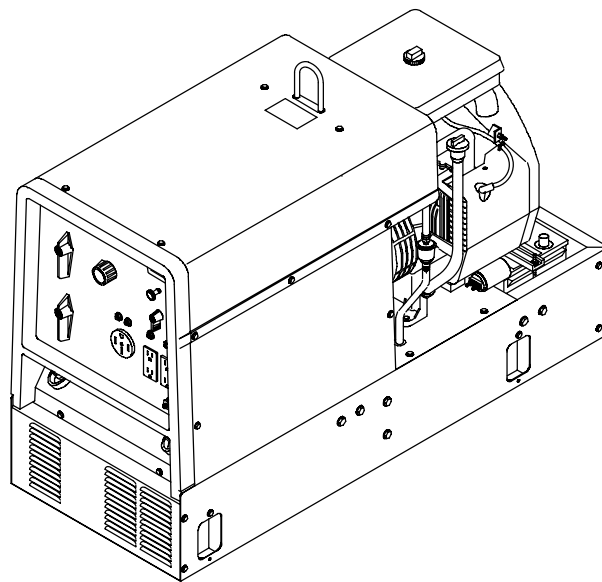




Miller[®]

February 1996 Form: OM-403C
Effective With Serial No. KG045632

OWNER'S MANUAL



Bobcat 225G^{plus} **(Onan-Powered)**

CC/CV AC/DC Welding Generator For SMAW, FCAW, GMAW, GTAW Welding

Welding Mode	Weld Output Range	Rated Welding Output	Maximum Open-Circuit Voltage	Auxiliary Power Rating	Fuel Capacity	Engine
CC/AC	50 – 225 A	225 A, 25 V, 100% Duty Cycle	80	Single-Phase, 8 kVA/kW, 70/35 A, 120/240 V AC, 60 Hz	8.5 gal (32 L) Tank	Onan Performer P216 Air-Cooled, Two-Cylinder, Four-Cycle, 16 HP Gasoline Engine
CC/DC	50 – 210 A	210 A, 25 V, 100% Duty Cycle	72			
CV/DC	17 – 28 V	200 A, 20 V, 100% Duty Cycle	33			

MILLER'S TRUE BLUE® LIMITED WARRANTY

Effective February 7, 1996
(Equipment with a serial number preface of "KD" or newer)

This limited warranty supersedes all previous MILLER warranties and is exclusive with no other guarantees or warranties expressed or implied.

LIMITED WARRANTY — Subject to the terms and conditions below, MILLER Electric Mfg. Co., Appleton, Wisconsin, warrants to its original retail purchaser that new MILLER equipment sold after the effective date of this limited warranty is free of defects in material and workmanship at the time it is shipped by MILLER. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

Within the warranty periods listed below, MILLER will repair or replace any warranted parts or components that fail due to such defects in material or workmanship. MILLER must be notified in writing within thirty (30) days of such defect or failure, at which time MILLER will provide instructions on the warranty claim procedures to be followed.

MILLER shall honor warranty claims on warranted equipment listed below in the event of such a failure within the warranty time periods. All warranty time periods start on the date that the equipment was delivered to the original retail purchaser, or one year after the equipment is sent to a North American distributor or eighteen months after the equipment is sent to an International distributor.

- 5 Years — Parts — 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
 - Inverter Power Supplies
 - Intellitig
 - Robots (1 year labor)
- 2 Years — Parts and Labor**
 - Engine Driven Welding Generators
(NOTE: Engines are warranted separately by the engine manufacturer.)
 - Air Compressors
- 1 Year — Parts and Labor**
 - Motor Driven Guns
 - Process Controllers
 - IHPS Power Sources
 - Water Coolant Systems
 - HF Unes
 - Grids
 - Spot Welders
 - Load Banks
 - SDX Transformers
 - Miller Cyclomatic Equipment
 - Flushing Gear/Trailers
 - Plasma Cutting Torches (except APT, ZIPCUT & PLAZCUT Models)
 - Tecumseh Engines
 - Deutz Engines (outside North America)
 - Field Options
(NOTE: Field options are covered under True Blue® for the remaining warranty period of the product they are installed in, or for a minimum of one year — whichever is greater.)

- 6 Months — Batteries**
- 90 Days — Parts and Labor**
 - MIG Guns/TIG Torches
 - APT, ZIPCUT & PLAZCUT Model Plasma Cutting Torches
 - Remote Controls
 - Accessory Kits
 - Replacement Parts

MILLER'S True Blue® Limited Warranty shall not apply to:

1. Items furnished by MILLER, but manufactured by others, such as engines or trade accessories. These items are covered by the manufacturer's warranty, if any.
2. Consumable components, such as contact tips, cutting nozzles, contactors and relays or parts that fail due to normal wear.
3. Equipment that has been modified by any party other than MILLER, or equipment that has been improperly installed, improperly operated or misused based upon industry standards, or equipment which has not had reasonable and necessary maintenance, or equipment which has been used for operation outside of the specifications for the equipment.

MILLER PRODUCTS ARE INTENDED FOR PURCHASE AND USE BY COMMERCIAL/INDUSTRIAL USERS AND PERSONS TRAINED AND EXPERIENCED IN THE USE AND MAINTENANCE OF WELDING EQUIPMENT.

In the event of a warranty claim covered by this warranty, the exclusive remedies shall be, at MILLER'S option, (1) repair, or (2) replacement, or, where authorized in writing by MILLER in appropriate cases, (3) the reasonable cost of repair or replacement at an authorized MILLER service station, or (4) payment of or credit for the purchase price (less reasonable depreciation based upon actual use) upon return of the goods at customer's risk and expense. MILLER'S option of repair or replacement will be F.O.B., Factory at Appleton, Wisconsin, or F.O.B. at a MILLER authorized service facility as determined by MILLER. Therefore no compensation or reimbursement for transportation costs of any kind will be allowed.

TO THE EXTENT PERMITTED BY LAW, THE REMEDIES PROVIDED HEREIN ARE THE SOLE AND EXCLUSIVE REMEDIES. IN NO EVENT SHALL MILLER BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING LOSS OF PROFIT), WHETHER BASED ON CONTRACT, TORT OR ANY OTHER LEGAL THEORY.

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

Some states in the U.S.A. do not allow limitations of how long an implied warranty lasts, or the exclusion of incidental, indirect, special or consequential damages, so the above limitation or exclusion may not apply to you. This warranty provides specific legal rights, and other rights may be available, but may vary from state to state.

In Canada, legislation in some provinces provides for certain additional warranties or remedies other than as stated herein, and to the extent that they may not be waived, the limitations and exclusions set out above may not apply. This Limited Warranty provides specific legal rights, and other rights may be available, but may vary from province to province.

WHO DO I CONTACT?

For help,

- contact your distributor

For additional information, such as

Technical Manuals (Service And Parts)
Engine Manuals
Circuit And Wiring Diagrams
Process Handbooks
User's Guides
Distributor Directories

- contact your distributor

To file a claim for loss or damage during shipment,

- contact the delivering carrier

For assistance in filing or settling claims,

- contact your distributor and/or equipment manufacturer's Transportation Department



Miller Electric Mfg. Co.

- CALL:
414-735-4505



- FAX:
800-637-2348 (in USA), or
414-735-4136 (outside USA)



- WRITE:
Miller Electric Mfg. Co.
P.O. Box 1079
Appleton, WI 54912 USA

Always provide Model Name and Serial or Style Number

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SECTION 1 – SAFETY PRECAUTIONS FOR ARC WELDING

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1-1. Symbol Usage



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

▲ Marks a special safety message.

☞ Means NOTE; not safety related.



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

1-2. Arc Welding Hazards



WARNING

The symbols shown below are used throughout this manual to call attention to and identify possible hazards. When you see the symbol, watch out, and follow the related instructions to avoid the hazard. The safety information given below is only a summary of the more complete safety information found in the Safety Standards listed in Section 1-5. Read and follow all Safety Standards.

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

During operation, keep everybody, especially children, away.



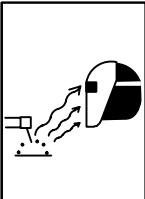
ELECTRIC SHOCK can kill.

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 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.

1. Do not touch live electrical parts.
2. Wear dry, hole-free insulating gloves and body protection.
3. Insulate yourself from work and ground using dry insulating mats or covers big enough to prevent any physical contact with the work or ground.
4. Disconnect input power or stop engine before installing or servicing this equipment. Lockout/tagout input power according to OSHA 29 CFR 1910.147 (see Safety Standards).
5. Properly install and ground this equipment according to its Owner's Manual and national, state, and local codes.
6. Always verify the supply ground – check and be sure that input power cord ground wire is properly connected to ground terminal

in disconnect box or that cord plug is connected to a properly grounded receptacle outlet.

7. When making input connections, attach proper grounding conductor first – double-check connections.
8. Frequently inspect input power cord for damage or bare wiring – replace cord immediately if damaged – bare wiring can kill.
9. Turn off all equipment when not in use.
10. Do not use worn, damaged, undersized, or poorly spliced cables.
11. Do not drape cables over your body.
12. If earth grounding of the workpiece is required, ground it directly with a separate cable – do not use work clamp or work cable.
13. Do not touch electrode if you are in contact with the work, ground, or another electrode from a different machine.
14. Use only well-maintained equipment. Repair or replace damaged parts at once. Maintain unit according to manual.
15. Wear a safety harness if working above floor level.
16. Keep all panels and covers securely in place.
17. Clamp work cable with good metal-to-metal contact to workpiece or worktable as near the weld as practical.



ARC RAYS can burn eyes and skin; NOISE can damage hearing; FLYING SLAG OR SPARKS can injure eyes.

Arc rays from the welding process produce intense visible and invisible (ultraviolet and infrared) rays that can burn eyes and skin. Noise from some processes can damage hearing. Chipping, grinding, and welds cooling throw off pieces of metal or slag.

NOISE

1. Use approved ear plugs or ear muffs if noise level is high.

ARC RAYS

2. Wear a welding helmet fitted with a proper shade of filter to protect your face and eyes when welding or watching (see ANSI Z49.1 and Z87.1 listed in Safety Standards).
3. Wear approved safety glasses with side shields.
4. Use protective screens or barriers to protect others from flash and glare; warn others not to watch the arc.
5. Wear protective clothing made from durable, flame-resistant material (wool and leather) and foot protection.



FUMES AND GASES can be hazardous to your health.

Welding produces fumes and gases. Breathing these fumes and gases can be hazardous to your health.

1. Keep your head out of the fumes. Do not breathe the fumes.
2. If inside, ventilate the area and/or use exhaust at the arc to remove welding fumes and gases.
3. If ventilation is poor, use an approved air-supplied respirator.
4. Read the Material Safety Data Sheets (MSDSs) and the manufacturer's instruction for metals, consumables, coatings, cleaners, and degreasers.

5. Work in a confined space only if it is well ventilated, or while wearing an air-supplied respirator. Always have a trained watchperson nearby. Welding fumes and gases can displace air and lower the oxygen level causing injury or death. Be sure the breathing air is safe.
6. 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.
7. 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.



CYLINDERS can explode if damaged.

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

1. Protect compressed gas cylinders from excessive heat, mechanical shocks, slag, open flames, sparks, and arcs.
2. Install cylinders in an upright position by securing to a stationary support or cylinder rack to prevent falling or tipping.
3. Keep cylinders away from any welding or other electrical circuits.
4. Never drape a welding torch over a gas cylinder.
5. Never allow a welding electrode to touch any cylinder.
6. Never weld on a pressurized cylinder – explosion will result.
7. Use only correct shielding gas cylinders, regulators, hoses, and fittings designed for the specific application; maintain them and associated parts in good condition.
8. Turn face away from valve outlet when opening cylinder valve.
9. Keep protective cap in place over valve except when cylinder is in use or connected for use.
10. Read and follow instructions on compressed gas cylinders, associated equipment, and CGA publication P-1 listed in Safety Standards.



WELDING can cause fire or explosion.

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 workpiece, 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.

1. Protect yourself and others from flying sparks and hot metal.
2. Do not weld where flying sparks can strike flammable material.
3. Remove all flammables within 35 ft (10.7 m) of the welding arc. If this is not possible, tightly cover them with approved covers.
4. Be alert that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas.
5. Watch for fire, and keep a fire extinguisher nearby.
6. Be aware that welding on a ceiling, floor, bulkhead, or partition can cause fire on the hidden side.
7. 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).
8. 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.
9. Do not use welder to thaw frozen pipes.
10. Remove stick electrode from holder or cut off welding wire at contact tip when not in use.
11. Wear oil-free protective garments such as leather gloves, heavy shirt, cuffless trousers, high shoes, and a cap.
12. Remove any combustibles, such as a butane lighter or matches, from your person before doing any welding.

