

MODEL CAS35WG AIR COMPRESSOR / WELDER / AC GENERATOR



Part #99904524





REVISIONS LIST

DATE	LOCATION	DESCRIPTION OF CHANGE
	I	I

READ BEFORE OPERATING COMPRESSOR





Failure to follow operating and maintenance procedures as outlined in this manual could result in equipment damage, personal injury or death. Follow all maintenance procedures and intervals.

Maintenance must be performed

only by trained and qualified

personnel, using correct tools,

specified torques and approved

All electrical components and cable

wiring must be installed and

grounded in accordance with NFPA,

national electrical codes and

Before removing guards or servicing the compressor, disconnect all power supplies.

Display warning signs and lock out

applicable state and local codes.

replacement parts.

electrical circuits.



Do not use air from this compressor for breathing or food processing. Air from this compressor will cause severe injury or death if used for breathing or food processing.



Hot oil under pressure can cause severe injury or death. Shut down, let cool and relieve pressure in compressor before servicing.



Do not overfill the compressor with oil. Use correct quantity of manufacturer's lubricant. Repair leaks and clean spills immediately.



Compressors generate high temperatures. Do not touch or otherwise come in contact with hot surfaces. Doing so can cause severe personal injury.



All guards must be in position and secure before and during operation.





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owner's manual and understanding at features and safety requirements. Favor de no operar sin haber leido el manual de operaciones y entender todos los requerimientos de segunidad.

The safety information given below is only a summary of the more complete safety information found in the Safety Standards listed at the end of this section. Read and follow all Safety Standards.

Only qualified persons should install, operate, maintain, and repair this unit.

During operation, keep everybody, especially children, away.

READ INSTRUCTIONS.

- Use only genuine IMT replacement parts.
- Perform maintenance and service according to this manual.

NEVER WELD WITH THE WORK PIECE ON THE BACK OF THE VEHICLE THAT THE CAS35WG IS MOUNTED ON. ALWAYS GROUND THE UNIT TO THE TRUCK WHEN INSTALLING.

FOLLOW ALL LOCAL CODES.

BE AWARE THAT STOPPING DISTANCE AND HANDLING CHARACTERISTICS FOR YOUR VEHICLE MAY CHANGE WHEN UNIT IS INSTALLED.

- Understand how stopping distance and handling characteristics change with the addition of the CAS35WG to your vehicle. See specifications for unit weight.
- Consult vehicle owner's manual for maximum load specifications.

ELECTRIC SHOCK can kill.

- Touching live electrical parts can cause fatal shocks or severe burns. The electrode and work circuit is electrically live whenever the output is on. The input power circuit and machine internal circuits are also live when the power is on. In semiautomatic or automatic wire welding, the wire, wire reel, drive roll housing, and all metal parts touching the welding wire are electrically live. Incorrectly installed or improperly grounded equipment is a hazard.
- Do not touch live electrical parts.
- · Wear dry, hole-free insulating gloves and body protection.
- Insulate yourself from work and ground using dry insulating mats or covers big enough to prevent any physical contact with the work or ground.
- Do not use AC output in damp areas, if movement is confined, or if there is a danger of falling.
- Disconnect input power or stop engine before installing or servicing this equipment. Observe lockout/tagout standards according to OSHA 29 CFR 1910.147 (see Safety Standards).
- Properly install and ground this equipment according to its owner's manual and national, state, and local codes.
- Always verify the ground and hook it up.
- When making input connections attach proper grounding conductor first double-check connections.
- Frequently inspect all cables for damage or bare wiring replace cord immediately if damaged bare wiring can kill.
- Turn off all equipment when not in use.
- Do not use worn, damaged, undersized, or poorly spliced cables.
- Do not drape cables over your body.
- If earth grounding of the work piece is required, ground it directly with a separate cable.
- Do not touch electrode if you are in contact with the work, ground, or another electrode from a different machine.
- Use only well-maintained equipment. Repair or replace damaged parts at once. Maintain unit according to manual.
- Wear a safety harness if working above floor level.
- Keep all panels and covers securely in place.
- Clamp work cable with good metal-to-metal contact to work piece or work table as near the weld as practical.
- Insulate work clamp when not connected to work piece to prevent contact with any metal object.
- Do not connect more than one electrode or work cable to any single weld output terminal.





PRECAUTIONS READ BEFORE OPERATING CAS35WG



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RISK OF BREATHING INHALATION HAZARD Operate in clean, dry, well

> unit in closed areas. RIESGO DE INHALACION Opere en un lagar impio, seco y bien ventilado. Nunca opere la unidad en areas oerradas.

