tungsten. Pointing of pure tungsten is not recommended as the extreme point will always melt when the arc is established, and often times the molten tip will drop into the molten weld pool.

ELECTRODE "F" was severely contaminated by touching the filler rod to the tungsten. In this case the contaminated area must be broken off and the electrode reshaped as desired.

ELECTRODE "G" did not have sufficient gas post-flow. Notice the black surface which is oxidized because the atmosphere contacted the electrode before it cooled sufficiently. If this electrode were used the oxidized surface will flake off and drop into the weld pool. Post-flow time should be increased so the appearance is like electrode "A" after welding.

Air Arc Cutting (AAC) for Trailblazer 300D NT welder

1. Put on the necessary safety gear:
   a. Welder's apron
   b. Welding sleeves
   c. Welding gloves
   d. Welding helmet
2. Install welding curtains to the roof canopy of the trailer.
3. Connect weld cable connections to the Trailblazer 300D NT(Refer to Trailblazer owner's manual, Tab 6):
   a. Connect the black male quick disconnect attached to the short work/ground lead cable to the female quick disconnect of the 50-ft. cable reel, LR.
   b. Connect the red male quick disconnect positive lead from the weld cable reel, RR, to the female quick disconnect terminal marked "Constant Current" on the Trailblazer welder.
   c. Connect the red male quick disconnect lead on the short electrode holder cable to the red female quick DISCONNECT on the 50-ft. weld cable reel, RR.

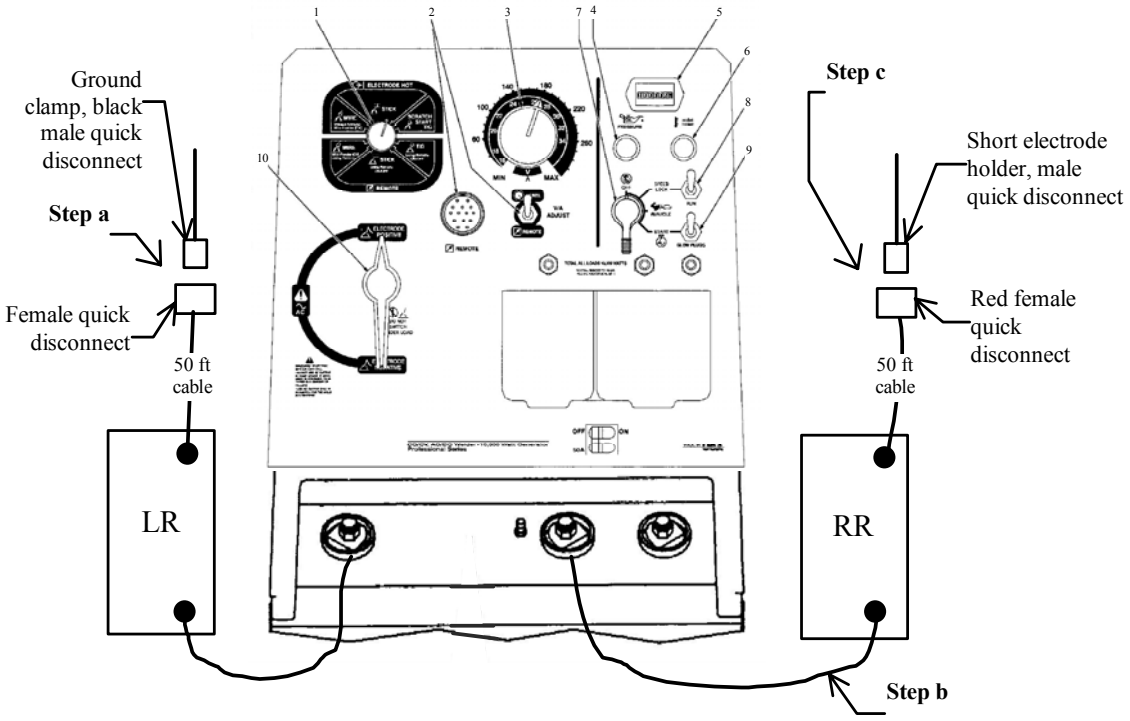


Step 3 Illustration

4. Attach the ground clamp to the work piece.
5. Trailblazer 300D NT control panel setup (refer to Trailblazer OM-487, section 5):
   a. Set the "DC Polarity/AC Switch" to the "Electrode Negative" position.
   b. Set the "Process Select Switch" to the center "Stick" position.
   c. Set the "A/V Control" switch to "175" amps.
   d. Set the "Output Contactor Switch," (Switch #10 as identified in OM-487) to the "On" position.
   e. Set the "A/V" toggle switch (Switch #11, OM-487) to the "panel" position.
   f. Set the "Idle Lock Switch" (Switch #9, OM-487) to the "Start" position.
   g. Set the "Engine Control Switch" (Switch #8, OM-487) to the "Run/Idle" position.
6. Attach the electrode holder to the power lug of the AAC torch connect the air hose and cover with the rubber boot.
7. Starting the Trailblazer 300D NT Welder (refer to Tab 6):
   a. Hold the "Glow Plug" (Switch #7, OM-487) in the "ON" position for a maximum of 20 seconds.
   b. Turn the engine control switch to the "Start" position until the engine begins to run – then release immediately.
   c. Turn the "Idle Lock" Switch to the "Run/Idle" position prior to using weld or auxiliary power (Switch #9).
   d. If Trailblazer does not operate, refer to Tab 6 (owner's manual for troubleshooting).
8. Start the air compressor and after the tank pressure has reached 120 psi, set the air pressure at 80 psi.
9. Turn on the welding helmet and position on welder's head.
10. With gloved hands, install a 3/16" carbon electrode into torch. **Note!** <u>Make sure air holes on the torch are on the bottom facing the metal to be removed.</u>
11. Begin the gouging process.

AAC – 3/16" gouge, 2" long for Trailblazer 301D Welder

1. Put on the necessary safety gear:
   a. Welder's apron
   b. Welding sleeves
   d. Welding gloves
   d. Welding helmet
2. Install welding curtains to the roof canopy of the trailer.
3. Connect weld cable connections to the Trailblazer 301D (Refer to Trailblazer owner's manual, OM-4410, section 4-7):
   a. Connect the black male quick disconnect attached to the short work/ground lead cable to the female quick disconnect of the 50-ft. cable reel, LR.
   b. Connect the red male quick disconnect positive lead from the weld cable reel, RR, to the female quick disconnect terminal marked "Constant Current" on the Trailblazer welder.
   c. Connect the red male quick disconnect lead on the short electrode holder cable to the red female quick DISCONNECT on the 50-ft. weld cable reel, RR.



Step 3 Illustration

4. Attach the ground clamp to the work piece.
5. Trailblazer 301D control panel setup (refer to Trailblazer front panel controls, OM-4410, Section 5-1):
   a. Set the "DC Polarity/AC Switch" to the "Electrode Negative" position. (Switch #10)
   b. Set the "Process/Contactor Switch" to the "Stick" position in the "ELECTRODE HOT" area. (Switch #1)

c. Set the “V/A Control” to desired/recommended setting (Control #3).
d. Set the “V/A Adjust” toggle switch (Switch #2) to the “panel” position.

6. Attach the electrode holder to the power lug of the AAC torch connect the air hose and cover with the rubber boot.

7. Starting the Trailblazer Welder (refer to Tab 6):
   a. Set speed lock switch (Switch #8) to the “run/idle” position
   b. Hold the “Glow Plug” (Switch #9, OM-4410) in the “ON” position for a maximum of 20 seconds.
   c. Turn the engine control switch to the “Start” position until the engine begins to run – then release immediately. (Switch #7)
   d. If Trailblazer does not operate, refer to Tab 6, sections 7 & 8 (owner’s manual for troubleshooting).

8. Start the air compressor and after the tank pressure has reached 120 psi, set the air pressure at 80 psi.

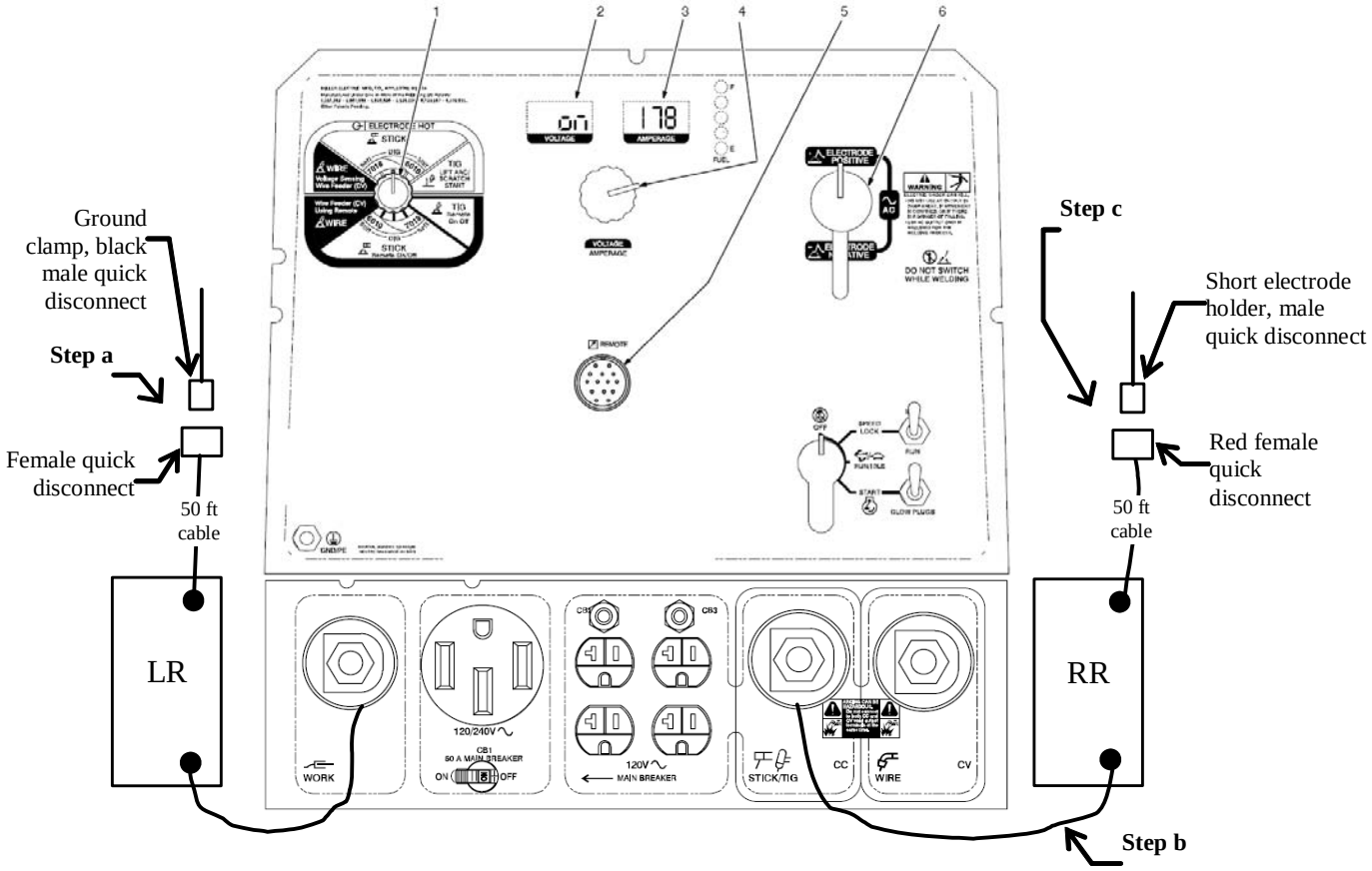
9. Turn on the welding helmet and position on welder’s head.

10. With gloved hands, install a 3/16" carbon electrode into torch. **Note!** Make sure air holes on the torch are on the bottom facing the metal to be removed.

11. Begin the gouging process.

AAC – 3/16" gouge, 2" long for Trailblazer 302 Diesel Welder

1. Put on the necessary safety gear:
   a. Welder's apron
   b. Welding sleeves
   c. Welding gloves
   d. Welding helmet
2. Install welding curtains to the roof canopy of the trailer.
3. Connect weld cable connections to the Trailblazer 302 Diesel (Refer to Trailblazer owner's manual, OM-217454B, Section 5-7):
   a. Connect the black male quick disconnect attached to the short work/ground lead cable to the female quick disconnect of the 50-ft. cable reel, LR.
   b. Connect the red male quick disconnect positive lead from the weld cable reel, RR, to the female quick disconnect terminal marked "Constant Current" on the Trailblazer welder.
   c. Connect the red male quick disconnect lead on the short electrode holder cable to the red female quick DISCONNECT on the 50-ft. weld cable reel, RR.



Step 3 Illustration

4. Attach the ground clamp to the work piece.
5. Trailblazer 302 Diesel control panel setup (refer to Trailblazer front panel controls, OM-217454B, Section 6-2):
   a. Set the “DC Polarity/AC Switch” to the “Electrode Negative” position (Switch #6).
   b. Set the “Process/Contactor Switch” to the “Stick” position in the “ELECTRODE HOT” area (Switch #1).
   c. Set the “V/A Control” to desired/recommended current setting (Control #4).
6. Attach the electrode holder to the power lug of the AAC torch connect the air hose and cover with the rubber boot.
7. Starting the Trailblazer Welder (refer to Tab 6):
   a. Set speed lock switch (Switch #8) to the “run/idle” position
   b. Hold the “Glow Plug” (Switch #9, OM-217454B) in the “ON” position for a maximum of 20 seconds.
   c. Turn the engine control switch to the “Start” position until the engine begins to run – then release immediately (Switch #7).
   d. If Trailblazer does not operate, refer to Tab 6, sections 7 & 8 (owner’s manual for troubleshooting).
8. Start the air compressor and after the tank pressure has reached 120 psi, set the air pressure at 80 psi.
9. Turn on the welding helmet and position on welder’s head.
10. With gloved hands, install a 3/16" carbon electrode into torch. **Note!** Make sure air holes on the torch are on the bottom facing the metal to be removed.
11. Begin the gouging process.

Oxy-Fuel Cutting

1. Put on the necessary safety gear:
   a. Welder's apron
   b. Welding sleeves
   c. Welding gloves
   d. Welding helmet
2. Verify/attach oxygen regulator to the oxygen cylinder, making sure the adjustment knob is adjusted out (counter-clockwise). Verify/ attach the hose reel connector to the regulator. The SEW regulator includes a guard.
3. Verify/attach fuel-gas regulator to the fuel-gas cylinder, making sure the adjustment knob is adjusted out (counter-clockwise). Verify/ attach the hose reel connector to the regulator. The SEW regulator includes a guard as illustrated.

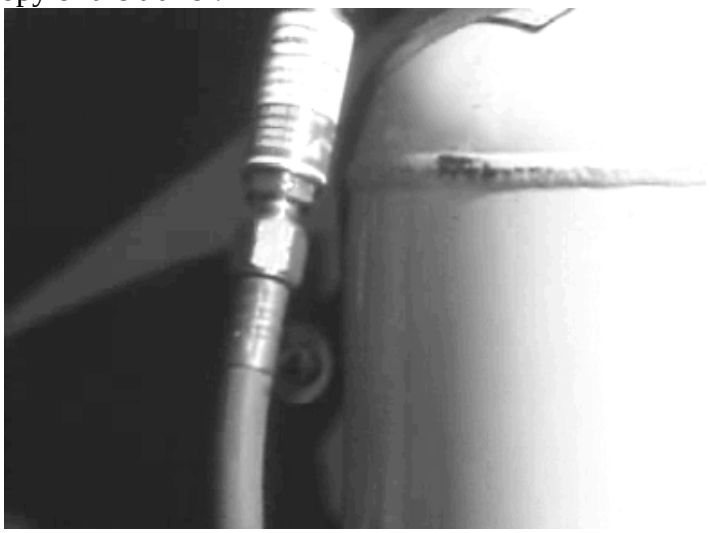
TMWSS

SEW

4. Select proper cutting tip and install on cutting attachment and then install cutting attachment onto torch.
5. Pull out hose from reel and attach torch making sure all valves are closed.
6. Slowly open the cylinder valve on the oxygen cylinder and set the delivery pressure at 35 psi.
7. Slowly open the cylinder valve on the fuel-gas cylinder and set the delivery pressure at 7 psi.
8. Put on the gas welding safety goggles.
9. Open the oxygen valve on the torch, but keep the oxygen valve on the cutting attachment closed.
10. Slowly open the fuel-gas valve on the torch and use the striker to ignite it. After it has been lit, slowly open the oxygen valve on the cutting attachment until a neutral flame has been produced.
11. Begin the cutting process.
12. When completed, turn the oxygen valve on the torch off first, and slowly turn off the fuel-gas.

Oxy-Fuel Brazing

1. Put on the necessary safety gear:
   a. Welder's apron
   b. Welding sleeves
   c. Welding gloves
   d. Welding helmet
2. Install welding curtains to the roof canopy of the trailer.
3. Verify/attach oxygen regulator to the oxygen cylinder, making sure the adjustment knob is adjusted out (counter-clockwise). Attach the hose reel connector to the regulator.
4. Verify/attach fuel-gas regulator to the fuel-gas cylinder, making sure the adjustment knob is adjusted out (counter-clockwise). Attach the hose reel connector to the regulator.
5. Attach the .083" welding tip to the oxy-fuel torch and connect it to the hose on the hose reel, making sure the valves are off.



6. Slowly open the cylinder valve on the oxygen cylinder and set the delivery pressure at 6 psi.
7. Slowly open the cylinder valve on the fuel-gas cylinder and set the delivery pressure at 6 psi.
8. Put on the gas welding safety goggles.
9. Slowly open the fuel-gas valve on the torch and use the flint lighter to ignite it. After it has been lit, slowly open the oxygen valve until a neutral flame has been produced.
10. Get a brazing rod and begin the brazing process.
11. When completed, turn the oxygen valve on the torch off first, and slowly turn off the fuel-gas.

<u>Proper Setup and Use of Heating Tips</u>

- Read the instruction manual included in Tab 10 – Know what flows and pressures are required to properly operate the selected heating tip!
- Be sure there is an adequate source of fuel. Manifold if necessary.
- Select regulators with sufficient flow capacity.
- Use short (50 feet) of 3/8" diameter hose.
- Be sure there are no down line flow restrictions.
- Operate torch handle fuel-gas valve at full open.
- Do not use oxidizing flames.

TMWSS/SEW
OPERATION UNDER UNUSUAL CONDITIONS

COLD AND HOT TEMPERATURE OPERATION

OPERATING REQUIREMENTS – Ambient operating temperature range of the weld shop is between -25° to +120° F.

COLD TEMP OPERATION

- If the welder is to be used between 0° and -25°F ambient, the engine fuel should be arctic level type fuel as normal diesel fuel can gel in cold temperature.
- Also, check the oil weight is consistent with the expected ambient operating temp, preferably use arctic oil. This has been demonstrated to be critical to the starting at -25°F.
- Verify the radiator coolant contains the proper mixture of antifreeze.
- Ensure the liquids removed from the engine are properly disposed in accordance with the local area requirements.
- The welder battery is rated to start at a -25°F cold temperature.
- The weld shop list of tools includes three pairs of gloves for operator safety.
- The weld shop is equipped with a tarp roof cover that should be installed if the unit is left/stored in an outside cold environment. This tarp will prevent snow and ice buildup on the roof and door tops.

HOT TEMP OPERATION

- No special procedures or equipment actions are required for operation up to 120°F ambient temperature.

SPECIAL TEMPERATURE RELATED PRECAUTIONS - Regardless of ambient temperature, it is important to always use a 50/50 mix of water/antifreeze in the engine cooling system. Eventual damage to the engine will result if this is not followed.

EMERGENCY PROCEDURES – If the welder/generator is not capable of providing A/C power and use of the air compressor, air driven tools and/or power tools are needed, this A/C power can be provided via an external source (if available). The external power is provided via the electrical power-in 50-foot cable reel in the Right Forward enclosure and by switching the power selector switch to the external power position (refer to operation under normal conditions section of this manual, item “h” A/C power).

PAINTING ENCLOSURE – If necessary, the green or tan trailer and enclosure can be repainted. Repainting plastics or molded parts, to effect a color change, shall be prime coated with a polyurethane base to permit CARC paint to adhere.

CHAPTER 3
TMWSS/SEW
UNIT/DS MAINTENANCE TROUBLESHOOTING PROCEDURES

Historical Data – Knowing the past performance history of an equipment is a tremendous aid in troubleshooting a problem. This manual contains troubleshooting/repair/maintenance log sheets located in Chapter 4. Use this log to record any troubleshooting/repair/ maintenance that you perform on this TMWSS/SEW unit.

The manufacturer has prepared a list of Frequently Asked Questions (FAQ) for each major piece of equipment.

Welder
High frequency unit
Wire feeder
Air compressor

This list is available on the manufacturer's website, www.weldsupply.net. Questions you ask and/or solutions you report will be added to this list so that other TMWSS/SEW operators will benefit from your troubleshooting experience.

The manufacturer also maintains a hotline for you to call so that you have immediate access to expertise to assist you in your troubleshooting efforts. The phone number is 800-769-3585.

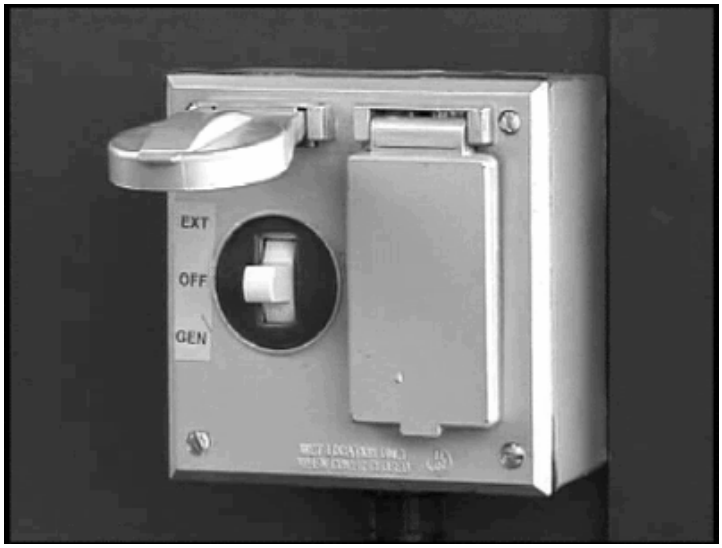
Commercial Manuals Work Package – The commercial manuals included in this book contain troubleshooting work packages and procedures provided by the manufacturer of the following equipments.

Item	Manufacturer	Tab #
M103-A3 trailer	Turtle Mountain	5
Welder	Miller Electric	6
Engine	Kubota	7
High frequency unit	Miller Electric	8
Wire feeder	Miller Electric	9
Air compressor	DeVilbiss or Thomas	11
Reels	Cox Reels/INSUL8	12

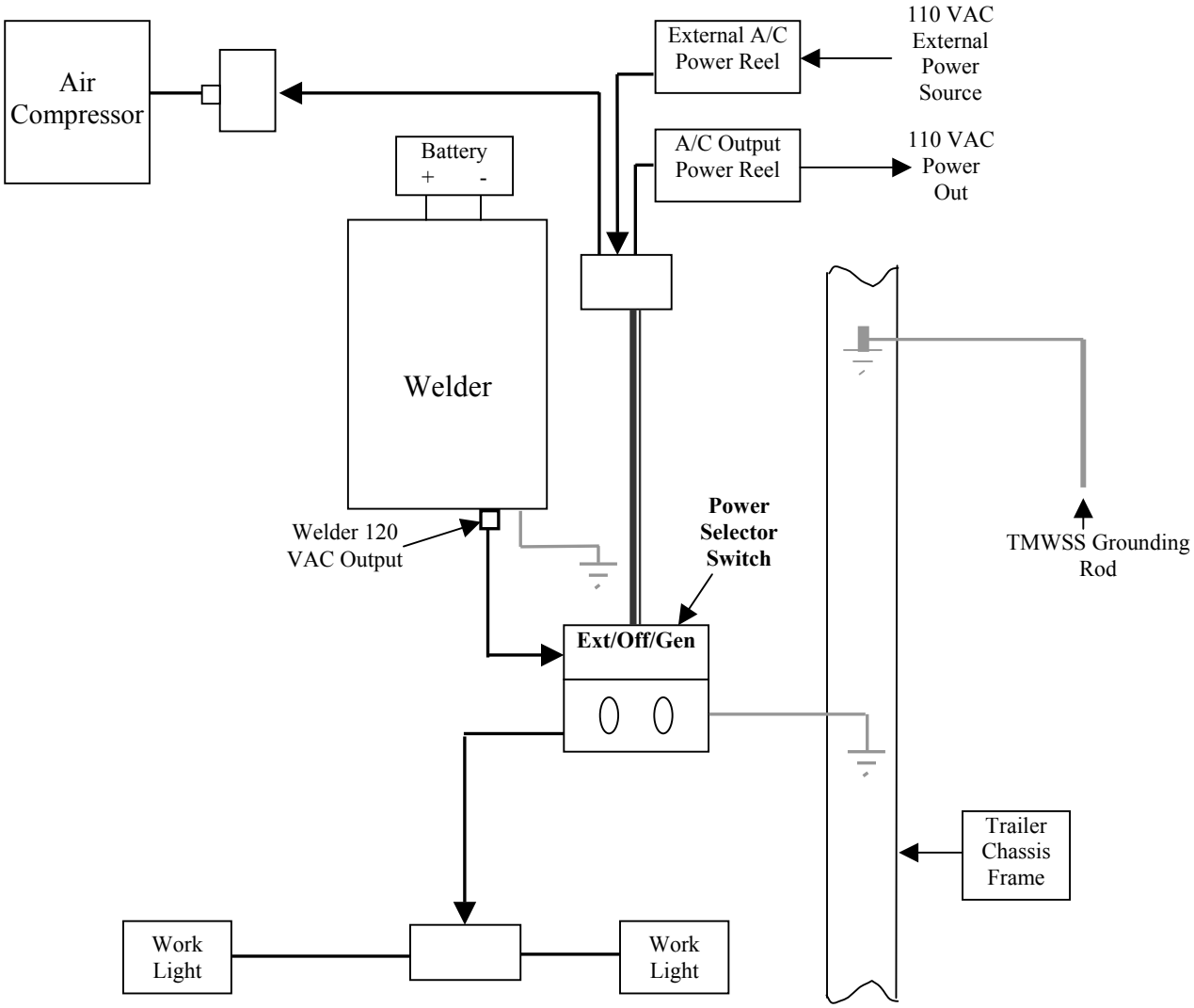
a. These manuals list all the common malfunctions that you may find with your equipment. Perform the tests, inspections, and corrective actions in the order they appear.
b. These manuals cannot list all the malfunctions that may occur, all the tests and inspections needed to find the fault, or all the corrective actions needed to correct the fault. If the equipment malfunction is not listed or actions listed do not correct the fault, notify your supervisor.
c. Call 800-769-3585 for further assistance.

TMWSS/SEW
TROUBLESHOOTING PROCEDURES

ELECTRICAL CIRCUITRY
ELECTRICAL A/C & BLOCK DIAGRAM
Power Selector Switch – Located on the right wall of the rear weld compartment.



When the "Power Selector Switch" is to the "Ext" position, external power is routed from the external power source through the switch to provide AC power for the Air Compressor, Work Lights, A/C Output Receptacles, and Output Power Cable reel. The right forward enclosure contains a 50-ft. reel-mounted 110V electrical cable and plug to enable hookup to an external AC power source.



While the Welder is operating, and the "Power Selector Switch" is set to the "GEN" position, power is routed from the Welder Generator output receptacle through the switch to provide AC power for the Air Compressor, Work Lights, A/C output receptacles, and Output Power Cable reel.

When the Power Selector Switch is set to the "OFF" position, A/C power is disabled to the TMWSS/SEW except at the Welder output receptacles while the Welder is operating.

Work Lights – The trailer is equipped with two types of work lights:

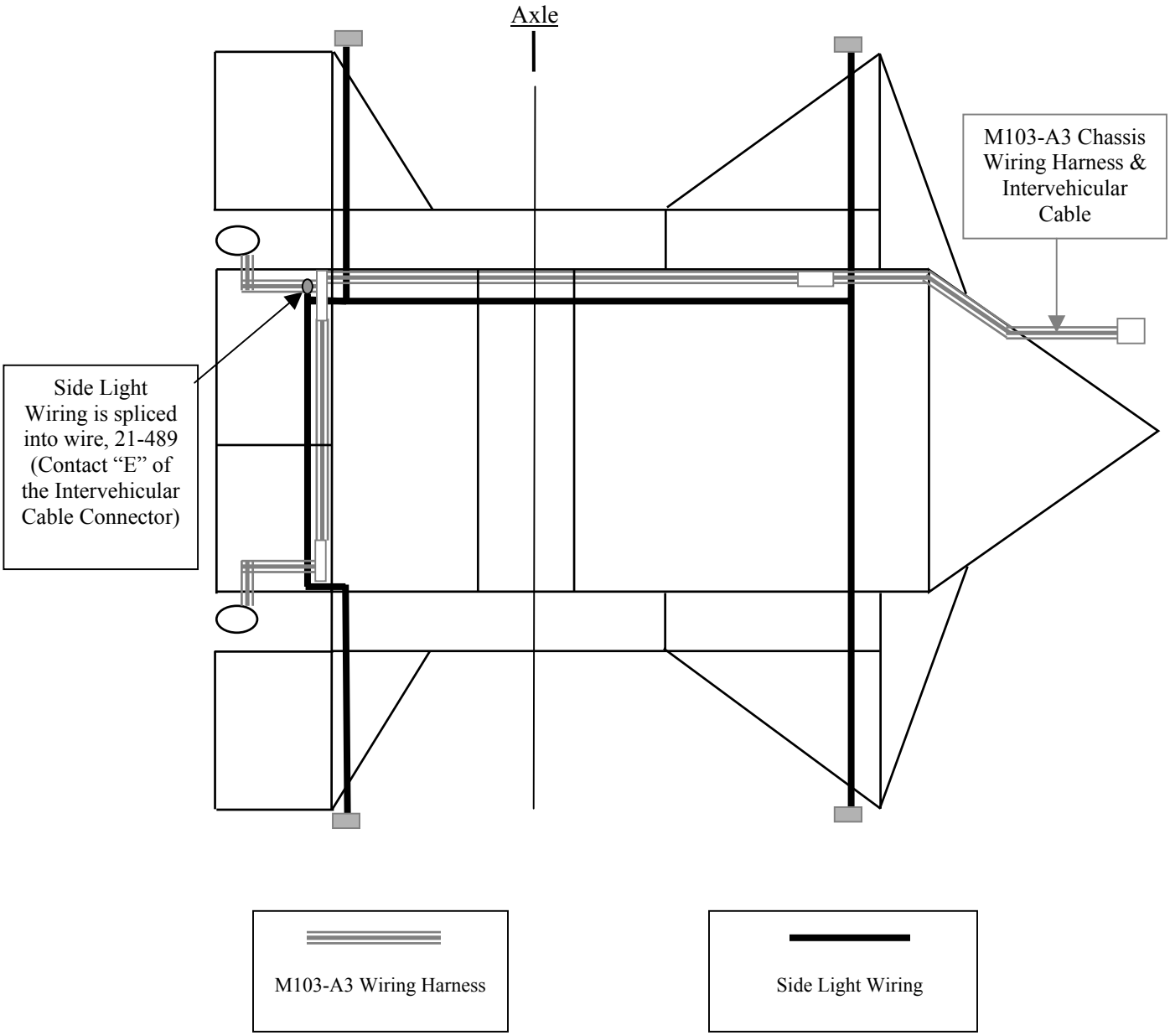
- Two mounted lights (on the rear doors over the workbench) are powered via the A/C power source through the power selector switch.
- One portable work light stored in the right front enclosure, second shelf in a plastic box, **RR4**, connects to any of the 110 VAC power receptacles or at the output A/C power reel in the bottom shelf of the right front enclosure.

The battery, located in a battery box in the front of the weld compartment, supplies DC power for starting the welder only. This battery is a standard Army vehicle battery.

MODIFICATION TO GFE TRAILER WIRING

* The DC Power for the TMWSS/SEW side-lights is provided by splicing into wire 21-489 of the M103-A3 chassis wiring harness.

* The splice has been made at the left tail light connector bracket on the underside of the rear end of the trailer.



CHAPTER 4
TMWSS/SEW
MAINTENANCE INSTRUCTIONS

TMWSS WARRANTY INFORMATION – Some major subsystems of the TMWSS are covered by warranty. Summary of warranty is as follows:

Miller Components:
- Trailblazer Welder
- High Frequency Box
- Wire Feeder

Miller Electric Limited Warranty: (www.millerwelds.com)
5 years parts and 3 years labor:
- Original main power rectifiers
- Inverters (input and output rectifiers only)

3 years, parts and labor:
- Transformer/rectifier power sources
- Plasma arc cutting power sources
- Semi-automatic and automatic wire feeders
- Engine driven welding generators

(Note: Engines are warranted separately by the engine manufacturer.)