1-3. Engine Hazards

⚠ WARNING



ENGINE EXHAUST GASES can kill.

Engines produce harmful exhaust gases.

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



ENGINE FUEL can cause fire or explosion.

Engine fuel is highly flammable.

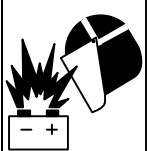
1. Stop engine and let it cool off before checking or adding fuel.
2. Do not add fuel while smoking or if unit is near any sparks or open flames.
3. Do not overfill tank – allow room for fuel to expand.
4. Do not spill fuel. If fuel is spilled, clean up before starting engine.



MOVING PARTS can cause injury.

Moving parts, such as fans, rotors, and belts can cut fingers and hands and catch loose clothing.

1. Keep all doors, panels, covers, and guards closed and securely in place.
2. Stop engine before installing or connecting unit.
3. Have only qualified people remove guards or covers for maintenance and troubleshooting as necessary.
4. To prevent accidental starting during servicing, disconnect negative (-) battery cable from battery.
5. Keep hands, hair, loose clothing, and tools away from moving parts.
6. Reinstall panels or guards and close doors when servicing is finished and before starting engine.



SPARKS can cause BATTERY GASES TO EXPLODE; BATTERY ACID can burn eyes and skin.

Batteries contain acid and generate explosive gases.

1. Always wear a face shield when working on a battery.
2. Stop engine before disconnecting or connecting battery cables.
3. Do not allow tools to cause sparks when working on a battery.
4. Do not use welder to charge batteries or jump start vehicles.
5. Observe correct polarity (+ and -) on batteries.



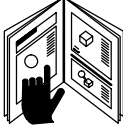


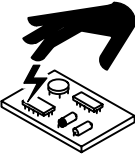
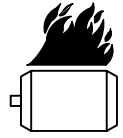
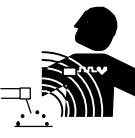
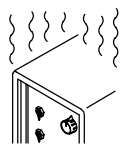


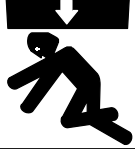



STEAM AND PRESSURIZED HOT COOLANT can burn face, eyes, and skin.

It is best to check coolant level when engine is cold to avoid scalding.

1. If the engine is warm and checking is needed, follow steps 2 and 3.
2. Wear safety glasses and gloves and put a rag over cap.
3. Turn cap slightly and let pressure escape slowly before completely removing cap.

1-4. Additional Installation, Operation, And Maintenance Hazards

 WARNING			
	MOVING PARTS can cause injury. <ol style="list-style-type: none"> 1. Before working of generator, remove spark plugs or injectors to keep engine from kicking back or starting. 2. Block flywheel so that it will not turn while working on generator components. 		READ INSTRUCTIONS. <ol style="list-style-type: none"> 1. Use only genuine MILLER replacement parts. 2. Reinstall injectors and bleed air from fuel system according to engine manual.
	FLYING PIECES OF METAL or DIRT can injure eyes. <ol style="list-style-type: none"> 1. Wear safety glasses with side shields or face shield. 		DO NOT LET ENGINE EXHAUST SPARKS CAUSE FIRE. <ol style="list-style-type: none"> 1. Use approved engine exhaust spark arrestor in required areas – see applicable codes.
	STATIC ELECTRICITY can damage parts on circuit boards. <ol style="list-style-type: none"> 1. Put on grounded wrist strap BEFORE handling boards or parts. 2. Use proper static-proof bags and boxes to store, move, or ship PC boards. 		LOW VOLTAGE AND FREQUENCY CAN DAMAGE electrical equipment such as MOTORS. <ol style="list-style-type: none"> 1. Turn off or unplug equipment before starting or stopping engine.
	MAGNETIC FIELDS FROM HIGH CURRENTS can affect pacemaker operation. <ol style="list-style-type: none"> 1. Pacemaker wearers keep away. 2. Wearers should consult their doctor before going near arc welding, gouging, or spot welding operations. 		OVERUSE can cause OVERHEATED EQUIPMENT. <ol style="list-style-type: none"> 1. Allow cooling period. 2. Reduce current or reduce duty cycle before starting to weld again. 3. Follow rated duty cycle.
	HOT PARTS can cause severe burns. <ol style="list-style-type: none"> 1. Allow cooling period before maintaining. 2. Wear protective gloves and clothing when working on a hot engine. 		TILTING OF TRAILER can cause injury. <ol style="list-style-type: none"> 1. Use tongue jack or blocks to support weight. 2. Properly install welding generator onto trailer according to instructions supplied with trailer.
	FALLING EQUIPMENT can cause serious personal injury and equipment damage. <ol style="list-style-type: none"> 1. Use lifting eye to lift unit only, NOT running gear, gas cylinders, or any other accessories. 2. Use equipment of adequate capacity to lift unit. 		BATTERY ACID can BURN SKIN AND EYES. <ol style="list-style-type: none"> 1. Do not tip. 2. Replace damaged battery. 3. Flush eyes and skin immediately with water.

1-5. Principal Safety Standards

<p><i>Safety in Welding and Cutting</i>, ANSI Standard Z49.1, from American Welding Society, 550 N.W. LeJeune Rd, Miami FL 33126</p> <p><i>Safety and Health Standards</i>, OSHA 29 CFR 1910, from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.</p> <p><i>Recommended Safe Practices for the Preparation for Welding and Cutting of Containers That Have Held Hazardous Substances</i>, American Welding Society Standard AWS F4.1, from American Welding Society, 550 N.W. LeJeune Rd, Miami, FL 33126</p> <p><i>National Electrical Code</i>, NFPA Standard 70, from National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.</p>	<p><i>Safe Handling of Compressed Gases in Cylinders</i>, CGA Pamphlet P-1, from Compressed Gas Association, 1235 Jefferson Davis Highway, Suite 501, Arlington, VA 22202.</p> <p><i>Code for Safety in Welding and Cutting</i>, CSA Standard W117.2, from Canadian Standards Association, Standards Sales, 178 Rexdale Boulevard, Rexdale, Ontario, Canada M9W 1R3.</p> <p><i>Safe Practices For Occupation And Educational Eye And Face Protection</i>, ANSI Standard Z87.1, from American National Standards Institute, 1430 Broadway, New York, NY 10018.</p> <p><i>Cutting And Welding Processes</i>, NFPA Standard 51B, from National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.</p>
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1-6. EMF Information

<p>Considerations About Welding And The Effects Of Low Frequency Electric And Magnetic Fields</p> <p>The following is a quotation from the General Conclusions Section of the U.S. Congress, Office of Technology Assessment, <i>Biological Effects of Power Frequency Electric & Magnetic Fields – Background Paper</i>, OTA-BP-E-53 (Washington, DC: U.S. Government Printing Office, May 1989): “. . . there is now a very large volume of scientific findings based on experiments at the cellular level and from studies with animals and people which clearly establish that low frequency magnetic fields can interact with, and produce changes in, biological systems. While most of this work is of very high quality, the results are complex. Current scientific understanding does not yet allow us to interpret the evidence in a single coherent framework. Even more frustrating, it does not yet allow us to draw definite conclusions about questions of possible risk or to offer clear science-based advice on strategies to minimize or avoid potential risks.”</p>	<p>To reduce magnetic fields in the workplace, use the following procedures:</p> <ol style="list-style-type: none"> 1. Keep cables close together by twisting or taping them. 2. Arrange cables to one side and away from the operator. 3. Do not coil or drape cables around the body. 4. Keep welding power source and cables as far away as practical. 5. Connect work clamp to workpiece as close to the weld as possible. <p>About Pacemakers:</p> <p>The above procedures are also recommended for pacemaker wearers. Consult your doctor for complete information.</p>
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SECTION 1 – CONSIGNES DE SÉCURITÉ POUR LE SOUDAGE À L'ARC

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1-1. Signification des symboles

	<p>Signifie Mise en garde! Soyez vigilant! Cette procédure présente des risques de danger! Ceux-ci sont identifiés par des symboles adjacents aux directives.</p>	<p>▲ Identifie un message de sécurité particulier.</p>
	<p>Ce groupe de symboles signifie Mise en garde! Soyez vigilant! Il y a des risques de danger reliés aux CHOCS ÉLECTRIQUES, aux PIÈCES EN MOUVEMENT et aux PIÈCES CHAUDES. Reportez-vous aux symboles et aux directives ci-dessous afin de connaître les mesures à prendre pour éviter tout danger.</p>	
<p>☞ Signifie NOTA; n'est pas relatif à la sécurité.</p>		

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

MISE EN GARDE

Les symboles présentés ci-après sont utilisés tout au long du présent manuel pour attirer votre attention et identifier les risques de danger. Lorsque vous voyez un symbole, soyez vigilant et suivez les directives mentionnées afin d'éviter tout danger. Les consignes de sécurité présentées ci-après ne font que résumer l'information contenue dans les normes de sécurité énumérées à la section 1-5. Veuillez lire et respecter toutes ces normes de sécurité.

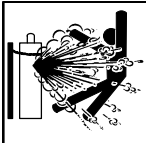
L'installation, l'utilisation, l'entretien et les réparations ne doivent être confiés qu'à des personnes qualifiées.

Au cours de l'utilisation, tenir toute personne à l'écart et plus particulièrement les enfants.

	<p>UN CHOC ÉLECTRIQUE peut tuer.</p> <p>Un simple contact avec des pièces électriques peut provoquer une électrocution ou des blessures graves. L'électrode et le circuit de soudage sont sous tension dès que l'appareil est sur ON. Le circuit d'entrée et les circuits internes de l'appareil sont également sous tension à ce moment-là. En soudage semi-automatique ou automatique, le fil, le dévidoir, le logement des galets d'entraînement et les pièces métalliques en contact avec le fil de soudage sont sous tension. Des matériels mal installés ou mal mis à la terre présentent un danger.</p>	<p>terre du sectionneur ou que la fiche du cordon est raccordée à une prise correctement mise à la terre.</p> <ol style="list-style-type: none"> En effectuant les raccordements d'entrée fixer d'abord le conducteur de mise à la terre approprié et contre-vérifier les connexions. Vérifier fréquemment le cordon d'alimentation pour voir s'il n'est pas endommagé ou dénudé – remplacer le cordon immédiatement s'il est endommagé – un câble dénudé peut provoquer une électrocution. Mettre l'appareil hors tension quand on ne l'utilise pas. Ne pas utiliser des câbles usés, endommagés, de grosseur insuffisante ou mal épissés. Ne pas enrouler les câbles autour du corps. Si la pièce soudée doit être mise à la terre, la faire directement avec un câble distinct – ne pas utiliser le connecteur de pièce ou le câble de retour. Ne pas toucher l'électrode quand on est en contact avec la pièce, la terre ou une électrode provenant d'une autre machine. N'utiliser qu'un matériel en bon état. Réparer ou remplacer sur-le-champ les pièces endommagées. Entretien l'appareil conformément à ce manuel. Porter un harnais de sécurité quand on travaille en hauteur. Maintenir solidement en place tous les panneaux et capots. Fixer le câble de retour de façon à obtenir un bon contact métal-métal avec la pièce à souder ou la table de travail, le plus près possible de la soudure.
<ol style="list-style-type: none"> Ne jamais toucher les pièces électriques sous tension. Porter des gants et des vêtements de protection secs ne comportant pas de trous. S'isoler de la pièce et de la terre au moyen de tapis ou d'autres moyens isolants suffisamment grands pour empêcher le contact physique éventuel avec la pièce ou la terre. Couper l'alimentation ou arrêter le moteur avant de procéder à l'installation, à la réparation ou à l'entretien de l'appareil. Déverrouiller l'alimentation selon la norme OSHA 29 CFR 1910.147 (voir normes de sécurité). Installer et mettre à la terre correctement cet appareil conformément à son manuel d'utilisation et au codes nationaux, provinciaux et municipaux. Toujours vérifier la terre du cordon d'alimentation – Vérifier et s'assurer que le fil de terre du cordon d'alimentation est bien raccordé à la borne de 		

	<p>LE RAYONNEMENT DE L'ARC peut brûler les yeux et la peau. Le BRUIT peut endommager l'ouïe; les PROJECTIONS DE LAITIER OU LES ÉTINCELLES peuvent blesser les yeux.</p> <p>L'arc de soudage produit des rayons visibles et invisibles intenses (ultraviolets et infrarouges) qui peuvent brûler les yeux et la peau. Le bruit produit par certains procédés peut endommager l'ouïe. Des projections de métal ou de laitier sont produites par le piquage, le meulage ou le refroidissement des soudures.</p>	<p>RAYONNEMENT DE L'ARC</p> <ol style="list-style-type: none"> Porter un masque à serre-tête muni d'un verre filtrant de nuance appropriée pour protéger le visage et les yeux quand on soude ou observe le travail de soudage (voir les normes ANSI Z49.1 et Z87.1 données sous la rubrique Principales normes de sécurité). Porter des lunettes de sécurité approuvées avec écrans latéraux. Utiliser des paravents ou des barrières de protection pour protéger les personnes à proximité contre les coups d'arc et l'éblouissement; avertir les autres personnes de ne pas regarder l'arc. Porter des vêtements de protection en tissu ignifuge durable (laine et cuir) et des chaussures de sécurité.
<p>BRUIT</p> <ol style="list-style-type: none"> Utiliser des bouche-oreilles ou des serre-tête antibruit approuvés si le niveau de bruit est élevé. 		