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• Additional safety precautions are required when any of the following electrically hazardous conditions are present: in damp locations or while wearing wet clothing; on metal structures such as floors, gratings, or scaffolds; when in cramped positions such as sitting, kneeling, or lying; or when there is a high risk of unavoidable or accidental contact with the workpiece or ground. For these conditions, use the following equipment in order presented: 1) a semiautomatic DC constant voltage (wire) welder, 2) a DC manual (stick) welder, or 3) an AC welder with reduced open-circuit voltage. In most situations, use of a DC, constant voltage wire welder is recommended. And, do not work alone!

- When making input connections, attach proper grounding conductor first double-check connections.
- Turn off all equipment when not in use.
- Do not use worn, damaged, undersized, or poorly spliced cables.
- Insulate work clamp when not connected to workpiece to prevent contact with any metal object.

ARC RAYS can burn eyes and skin.

- Arc rays from the welding process produce intense visible and invisible (ultraviolet and infrared) rays that can burn eyes and skin. Sparks fly off from the weld.
- Wear a welding helmet fitted with a proper shade of filter to protect your face and eyes from arc rays and sparks when welding or watching (see ANSI Z49.1 and Z87.1 listed in Safety Standards).
- · Wear approved safety glasses with side shields under your helmet.
- Use protective screens or barriers to protect others from flash and glare. Warn others not to watch the arc.
- · Wear protective clothing made from durable, flame-resistant material (wool and leather) and foot protection.
- Welding produces fumes and gases. Breathing these fumes and gases can be hazardous to your health.

EXHAUST GASES CONTAINS POISONOUS CARBON MONOXIDE. DO NOT OPERATE THE UNIT INDOORS, IN CONFINED AREAS, OR WITHOUT PROPER VENTILATION.

- Do not breathe the fumes.
- If inside, ventilate the area and/or use exhaust at the arc to remove welding fumes and gases.
- If ventilation is poor, use an approved air-supplied respirator.
- Read the Material Safety Data Sheets (MSDS) and the manufacturer's instructions for metals, consumables, coatings, cleaners, and degreasers.
- Work in a confined space only if you have been trained and area is well ventilated, or while wearing an
 air-supplied respirator. Always have a trained watch-person nearby. Welding fumes and gases can displace
 air and lower the oxygen level causing injury or death. Be sure the breathing air is safe.
- Do not weld in locations near degreasing, cleaning, or spraying operations. The heat and rays of the arc can react with vapors to form highly toxic and irritating gases.
- Do not weld on coated metals, such as galvanized, lead, or cadmium plated steel, unless the coating is removed from the weld area, the area is well ventilated, and if necessary, while wearing an air-supplied respirator. The coatings and any metals containing these elements can give off toxic fumes if welded.

BUILDUP OF GAS can injure or kill.

- Shut off shielding gas supply when not in use.
- Always ventilate confined spaces or use approved air-supplied respirator.

ENGINE EXHAUST GASES can kill.

- Use equipment outside in open, well-ventilated areas.
- If used in a closed area, vent engine exhaust outside and away from any building air intakes.

WELDING can cause fire or explosion.

• Shielding gas cylinders contain gas under high pressure. If damaged, a cylinder can explode. Since gas



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cylinders are normally part of the welding process, be sure to treat them carefully.

- Welding on closed containers, such as tanks, drums, or pipes, can cause them to blow up. Sparks can fly off from the welding arc. The flying sparks, hot work piece, and hot equipment can cause fires and burns. Accidental contact of electrode to metal objects can cause sparks, explosion, overheating, or fire. Check and be sure the area is safe before doing any welding.
- Be aware that welding on a ceiling, floor, bulkhead, or partition can cause fire on the hidden side.
 - Use only correct fuses or circuit breakers. Do not oversize or bypass them.
- Follow requirements in OSHA 1910.252 (a) (2) (iv) and NFPA 51B for hot work and have a fire watcher and extinguisher nearby.
- Protect yourself and others from flying sparks and hot metal.
- Do not weld where flying sparks can strike flammable material.
- Remove all flammables within 35 ft (10.7 m) of the welding arc. If this is not possible, tightly cover them • with approved covers.
- Be alert that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas.
- Watch for fire, and keep a fire extinguisher nearby.
- Be aware that welding on a ceiling, floor, bulkhead, or partition can cause fire on the hidden side. ٠
- Do not weld on closed containers such as tanks, drums or pipes unless they are properly prepared according to AWS F4.1 (see Safety Standards).
- Connect work cable to the work as close to the welding area as practical to prevent welding current from traveling long, possibly unknown paths and causing electric shock and fire hazards.
- Do not use welder to thaw frozen pipes.
- Remove stick electrode from holder or cut off welding wire at contact tip when not in use.
- Wear oil-free protective garments such as leather gloves, heavy shirt, cuffless trousers, high shoes, and a cap.
- Remove any combustibles, such as a butane lighter or matches, from your person before doing any welding. ٠

HOT PARTS can cause severe burns.