1 year, parts and labor:
- Process controllers
- Positioners and controllers
- IHPS power sources
- Water coolant systems
- HF units
- Plasma cutting torches

Kubota Diesel Engine Warranty: (www.kubota.ca)
The worldwide warranty service provided by Kubota varies with each region. In the US, the warranty is for two years or 2000 hours, whichever occurs first. Some major subcomponents of the engine have a 3-year warranty.

All of these warranties have various disclaimers that need to be reviewed. The weld shop user should contact Power Manufacturing at www.weldsupply.net requesting specific information concerning warranty questions. A response will be provided within 24 working hours.

DeVilbiss Air Compressor Warranty:
The air compressor is only warranted for 90 days. Operators are cautioned to perform only those tasks as listed in the Periodic Maintenance Schedule, page 4-4.

Thomas Air Compressor Warranty:
The air compressor is warranted for one year. Operators are cautioned to perform only those tasks as listed in the Periodic Maintenance Schedule, page 4-4.

Commercial Manuals Work Package – The commercial manuals included in this book contain troubleshooting work packages and procedures provided by the manufacturer of the following equipments.

Item	Manufacturer	Tab #
M103-A3 trailer	Turtle Mountain	5
Welder	Miller Electric	6
Engine	Kubota	7
High frequency unit	Miller Electric	8
Wire feeder/spool gun	Miller Electric	9
Air compressor	DeVilbiss/Thomas	11
Reels	Cox Reels/INSUL8	12

CAUTION: Operators and maintainers are cautioned not to attempt repair or replacement of warranted items while under warranty. Operators may perform routine PMCS to include fluid replacement, filter replacement, belt and hose replacement, and minor adjustments while under warranty. Contact your supervisor for further guidance.

SEW WARRANTY – The SEW warranty includes the same data as the TMWSS and in addition, the weld shop manufacturer has included a one-year warranty for the entire SEW. The M103-A3 trailer (GFE) and consumable items are not included in the one-year warranty. The warranty period starts with the date of acceptance (DD250) by the DCMA representative. Contact Power Manufacturing at 800-769-3585 if you have any questions concerning the warranty.

LEVEL OF MAINTENANCE

Field Maintenance is divided into two subcategories, Unit (O) maintenance and direct support (F) maintenance. Unit maintenance is characterized by quick turn-around based on repair by replacement and minor repair (adjust, clean, lubricate, tighten). Examples of unit maintenance include oil changes, filter replacements and simple setting adjustments. Direct support is characterized by highly mobile forward area orientation of repair of items utilizing high-density modules/components. For subsystems that have both Owner's and Technical Manuals, operators shall only utilize the Owner's Manual for troubleshooting and repair. Maintainers shall utilize the Owner's, Technical, and Engine Manuals for troubleshooting and repair.

Sustainment Maintenance is divided into two subcategories, general support (H) and depot (D). General support maintenance is characterized by semi-fixed facilities whose primary purpose is repair of equipment and components. Examples of general support are wiring troubleshooting and repair/replacement and key major component repair and replacement.

Periodic Maintenance – Equipment that requires periodic maintenance is identified in this chapter on the maintenance schedule pages. The table of contents (appendix) will refer the operator to the specific commercial manual for details of the requirements and procedures.

Troubleshooting/Repair/Maintenance Log – This manual also includes maintenance log sheets that provide a historical maintenance log for recording past maintenance data.

Service Upon Receipt – The weld shop is delivered with only two services to be performed by the user.

- Remove the three gas cylinders, these are empty cylinders, and replace with gas filled cylinders. Instructions for removal procedures are included in this chapter.
  - Argon
  - Oxygen
  - Propylene or Acetylene
- Check the welder fuel tank and fill accordingly. The welder has been "run-in" by the manufacturer and does not need additional run-in (welder manual, Tab 6).

All maintenance and repair tasks for the commercial tools and equipment installed or stored in the weld shop are described in their individual commercial owner/operator manuals. Copies of these commercial manuals have been included as appendices to this manual in Tabs 5-12. All of the periodic maintenances for these equipments are also summarized in the following "Weld Shop Periodic Maintenance Schedule." This schedule provides the periodic maintenance tasks, frequencies, and locations in the various commercial manuals where the procedures for performing these tasks can be found.

WELD SHOP
MAINTENANCE INSTRUCTIONS

PERIODIC MAINTENANCE SCHEDULE – This schedule has been prepared as an aid to the user. The schedule identifies and summarizes all the periodic maintenance activities. These maintenance milestones are taken from the commercial manuals in Tabs 6-12 of this weld shop manual. The last column of the schedule identifies the location in the specific commercial manual where detailed information is available.

		Weld Shop Periodic Maintenance Schedule													
		Frequency													
Trailblazer Welder (Tab 6)	Maintenance Task	8 hr	50 hr	75 hr	100 hr	150 hr	200 hr	400 hr	500hr	800 hr	1000 hr	1500 hr	2000 hr	3000 hr	Commercial Manual Section
1	Check Fluid Levels (Oil, Fuel, Coolant)	■													7
2	Check fuel line connections & hoses		■												7
3	Clean & tighten weld terminals		■												7
4	Change oil			■											7
5	Service air filter				■										7
6	Clean & tighten battery connections				■										7
7	Check belt tension				■										7
8	Clean secondary fuel filter				■										7
9	Change Oil Filter					■									7
10	Replace primary fuel filter						■								7
11	Check radiator hoses & clamps						■								7
12	Replace unreadable labels						■								7
13	Replace secondary fuel filter							■							7
14	Replace fan belt								■						7
15	Flush radiator								■						7
16	Repair & replace cracked cables								■						7
17	Service welding generator brushes & slip rings								■						7
18	Recharge Battery	**** Recharge Battery at least every 2 months ****							■						Tab 7
19	Check valve clearance									■					7
20	Blow out or vacuum inside										■				7
21	Check fuel injection nozzle pressure											■			Tab 7
22	Replace fuel lines and clamps												■		7
23	Replace radiator coolant and hoses												■		7
24	Service emission related critical parts	** Contact Power Manufacturing at www.weldsupply.net website for authorized service providers **												■	Tab 7

Weld Shop Periodic Maintenance Schedule

		Frequency							
HF - 251D-1, High Frequency Unit (Tab 8)	Maintenance Task	Before each use	After each use	3 months	6 months	Every 1000 hrs of engine use			Commercial Manual Section
1	Tape or replace cracked cables			■					6
2	Replace unreadable labels			■					6
3	Clean & tighten weld terminals			■					6
4	Check/adjust Spark Gaps			■					6
5	Blow out or vacuum inside				■				6
6	Inspect & replace damaged gas hoses	■							6
Wire Feeder (Tab 9)	Maintenance Task	Before each use	After each use	3 months	6 months				
1	Replace damaged or unreadable labels			■					Sec 7
2	Clean and tighten weld terminals			■					Sec 7
3	Inspect & replace damaged gas hoses	■		■					Sec 7
4	Repair or replace cracked cables & cords								Sec 7
5	Blow out or vacuum inside				■				Sec 7
6	Clean drive rolls				■				Sec 5
Spool Gun (Tab 9)	Maintenance Task	Before each use	After each use	3 months	6 months				
1	Replace damaged or unreadable labels			■					Sec 5
2	Replace damaged gas hose			■					Sec 5
3	Clean & tighten weld terminals			■					Sec 5
4	Repair or replace cracked cables and cords	■		■					Sec 5
5	Blow out or vacuum inside				■				Sec 5
6	Clean drive rolls				■				Sec 5
MIG Gun (Tab 10)	Maintenance Task	Before each use	After each use	Each Wire Spool	3 months				
1	Blow out gun liner			■					Sec 7
2	Clean nozzle and check contact tip	■	■						Sec 7
3	Replace cracked parts				■				Sec 7
Air Compressor (Tab 11)	Maintenance Task	Daily	Yearly						
1	Drain water from air tank	■							Eng
2	Check for unusual noise or vibration	■							Eng
3	Inspect safety valve	■							Eng
4	Inspect air filter	■							Eng
5	Inspect air line	■							Eng
6	Inspect intake & exhaust valves		■						Eng

Weld Shop Periodic Maintenance Schedule									
		Frequency							
Gas Cutting & Welding Torch Set (Tab 11)	Maintenance Task	3 months							Commercial Manual Section
1	Check valve leak test		** Contact Power Manufacturing at www.weldsupply.net website for replacement parts **						Smith
Air Hammer (Tab 11)	Maintenance Task	Daily							
1	Lubricate with oil								
Power Tools (Tab 11)	Maintenance Task	Daily							
1	Inspect cables & tape or replace as required		** Contact Power Manufacturing at www.weldsupply.net website for replacement parts **						N/A
2	Clean after each use								N/A
A/C Power Cable Reels (Tab 12)	Maintenance Task	Annual							
1	Inspect & replace any loose or missing fasteners		** Contact Power Manufacturing at www.weldsupply.net website for replacement parts **						Sec 4
2	Check & clean slip ring assembly								Sec 4
3	Inspect Cable for damage or unsafe conditions								Sec 4
Hose Cable Reels (Tab 12)	Maintenance Task	Annual							
1	Inspect & replace any loose or missing fasteners		** Contact Power Manufacturing at www.weldsupply.net website for replacement parts **						
2	Inspect swivel joint for leakage (replace AR)								
3	Inspect hose for damage								
M103 Trailer (Tab 5)	Maintenance Tasks	** Refer to Sec. III. of the M103 Series Tech Manual (TM 9-2330-213-14 &P) for Maintenance Checks & Services**							Sec. III
Fire Extinguisher	Maintenance Task	Monthly							
1	Inspect fire extinguisher for damage								
2	Check for proper charge								

TROUBLESHOOTING/REPAIR/MAINTENANCE LOG – The next two pages contain a log for recording the history of the TMWSS/SEW unit. This log can provide the user/maintenance personnel with valuable history of past problems and maintenance history. Remember to use the log sheets, as this will help you as the user and others assigned to this unit months and years later.

TMWSS/SEW

TROUBLESHOOTING/REPAIR/MAINTENANCE LOG

Serial # _____

Date	Welder Engine Hours	Performed by	Repair/Maintenance Performed

TMWSS/SEW

TROUBLESHOOTING/REPAIR/MAINTENANCE LOG

Serial # _____

Date	Welder Engine Hours	Performed by	Repair/Maintenance Performed

TMWSS/SEW
MAINTENANCE INSTRUCTIONS

The Army Maintenance System Maintenance Allocation Chart (MAC) – This introduction provides a general explanation of all maintenance and repair functions authorized at the two maintenance levels under the Two-Level Maintenance System concept.

The Maintenance Allocation Chart (MAC), Table I, designates overall authority and responsibility for the performance of maintenance functions on the identified end items or component. The application of the maintenance function to the end item or components shall be consistent with the capacities and capabilities of the designated maintenance levels, which are shown in the MAC in column (4) as:

Field — includes two subcolumns, Unit (C (operator/crew) and O (unit)) maintenance and Direct Support (F) maintenance.

Sustainment — includes two subcolumns, general support (H) and depot (D)

The tools and test equipment (both special tools and common tool sets) required for each maintenance function are identified in Table II.

Table III contains supplemental instructions and explanatory notes for a particular maintenance function.

Maintenance Functions – Maintenance functions are limited to and defined as follows:

a. Inspect – To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel).

b. Test – To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards on a scheduled basis.

c. Service – Operations required periodically to keep an item in proper operating condition; e.g., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases.

d. Adjust – To maintain or regulate, within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters.

e. Align – To adjust specified variable elements of an item to bring about optimum or desired performance.

f. Calibrate – To determine and cause corrections to be made or to be adjusted on instruments or test, measuring, and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Remove/install – To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or function.

h. Replace – To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and assigned maintenance level is shown as the 3rd position code of the SMR code.

i. Repair – The application of maintenance services including fault location/ troubleshooting, removal/installation, and disassembly procedures, and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item or system.

j. Overhaul – That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications (i.e., DMWR). Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. Rebuild – Consists of those services/actions necessary for the restoration of the unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age requirements (e.g., hours/miles) considered in classifying Army equipment/components.

Explanation of Columns in the MAC, Table I

a. Column 1, Group Number – Column 1 lists group code numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly. The weld shop unit is subdivided into six major subassemblies.

b. Column 2, Component/Assembly – Column 2 contains the item names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3, Maintenance Function – Column 3 lists the functions to be performed on the item listed in column 2. (For detailed explanation of these functions, see Maintenance Functions.

d. Column 4, Maintenance Level – Column 4 specifies each level of maintenance authorized to perform each function listed in column 3 by indicating work item required (expressed as man-hours in whole hours or decimals) in the appropriate subcolumn. This work-time figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number of complexity of the tasks within the listed maintenance function varies at different maintenance levels, appropriate work-time figures are to be shown for each level. The work-time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location item, and quality assurance time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. The symbol designation for the various maintenance levels are as follows:

Field:	O	Unit maintenance
	F	Direct support maintenance
Sustainment:	H	General support maintenance
	D	Depot maintenance

e. **Column 5, Tools and Test Equipment Reference Code** – Column 5 specifies, by code, those common tool sets (not individual tools), common TMDE, and special tools, special TMDE, and special support equipment required to perform the designated function. Codes are keyed to tools and test equipment in Table II. Most tools needed are in the weldshop.

f. **Column 6, Remarks** – When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks contained in Table III.

TABLE I – MAINTENANCE ALLOCATION CHART FOR WELDING SHOP, TRAILER MOUNTED

(1) Group Number	(2) Component/ Assembly	(3) Maintenance Function	(4) Maintenance Level				(5) Tools & Equipment Ref Code	(6) Remarks Code
			Field		Sustainment			
			Unit	DS	GS	Depot		
			O	F	H	D		
00	TMWSS/SEW unit	Inspect	0.5	1.0			None	A & B
		Inventory	0.2					
01	M103-A3 trailer	Inspect	0.2	0.3			4	D
		Replace		3.0				
02	Enclosure	Inspect	0.2	0.3				F
		Repair	1.5					
		Replace		3.0			None	
0201	Weld Compartment							
020101	Welder	Inspect	0.3				1,2,3,4	E
		Repair	0.75					
		Replace	2.0				2,3,4	
02010101	Engine	Inspect	0.3					E
		Repair		1.5				
		Replace		2.0			2,3,4	
02010102	Generator	Inspect	0.3					E
		Repair		1.5				
		Replace		2.0			2,3,4	
02010103	Control Panel	Inspect	0.3					E
		Repair		1.5				
		Replace		2.0			3,4	
020102	Battery	Inspect	0.1					F
		Repair	0.1					
		Replace	0.1					
020103	Gas Cylinders	Replace	0.10					C
020104	Dual Hose Reel	Inspect	0.1				4	E
		Repair	0.3					
		Replace	0.2					
020105	Vise	Inspect	0.1				4	
		Replace	0.1					
020106	Ground Rod	Inspect	0.05					
		Replace	0.05					
020107	First Aid Kit	Inspect	0.10					
		Replace	0.05					
020108	Doors	Inspect	0.1					
		Repair	0.3					
		Replace	0.3					

(1) Group Number	(2) Component/ Assembly	(3) Maintenance Function	(4) Maintenance Level				(5) Tools & Equipment Ref Code	(6) Remarks Code
			Field		Sustainment			
			Unit	DS	GS	Depot		
			O	F	H	D		
0202	Right Forward Enclosure	Inventory	0.05					
020201 020202 020203 020204	Tool Box Reel (argon, power-in, power-out) Boxes Doors	Replace Repair Replace Replace Inspect Repair Replace	0.2 0.3 0.4 0.1 0.05 0.3 0.5					E
0203	Right Rear Enclosure	Inventory	0.05					
020301 020302 020303 020304	Toolbox Reel (weld) Crates Doors	Replace Repair Replace Replace Inspect Repair Replace	0.2 0.3 0.4 0.1 0.05 0.3 0.5					E
0204	Left Forward Enclosure	Inventory	0.05					
020401 020402 020403 020404 020405	High Frequency Unit Wire Feeder Air Compressor Reel (air) Doors	Repair Replace Repair Replace Repair Replace Repair Replace Inspect Repair Replace	0.5 0.1 0.5 0.1 0.3 1.0 0.1 0.2 0.05 0.3 0.5					E E E
0205	Left Rear Enclosure	Inventory	0.05					
020501 020502 020503 020504	Toolbox Reel (weld) Box/Crate Doors	Replace Repair Replace Replace Inspect Repair Replace	0.2 0.3 0.4 0.1 0.05 0.3 0.5					E
0206	Roof	Inspect Repair Replace	0.1 0.5 1.0					

Explanation of Columns in Tool and Test Equipment Requirements, Table II

a. **Column 1, Reference Code** – The tool and test equipment reference code correlates with a code used in the MAC, Table II, Column 5.
b. **Column 2, Maintenance Level** – The lowest level of maintenance authorized to use the tool or test equipment.
c. **Column 3, Nomenclature** – Name or identification of the tool or test equipment.
d. **Column 4, National Stock Number** – The National Stock Number of the tool or test equipment.
e. **Column 5, Tool Number** – The manufacturer's part number, model number, or type number.

TABLE II – TOOL AND TEST EQUIPMENT REQUIREMENTS FOR WELDING SHOP, TRAILER MOUNTED

Tool or Test Equipment Ref Code	Maintenance Level	Nomenclature	National Stock Number	Tool Number
1	O	Multimeter	6625-01-139-2512	AN/PSM-45
2	F	Hoist Device (forklift/crane)	N/A	N/A
3	O, F	Took Kit, Electronic Equipment	5180-00-610-8177	SC5180-91-CL-R07
4	O, F	Took Kit, General Mechanics	5180-01-481-8389	SC5180-95-B47

Explanation of Columns in Remarks, Table III

a. **Column 1, Remarks Code** – The code recorded in column 6, Table I.
b. **Column 2, Remarks** – This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Table I.

TABLE III – REMARKS

Remarks Code	Remarks
A	Refer to Chapter 4 for periodic maintenance schedule.
B	Refer to Chapter 4 for preventive maintenance and service table.
C	Refer to weld shop TM table of contents.
D	Refer to TM 9-2330-213-14&P, M103-A3 trailer, tab 5.
E	Refer to appropriate commercial manual, tabs 6-12.
F	Refer to repair/replacement instructions, Chapter 4.

TMWSS/SEW
MAINTENANCE INSTRUCTIONS

MAINTENANCE AND REPAIR OF TMWSS/SEW SUBSYSTEMS

Welder – Refer to the "Periodic Maintenance Schedule" for listing of maintenance tasks and frequencies. Refer to Tab 6, Miller Trailblazer manual, Section 7 and the maintenance section of the Kubota D722 Diesel Operator Manual, Tab 7, for maintenance & repair instructions & procedures.

Enclosure Repairs – Cracks and holes in the plastic structures cannot be repaired using a liquid type material. A new plastic structure should be ordered. A temporary fix can be applied using a piece of $^{1}/_{16}$" metal and securing it over the crack or hole using bolts/nuts or rivets. This temporary fix will provide structural strength and prevent the crack or hole from sustaining further damage.

High Frequency Unit – Refer to the "Periodic Maintenance Schedule" for listing of maintenance tasks and frequencies. Refer to Tab 8, Miller Technical Manual OM-611, Section 7 for maintenance & repair instructions & procedures.

MIG Gun – Refer to the "Periodic Maintenance Schedule" for listing of maintenance tasks and frequencies. Refer to Tab 10, MIG Gun Owner's Manual OM-1035, Sections 5 & 7 for repair and maintenance instructions & procedures.

Wire Feeder – Refer to the "Periodic Maintenance Schedule" for listing of maintenance tasks and frequencies. Refer to Tab 9, Miller Technical Manual, Section 5, for repair and maintenance instructions & procedures.

Spool Gun – Refer to Spoolmatic 30A manual in Tab 9, Section 5, Maintenance & Troubleshooting section.

Air Compressor – Refer to the "Periodic Maintenance Schedule" for listing of maintenance tasks and frequencies. Refer to Tab 11, DeVilbiss General Manual for Permanently Lubricated Portable/Stationary Air Compressor, section 9-Eng for repair and maintenance instructions & procedures.

Gas Cutting & Welding Torch Set – Refer to the "Periodic Maintenance Schedule" for listing of maintenance tasks and frequencies. Refer to Tab 10, Smith's Instruction and Operation Manual for Oxy-Fuel Cutting, Welding and Heating Equipment, for repair and maintenance instructions & procedures.

Air Hammer – Refer to the "Periodic Maintenance Schedule" for listing of maintenance tasks and frequencies. Refer to Tab 11, General Operating Instructions for Air Driven Tools, for general repair and maintenance instructions & procedures.

Power Tools – No specific commercial manual routine repair or maintenance tasks are identified. However, standard commercial practice, to assure safe operation, is to clean the tools and inspect cables & tape or replace as needed after each use.

A/C Power Cable Reels – Refer to the "Periodic Maintenance Schedule" for listing of maintenance tasks and frequencies. Refer to Tab 12, Insul8 1200 Series Cable Reel owner's manual, section 4, for repair and maintenance instructions & procedures.

Hose Cable Reels – Refer to the "Periodic Maintenance Schedule" for listing of maintenance tasks and frequencies. Refer to Tab 12, Coxreels' Operating Instructions & Parts Manual, for repair and maintenance instructions & procedures.

M103 Trailer – Refer to Tab 5, Army TM 9-2330-213-14&P technical manual, for schedule of periodic maintenance tasks and repair/maintenance instructions & procedures.

Battery Disposal Procedure – The weld battery is the same battery as used in the Army HMMWV. The battery disposal procedure is described in Technical Bulletin TB 43-0134, dated 1 October 1996.

TMWSS/SEW
MAINTENANCE INSTRUCTIONS

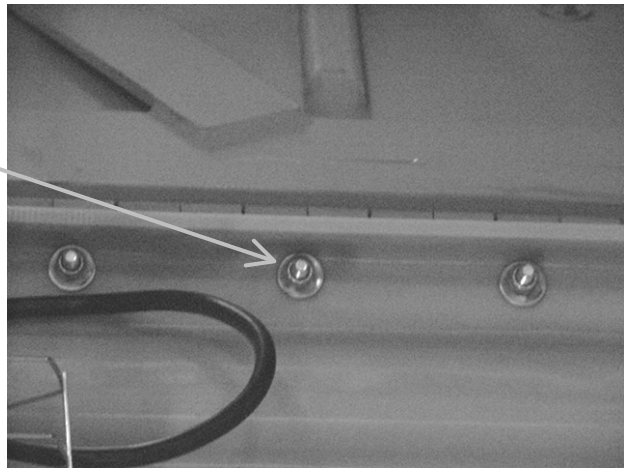
REMOVAL/REPLACEMENT OF SUBSYSTEMS

Note: Discard all removed locknuts and lock washers and replace with new locknuts and lock washers (per military maintenance regulation).

Remove & Replace Front or Rear Doors – Although front and rear doors are basically interchangeable, replacement doors will be shipped with door handles, labels and associated new hardware either attached or taped to the door in a parts bag. Therefore, it is important to specify which specific door is being replaced (RF, LR, etc.) when ordering.

Removal –

1. For rear doors, remove work light by removing the one ¼" locknut that secures the work light to the door mounting hardware.
2. Remove the first aid kit from the left rear door or the carpenter's square from the right rear door.
3. Remove the eight ¼" x 1" hinge bolts, washers, and locknuts that secure the door to the hinges. Discard the old locknuts and washers. Save the mounting bolts for reuse on the replacement door.



Replacement –

1. With the door hinges in the closed position, temporarily position and align the new door to match with the mating door. The door should be aligned at the top with the mating door and there should be a minimum gap between the doors.
2. Place a reference mark on the door and top hinge so that the correct location of the top bolt-hole for the top hinge can be established.
3. Drill a ¼ inch hole for the top hinge bolt.
4. Bolt the door to the hinge at the top bolt only using a new washer and locknut. Close the door to the fully closed position.

5. Align the door on the hinge and use the hinge hole as a guide to locate and drill the bottom bolt-hole on the bottom of the door.
6. Install the bottom bolt and new washer and locknut.
7. Close the door and verify correct alignment of the door. If adjustments need to be made, use a small round file to enlarge the top and/or bottom holes until the door is aligned correctly on the hinges.
8. Align the door and tighten the top and bottom hinge bolts.
9. With the door in the open position, use the hinge holes as guides to drill the remaining holes for the hinge bolts.
10. Install and tighten the remaining six hinge bolts, washers, and locknuts.
11. Replace and install the work light, first aid kit bracket, or carpenter-square, as necessary.
12. With the door in the open position, align the new rubber door latch with the door latch clip on the enclosure and mark the location of the three $^{8}/_{32}$" holes on the door. Drill one hole and install one new $^{8}/_{32}$" x 1" screw and locknut. Check the alignment and use the holes of the door-latch mounting bracket as a guide to drill the other two $^{8}/_{32}$" holes.
13. Install and tighten the other two $^{8}/_{32}$" x 1" screws and locknuts.

Remove & Replace Front or Rear Enclosure Side Doors – When ordering parts, it is important to specify which specific door is being replaced (RF, LR, etc.). The mounting of locking bar and door stiffener hardware are oriented differently on left and right sides.

Removal -

Remove the locknuts and washers from the door assembly to disconnect the door from the hinge(s). The TMWSS has two hinges and eight bolts. The SEW has one hinge and six bolts. Discard the used locknuts.

TMWSS

SEW

Replacement –

1. Temporarily position and align the new door to match with the door opening. Close the door locking bars and place the hinge against the door panel in the closed position. Align the door so that the opening is covered and the locking bar mates with the locking pads on the door stiffener braces.
2. Use the hinge as a guide to locate and drill a ¼" hole for one of the outermost hinge bolts.

3. Bolt the door to the hinge through this outermost hole and align the door to the fully closed position.
4. Use the hinge as a guide to locate and drill the opposite outermost ¼" hole.
5. Install the other outermost hinge bolt and open and close the door to check door alignment. If adjustments need to be made, use a small round file to enlarge the left and/or right holes until the door is aligned correctly on the hinges.
6. Use the hinge as a guide to drill the remaining ¼" holes for the hinge bolts
7. Install and tighten the remaining four or six ¼" x 1" hinge washers and new locknuts.

Remove & Replace Miller Welder

Removal-

1. Remove the roof assembly. Refer to instructions for removal of the roof assembly (removal of the roof assembly is necessary to provide clearance to hoist the welder out of the weld compartment).
2. Unbolt the two U-bolt clamps and remove the flexible exhaust hose connecting the welder exhaust elbow to the exhaust pipe.
3. Disconnect the large ground (Work) weld cable lug and also the green welder ground wire from the control panel of the welder.
4. Disconnect the battery cables from the battery and temporarily tape to the welder or move the cables so they are free and will not get caught on other equipment when the welder is being hoisted out of the unit.
5. Unbolt and disconnect the six mounting bolts, nuts and washers from the welder base three on each side of the welder.

WARNING

Ensure lifting sling capacity is rated for 750 pounds or more before attaching to the welder.

6. Attach a lifting sling suitable for safely lifting the 750-lb. welder, to the lifting u-bolt device on the top of the welder.
7. For equipment safety, attach a guideline to one corner of the welder to guide the welder as it is being hoisted out of the weld compartment.

8. Using a crane or other lifting device, and another person attending to the guideline, hoist the welder out of the weld compartment. The welder must be lifted high enough to clear the top of the enclosures.
9. The guideline will need to be removed and reused if the welder is going to be replaced with another welder.

WARNING

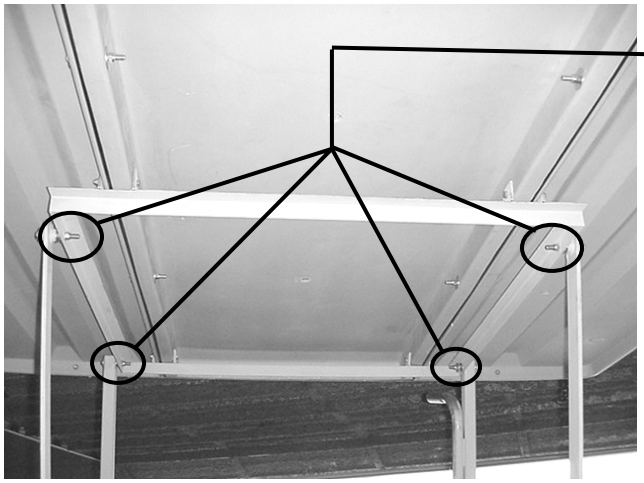
Ensure lifting sling capacity is rated for 750 pounds or more before attaching to the welder.

Replacement –

1. Verify that the welder to be installed is functioning properly. Refer to the Miller owner's manual section 9-11 for pre-operational checks.
2. If a new welder is to be installed, attach the two center mounting brackets by bolting them to the sides of the welder.
3. If not already installed, install the battery cables and temporarily tape to the side of the welder.
4. Attach a lifting sling suitable for safely lifting the 750-lb. welder, to the lifting u-bolt device on the top of the welder.
5. Attach a guideline to one corner of the welder. This will be used to guide the welder into position over the deck mounting holes as the welder is being lowered into position on the deck of the weld compartment.
6. Hoist and then slowly guide and lower the welder into position on the deck so that the deck mounting holes line up with the holes for the welder center mounting brackets. Insert the two center mounting bolts and washer but do not install the nuts at this time.
7. Insert the other four corner mounting bolts and washers. Slight repositioning of the welder may need to be made if the bolts don't completely line up.
8. Once all six mounting bolts have been inserted install the washers and locknuts on the under side of the deck. Firmly tighten these locknuts.
9. Using the two u-bolt clamps, reconnect the flexible exhaust hose to the welder exhaust elbow and the exhaust pipe.
10. Reconnect the battery cables to the battery and secure the battery box with its hold down strap.
11. Reconnect the green welder ground wire and the weld cable ground (work) lug to the welder front panel.
12. Installation inspection – (a) Verify that the six mounting bolts are tight and have washers on both the top and underside of the vehicle. (b) Verify the welder flexible exhaust connections are tight and the exhaust hose shows no evidence of damage. (c) Verify that the following electrical connections are tight, clean and show no evidence of wire damage:
    1) Weld cable "Work" connection on the welder front panel.
    2) Welder green ground wire
    3) Battery cables

Remove & Replace Roof Assembly

Removal – The roof assembly contains the roof and the iron support frame mounted to the underside of the roof sections and weighs approximately 100 lbs. Removal of the roof assembly requires at least two persons to safely remove the roof from the enclosure.

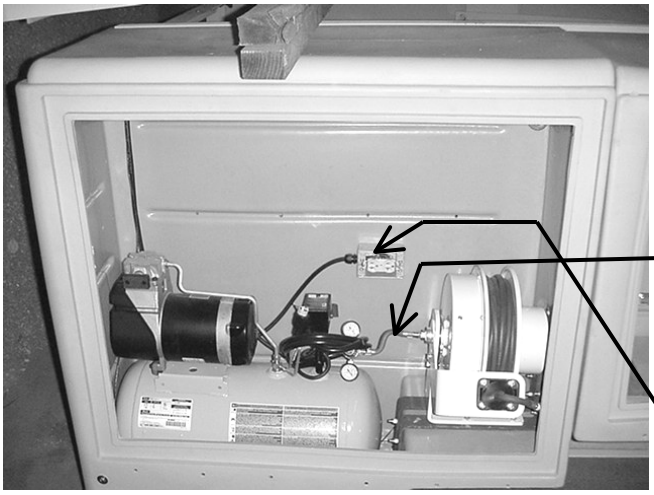


1. Raise the roof to the extended deployed position.
2. Use two wrenches to remove the locknut and washer from the four bolts that connect the roof frame to the support braces on the underside of the roof.
3. Lift the roof off of the four supports and lower to the ground. All of the roof components can be accessed for disassembly and repair with the roof resting on the topside.
4. Examine the bushing inserts for excessive wear, cracks or other damage. Replace worn or damaged components as needed.

Replacement –

1. Lift or hoist the roof assembly into place over the four pivot support braces and line up the mounting holes.
2. Assemble the four $^{3}/_{8}$" x 3½" bolts and four each $^{3}/_{8}$" x 1½" fender washers onto each of the four bushing assemblies of the roof support braces. One fender washer is installed next to the bolt head on the outside of the bushing and three washers are installed between the inside bushing mating surface and the attachment to the roof frame.
3. Bolt and tighten the roof frame to the support brace and bushing assembly using a new $^{3}/_{8}$" locknut.
4. Install and tighten the four new $^{3}/_{8}$" locknuts on the inside of the roof frame.
5. Roof assembly inspection – (a) Examine the four roof support connections and verify that the connecting bolts nuts and washers are assembled correctly as detailed in steps 3-4 above. (b) Raise and lower the roof assembly checking that the roof raises smoothly and that pivot points operate freely.

Remove & Replace the Air Compressor



Removal – Removal of the air compressor requires removal of the enclosure shelf to gain access to remove the air compressor (Refer to instructions for shelf removal).