	<p>LES VAPEURS ET LES FUMÉES peuvent être dangereuses pour la santé.</p> <p>Le soudage produit des vapeurs et des fumées qu'il est dangereux de respirer.</p>	<ol style="list-style-type: none"> Ne travailler dans un espace confiné que s'il est bien ventilé, ou en portant un appareil respiratoire à adduction d'air pur. Demander à un observateur ayant reçu la bonne formation de toujours se tenir à proximité. Les vapeurs et fumées de soudage peuvent déplacer l'air et abaisser le niveau d'oxygène et causer des blessures graves voire mortelles. S'assurer que l'air est propre à la respiration. Ne pas souder à proximité d'opérations de dégraissage, de nettoyage ou de pulvérisation. La chaleur et les rayons de l'arc peuvent réagir avec les vapeurs pour former des gaz hautement toxiques et irritants. Ne pas souder sur des métaux revêtus comme l'acier galvanisé, au plomb ou cadmié à moins que la pièce n'ait été entièrement décapée, que le poste de travail soit bien ventilé. S'il y a lieu, porter un appareil respiratoire à adduction d'air pur. Les revêtements et les métaux qui contiennent de tels éléments peuvent dégager des vapeurs toxiques lors du soudage.
<ol style="list-style-type: none"> Garder la tête à l'extérieur des vapeurs et des fumées et ne pas les respirer. À l'intérieur, ventiler le poste de travail ou utiliser un dispositif placé au niveau de l'arc pour évacuer les vapeurs et fumées de soudage. Si la ventilation est mauvaise, utiliser un appareil respiratoire à adduction d'air pur approuvé. Consulter les fiches signalétiques et les consignes du fabricant relatives aux métaux, produits d'apport, revêtements, nettoyants et dégraissants. 		

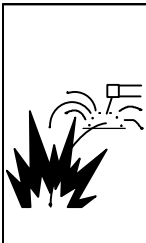


LES BOUTEILLES peuvent exploser si elles sont endommagées.

Les bouteilles contenant des gaz de protection sont à haute pression. Une bouteille endommagée peut exploser. Étant donné que les bouteilles de gaz font normalement partie du matériel de soudage, les traiter avec le plus grand soin.

1. Protéger les bouteilles de gaz comprimé contre la chaleur intense, les chocs, le laitier, les flammes nues, les étincelles et l'arc.
2. Placer les bouteilles à la verticale en les fixant à un support fixe ou à un chariot pour éviter qu'elles ne tombent ou ne basculent.
3. Tenir les bouteilles à l'écart du poste de soudage ou d'autres circuits électriques.

4. Ne jamais poser un chalumeau soudeur sur une bouteille de gaz.
5. Ne jamais laisser une électrode de soudage toucher une bouteille.
6. Ne jamais souder sur une bouteille sous pression : elle exploserait.
7. N'utiliser que des bouteilles de gaz de protection, des détendeurs, des tuyaux souples et des raccords appropriés conçus pour l'application particulière; conserver ces matériels et leurs pièces en bon état.
8. Éloigner le visage de la sortie du robinet de la bouteille quand on l'ouvre.
9. Replacer le chapeau sur la bouteille après utilisation.
10. Lire et suivre les consignes relatives aux bouteilles de gaz comprimé, au matériel connexe ainsi que la publication P-1 de la CGA donnée sous la rubrique Principales normes de sécurité.



LE SOUDAGE peut causer un incendie ou une explosion.

Ne pas souder sur des récipients fermés comme des réservoirs, des fûts ou des tuyaux : ils peuvent exploser. L'arc de soudage peut produire des étincelles. Des étincelles, une pièce chaude et un matériel chaud peuvent provoquer des incendies et des blessures. Le contact accidentel de l'électrode sur des objets métalliques peut produire des étincelles, l'explosion, la surchauffe ou un incendie. S'assurer que le lieu ne présente pas de danger avant d'effectuer le soudage.

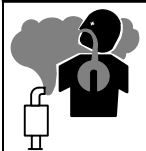
1. Se protéger et protéger les personnes à proximité des étincelles et du métal chaud.
2. Ne pas souder dans un endroit où les étincelles peuvent atteindre des matériaux inflammables.
3. Enlever toutes les matières inflammables dans un rayon de moins de 10 m de l'arc. Si cela n'est pas possible, bien les recouvrir en utilisant des bâches approuvées.
4. Prendre garde que les étincelles et les projections ne pénètrent dans des zones adjacentes en s'infiltrant dans des petites fissures et ouvertures.

5. Prendre garde aux incendies et toujours avoir un extincteur à proximité.
6. Se rappeler que si l'on soude sur un plafond, un plancher, une cloison ou autre, le feu peut prendre de l'autre côté.
7. Ne pas souder sur des récipients fermés comme des réservoirs, des fûts ou des tuyaux à moins qu'ils ne soient préparés de façon appropriée conformément à la norme F4.1 de l'AWS (voir la rubrique Principales normes de sécurité).
8. Raccorder le câble de retour à la pièce, le plus près possible de la zone de soudage, pour empêcher que le courant de soudage ne suive une trajectoire longue et éventuellement inconnue et qu'il ne provoque des risques d'électrocution et d'incendie.
9. Ne pas utiliser le chalumeau soudeur pour dégeler des tuyaux.
10. Enlever l'électrode enrobée du porte-électrode ou couper le fil de soudage au ras du bec contact quand on ne l'utilise pas.
11. Porter des vêtements de protection non huileux comme des gants en cuir, une chemise épaisse, des pantalons sans revers, des chaussures montantes et un casque.
12. Ne pas porter des matières combustibles sur soi comme un briquet à gaz ou des allumettes quand on soude.

1-3. Dangers relatifs au moteur



MISE EN GARDE



LES GAZ D'ÉCHAPPEMENT DES MOTEURS peuvent être mortels.

Les moteurs produisent des gaz d'échappement nocifs.

1. Utiliser les machines à l'extérieur dans des aires ouvertes et bien ventilées.
2. Si vous utilisez des machines dans un endroit confiné, les fumées d'échappement doivent être envoyées à l'extérieur, loin des prises d'air du bâtiment.



LE CARBURANT peut causer un incendie ou une explosion.

Le carburant est hautement inflammable.

1. Arrêter le moteur avant de vérifier le niveau de carburant ou de faire le plein.

2. Ne pas faire le plein en fumant ou proche d'une source d'étincelles ou d'une flamme nue.
3. Ne pas faire le plein de carburant à ras bord; prévoir de l'espace pour son expansion.
4. Faire attention de ne pas renverser de carburant. Nettoyer tout carburant renversé avant de faire démarrer le moteur.

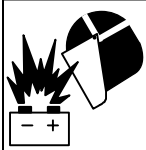


LES PIÈCES EN MOUVEMENT peuvent causer des blessures.

Des pièces en mouvement, telles des ventilateurs, des rotors et des courroies peuvent couper les doigts et les mains, ou accrocher des vêtements amples.

1. S'assurer que les portes, les panneaux, les capots et les protecteurs sont bien fermés.
2. Avant d'utiliser ou de connecter un système, arrêter le moteur.

3. Seules des personnes qualifiées doivent démonter des protecteurs ou des capots pour faire l'entretien ou le dépannage nécessaire.
4. Pour empêcher un démarrage accidentel d'un système pendant l'entretien, débrancher le câble d'accumulateur à la borne négative.
5. Ne pas approcher les mains ou les cheveux de pièces en mouvement; elles peuvent aussi accrocher des vêtements amples et des outils.
6. Réinstaller les capots ou les protecteurs et fermer les portes après des travaux d'entretien et avant de faire démarrer le moteur.



DES ÉTINCELLES peuvent FAIRE EXPLOSER UN ACCUMULATEUR; L'ÉLECTROLYTE peut brûler la peau et les yeux.

Les accumulateurs contiennent de l'électrolyte et dégagent des vapeurs explosives.

1. Porter toujours un écran facial en travaillant sur un accumulateur.

2. Arrêter le moteur avant de connecter ou de déconnecter des câbles d'accumulateur.
3. Utiliser uniquement des outils anti-étincelles pour travailler sur un accumulateur.
4. Ne pas utiliser un poste de soudage pour charger un accumulateur ou pour faire démarrer un véhicule.
5. Ne pas intervenir la polarité d'un accumulateur.



LA VAPEUR ET LE LIQUIDE DE REFROIDISSEMENT BRÛLANT SOUS PRESSION peuvent brûler la peau et les yeux.

Il est préférable de vérifier le liquide de refroidissement une fois le moteur refroidi.

1. Si le moteur est chaud et que le liquide doit être vérifié, suivre les étapes 2 et 3.
2. Mettre des lunettes de sécurité et des gants, placer un torchon sur le bouchon.
3. Laisser la pression s'échapper doucement avant d'ôter complètement le bouchon.

1-4. Autres dangers relatifs à l'installation, l'utilisation et l'entretien

 MISE EN GARDE			
	LES PIÈCES EN MOUVEMENT peuvent causer des blessures. <ol style="list-style-type: none"> Avant de travailler sur une génératrice, retirer les bougies ou les injecteurs afin d'empêcher le moteur de démarrer. Bloquer le volant-moteur afin qu'il ne tourne pas au cours du travail sur la génératrice. 		LES ÉTINCELLES PROVENANT DE L'ÉCHAPPEMENT peuvent provoquer un incendie. <ol style="list-style-type: none"> Utiliser uniquement un pare-étincelles approuvé – voir codes en vigueur.
	LES PARTICULES DE MÉTAL OU DE SALETÉ peuvent provoquer des blessures aux yeux. <ol style="list-style-type: none"> Porter des lunettes de sécurité avec écrans latéraux ou un écran facial. 		UNE BASSE TENSION ET UNE BASSE FRÉQUENCE peuvent endommager l'équipement électrique tel qu'un moteur. <ol style="list-style-type: none"> Mettre hors tension ou débrancher l'équipement avant de démarrer ou d'arrêter le moteur.
	L'ÉLECTRICITÉ STATIQUE peut endommager les pièces des cartes PC. <ol style="list-style-type: none"> Porter un bracelet antistatique AVANT de manipuler une carte ou une pièce. Utiliser des sacs et des boîtes antistatiques appropriés pour ranger, déplacer ou expédier des cartes PC. 		UNE SURUTILISATION peut SURCHAUFFER L'ÉQUIPEMENT. <ol style="list-style-type: none"> Laisser l'équipement refroidir. Réduire le courant ou le facteur de marche avant de poursuivre le soudage. Respecter le facteur de marche nominal.
	LES PIÈCES CHAUDES peuvent causer des brûlures sévères. <ol style="list-style-type: none"> Laisser refroidir avant d'effectuer l'entretien. Porter des gants et des vêtements de protection lorsque vous devez toucher à un moteur chaud. 		UNE REMORQUE QUI BASCULE peut entraîner des blessures. <ol style="list-style-type: none"> Utiliser les supports de la remorque ou des blocs pour soutenir le poids. Installer convenablement le poste sur la remorque comme indiqué dans le manuel s'y rapportant.
	LES CHUTES D'OBJETS peuvent causer des blessures graves et endommager l'équipement. <ol style="list-style-type: none"> Utiliser l'anneau de levage uniquement pour soulever l'appareil lui-même; sans train de roulement, de bouteilles de gaz ou autres accessoires. Pour soulever l'appareil, utiliser des équipements de puissance suffisante. 		L'ÉLECTROLYTE peut BRÛLER LA PEAU ET LES YEUX. <ol style="list-style-type: none"> Ne pas basculer un accumulateur. Remplacer tout accumulateur endommagé. Laver immédiatement les yeux et la peau, abondamment avec de l'eau.
	LIRE LES INSTRUCTIONS. <ol style="list-style-type: none"> Utiliser uniquement des pièces de rechange MILLER. Réinstaller les injecteurs et évacuer l'air du système de carburant selon le manuel du moteur. 		LES CHAMPS MAGNÉTIQUES PRODUITS PAR LES COURANTS MAGNÉTIQUES ÉLEVÉS peuvent nuire au fonctionnement d'un stimulateur cardiaque. <ol style="list-style-type: none"> Les personnes qui portent un stimulateur cardiaque doivent se tenir éloignées des postes de soudage. Elles devraient consulter leur médecin avant de s'approcher d'un poste de soudage à l'arc, de gougeage ou de soudage par points.