- Allow cooling period before maintaining.
- Wear protective gloves and clothing when working on a hot engine.
- Do not touch hot engine parts or just-welded parts barehanded.

FLYING METAL can injure eyes.

- · Welding, chipping, wire brushing, and grinding cause sparks and flying metal. As welds cool, they can throw off slag.
- Wear approved safety glasses with side shields even under your welding helmet.

NOISE can damage hearing.

- Noise from some processes or equipment can damage hearing.
- Wear approved ear protection if noise level is high.

FALLING UNIT can cause injury. ADVERTENCIA

- Lift from single point lift location located under lid.
- Use equipment of adequate capacity to lift and support unit.
- If using lift forks to move unit, be sure forks are long enough to extend beyond opposite side of unit.

FLYING SPARKS can cause injury.

- Wear a face shield to protect eyes and face.
- Shape tungsten electrode only on grinder with proper guards in a safe location wearing proper face, hand, and body protection.
- Sparks can cause fires keep flammables away.



WARNING







AWARNING A ADVERTENCIA AVOID SERIOUS INJURY OR DEATH EVITE ACCIDENTES GRAVES O LA MUERTE нот SURFACE SUPERFICIE CALIENTE

READ BEFORE OPERATING CAS35WG

OVERUSE can cause **OVERHEATING**.

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

MOVING PARTS can cause injury.

- Keep away from fans and hydraulic motors.
- Keep all doors, panels, covers, and guards closed and securely in place.
- Stop motors before installing or connecting unit.
- Have only qualified people remove guards or covers for maintenance and troubleshooting as necessary.
- Keep hands, hair, loose clothing, and tools away from moving parts.
- Reinstall panels or guards and close doors when servicing is finished.

MAGNETIC FIELDS can affect pacemakers.

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

FUMES AND GASES can be hazardous.

 Read and understand the Material Safety Data Sheets (MSDSs) and the manufacturer's instructions for metals, consumables, coatings, cleaners, and degreasers.

SIGNIFICANT DC VOLTAGE exists in inverters after stopping engine.

 Stop engine on inverter and discharge input capacitors according to instructions in Maintenance Section before touching any parts

STATIC (ESD) can damage PC boards.

- Put on grounded wrist strap BEFORE handling boards or parts.
- Use proper static-proof bags and boxes to store, move, or ship PC boards.

HF RADIATION can cause interference.

- High-frequency (HF) can interfere with radio navigation, safety services, computers, and communications equipment.
- · Have only qualified persons familiar with electronic equipment perform this installation.
- The user is responsible for having a qualified electrician promptly correct any interference problem resulting from the installation.
- If notified by the FCC about interference, stop using the equipment at once.
- Have the installation regularly checked and maintained.
- Keep high-frequency source doors and panels tightly shut, keep spark gaps at correct setting, and use grounding and shielding to minimize the possibility of interference.
- Never weld with work piece touching vehicle. HF can damage electronics in vehicle.

ARC WELDING can cause interference.

- Electromagnetic energy can interfere with sensitive electronic equipment such as computers and computer-driven equipment such as robots.
- Be sure all equipment in the welding area is electromagnetically compatible.
- To reduce possible interference, keep weld cables as short as possible, close together, and down low, such as on the floor.
- · Locate welding operation 100 meters from any sensitive electronic equipment.
- Be sure this welding machine is installed and grounded according to this manual.
- If interference still occurs, the user must take extra measures such as moving the welding machine, using shielded cables, using line filters, or shielding the work area.



READ BEFORE OPERATING CAS35WG

Using a generator indoors CAN KILL YOU IN MINUTES.

- Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.
- NEVER use inside a home or garage, EVEN IF doors and windows are open.
- · Only use OUTSIDE and far away from windows, doors, and vents.

TRAPPED AIR PRESSURE AND WHIPPING HOSES can cause injury.