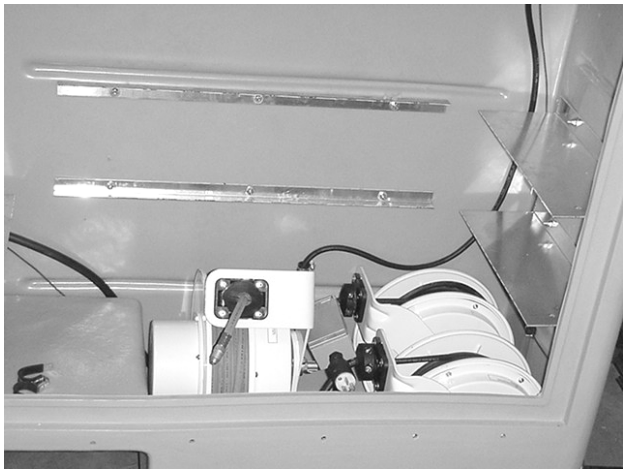
1. Remove the enclosure shelf.
2. Use a channel lock pliers to grip the pit-cock drain tube and remove the drain pit-cock through the wheel well of the unit.
3. Disconnect the short coupling hose that connects the air compressor to the air reel.
4. Unplug the air compressor power cord from the electrical outlet junction box in the left front enclosure.
5. Remove the four mounting bolts, washers and locknuts from the base of the air compressor.
6. Lift the air compressor unit out of the enclosure.

Replacement –

1. Check to make sure the spacer tubes are in place on the bottom of the enclosure.
2. Carefully set the air compressor into the enclosure and position it so that the mounting holes on the air compressor are aligned with the spacer tubes in the enclosure.
3. Insert the two $^{3}/_{8}$" x 2¾" mounting bolts with $^{3}/_{8}$" flat washers through the front two 1½" spacer tubes and the two $^{3}/_{8}$" x 1½" mounting bolts with $^{3}/_{8}$" washers through the rear mounting holes.
4. On the vehicle underside, install the four $^{3}/_{8}$" new locknuts and tighten firmly in place.
5. Reconnect the short coupling hose that connects the air compressor to the air reel.
6. Insert the drain pit-cock tube through the wheel well into the air tank and tighten in place.
7. Plug the air compressor power cord into the A/C outlet receptacle in the enclosure.
8. Replace the enclosure shelf, shelf support bracket and tools that are stored in the enclosure.
9. Air compressor installation inspection – (a) Verify that all spacer tubes are installed and that the mounting bolts are tight with washers installed. (b) Apply A/C power to the unit either by running the welder and selecting “GEN” on the power selector switch or hooking up external power and selecting “EXT” on the power selector switch. Turn the red air compressor power switch to the “On” or horizontal position and verify the air compressor starts. (c) Open the drain pit-cock and verify that the tank pressure can be relieved. (d) Close the pit-cock and run the air compressor for several minutes to build up pressure in the air tank. Turn the air compressor power switch to the “off” position and verify the compressor stops. (e) Observe that the tank pressure is maintained while the pit-cock is closed.

Remove & Replace Cable and Hose Reels

Removal – All of the cable reels and hose reels are removed and installed in similar fashion.



1. Remove any tools, shelves or equipment that interfere with removal or installation of the reel.
2. For hose reels, disconnect any coupling hoses that connect to any attached equipment.
3. For electrical cable reels, tag all leads and connecting points, then disconnect electrical power from the connecting junction box or electrical terminal lug.
4. Remove the four mounting bolts from the base plate of the reel.
5. Lift the reel assembly out of the enclosure.

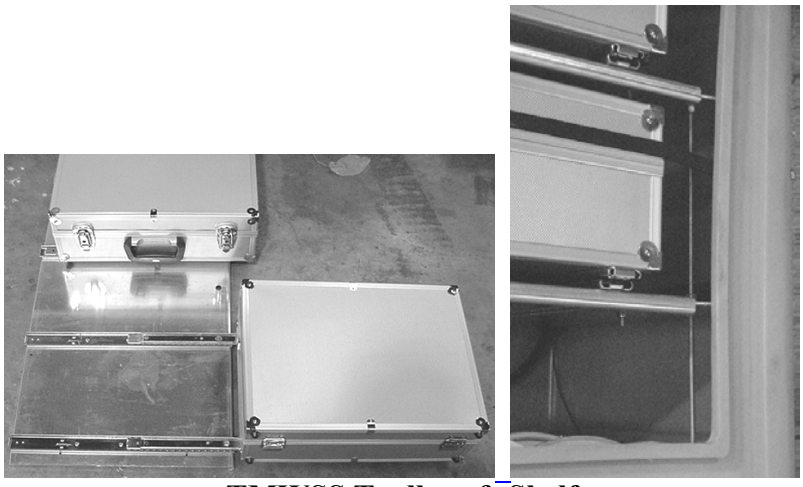
Replacement –

1. Place the reel assembly onto its mounting location and line up the holes for the mounting bolts.
2. Install the four $^{3}/_{8}$" x 1½" bolts with $^{3}/_{8}$" flat washers from the topside of the enclosure.
3. Install and firmly tighten the four $^{3}/_{8}$" new locknuts onto the bolts from the underside of the enclosure.
4. Reconnect coupling hoses or electrical connections to attached equipment or connecting junction boxes or terminal lugs.
5. Installation inspections – (a) Verify that mounting bolts are tight and washers are installed on the topside of the mounting brackets. (b) For electrical reels, apply power and verify that no circuit breakers are tripped and the associated electrical equipment starts. (c) For hose reels, attach to connecting equipment and verify that no leaks are present by applying gas pressure to the hose and using an oil-free leak detection fluid to identify any leaks.

Remove & Replace Toolboxes – Replacement TMWSS toolboxes are shipped from the factory with drawer slides attached, SEW tool shelves are part of a toolbox.

Removal –

1. Toolboxes and attached drawer slides are mounted to the enclosure shelves and consequently the associated shelf must first be removed before removing the toolbox from the shelf. Refer to the "Refer & Replace Enclosure Shelf" procedures to remove the shelf the toolbox is mounted to.
2. To remove the toolbox from the shelf, extend the toolbox on the drawer slide and remove the six $^{8}/_{32}$" x ½" screws and locknuts that attach the toolbox slides to the shelf.
3. SEW tool shelves are removable from the tool chest by pressing the two tabs on the outside of ther rear of the tool shelf.



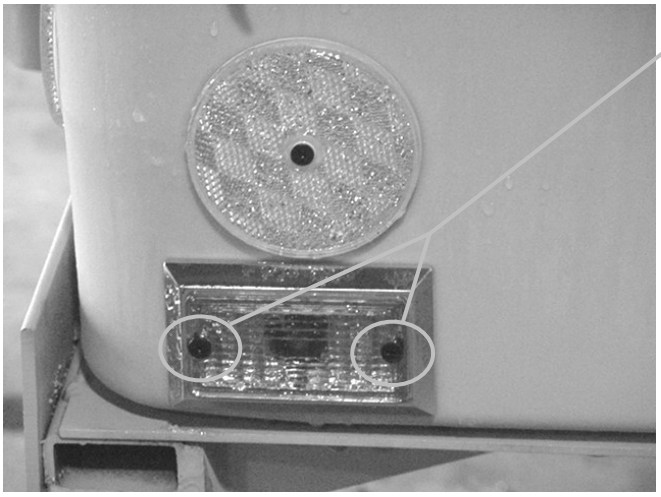
TMWSS Toolbox & Shelf

SEW Tool Chest & Drawer

Replacement – The SEW drawers are not available other than as a complete chest. The TMWSS replacement toolboxes are shipped with mounting screws & nuts and with the mounting holes predrilled into the bottom cover of the toolbox.

1. Extend the toolbox slides and line up the drawer slide mounting holes with their mounting holes on the shelf. Install the six $^{8}/_{32}$" x ½" screws and new locknuts.
2. Refer to the "Remove & Replace Enclosure Shelf" procedures to replace the enclosure shelf.

Remove & Replace Running Lights



Removal –

1. Remove the two mounting screws from the sides of the running light lenses. The running light assembly can be pulled out and light bulb replaced by removing the bulb from the rear of the lens assembly.
2. To replace the entire running light assembly, the two leads will need to be cut off and the new assembly wiring spliced onto the existing wire stubs. Consequently the leads from the assembly being replaced should be cut off where they enter the rear of the lens assembly.

Replacement – Replacement lens assemblies will be shipped with butt splices crimped to the pigtail leads of the replacement lens assembly unit.

1. Strip back ¼" of insulation from the each of the DC leads coming from the enclosure.
2. Insert the stripped leads into the butt splice and crimp in place.
3. Feed the excess wire into the enclosure assembly and attach the assembly to the enclosure with the two mounting screws.
4. Installation Inspection – (a) Verify that the running lights work by connecting the inter-vehicle cable to a compatible vehicle and apply DC power. (b) Verify that both mounting screws are installed and that the lens is not cracked or otherwise broken.

Remove & Replace Workbench Work-surface

Removal –

1. On the under side of the work surface, remove the six nuts from the bolts that attach the work surface to the work platform.
2. Raise the work surface and remove it from the platform.

Replacement –

1. From the topside, install the six round-headed stove bolts through the new work surface.
2. Install the six locknuts from the underside of the work platform and firmly tighten in place.
3. Installation Inspection – (a) Verify that all mounting bolts are tightened down to the work surface. (b) Verify there are no sharp edges or corners that would cause a safety risk to personnel.

Remove & Replace the Welder Battery

Removal –

1. Release and undo the battery box cover strap and remove the box cover.
2. Disconnect the positive battery cable first and then the negative cable from the battery posts.
3. Lift the battery directly out of the battery box.
4. Inspect the battery cables for corrosion and clean or replace as necessary.

Replacement –

1. Install the battery in the battery box.
2. Attach the positive battery cable first and then the negative cable being careful not to short the leads together. Firmly tighten the cables onto the battery posts.
3. Installation Inspection – Before closing up the battery box, inspect the cable connections to verify that they are tight and clean.
4. Install the battery box cover and clamp in place with the hold-down strap.

Remove & Replace Enclosure Shelf (Solid 1-piece shelf)

Removal –

1. Remove all inventory from the shelf.
2. Remove eight ¼" nuts and bolts that attach the shelf to the enclosure.
3. Angle the shelf 45° for removal thru the enclosure door opening.

Replacement –

Reverse the steps above.

TMWSS Toolbox

Remove & Replace SEW Tool Chest

Removal –

Remove the four bolts securing the chest to the shelf.

Replacement –

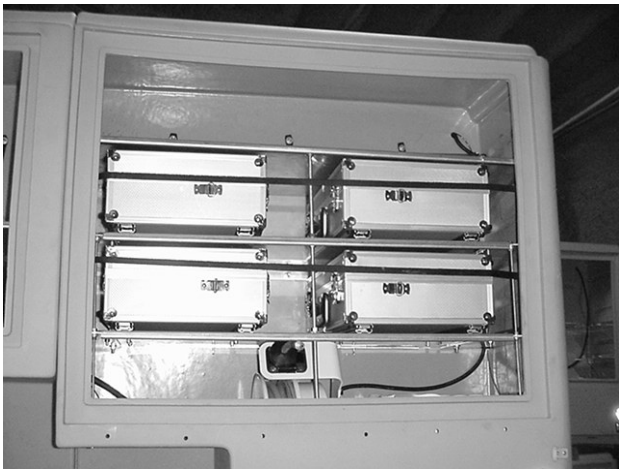
Install the four bolts.

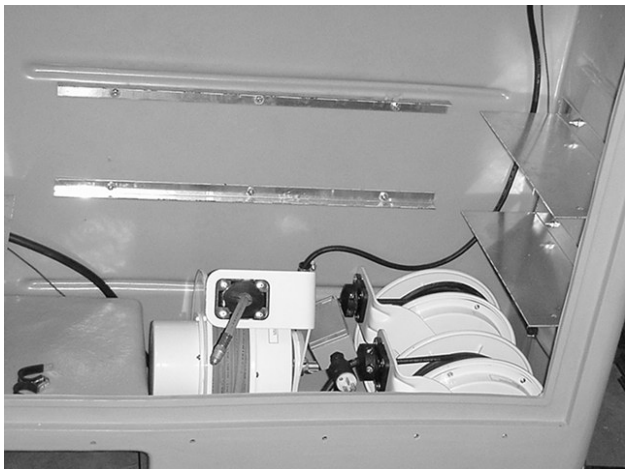
SEW Tool Chest

Remove & Replace Enclosure Shelf (4-piece design shelf in LR & RR enclosure)

Removal –

1. Remove all inventory from the two toolboxes on the shelf to be removed, the boxes can stay on the shelf.
2. Using a $^{3}/_{16}$" drill bit to remove two pop nuts ($^{3}/_{16}$" x 1").
3. Using a $^{3}/_{8}$" socket, remove the six screws that attach the shelf to the aluminum support angles.
4. Pull the shelf straight out of the enclosure.





Replacement –

Reverse the steps above.

Removing the aluminum angle supports

Remove the ¼" nuts and bolts that secure the three angle supports to the enclosure.

Remove & Replace Enclosure Shelf (4-piece shelf in RF)

Removal –

1. Remove all inventory from the toolboxes, the boxes can stay on the shelf.
2. Remove the threaded rods that support the bottom and middle shelf.
3. Using a $^{3}/_{8}$" socket, remove the six screws that attach the shelf to the support angles.
4. Pull the shelf straight out with boxes attached.

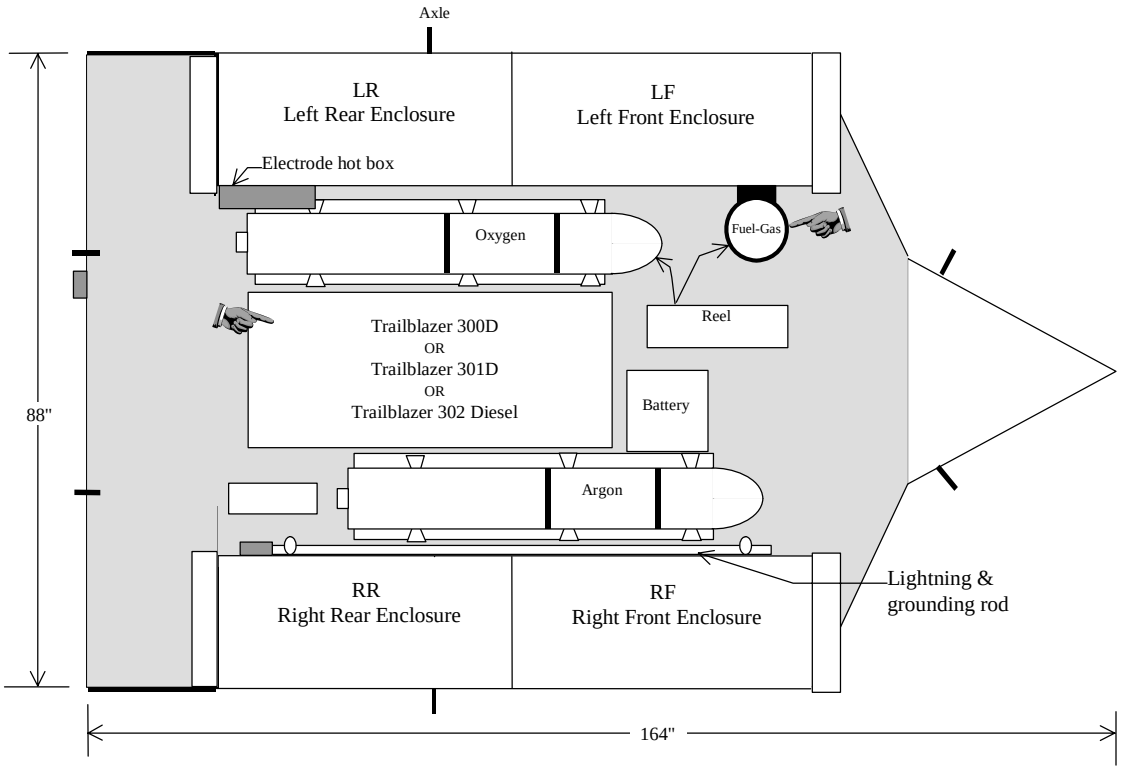
Replacement –

Reverse the steps above.

TMWSS/SEW
MAINTENANCE INSTRUCTIONS

LOADING AND UNLOADING GAS CYLINDERS – The weld shop contains three gas cylinders (all three cylinders are delivered (without gas) by the contractor) as illustrated below:

- Fuel-Gas – front left side of weld compartment
- Oxygen – middle left side of weld compartment
- Argon – middle right side of weld compartment



Top View of M103 Highlighting Gas Cylinder Installation Area

Note: Never remove and replace cylinders with the regulators installed. Always check the protective cylinder cap is installed over the valve.

Removal of Gas Cylinder –

1. Install portable rollers on the rear of the workbench.
2. Remove cylinder holding bracket from the rear of the argon and oxygen cylinders.
3. Release the two tiedown straps and push/pull the cylinder to the rear of the workbench.

Replacement –

1. Tilt and lift the cylinder over the rear workbench portable roller.
2. Push the cylinder forward and install the holding bracket.
3. Secure the two tiedown straps.

THE TANKS ARE UNLOADED AND LOADED AS FOLLOWS:

FUEL-GAS – Located in the forward portion of the trailer weld compartment.

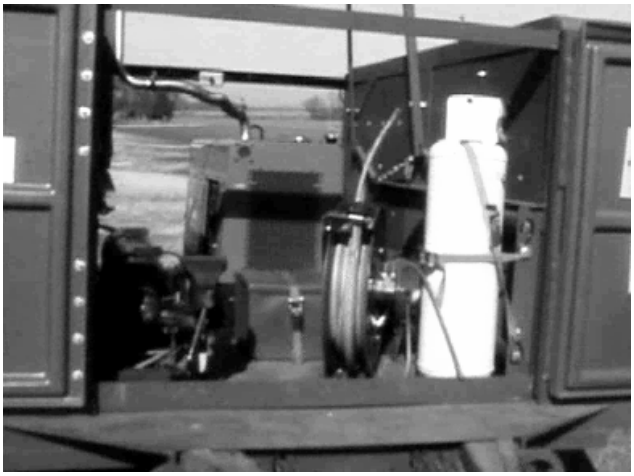
To unload the fuel-gas cylinder:
- First verify the cylinder valves are closed.
- Remove the cylinder regulators and store in the enclosure.

TMWSS Regulator Storage

SEW Regulator as Installed on Acetylene Cylinder

- Release the cylinder hold down straps so the cylinder can be removed.
- Lift the cylinder out of the bottom ring structure.
- Tilt, roll and lower the cylinder to the ground.

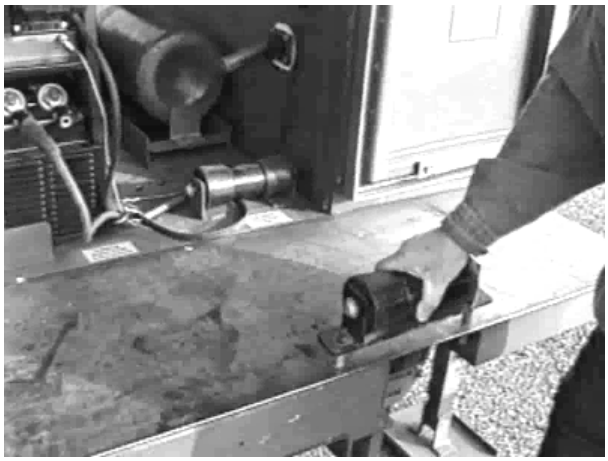
To load the fuel-gas cylinder:
- The roof should be in the raised position
- The cylinder needs to be lifted vertically from the ground to the step area in front of the weld compartment.



Then tilt the cylinder and drag it into the weld compartment still in a vertical position. Lift the cylinder over the deck ring and secure the holding strap.

OXYGEN AND ARGON CYLINDERS are loaded and unloaded through the rear doors. **NOTE – For safety, always have two operators involved in the loading of these two cylinders.** A portable roller device stored in the weld compartment (at the rear of the oxygen cylinder) is provided for loading or unloading Oxygen and Argon cylinders on the TMWSS. The portable roller should be removed from its storage location and installed on the rear end of the workbench in line with the cylinder location to be loaded or unloaded as illustrated below. One fixed roller is located just behind the cylinder.

For the SEW, two portable rollers are provided. They are stored in the Left Rear enclosure on the top shelf.

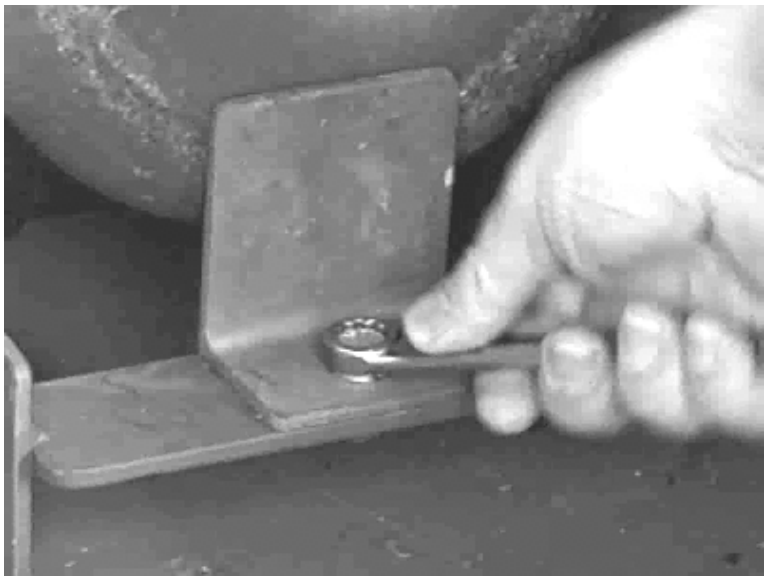


TMWSS & SEW

To unload the oxy or argon cylinder:

- Never remove and replace cylinders with the regulators installed. Always protect the cylinder cap with a cover.
- First verify the cylinder valves are closed.
- Remove the cylinder regulators and store in enclosure.
- SEW: remove the vise from its storage location.
- SEW: install one portable roller fixture just behind the cylinder.
- Install the portable roller fixture on the rear of the workbench.
- Release the two cylinder hold-down straps.

- Remove the rear cylinder holding bracket by unscrewing the bolt.



- One operator should push the front of the cylinder about 15" from the front towards the rear.
- The second operator pulls the base of the cylinder to the rear of the vehicle over the rollers and both operators guide the cylinder over the rollers while lowering the base of the cylinder to the ground.

To reload – First verify the rear holding fixture located just rear of the cylinder rollers is removed.

Position the newly loaded cylinder vertical on the ground so it can be tilted against and rest on the portable roller device installed on the rear end of the workbench. With the cylinder resting against this roller, both operators lift the bottom end of the cylinder with one hand and with the other hand guide the top of the cylinder towards a horizontal position over the roller in front of the rear portable roller and push up and forward until the top of the cylinder is over the second roller device.

The cylinder will now roll forward to the fixed position for storage, resting against the front stop of the cylinder mount. Install the rear holding bracket and using a wrench screw the bolt until tight. Two sets of ratchet strap belts are used to secure the cylinder in place.

Remove the portable roller device(s) from the loading position to either the other cylinder location or the stored position inside the weld compartment.

The cylinder is now ready for use or transport in the weld shop.

TMWSS/SEW
MAINTENANCE INSTRUCTIONS

TRAILER TIRE REPLACEMENT

The M103-A3 manual contained in Tab 5 of this book addresses wheels and tracks under Group 13, Appendix F, Repair Parts.

The M103-A3 tires and wheel assemblies are different than presented in the M103-A3 manual. This is the result of an Army order requiring the deletion of the split wheel rim as a safety precaution.

The correct part numbers are as follows.

Old P/N	New P/N	CAGE Code	Description	NSN #
MS51946-1	MS51946-2	96906	RH wheel stud	5306-00-383-4957
MS51983-1&2	129378	02686	2-piece flanged wheel nut	TBD
7389621	UTBC128975	02686	Wheel assembly-11 Consists of tire (Goodyear, G186, 10R22.5), valve stem (TRS01) & wheel (P/N 129374)	TBD
81348	N/A	N/A	Tire	2610-01-063-7947

CAGE code 02686 is Utility Tool & Body Co., Inc., Clintonville, WI 54929, ph: 715-823-3167.

The wheel replacement system described in the M103-A3 manual on page 3-11 is still valid. The only change is to remember both left and right wheel nuts are turned to the left to remove the tire. The tire air pressure should be 50 psi.

The Section VIII, Wheels, Hubs and Brake Drums Maintenance description on page 4-76 is also a valid procedure for the M103-A3 trailer.

Correct Tire & Rim
Air Pressure 50 PSI MAX

Split Rim Tire
(Should not be used)

TMWSS/SEW
MAINTENANCE INSTRUCTIONS

STORAGE OR SHIPPING

ROUTINE STORAGE TASKS

- Ensure gas cylinder valve covers (three) are installed.
- Ensure vise is stored inside weld compartment.
- Install the wheel chocks.
- Ensure side enclosures and roof front and rear doors are locked.
- Ensure the stabilizer legs are down and locked.
- Open the air compressor drain valve.

Storage Temperature Requirements – The range is specified to be -50°F to +160°F.

Hot Temperature Storage – No special preparations are required for hot temperature storage up to 160°F.

Cold Temperature Storage (indoors) – All engine liquids (i.e. radiator, oil, fuel) should be drained and the engine battery and the three gas cylinders removed from the trailer.

Note: Ensure all liquids are safely disposed of in accordance with local area environmental procedures.

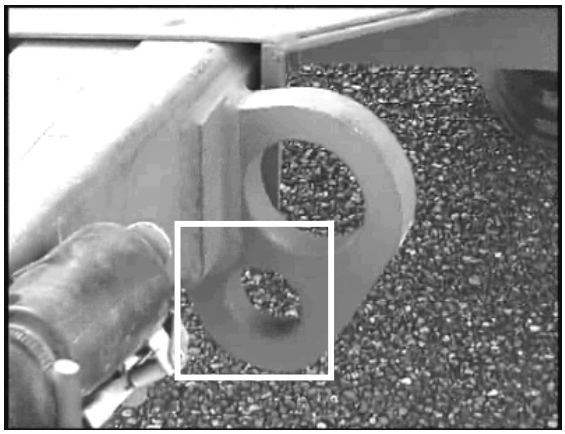
Cold Temperature Storage (outdoors) – The weld shop is equipped with a roof tarp cover that should be installed if the unit is left/stored in an outside cold environment. This tarp will prevent snow and ice buildup on the roof and door tops. It is provided only for use during storage mode, remove the tarp during transport mode.

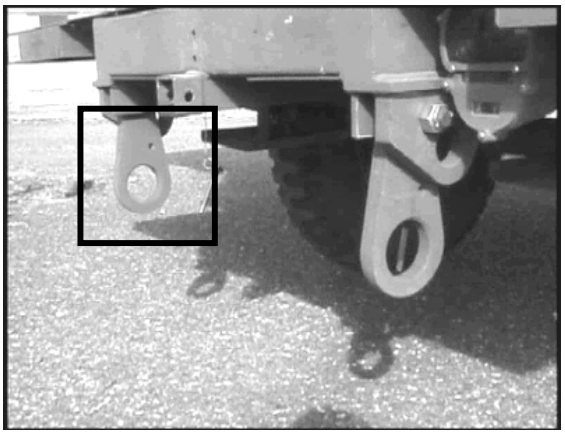
The tarp is rectangular and will best cover the roof and doors with the longer length front-to-rear over the roof and the shorter length side-to-side. The tarp has bungie cords attached to various tiedown holes on the tarp. Connect the bungie cords to the trailer frame structure securing the tarp over the roof and tops of the doors.

The tarp shall not be deployed on the roof during transport. Stow tarp inside enclosure during transport.

SHIPPING ON ANOTHER VEHICLE (Flatbed/Train/etc.)

- Perform routine storage tasks.
- Adjust the caster wheel to level the trailer.
- Utilize the four tiedown devices mounted on the trailer.
- Ensure the tarp is secured in the enclosure.

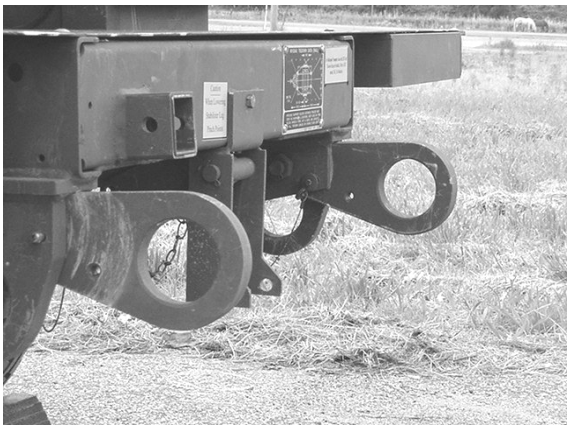




Shipping via Helicopter

- Ensure the tarp is secured in the enclosure.
- Store the wheel chocks in the RF side enclosure.
- Raise and pin the stabilizer legs.
- Attach the lifting cable to the four lifting devices mounted on the trailer (two on the tongue and two under the rear end of the workbench). The rear lifting devices should be pinned such that the lift device is extended beyond the workbench.
- Install four roof tiedown straps, two front-to-rear and two side-to-side.

Helicopter Lift Points



Secure Rear Lift Devices

TMWSS/SEW
MAINTENANCE INSTRUCTIONS

PARTS LIST

Scope – The weld shop manual consists of three groups of parts:
- M103-A3 trailer repairable/replaceable parts
- Commercial weld shop replacement parts
- Detail repair parts to TMWSS/SEW commercial equipments such as welder, air compressor, etc.

M103-A3 – All of these parts are identified in the Army manual TM 9-233-213-14&P (Tab 5), Appendix F, Repair Parts and Special Tools List. These parts are not included in this manual parts list and should be ordered through the normal Army procedures.

Commercial Replacement Parts – The parts that are included in this section of the manual are the commercial parts that are supplied as commercial parts of the TMWSS/SEW weld shop.

Ordering of These Replacement Parts – Items without NSNs can be ordered from our website, www.weldsupply.net. Use the website "ordering form" and email the information. A response will be provided via email/fax within 24 working hours. The form provides options for delivery including 24-hour domestic via express/overnight delivery. We maintain a quantity of spare parts in our inventory to support your needs.

Detail Repair Parts to Weld Shop Equipments – Each commercial manual in Tabs 6 thru 12 contains a list of parts that the manufacturer of that specific piece of equipment has identified in their manual. These parts can also be ordered via the website and we can advise you if the manufacturer's warranty covers the requested parts.

Requisitioning Parts from Commercial Sources – All of the tools and equipments are available on the commercial market form various sources and may be procured locally from these sources.

Repairable Equipments – A recommended list of repairable TMWSS subsystems is provided below. This list of repairable parts was identified based upon the estimated cost of repair versus replacement.

Recommended Repairable Parts
- Trailblazer welder
- Air compressor
- High frequency unit
- Wire feeder

Power Manufacturing will repair these items if desired. We maintain a replacement/exchange inventory of these items. Upon receiving one of these items for repair, we will ship a replacement item within 24 hours. The returned item will be troubleshot for a fixed fee and a report of the problem emailed to the sender identifying the cost of the repair.

The list of TMWSS or SEW parts, starting on page 4-43 and 4-67, can be ordered using www.weldsupply.net or by calling 800-769-3585.

TM 9-4940-567-13&P

TMWSS/SEW

Parts Order Form

Email to _____ Fax to _____

From	
Name	
Organization	
Address	
Phone #	
Fax #	
Email	
(Expect response within 24-hour normal workday.)	

Shipping Information (check one)				Charge to:			
	CONUS		OCONUS		VISA		Master Card
					American Express		Government
Priority Designator				Card #			
				Exp. Date			
Required Delivery Date				*(Charges will include shipping cost.)*			

SHIP TO *(if different from above)*			
Name		Phone #	
Organization			
DODAAC			
Customer Document Number (CDN)			

FORWARD TO *(if appropriate)*			
Name			
Organization		DODAAC	
Address			

Parts List #	Quantity	Description

(Add extra page if required)

TM 9-4940-567-13&P

TMWSS/SEW

Parts Order Form

Email to _____ Fax to _____

From	
Name	
Organization	
Address	
Phone #	
Fax #	
Email	
(Expect response within 24-hour normal workday.)	

Shipping Information (check one)				Charge to:			
	CONUS		OCONUS		VISA		Master Card
					American Express		Government
Priority Designator				Card #			
				Exp. Date			
Required Delivery Date				*(Charges will include shipping cost.)*			

SHIP TO *(if different from above)*			
Name		Phone #	
Organization			
DODAAC			
Customer Document Number (CDN)			

FORWARD TO *(if appropriate)*			
Name			
Organization		DODAAC	
Address			

Parts List #	Quantity	Description

(Add extra page if required)

TM 9-4940-567-13&P

TMWSS/SEW

Parts Order Form

Email to _____ Fax to _____

From	
Name	
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Address	
Phone #	
Fax #	
Email	
(Expect response within 24-hour normal workday.)	

Shipping Information (check one)				Charge to:			
	CONUS		OCONUS		VISA		Master Card
					American Express		Government
Priority Designator				Card #			
				Exp. Date			
Required Delivery Date				*(Charges will include shipping cost.)*			

SHIP TO *(if different from above)*			
Name		Phone #	
Organization			
DODAAC			
Customer Document Number (CDN)			

FORWARD TO *(if appropriate)*			
Name			
Organization		DODAAC	
Address			

Parts List #	Quantity	Description

(Add extra page if required)

Note 1: Serial numbers 101-580 were fielded with propylene as the cutting gas. Serial numbers 581 and above were fielded with acetylene as the cutting gas. Users possessing serial numbers 101-580 may utilize the parts list for serial numbers 581 and above if they desire to use acetylene gas, torches, and regulators.
Note 2: Parts List – The following pages identify the parts list for the TMWSS configuration.