1-5. Principales normes de sécurité

<p><i>Safety in Welding and Cutting</i>, norme ANSI Z49.1, de l'American Welding Society, 550 N.W. Lejeune Rd, Miami FL 33126</p> <p><i>Safety and Health Standards</i>, OSHA 29 CFR 1910, du Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.</p> <p><i>Recommended Safe Practice for the Preparation for Welding and Cutting of Containers That Have Held Hazardous Substances</i>, norme AWS F4.1, de l'American Welding Society, 550 N.W. Lejeune Rd, Miami FL 33126</p> <p><i>National Electrical Code</i>, NFPA Standard 70, de la National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.</p>	<p><i>Safe Handling of Compressed Gases in Cylinders</i>, CGA Pamphlet P-1, de la Compressed Gas Association, 1235 Jefferson Davis Highway, Suite 501, Arlington, VA 22202.</p> <p><i>Règles de sécurité en soudage, coupage et procédés connexes</i>, norme CSA W117.2, de l'Association canadienne de normalisation, vente de normes, 178 Rexdale Boulevard, Rexdale (Ontario) Canada M9W 1R3.</p> <p><i>Safe Practices For Occupation And Educational Eye And Face Protection</i>, norme ANSI Z87.1, de l'American National Standards Institute, 1430 Broadway, New York, NY 10018.</p> <p><i>Cutting and Welding Processes</i>, norme NFPA 51B, de la National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.</p>
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1-6. Information sur les champs électromagnétiques

<p>Données sur le soudage électrique et sur les effets, pour l'organisme, des champs magnétiques basse fréquence</p> <p>L'extrait suivant est tiré des conclusions générales du document intitulé <i>Biological Effects of Power Frequency Electric & Magnetic Fields – Background Paper, OTA-BP-E-53 (Washington DC : U.S. Government Printing Office, mai 1989)</i>, publié par le Office of Technology Assessment du Congrès américain : «... il existe maintenant d'abondantes données scientifiques compilées à la suite d'expériences sur la cellule ou d'études sur des animaux et des humains, qui montrent clairement que les champs électromagnétiques basse fréquence peuvent avoir des effets sur l'organisme et même y produire des transformations. Même s'il s'agit de travaux de très grande qualité, les résultats sont complexes. Cette démarche scientifique ne nous permet pas d'établir un tableau d'ensemble cohérent. Pire encore, elle ne nous permet pas de tirer des conclusions finales concernant les risques éventuels, ni d'offrir des conseils sur les mesures à prendre pour réduire sinon éliminer les risques éventuels». (Traduction libre)</p>	<p>Afin de réduire les champs électromagnétiques dans l'environnement de travail, respectez les consignes suivantes :</p> <ol style="list-style-type: none"> Gardez les câbles ensembles en les torsadant ou en les attachant avec du ruban adhésif. Mettez tous les câbles du côté opposé de l'opérateur. Ne courbez pas et n'entourez pas les câbles autour de vous. Gardez le poste de soudage et les câbles le plus loin possible de vous. Reliez la pince de masse le plus près possible de la zone de soudure. <p>Consignes relatives aux stimulateurs cardiaques : Les consignes mentionnées précédemment font partie de celles destinées aux personnes ayant recours à un stimulateur cardiaque. Veuillez consulter votre médecin pour obtenir plus de détails.</p>
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SECTION 2 – INSTALLATION

2-1. Installing Welding Generator

Movement

Airflow

Location

Grounding

OR

Electrically bond generator frame to vehicle frame by metal-to-metal contact.

- 1 Generator Base
- 2 Metal Vehicle Frame
- 3 Equipment Grounding Terminal
- 4 Grounding Cable

Use #10 AWG or larger insulated copper wire.

▲ If unit does not have GFCI receptacles, use GFCI-protected extension cord.

Ref. ST-800 652 / Ref. ST-800 477-A / ST-158 936-A / S-0854

2-2. Dimensions, Weights, And Operating Angles

Engine End

ST-800 426

Dimensions	
Height	31 in (787 mm)
Width	18-3/4 in (476 mm)
Depth	46 in (1164 mm)
A	18 in (457 mm)
B	16-1/2 in (419 mm)
C	3/4 in (19 mm)
D	3-1/8 in (79 mm)
E	32-3/4 in (832 mm)
F	45-1/2 in (1156 mm)
G	13/32 in (10 mm) Dia.

▲ Do not exceed operating angles while running or engine damage will occur.

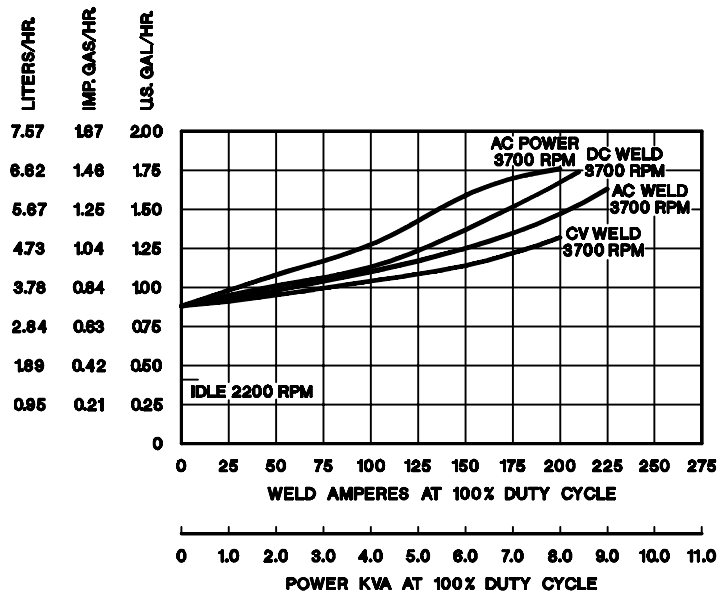
▲ Do not move or operate unit where it could tip.

Weight

Net: 575 lb (261 kg)

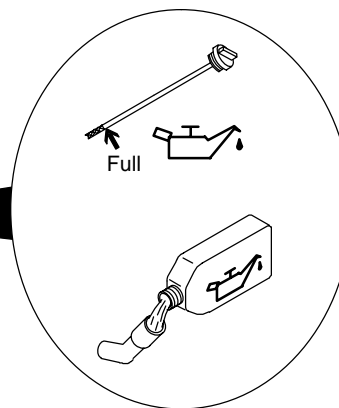
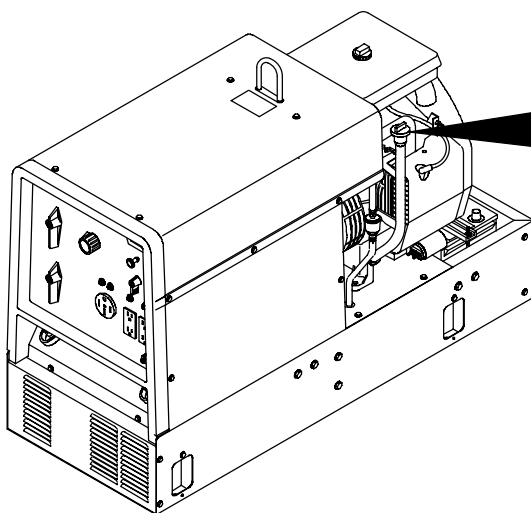
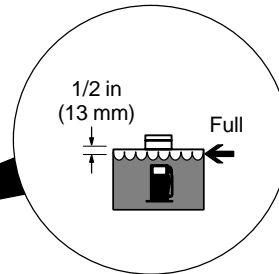
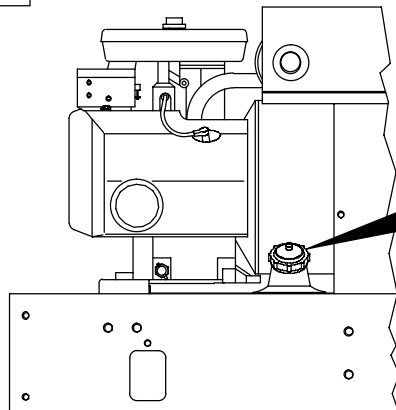
Ship: 599 lb (272 kg)

2-3. Fuel Consumption



SB-119 455-A

2-4. Engine Prestart Checks

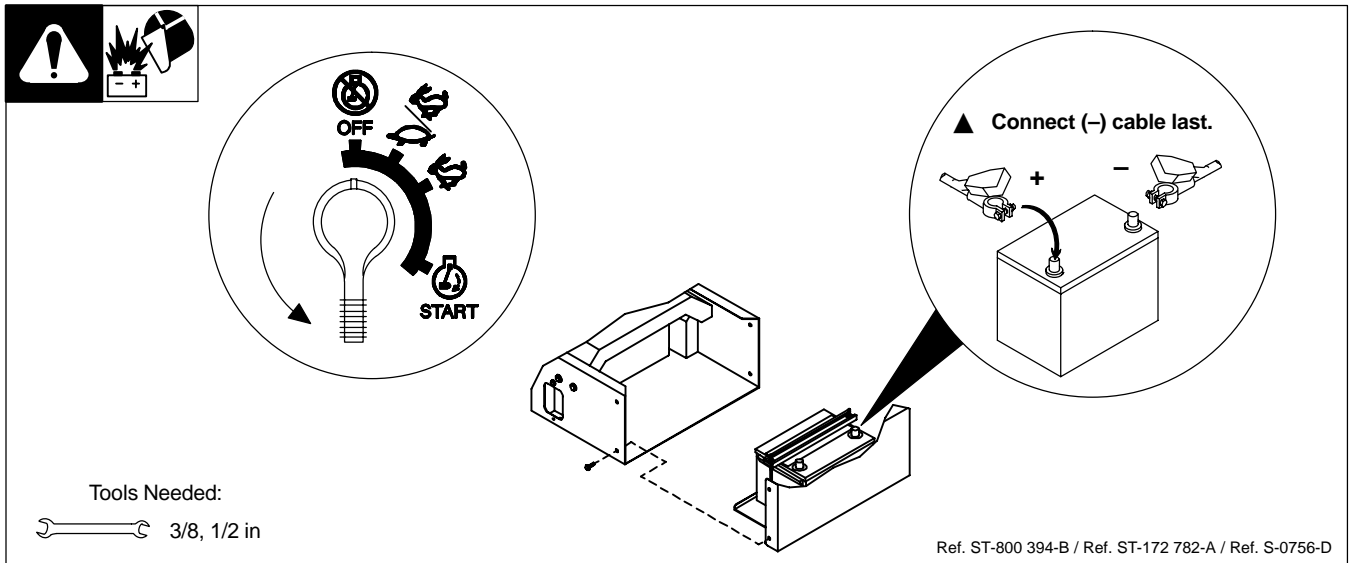


Check all fluids daily. Engine must be cold and on a level surface.


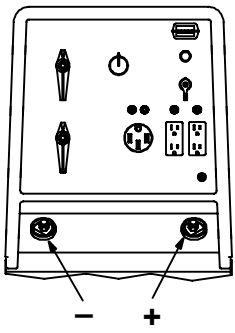
Engine stops if oil pressure gets too low.