• Release air pressure from tools and system before servicing, adding or changing attachments, or opening compressor oil drain or oil fill cap.

HOT METAL from air arc cutting and gouging can cause fire or explosion.

- Do not cut or gouge near flammables.
- Watch for fire; keep extinguisher nearby.

FIRE OR EXPLOSION hazard.

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

OVERHEATING can damage motors.

- Turn off or unplug equipment before starting or stopping engine.
- Do not let low voltage and frequency caused by low engine speed damage electric motors.
- Do not connect 50 or 60 Hertz motors to the 100 Hertz receptacle where applicable.

CONNECTIONS FOR STANDBY POWER TO A BUILDING'S ELECTRICAL SYSTEM MUST BE MADE BY A QUALIFIED ELECTRICIAN AND MUST COMPLY WITH ALL APPLICABLE LAWS AND ELECTRICAL CODES. IMPROPER CONNECTIONS CAN ALLOW ELECTRICAL CURRENT FROM GENERATOR TO BACKFEED INTO UTILITY LINES. SUCH BACKFEED MAY ELECTROCUTE.

California Proposition 65 Warnings

Welding or cutting equipment produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety Code Section 25249.5 et seq.) Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

For Gasoline Engines:

Engine exhaust contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

For Diesel Engines:

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

PRINCIPAL SAFETY STANDARDS

- Safety in Welding and Cutting, ANSI Standard Z49.1, from American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126
- Safety and Health Standards, OSHA 29 CFR 1910, from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402
- Recommended Safe Practices for the Preparation for Welding and Cutting of Containers That Have Held Hazardous Substances, American Welding Society, Standard AWS F4.1, from American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126
- National Electrical Code, NFPA Standard 70, from National Fire Protection Association, Batterymarch Park, Quincy, MA 02269
- Safe Handling of Compressed Gases in Cylinders, CGA Pamphlet P-1, from Compressed Gas Association, 1235 Jefferson Davis Highway, Suite 501, Arlington, VA 22202
- Code for Safety in Welding and Cutting, CSA Standard W117.2, from Canadian Standards Association, Standards Sales, 178 Rexdale Boulevard, Rexdale, Ontario, Canada M9W 1R3
- Safe Practices for Occupation and Educational Eye and Face Protection, ANSI Standard Z87.1, from American National Standards Institute, 1430 Broadway, New York, NY 10018
- Cutting and Welding Processes, NFPA Standard 51B, from National Fire Protection Association, Batterymarch Park, Quincy, MA 02269



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1-1. INTRODUCTION

1

This manual provides information on the installation, operation of the IMT Model CAS35WG Hydraulic Air Compressor, Welder and AC Generator

Three means are used throughout this manual to gain the attention of operating and service personnel. They are NOTEs, CAUTIONs and WARNINGs and are defined as follows:

NOTE

A NOTE IS USED TO EITHER CONVEY ADDITIONAL INFORMATION OR TO PROVIDE FURTHER EMPHASIS FOR A PREVIOUS POINT.

CAUTION

A CAUTION IS USED WHEN THERE IS THE STRONG POSSIBILITY OF DAMAGE TO THE EQUIPMENT OR PREMATURE EQUIPMENT FAILURE.

Operate this equipment with respect and service it regularly for a safer working environment and longer equipment life.

1-2. GENERAL SPECIFICATIONS

Dimensions – Unit47" L x 24" H x 20" WDimensions – Control Box8-1/8" W x 15-1/8" H x 4-1/2" DeepWeight500 lbs.Hydraulic Reservoir Requirement30 gallon minimumCooling Fan Diameter11.5"

1-4. WELDER AND AC GENERATOR SPECIFICATIONS

5000 watts 120 VAC or 240 VAC	
20 amp	
120 VAC / 30 amp	
240 VAC / 20 amp	
250 amps	
60%	
3600 RPM	
13.5 GPM	
800-2500 PSI	
Air	

1-5. AIR COMPRESSOR SPECIFICATIONS

Power Source	Hydraulic Motor
Bore	2-5/8"
Stroke	2-1/2"
Cylinder Configuration	V4
Displacement	44 CFM**
Delivery	35 CFM**
Cooling	Air
Operating Speed	1400 RPM maximum
Lubrication	Oil Pump
Oil Capacity	1-1/3 qts.
Normal GPM @1400 RPM	9.3 GPM
Normal Operating PSI	1850 PSI
Maximum PSI	2400 PSI

** @ 1400 RPM - 100 PSI

WELD, POWER, AND ENGINE SPECIFICATIONS

Welding Mode	Weld Output Range	Related Welding Output	Maximum Open Circuit Voltage
CC/DC	40 - 250 A	250 A, 25 V 60% Duty Cycle	80
CV/DC	17 - 28 V	250 A, 25 V 60% Duty Cycle	41



2-1. GENERAL

This section pertains to the installation of the IMT CAS35WG on to your service vehicle. The instructions are intended as a guide to assist you with your particular installation. These instructions will provide only general information.