TMWSS SERIAL NUMBERS 101-580
Tools & Supplies Parts List

TMWSS Part #	Qty	Unit	Description	Mfg. Part #	CAGE #	NSN #	Ref. Page #
001	1	each	Apron, Welders, Leather	A-A-55098	58536	8415-00-250-2531	1-15
002	1	each	Apron, Welders, Cloth	PD-APRON	80244	8415-01-482-1205	1-15
003	1	pair	Sleeves, Welder's, Type 2, Class 1	A-A-55098	58536	8415-00-164-0513	1-15
004	2	each	Awl, Scratch, Metal Scribing, 3½" Blade, Ice Pick Type	07947-3HMB	9W506	5120-01-430-1402	1-16
005	1	bundle	ANSI/ASME B94.52M, 10", Composite Blade, Standard Tooth Form, Raker Tooth Set, 18 Teeth/Inch, BDL Of Ten	RS 1018	57163	5110-00-277-4587	1-16
006	1	bundle	Blade, Hand Hacksaw, ANSI/ASME B94.52M, 10", Composite Blade, Standard Tooth Form Wavy Tooth Set, 24 Teeth/Inch, Bdl of Ten	31-51024	54940	5110-00-277-4558	1-16
007	1	bundle	Blade, Hand Hacksaw, ANSI/ASME B94.52M, 10", Composite Blade, Standard Tooth Form Wavy Tooth Set, 32 Teeth/Inch, Bdl of Ten	HSS 1032	55719	5110-00-277-4589	1-16
008	1	each	Frame, Hand, Hacksaw, CID A-A-453, Flat Frame Class With Open Grip Handle.	163-20	90808	5110-00-289-9657	1-16
009	1	bundle	Blade, Saw Recip, CID A-A-3089, Style B, Size 2, 14 Teeth/Inch, Pkg Of Five	TMWSS009	08EE1	5130-01-494-0476	1-21
010	1	bundle	Blade, Saw Recip, CID A-A-3089, Style B, Size 2, 18 Teeth/Inch Pkg Of Five	TMWSS010	08EE1	5130-01-494-0074	1-21
011	1	bundle	Blade, Saw Recip, CID A-A-3089, Style B, Size 2, 24 Teeth/Inch Pkg Of Five	TMWSS011	08EE1	5130-01-494-0071	1-21
012	1	each	Screwdriver Set, 6-In-1	TMWSS012	08EE1	5130-01-494-0070	1-16
013	1	set	Screwdriver Set, #6 Thru ¼", Includes Phillips	9-41564	1MD62	5120-01-493-7881	1-21
014	1	each	Brush, Wire, Rotary Cup, CID A-A-2511, 2¾" O.D.	9-64139	1MD62	5130-01-493-9094	1-14
015	2	each	Brush, Wire, Scratch, CID A-A-2078	40402-1BPB	9W506	7920-01-494-5909	1-13
016	1	each	Cable Assembly Electric Power, UL 817 Outdoor Use Cord, Grounding Type Stow-A, 50 Ft LG.	TMWSS016	08EE1		2-26
017	2	each	Welder Lug Connector, Quick Disconnect, Female, Black	TMWSS017	08EE1		2-33
018	2	each	Quick Disconnect Connectors, Male, Black On HF Box & Ground Clamp Located In RF Enclosure, Top Shelf	TMWSS018	08EE1		

TMWSS SERIAL NUMBERS 101-580
Tools & Supplies Parts List

TMWSS Part #	Qty	Unit	Description	Mfg. Part #	CAGE #	NSN #	Ref. Page #
019	3	each	Quick Disconnect Connectors, Male, Red On HF Box & Input Reel Cable & Electrode Rod Holder Stored In RF Enclosure, Top Shelf	TMWSS019	08EE1		
020	1	each	Quick Disconnect Connectors, Female, Red On 50-Ft Weld Cable, Output End	TMWSS020	08EE1		
021	2	each	Quick Disconnect Connectors, Female, Black On HF Box & Ground Weld Cable 50-Ft Cable Output	TMWSS021	08EE1		
022	4	each	#1 Cable Lug	TMWSS022	08EE1		
023	2	each	Cable Welding Ext. #1 Flexible, Insulated Copper Rated For 250 AMP @ 100ft, 50 Ft L	TMWSS023	08EE1		
024	2	each	Chisel, Cold Hand, ½" Wide Cut, 5¾" Lg.	86A7-16	93389	5110-00-186-7107	1-16
025	2	each	Clamp, C, CID A-A-429, Light Service, Regular Throat, 4" Size	404	0M198	5120-00-180-0908	1-13
026	2	each	Clamp, C, CID A-A-429, Medium Service, Regular Throat, 4" Size	ANC-404C	85164	5120-01-494-1166	1-13
027	1	each	Clamp, Grounding	EG300	30773	3439-00-757-6778	1-12
028	2	each	Clamp, Pliers, Locking Welding Clamp, 9" Overall Length, Jaw Width 2¾", Throat Depth 3", Clamping Capacity 0-1$^{5}/_{8}$"	9R	77243	5120-00-494-1895	1-13
029	1	each	Cleaning Set, Tips	TWE57-021-200	85164	3439-01-M27-3209	1-14
030	1	each	Compressor, Air	FB412-1	0YY01	4130-01-494-2476	1-19
031	1	each	ELL 90° Blk ¼" (Drain)	403369	1QFU5		2-26
032	1	each	ELL 90° Blk St ¼" (Drain)	421340	1QFU5		2-26
033	1	each	NIPP GALV ¼" X 8" (Drain)	421056	1QFU5		2-26
034	1	each	Crayon, Marking (Flat Soapstone), Box = 24	ZZ-T-416	81348	7510-00-281-4849	1-22
035	1	each	Soapstone Holder, Flat	WYP-400-1	85164		1-16
036	3	each	Curtain, Welding	TMWSS036	08EE1		1-15
037	1	each	Cylinder, Compressed Gas, Argon, Gray, DOT 3AA-2265 With CGA 580 Valve And Protective Cap, Approx 9" Dia X 54" Lg, Delivered Empty	RR-C-901	81348	8120-00-282-8077	1-24
038	11	each	Cylinder, “V” Roller, 8"	TMWSS038	08EE1		1-2
039	4	each	Cylinder, Stop Roller, 8"	TMWSS039	08EE1		1-25
040	1	each	4 Ft Hose Assembly, Argon Cylinder To Hose Reel, ¼" Green	TMWSS040	08EE1		1-24
041	6	each	Cylinder Securing Strap	TMWSS041	08EE1		1-2
042	1	each	Inert Brass Fitting	WESAW-15A	92464		
043	1	each	Cylinder, Oxygen, Green, DOT 3AA-2265, With CGA 540 Valve And Protective Cap Approx 9" Dia X 54" Long Delivered Empty	C901/1-15	81348	8120-00-357-7992	1-24
044	1	each	4 Ft Hose Assembly, Oxygen/Propylene Cylinder To Hose Reel, ¼"	TMWSS044	08EE1		1-24

TMWSS SERIAL NUMBERS 101-580
Tools & Supplies Parts List

TMWSS Part #	Qty	Unit	Description	Mfg. Part #	CAGE #	NSN #	Ref. Page #
045	13	each	Roll Shaft $^{5}/_{8}$" X 13¼"	TMWSS045	08EE1		
046	26	each	Roller Pal Nut, $^{5}/_{8}$"	TMWSS046	08EE1		
047	1	each	Cylinder, Propylene	11B257012	59678	8120-01-399-5107	1-24
048	1	each	Hose Assembly, Cylinder To Reel, 2 Ft, ¼" Cylinder To Reel	TMWSS048	08EE1		
049	10	each	Abrasive Disks, 24 Grit, 4½"	ETA250	55719	5130-01-399-1140	1-14
050	10	each	Abrasive Disks, 36 Grit, 4½"	ANSI B74.18	80204	5345-00-271-6997	1-14
051	1	each	Sanding Backing Pad, 4½"	TMWSS051	08EE1		1-14
052	5	each	Cutting Disk, Abrasive, 4½"	TMWSS052	08EE1	5345-01-496-7235	1-14
053	1	each	Grinding Wheel	TMWSS053	08EE1		1-14
054	1	each	Arbor Insert	TMWSS054	08EE1		1-14
055	1	set	Drill Set, Twist Straight Shank, High Speed Steel, Jobbers Short Length, Fractional Sizes, $^{1}/_{16}$ - ½" Inclusive, Incremented By $^{1}/_{16}$ ^{ths}, With Case.	57852	65400	5133-01-486-2315	1-22
056	1	each	Drill, Electric, ½" Reversible	DW235G	07429	5130-01-454-2840	1-23
057	1	each	Replacement Duplex Hose Assy, Welding For Item 142.	TMWSS057	08EE1		
058	1	box of 50	Electrode, Carbon, $^{3}/_{16}$" X 12 " Round, Copper Clad, DC For Air Arc Gouging, 681-7-P31612	PROP31612	85164	3439-01-502-5924	1-19
059	1	box of 50	Electrode, Carbon, $^{5}/_{32}$" X 12 " Round, Copper Clad, DC For Air Arc Gouging	PROP53212	85164	3439-01-496-1126	1-19
061	2	spool	Electrode, Wire Aluminum Welding, .045", 4043 Aluminum, 16 Lb Spool	WEL53-5636416	85164	3460-01-493-8945	1-15
062	1	qt	Aluminum Cleaner	TWE57-021-200	85164		1-22
063	1	lb	Aluminum Solder	WEL500181	85164	3439-01-501-8392	1-22
064	1	4 oz.	Aluminum Flux	WELSCAF4	85164	3439-01-501-8395	1-22
065	3	spool	Electrode, Wire, $^{1}/_{16}$" Flux Cored, Three 10-Pound Spools	HOBF21B11610	85164	3439-01-493-7676	1-18
066	1	each	Tall Ammo Box/Green	1481GRN	1NPG8		1-18
067	30	lot	Electrode, Welding, AWS A5.1 E6010, 0.156 X 14" Lg.	RAC0 7 5/32X14	59711	3439-00-262-2671	1-19
067a			Electrode, Welding As Required By User				
067b			Moisture Stabilizer, Electrode As Required By User	MIL-M-45558	81349	3439-00-440-0090	
068	1	each	Extinguisher, Fire, 10 Lb Type ABC	A-A-393	58536	4210-00-889-2491	1-18
069	1	each	Vehicle Mounting Bracket	1-651	2P651		
070	1	each	Face Shield Industrial	ANSI Z87.1	80204	4240-00-542-2048	1-15
072	1	each	10" Flat File With Handle	5110-00-249-2850	80244	5110-00-249-2850	1-16
073	1	each	12" Half-Round File With Handle	5110-00-252-4015	80244	5110-00-252-4015	1-16
074	1	each	14" Half-Round Pipeliner With Handle	TMWSS074	08EE1	5110-01-501-4266	1-16

TMWSS SERIAL NUMBERS 101-580
Tools & Supplies Parts List

TMWSS Part #	Qty	Unit	Description	Mfg. Part #	CAGE #	NSN #	Ref. Page #
075	1	each	First Aid Kit	6170-6 TY2	04024	6545-00-656-1093	1-25
079	1	pkg	Flint Tip, Friction Igniter, 5 Per Pack	3001X	91203	5120-00-965-0603	1-14
080	1	each	Flux, Brazing, Powder, AWS A5.8, Class FB3-A For Steel, Copper And Nickel, 1Lb Can	TMWSS080	08EE1	3439-01-493-5999	1-22
081	1	pair	Gloves, Welder's, Large	A-A-50022	58536	8415-00-268-7859	1-15
082	1	pair	Gloves, TIG	A-A-50022	58536	8415-00-268-7859	1-15
083	1	pair	Mittens, Heat Protective, Ambidextrous, Rated For 400° F	MIL-M-11199F	81349	8415-01-092-0039	1-15
084	1	each	Goggles, Welder's	WA60-5H0746-0315	74936	4240-00-816-3819	1-15
085	1	each	#5 Filter Plate For Item 56	GREFS-155	85164		1-22
086	1	each	Gun, Air Blow, Self-Relieving Safety-Type W/Air Screen. Compliant With OSHA Regulations For Pressure Relief And Noise With Continuous Use, Female ¼-18 NPT Thread	A-A-55543 TY 2 CL 1 ST A	58536	4940-00-333-5541	1-22
087	3	each	Hilton Coupler, One Air Blower, One Arc Gouging, One Air Hammer (Box Of Ten)	TMWSS087	08EE1		
088	1	set	Hammer, Scaling Set/Air Hammer	PH2050	55719	5130-01-355-2073	1-23
089	1	each	Hammer, Hand, 2 Lb Head	TMWSS089	08EE1	5120-01-494-5908	1-16
090	1	each	Hammer, Welder's, Chipping	39865-0CBA	85164	5120-01-494-0900	1-13
091	1	each	Helmet, Welder's, 2x4 View Area	TMWSS091	08EE1	4240-01-493-3648	1-15
092	5	each	Clear 2" X 4" Cover Plates For Item 62 And 56	TMWSS092	08EE1	4240-01-493-3643	1-22
093	1	each	Holder, Electrode Size 300A	TMWSS093	08EE1	3439-01-493-5994	1-12
094	1	each	Hose, Air Compressor To Reel Assembly, 1 Ft.	A04250-49P-4MPX	62727		
095	1	each	Hose, Air Assembly, Air, 50 Ft	TMWSS095	08EE1		
096	1	each	Hose Assy, Argon	TMWSS096	08EE1		
097	1	pkg	Igniter, Friction, 5 Per Pack	TJ212	90598	5120-00-965-0326	1-14
098	1	each	Level, Magnetic, 9", Aluminum Torpedo Body With V-Groove, 3-Vial Bubbles, Including 1-Level, 1 Plumb And 1-45°, Top Reading Window For Level	TMWSS098	08EE1	5210-01-494-2283	1-16
099	1	each	Light Extension, A/C Portable Work Light, Drop Light w/ 10 Ft Cord	42706-2VGA	9W506	6230-01-493-6001	1-21
100	1	each	Light Bulb, 75 Watt	TMWSS100	08EE1		
101	1	each	Oiler, Hand Pump, Class B, ¼ Pint Capacity	TMWSS101	08EE1	4930-01-493-8546	1-23
102	1	each	Pail, Utility, 7½" Nominal Size	TMWSS102	08EE1		1-20
103	1	each	Pliers, Diagonal, Cutting, Type I, Style A, 7½" Nominal Size	220-7NS	75437	5110-00-222-2708	1-16
104	1	each	Pliers, Slip Joint, 8", Straight Nose, Combination Jaw, With Cutter	18P	45586	5120-00-537-3375	1-16

TMWSS SERIAL NUMBERS 101-580
Tools & Supplies Parts List

TMWSS Part #	Qty	Unit	Description	Mfg. Part #	CAGE #	NSN #	Ref. Page #
105	1	each	Needle-Nose Pliers, 8" w/ Side Cutter	9-45103	1BBB3	5120-01-398-9398	1-16
106	20	boxes	Ear Plugs, 100 Ear Plugs, 5 Pair Per Box	010	08743	6515-00-721-9092	1-13 1-14 1-21
107	1	each	Prybar, 17" Lg, Tapered End And Offset Wedge End, ¾ Inch Hex Stock	TMWSS107	08EE1	5120-01-493-9095	1-16
108	1	each	Punch, Center Solid, ½" Dia Body, 4" OAL Min	TMWSS108	08EE1	5120-01-493-7882	1-16
109	2	boxes	Respirator, Air Filtering, 12/Box	9-USADN95V	1BBB3	4240-01-493-7329	1-21
109a	1	each	Respirator, Air Filter (3M)	8233 N100	50378	4240-01-452-8348	1-20
110	10	ft	10 Gauge Wire, 10 Ft. Length	TMWSS110	08EE1		
111	1	each	Ground Rod Assy	635837	14045	5975-01-494-7799	
112	1	bundle	Flux-Coated Bronze Rod, $^{1}/_{8}$", 36", 5 Lbs.	WEL 15FC1836	85164	3439-01-493-7747	1-20
113	1	5 lb bundle	Rod, Welding, Aluminum, AWS A5.7 RSG70A $^{3}/_{32}$" X 36" Lg, 5 Lb Bundle	WEL 535611636	85164	3439-01-493-7856	1-20
114	1	5 lb bundle	Rod, Welding, Steel AWS A5.9 ER347, .062" X 36" Lg, 5 Lb Bundle	WELRG4511634	85164	3439-01-508-1808	1-20
115	3	each	36" Long Rod Guard	TMWSS115	08EE1		1-20
116	6	each	14" Long Rod Guard	TMWSS116	08EE1		1-19
117	1	each	Sander/Grinder, 4½", Vertical	143373-9151	1LLB3	5130-01-493-9098	1-14
118	1	each	Handle	TMWSS118	08EE1		1-14
119	1	each	Disc Wrench	TMWSS119	08EE1		1-14
120	1	each	Saw, Reciprocating	143381-9151	1LLB3	5130-01-493-9096	1-21
121	1	1 lb spool	Solder, 95/5	WEL-955181	85164	3439-01-493-7712	1-22
122	1	each	Flux, Soldering, For Item 90	O-F-506	81348	3439-00-255-4566	1-22
123	1	each	Square, Carpenter's Steel, 16" X 24"	TMWSS123	08EE1	5210-01-494-2284	1-24
124	1	each	Square, Comb, 12"	TMWSS124	08EE1	5210-01-494-2282	1-16
125	1	each	Tape, Measuring, Retractable, 12 Ft Length, Steel Blade, ¾" Wide W/Abrasive Resistant Coating	33-312	1CV05	5210-01-428-5402	1-16
126	1	each	Temperature Indicating Crayon, 200°	TEM-TEMPSTICK-200	97464	6680-01-493-3226	1-14
127	1	each	Temperature Indicating Crayon, 400°	TEM-TEMPSTICK-400	85164	6685-01-493-3229	1-14
128	1	each	Tig Module, High Freq	042388	40608		1-18

TMWSS SERIAL NUMBERS 101-580
Tools & Supplies Parts List

TMWSS Part #	Qty	Unit	Description	Mfg. Part #	CAGE #	NSN #	Ref. Page #
129	1	each	Torch Outfit, Air Arc Gouging	TMWSS129	08EE1		1-12
130	1	each	Torch Outfit, TIG, With Amp/Contactor Thumb	TMWSS130	08EE1		1-12
131	1	each	Collet, Size $^{1}/_{16}$"	TMWSS131	08EE1		1-22
132	1	each	Collet, Size $^{3}/_{32}$"	TMWSS132	08EE1		1-22
133	1	each	Collet, Size $^{1}/_{8}$"	TMWSS133	08EE1		1-22
134	1	each	Gas Lens, Size $^{1}/_{16}$"	TMWSS134	08EE1		1-22
135	1	each	Gas Lens, Size $^{3}/_{32}$"	TMWSS135	08EE1		1-22
136	1	each	Gas Lens, Size $^{1}/_{8}$"	TMWSS136	08EE1		1-22
137	1	each	Ceramic Cup, Size 6	TMWSS137	08EE1		1-22
138	1	each	Ceramic Cup, Size 7	TMWSS138	08EE1		1-22
139	1	each	Ceramic Cup, Size 8	TMWSS139	08EE1		1-22
140	2	each	Back Cap (Long)	TMWSS140	08EE1		1-22
141	1	each	Adapter Power Cable	TMWSS141	08EE1		2-20
142	1	each	TIG Gas Lens Insulator	TMWSS142	08EE1		1-22
143	30	each	Electrode, Tungsten, AWS A5.12, 0.062" X 7.0" Lg	ANC-116X72G	2N560	3439-01-508-3193	1-22
144	30	each	Electrode, Tungsten, AWS A5.12, 0.094" X 7.0" Lg	ANC-332X72G	2N560	3439-01-508-2226	1-22
145	30	each	Electrode, Tungsten, AWS A5.12, 0.125" X 7.0 Lg	ANC-18X72G	2N560	3439-01-508-2228	1-22
146	1	each	Miller SP 32P Wire Feeder, TMWSS Units #0100-0440	MIM159928021	40608		1-18
			OR				
146a	1	each	Miller Suitcase 12VS, TMWSS Units #0441 & Higher	MIM194941	40608		1-18
147	1	each	MIG Gun/Steel Liner	MIM169595	40608		1-12
148	1	each	MIG Gun/Aluminum Liner	MIL194014	40608		1-12
149	1	each	Field Contactor Kit Installed In HF Box	TMWSS149	08EE1		
150	1	each	Field Solenoid Kit, For Argon Installed In HF Box	TMWSS150	40608		
151	1	each	Drive Roll Kit, .045 Aluminum	079599	40608		1-22
152	1	each	Drive Roll Kit, .045 Flux Coated	079607	40608		1-22
153	5	each	.045" Contact Tip	TMWSS153	08EE1		1-22
154	1	each	.045" Steel Liner	TMWSS154	08EE1		
155	1	set	Torch Set, Oxy-Propylene	TMWSS155	08EE1		1-13
156	1	each	Torch Handle & 2 Check Valves	TMWSS156	08EE1		1-13
157	1	each	Torch Cutting Attachment	TMWSS157	08EE1		1-13
158	1	each	Brazing Tip, Size 3	TMWSS158	08EE1		1-13
159	1	each	Brazing Tip, Size 5	TMWSS159	08EE1		1-13

TMWSS SERIAL NUMBERS 101-580
Tools & Supplies Parts List

TMWSS Part #	Qty	Unit	Description	Mfg. Part #	CAGE #	NSN #	Ref. Page #
160	1	each	Brazing Tip, Size 9	TMWSS160	08EE1		1-13
161	1	each	Heating Tip	TMWSS161	08EE1		1-13
162	1	each	Preheat Cutting Tip, Size 1	TMWSS162	08EE1		1-13
163	1	each	Preheat Cutting Tip, Size 4	TMWSS163	08EE1		1-13
164	1	each	Preheat Cutting Tip, Size 6	TMWSS164	08EE1		1-13
165	1	each	10-Way Wrench	TMWSS165	08EE1		1-13
166	1	each	Valve, Argon, Pressure Regulator, Heavy Duty	TMWSS166	08EE1		1-13
167	1	each	Valve, Regulator, Air	TMWSS167	08EE1		
168	1	each	Valve, Oxygen, Pressure/Flowmeter	TMWSS168	08EE1		1-13
169	1	each	Valve, Propylene, Pressure/Regulator	TMWSS169	08EE1		1-13
170	1	each	Vise, Machinist's, Heavy-Duty Combination Bench And Pipe Vise, 360° Swivel Base With Locking Clamp, 5" Width Jaw, Maximum Opening Of Not Less Than 5½".	TMWSS170	08EE1		1-24
171	1	each	Welding Machine, Trailblazer 300D, Units #0100-0440*	MIM903565	40608		1-25
			OR				
171a	1	each	Welding Machine, Trailblazer 301D, Units #0441 & Higher*	MIM903731071	40608		1-25
173	1	set	Crescent Wrench Set, Sizes 4", 6", 8", 10", 12"	944036	1BBB3	5120-01-501-0831	1-20
174	1	set	Wrench Set, Socket, Units #506 & Lower	933101	1BBB3	5120-01-494-5907	1-20
			OR Authorized Replacement				
174.1	1	set	Tool Kit, General Mechanics, Units #507 & Higher	19222	1AR81	5180-01-437-7893	1-20
175	1	set	Allen Wrench Set, 13 Sizes, .050" Thru 3/8"	AW1013K	55719	5120-01-335-1509	1-20
176	1	set	Metric Allen Wrench Set, 14 Sizes, 1.5mm Thru 10mm	94603/946684	1BBB3	5120-01-493-9097	1-20
177	1	each	Trailer Chassis M103-A3(GFC)	M105A3	62239		1-9

*Serial #'s 0389 through 0401 (with the exception of 0394 and 0399) shall have the Trailblazer 301D welder.

NOTE: Part number 172, Deleted

TMWSS SERIAL NUMBERS 101-580
Repair Parts List

TMWSS Part #	Qty	Unit	Description	Mfg. Part #	CAGE #	NSN #	Ref. Page #
180	1	each	Left Front Complete Enclosure	TMWSS180	08EE1		1-2
181	1	each	Left Enclosure, Front	TMWSS181	08EE1		1-2
182	1	each	Left Rear Complete Enclosure	TMWSS182	08EE1		1-2
183	1	each	Left Enclosure, Rear	TMWSS183	08EE1		1-2
184	3	each	Shelf, Enclosure, Rt Front, 10 Gauge Alum	TMWSS184	08EE1		1-2
185	1	each	Shelf, Enclosure, Lft Front, 10 Gauge Alum	TMWSS185	08EE1		1-2
186	2	each	Shelf, Enclosure, Rt Rear, 10 Gauge Alum	TMWSS186	08EE1		1-2
187	3	each	Shelf, Enclosure, Lft Rear, 10 Gauge Alum	TMWSS187	08EE1		1-2
188	1	each	Complete Right Front Enclosure Assembly	TMWSS188	08EE1		1-2
189	1	each	Right Enclosure, Front	TMWSS189	08EE1		1-2
190	1	each	Complete Right Rear Assembly	TMWSS190	08EE1		1-2
191	1	each	Right Enclosure, Rear	TMWSS191	08EE1		1-2
192	8	each	Hinge, Side Door Panel Enclosures, 4" Each	3312HINGE	1E045		
193	2	each	Door Handle Cams For Front & Rear Doors	8702	1E045		
194	2	each	Front & Rear Door Handles	71	1E045		
195	4	each	Front & Rear Doors Panel, Left Or Right	TMWSS195	08EE1		1-2
196	8	each	Rubber Fasteners: Roof, Front & Rear Doors	35R	1E045		2-12
197	2	each	Rear Side Door Panel - Fits Left & Right Enclosures	TMWSS197	08EE1		
198	2	each	Front Side Door Panel, Left Or Right	TMWSS198	08EE1		
			Side Lights & Reflectors				
199	2	each	Side Lights (Red), Rear, 24 Volt, Flush Mounted	TMWSS199	08EE1		
200	2	each	Side Lights (Amber), Front, 24 Volt, Flush Mounted	TMWSS200	08EE1		
201	4	each	3" Amber Reflectors	TMWSS201	08EE1		
202	4	each	3" Red Reflectors	TMWSS202	08EE1		
203	25	ft	14 Gauge Electrical Wire	TMWSS203	08EE1		3-4
204	4	each	24 Volt Bulbs	749-9656	1B0K1	6240-01-064-8889	
205	1	each	Top - Center Section -– Double Wall Construction	TMWSS205	08EE1		
206	2		Top - Left Or Right Sides -– Double Wall Construction	TMWSS206	08EE1		
207	4	each	Springs	TMWSS207	08EE1		
208	1	32 ft.	Roof Rubber Gasket	TMWSS208	08EE1		
			Plastic Boxes				
209	2	each	Large Flat Blue Box	TMWSS209	08EE1		
210	3	each	Crate, Blue	TMWSS210	08EE1		

TMWSS SERIAL NUMBERS 101-580
Repair Parts List

TMWSS Part #	Qty	Unit	Description	Mfg. Part #	CAGE #	NSN #	Ref. Page #
211	8	each	Tool Case/Foam Egg Crate Inside	TMWSS211	08EE1		
212	8	pair	18" Drawer Slide, Pair	301-18	1E045	5340-01-493-8836	
213	1	each	Hose Reel W/Spring Rewind For ½" OD Hose To 500PSI, Green For Argon	CA-12881	00503	4940-01-493-8917	1-14
214	1	each	Hose Reel W/Spring Rewind For ½" OD Hose To 500PSI, Red For Air	CA-12882	00503	4940-01-493-8920	1-19
215	1	each	Coupler, Female	TMWSS215	08EE1		1-19
216	2	each	Bumper Stop ¼" Id Hose (Donut)	TMWSS216	08EE1		
217	2	each	Power Reel W/Spring Retract For (3) Cond Cord	121120305011	00503	4940-01-493-9147	1-14
218	2	each	20 Amp 125 V Male Plug	TMWSS218	08EE1		
219	1	each	Hose Reel W/Spring Rewind For Oxy-Propylene Twin Hose	SHW-M-150	08EE1	4940-01-493-8991	1-24
220	2	each	Cable Reel W/Spring Rewind For #1 Weld Cable (Electrode & Work)	147500005011	00503	4940-01-493-8931	1-17 1-23
221	1	each	20 Amp 125 V Connector	TMWSS221	08EE1		
222	4	set	Locks	TMWSS222	08EE1		
223	1	set	Decals, Various	TMWSS223	08EE1		1-7
224	1	each	Tmwss ID & CG Identification Plate	TMWSS224	08EE1		
225	1	each	80" Flexible Exhaust Extension, $1^5/_8$" Id	TMWSS225	08EE1		
226	1	each	Exhaust Pipe Hard Wall	TMWSS226	08EE1		
227	2	each	1¾" Exhaust Clamp	TMWSS227	08EE1		
228	1	each	Funnel For Maintenance Of Installing Liquids	TMWSS228	08EE1		1-20
229	2	each	Flash Arrestor, Red; Flash Arrestor, Green	TMWSS229	08EE1		1-13
230	2	each	Wall-Mounted Adjustable Work Surface Lights, 150 Watt	TMWSS230	08EE1		1-25
231	5	each	Stabilizer Jacks & Vise Detent Pins	TMWSS231	08EE1		
232	1	lot	Technical Manuals	TMWSS232	1T5B2		1-21
233	1		Electrical Wiring Assembly	TMWSS233	08EE1		3-3/4
234	1	each	Box, Electrical (Main)	TMWSS234	08EE1		3-3
235	4	each	Cover Plate	TMWSS235	08EE1		3-3
236	1	each	A/C Out Pole, 3 Wire	TMWSS236	08EE1		3-3
237	1	each	Toggle Double-Pole Double-Throw On/On, 20 Amp Switch	TMWSS237	08EE1		3-2
238	1	10 ft	Wire Assembly #1 Utility Power Reel To A/C Dist. Box	TMWSS238	08EE1		3-3
239	2	each	3-Pin Male Connector & Hardwire	TMWSS239	08EE1		3-3

TMWSS SERIAL NUMBERS 101-580
Repair Parts List

TMWSS Part #	Qty	Unit	Description	Mfg. Part #	CAGE #	NSN #	Ref. Page #
240	1	4 ft	Wire Assembly #2 Welder To A/C Dist. Box	TMWSS240	08EE1		3-3
241	1	each	Cover, Blank Waterproof	TMWSS241	08EE1		3-3
242	1	10 ft	Wire Assembly #3 A/C Dist. Box To 50 Ft. Reel Output	TMWSS242	08EE1		3-3
243	3	each	Electrical Box, Weather Proof	TMWSS243	08EE1		3-3
244	2	each	Cover, Weatherproof Receptacle	TMWSS244	08EE1		3-3
245	4	each	Seal-Tight Connectors	S2112	1SMV3		3-3
246	1	6 ft	Wire Assembly #4, Air Compressor Dist Box To Reel Box	TMWSS246	08EE1		3-3
247	6	each	¾" Romex Connectors	TMWSS247	08EE1		3-3
248	1	each	Hole Round W/Coverplate	TMWSS248	08EE1		3-3
249	1	each	½" Hole Round Electric Box	TMWSS249	08EE1		3-3
250	1	each	Roof Rope Assembly	TMWSS250	08EE1		1-12
251	1	each	Battery (650 Cold Start)	67MF/TYPE 1	19207	6140-01-446-9498	1-24
252	2	case	Battery Cables, 48", Red & Black	1-48	20038		1-24
253	1	each	Battery Box & Lid	TMWSS253	08EE1		1-24
254	1	set	Securing Mechanism	TMWSS254	08EE1		
255	2	each	Clip & D-Ring	LH300	1E045		
256	1	each	Tarp Cover, 12 X 10 Ft., 8 Mil Plastic	TMWSS256	08EE1		1-14
257	8	set	31" Tiedowns, Includes 2 Spares	00180-1RHA	9W506	5340-01-493-6873	
258	3		15" Tiedowns, Includes 2 Spares	00181-4RHA	9W506	5340-01-493-6871	
259	10		21" Tiedowns, Includes 2 Spares	00182-4RHA	9W506	5340-01-493-6864	
260	2	pair	Wheel Chock With Rope	RC815	032T9	2540-01-494-0078	1-12
261	1	each	Rod Ground, Type III, Class B	A-A-55804 TYPE IIIB	58536	5975-00-952-1791	1-24
262	1	each	Back Insulator (Torch Outfit)	TMWSS262	08EE1		1-22
263	1	Set	Weld Calculations	TMWSS263	08EE1	5180-01-M27-3181	