Ref. ST-800 395-A / Ref. ST-800 392-B

2-5. Connecting The Battery

















2-6. Weld Output Terminals And Selecting Cable Sizes

 Weld Output Terminals	Welding Amperes	Total Cable (Copper) Length In Weld Circuit Not Exceeding							
		100 ft (30 m) Or Less		150 ft (45 m)	200 ft (60 m)	250 ft (70 m)	300 ft (90 m)	350 ft (105 m)	400 ft (120 m)
		10 – 60% Duty Cycle	60 – 100% Duty Cycle	10 – 100% Duty Cycle					
 ST-800 396-A	100	4	4	4	3	2	1	1/0	1/0
	150	3	3	2	1	1/0	2/0	3/0	3/0
	200	3	2	1	1/0	2/0	3/0	4/0	4/0
	250	2	1	1/0	2/0	3/0	4/0	2-2/0	2-2/0
	300	1	1/0	2/0	3/0	4/0	2-2/0	2-3/0	2-3/0
	350	1/0	2/0	3/0	4/0	2-2/0	2-3/0	2-3/0	2-4/0

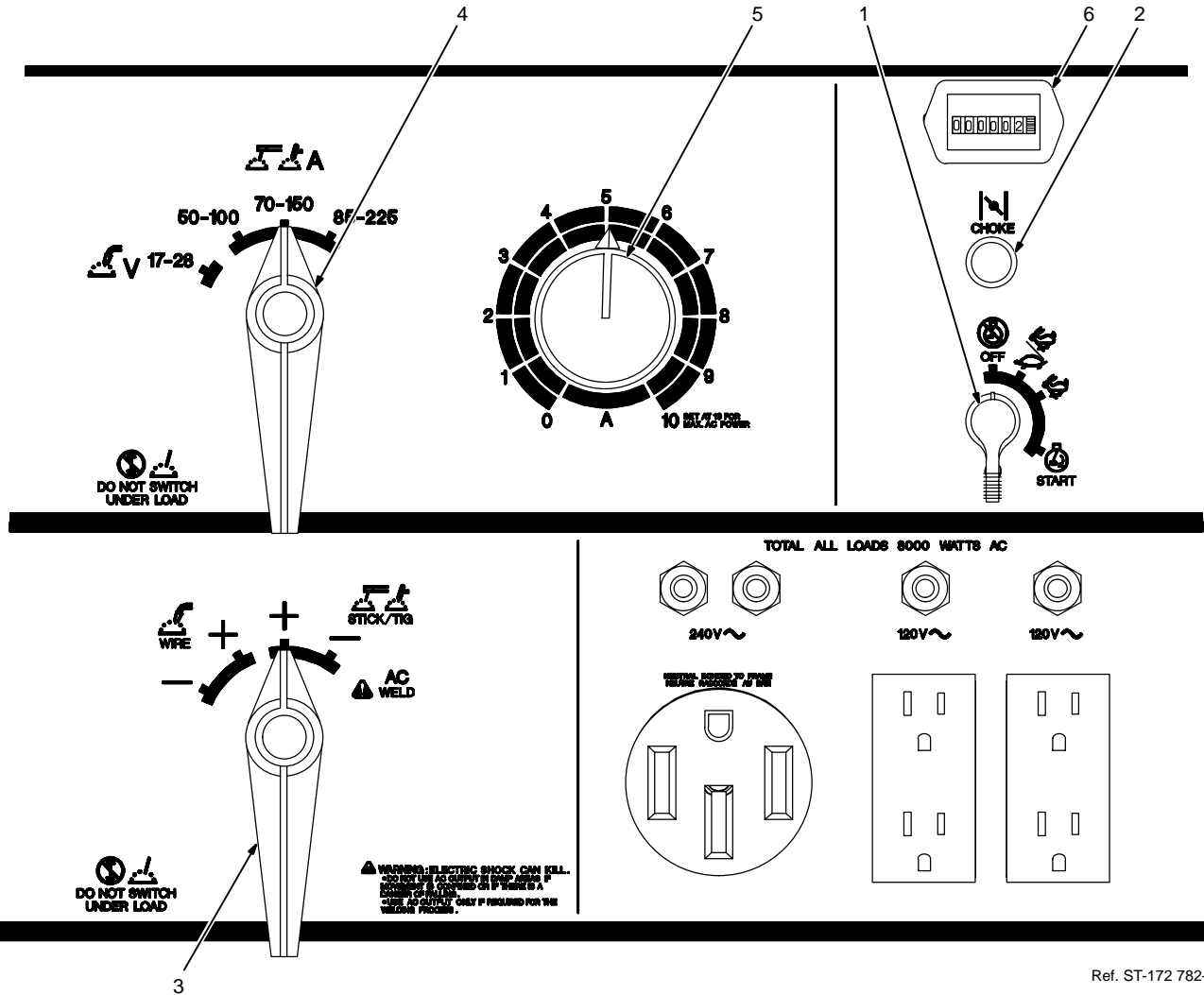
Weld cable size (AWG) is based on either a 4 volts or less drop or a current density of at least 300 circular mils per ampere. S-0007-D

SECTION 3 – OPERATING WELDING GENERATOR

3-1. Front Panel Symbols And Definitions

	Off		Run Speed		Idle/Run Speed		Start
	Wire Welding		Tig Welding		Stick Welding		Choke
A	Amperes	V	Volts		Engine		Fuel
	Oil		Battery		Output		Alternating Current

3-2. Front Panel Controls



Ref. ST-172 782-A

1 Engine Control Switch S2

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

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

2 Engine Choke Control

Use control to change engine air-fuel mix.

To Start: pull out choke and turn Engine Control switch to Start position. Release switch and slowly push choke in when en-

gine starts. Do not crank engine while fly-wheel is turning.

To Stop: turn Engine Control switch to Off position.

3 Weld Process Selector Switch S1

Use switch to select type of weld output.

Use a positive (+) position for Direct Current Electrode Positive (DCEP) and a negative (-) position for Direct Current Electrode Negative. Use AC position for alternating current.

4 Coarse Adjust Switch S3

Use switch to select weld amperage range when Weld Process Selector switch is in Stick/Tig position, or voltage range when switch is in Wire position.

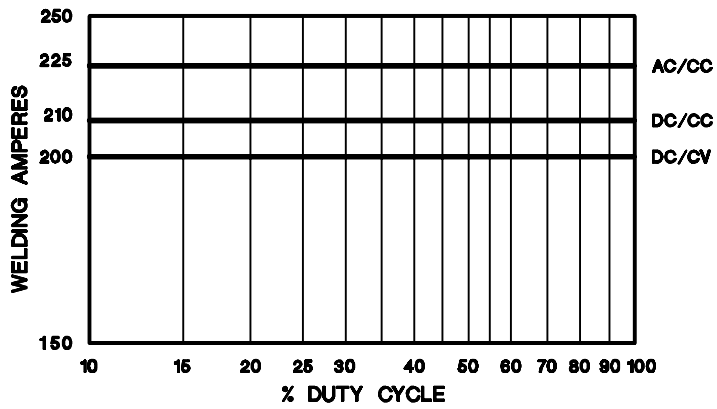
☞ For best arc starts, use lowest amperage range possible.

5 Fine Adjust Control R1

Use control to select weld amperage (Stick/Tig) or voltage (Wire) within the range selected by the Coarse Adjust switch. Control may be adjusted while welding. Weld output would be 110 A DC based on control settings shown (50% of 70 to 150 A).

6 Engine Hour Meter HM

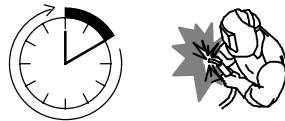
3-3. Duty Cycle



Duty cycle is the percentage of 10 minutes that unit can weld at rated load without overheating.

▲ Exceeding duty cycle can damage unit and void warranty.

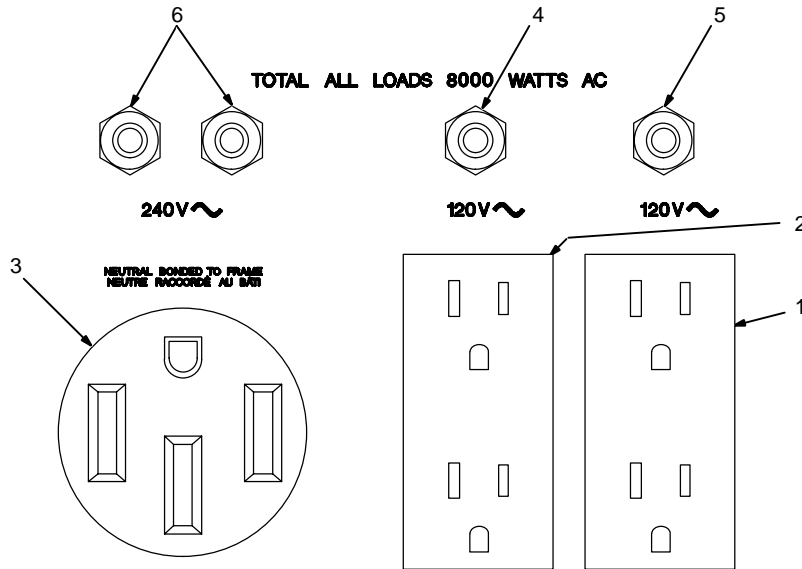
100% Duty Cycle at 225 Amperes AC, 210 Amperes CC/DC, 200 Amperes CV/DC



Continuous Welding

SECTION 4 – OPERATING AUXILIARY EQUIPMENT

4-1. Standard Receptacles



AC POWER

**SIMULTANEOUS WELDING AND POWER
WITH FINE ADJUST SET AT 10**

Weld Current In Amperes	Total Power In Watts	120V Receptacle Amperes	240V Receptacle Amperes
210	1000	8	4
140	4300	36	18
90	6000	50	25

See Owner's Manual for additional information.

S-166 360-A

▲ If unit does not have GFCI receptacles, use GFCI-protected extension cord.

☞ Auxiliary power decreases as weld current increases.

Set Fine Adjust control R1 at 10 for full auxiliary power.

1 120 V 15 A AC Duplex Receptacle RC3

2 120 V 15 A AC Duplex Receptacle RC2

RC3 and RC2 supply 60 Hz single-phase power at weld/power speed. Maximum output from RC3 or RC2 is 2.4 kVA/kW.

3 240 V 50 A AC Receptacle RC1

RC1 supplies 60 Hz single-phase power at weld/power speed. Maximum output is 8 kVA/kW.

4 Circuit Breaker CB3

5 Circuit Breaker CB4

CB3 protects RC2 and CB4 protects RC3 from overload. If a circuit breaker opens, the receptacle does not work.

6 Circuit Breakers CB1 And CB2

CB1 and CB2 protect RC1 from overload. If CB1 or CB2 opens, RC1 and one of the 120 volt receptacles does not work. 120 volts may still be present at RC1.

Combined output of all receptacles limited to 8 kVA/kW rating of the generator.

EXAMPLE: If 20 A is drawn from each 120 V duplex receptacle, only 13 A is available at the 240V receptacle:

$$2 \times (120 \text{ V} \times 20 \text{ A}) + (240 \text{ V} \times 13 \text{ A}) = 7.9 \text{ kVA/kW}$$

7 Auxiliary Power While Welding Label

4-2. Wiring Optional 240 Volt Plug



Current Available In Amperes	
240 V Receptacle*	Each 120 V Duplex Receptacle
35	0
30	5
25	10
20	15
15	20
V x A = Watts	

*One 240 V load or two 120 V loads.

The plug can be wired for a 240 V, 2-wire load or a 120/240V, 3-wire load. See circuit diagram.

1 Plug Wired For 120/240 V, 3-Wire Load

When wired for 120 V loads, each duplex receptacle shares a load with one half of 240 V receptacle.