2-2. IMT CAS35WG MOUNTING LOCATION

The IMT CAS35WG must be installed directly on top of the service truck utility box (see Figure B-1), set 1" in from the front of the body. NOTE- It may not be mounted inside the service body and must be 1" from the front due to plumbing constraints.

Figure B-1





2-3. IMT CAS35WG HOLE PATTERN

After determining placement of the IMT CAS35WG you will need to mark the location of the hole pattern for mounting hardware.

- Start on the front side of the utility box and mark two holes 18.1875" apart, parallel to one another. Moving towards the rear of the utility box, mark two more hole 21.290" back from the first set of holes and then another set of holes 20.960" back from the second set (be sure to not mark any holes to be drill over any internal support. Holes must be drilled through to clear area of sheet metal).
- 2. Using a 3/8" bit, drill all six holes. Be sure to remove any metal burrs left over after drilling.
- Place rubber washers between unit and utility box. Place unit on top of washers and put 3/8" carrage bolt up through the utility box into the IMT unit. Use metal washer, locknut and threadlocker fluid.

CAUTION IMT CAS35WG IS VERY HEAVY. NEVER TRY TO INSTALL ALONE .



ORDERING INFORMATION

When placing orders or requesting assistance, refer to the information below:

TO BE COMPLETED BY DEALER			
CHASSIS INFORMATION			
TRANSMISSION MAKE:	MODEL:		
PTO NUMBER:	PTO %:		
COMPRESSOR WELDER GENERATOR HYDRAULIC PUMP INFORMATION			
COMPRESSOR/WELDER MODEL:	SERIAL NUMBER:		
PUMP MAKE (compressor):	PUMP MODEL (compressor):		
PUMP MAKE (Welder / Generator):	PUMP MODEL (Welder / Generator):		
PUMP MAKE (compressor):	PUMP MODEL:		
RESERVOIR CAPACITY:	ENGINE RPM:		



SECTION 2. INSTALLATION of Compressor Welder Generator

2-4. CAS35WG Hydraulic Connections on IMT Service Body

- 1. This installation drawing shows a unit with a crane and CAS35WG.
- 2. The hose between the pump to the P1 port on the selector valve is not included in the hose kit because the hose length will vary based on where the selector valve is mounted.
- 3. Items 38 40 are not shown on the on the drawing and are not used if the installation does not include both a crane and the CAS35WG.