TMWSS SERIAL NUMBERS 101-580
Replacement Fab Parts List

TMWSS Part #	Qty	Unit	Description	Mfg. Part #	CAGE #	NSN #	Ref. Page #
400	8		Hooks For Welding Curtains	TMWSS400	08EE1		1-12
401	1	each	Portable Roller Frame	TMWSS401	08EE1		1-2
402	1	each	Vise Mount Assembly	TMWSS402	08EE1		1-2
403	2	each	Weld Machine Assembly Mounts	TMWSS403	08EE1		
404	1	each	Right Front Vertical Support Structure	TMWSS404	08EE1		
405	1	each	Left Front Vertical Support Structure	TMWSS405	08EE1		
406	8	each	Hinge, Front & Rear Doors, Steel	TMWSS406	08EE1		4-16
407	4	each	Side Door Stiffener	TMWSS407	08EE1		
408	4	each	Door Latch For Right Long Side	TMWSS408	08EE1		
409	1		Door Latch For Right Short Side	TMWSS409	08EE1		
410	1		Door Latch For Left Long Side	TMWSS410	08EE1		
411	1		Door Latch For Left Short Side	TMWSS411	08EE1		
412	8		Door Lock Spacer For Side Doors	TMWSS412	08EE1		
413	1	each	Roof Assembly Raising Structure	TMWSS413	08EE1		
414	1		Roof Stiffeners & Rods	TMWSS414	08EE1		
415	4		Lock Cables	TMWSS415	08EE1		
416	2		Trailer Stabilizer Jack Assembly	TMWSS416	08EE1		2-8
417	1	each	Structural Main Frame	TMWSS417	08EE1		1-9
418	1	each	Work Bench	TMWSS418	08EE1		1-2
419	1	each	Deck	TMWSS419	08EE1		
420			Air Reel Brackets	TMWSS420	08EE1		
421			Shelf Stabilizer Bars	TMWSS421	08EE1		
422			Cabinet Bars	TMWSS422	08EE1		
423			Side Door Locks, Spacers, Front	TMWSS423	08EE1		
424			First Aid Kit Bracket	TMWSS424	08EE1		
425			TIG Model Bracket, HF	TMWSS425	08EE1		
426			Roof Stabilizer Bars	TMWSS426	08EE1		
427			Wire Feeder Metal Bracket	TMWSS427	08EE1		
428			Metal Bracket, High Frequency	TMWSS428	08EE1		
429			36" Rod Guard Bracket	TMWSS429	08EE1		
430			Fire Extinguisher Bracket	TMWSS430	08EE1		
431			14" Rod Guard Bracket	TMWSS431	08EE1		

TMWSS SERIAL NUMBERS 101-580
Replacement Fab Parts List

TMWSS Part #	Qty	Unit	Description	Mfg. Part #	CAGE #	NSN #	Ref. Page #
432			Round Cover Plates For Elect Box	TMWSS432	08EE1		
433			Round Elect Box For Elect Reels	TMWSS433	08EE1		
434			Roof Arms, Flat	TMWSS434	08EE1		
435			Roof Arm Chains	TMWSS435	08EE1		
436			Roof Arm Liners	TMWSS436	08EE1		
437			Roof Arms, Tube	TMWSS437	08EE1		
438			$^{3}/_{8}$ To ½ Reducers	TMWSS438	08EE1		
439			Cylinder Secure Stops	TMWSS439	08EE1		
440			¾ Romax Connectors	TMWSS440	08EE1		
441			Vise Transport Mount	TMWSS441	08EE1		2-12
442			2" Angle Door Stop	TMWSS442	08EE1		
443			Chains	TMWSS443	08EE1		
444			Hinge Spacers, Side Door Locks	TMWSS444	08EE1		
445			Removal Rollers	TMWSS445	08EE1		
446			Front & Rear Top Latch Bars	TMWSS446	08EE1		2-10
447			Side Door Latch Washer Inside	TMWSS447	08EE1		

TMWSS SERIAL NUMBERS 101-580
Equipment Consumable Parts List

TMWSS Part #	Qty	Unit	Description	Mfg. Part #	CAGE #	NSN #	Ref. Page #
500	5		Welder Air Filter	TMWSS500	08EE1	4310-01-493-6542	
501	11		Welder Oil Filter	TMWSS501	08EE1	4330-01-493-6536	
502	8		Welder Fuel Filter (Primary)	TMWSS502	08EE1	4330-01-493-6551	
503	4		Welder Fuel Filter (Secondary)	TMWSS503	08EE1	4330-01-493-6771	
504	1		Welder Fan Belt	TMWSS504	08EE1	3030-01-493-8862	
505	1		Welder Upper Radiator Hose	GWLBL-E-001/29	K0030	4720-99-839-9929	
506	1		Welder Lower Radiator Hose	GWLBL-E-001/30	K3750	4720-99-839-9930	

TMWSS SERIAL NUMBERS 101-580
Equipment Consumable Parts List

TMWSS Part #	Qty	Unit	Description	Mfg. Part #	CAGE #	NSN #	Ref. Page #
507	2		Welder Fuse, 25A, 125v (F1&2)	TMWSS507	08EE1	5920-01-493-6841	
508	1		Welder Fuse, 15A, Slow Blow (F6)	TMWSS508	08EE1	5920-01-493-7976	
509	1		Welder Fuse, 12A, Slow Blow (F5)	TMWSS509	08EE1	5920-01-493-7964	
510	4		HF251D-1 Point	TMWSS510	08EE1	5996-01-493-7962	
511	1		S-32P Fuse, 5A, 25v (F-1)	TMWSS511	08EE1	5920-01-494-0183	

TMWSS
INVENTORY CONTROL FORM
(HAND RECEIPT)
Applicable to TMWSS serial numbers 101-580

**********PLEASE READ**********

INTENT

The following inventory control form (Hand Receipt) was developed to assist the end-user in accomplishing inventory requirements. The use of this form, in conjunction with side panel inventory labels attached directly to the equipment, should prove to provide the quickest, most efficient method for required inventories.

USE

This form was created to flow directly with each separate compartment and label inventory on the TMWSS. Once the equipment and compartments are opened, use the first column "Enclosure Code" of this inventory form and locate the duplicate panel inventory sticker. RR1 is located on the Right Rear of the unit and so on.

This form was also created to alleviate confusion when inventorying specific Sets, Kits, on the TMWSS. To lessen this confusion, we have broken down these Sets, Kits, etc. to offer proper annotation during inventory for missing, broke, or damaged items. **NOTE**: The Tools & Supplies Parts list located at the end of Tab 4 in the manual should NOT be used as an inventory checklist. This is a manufacturer's parts list and should only be referenced when parts, other than what are on the inventory labels, need to be researched and ordered.

TMWSS Serial Numbers 101-580
INVENTORY CONTROL FORM

FROM:	**TO:**	**COMPONENT HAND RECEIPT:**
END ITEM STOCK NUMBER: 4940-01-454-9877	**END ITEM DESCRIPTION: Trailer Mounted Weld Shop Set (TMWSS)**	
PUB NUMBER: TM 9-4940-567-13&P	**PUB DATE: 01 October 2003**	**LINE ITEM NUMBER: W48391**

ENCLOSURE CODE	PART NUMBER	ITEM DESCRIPTION	UNIT	QTY AUT	A	B	C	D	E	F	G	H	I	J	K
RR1	036	Welding Curtain	EA	3											
	001	Welding Apron, Leather	EA	1											
	002	Welding Apron, Cloth	EA	1											
	003	Welding Sleeves	PR	1											
	081	Welding Gloves	PR	1											
	082	TIG Welding Gloves	PR	1											
	083	High Heat Mittens	PR	1											
RR2	091	Helmet	EA	1											
	070	Face Shield	EA	1											
	084	Goggles, Welders	PR	1											
RR3	061	Aluminum Wire, 16 Lb	SP	2											
RR4	089	Hammer, Hand, 2 Lb	EA	1											
	124	Square, Combination	EA	1											
	098	Level, Torpedo	EA	1											
	125	Tape, Measuring, 12 Ft	EA	1											
	035	Holder, Soapstone	EA	1											
	012	Screwdriver, 6-in-1	SE	1											
	103	Cutters, Diagonal	EA	1											
	104	Pliers, Slipjoint	EA	1											
	105	Pliers, Needlenose	EA	1											
	108	Punch, Center	EA	1											
	024	Chisel, Cold	EA	2											
	004	Awl, Scratch	EA	1											
RR5	008	Frame, Hacksaw	EA	1											
	005	Blades, Hacksaw, 18 Tooth (10 per Bd)	BD	1											
	006	Blades, Hacksaw, 24 Tooth (10 per Bd)	BD	1											
	007	Blades, Hacksaw, 32 Tooth (10 per Bd)	BD	1											
	072	File, Flat, 10"	EA	1											
	073	File, Half-Round, 12"	EA	1											
	074	File, Half-Round, 14"	EA	1											
	107	Bar, Wrecking	EA	1											
RR6	220	Reel, Welding Cable	EA	1											
RF1	129	Torch Outfit, Air Arc Cutting/Gouging	EA	1											
	147	MIG Whip, Aluminum	EA	1											
	148	MIG Whip, Steel	EA	1											
	130	TIG Torch Handle, W/Thumb Control	EA	1											
	027	Clamp, Grounding	EA	1											
	093	Holder, Electrode	EA	1											
	400	Rods, Curtain	EA	8											
RF2	260	Chocks, Wheel	EA	2											
	250	Rope, Roof	EA	1											
RF3	106	Ear Plugs	BX	5											
	025	C-Clamps, Light	EA	2											
	026	C-Clamps, Medium	EA	2											
	028	Clamps, Locking, Welding	EA	2											
	015	Wire Brush, Scratch	EA	2											
	090	Hammer, Chipping	EA	1											
RF4	166	Gauge, Argon	EA	1											

ENCLOSURE CODE	PART NUMBER	ITEM DESCRIPTION	UNIT	QTY AUT	A	B	C	D	E	F	G	H	I	J	K
	169	Gauge, Fuel-gas	EA	1											
	168	Gauge, Oxygen	EA	1											
	229	Flash Arrestors, Green/Red, Attached To Oxygen/Fuel-gas gauges	EA	1											
RF5	155	Oxy/Fuel-gas Torch Set	SE	1											
	156	Torch Handle & 2 Check Valves	EA	1											
	157	Torch, Cutting Attachment	EA	1											
	158	Tip, Brazing, #3	EA	1											
	159	Tip, Brazing, #5	EA	1											
	160	Tip, Brazing, #9	EA	1											
	161	Tip, Heating	EA	1											
	162	Tip, Cutting, Preheat, #1	EA	1											
	163	Tip, Cutting, Preheat, #4	EA	1											
	164	Tip, Cutting, Preheat, #6	EA	1											
	165	Wrench, Torch Outfit, 10-Way	EA	1											
	126	Temp Stick, 200 Degree	EA	1											
	127	Temp Stick, 400 Degree	EA	1											
	079	Tips, Flint, Friction Igniter	PK	1											
	097	Striker	EA	1											
	029	Cleaner Set, Tip	EA	1											
RF6	117	Grinder, 4½"	EA	1											
	118	Handle, Grinder	EA	1											
	119	Wrench, Grinding Disc	EA	1											
	014	Brush, Wire, Rotary Cup	EA	1											
	049	Discs, Abrasive, 24 Grit, 4½"	EA	10											
	050	Discs, Abrasive, 36 Grit, 4½"	EA	10											
	051	Pad, Backing, Sanding	EA	1											
	052	Disc, Cutting	EA	5											
	053	Wheel, Grinding	EA	1											
	054	Arbor Insert	EA	1											
	106	Ear Plugs	BX	5											
RF7	213	Reel, Argon, Green Hose	EA	1											
RF8	217	Reel, Power-In, Black Electrical	EA	1											
RF9	217	Reel, Power-Out, Black Electrical	EA	1											
RF10	256	Tarp, Green, 12’ X 10’	EA	1											
LF1	128	High Frequency Unit	EA	1											
LF2	065	Spool, Wire, Flux Core	SP	3											
	066	Dry Box, Spool, Wire, Flux Core	BX	1											
LF3	146	Wire Feeder	EA	1											
LF4	068	Extinguisher, Fire, 10 lb	EA	1											
LF5	030	Compressor, Air	EA	1											
LF6	214	Hose Reel, Spring Rewind, Air	EA	1											
LF7	058	Rods, Carbon, $^{3}/_{16}$" X 12"	EA	50											
	059	Rods, Carbon, $^{5}/_{32}$" X 12"	EA	50											
	067	Rod, Welding, .156	LB	10											
	067	Rod, Welding, .156	LB	10											
	067	Rod, Welding, .156	LB	10											
	116	Containers, Rod Guard, 14" Lg.	EA	6											
LR1	173	Wrench Set, Crescent, 4", 6", 8", 10", 12"	SE	1											
	174	**Wrench Set, Socket, units #506 & lower**	SE	1											
	174-a	Socket, ¼" Dr., 6pt, Standard, $^{5}/_{32}$"	EA	1											

ENCLOSURE CODE	PART NUMBER	ITEM DESCRIPTION	UNIT	QTY AUT	A	B	C	D	E	F	G	H	I	J	K
	174-b	Socket, ¼" Dr., 6pt, Standard, $^{3}/_{16}$"	EA	1											
	174-c	Socket, ¼" Dr., 6pt, Standard, $^{7}/_{32}$"	EA	1											
	174-d	Socket, ¼ " Dr., 6pt, Standard, ¼"	EA	1											
	174-e	Socket, ¼" Dr., 6pt, Standard, $^{9}/_{32}$"	EA	1											
	174-f	Socket, ¼" Dr., 6pt, Standard, $^{5}/_{16}$"	EA	1											
	174-g	Socket, ¼" Dr., 6pt, Standard, $^{11}/_{32}$"	EA	1											
	174-h	Socket, ¼" Dr., 6pt, Standard, $^{3}/_{8}$"	EA	1											
	174-I	Socket, ¼" Dr., 6pt, Standard, $^{7}/_{16}$"	EA	1											
	174-j	Socket, ¼" Dr., 6pt, Standard, ½"	EA	1											
	174-k	Socket, ¼" Dr., 6pt, Standard, $^{9}/_{16}$"	EA	1											
	174-l	Socket, ¼" Dr., 6pt, Metric, 4mm	EA	1											
	174-m	Socket, ¼" Dr., 6pt, Metric, 5mm	EA	1											
	174-n	Socket, ¼" Dr., 6pt, Metric, 5.5mm	EA	1											
	174-o	Socket, ¼" Dr., 6pt, Metric, 6mm	EA	1											
	174-p	Socket, ¼" Dr., 6pt, Metric, 7mm	EA	1											
	174-q	Socket, ¼" Dr., 6pt, Metric, 8mm	EA	1											
	174-r	Socket, ¼" Dr., 6pt, Metric, 9mm	EA	1											
	174-s	Socket, ¼" Dr., 6pt, Metric, 10mm	EA	1											
	174-t	Socket, ¼" Dr., 6pt, Metric, 11mm	EA	1											
	174-u	Socket, ¼" Dr., 6pt, Metric, 12mm	EA	1											
	174-v	Socket, ¼" Dr., 6pt, Metric, 13mm	EA	1											
	174-w	Socket, ¼" Dr., 6pt, Metric, 14mm	EA	1											
	174-x	Socket, ¼" Dr., 12pt, Standard, $^{3}/_{16}$"	EA	1											
	174-y	Socket, ¼" Dr., 12pt, Standard, $^{7}/_{32}$"	EA	1											
	174-z	Socket, ¼" Dr., 12pt, Standard, ¼"	EA	1											
	174-aa	Socket, ¼" Dr., 12pt, Standard, $^{9}/_{32}$"	EA	1											
	174-ab	Socket, ¼" Dr., 12pt, Standard, $^{5}/_{16}$"	EA	1											
	174-ac	Socket, ¼" Dr., 12pt, Standard, $^{11}/_{32}$"	EA	1											
	174-ad	Socket, ¼" Dr., 12pt, Standard, $^{3}/_{8}$"	EA	1											
	174-ae	Socket, ¼" Dr., 12pt, Standard, $^{7}/_{16}$"	EA	1											
	174-af	Socket, ¼" Dr., 12pt, Standard, ½"	EA	1											
	174-ag	Socket, ¼" Dr., 12pt, Standard, $^{9}/_{16}$"	EA	1											
	174-ah	Ratchet, $^{3}/_{8}$" Dr.	EA	1											
	174-ai	Extension, $^{3}/_{8}$" Dr., 3" Lg	EA	1											
	174-aj	Socket, $^{3}/_{8}$" Dr., Sparkplug, $^{5}/_{8}$"	EA	1											
	174-ak	Socket, $^{3}/_{8}$" Dr., 6pt, Standard, ¼"	EA	1											
	174-al	Socket, $^{3}/_{8}$" Dr., 6pt, Standard, $^{5}/_{16}$"	EA	1											
	174-am	Socket, $^{3}/_{8}$" Dr., 6pt, Standard, $^{3}/_{8}$"	EA	1											
	174-an	Socket, $^{3}/_{8}$" Dr., 6pt, Standard, $^{7}/_{16}$"	EA	1											
	174-ao	Socket, $^{3}/_{8}$" Dr., 6pt, Standard, ½"	EA	1											
	174-ap	Socket, $^{3}/_{8}$" Dr., 6pt, Standard, $^{9}/_{16}$"	EA	1											
	174-aq	Socket, $^{3}/_{8}$" Dr., 6pt, Standard, $^{5}/_{8}$"	EA	1											
	174-ar	Socket, $^{3}/_{8}$" Dr., 6pt, Standard, $^{11}/_{16}$"	EA	1											
	174-as	Socket, $^{3}/_{8}$" Dr., 6pt, Standard, ¾"	EA	1											
	174-at	Socket, $^{3}/_{8}$" Dr., 6pt, Standard, $^{13}/_{16}$"	EA	1											
	174-au	Socket, $^{3}/_{8}$" Dr., 6pt, Deepwell, $^{3}/_{8}$"	EA	1											
	174-av	Socket, $^{3}/_{8}$" Dr., 6pt, Deepwell, $^{7}/_{16}$"	EA	1											
	174-aw	Socket, $^{3}/_{8}$" Dr., 6pt, Deepwell, ½"	EA	1											
	174-ax	Socket, $^{3}/_{8}$" Dr., 6pt, Deepwell, $^{9}/_{16}$"	EA	1											
	174-ay	Socket, $^{3}/_{8}$" Dr., 6pt, Deepwell, $^{5}/_{8}$"	EA	1											
	174-az	Socket, $^{3}/_{8}$" Dr., 6pt, Deepwell, $^{11}/_{16}$"	EA	1											

ENCLOSURE CODE	PART NUMBER	ITEM DESCRIPTION	UNIT	QTY AUT	A	B	C	D	E	F	G	H	I	J	K
	174-ba	Socket, $^{3}/_{8}$" Dr., 12pt, Standard, $^{5}/_{16}$"	EA	1											
	174-bb	Socket, $^{3}/_{8}$" Dr., 12pt, Standard, $^{3}/_{8}$"	EA	1											
	174-bc	Socket, $^{3}/_{8}$" Dr., 12pt, Standard, $^{7}/_{16}$"	EA	1											
	174-bd	Socket, $^{3}/_{8}$" Dr., 12pt, Standard, ½"	EA	1											
	174-be	Socket, $^{3}/_{8}$" Dr., 12pt, Standard, $^{9}/_{16}$"	EA	1											
	174-bf	Socket, $^{3}/_{8}$" Dr., 12pt, Standard, $^{5}/_{8}$"	EA	1											
	174-bg	Socket, $^{3}/_{8}$" Dr., 12pt, Standard, $^{11}/_{16}$"	EA	1											
	174-bh	Socket, $^{3}/_{8}$" Dr., 12pt, Standard, ¾"	EA	1											
	174-bi	Socket, $^{3}/_{8}$" Dr., 12pt, Standard, $^{13}/_{16}$"	EA	1											
	174-bj	Socket, $^{3}/_{8}$" Dr., 6pt, Metric, 6mm	EA	1											
	174-bk	Socket, $^{3}/_{8}$" Dr., 6pt, Metric, 7mm	EA	1											
	174-bl	Socket, $^{3}/_{8}$" Dr., 6pt, Metric, 8mm	EA	1											
	174-bm	Socket, $^{3}/_{8}$" Dr., 6pt, Metric, 9mm	EA	1											
	174-bn	Socket, $^{3}/_{8}$" Dr., 6pt, Metric, 10mm	EA	1											
	174-bo	Socket, $^{3}/_{8}$" Dr., 6pt, Metric, 11mm	EA	1											
	174-bp	Socket, $^{3}/_{8}$" Dr., 6pt, Metric, 12mm	EA	1											
	174-bq	Socket, $^{3}/_{8}$" Dr., 6pt, Metric, 13mm	EA	1											
	174-br	Socket, $^{3}/_{8}$" Dr., 6pt, Metric, 14mm	EA	1											
	174-bs	Socket, $^{3}/_{8}$" Dr., 6pt, Metric, 15mm	EA	1											
	174-bt	Socket, $^{3}/_{8}$" Dr., 6pt, Metric, 16mm	EA	1											
	174-bu	Socket, $^{3}/_{8}$" Dr., 6pt, Metric, 17mm	EA	1											
	174-bv	Socket, $^{3}/_{8}$" Dr., 6pt, Metric, Deep, 12mm	EA	1											
	174-bw	Socket, $^{3}/_{8}$" Dr., 6pt, Metric, Deep, 13mm	EA	1											
	174-bx	Socket, $^{3}/_{8}$" Dr., 6pt, Metric, Deep, 14mm	EA	1											
	174-by	Socket, $^{3}/_{8}$" Dr., 6pt, Metric, Deep, 15mm	EA	1											
	174-bz	Socket, $^{3}/_{8}$" Dr., 6pt, Metric, Deep, 16mm	EA	1											
	174-ca	Socket, $^{3}/_{8}$" Dr., 6pt, Metric, Deep, 17mm	EA	1											
	174-cb	Socket, $^{3}/_{8}$" Dr., 6pt, Metric, Deep, 18mm	EA	1											
	174-cc	Socket, $^{3}/_{8}$" Dr., 12pt, Metric, 12mm	EA	1											
	174-cd	Socket, $^{3}/_{8}$" Dr., 12pt, Metric, 13mm	EA	1											
	174-ce	Socket, $^{3}/_{8}$" Dr., 12pt, Metric, 14mm	EA	1											
	174-cf	Socket, $^{3}/_{8}$" Dr., 12pt, Metric, 15mm	EA	1											
	174-cg	Socket, $^{3}/_{8}$" Dr., 12pt, Metric, 16mm	EA	1											
	174-ch	Socket, $^{3}/_{8}$" Dr., 12pt, Metric, 17mm	EA	1											
	174-ci	Socket, $^{3}/_{8}$" Dr., 12pt, Metric, 18mm	EA	1											
	174-cj	Socket, $^{3}/_{8}$" Dr., 12pt, Metric, 19mm	EA	1											
	174-ck	Ratchet, ½" Dr.	EA	1											
	174-cl	Socket, ½" Dr., 12pt, Standard, $^{5}/_{8}$"	EA	1											
	174-cm	Socket, ½" Dr., 12pt, Standard, $^{11}/_{16}$"	EA	1											
	174-cn	Socket, ½" Dr., 12pt, Standard, ¾"	EA	1											
	174-co	Socket, ½" Dr., 12pt, Standard, $^{13}/_{16}$"	EA	1											
	174-cp	Socket, ½" Dr., 12pt, Standard, $^{7}/_{8}$"	EA	1											
	174-cq	Socket, ½" Dr., 12pt, Standard, $^{15}/_{16}$"	EA	1											
	174-cr	Socket, ½" Dr., 12pt, Standard, 1"	EA	1											
	174-cs	Wrench, Combination, $^{3}/_{8}$" X $^{7}/_{16}$"	EA	1											
	174-ct	Wrench, Combination, ½" X $^{9}/_{16}$"	EA	1											
	174-cu	Wrench, Combination, 10mm X 11mm	EA	1											
	174-cv	Wrench, Combination, 12mm X 14mm	EA	1											
	174.1	**Tool Kit, General Mechanics, units #507 & higher**	SE	1											
	174.1-a	6 Pt. ¼" Dr. Std. Skt. $^{5}/_{32}$"	EA	1											

ENCLOSURE CODE	PART NUMBER	ITEM DESCRIPTION	UNIT	QTY AUT	A	B	C	D	E	F	G	H	I	J	K
	174.1-b	6 Pt. ¼" Dr. Std. Skt. $^{3}/_{16}$"	EA	1											
	174.1-c	6 Pt. ¼" Dr. Std. Skt. $^{7}/_{32}$"	EA	1											
	174.1-d	6 Pt. ¼" Dr. Std. Skt. ¼"	EA	1											
	174.1-e	6 Pt. ¼" Dr. Std. Skt. $^{9}/_{32}$"	EA	1											
	174.1-f	6 Pt. ¼" Dr. Std. Skt. $^{5}/_{16}$"	EA	1											
	174.1-g	6 Pt. ¼" Dr. Std. Skt. $^{11}/_{32}$"	EA	1											
	174.1-h	6 Pt. ¼" Dr. Std. Skt. $^{3}/_{8}$"	EA	1											
	174.1-i	6 Pt. ¼" Dr. Std. Skt. $^{7}/_{16}$"	EA	1											
	174.1-j	6 Pt. ¼" Dr. Std. Skt. ½"	EA	1											
	174.1-k	6 Pt. ¼" Dr. Dp. Skt. $^{3}/_{16}$"	EA	1											
	174.1-l	6 Pt. ¼" Dr. Dp. Skt. $^{7}/_{32}$"	EA	1											
	174.1-m	6 Pt. ¼" Dr. Dp. Skt. ¼"	EA	1											
	174.1-n	6 Pt. ¼" Dr. Dp. Skt. $^{9}/_{32}$"	EA	1											
	174.1-o	6 Pt. ¼" Dr. Dp. Skt. $^{5}/_{16}$"	EA	1											
	174.1-p	6 Pt. ¼" Dr. Dp. Skt. $^{11}/_{32}$"	EA	1											
	174.1-q	6 Pt. ¼" Dr. Dp. Skt. $^{3}/_{8}$"	EA	1											
	174.1-r	6 Pt. ¼" Dr. Dp. Skt. $^{7}/_{16}$"	EA	1											
	174.1-s	6 Pt. ¼" Dr. Std. Skt. 4mm	EA	1											
	174.1-t	6 Pt. ¼" Dr. Std. Skt. 5mm	EA	1											
	174.1-u	6 Pt. ¼" Dr. Std. Skt. 6mm	EA	1											
	174.1-v	6 Pt. ¼" Dr. Std. Skt. 7mm	EA	1											
	174.1-w	6 Pt. ¼" Dr. Std. Skt. 8mm	EA	1											
	174.1-x	6 Pt. ¼" Dr. Std. Skt. 9mm	EA	1											
	174.1-y	6 Pt. ¼" Dr. Std. Skt. 10mm	EA	1											
	174.1-z	6 Pt. ¼" Dr. Std. Skt. 11mm	EA	1											
	174.1-aa	6 Pt. ¼" Dr. Std. Skt. 12mm	EA	1											
	174.1-ab	6 Pt. ¼" Dr. Std. Skt. 13mm	EA	1											
	174.1-ac	6 Pt. ¼" Dr. Dp. Skt. 4mm	EA	1											
	174.1-ad	6 Pt. ¼" Dr. Dp. Skt. 5mm	EA	1											
	174.1-ae	6 Pt. ¼" Dr. Dp. Skt. 6mm	EA	1											
	174.1-af	6 Pt. ¼" Dr. Dp. Skt. 7mm	EA	1											
	174.1-ag	6 Pt. ¼" Dr. Dp. Skt. 8mm	EA	1											
	174.1-ah	6 Pt. ¼" Dr. Dp. Skt. 9mm	EA	1											
	174.1-ai	6 Pt. ¼" Dr. Dp. Skt. 10mm	EA	1											
	174.1-aj	6 Pt. ¼" Dr. Dp. Skt. 11mm	EA	1											
	174.1-ak	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. $^{3}/_{8}$"	EA	1											
	174.1-al	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. $^{7}/_{16}$"	EA	1											
	174.1-am	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. ½"	EA	1											
	174.1-an	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. $^{9}/_{16}$"	EA	1											
	174.1-ao	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. $^{5}/_{8}$"	EA	1											
	174.1-ap	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. $^{11}/_{16}$"	EA	1											
	174.1-aq	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. ¾"	EA	1											
	174.1-ar	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. $^{13}/_{16}$"	EA	1											
	174.1-as	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. $^{3}/_{8}$"	EA	1											
	174.1-at	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. $^{7}/_{16}$"	EA	1											
	174.1-au	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. ½"	EA	1											
	174.1-av	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. $^{9}/_{16}$"	EA	1											
	174.1-aw	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. $^{5}/_{8}$"	EA	1											
	174.1-ax	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. $^{11}/_{16}$"	EA	1											
	174.1-ay	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. ¾"	EA	1											
	174.1-az	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. $^{13}/_{16}$"	EA	1											

TMWSS Serial Numbers 101-580
INVENTORY CONTROL FORM

ENCLOSURE CODE	PART NUMBER	ITEM DESCRIPTION	UNIT	QTY AUT	A	B	C	D	E	F	G	H	I	J	K
	174.1-ba	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. $^{7}/_{8}$"	EA	1											
	174.1-bb	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. 10mm	EA	1											
	174.1-bc	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. 11mm	EA	1											
	174.1-bd	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. 12mm	EA	1											
	174.1-be	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. 13mm	EA	1											
	174.1-bf	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. 14mm	EA	1											
	174.1-bg	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. 15mm	EA	1											
	174.1-bh	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. 16mm	EA	1											
	174.1-bi	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. 17mm	EA	1											
	174.1-bj	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. 18mm	EA	1											
	174.1-bk	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. 19mm	EA	1											
	174.1-bl	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. 10mm	EA	1											
	174.1-bm	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. 11mm	EA	1											
	174.1-bn	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. 12mm	EA	1											
	174.1-bo	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. 13mm	EA	1											
	174.1-bp	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. 14mm	EA	1											
	174.1-bq	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. 15mm	EA	1											
	174.1-br	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. 16mm	EA	1											
	174.1-bs	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. 17mm	EA	1											
	174.1-bt	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. 18mm	EA	1											
	174.1-bu	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. 19mm	EA	1											
	174.1-bv	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. ½"	EA	1											
	174.1-bw	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. $^{9}/_{16}$"	EA	1											
	174.1-bx	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. $^{5}/_{8}$"	EA	1											
	174.1-by	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. $^{11}/_{16}$"	EA	1											
	174.1-bz	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. ¾"	EA	1											
	174.1-ca	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. $^{13}/_{16}$"	EA	1											
	174.1-cb	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. $^{7}/_{8}$"	EA	1											
	174.1-cc	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. $^{15}/_{16}$"	EA	1											
	174.1-cd	12 Pt. $^{1}/_{2}$" Dr. Dp. Skt. ½"	EA	1											
	174.1-ce	12 Pt. $^{1}/_{2}$" Dr. Dp. Skt. $^{9}/_{16}$"	EA	1											
	174.1-cf	12 Pt. $^{1}/_{2}$" Dr. Dp. Skt. $^{5}/_{8}$"	EA	1											
	174.1-cg	12 Pt. $^{1}/_{2}$" Dr. Dp. Skt. $^{11}/_{16}$"	EA	1											
	174.1-ch	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. 18mm	EA	1											
	174.1-ci	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. 19mm	EA	1											
	174.1-cj	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. 20mm	EA	1											
	174.1-ck	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. 21mm	EA	1											
	174.1-cl	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. 22mm	EA	1											
	174.1-cm	¼" Dr. 3" Extension	EA	1											
	174.1-cn	¼" Dr. Spinner Handle	EA	1											
	174.1-co	¼" Dr. Round Head Ratchet	EA	1											
	174.1-cp	6 Pt. $^{3}/_{8}$" Dr. Spk. Plg. Skt. $^{5}/_{8}$"	EA	1											
	174.1-cq	6 Pt. $^{3}/_{8}$" Dr. Spk. Plg. Skt. $^{13}/_{16}$"	EA	1											
	174.1-cr	$^{3}/_{8}$" Dr. 3" Extension	EA	1											
	174.1-cs	$^{3}/_{8}$" Dr. Round Head Ratchet	EA	1											
	174.1-ct	$^{3}/_{8}$" Dr. Adapter $^{3}/_{8}$"F-$^{1}/_{4}$"M	EA	1											
	174.1-cu	½" Dr. 3" Extension	EA	1											
	174.1-cv	½" Dr. Round Head Ratchet	EA	1											
	174.1-cw	7 pc. Hex Key Set	EA	1											
	174.1-cx	High density polyethylene case	EA	1											