2 Plug Wired For 240 V, 2-Wire Load

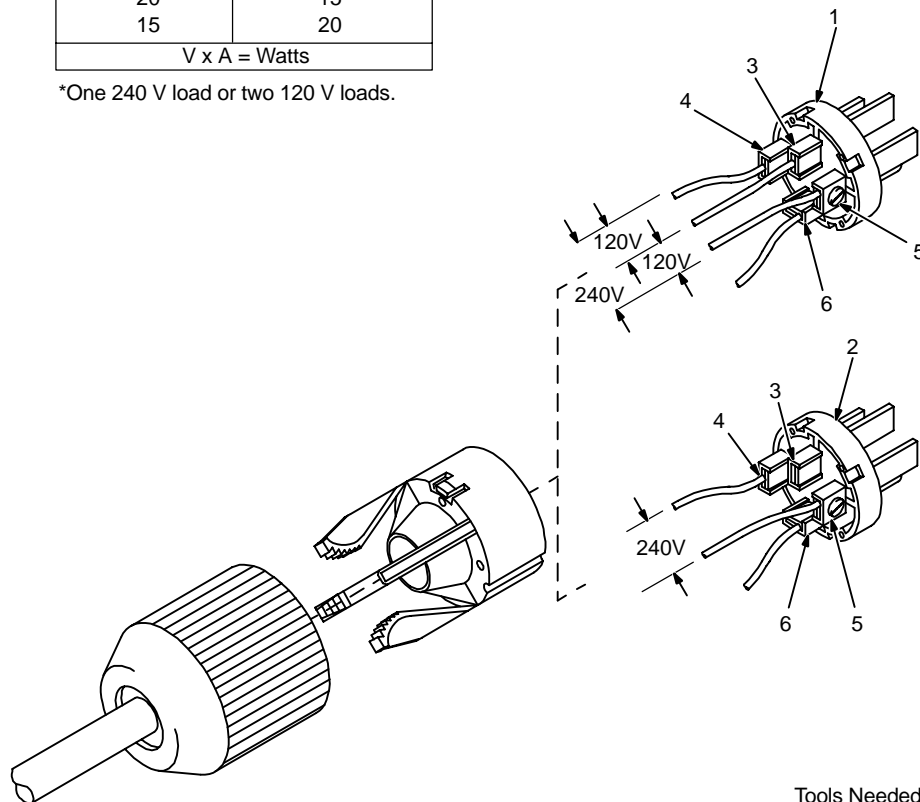
3 Neutral (Silver) Terminal

4 Load 1 (Brass) Terminal

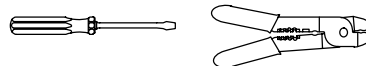
5 Load 2 (Brass) Terminal

6 Ground (Green) Terminal

7 Amperes Available Using 120/240 V Plug



Tools Needed:



ST-120 813-D


SECTION 5 – MAINTENANCE AND TROUBLESHOOTING

5-1. Routine Maintenance

		<p>Recycle engine fluids.</p>	<p>▲ Stop engine before maintaining.</p> <p> See also <i>Engine Manual</i> and maintenance label. Service engine more often during severe conditions.</p>
<p> 8 Hours</p>		<p> 20 Hours</p>	
<p>Wipe Up Spills</p>	<p>Check Fluid Levels, See Section 2-4</p>	<p>Check And Clean Spark Arrestor Screen. See Section 5-7.</p>	
<p> 50 Hours</p>			
<p>Clean Cooling System, See Engine Manual</p>	<p>Clean And Tighten Weld Terminals</p>		
<p> 100 Hours</p>			
<p>Change Oil. See Section 5-4 And Maintenance Label</p>	<p>Change Oil Filter. See Section 5-4 And Maintenance Label</p>		
<p>Clean And Tighten Battery Connections</p>	<p>Service Air Filter. See Section 5-3</p>		
<p> 200 Hours</p>			
<p>Check Valve Clearance</p>	<p>Replace Fuel Filter. See Section 5-4.</p>	<p>Replace Unreadable Labels</p>	
<p> 500 Hours</p>			
<p>Check Spark Plugs</p>	<p>Repair Or Replace Cracked Cables</p>		
<p> 1000 Hours</p>			
<p>Blow Out Or Vacuum Inside. During Heavy Service, Clean Monthly</p>			

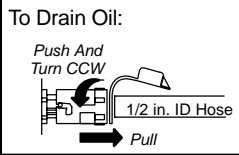
5-2. Maintenance Label

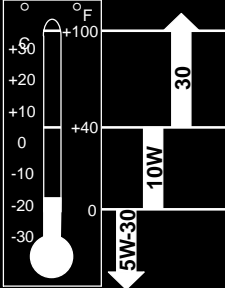
ONAN P216/P220 GAS ENGINE




See Engine Manual for complete engine care. Give engine Specification and Serial Number when ordering parts.

To Drain Oil:





Check daily. 

Recommended Oil . . . API Service Classification
SF, SG, SF/CC, SG/CE


Oil & Filter Change – Normal Conditions

P216 100 hours

P220 50 hours


Oil Filter MILLER 065 251, Onan 122-0645

Oil Capacity 1.5 qt (1.4 L) or 1.75 qt (1.6 L) with filter change

 Fuel Grade Regular or Unleaded


Fuel Filter MILLER 066 113, Onan 149-2206-01,
Fram G10E1

Gasoline


 Air Filter Service 100 hours or less – see Owner's Manual

Air Filter Element MILLER 064 617, Onan 140-2628-01

Air Filter Wrapper MILLER 065 653, Onan 140-1496


 12 Volt Battery BCI Group 58

Cranking Performance at 0°F (-18°C) 430 Amps min.

 Engine RPM – No Load


Weld/ Power 3700

Idle 2200

 Valve Clearance – Cold


In. 0.005 in (0.13 mm)

Ex. 0.013 in (0.33 mm)

 Spark Plug Gap 0.025 in. (0.6 mm)

Spark Plug Champion RS17YX Preferred or RS14YC

Use only resistor spark plugs and wires.

 Spark Arrester Inspection And Service . . . 20 operating hours - see Owner's Manual

Optional

S-165 623-C

5-3. Servicing Air Cleaner

▲ Do not run engine without air cleaner or with dirty element.

Stop engine.

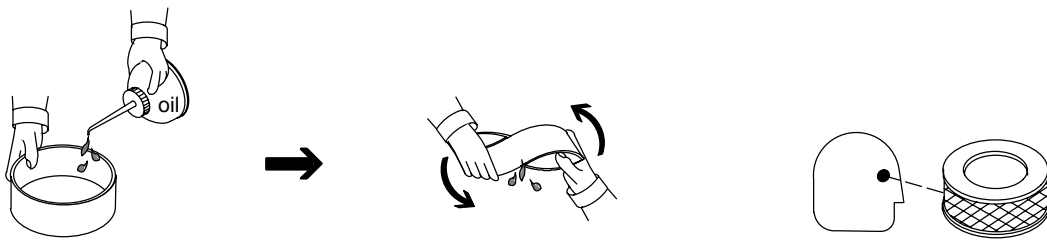
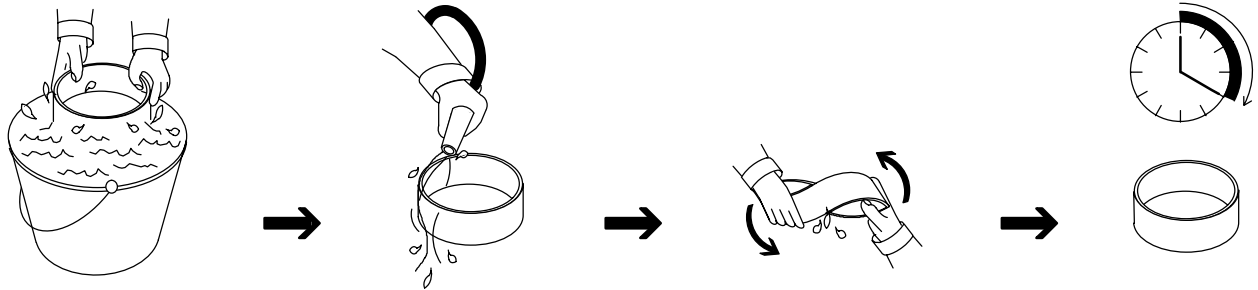
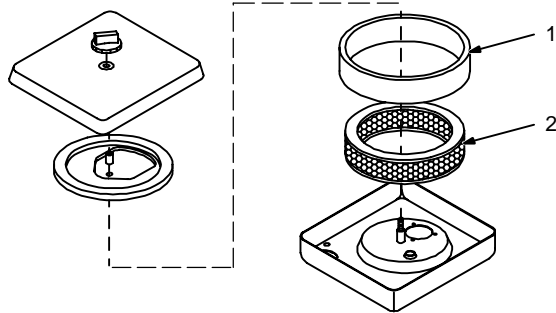
1 Precleaner

Wash precleaner with soap and water solution. Allow precleaner to air dry completely.

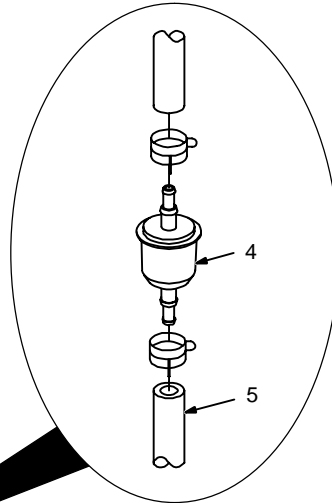
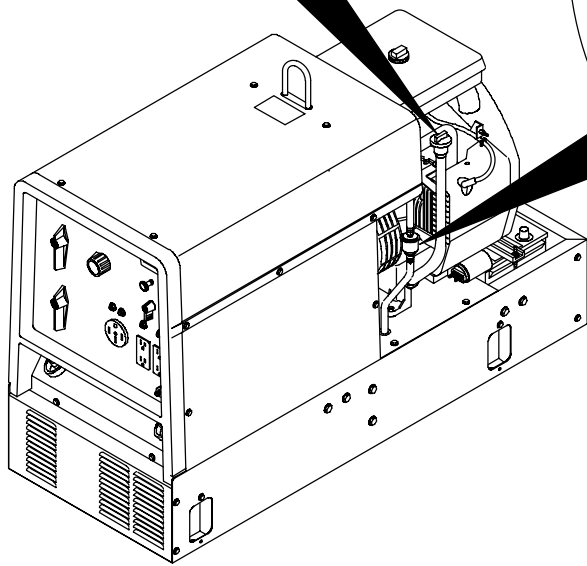
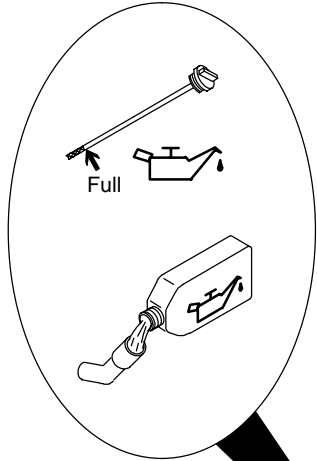
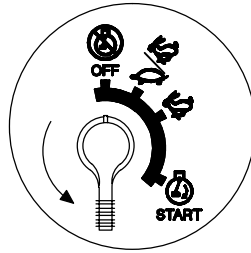
Spread 1 tablespoon SAE 30 oil evenly into precleaner. Squeeze out excess oil.

2 Element

Replace element if dirty or oily.



5-4. Changing Engine Oil, Oil Filter, And Fuel Filter



Stop engine and allow to cool.

- 1 Oil Drain Valve
- 2 1/2 ID x 12 in Hose
- 3 Oil Filter

Change engine oil and filter according to engine owner's manual.

▲ Close valve and valve cap before adding oil and running engine.

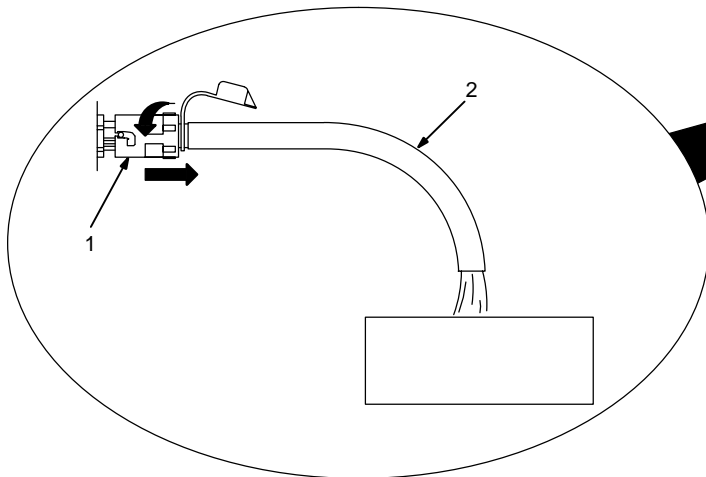
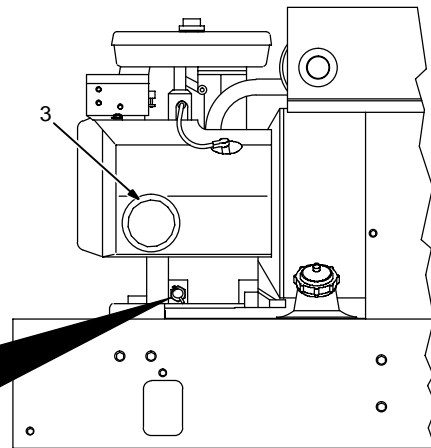
Fill crankcase with new oil to full mark on dipstick (see Section 5-2).

- 4 Fuel Filter
- 5 Fuel Line

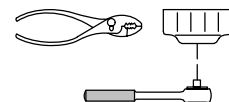
Replace line if cracked or worn. Install new filter. Wipe up any spilled fuel.

Start engine, and check for fuel leaks.