ITEM NO.	PART NO.	DESCRIPTION	KIT #	QTY
1	51721579	HOSE KIT-CRANE & CAS35WG W/0 WD		1
2	51721595	HOSE KIT-CAS35WG W/O WD		1
3	51721604	HOSE KIT-CRANE & CAS35WG W / WD		1
4	51721603	CLAMP-HOSE 2.00 T-BOLT		1
5	51719836	KIT-SEL VALVE AUTO FSD DOM I SII		1
6	72531837	REDUCER BUSH-STL 1.25-1.00	1-4	1
7	72534411	TEE-MALE RUN 1 MPT X 1 JIC	1-4	1
8	72532358	ADPTR-M STR/M JIC 8 8	5	1
9	72534438	ADPTR-MPT/HEX/MPT 1.50 1.25	1-4	1
10	72534565	NIPPLE-BEAD 90DEG 24 STR 1.50	1-4	1
11	72532971	ELBOW-M JIC/90/F JIC SW 16 16	1-4	1
12	CAS35WG	CPRSR-WELDER-GEN COMBO HYD DRIVE		2
13	72532972	ADPTR-M JIC/F JIC 8 12	1&3	1
14	51395433	HOSE-FF .50 X 115.00 (8-8) 100R17	1&2	1
15	51396211	HOSE-FF .50 X 152.00 (8-8) 100R17	3&4	1
16	51395064	HOSE-FF .75 X 94.00 (12-12) 100R16	1&2	1
17	51708479	HOSE-FF .75 X 132.00 (12-12) 100R16	3&4	1
18	51394266	HOSE-FF 1.00 X 63.00 (16-16) 100R2	1-4	1
19	72053458	NIPPLE-BARB BRS .75MPT .75	1-4	1
20	72053556	ELBOW-STREET STL .75 X 90 DEG	1-4	2
21	72053777	ELBOW-M STR/45/M JIC 8 8	5	1
22	72053763	ELBOW-M STR/90/M JIC 8 8	5	1
23	72533595	ELBOW-M STR/90/M JIC 12 8	1&3	1
24	72531831	REDUCER BUSH-STL .7525	1-4	1
25	72531412	ELBOW-MPT/90/M JIC .25 4	1-4	1
26	72053767	ELBOW-M STR/90/M JIC 12 12	1-4	1
27	N/A	SINGLE SUCTION DUAL OUTLET PUMP		1
28	52721581	GUARD-HOSE DOM W-CAS35WG 19L		1
29	51396882	HOSE-FJ .25 X 28.00 (4-4) 100R17	1-4	
30	73540089	VALVE-SELECTOR W/RELIEF 12V 15GPM	5	1
31	72533558	TEE-MALE JIC 1.31-12 1.00 TUB	1&3	1
32	60121487	BRKT-SELECTOR VALVE MTG	5	1
33	72534554	UNION-F JIC/SWIVEL/F JIC 16 16	1&3	1
34	72534555	ELBOW-M JIC/90/F JIC SW 12 16	1&3	1
35	51397020	HOSE-FJ .50 X 55.00 (8-8) 100R17	1&5	1
36	72531552	NIPPLE-BARB STL 1.50 MPT 1.50	1-4	1
37	72661656	CLAMP-HOSE 2.00 T-BOLT	REF	2 REF
38	51394524	HOSE-FJ .50 X 67.00 (8-8) 100R16	1&3	1
39	51396661	HOSE-FF .75 X 64.00 (12-10) 100R2	1&3	1
40	72533564	ADPTR-MPT /M J		
41	51721745	RESERVOIR ASSEMBLY		1
42	72053251	NIPPLE-PIPE BLK 1.50X CLOSE		1
43	73054232	VALVE-BALL 1.25		1
44	73054379	VALVE-BALL 1.50		1
45	73052091	FILTER-HYDRAULIC RETURN 10MIC 1.25 NPTF		1



SECTION 2. INSTALLATION of Compressor Welder Generator

2-5. CAS35WG CONTROL PANEL MOUNTING

After the CAS35WG is mounted on the front left sidepack of the service body, install the electrical panel inside the front right sidepack.

- Cut an opening in the back of the sidepack as shown below the cargo deck floor panel. The location of this opening will vary based on the body model and the cabinet configuration. See chart for possible placement dimensions.
- 2. Route the electrical harness from the CAS35WG under the cargo deck and through the opening (see step 1) in the back of the front right sidepack. Connect to the control panel.
- 3. Mount the control panel inside the sidepack.
- 4. Cover the electrical harness. Apply grommet to the top and side edges of the cover. The cover part number also varies based on the application.

Front Right Sidepack Features	Distance A to Electrical Opening	
	From Vertical Sidepack Wall	
Open Compartment-no dividers	Place as disired so the control panel	
or shelves.	can be centered above the opening.	
Bolt-in Divider	16.5"	
3-Bottle Oxygen/Acetylene		
Tank Bracket.	5.25"	

Cover Part #	Body Style
52721580	Dominator 1 & DSC with raised sidepacks (27" long)
52721581	Dominator 2 & 4 with raised sidepacks (19" long)
52721582	All Dominators (1, 2, 4, DSC) with standard-height
	sidepacks (11" long)





3-1. SET UP – AIR COMPRESSOR

Each compressor is bench tested under load at the factory to ensure proper break-in and operation. While it is not necessary to follow any break-in procedure, the following checks should be made before putting the unit into service as well as periodically during use.

- 1. Before start-up:
 - A. Check the oil level in the compressor crankcase with the dipstick on the unit. If oil is needed, use only IMT's synthetic compressor oil. Always check compressor oil level with the truck and compressor on level ground.
 - B. Check the air intake filter to make certain that it is clean and unobstructed. A dirty filter is a possible cause of reduced air output.
 - C. Avoid operating the compressor package when the side-to-side or front-to-rear tilt is greater than 20 degrees.
- 2. With the compressor engaged:
 - A. Adjust engine speed to ensure that compressor speed does not exceed 1400 RPM (max) under load. Crack open air discharge valve until air pressure drops to 140 PSI and maintains this pressure without cycling. Doing so simulates a maximum load condition.
 - B. If engine speed increase is required, readjust air discharge valve to 140 PSI after speed has been increased. Repeat until appropriate compressor RPM (NOT engine) is achieved.