ENCLOSURE CODE	PART NUMBER	ITEM DESCRIPTION	UNIT	QTY AUT	A	B	C	D	E	F	G	H	I	J	K
	175	**Wrench Set, Allen, 15 Piece, .050 – $^{3}/_{8}$**	SE	1											
	175-a	Wrench, Allen, Short Arm, .050"	EA	1											
	175-b	Wrench, Allen, Short Arm, $^{1}/_{16}$"	EA	1											
	175-c	Wrench, Allen, Short Arm, $^{5}/_{64}$"	EA	1											
	175-d	Wrench, Allen, Short Arm, $^{3}/_{32}$"	EA	1											
	175-e	Wrench, Allen, Short Arm, $^{7}/_{64}$"	EA	1											
	175-f	Wrench, Allen, Short Arm, $^{9}/_{64}$"	EA	1											
	175-g	Wrench, Allen, Long Arm, $^{7}/_{64}$"	EA	1											
	175-h	Wrench, Allen, Long Arm, $^{1}/_{8}$"	EA	1											
	175-I	Wrench, Allen, Long Arm, $^{9}/_{64}$"	EA	1											
	175-j	Wrench, Allen, Long Arm, $^{5}/_{32}$"	EA	1											
	175-k	Wrench, Allen, Long Arm, $^{3}/_{16}$"	EA	1											
	175-l	Wrench, Allen, Long Arm, $^{7}/_{32}$"	EA	1											
	175-m	Wrench, Allen, Long Arm, ¼"	EA	1											
	175-n	Wrench, Allen, Long Arm, $^{5}/_{16}$"	EA	1											
	175-o	Wrench, Allen, Long Arm, $^{3}/_{8}$"	EA	1											
	176	**Wrench Set, Allen, 15 Piece, 1.5 – 10mm**	SE	1											
	176-a	Wrench, Allen, Short Arm, 1.5mm	EA	1											
	176-b	Wrench, Allen, Short Arm, 2mm	EA	1											
	176-c	Wrench, Allen, Short Arm, 2.5mm	EA	1											
	176-d	Wrench, Allen, Short Arm, 3mm	EA	1											
	176-e	Wrench, Allen, Short Arm, 4mm	EA	1											
	176-f	Wrench, Allen, Short Arm, 4.5mm	EA	1											
	176-g	Wrench, Allen, Short Arm, 10mm	EA	1											
	176-h	Wrench, Allen, Long Arm, 1.5mm	EA	1											
	176-I	Wrench, Allen, Long Arm, 2mm	EA	1											
	176-j	Wrench, Allen, Long Arm, 2.5mm	EA	1											
	176-k	Wrench, Allen, Long Arm, 3mm	EA	1											
	176-l	Wrench, Allen, Long Arm, 4mm	EA	1											
	176-m	Wrench, Allen, Long Arm, 5mm	EA	1											
	176-n	Wrench, Allen, Long Arm, 6mm	EA	1											
	176-o	Wrench, Allen, Long Arm, 7mm	EA	1											
LR2	112	Rods, Brazing, 36"	LB	5											
	113	Rods, Welding, Aluminum, 36"	LB	5											
	114	Rods, Welding, Steel, 36"	LB	5											
	102	Bucket, Small	EA	1											
	228	Funnel And Hose	EA	1											
	115	Containers, Rod Guard, 36"	EA	3											
	109A	Respirator, Air Filter, 3M	EA	20											
	NONE	Straps, Bungie, Spare	EA	6											
LR3	232	Technical Manual, TMWSS	EA	1											
	106	Earplugs	BX	10											
	099	Light, Drop	EA	1											
	109	Respirator, Air Filter	EA	20											
LR4	120	Saw, Reciprocating, W/Allen Wrench	EA	1											
	009	Blades, Saw, 14 Teeth/Inch	EA	5											
	010	Blades, Saw, 18 Teeth/Inch	EA	5											
	011	Blades, Saw, 24 Teeth/Inch	EA	5											
LR5	**013**	**Screwdriver Set, 22 Pieces**	SE	1											
	013-a	Flat Tip, Micro, $^{3}/_{32}$" X 1½" Lg													
	013-b	Flat Tip, $^{1}/_{8}$" X 4"Lg													

ENCLOSURE CODE	PART NUMBER	ITEM DESCRIPTION	UNIT	QTY AUT	A	B	C	D	E	F	G	H	I	J	K
	013-c	Flat Tip, $^{3}/_{16}$" X 4" Lg													
	013-d	Flat Tip, $^{3}/_{16}$" X 6" Lg													
	013-e	Flat Tip, Round Shaft, $^{3}/_{16}$" X 4" Lg													
	013-f	Flat Tip, Round Shaft, $^{3}/_{16}$" X 8" Lg													
	013-g	Flat Tip, $^{1}/_{4}$" X 1½" Lg													
	013-h	Flat Tip, $^{1}/_{4}$" X 4" Lg													
	013-I	Flat Tip, $^{1}/_{4}$" X 6" Lg													
	013-j	Flat Tip, $^{1}/_{4}$" X 8" Lg													
	013-k	Flat Tip, $^{5}/_{16}$" X 8" Lg													
	013-l	Cross Tip, #0 X 1½" Lg													
	013-m	Cross Tip, #0 X 2½" Lg													
	013-n	Cross Tip, #1 X 3" Lg													
	013-o	Cross Tip, #2 X 1½" Lg													
	013-p	Cross Tip, #2 X 4" Lg													
	013-q	Cross Tip, #2 X 8" Lg													
	013-r	Cross Tip, #3 X 6" Lg													
	013-s	Torx, T-10 X 3" Lg													
	013-t	Torx, T-15 X 3" Lg													
	013-u	Offset, Flat Tip, ¼" X ¼"													
	013-v	Offset, Cross Tip, #1 X #2													
LR6	153	Contact Tips, Spare MIG	EA	5											
	151	Drive Roll Set, Aluminum, W/Wire Guide	SE	1											
	152	Drive Roll Set, Steel, W/Wire Guide	SE	1											
	131	Collet, GTAW, $^{1}/_{16}$"	EA	1											
	132	Collet, GTAW, $^{3}/_{32}$"	EA	1											
	133	Collet, GTAW, $^{1}/_{8}$"	EA	1											
	134	Gas Lens, Collet Body, $^{1}/_{16}$"	EA	1											
	135	Gas Lens, Collet Body, $^{3}/_{32}$"	EA	1											
	136	Gas Lens, Collet Body, $^{1}/_{8}$"	EA	1											
	137	Cup, Ceramic, GTAW, Size 6	EA	1											
	138	Cup, Ceramic, GTAW, Size 7	EA	1											
	139	Cup, Ceramic, GTAW, Size 8	EA	1											
	262	Back Insulator, Torch Outfit	EA	1											
	142	Gasket, Insulator, GTAW Lens	EA	1											
	140	Backing Cap, GTAW, Long	EA	2											
	034	Soap Stone	EA	20											
	080	Flux, Brazing, 1 lb Can	CN	1											
LR7	**055**	**Drill Set, Twist, $^{3}/_{8}$" Shank, W/Metal Case; 29 Pieces Consisting Of:**	SE	1											
	055-a	Drill, Twist, $^{1}/_{16}$"	EA	1											
	055-b	Drill, Twist, $^{5}/_{64}$"	EA	1											
	055-c	Drill, Twist, $^{3}/_{32}$"	EA	1											
	055-d	Drill, Twist, $^{7}/_{64}$"	EA	1											
	055-e	Drill, Twist, $^{1}/_{8}$"	EA	1											
	055-f	Drill, Twist, $^{9}/_{64}$"	EA	1											
	055-g	Drill, Twist, $^{5}/_{32}$"	EA	1											
	055-h	Drill, Twist, $^{11}/_{64}$"	EA	1											
	055-I	Drill, Twist, $^{3}/_{16}$"	EA	1											
	055-j	Drill, Twist, $^{13}/_{64}$"	EA	1											
	055-k	Drill, Twist, $^{7}/_{32}$"	EA	1											
	055-l	Drill, Twist, $^{15}/_{64}$"	EA	1											

TMWSS Serial Numbers 101-580
INVENTORY CONTROL FORM

ENCLOSURE CODE	PART NUMBER	ITEM DESCRIPTION	UNIT	QTY AUT	A	B	C	D	E	F	G	H	I	J	K
	055-m	Drill, Twist, ¼"	EA	1											
	055-n	Drill, Twist, $^{17}/_{64}$"	EA	1											
	055-o	Drill, Twist, $^{9}/_{32}$"	EA	1											
	055-p	Drill, Twist, $^{19}/_{64}$"	EA	1											
	055-q	Drill, Twist, $^{5}/_{16}$"	EA	1											
	055-r	Drill, Twist, $^{21}/_{64}$"	EA	1											
	055-s	Drill, Twist, $^{11}/_{32}$"	EA	1											
	055-t	Drill, Twist, $^{23}/_{64}$"	EA	1											
	055-u	Drill, Twist, $^{3}/_{8}$"	EA	1											
	055-v	Drill, Twist, $^{25}/_{64}$"	EA	1											
	055-w	Drill, Twist, $^{13}/_{32}$"	EA	1											
	055-x	Drill, Twist, $^{27}/_{64}$"	EA	1											
	055-y	Drill, Twist, $^{7}/_{16}$"	EA	1											
	055-z	Drill, Twist, $^{29}/_{64}$"	EA	1											
	055-aa	Drill, Twist, $^{15}/_{32}$"	EA	1											
	055-ab	Drill, Twist, $^{31}/_{64}$"	EA	1											
	055-ac	Drill, Twist, ½"	EA	1											
	086	Blower, Air	EA	1											
	101	Oil Gun, Hand Held	EA	1											
	088	**Air Hammer Set, w/4 Chisels**	SE	1											
	088-a	Chisel, Punch, angle, V-groove, 3" Lg	EA	1											
	088-b	Chisel, Flat, $^{13}/_{16}$" X 3" Lg	EA	1											
	088-c	Chisel, Flat, V-Groove, $^{7}/_{8}$" X 3" Lg	EA	1											
	088-d	Chisel, Flat, U-Groove, $^{13}/_{16}$" X 3" Lg	EA	1											
	056	Drill, ½", w/handle	EA	1											
LR8	220	Reel, Welders Work Connection	EA	1											
Weld Enclosure	261	Rod, Grounding	EA	1											
	170	Vise	EA	1											
	037	Cylinder, Argon	CY	1											
	040	Hose, Argon, 4ft, Cylinder To Reel	EA	1											
	043	Cylinder, Oxygen	CY	1											
	044	Hose Ass'y, Oxygen/Propylene, 4ft,	EA	1											
	047	Cylinder, Propylene	CY	1											
	219	Reel, Oxygen/Propylene	EA	1											
	251	Battery, 650 Cold Start	EA	1											
	252	Cables, Battery	EA	2											
	253	Box, Battery	EA	1											
	230	Lights, Wall Mounted, 150 Watts	EA	2											
	075	First Aid Kit	KT	1											
	039	Roller, Cylinder, Portable	EA	1											
	171	Welder, Miller Trailblazer	EA	1											
	123	Square, Carpenters, Door Mounted	EA	1											

Note: Parts List – The following pages identify the parts list for the SEW configuration.

SEW Serial Numbers 581 & Above

TOOLS & SUPPLIES PARTS LIST

SEW Part #	Qty	Unit	Description	Mfg Part #	CAGE #	NSN #	Ref. Page #
002	1	each	Apron, Leather or Cloth	5236	03KB5	8415-01-508-8357	1-13
003	1	pair	Sleeves, Welders, Type 2, Class 1	6218	34173	8415-01-508-8396	1-13
004	2	each	Awl, Scratch - 3½" Alloy Steel Tapered Blade, Molded Knob Handle	22-918	73792	5120-01-430-6709	1-17
008	1	each	Hand Hacksaw - Flat Frame w/ Open Grip, Extensible For 10"-12" Blades, 4-Way Positionable Blades, Throat Depth Not Less Than 3½"	200921	03KB5	5110-00-289-9657	1-21
012	1	set	Screwdriver Set - 6-in-1 Phillips/Slotted Large & Small	581892	03KB5	5130-01-494-0070	1-17
013	1	set	Screwdriver Set - Flat Blade Screw Sizes 6 to ¼"; Cross-Point Screw Sizes 6 to ¼"	9-41564	08292	5120-01-493-7881	1-12
016	1	each	Cable Assembly - Electric Power, UL 817 Outdoor Use Cord, Grounding Type Stow-A, 50-Ft. Long, 12 GA (SPARE, NOT ON REEL)	PMI-TMWSS016	08EE1	5145-01-507-7782	
017	2	each	Cable Connector - Welder Lug Connector 300 Amp, Quick Disconnect Female Cam Black	CT-40FA/08030	30733		
018	2	each	Quick Disconnect Connectors, Male, Black	505301	30733	5935-01-507-7787	
019	2	each	Quick Disconnect Connectors, Male, Red	505401	30733	5935-01-507-7792	
020	2	each	Quick Disconnect Connectors, Female, Red	505701	30733	5935-01-507-7797	
021	2	each	Quick Disconnect Connectors, Female, Black	505601	30733	5935-01-507-7799	
022	4	each	#1 Cable Lug	36013	30733	5940-01-507-7783	
023	2	each	Cable, Welding Ext. - #1 Flexible, Insulated Copper Rated For 300 Amp @ 100-Ft., 50-Ft. Long (to be Furnished w/ Reels)	WS99002	08EE1		
024	3	each	Chisel, Cold Hand - ½" Wide Cut, 5¾" Long Sharp w/ Beveled Strike End	9-42862	93389	5110-00-186-7107	1-17
025	2	each	Clamp, C - Drop-Forged Steel, 4", 2100-Lb Load Limit w/ Swivel Handles, Screws & Sliding Handles	9-66724	08292	5120-00-180-0908	1-17
026	2	each	Clamp, C - Drop-Forged Steel, 4", 4100-Lb Load Limit w/ Swivel Handles, Screws & Sliding Handles	9-66725	08292	5120-01-494-1166	1-17
028	2	each	Clamp, Plier - Locking Welding Clamp, 9" Overall Length, Jaw Width 2¾", Throat Depth 3", Clamping Capacity 0 To $^{5}/_{8}$"	9R	77243	5120-00-494-1895	1-22
029	1	each	Cleaning Set, Tips - Torch Tip Orifice Tools, Szs .060 to .150 Dia, Tips & Flat File Attached, Folded Containment & Single-Tool Usable/Accessible w/o Detachmnt	N250	0ET72	3439-01-M27-3209	1-21
030	1	each	Compressor, Air - Piston Type, 6 SCFM @ 85 PSI w/ Tank & Air Gage	35374-1JFB	03KB5	4310-01-507-7805	1-19
OR			OR	OR	OR		
030a	1	each	Compressor, Air – "Ultra Air Pac," Oilles Heavy Duty Air Compressor, WOB-L Piston Compressor (SEW Units #696 & Higher)	Model T-2820ST	20024		1-19

SEW Serial Numbers 581 & Above

TOOLS & SUPPLIES PARTS LIST

SEW Part #	Qty	Unit	Description	Mfg Part #	CAGE #	NSN #	Ref. Page #
035	1	each	Soapstone Holder - Pencil Type Soapstone Holder 6" Long	3001002	03KB5		1-16
036	4	each	Curtain, Welding - 48" X 60" Vinyl Weld Curtains, 14 mm Thick	45WC	34173	4240-01-507-8583	1-13
037	1	each	Cylinder, Argon - Cylinder, Capacity 220-Cubic Ft. at 2015 PSI, 9" Dia by 51" Tall w/ CGA-540 Type Connection - Argon	RES251 220CF	1HJ42	8120-00-282-8077	1-24
043	1	each	Cylinder, Oxygen - Cylinder, Capacity 250-Cubic Ft. at 2265 PSI, 9" Dia by 51" Tall, w/ CGA-540 Type Connection - Oxygen	RES251 250CF	1HJ42	8120-00-357-7992	1-24
047a	1	each	Cylinder, Acetylene - Cylinder, Capacity 50-Cubic Ft. at 240 PSI, 12½" by 28" Tall & Fitted w/ CGA-510 Type Connection - Acetylene Regulators		3DQF0	8120-01-399-5107	1-24
056	1	each	Drill, Electric - ½-Capacity, Reversible	DW235G	07429	5130-01-454-2840	1-23
066	1	each	Dry storage box	1481GRN	1NPG8		1-18
070	2	each	Face Shield - One Green Tint, $^{1}/_{10}$" Thick, One Clear, $^{1}/_{16}$" Thick	JAC812-63	3DQF0	4240-00-542-2048	1-13
071	1	each	Face Shield Head Band (combined w/ P/N 070)	KEDK46	3DQF0		1-15
072	1	each	File Set, Hand - Welder's Set, One 10" Box Smooth Cut Flat File w/Handle	794793	03KB5	5110-00-249-2850	1-17
073	1	each	File Set, Hand – 12" Half-Round Bastard File w/Handle	671740	03KB5	5110-00-252-4015	1-17
074	1	each	File Set, Hand – 14" Half-Round Pipeliner File w/Handle	ANC14HRBF	03KB5	5110-01-501-4266	1-17
075	1	each	First Aid Kit	6170-6TY2	04024	6545-00-656-1093	1-25
081	1	pair	Gloves, Welder's – Heavy Leather, Universal Fit, Size Large.	MG-4150	1CJ83	8415-01-508-3799	1-13
082	1	pair	Gloves, TIG Welder's - Light Leather, Size Large.	MG-4605	1CJ83	8415-01-508-3791	1-13
083	1	pair	Mittens, Heat - Size Large	MIL-M-11199F	81349	8415-01-092-0039	1-13
084	2	each	Goggles, Welder's - 3 Replaceable Clear Lenses, Adjustable Elastic Strap	04AA048301	3DQF0	4240-01-507-8612	1-13
085	1	each	#5 filter plate lens, 2x4 for item 084				1-16
086	1	each	Gun, Air Blow – OSHA/Noise Regulation Compliant, Self Relieving Safety Type w/ Air Screen, w/ Female ¼-18 Female Thread, Quick Disconnect	A-A55543	58536	4940-00-333-5541	1-22
087	3	each	Hilton Coupler - 1-Ea: Air Blower, Arc Gouging, Air Hammer (Box of Ten)	155221-9361	1LLB3	3431-01-508-6210	
088	1	set	Hammer, Scaling - Manual Lever- w/ Quick Disconnect, Flat Chisel, Routing Chisel, & Scaling Chisel	PH2050	55719	5130-01-355-2073	1-22
088a	1	each	Flat Chisel	07555881	1KNW3		1-22
088b	1	each	Routing Chisel	0755883	1KNW3		1-22
088c	1	each	Scaling Chisel	075585	1KNW3		1-22
089	1	each	Hammer, Hand – 2-Lb Head, w/ Flat Beveled & Cross-Peaned End	9-38262	08292	5120-01-494-5908	1-17
090	1	each	Hammer, Welder's Chipping –Replaceable Wedge Head, & 2 Brushes	9-20368	08292	5120-01-494-0900	1-17
091	2	each	Helmet, Welder's - UV Protective Auto-Darkening Electric Lens; 2-Lenses & 2-Sets Spare Alkaline Std. Commercial AA Or AAA Batteries, Performs at Shade 10 Per ANSI/ASC Z49, AWS F2.2-89	354661UZH	3DQF0	4240-01-493-3648	1-13

SEW Serial Numbers 581 & Above

TOOLS & SUPPLIES PARTS LIST

SEW Part #	Qty	Unit	Description	Mfg Part #	CAGE #	NSN #	Ref. Page #
093	1	each	Holder, Electrode - Rated For 300 Amps	AF-25	30733	3439-01-493-5994	1-15
095	1	each	Hose, Air - $^{5}/_{16}$" ID, 50-Ft Long, Std. Threaded Connectors, Quick Disconnects Join Reel, Air Tools, & Impact Chipping Hammer as Applies	WS99010	08EE1		
096	1	each	Hose Ass'y. - Neoprene Textile-Reinforced 50-Ft., $^{3}/_{8}$" ID, A 50-Ft. Long	WS99011	08EE1		
097	1	Pkg	Striker	FUL-3001X	0ET72	5120-00-965-0326	1-21
098	1	each	Level, Torpedo – 9" Alum. Body w/ V-Groove Along Length of One Side, Magnetic Strip on One Face, Bubble Vials 0, 90 And 45 Degree Positions	TL-9	03KB5	5210-01-494-2283	1-17
099	1	each	Light, Drop Extension – A/C Portable Work Light, Drop Light, 10-Ft. Cord	31748-4JFB	03KB5	6230-01-493-6001	1-20
101	1	each	Oiler, Hand Pump – Class B, ¼ Pint Capacity	31748-4	03KB5	4930-01-493-8546	1-23
102	1	each	Pail, Utility - Minimum 2-Quart Capacity	101338	1W261		1-20
103	1	each	Wire Cutter, Diagonal - Nominal 8" Size	25407	08292	5110-00-222-2708	1-17
104	1	each	Pliers, Slip Joint - 8" Pliers, Straight Jaws, Knurled Surface Handles, Serrated Pipe Grip, 2-Piece, 2-Position Ass'y, & Cutter at Pivot Point	25108	08292	5120-00-537-3375	1-17
105	1	each	Pliers, Needle Nose - 7" Pliers, Needle Nose, w/ Side Cutter	25608	08292	5120-01-398-9398	1-17
107	1	each	Prybar - ¾" Hex-Stock 18" Long, Pointed & Offset Wedge-Shaped Ends	9-4283	08292	5120-01-493-9095	1-17
108	1	each	Punch, Center, Solid - ½" Dia Body	9-42862	08292	5120-01-493-7882	1-17
115	5	each	Rod Protector - Plastic Containers 36" Cylindrical, w/ End Caps	RG300-12		3439-01-484-6522	1-20
116	6	each	Rod Guards – 14" Tubular w/ Capacity of NLT 10-Lbs of Welding Rod, Plastic Molded w/ Moisture Proof End Caps	LE100-24		3439-01-508-1810	1-19
117	1	each	Grinder, Small Angle - Vertical, 4½" Dia, AC/DC w/ Spindle-Grinder Lock, 3-Position Handle, Disk Wrench, 7.5 Amp, 10,000 RPM Motor	9-27742	08292	5130-01-493-9098	1-23
120	1	each	Saw, Reciprocating - Electric, 9-Amp, 1¼" Stroke, Dual-Speed Hand-Held Saw Using 10” Saw Blades For Cutting Wood & 6" Saw Blades For Steel	71791602	1KNW3	5130-01-493-9096	1-12
123	1	each	Square, Carpenter - Steel, 16" X 24", in Inches by 1/16ths	1791	03KB5	5210-01-494-2284	1-25
124	1	each	Square, Comb - Steel, 12", w/ Markings to $^{1}/_{32}$", & Bubble Level	9-39681	08292	5210-01-494-2282	1-17
125	1	each	Tape, Measure - Retractable, 12-Ft. Long, Steel Blade, ¾" Wide, $^{1}/_{16}$" Increments One Edge & 1-mm Metric Increments Other Edge	9-39698	08292	5210-01-428-5402	1-17
128	1	each	TIG Module - 200 Amp Capacity	MIM042388	40608		1-18
129	1	each	Torch, Air - Air Arc Gouging, Rated For 300 Amps	04A048705	3DQF0		1-15
130	1	each	Torch Outfit - TIG W/3 Collets, 3 Gas Lens, 3 Ceramic Cups, TIG Back Cap, Approx. 12' Hose	17FV-12-RX	30323		1-15
146b	1	each	Miller 8VS Suitcase Wire Feeder	194890	40608		1-18
147	1	each	Torch, MIG Gun	MIM169595	40608		1-15
154	1	each	.045" Steel Liner	202890	40608		

SEW Serial Numbers 581 & Above

TOOLS & SUPPLIES PARTS LIST

SEW Part #	Qty	Unit	Description	Mfg Part #	CAGE #	NSN #	Ref. Page #
155a	1	set	Oxy-Acetylene Process Consisting Of:	PM-1	0ET72		1-21
156	1	each	Torch Handle & 2 Check Valves	SW1A	0ET72		1-21
156a	2	each	Flashback Arrestor Attached to Item 156	H741/H742	0ET72		1-21
165	1	each	Wrench - 10-Way Welders Combination, Sizes $^{7}/_{16}$" to 1-$^{1}/_{8}$", Incl. Socket For Std. Cylinders	N230	0ET72	5120-01-501-0831	1-21
166	1	each	Valve, Regulator - Argon, Pressure/Flowmeter	H1957-580	0ET72		1-23
167	1	each	Valve, Regulator, Air - Spare, For Air Valve Regulator	11B257009			
168	1	each	Valve, Regulator - OXYGEN: CGA 540 Inlet	04A048511	0ET72	4820-01-508-2230	1-23
168a	1		Regulator Guard - Oxygen Regulator Safety Guard	HB190	0ET72		1-23
169b	1	each	Valve, Regulator - ACETYLENE: CGA 510 Inlet	HB1521B-510	0ET72		1-23
169a	1		Regulator Guard - Acetylene Regulator Safety Guard	HB190	0ET72		1-23
170	1	each	Vise, Machinist's - 4½" JAW, w/ Bolt Type Mount Plate & Swivel Base	32115-5UBA	03KB5		1-25
171a OR 171b	1 1	each OR each	Welding Machine, Trailblazer 301D, Minus Battery OR Welding Machine, Trailblazer 302 Diesel, Minus Battery (SEW Units #841 & up)	MIM903565 OR 907218021	40608		1-25 1-25
173a	1	set	Wrench Set - 10" Adjustable	944604	40608	5120-01-M27-3165	1-12
174 174.1	1 1	set set	Wrench Set, Socket (122 Pieces) **OR Authorized Replacement** Tool Kit, General Mechanics	9-33122 19222	08292 1AR81	5180-01-437-7893 5180-01-437-7893	1-12 1-12
175	1	set	L-Form, Hex in 13 Sizes, $^{1}/_{16}$" Thru $^{3}/_{8}$" FRACTIONAL	946683 / 928178	08292	5120-01-335-1509	1-12
176	1	set	L-Form, Hex in 14 Sizes, 1.5mm Thru 10mm METRIC	94603 / 946684	08292	5120-01-493-9097	1-12
177	1	each	Trailer Chassis	M103A3			Tab 5
			Plastic Boxes				
209	1	each	Large Flat Blue Box	1956	03KB5		1-20
209a	3	each	Small Plastic Box	PMI-SEW209a	03KB5		
209b	1	each	Large Plastic Box	PMI-SEW209b	03KB5		
210	3	each	Crate, Blue	PMI-SEW210	03KB5		1-16
213	1	each	Hose Reel - Retractable, w/ 50 Ft. of .375 ID X .69 OD Hose - Argon	CA-12881	00503	4940-01-493-8917	1-14
214	1	each	Hose Reel - Retractable, Air Hose w/ Quick Disconnect #215 Female Coupler	CA-12882	00503	4940-01-493-8920	1-19
217	2	each	Power-In Reel - Retractable, 3-Conductor, 2-Phase 120-60 Cycle w/3-Prong Plug	121120305011	00503	4940-01-493-9147	1-14
220	2	each	Power-Out Reel - Retractable, For Work & Ground w/ 50-Ft #1 Weld Cable Installed	145010105011	00503	4940-01-493-8931	1-17 1-23
228	1	each	Funnel	30050	1MGY9		1-20

SEW Serial Numbers 581 & Above

TOOLS & SUPPLIES PARTS LIST

SEW Part #	Qty	Unit	Description	Mfg Part #	CAGE #	NSN #	Ref. Page #
230	2	each	Bench Light - Wall Mounted, Permanent	35149-3JFB	1KNW3		1-25
232	2	each	Technical Manuals, Including CD-ROM	PMI-SEW232	08EE1		1-20
250	1	each	Roof Rope - $^{3}/_{8}$" Nylon, 25-Ft. Long	PMI-SEW250	08EE1	4020-01-508-0451	1-12
253	1	each	Battery Box & Lid	00-D-057		6160-01-508-0453	1-24
256	1	each	Tarp - Cover 9' X 12' X 13 Oz /Sq Yd & Bungee Tie-Downs	37982-2REA	08EE1	8340-01-508-3814	1-14
260	2	pair	Wheel Chocks	RC815	08EE1	2540-01-494-0078	
261	1	each	Rod, Ground - 36"Segmented Steel Rods	1900476	08EE1	5975-01-508-0463	1-24
286	1	each	Small Plastic Box, 18 Compartments, 1" X ¾" X 9/16"	604	58961		
287	1	set	Inventory, Laminated Pages		08EE1		
288	1	each	RCC-14 Fingertip Control, Part of Torch Outfit, 130	151086	40608		
294	1	each	Tool Chest	9-59603	08292		1-16
295	1	each	Tool Chest	9-59601	08292		1-21
296	4	each	Roof Tiedown Straps, 1¼" Wide X 15' Long, Rated 2,500 Lbs.	52357	1K772		1-12
656	1	each	Electrode Dryer - For Damp 18" Electrode, 10-Lb Cap, 250°F, 8" Dia X 24.5" Long, AC 115 V SPH 60 w/ Cord	1205500	3DQF0		1-25
671	1	each	Spool Gun - 200 AMP, Uses .023-.062 Alum. on 1-Lb Spools w/ Std. 14-Pin Connector & Controls	130831 01 10	40608		1-17
671a	1	each	Spoolgun Cable				1-17
671b	1	each	Spoolgun Wire Holder				1-17
671e	1	each	WC-24 Control	137549	40608		1-15
671l	1	each	Spoolgun T Wrench				1-16
671m	2	each	Roll, Drive, VK Groove, .030-$^{1}/_{16}$ Wire	136135	40608		
671r	1	each	Spoolgun Allen Wrench				1-16

SEW Serial Numbers 581 & Above

REPAIR/REPLACEMENT PARTS

SEW Part #	Qty	Unit	Description	Mfg Part #	CAGE #	NSN #	Ref. Page #
027	1	each	Clamp, Ground - Weld Cable Clamp Rated at 300 Amps	EG-300	30733	3439-00-757-6778	
031	1	each	ELL 90° Blk ¼" (Drain)	403369	08EE1	4730-01-507-7807	
032	1	each	ELL 90° Blk St ¼" (Drain)	421340	08EE1	4730-01-507-7809	
033	1	each	NIPP GALV ¼" X 8" (Drain)	421056	08EE1	4730-01-507-8582	
038	2	each	Cylinder Skid Roller, 8", Stationary	090806-51		3990-01-507-8587	1-2
039	8	each	Cylinder Skid Roller, 9", Portable	090827-09		3990-01-507-8590	1-20
040	1	each	Hose, Reel-to-Cylinder - ¼", GREEN, ARGON Cut to Length & Equip'd w/ Standard Fittings For Direct Connection Between Cylinder, Regulator & Argon Hose Reel	ANCG14700R	28381	4720-01-507-8591	1-24
041	6	each	Cylinder Securing Strap	36587OREH	1K772	5430-01-507-8593	1-2
044a	1	each	Hose, Reel-to-Cylinder - ¼", GREEN, OXYGEN	WS99006	28381	4720-01-507-8592	1-24
044b	1	each	Hose, Reel-to-Cylinder - ¼", RED, ACETYLENE	WS99006	28381	4720-01-507-8594	1-24
045	13	each	Roll Shaft $^{5}/_{8}$" X 13¼"	020258-00	08EE1	3040-01-507-8598	
046	26	each	Roller Pal Nut, $^{5}/_{8}$"	131015-00	08EE1	5310-01-507-8599	
048	2	each	Hose, Reel-to-Cylinder - T-Type, Oxygen-Acetylene Hose $^{3}/_{8}$" ID, Length To Suit, w/ Std. Fittings - 1 Oxygen & 1 Acetylene	ANCR14700T	28381	4720-01-507-8594	1-2
054	1	each	Arbor Insert	401678-00	53800		1-23
057	1	each	Duplex Hose Ass'y. - T-Type Oxygen/Acetylene Twin-Hose, $^{5}/_{16}$" ID, 50-Ft Long Hose Ass'y, $^{3}/_{8}$" ID, w/ Std. Connectors ($^{9}/_{16}$-18 UNF-RH)	WS99008	28381	4720-01-507-8603	
068	1	each	Extinguisher, Fire – 10-Lb., ABC	466289	03KB5	4210-01-507-8609	1-18
069	1	each	Vehicle Mounting Bracket For Fire Extinguisher	1-651	03KB5		1-18
094	1	each	Hose, Air Compressor to Reel Assembly, 1-Ft.	A04250-4MP-4MPX	62727		
100	1	each	Light Bulb, 75 Watt	75W	0FTP8		
110	25	ft	#6-Gauge Wire, 25-Ft. Length		08EE1		
118	1	each	2-Position Handle	149142-00	53800		1-23
119	1	each	Disc Wrench	401680-00	53800		1-23
148a	1	each	Torch Liner - Aluminum Liner, 10-Ft. Long	MIL194014	40608		1-15
151	1	each	Drive Roll Kit, .045 Aluminum	79599	40608		1-16
152	1	each	Drive Roll Kit, .045 Flux Coated	79607	40608		1-16
157	1	each	Torch Cutting Attachment (SAME)	SC209	0ET72		1-21
158a	1	each	Acetylene Welding Tip, Size 3 (SAME)	SW203	0ET72		1-21
159a	1	each	Acetylene Welding Tip, Size 5 (SAME)	SW205	0ET72		1-21