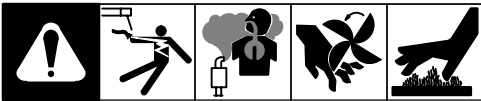
Stop engine, tighten connections as necessary, and wipe up fuel.






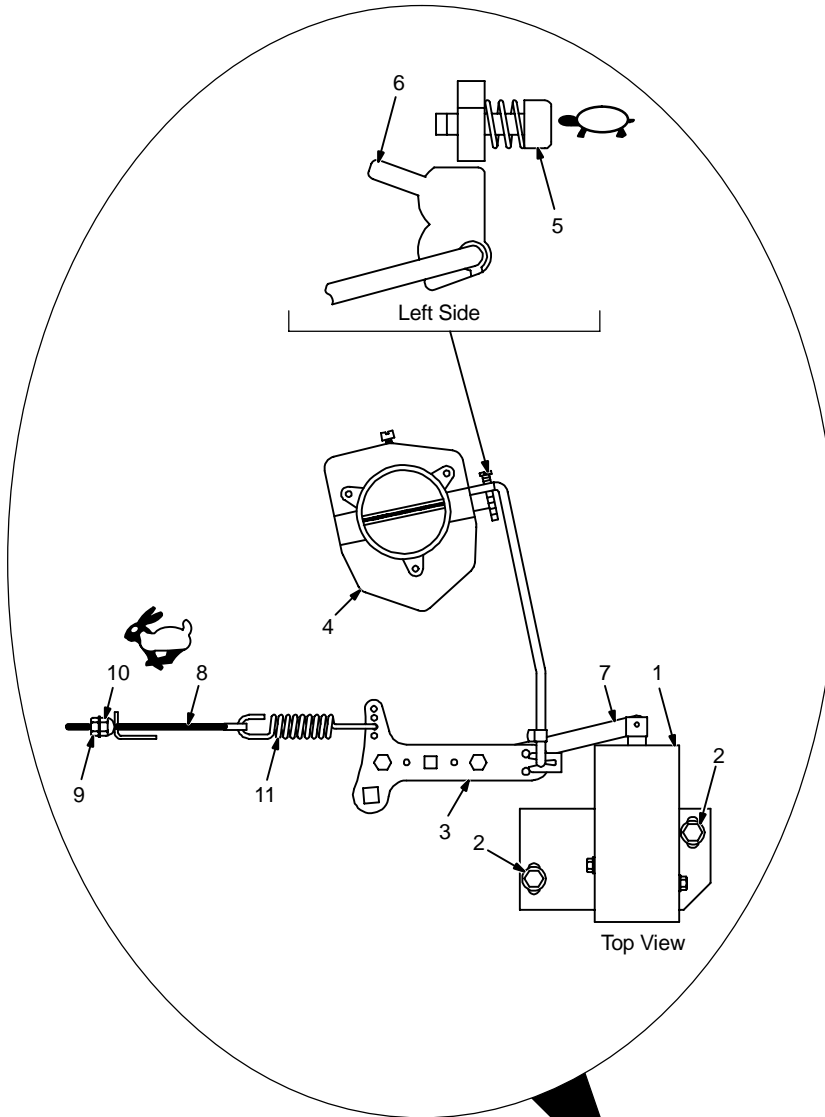
Tools Needed:



5-5. Adjusting Engine Speed



	
	2200 ± 100 rpm
	3700 ± 50 rpm



After tuning engine, check engine speeds with a tachometer (see table). If necessary, adjust speeds as follows:

Start engine and run until warm. Turn Fine Adjust control to 10.

Idle Speed Adjustment

- 1 Throttle Solenoid
- 2 Mounting Screw

Loosen two mounting screws.

- 3 Governor Arm
- 4 Carburetor
- 5 Idle Speed Screw

Pull governor arm away from carburetor and hold while making the following adjustment:

Turn idle speed screw until engine runs at idle speed (see table).

Release governor arm. Place Engine Control switch in Idle/Run position.

- 6 Carburetor Stop

With solenoid energized, slide solenoid until idle speed screw just touches carburetor stop. Tighten solenoid mounting screws.

- 7 Governor Arm Extension

Check for smooth operation, and readjust solenoid position if necessary.

Weld/Power Speed Adjustment

Place Engine Control switch in Run position.

- 8 Weld/Power Speed Rod
- 9 Locking Nut

Loosen nut.

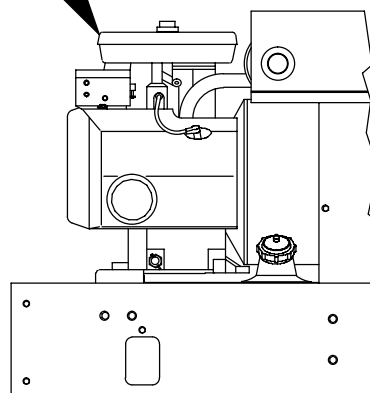
- 10 Adjustment Nut

Turn adjustment nut until engine runs at weld/power speed. Tighten locking nut.

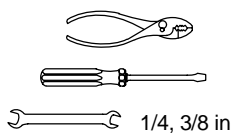
Stop engine.

- 11 Sensitivity Spring

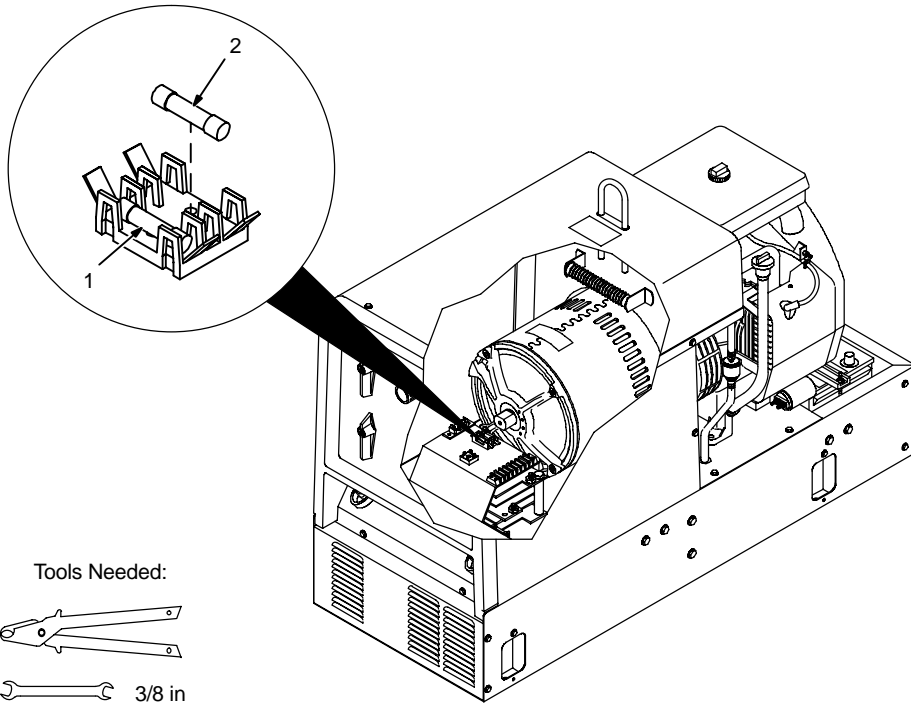
See engine manual for governor sensitivity adjustment.



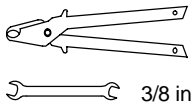
Tools Needed:



5-6. Overload Protection



Tools Needed:



Stop engine. Disconnect negative (-) battery cable.

1 Fuse F1 (See Parts List For Rating)

F1 protects the exciter excitation winding from overload.

2 Fuse F2 (See Parts List For Rating)

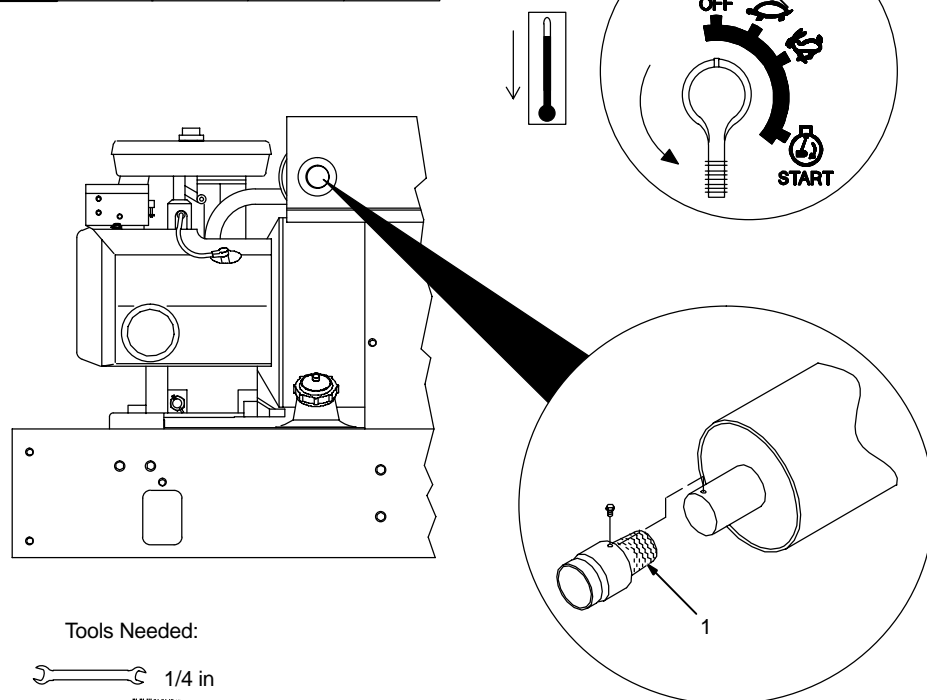
F2 protects the engine ignition system from overload.

Replace any open fuses. Reinstall cover before operating.

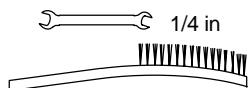
If any fuse continues to open, contact Factory Authorized Service Agent.

ST-800 398-B

5-7. Inspecting And Cleaning Optional Spark Arrestor



Tools Needed:



Stop engine and allow to cool.

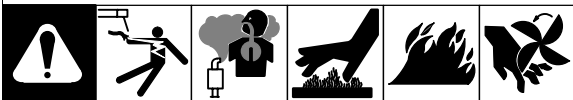
1 Spark Arrestor Screen

Clean and inspect screen. Replace spark arrestor if screen wires are broken or missing.


ST-800 395-A / ST-801 206

5-8. Troubleshooting

A. Welding

	
Trouble	Remedy
No weld output.	Check control settings.
	Check weld connections.
	Check fuse F2 and replace if open (see Section 5-6).
	Be sure all equipment is disconnected from receptacles when starting unit.
	Have Factory Authorized Service Agent check brushes, slip rings, and integrated rectifier SR2.
Low weld output.	Check fuse F1 and replace if open (see Section 5-6).
	Check control settings.
	Check and adjust engine speed (see Section 5-5).
	Service air cleaner according to engine manual.
	Have Factory Authorized Service Agent check brushes and slip rings.
High weld output.	Check control settings.
	Check and adjust engine speed (see Section 5-5).
Erratic weld output.	Check control settings.
	Tighten and clean connections to electrode and workpiece.
	Use dry, properly-stored electrodes for SMAW and GTAW.
	Tighten and clean connections both inside and outside welding generator.
	Check and adjust engine speed (see Section 5-5).
	Have Factory Authorized Service Agent check brushes and slip rings.

B. Auxiliary Power

	
Trouble	Remedy
No output at duplex receptacles RC2 and RC3.	Reset circuit breakers CB1, CB2, CB3, or CB4 (see Section 4-1).
	Check fuse F2 and replace if open (see Section 5-6).
	Have Factory Authorized Service Agent check brushes, slip rings, and integrated rectifier SR2.
No output at 240 volt receptacle RC1.	Reset circuit breaker CB1 and/or CB2 (see Section 4-1)
	Check fuse F2 and replace if open (see Section 5-6).
High power output.	Check and adjust engine speed (see Section 5-5).
Low power output.	Check fuse F1 and replace if open (see Section 5-6).
	Increase Fine Adjust control R1 setting.
Erratic power output.	Check fuel level.
	Check and adjust engine speed (see Section 5-5).
	Check receptacle wiring and connections.
	Have Factory Authorized Service Agent check brushes and slip rings.