NOTE

TO CHECK THE COMPRESSOR RPM, USE A PHOTOTACH ON THE DRIVE COUPLING THROUGH THE AIR CLEANER ACCESS HOLE. A HYDRAULIC FLOW METER CAN BE USED BUT IS NOT AS ACCURATE.

3-2. OPERATION – AIR COMPRESSOR

To use the air compressor, start the vehicle and engage the PTO, then switch the compressor ON by using the compressor switch found on the main control panel. (see figure 3-4-2)

The system will now function automatically; it will engage the hydraulic solenoid when the air pressure is below 120 PSI and disengage when the air pressure reaches 150 PSI.

If the CAS35WG is mounted on a service body with a crane, the crane and compressor cannot be operated at the same time. There is only one pump, and it must be switched to the desired component for that component to operate. Using the handset control, switch the compressor function to *ON* for compressor operation, and switch the compressor to *OFF* for crane operation. The welder and generator functions can both be operated with either the crane or air compressor.

> CAUTION OPERATING THIS UNIT IN EXCESS OF 1400 RPM, WILL VOID THE WARRANTY, AND WILL SHORTEN THE NORMAL SERVICE LIFE OF THE COMPRESSOR.



SECTION 3. SET UP AND OPERATION of Compressor Welder Generator



3-3 SET UP - WELDER/AC GENERATOR:

Each generator is tested under load at the factory to ensure proper operation. The following should be done before putting the unit into service as well as periodically during use.

- 1. Before start-up:
 - A. Make sure engine speed control is set for air compressor operation (section 3.1). Set Speed control to *High Idle*
- 2. With generator engaged:
 - A. With no load connected to AC generator, run for 10 minutes.
 - B. Loosen the nut locking the flow compensator with a 9/16" wrench or socket on the flow compensation block (see below).
 - C. Adjust the generator speed to 3600 RPM by turning the Allen head screw on the flow compensation block. (see figure 3-4-1)
 - D. Retighten the nut when finished. (see figure 3-4-1)

NOTE

TO CHECK GENERATOR RPM, USE A PHOTO TACH ON THE DRIVE COUPLING. NEVER EXCEED 3900 RPM DURING SETUP. DAMAGE TO GENERATOR MAY OCCUR.

3-4. OPERATION – AC GENERATOR

To use the welder or AC generator, start the vehicle engine and engage PTO, switch unit on from the CAS35WG control panel. Allow generator to run for 10 minutes prior to welding or connecting AC loads.

- 1. Switch the generator on from the CAS35WG control panel (see figure 3-4-2). Allow the generator to run for 10 minutes prior to loading.
- 2. Select 120V or 240V operation.
- 3. Turn range switch on welder to high/AC mode.
- 4. Connect loads to outlets.

CAUTION:

DO NOT SWITCH THE VOLTAGE BETWEEN 120 AND 240 WITH ANY LOAD CONNECTED; DAMAGE TO THE GENERATOR AND CONTROLS MAY OCCUR.

3-4-2. CONTROL PANEL



- **1** Generator power switch
- 2) 120V 240V switch
- 3) 120V GFI outlet
- 240V 20 Amp twist lock outlet
- 5) 120V 30 Amp twist lock outlet



SECTION 3. SET UP AND OPERATION of Compressor Welder Generator

3-5. OPERATION – WELDER

1. Choose an Electrode

Each electrode has different properties. Use the Common Electrodes chart (see Common Electrodes Chart on following page) for the most common electrodes. Other electrodes not listed will work fine with the welder if they fall within the amperage ranges the CAS35WG can produce. The amperages and properties are usually listed on the side of the package the welding electrodes came in.

2. Start the vehicle and engage the PTO.

- A. Switch the generator on from the CAS35WG control panel (see figure 3-5-1). Allow the generator to run for 10 minutes prior to loading.
- B. Select the proper range using the Low-Med-High/AC switch for the material and rod to be used (see figure 3-5-1).
- C. Select the proper setting using the 7-Position switch (see figure 3-5-1). The -10 switch adds a finer adjustment to your amperage setting for greater control. Use the Welder Range Selection chart (see chart to right) for recommendations.
- D. Plug welding cables into the welding cable sockets on the CAS35WG control box (see figure 3-5-1) observing the polarity required for the desired welding (see figure 3-5-1).