SEW Serial Numbers 581 & Above

REPAIR/REPLACEMENT PARTS

SEW Part #	Qty	Unit	Description	Mfg Part #	CAGE #	NSN #	Ref. Page #
160a	1	each	Acetyene Welding Tip, Size 7 (SAME)	SW207	0ET72		1-21
161a	1	each	Acetylene, Heating Tip (SAME)	ST603	0ET72		1-21
162a	1	each	Acetylene Cutting Tip, Size 1 (SAME)	SC12-1	0ET72		1-21
163a	1	each	Acetylene Cutting Tip, Size 4 (SAME)	SC12-4	0ET72		1-21
164a	1	each	Acetylene Cutting Tip, Size 6 (SAME)	SC12-6	0ET72		1-21
180	1	each	Left Front Complete Enclosure - One Shelf, Bungie Cords, Side Door, Holes, Lock Bracket & Fastener	PMI-SEW180	08EE1		1-2
182	1	each	Left Rear Complete Enclosure - Shelves, Bungie Cords, Lock Bracket, Holes, & Fastener	PMI-SEW182	08EE1		1-2
184	4	each	Shelf, Enclosure, 10-Gauge Alum.	PMI-SEW184	08EE1		
188	1	each	Right Front Complete Enclosure - Shelves, Side Door, Lock Bracket, Holes & Fastener	PMI-SEW188	08EE1		1-2
190	1	each	Right Rear Complete Enclosure - Shelves, Side Door, Lock Bracket, Holes, Bungie Cords, & Fastener	PMI-SEW190	08EE1		1-2
192	4	each	Hinge, Side Door Panel Enclosures	3312HINGE	08EE1	5340-01-508-6592	
193	2	each	Door Handle Cams - Front & Rear Doors	8702	1E045	1615-01-508-6601	
194	2	each	Front & Rear Door Handles	71	1E045	5340-01-286-1418	
195	4	each	Front & Rear Doors Panel, Left or Right	99-D-066			1-2
196	4	each	Rubber Fasteners - Roof, Front & Rear Doors	35R	1E045	5340-01-244-1604	
197	2	each	Rear Side Door Panel - Fits Left & Right Enclosures	99-D-057			
198	2	each	Front Side Door Panel, Left or Right	00-D-002			
			Side Lights & Reflectors				
199	2	each	Side Lights (Red), Rear, 24 Volt, Flush Mounted	122A	0F447		
200	2	each	Side Lights (Amber), Front, 24 Volt, Flush Mounted	122R	0F447		
201	4	each	3" Amber Reflectors	B476A	0F447		
202	4	each	3" Red Reflectors	B476R	0F447		
203	25	ft	14 Gauge Electrical Wire, 25 X .06	PMI-SEW203	08EE1		
204	4	each	24 Volt Bulbs	749-9656	03KB5	6240-01-064-8889	
205	1	each	Roof Top - Center Section - Double Wall Construction	99-D-059			
206	2		Roof Top - Left or Right Sides - Double Wall Construction	99-D-060			
207	4	each	Roof Springs	PMI-SEW207	08EE1		
208	1	32 ft.	Roof Rubber Gasket	$^{3}/_{8}$ X ¾ 1X1	1E045		

SEW Serial Numbers 581 & Above

REPAIR/REPLACEMENT PARTS

SEW Part #	Qty	Unit	Description	Mfg Part #	CAGE #	NSN #	Ref. Page #
215	1	each	Hose Reel - Retractable, Air Hose w/ Quick Disconnect #215 Female Coupler	03566	08EE1		
216	2	each	Bumper Stop ¼" ID Hose (Donut)	34474	28381		
218	2	each	20 Amp 125 V Male Plug	PMI-SEW218	08EE1		
219	1	each	Hose Reel w/ Spring Rewind For Oxy-Acetylene Twin Hose	SHW-M-150	28381	4940-01-493-8991	1-24
219a	1	each	Replacement Hose For Item 219	PMI-SEW219a	28381		
221	1	each	20 Amp 125 V Connector	4505	1H0M4		
222	4	set	Locks	01244367	1KNW3		
223	1	set	Decals, Various	PMI-SEW223	08EE1		
224	1	each	SEW ID & CG Identification Plate	PMI-SEW224	08EE1		
225	1	each	Flexible Exhaust Extension, $1^5/_8$" ID	WS99016	08EE1		
226	1	each	Exhaust Pipe Hard Wall	PMI-SEW226	08EE1		
227	2	each	1¾" Exhaust Clamp	510134	08EE1		
229	1	set	Flashback Arrestors - 2-Green For Oxygen, 2-Red For Acetylene Fit-to-Hose/Torch Connections. Prevents Back-Burning Within Hose	PMI-SEW229			1-23
231	5	each	Stabilizer/Vise Detent Pins	7987	50620		
233	1		Electrical Wiring Assembly	PMI-SEW233	08EE1		
234	1	each	Box, Electrical (Main)	TG-5	1H0M4		
235	4	each	Cover Plate	FC 291	1H0M4		
236	3	each	A/C Out Pole, 3-Wire	9300HGI	1H0M4		
237	1	each	Toggle Double-Pole Double-Throw On/On, 20 Amp Switch	1225-1	1H0M4		
238	1	10 ft	Wire Assembly #1 - Utility Power Reel to A/C Dist. Box	300V, 12/3 SJ CORD	08EE1		
239	2	each	3-Pin Male Connector & Hardwire	4867	1H0M4		
240	1	4 ft	Wire Assembly #2 - Welder to A/C Dist. Box	300V, 12/3 SJ CORD	08EE1		
241	1	each	Cover, Blank Waterproof	CCB	1H0M4		
242	1	10 ft	Wire Assembly #3 - A/C Dist. Box to 50 Ft. Reel Output	300V, 12/3 SJ CORD	08EE1		
243	3	each	Electrical Box, Weather Proof	1H31	1H0M4		
244	2	each	Cover, Weatherproof Receptacle	1HCCB	1H0M4		
245	4	each	Seal-Tight Connectors	S2112	1H0M4		
246	1	6 ft	Wire Assembly #4, Air Compressor Dist Box to Reel Box	300V, 12/3 SJ CORD	08EE1		
247	6	each	¾" Romex Connectors	NC302	1H0M4		
248	1	each	Hole Round w/ Coverplate	14381	1H0M4		
249	1	each	½" Hole Round Electric Box	00-143854	1H0M4		
251	1	each	Battery (650 Cold Start)	624 MS	1CLQ7	6140-01-446-9498	1-24

SEW Serial Numbers 581 & Above

REPAIR/REPLACEMENT PARTS

SEW Part #	Qty	Unit	Description	Mfg Part #	CAGE #	NSN #	Ref. Page #
252	2	case	Battery Cables, 48", Red & Black	1-48	08EE1		1-24
254	1	set	Securing Mechanism	36587	08EE1		
255	2	each	Clip & D-Ring	LH300-C	1E045		
259	10		21" Tiedowns	00182-4RHA	1KNW3	5340-01-493-6864	
262	1	each	Back Insulator (Torch Outfit)	18-7	30323		
270			Right Rear Door Assembly (Door Fastener Rubber, Mounting Hinges, Work Light, Decal, Carpenter's Square, Part of Door Lock)	PMI-SEW270	08EE1		
271			Left Rear Door Assembly (First Aid Kit Bracket, Door Handle & Cam, Work Light, Door Fastener Rubber, Mounting Hinges)	PMI-SEW271	08EE1		
272			Right Front Door Assembly (Door Fastener Rubber, Mounting Hinges, Decal, Door Handle & Cam)	PMI-SEW272	08EE1		
273			Left Front Door Assembly (Door Fastener Rubber, Mounting Hinges, Decal, Part of Door Lock)	PMI-SEW273	08EE1		
274	1	each	PT-1	PMI-SEW274	08EE1		
275	1	each	PT-2	PMI-SEW275	08EE1		
276	1	each	PT-3	PMI-SEW276	08EE1		
277	1	each	PT-4	PMI-SEW277	08EE1		
278	1	each	½" X $^{5}/_{8}$" Vinyl Hose, 5-Ft.	RADDV3125	08EE1		
281	1	each	1" X 1" Stickertite, 25-Ft. Length	1X1	1E045		
282	1	each	Ground Rod Extension	PMI-SEW282	08EE1		
285	1	kit	115-Volt Power Interrupter Kit	2081E	1H0M4		
294a	1		Drawer Foam Seat	PMI-SEW294a	08EE1		
400	10		Curtain Hooks - $^{1}/_{8}$" Plated Steel Rod 20" Long w/ $^{5}/_{8}$" Radius by ¾" Long	PMI-SEW400	08EE1		1-12
401	2	each	Portable Roller Frame	812	08EE1		1-2
402	1	each	Vise Mount Assembly	04A048115	08EE1		
403	2	each	Weld Machine Assembly Mounts	WS99012	08EE1		
404	1	each	Right Front Vertical Support Structure	PMI-SEW404	08EE1		
405	1	each	Left Front Vertical Support Structure	PMI-SEW405	08EE1		
406	16	each	Hinge, Front & Rear Doors, Steel	PMI-SEW179	08EE1		
407	8	each	Side Door Stiffener	PMI-SEW407	08EE1		
408	1	each	Door Latch - Right Long Side	PMI-SEW408	08EE1		
409	1		Door Latch - Right Short Side	PMI-SEW409	08EE1		
410	1		Door Latch - Left Long Side	PMI-SEW410	08EE1		

SEW Serial Numbers 581 & Above

REPAIR/REPLACEMENT PARTS

SEW Part #	Qty	Unit	Description	Mfg Part #	CAGE #	NSN #	Ref. Page #
411	1		Door Latch - Left Short Side	PMI-SEW411	08EE1		
412	8		Door Lock Spacer - Side Doors	PMI-SEW412	08EE1		
413	1	each	Roof Assembly Raising Structure	PMI-SEW413	08EE1		
414	1		Roof Stiffeners & Rods	PMI-SEW414	08EE1		
415	4		Lock Cables	PMI-SEW178	08EE1	2590-01-508-5913	
416	1		Trailer Stabilizer Jack Assembly	WS99018	08EE1		
417	1	each	Structural Main Frame	PMI-SEW417	08EE1		
418	1	each	Work Bench	PMI-SEW267	08EE1		1-2
420	2		Air Reel Brackets	PMI-SEW420	08EE1		
421	1		Shelf Stabilizer Bars	PMI-SEW421	08EE1		
424	1		First Aid Kit Bracket	PMI-SEW424	08EE1		
425			TIG Model Bracket, HF	PMI-SEW425	08EE1		
426			Roof Stabilizer Bars	PMI-SEW426	08EE1		
427			Wire Feeder Metal Bracket	PMI-SEW427	08EE1		
428			Metal Bracket, High Frequency	PMI-SEW428	08EE1		
429			TIG Rod Container - 36" TIG Filler Rod - Alum. & Steel, Watertight Caps	RG300-12	03SN1		
430			Fire Extinguisher Bracket	437864	03KB5		
431			14" Rod Guard Bracket	LE100-24	03SN1		
432	1		Round Cover Plates for Elect Box	CBR	1H0M4		
433	1		Round Elect Box for Elect Reels	RB5	1H0M4		
434			Roof Arms, Flat	PMI-SEW434	08EE1		
435			Roof Arm Chains	PMI-SEW435	08EE1		
436			Roof Arm Liners	PMI-SEW436	08EE1		
437			Roof Arms, Tube	PMI-SEW437	08EE1		
438			$^{3}/_{8}$ to ½ Reducers	PMI-SEW438	08EE1		
439			Cylinder Secure Stops	PMI-SEW439	08EE1		
440	3		¾ Romex Connectors	NC302	1H0M4		
441			Vise Transport Mount	PMI-SEW441	08EE1		
442			2" Angle Door Stop	PMI-SEW442	08EE1		
444			Hinge Spacers, Side Door Locks	PMI-SEW444	08EE1		
446			Front & Rear Top Latch Bars	PMI-SEW446	08EE1		
447			Side Door Latch Washer Inside	PMI-SEW447	08EE1		

SEW Serial #s 581 & up

EQUIPMENT CONSUMABLES

SEW Part #	Qty	Unit	Description	Mfg Part #	CAGE #	NSN #	Ref. Page #
005	1	bdl	Blade, Hacksaw - 10", Composite Steel Blade, Std. Tooth Form, Raker Tooth Set, 18-Teeth/Inch, Bdl of 10	63103	03KB5	5110-00-277-4587	1-21
006	1	bdl	Blade, Hacksaw - 10", Composite Steel Blade, Std. Tooth Form, Raker Tooth Set, 24-Teeth/Inch, Bdl of 10	63112	03KB5	5110-00-277-4558	1-21
007	1	bdl	Blade, Hacksaw - 10", Composite Steel Blade, Std. Tooth Form, Raker Tooth Set, 32-Teeth/Inch, Bdl of 10	EV51HS1032	03KB5	5110-00-277-4589	1-21
009	1	bdl	Blade, Saw Recip - 6", Comp. Steel Blade, .035 Thick, 14-Teeth/Inch (Pkg of 5)	DW4807B	03KB5	3455-01-507-7933	1-12
010	1	bdl	Blade, Saw Recip - 6", Comp. Steel Blade, .035 Thick, 18-Teeth/Inch (Pkg of 5)	DW4810	03KB5	3455-01-507-7934	1-12
011	1	bdl	Blade, Saw Recip - 6", Comp. Steel Blade, .035 Thick, 24-Teeth/Inch (Pkg of 5)	DW4812	03KB5	3455-61-507-7935	1-12
014	1	each	Brush, Wire - Rotary Cup, 3" Dia., w/ .020 Steel Wire Trim'd to 1¼" Length, Crimped to Permit Use at 7000 RPM. Equip'd w/ $^{5}/_{8}$"-11 Rotary Arbor	9-64139	08292	5130-01-493-9094	1-23
015	2	each	Brush, Steel - Wire, Scratch	52-010	03KB5	7920-01-494-5909	1-17
034	1	carton	Soapstone Refills - Carton of 20 White Refills. (025a)	ANC-FL-5	03KB5	7510-00-281-4849	1-16
049	10	each	Disk, Abrasive - 4½", Metal Work Grinding Disks - Used by Small Angle Grinder 24-GRIT, Box of 10	PEAFD4524		5130-01-399-1140	1-23
050	10	each	Disk, Abrasive - 4½", Metal Work Grinding Disks - Used by Small Angle Grinder 36-GRIT, Box of 10	PEAFD4536		5345-00-271-6997	1-23
051	1	each	Sanding Backing Pad, 4½"	PEABP4558			1-23
052	6	each	Disk, Cutting - 4½", Metal Work Cutting, Diamond Grit or Equal, For Use With Selected Small Angle Grinder	PEACW4510T		5345-01-496-7235	1-23
055	1	set	Drill Set, Twist - Straight Shank, High Speed Cobalt Steel, Jobber Short Length, Fractional Sizes, $^{1}/_{16}$" Thru ½": in $^{1}/_{16}$" Increments w/ Case	57852	65400	5133-01-486-2315	1-23
058	1	box of 50	Electrode, Carbon - $^{3}/_{16}$" X 12" Round, Copper Clad, DC - Air Arc Gouging	HAR-N70	3DQF0	3439-01-502-5924	1-19
059	1	box of 50	Electrode, Carbon - $^{5}/_{32}$" X 12" Round, Copper Clad, DC - Air Arc Gouging	HAR-N80	3DQF0	3439-01-496-1126	1-19
061a	1	spool	Electrode, Wire Aluminum Welding -.045", 10-lb Spool, AWS A5.10 ER5356	WEL535636416	3DQF0		1-18
065	1	spool	Electrode, Wire - .045" Flux-Cored, Type 81N1 Welding Wire For Single or Multiple Pass Applications, Tensile Strength 80000 PSI, Yield 69000 PSI, Elongation 29% For High Impact Toughness	HOBF21B11610	3DQF0	3439-01-493-7676	1-18
067	1	10-lbs	Electrode Welding - AWS A5.1 E6010, 0.156" X 14" Long, 10-Lbs.	NS-71TGS11610	3DQF0	3439-00-262-2671	1-19
079	1	each	Friction Igniter, Pkg of 5, CID A-A-3033	9004486		5120-00-965-0603	1-21
092	4	each	Clear 2" X 4" Cover Lenses For Item 91	2X4-LP	3DQF0	4240-01-493-3643	1-16

SEW Serial #s 581 & up

EQUIPMENT CONSUMABLES

SEW Part #	Qty	Unit	Description	Mfg Part #	CAGE #	NSN #	Ref. Page #
106	20	box	Ear Plugs - Box of 100	34890-2REH	03KB5	6515-00-721-9092	1-22
109a	20	each	Respirator, Air Filter	352662	03KB5	4240-01-452-8348	1-16
112	5	lb	Rod, Brazing - Flux-Coated Bronze Rod, $^{1}/_{8}$", 36", 5-Lbs.	HAR-015FC60	3DQF0	3439-01-493-7747	1-20
113	1	5-lb bdl	Rod, Welding - AWS A5.9 ER347, 0.093" X 36" Long For Alum., 5-Lbs.	4043 HAR-A404350	3DQF0	3439-01-493-7856	1-20
114	1	5-lb bdl	Rod, Welding - AWS A5.9 ER347, 0.062" X 36" Long For Steel, 5-Lbs.	RG60 HAR-W120030	3DQF0	3439-01-508-1808	1-20
121	1	1-lb spool	Solder, 95/5 - AWS SM CH-23, Lead Free, 1-Lb Spool.	WEL-955181	3DQF0	3439-01-493-7712	1-22
122	1	each	Flux, Solder Paste - AWS A5.8, Class FB3-Steel, Copper & Brass, 1-Lb Can	WEL-SCLF4 40002	3DQF0	3439-00-255-4566	1-22
126	3	each	Temp, Crayon - 200-Degree Indicating Compound For Preheating Metal Prior to Welding	TEM-TEMPSTICK-200	3DQF0	6680-01-493-3226	1-21
127	3	each	Temp, Crayon - 400-Degree Indicating Compound For Preheating Metal Prior to Welding	TEM-TEMPSTICK-400	3DQF0	6685-01-493-3229	1-21
131	1	each	Collet, Size $^{1}/_{16}$"	10N23	30367		1-16
132	1	each	Collet, Size $^{3}/_{32}$"	10N24	30367	3431-00-018-8320	1-16
133	1	each	Collet, Size $^{1}/_{8}$"	10N25	30367	3431-00-018-8321	1-16
134	1	each	Gas Lens, Size $^{1}/_{16}$"	10N31	30367	3431-00-494-4503	1-16
135	1	each	Gas Lens, Size $^{3}/_{32}$"	10N32	30367	3431-00-494-4503	1-16
136	1	each	Gas Lens, Size $^{1}/_{8}$"	10N28	30367	3431-00-494-4503	1-16
137	1	each	Ceramic Cup, Size 6	10N48	30367	3431-00-198-6126	1-16
138	1	each	Ceramic Cup, Size 7	10N47	30367	3439-00-043-3148	1-16
139	1	each	Ceramic Cup, Size 8	10N46	30367	3431-00-196-6126	1-16
140	1	each	Back Cap (Long)	57Y02	54889	3431-00-018-8307	1-16
140a	1	each	Back Cap (Button)	57Y04	54889	3431-00-018-8308	1-16
141	1	each	Adapter Power Cable	105Z57	36346	3439-01-189-2236	
142	1		Gasket Insulator	54N01	30367	5970-00-106-9790	1-16
143	3	each	Electrode, Tungsten - AWS A5.12, 0.062 X 7.0" Long Ceriated EWZR (Red)	ANC-116X72G	54889	3439-01-508-3193	1-16
144	3	each	Electrode, Tungsten - AWS A5.12, 0.094 X 7.0" Long Ceriated EWP (Green)	ANC-332X72G	54889	3439-01-508-2226	1-16
145	3	each	Electrode, Tungsten - AWS A5.12, 0.125 X 7.0" Long Ceriated EWP (Green)	ANC-18X72G	54889	3439-01-508-2228	1-16
153	3	each	.045" Contact Tip	206179	40608	5999-01-508-5916	
290	1	box of 10	Electrode, SS - Stainless 308-15, $^{3}/_{16}$ Dia, 10-Lb. Box	HAR-308 32/16	3DQF0		1-19

SEW Serial #s 581 & up

EQUIPMENT CONSUMABLES

SEW Part #	Qty	Unit	Description	Mfg Part #	CAGE #	NSN #	Ref. Page #
292	5	each	Electrode Wire - .030, 4043, 1-Lb Spool Aluminum	HAR-4043-030-1	3DQF0		1-18
293	5	each	Electrode Wire - .030, 5356, 1-Lb Spool Aluminum	HAR-5053-030-1	3DQF0		1-18
500	5		Welder Air Filter	187441	40608	4310-01-493-6542	
501	11		Welder Oil Filter	187443	40608	4330-01-493-6536	
502	8		Welder Fuel Filter (Primary)	212419	40608	4330-01-493-6551	
503	4		Welder Fuel Filter (Secondary)	187442	40608	4330-01-493-6771	
504	1		Welder Fan Belt	187459	40608	3030-01-493-8862	
505	1		Welder Upper Radiator Hose	187436	40608	2590-99-839-9930	
506	1		Welder Lower Radiator Hose	187435	40608	2590-99-839-9929	
507	2		Welder Fuse, 25A, 125v (F1&2), Trailblazer 300D NT	169296	40608	5920-01-493-6841	
508	1		Welder Fuse, 15A, Slow Blow (F6), Trailblazer 300D NT	073429	40608	5920-01-493-7976	
509	1		Welder Fuse, 12A, Slow Blow (F5), Trailblazer 300D NT	125847	40608	5920-01-493-7964	
510	1		Welder Fuse, 20A, Slo-Blow (F2), Trailblazer 301D	208914	40608		
511	1		Welder Fuse, 25A, 125V (F1), Trailblazer 301D	169296	40608		
671i	3	each	Liner, Teflon, .023-.035 Wire X 6.812	136682	40608		1-16
671p	2	each	Liner, Teflon, .030-.035 Wire X 14.000	138255	40608		
671s	1	each	Spoolgun Replacement Contact Tip				1-16

SEW
INVENTORY CONTROL FORM
(HAND RECEIPT)

Applicable to SEW serial #581 & higher

**********PLEASE READ**********

INTENT

The following inventory control form (Hand Receipt) was developed to assist the end-user in accomplishing inventory requirements. The use of this form, in conjunction with side panel inventory labels attached directly to the equipment, should prove to provide the quickest, most efficient method for required inventories.

USE

This form was created to flow directly with each separate compartment and label inventory on the MCTWS. Once the equipment and compartments are opened, use the first column "Enclosure Code" of this inventory form and locate the duplicate panel inventory sticker. RR1 is located on the Right Rear of the unit and so on.

This form was also created to alleviate confusion when inventorying specific Sets, Kits, on the MCTWS. To lessen this confusion, we have broken down these Sets, Kits, etc. to offer proper annotation during inventory for missing, broke, or damaged items. **NOTE**: The Tools & Supplies Parts list located at the end of Tab 4 in the manual should NOT be used as an inventory checklist. This is a manufacturer's parts list and should only be referenced when parts, other than what are on the inventory labels, need to be researched and ordered.

SEW Serial #s 581 & higher
INVENTORY CONTROL FORM

FROM:	TO:	COMPONENT HAND RECEIPT:
END ITEM STOCK NUMBER: 4940-01-454-9877	END ITEM DESCRIPTION: Shop Equipment Welding (SEW)	
PUB NUMBER: TM 9-4940-567-13&P	PUB DATE: 01 October 2003	LINE ITEM NUMBER: W48391

ENCLOSURE CODE	PART NUMBER	ITEM DESCRIPTION	UNIT	QTY. AUT.	J	F	M	A	M	J	J	A	S	O	N	D
RF1	296	Hold Tie-Down Straps	ea	4												
RF2	013	**Screwdriver Set (22 Pcs)**	set	1												
		Includes storage box	ea	1												
		Flat Tips (10 pieces)														
	013-a	8”L x 5/16, P/N 41587	ea	1												
	013-b	6”L x ¼, P/N 41584	ea	1												
	013-c	8”L x 3/16, P/N 41248	ea	1												
	013-d	8”L x ¼, P/N 41578	ea	1												
	013-e	6”L x 3/16, P/N 41577	ea	1												
	013-f	4”L x ¼, P/N 41583	ea	1												
	013-g	4”L x 3/16, square shaft, P/N 41581	ea	1												
	013-h	1 3/4”L x 5/16, round shaft, P/N 41586	ea	1												
	013-i	4”L x 1/8, P/N 41589	ea	1												
	013-j	1 ½”L x ¼, P/N 4151	ea	1												
	013-k	1 ½”L x 3/32 micro tip, P/N 41541	ea	1												
		Cross Tips (ll pieces)														
	013-l	8”L x P2 tip, P/N 41296	ea	1												
	013-m	6”L x P3 tip, P/N 41297	ea	1												
	013-n	4”L x #2 tip, P/N 41295	ea	1												
	013-o	3”L x P1 tip, P/N 41294	ea	1												
	013-p	2 ½” L x P0 tip, P/N 41293	ea	1												
	013-q	1 ½”L x #2 tip, P/N 4118	ea	1												
	013-r	1 ½”L x micro tip, P/N 41542	ea	1												
	013-s	4-in-1 pocket screw driver, P/N 4160	ea	1												
	013-t	Torx, T-15, P/N 41474	ea	1												
	013-u	Torx, T-10, P/N 41473	ea	1												
		OR														
	013	**Screwdriver set (25 pcs)**	set	1												
		Includes storage box	ea	1												
		Flat Tips (11 pieces)														
	013-a	8"L x 5/16, P/N 41587	ea	1												
	013-b	6"L x ¼, P/N 41584	ea	1												
	013-c	8"L x 3/16, P/N 41248	ea	1												
	013-d	6"L x 3/16, P/N 41577	ea	1												
	013-e	4"L x ¼, P/N 41583	ea	1												
	013-f	4"L x 3/16, square shaft, P/N 41581	ea	1												
	013-g	4"L x 3/16 round shaft P/N 41247	ea	1												
	013-h	4"L x 1/8, P/N 41589	ea	1												
	013-i	1½"L x ¼, P/N 4151	ea	1												
	013-j	1½"L x 3/32 micro tip, P/N 41541	ea	1												
	013-k	Offset, ¼" x ¼", P/N 41314	ea	1												
		Cross Tips (8 pieces)														
	013-l	8"L x P2 tip, P/N 41296	ea	1												
	013-m	6"L x P3 tip, P/N 41297	ea	1												
	013-n	4"L x #2 tip, P/N 41295	ea	1												
	013-o	3"L x P1 tip, P/N 41294	ea	1												
	013-p	2½"L x P0 tip, P/N 41293	ea	1												
	013-q	1½"L x #2 tip, P/N 4118	ea	1												

ENCLOSURE CODE	PART NUMBER	ITEM DESCRIPTION	UNIT	QTY. AUT.	J	F	M	A	M	J	J	A	S	O	N	D
	013-r	1½"L x micro tip, P/N 41542	ea	1												
	013-s	Offset, #1 x #2, P/N 41316	ea	1												
	013-t	4-in-1 pocket screw driver, P/N 4160	ea	1												
	013-u	Torx, T-15, P/N 41474	ea	1												
	013-v	Torx, T-10, P/N 41473	ea	1												
	013-w	Torx, T-20, P/N 41475	ea	1												
	013-x	Torx, T-25, P/N 41476	ea	1												
RF3	120	**Reciprocating Saw**	ea	1												
	120-a	Allen Wrench	ea	1												
	009	Saw Blade, 14 Teeth/Inch	ea	5												
	010	Saw Blades, 18 Teeth/Inch	ea	5												
	011	Saw Blades, 24 Teeth/Inch	ea	5												
RF4	173a	10" adjustable wrench	ea	1												
	174	**Wrench Set, Socket (122 Pcs) (or GMTK, item 174.1)**	set	1												
	174-a	6 Pt. ¼" Std. Skt., SAE $^{7}/_{32}$"	ea	1												
	174-b	6 Pt. ¼" Std. Skt., SAE ¼"	ea	1												
	174-c	6 Pt. ¼" Std. Skt., SAE $^{9}/_{32}$"	ea	1												
	174-d	6 Pt. ¼" Std. Skt., SAE $^{5}/_{16}$"	ea	1												
	174-e	6 Pt. ¼" Std. Skt., SAE $^{11}/_{32}$"	ea	1												
	174-f	6 Pt. ¼" Std. Skt., SAE $^{3}/_{8}$"	ea	1												
	174-g	6 Pt. ¼" Std. Skt., SAE $^{7}/_{16}$"	ea	1												
	174-h	6 Pt. ¼" Std. Skt., SAE ½"	ea	1												
	174-i	6 Pt. ¼" Std. Skt., SAE $^{9}/_{16}$"	ea	1												
	174-j	6 Pt. ¼" Std. Skt., Metric 5.5 mm	ea	1												
	174-k	6 Pt. ¼" Std. Skt., Metric 6 mm	ea	1												
	174-l	6 Pt. ¼" Std. Skt., Metric 7 mm	ea	1												
	174-m	6 Pt. ¼" Std. Skt., Metric 8 mm	ea	1												
	174-n	6 Pt. ¼" Std. Skt., Metric 9 mm	ea	1												
	174-o	6 Pt. ¼" Std. Skt., Metric 10 mm	ea	1												
	174-p	6 Pt. ¼" Std. Skt., Metric 11 mm	ea	1												
	174-q	6 Pt. ¼" Std. Skt., Metric 12 mm	ea	1												
	174-r	6 Pt. ¼" Std. Skt., Metric 13 mm	ea	1												
	174-s	6 Pt. ¼" Std. Skt., Metric 14 mm	ea	1												
	174-t	6 Pt. ¼" Dp. Skt., SAE ¼"	ea	1												
	174-u	6 Pt. ¼" Dp. Skt., SAE $^{9}/_{32}$"	ea	1												
	174-v	6 Pt. ¼" Dp. Skt., SAE $^{5}/_{16}$"	ea	1												
	174-w	6 Pt. ¼" Dp. Skt., SAE $^{3}/_{8}$"	ea	1												
	174-x	6 Pt. ¼" Dp. Skt., SAE $^{7}/_{16}$"	ea	1												
	174-y	6 Pt. ¼" Dp. Skt., Metric 7 mm	ea	1												
	174-z	6 Pt. ¼" Dp. Skt., Metric 8 mm	ea	1												
	174-aa	6 Pt. ¼" Dp. Skt., Metric 9 mm	ea	1												
	174-ab	6 Pt. ¼" Dp. Skt., Metric 10 mm	ea	1												
	174-ac	6 Pt. ¼" Dp. Skt., Metric 11 mm	ea	1												
	174-ad	¼" QR Ratchet, ¼"	ea	1												
	174-ae	3", Extension Bar, ¼"	ea	1												
	174-af	6 Pt. $^{3}/_{8}$" Std. Skt., SAE $^{3}/_{8}$"	ea	1												
	174-ag	6 Pt. $^{3}/_{8}$" Std. Skt., SAE $^{7}/_{16}$"	ea	1												
	174-ah	6 Pt. $^{3}/_{8}$" Std. Skt., SAE ½"	ea	1												
	174-ai	6 Pt. $^{3}/_{8}$" Std. Skt., SAE $^{9}/_{16}$"	ea	1												

SEW Serial #s 581 & higher
INVENTORY CONTROL FORM

ENCLOSURE CODE	PART NUMBER	ITEM DESCRIPTION	UNIT	QTY. AUT.	J	F	M	A	M	J	J	A	S	O	N	D
	174-aj	6 Pt. $^{3}/_{8}$" Std. Skt., SAE $^{5}/_{8}$"	ea	1												
	174-ak	6 Pt. $^{3}/_{8}$" Std. Skt., SAE $^{11}/_{16}$"	ea	1												
	174-al	6 Pt. $^{3}/_{8}$" Std. Skt., SAE ¾"	ea	1												
	174-am	6 Pt. $^{3}/_{8}$" Std. Skt., Metric 10 mm	ea	1												
	174-an	6 Pt. $^{3}/_{8}$" Std. Skt., Metric 12 mm	ea	1												
	174-ao	6 Pt. $^{3}/_{8}$" Std. Skt., Metric 13 mm	ea	1												
	174-ap	6 Pt. $^{3}/_{8}$" Std. Skt., Metric 14 mm	ea	1												
	174-aq	6 Pt. $^{3}/_{8}$" Std. Skt., Metric 15 mm	ea	1												
	174-ar	6 Pt. $^{3}/_{8}$" Std. Skt., Metric 16 mm	ea	1												
	174-as	6 Pt. $^{3}/_{8}$" Std. Skt., Metric 17 mm	ea	1												
	174-at	6 Pt. $^{3}/_{8}$" Std. Skt., Metric 18 mm	ea	1												
	174-au	12 Pt. $^{3}/_{8}$" Std. Skt., SAE ¼"	ea	1												
	174-av	12 Pt. $^{3}/_{8}$" Std. Skt., SAE $^{3}/_{8}$"	ea	1												
	174-aw	12 Pt. $^{3}/_{8}$" Std. Skt., SAE $^{7}/_{16}$"	ea	1												
	174-ax	12 Pt. $^{3}/_{8}$" Std. Skt., SAE ½"	ea	1												
	174-ay	12 Pt. $^{3}/_{8}$" Std. Skt., SAE $^{9}/_{16}$"	ea	1												
	174-az	12 Pt. $^{3}/_{8}$" Std. Skt., SAE $^{5}/_{8}$"	ea	1												
	174-ba	12 Pt. $^{3}/_{8}$" Std. Skt., SAE $^{11}/_{16}$"	ea	1												
	174-bb	12 Pt. $^{3}/_{8}$" Std. Skt., SAE ¾"	ea	1												
	174-bc	12 Pt. $^{3}/_{8}$" Std. Skt., Metric 9 mm	ea	1												
	174-bd	12 Pt. $^{3}/_{8}$" Std. Skt., Metric 10 mm	ea	1												
	174-be	12 Pt. $^{3}/_{8}$" Std. Skt., Metric 11 mm	ea	1												
	174-bf	12 Pt. $^{3}/_{8}$" Std. Skt., Metric 12 mm	ea	1												
	174-bg	12 Pt. $^{3}/_{8}$" Std. Skt., Metric 13 mm	ea	1												
	174-bh	12 Pt. $^{3}/_{8}$" Std. Skt., Metric 14 mm	ea	1												
	174-bi	12 Pt. $^{3}/_{8}$" Std. Skt., Metric 15 mm	ea	1												
	174-bj	12 Pt. $^{3}/_{8}$" Std. Skt., Metric 16 mm	ea	1												
	174-bk	12 Pt. $^{3}/_{8}$" Std. Skt., Metric 17 mm	ea	1												
	174-bl	12 Pt. $^{3}/_{8}$" Std. Skt., Metric 18 mm	ea	1												
	174-bm	12 Pt. $^{3}/_{8}$" Std. Skt., Metric 19 mm	ea	1												
	174-bn	6 Pt. $^{3}/_{8}$" Dp. Skt., SAE, $^{3}/_{8}$"	ea	1												
	174-bo	6 Pt. $^{3}/_{8}$" Dp. Skt., SAE $^{7}/_{16}$"	ea	1												
	174-bp	6 Pt. $^{3}/_{8}$"Dp. Skt., SAE ½"	ea	1												
	174-bq	6 Pt. $^{3}/_{8}$"Dp. Skt., SAE $^{9}/_{16}$"	ea	1												
	174-br	6 Pt. $^{3}/_{8}$"Dp. Skt., SAE $^{5}/_{8}$"	ea	1												
	174-bs	6 Pt. $^{3}/_{8}$" Dp. Skt., Metric 10 mm	ea	1												
	174-bt	6 Pt. $^{3}/_{8}$" Dp. Skt., Metric 11 mm	ea	1												
	174-bu	6 Pt. $^{3}/_{8}$" Dp. Skt., Metric 12 mm	ea	1												
	174-bv	6 Pt. $^{3}/_{8}$" Dp. Skt., Metric 13 mm	ea	1												
	174-bw	6 Pt. $^{3}/_{8}$" Dp. Skt., Metric 14 mm	ea	1												
	174-bx	$^{3}/_{8}$", QR Ratchet Long, $^{3}/_{8}$"	ea	1												
	174-by	6", Extension Bar, $^{3}/_{8}$	ea	1												
	174-bz	$^{5}/_{8}$", Spark Plug Skt., $^{3}/_{8}$"	ea	1												
	174-ca	12 Pt. ½" Std. Skt., SAE ¾"	ea	1												
	174-cb	12 Pt. ½" Std. Skt., SAE $^{13}/_{16}$"	ea	1												
	174-cc	12 Pt. ½" Std. Skt., SAE $^{7}/_{8}$"	ea	1												
	174-cd	12 Pt. ½" Std. Skt., SAE $^{15}/_{16}$"	ea	1												
	174-ce	12 Pt. ½" Std. Skt., Metric 17 mm	ea	1												
	174-cf	12 Pt. ½" Std. Skt., Metric 18 mm	ea	1												
	174-cg	12 Pt. ½" Std. Skt., Metric 19 mm,	ea	1												

ENCLOSURE CODE	PART NUMBER	ITEM DESCRIPTION	UNIT	QTY. AUT.	J	F	M	A	M	J	J	A	S	O	N	D
	174-ch	12 Pt. ½" Std. Skt., Metric 21 mm	ea	1												
	174-ci	½", QR Ratchet, ½"	ea	1												
	174-cj	$^{3}/_{8}$ X $^{7}/_{16}$, Open End Wrench SAE	ea	1												
	174-ck	½ X $^{9}/_{16}$, Open End Wrench SAE	ea	1												
	174-cl	10 X 11 mm, Open End Wrench Metric	ea	1												
	174-cm	12 X 14 mm, Open End Wrench Metric	ea	1												
	174-cn	11pc, Hex Key Set SAE Short	ea	11												
	174-co	7pc, Magnetic Handle Screwdriver Bit Set	ea	7												
	174-cp	12pc, Nut Driver Bit Set S/M	ea	12												
	174.1	**Tool Kit, General Mechanics (or Wrech Set, Socket, item 174)**	set	1												
	174.1-a	6 Pt. ¼" Dr. Std. Skt. $^{5}/_{32}$"	ea	1												
	174.1-b	6 Pt. ¼" Dr. Std. Skt. $^{3}/_{16}$"	ea	1												
	174.1-c	6 Pt. ¼" Dr. Std. Skt. $^{7}/_{32}$"	ea	1												
	174.1-d	6 Pt. ¼" Dr. Std. Skt. ¼"	ea	1												
	174.1-e	6 Pt. ¼" Dr. Std. Skt. $^{9}/_{32}$"	ea	1												
	174.1-f	6 Pt. ¼" Dr. Std. Skt. $^{5}/_{16}$"	ea	1												
	174.1-g	6 Pt. ¼" Dr. Std. Skt. $^{11}/_{32}$"	ea	1												
	174.1-h	6 Pt. ¼" Dr. Std. Skt. $^{3}/_{8}$"	ea	1												
	174.1-i	6 Pt. ¼" Dr. Std. Skt. $^{7}/_{16}$"	ea	1												
	174.1-j	6 Pt. ¼" Dr. Std. Skt. ½"	ea	1												
	174.1-k	6 Pt. ¼" Dr. Dp. Skt. $^{3}/_{16}$"	ea	1												
	174.1-l	6 Pt. ¼" Dr. Dp. Skt. $^{7}/_{32}$"	ea	1												
	174.1-m	6 Pt. ¼" Dr. Dp. Skt. ¼"	ea	1												
	174.1-n	6 Pt. ¼" Dr. Dp. Skt. $^{9}/_{32}$"	ea	1												
	174.1-o	6 Pt. ¼" Dr. Dp. Skt. $^{5}/_{16}$"	ea	1												
	174.1-p	6 Pt. ¼" Dr. Dp. Skt. $^{11}/_{32}$"	ea	1												
	174.1-q	6 Pt. ¼" Dr. Dp. Skt. $^{3}/_{8}$"	ea	1												
	174.1-r	6 Pt. ¼" Dr. Dp. Skt. $^{7}/_{16}$"	ea	1												
	174.1-s	6 Pt. ¼" Dr. Std. Skt. 4mm	ea	1												
	174.1-t	6 Pt. ¼" Dr. Std. Skt. 5mm	ea	1												
	174.1-u	6 Pt. ¼" Dr. Std. Skt. 6mm	ea	1												
	174.1-v	6 Pt. ¼" Dr. Std. Skt. 7mm	ea	1												
	174.1-w	6 Pt. ¼" Dr. Std. Skt. 8mm	ea	1												
	174.1-x	6 Pt. ¼" Dr. Std. Skt. 9mm	ea	1												
	174.1-y	6 Pt. ¼" Dr. Std. Skt. 10mm	ea	1												
	174.1-z	6 Pt. ¼" Dr. Std. Skt. 11mm	ea	1												
	174.1-aa	6 Pt. ¼" Dr. Std. Skt. 12mm	ea	1												
	174.1-ab	6 Pt. ¼" Dr. Std. Skt. 13mm	ea	1												
	174.1-ac	6 Pt. ¼" Dr. Dp. Skt. 4mm	ea	1												
	174.1-ad	6 Pt. ¼" Dr. Dp. Skt. 5mm	ea	1												
	174.1-ae	6 Pt. ¼" Dr. Dp. Skt. 6mm	ea	1												
	174.1-af	6 Pt. ¼" Dr. Dp. Skt. 7mm	ea	1												
	174.1-ag	6 Pt. ¼" Dr. Dp. Skt. 8mm	ea	1												
	174.1-ah	6 Pt. ¼" Dr. Dp. Skt. 9mm	ea	1												
	174.1-ai	6 Pt. ¼" Dr. Dp. Skt. 10mm	ea	1												
	174.1-aj	6 Pt. ¼" Dr. Dp. Skt. 11mm	ea	1												
	174.1-ak	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. $^{3}/_{8}$"	ea	1												
	174.1-al	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. $^{7}/_{16}$"	ea	1												

SEW Serial #s 581 & higher
INVENTORY CONTROL FORM

ENCLOSURE CODE	PART NUMBER	ITEM DESCRIPTION	UNIT	QTY. AUT.	J	F	M	A	M	J	J	A	S	O	N	D
	174.1-am	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. ½"	ea	1												
	174.1-an	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. $^{9}/_{16}$"	ea	1												
	174.1-ao	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. $^{5}/_{8}$"	ea	1												
	174.1-ap	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. $^{11}/_{16}$"	ea	1												
	174.1-aq	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. ¾"	ea	1												
	174.1-ar	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. $^{13}/_{16}$"	ea	1												
	174.1-as	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. $^{3}/_{8}$"	ea	1												
	174.1-at	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. $^{7}/_{16}$"	ea	1												
	174.1-au	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. ½"	ea	1												
	174.1-av	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. $^{9}/_{16}$"	ea	1												
	174.1-aw	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. $^{5}/_{8}$"	ea	1												
	174.1-ax	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. $^{11}/_{16}$"	ea	1												
	174.1-ay	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. ¾"	ea	1												
	174.1-az	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. $^{13}/_{16}$"	ea	1												
	174.1-ba	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. $^{7}/_{8}$"	ea	1												
	174.1-bb	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. 10mm	ea	1												
	174.1-bc	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. 11mm	ea	1												
	174.1-bd	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. 12mm	ea	1												
	174.1-be	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. 13mm	ea	1												
	174.1-bf	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. 14mm	ea	1												
	174.1-bg	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. 15mm	ea	1												
	174.1-bh	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. 16mm	ea	1												
	174.1-bi	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. 17mm	ea	1												
	174.1-bj	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. 18mm	ea	1												
	174.1-bk	12 Pt. $^{3}/_{8}$" Dr. Std. Skt. 19mm	ea	1												
	174.1-bl	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. 10mm	ea	1												
	174.1-bm	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. 11mm	ea	1												
	174.1-bn	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. 12mm	ea	1												
	174.1-bo	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. 13mm	ea	1												
	174.1-bp	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. 14mm	ea	1												
	174.1-bq	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. 15mm	ea	1												
	174.1-br	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. 16mm	ea	1												
	174.1-bs	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. 17mm	ea	1												
	174.1-bt	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. 18mm	ea	1												
	174.1-bu	12 Pt. $^{3}/_{8}$" Dr. Dp. Skt. 19mm	ea	1												
	174.1-bv	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. ½"	ea	1												
	174.1-bw	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. $^{9}/_{16}$"	ea	1												
	174.1-bx	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. $^{5}/_{8}$"	ea	1												
	174.1-by	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. $^{11}/_{16}$"	ea	1												
	174.1-bz	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. ¾"	ea	1												
	174.1-ca	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. $^{13}/_{16}$"	ea	1												
	174.1-cb	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. $^{7}/_{8}$"	ea	1												
	174.1-cc	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. $^{15}/_{16}$"	ea	1												
	174.1-cd	12 Pt. $^{1}/_{2}$" Dr. Dp. Skt. ½"	ea	1												
	174.1-ce	12 Pt. $^{1}/_{2}$" Dr. Dp. Skt. $^{9}/_{16}$"	ea	1												
	174.1-cf	12 Pt. $^{1}/_{2}$" Dr. Dp. Skt. $^{5}/_{8}$"	ea	1												
	174.1-cg	12 Pt. $^{1}/_{2}$" Dr. Dp. Skt. $^{11}/_{16}$"	ea	1												
	174.1-ch	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. 18mm	ea	1												
	174.1-ci	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. 19mm	ea	1												
	174.1-cj	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. 20mm	ea	1												

ENCLOSURE CODE	PART NUMBER	ITEM DESCRIPTION	UNIT	QTY. AUT.	J	F	M	A	M	J	J	A	S	O	N	D
	174.1-ck	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. 21mm	ea	1												
	174.1-cl	12 Pt. $^{1}/_{2}$" Dr. Std. Skt. 22mm	ea	1												
	174.1-cm	¼" Dr. 3" Extension	ea	1												
	174.1-cn	¼" Dr. Spinner Handle	ea	1												
	174.1-co	¼" Dr. Round Head Ratchet	ea	1												
	174.1-cp	6 Pt. $^{3}/_{8}$" Dr. Spk. Plg. Skt. $^{5}/_{8}$"	ea	1												
	174.1-cq	6 Pt. $^{3}/_{8}$" Dr. Spk. Plg. Skt. $^{13}/_{16}$"	ea	1												
	174.1-cr	$^{3}/_{8}$" Dr. 3" Extension	ea	1												
	174.1-cs	$^{3}/_{8}$" Dr. Round Head Ratchet	ea	1												
	174.1-ct	$^{3}/_{8}$" Dr. Adapter $^{3}/_{8}$"F-$^{1}/_{4}$"M	ea	1												
	174.1-cu	½" Dr. 3" Extension	ea	1												
	174.1-cv	½" Dr. Round Head Ratchet	ea	1												
	174.1-cw	7 pc. Hex Key Set	ea	1												
	174.1-cx	High Density Polyethylene Case	ea	1												
	175	Allen Wrench Set, Std	set	1												
	175a	Key Size .050"	ea	1												
	175b	Key Size 1/16"	ea	1												
	175c	Key Size 5/64"	ea	1												
	175d	Key Size 3.32"	ea	1												
	175c	Key Size 7/64"	ea	1												
	175d	Key Size 1/8"	ea	1												
	175e	Key Size 9/64"	ea	1												
	175f	Key Size 5/32"	ea	1												
	175g	Key Size 3/16"	ea	1												
	175h	Key Size 7/32"	ea	1												
	175I	Key Size ¼"	ea	1												
	175j	Key Size 5/16"	ea	1												
	175k	Key Size 3/8"	ea	1												
	176	Allen Wrench Set, Metric	set	1												
	176a	1.5 Short	ea	1												
	176b	2 Short	ea	1												
	176c	2.5 Short	ea	1												
	176d	3 Short	ea	1												
	176e	4 Short	ea	1												
	176f	4.5 Short	ea	1												
	176g	1.5 Long	ea	1												
	176h	2 Long	ea	1												
	176i	2.5 Long	ea	1												
	176j	3 Long	ea	1												
	176k	4 Long	ea	1												
	176l	5 Long	ea	1												
	176m	6 Long	ea	1												
	176n	7 Long	ea	1												
RF5	250	Roof Rope	ea	1												
	401	Curtain Rod Hooks	ea	10												
RF6	070	Face Shield	ea	1												
	084	Goggles, Welder's	ea	1												
	091	Helmet, Welder's	ea	1												
RF7	002	Welding Apron, Cloth	ea	1												
	003	Welding Sleeves	pr	1												

SEW Serial #s 581 & higher
INVENTORY CONTROL FORM

ENCLOSURE CODE	PART NUMBER	ITEM DESCRIPTION	UNIT	QTY. AUT.	J	F	M	A	M	J	J	A	S	O	N	D
	081	Wleding Gloves	pr	1												
	082	TIG Welding Gloves	ea	1												
	083	High Heat Mittens	pr	1												
	036	Welding Curtains	ea	4												
RF8	070	Face Shield (071 – Headband, Connected)	ea	1												
	091	Helmet, Welder's	ea	1												
	084	Goggles, Welder's	ea	1												
RF9	256	Roof Tarp	ea	1												
RF10	213	Argon Reel	ea	1												
RF11	217	Power-Out Reel	ea	1												
RF12	217	Power-In Reel	ea	1												
RR1	093	Holder, Electrode	ea	1												
	129	Torch Outfit, Air Arc Gouging	ea	1												
	130	Torch Outfit, TIG	ea	1												
	147	MIG Gun w/Steel Liner	ea	1												
	148a	Aluminum Liner	ea	1												
	671e	WC-24 Control	ea	1												
RR2	109a	Respirators	ea	20												
RR3	131	Collet, GTAW, $^{1}/_{16}$"	ea	3												
	132	Collet, GTAW, $^{3}/_{32}$"	ea	3												
	133	Collet, GTAW, $^{1}/_{8}$"	ea	3												
	134	Gas Lens, Collet Body, $^{1}/_{16}$"	ea	3												
	135	Gas Lens, Collet Body, $^{3}/_{32}$"	ea	3												
	136	Gas Lens, Collet Body, $^{1}/_{8}$"	ea	3												
	137	Cup, Ceramic, GTAW, Size 6	ea	3												
	138	Cup, Ceramic, GTAW, Size 7	ea	3												
	139	Cup, Ceramic, GTAW, Size 8	ea	3												
	140	TIG Back Cap, Long	ea	1												
	140a	TIG Back Cap, Button	ea	1												
	142	Gasket Insulator	ea	1												
	151	Drive Roller Set, Aluminum, w/Wire Guide	ea	1												
	152	Drive Roller Set, Steel, w/Wire Guide	ea	1												
	034	Soap Stone	ea	20												
	035	Soapstone Holder	ea	1												
	085	#5 Filter Plate Lens, 2x4 for Item 084	ea	1												
	143	Electrode, Tungsten Rods, $^{1}/_{16}$"	ea	3												
	144	Electrode, Tungsten Rods, $^{3}/_{32}$"	ea	3												
	145	Electrode, Tungsten Rods, $^{1}/_{8}$"	ea	3												
	092	Clear Lens, 2x4	ea	3												
	671i	Spoolgun Spare Wire Liner	ea	1												
	671l	Spoolgun “T” Wrench	ea	1												
	671r	Spoolgun Allen Wrench	ea	1												
	671s	Spoolgun Replacement Contact Tip	ea	1												
RR4	025	Light C-Clamps	ea	2												
	026	Medium C-Clamps	ea	2												
	015	Scratch Wire Brush	ea	2												
	072	File, Flat, 10"	ea	1												
	073	File, Half-Round, 12"	ea	1												
	074	File, Half-Round, 14"	ea	1												

ENCLOSURE CODE	PART NUMBER	ITEM DESCRIPTION	UNIT	QTY. AUT.	J	F	M	A	M	J	J	A	S	O	N	D
RR5	089	Hammer	ea	1												
	124	Combination Square	ea	1												
	103	Diagonal Cutters	ea	1												
	104	Slip-Joint Pliers	ea	1												
	105	Needle-Nose Pliers	ea	1												
	098	Torpedo Level	ea	1												
	090	Hammer, Chipping	ea	1												
	107	Wrecking Bar	ea	1												
	125	Measuring Tape	ea	1												
	012	6-in-1 Screwdriver Set	set	1												
	004	Awl, Scratch	ea	2												
	024	Cold Chisels	ea	3												
	108	Center Punch	ea	1												
RR6	671	Spool Gun	ea	1												
	671a	Spool Gun Cable	ea	1												
	671b	Spool Gun (Wire Holder)	ea	1												
RR7	220	Weld Reel (Pos)	ea	1												
LF1	128	High Frequency Unit	ea	1												
LF2	146b	Wire Feeder, 8VS	ea	1												
LF3	065	10-lb. Spool Wire, Flux Coated	ea	1												
	066	Dry Storage Box	ea	1												
	061a	5-lb Alum, ER5356	ea	2												
	292	1-lb Alum, (.030) ER4045	ea	5												
	293	1-lb Alum, (.030) ER5356	ea	5												
LF4	068	Fire Extinguisher, 10-lb.	ea	1												
LF5	030 OR 030a	Air Compressor – DeVilbiss OR Air Compressor – Thomas	ea ea	1 1												
LF6	116	Rod Guard Containers, 14", for 058, 059, 060 & 067 + 3 Spares	ea	6												
	058	Carbon, $^{3}/_{16}$" x 12"	ea	50												
	059	Carbon, $^{5}/_{32}$" x 12"	ea	50												
	290	Electrode, Stainless Steel 308	lbs	10												
	067	Welding, .156"	lbs	10												
LF7	214	Air Reel Assembly w/Item 215, Female Coupler	ea	1												
LR1	115	Rod Guard Containers for Items 112, 113 & 114 + 2 Spares	ea	5												
	112	36" Brazing Rods (Flux Coated Bronze)	lbs	5												
	113	36" Weld Rods (Aluminum)	lbs	5												
	114	36" Weld Rods (Steel)	lbs	5												
LR2	099	Light Extension	ea	1												
	232	Operator's Manual Boxes	ea	2												
LR3	039	Portable Rollers	ea	2												
LR4	102	Small Bucket	ea	1												
	228	Funnel & Hose	ea	2												
LR5	005	Blades, Hacksaw, 18 Tooth	bdl	10												
	006	Blades, Hacksaw, 24 Tooth	bdl	10												
	007	Blades, Hacksaw, 32 Tooth	bdl	10												
	008	Frame, Hacksaw	ea	1												

SEW Serial #s 581 & higher
INVENTORY CONTROL FORM

ENCLOSURE CODE	PART NUMBER	ITEM DESCRIPTION	UNIT	QTY. AUT.	J	F	M	A	M	J	J	A	S	O	N	D
	029	Tip Cleaners	ea	1												
	079	Flint Tips	pk	1												
	097	Striker	ea	1												
	126	Temp stick 200 deg.	ea	1												
	127	Temp Stick 400 Deg.	ea	1												
	155a	Torch Set Oxy-Acetylene Consisting of:														
	156	Torch Handle w/ Check Valves	ea	1												
	156a	Flash Arrestors to be Installed on Torch Handle	ea	2												
	157	Torch Cutting Attachment	ea	1												
	158a	Acetylene welding tip, Size 3	ea	1												
	159a	Acetylene welding tip, Size 5	ea	1												
	160a	Acetylene welding tip, Size 7	ea	1												
	161a	Heating Tip	ea	1												
	162a	Acetylene Cutting Tip, Size 1	ea	1												
	163a	Acetylene Cutting Tip, Size 4	ea	1												
	164a	Acetylene Cutting Tip, Size 6	ea	1												
	165	10-Way Wrench	ea	1												
LR6	028	Clamp, Welding Pliers	ea	2												
	086	Gun, Air Blow	ea	1												
	088	Hammer, Scaling	ea	1												
	088a	Flat Chisel	ea	1												
	088b	Routing Chisel	ea	1												
	088c	Scaling Chisel	ea	1												
	121	Solder, 95/5	sp	1												
	122	Flux, Soldering	ea	1												
	106	Ear Plugs	bx	20												
LR7	014	Wire Cup Brush	ea	1												
	049	24 Grit Disc	pc	10												
	050	36 Grit Disc	pc	10												
	051	Sanding Backing Pad	ea	1												
	052	Cutting Disc	ea	5												
	054	Arbor Insert	ea	1												
	055	Drill Bit Box	ea	1												
	056	**Electric Drill, ½"**	ea	1												
	056-a	Handle	ea	1												
	117	Grinder, 4½"	ea	1												
	118	Handle for 117	ea	1												
	119	Disc Wrench	ea	1												
LR8	168	Oxygen Regulator	ea	1												
	168a	Oxygen Guard Attached to Regulator	ea	1												
	169b	Acetylene Regulator	ea	1												
	169a	Acetylene Guard Attached to Regulator	ea	1												
	166	Argon Regulator	ea	1												
	229	Flash Arrestors, (Green Attached to Oxygen Gauge, Red Attached to Acetylene Gauge)	ea	2												
LR9	220	Welder Work Connection Reel	ea	1												
Weld Enclosure																

ENCLOSURE CODE	PART NUMBER	ITEM DESCRIPTION	UNIT	QTY. AUT.	J	F	M	A	M	J	J	A	S	O	N	D
Front	261	Ground Rod	ea	1												
	037	Argon Cylinder	ea	1												
	040	Hose, Argon	ea	1												
	043	Oxygen Cylinder	ea	1												
	044a	Hose, Oxygen, Green	ea	1												
	044b	Hose, Acetylene, Red	ea	1												
	047a	Acetylene Cylinder	ea	1												
	219	Reel, Oxygen-Acetylene	ea	1												
	251	Battery	ea	1												
	252	Battery Cables	ea	2												
	253	Battery Box	ea	1												
Rear	230	Work Lights, Right & Left	ea	1												
	170	Vise	ea	1												
	075	First Aid Kit	ea	1												
	039	Portable Roller, 9"	ea	2												
	171a OR 171b	Welder, Trailblazer 301D OR Welder, Trailblazer 302 Diesel	ea ea	1 1												
	123	Carpenter's Square	ea	1												
	656	Hotbox	ea	1												

TMWSS/SEW
LIST OF ACRONYMS/ABBREVIATIONS

A

A	Amps
A/V	Amps/Volts
AAC	Air-carbon Arc Cutting
AC or A/C	Alternating Current

B

BDL	Bundle

C

CFM	Cubic Feet per Minute
CG	Center of Gravity
CPC	Corrosion Prevention & Control

D

DA (Form)	Department of the Army
DC or D/C	Direct Current
DoT	Department of Transportation

E

EIR	Equipment Improvement Recommendations
EPA	Environmental Protection Agency
EXT	External

F

F	Fahrenheit
FCAW	Flux Cored Arc Welding
ft	foot/feet

G

GEN	Generator
GTAW	Gas Tungsten Arc Welding

H

HF	High Frequency
hr	hour

L

lbs	pounds
LF	Left Front
LG	long
LIN	Line Item Number
LR	Left Rear

M

MIL-STD	Military Standard
Std	Standard

N

NSN	National Stock Number

O

OFC	Oxy-fuel Gas Cutting
OFW	Oxy-fuel Gas Welding
OM	Operator's Manual
OSHA	Office of Safety & Health Administration

P

pcs	pieces
PMCS	Preventive Maintenance Checks & Services
PSI	Pounds per Square Inch

R

RF	Right Front
RR	Right Rear

S

SEW	Shop Equipment Welding
SF	Standard Form
SMAW	Shielded Metal Arc Welding

T

TB	Torch Brazing
TM	Technical Manual
TMDE	Test, Measurement and Diagnostic Equipment
TMWSS	Trailer Mounted Welding Shop Set

TMWSS/SEW
INDEX

Subject	*Paragraph*	*Page*
A		
AAC	1.3.1, 1.3.3	1-3, 2-54
A/C Power		2-18
Air Compressor - Operating		2-26
Arc Welding Processes	1.3.1	1-3
B		
Brazing		2-58
C		
Calibration	1.13	1-8
Closedown Procedure		2-20
Commercial Manuals Work Package		3-1
Compressed Air	1.3.3	1-3
Concept of Operation	1.3	1-3
CPC	1.7	1-4
Cutting Equipment		1-14
Cylinder - Argon		2-46, 4-29
Cylinder - Oxygen		4-29
Cylinder - Propylene		2-57, 4-28
D		
Dimensions	1.3.8	1-4
Doors - Opening		2-12
E		
EIR	1.6	1-4
Electrical Circuitry		3-2
Enclosure - Left Front		1-18
Enclosure - Left Rear		1-20
Enclosure - Repair		4-14, 4-35
Enclosure - Right Front		1-12
Enclosure - Right Rear		1-15
Enclosure - Weld Compartment		1-24
External Power		2-24
F		
FCAW (MIG)	1.3.1	1-3, 2-35
Forms	1.4	1-4

Subject	Paragraph	Page
G		
Gas Cylinders - Loading & Unloading		4-27
Gas Cylinders - Regulators		2-17
GFE Trailer Wiring - Modification		3-4, 4-24
GTAW (TIG)	1.3.1	1-3, 2-46
H		
Historical Data		3-1
L		
Lighting	1.3.9	1-4
Log - Troubleshooting/Repair/Maintenance		4-2, 4-7
M		
Maintenance - Field		4-2
Maintenance - Periodic		4-2
Maintenance - Periodic Schedule		4-4
Maintenance - Sustainment		4-2
Maintenance Instructions		4-1
Major Components	1.15	1-9
Material - Destruction of	1.8	1-5
O		
Operation - Cold Temperature		2-59
Operation - Hot Temperature		2-59
Operational Distance	1.3.4	1-3
Ordering Parts		4-37
Orientation	1.3.10	1-4
Overview	1.14	1-9
Oxy-fuel Cutting		2-57
Oxy-fuel Gas Welding	1.3.2	1-3
P		
Parts List		4-35, 4-43
Parts Order Form		4-37
PMCS Table		2-2
Power Selector Switch		3-2
Preparation for Storage or Shipment	1.9	1-5

Subject	*Paragraph*	*Page*
R		
Remote Operation		2-25
Repairable Equipment		4-35
Reporting of Manual Errors	1.5	1-4
Roof - Unlock & Raise		2-10
S		
Safety, Care & Handling	1.12	1-6
Set-up Procedure: Emplacement		2-5
Set-up Procedure: Preparation for Operation		2-10
Shipping		4-34
Shipping - Another vehicle		4-34
Shipping - Helicopter		4-34
SMAW	1.3.1	1-3, 2-31
Spool Gun		4-5, 4-14
Stability	1.3.8	1-4
Storage		4-33
Storage - Cold Temperature (indoors)		4-33
Storage - Cold Temperature (outdoors)		4-33
Storage - Hot Temperature		4-33
Storage - Routine Tasks		4-33
Storage - Temperature Requirements		4-33
Strength	1.3.7	1-4
T		
Temperature - Special Precautions		2-59
Transportation		1-8
Troubleshooting		3-1
V		
Vise	1.3.6	1-4
Vise - Installation		2-12
W		
Warranty	1.11	1-5, 4-1
Welder Operation		2-28
Welder Set-up		2-16
Welding Curtains - Installing		2-13
Wiring Diagram		3-3
Workbench	1.3.5	1-4, 4-24

By Order of the Secretary of the Army:

PETER J. SCHOOMAKER
General, United States Army
Chief of Staff

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0321702

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THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meter = 0.3937 Inch
1 Decimeter = 10 Centimeters = 3.94 Inches
1 Meter = 10 Decimeters = 100 Centimeters
= 1000 Millimeters = 39.37 Inches
1 Dekameter = 10 Meters = 32.8 Feet
1 Hectometer = 10 Dekameters = 328.08 Feet
1 Kilometer = 10 Hectometers = 1000 Meters
= 0.621 Mile = 3,280.8 Feet
Millimeters = Inches times 25.4
Inches = Millimeters divided by 25.4

WEIGHTS

1 Centigram = 10 Milligrams = 0.154 Grain
1 Decigram = 10 Centigrams = 1.543 Grains
1 Gram = 0.001 Kilogram = 10 Decigrams
= 1000 Milligrams = 0.035 Ounce
1 Dekagram = 10 Grams = 0.353 Ounce
1 Hectogram = 10 Dekagrams = 3.527 Ounces
1 Kilogram = 10 Hectograms = 1000 Grams = 2.205 Pounds
1 Quintal = 100 Kilograms = 220.46 Pounds
1 Metric Ton = 10 Quintals = 1000 Kilograms = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liter = 0.034 Fluid Ounce
1 Centiliter = 10 Milliliters = 0.34 Fluid Ounce
1 Deciliter = 10 Centiliters = 3.38 Fluid Ounces
1 Liter = 10 Deciliters = 1000 Millimeters = 33.82 Fluid Ounces
1 Dekaliter = 10 Liters = 2.64 Gallons
1 Hectoliter = 10 Dekaliters = 26.42 Gallons
1 Kiloliter = 10 Hectoliters = 264.18 Gallons

SQUARE MEASURE

1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inch
1 Sq Decimeter = 100 Sq Centimeters = 15.5 Sq Inches
1 Sq Meter (Centare) = 10 Sq Decimeters
= 10,000 Sq Centimeters = 10.764 Sq Feet
1 Sq Dekameter (Are) = 100 Sq Meters = 1,076.4 Sq Feet
1 Sq Hectometer (Hectare) = 100 Sq Dekameters
= 2.471 Acres
1 Sq Kilometer = 100 Sq Hectometers
= 1,000,000 Sq Meters = 0.386 Sq Mile

CUBIC MEASURE

1 Cu Centimeter = 1000 Cu Millimeters = 0.061 Cu Inches
1 Cu Decimeter = 1000 Cu Centimeters = 61.02 Cu Inches
1 Cu Meter = 1000 Cu Decimeters
= 1,000,000 Cu Centimeters = 35.31 Cu Feet

TEMPERATURE

5/9 (°F - 32°) = °C
(9/5 x °C) + 32° = °F
-35° Fahrenheit is equivalent to -37° Celsius
0° Fahrenheit is equivalent to -18° Celsius
32° Fahrenheit is equivalent to 0° Celsius
90° Fahrenheit is equivalent to 32.2° Celsius
100° Fahrenheit is equivalent to 38° Celsius
212° Fahrenheit is equivalent to 100° Celsius

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pound-Inches	Newton-Meters	0.11375
Pounds per Square Inch	Kilopascals	6.895
Ounce-Inches	Newton-Meters	0.007062
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	Miles per Hour	0.621
°Fahrenheit	°Celsius	°C = (°F-32)x5/9
°Celsius	°Fahrenheit	°F = (9/5x°C)+32

PIN: 078974-000