NOTE:

AC VOLTAGE WILL DECREASE WHILE WELDING; USING AC POWER FOR OTHER THAN LIGHTING PURPOSES DURING WELDING IS NOT RECOMMENDED.

NOTE:

IF THERE ARE PROBLEMS WITH YOUR WELD QUALITY REFER TO THE WELDING PROBLEMS TABLE.

WELDER RANGE SELECTION

POSITION	LOW	MEDIUM	HIGH
1	40	85	180
2	45	100	190
3	55	115	200
4	60	130	210
5	75	145	220
6	90	160	230
7	115	175	240
NOTE: APPROXIMATE RESULTS ONLY. ACTUAL RESULTS MAY VARY.			

3-5-1. CONTROL PANEL



- Generator power switch
 -10 switch
- 3) 7-position amperage switch
- 4 Low-Med-High/AC switch
- 5 Welding polarity chart
- 6 Welding sockets

SECTION 3. SET UP AND OPERATION of Compressor Welder Generator

WELDING PROBLEMS TABLE

PROBLEM	POSSIBLE CAUSE	
Too many splashes	Arc is too long or welding current is too high.	
Sticking	Arc is too long or welding current is too low.	
Craters	Electrode removed too fast when terminating a weld.	
Inclusions	Bad cleaning between passes, uneven passes,	
	faulty electrode manipulation.	
Insufficient penetration	Welding current too low or no chipping of the	
	root pass.	
Blowholes and porosity	ity Moisture in the electrode, welding current too high,	
	or arc is too long (bake 7018 rods at 250-450° F.)	
Cracks	Current is too high, dirty materials, or hydrogen	
	in the weld (in the electrode coating).	

COMMON ELECTRODES

ELECTRODE	POLARITY	DESCRIPTION	
6010	DCEP	Deep penetrating, good for dirty, rusty or painted metals	
6011	DCEP	Deep penetrating, good for dirty, rusty or painted metals	
6013	DCEN or DCEP	Medium penetrating, superior bead appearance	
7018	DCEN or DCEP	Low hydrogen, superior quality, medium penetrating.	
		SUGGESTED RANGES ARE APPROXIMATE.	
		DCEN = Straight Polarity	
		DCEP = Reverse Polarity	
ELECTRODE SIZE	AMPERAGE RANGE	PLATE THICKNESS	
1/16"	20-40	0-3/16"	
3/32"	40-125	0-1/4"	
1/8"	75-185	1/8+"	
5/32"	105-250	1/4+"	
3/16"	140-305	3/8+"	



4-1. TROUBLESHOOTING

LOW OIL PRESSURE	LOW OIL LEVEL
	LOOSE PIPE PLUG ON OIL PUMP COVER
	WORN OR DEFECTIVE OIL PUMP
	CRACK OR SCRATCH ON OIL PUMP COVER
NO OIL PRESSURE	DEFECTIVE OIL PUMP
	BLOCKED OIL PASSAGE
	DAMAGED OIL PUMP DRIVE PIN
COMPRESSOR WILL NOT ENGAGE	NO POWER SUPPLIED TO COMPRESSOR
	INTERNAL CIRCUIT BREAKER TRIPPED
	PTO SWITCH NOT ENGAGED
	DEFECTIVE PRESSURE SWITCH OR UNDERHOOD SWITCH
COMPRESSOR ENGAGES BUT WILL NOT	COMPRESSOR RELIEF VALVE ENGAGED
PRESSURIZE TANK	AIR LEAK IN PLUMBING
	WORN PISTON RINGS OR VALVE PLATES
COMPRESSOR DOES NOT RECOVER PRESSURE AS	DIRTY FILTER
FAST AS IT SHOULD	AIR LEAK IN PLUMBING
	WORN VALVE PLATES OR PISTON RINGS
WEAK OR NO WELDING OUTPUT	WELDING CABLES LANDED AT WRONG TERMINALS
	POOR/LOOSE CABLE CONNECTIONS
	FAULTY CABLES
	POOR GROUND CONNECTIONS
	LOW RPM SPEED
	SPEED CONTROL NOT TURNED TO HIGH IDLE
WEAK OR NO AC POWER	OPEN CIRCUIT BREAKERS OR GFI
	FAULTY CONNECTIONS
	FAULTY AUXILIARY CIRCUIT WIRING
	LOW RPM SPEED
	RANGE SELECTOR NOT IN AC MODE (HIGH)
	SPEED CONTROL NOT TURNED TO HIGH IDLE





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