C. Engine

	
Trouble	Remedy
Engine will not crank.	Check battery voltage.
	Check battery connections and tighten if necessary.
	Have Factory Authorized Service Agent check Engine Control switch S2.
Engine will not start.	Check fuel level.
	Check battery voltage.
	Check battery connections and tighten if necessary.
	Check oil level. Check low oil pressure shutdown switch S5 (see Section 2-4 and parts list).
	Have Factory Authorized Service Agent check optional fuel shutoff solenoid FS1.
Engine starts but stops when Engine Control switch returns to Run position.	Check oil level. Check low oil pressure shutdown switch S5 (see Section 2-4 and parts list).
	Check and refill crankcase with proper viscosity oil for operating temperature, if necessary.
Engine stopped during normal operation.	Check fuel level.
	Check oil level. Check low oil pressure shutdown switch S5 (see Section 2-4 and parts list).
	Periodically recharge battery (approximately every 3 months).
	Replace battery.
	Check voltage regulator and connections according to engine manual.
	Have Factory Authorized Service Agent check optional fuel shutoff solenoid FS1.
Battery Discharges between uses.	Clean battery, terminals, and posts with baking soda and water solution; rinse with clear water.
	Periodically recharge battery (approximately every 3 months).
	Replace battery.
	Check voltage regulator and connections according to engine manual.
Engine idles but does not come up to weld speed.	Have Factory Authorized Service Agent check auto idle module PC1 and current transformer CT1.
Unstable or sluggish engine speeds.	Readjust throttle linkage if necessary. Check throttle solenoid TS1 for smooth operation.
	Tune-up engine according to engine manual.
Engine does not return to idle speed.	Remove weld and auxiliary power loads.
	Check throttle linkage for smooth, non-binding operation.
	Have Factory Authorized Service Agent check idle module PC1, Engine Control switch S2, and throttle solenoid TS1.

SECTION 6 – ELECTRICAL DIAGRAM

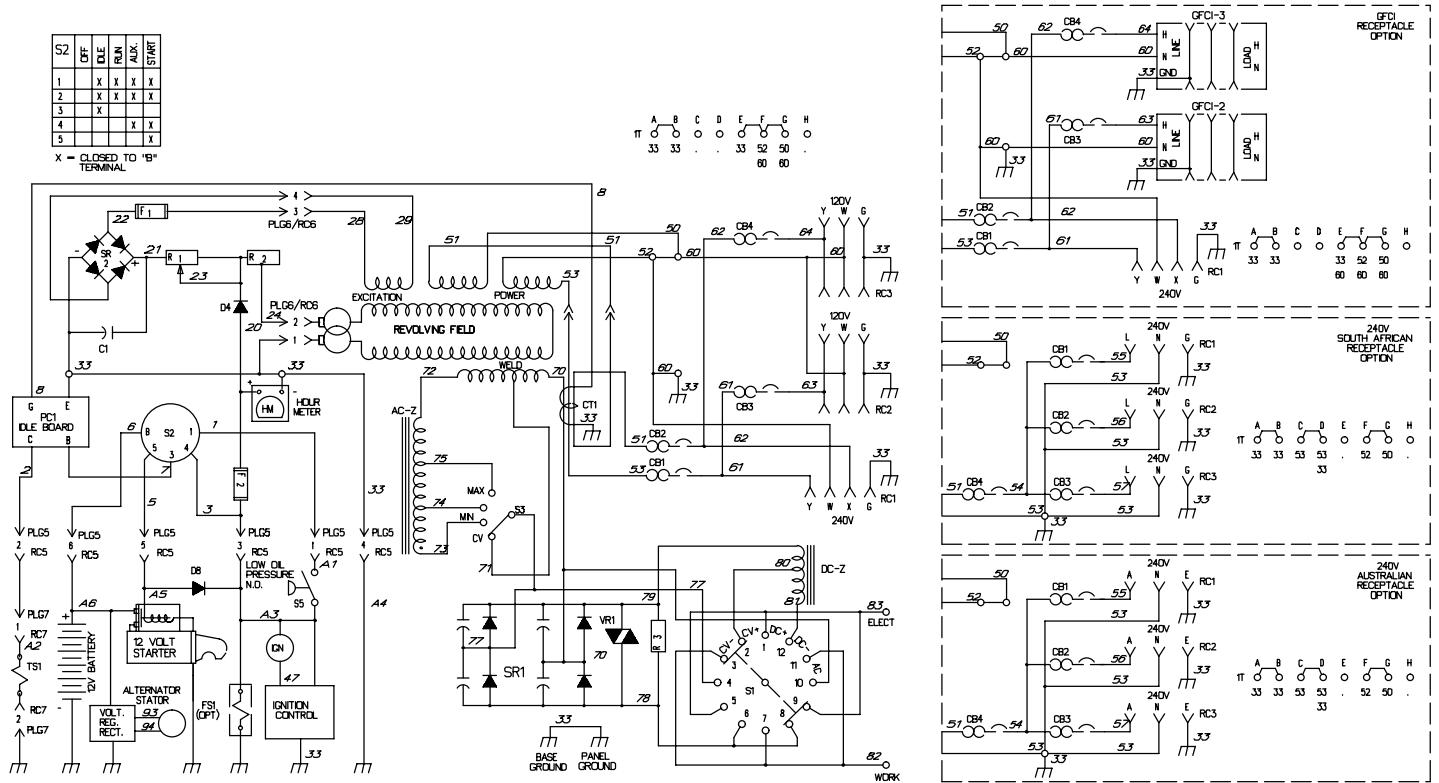


Figure 6-1. Circuit Diagram For Welding Generator

SB-164 335-F

NOTES

SECTION 7 – PARTS LIST

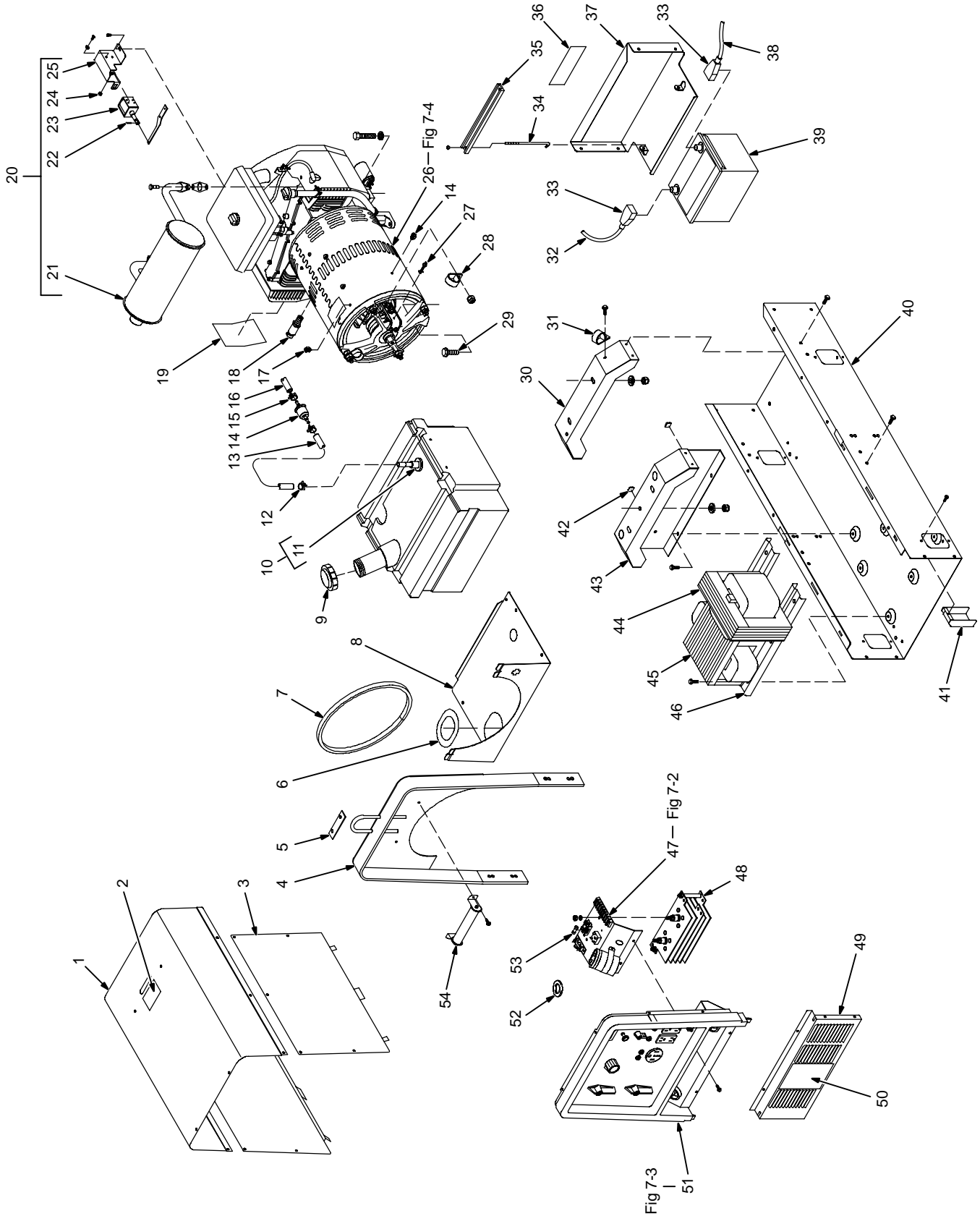


Figure 7-1. Main Assembly

Item No.	Dia. Mkgs.	Part No.	Description	Quantity
Figure 7-1. Main Assembly				
1		+159 907	COVER, top	1
2		108 487	LABEL, warning: falling equipment can cause serious injury	1
3		169 329	PANEL, side	2
4		159 914	UPRIGHT, base	1
5		160 975	SEAL, weather lift eye	1
6		168 640	SEAL, tank fuel filter neck	1
7		164 928	SEAL, barrel 11.78 ID x .378thk	1
8		178 497	PANEL, rear lower	1
9		147 601	CAP, tank screw-on w/vent	1
10		178 498	TANK, fuel 8.5gal (consisting of)	1
11		178 632	FITTING, stand pipe hose .250 x 7.325 lg	1
12		084 173	CLAMP, hose 460-545clp dia slftng	2
13		145 976	HOSE, SAE .250 ID x .500 OD	1
14		066 113	FILTER, fuel in-line .250 (included w/engine)	1
15			CLAMP, hose .460-.545clp dia slftng (included w/engine)	1
16			HOSE, SAE .250 ID x .500 OD (included w/engine)	1
17		165 437	CLIP, snap-in .472 bundle	2
18		165 271	VALVE, oil drain 3/8-18NPTF (included w/engine)	1
19		165 623	LABEL, engine maintenance	1
20		+178 478	ENGINE, gas elec start (consisting of)	1
21		164 353	MUFFLER, exhaust engine	1
22		059 926	PIN, spring CS .093 x 1.000	1
23	TS1	165 810	SOLENOID, 14VDC .53A	1
24		057 084	BUSHING, snap-in nyl .250 ID x .375mtg hole	1
25		165 522	BRACKET, mtg solenoid	1
		137 046	TUNE-UP & FILTER KIT, (consisting of)	1
		065 251	OIL FILTER	1
		121 652	FILTER/CLAMPS, fuel	1
		064 617	ELEMENT, air cleaner	1
		065 709	SPARK PLUG	2
		147 551	TOOL, puller rotor	1
26		Fig 7-4	GENERATOR	1
27		165 664	CLIP, wire .350 bundle	1
28		087 318	CLAMP, stl cush 1.000dia x .203mtg hole	2
29		167 632	SCREW, .375-16 x 1.500hexwhd stl slffmg	1
30		159 905	BRACKET, mtg engine	1
31		127 854	CLAMP, stl cush 1.312dia x .343mtg hole	1
32		167 730	CABLE, bat neg	1
		165 600	CABLE, bat neg	1
33		108 081	TERMINAL PROTECTOR, battery post mtg	2
34		165 630	BOLT, J stl .250-20 x 6.500	2
35		176 890	HOLD DOWN, battery	1
36		168 385	LABEL, warning battery explosion can blind	1
37		+159 917	DOOR, access battery	1
38		167 731	CABLE, bat pos (included w/engine)	1
39		168 037	BATTERY, stor 12V 430crk 75rsv	1
40		159 906	PAN, base	1
41		160 844	COVER, base	4
42		134 771	PLUG, protective .640sq	2
43		165 660	BRACKET, mtg generator	1
44	DC-Z	165 578	STABILIZER	1
45	AC-Z	176 301	REACTOR	1
46		164 920	BRACKET, mtg stab/reactor	2
47		Fig 7-2	BRACKET, mtg w/components	1
48	SR1	142 503	RECTIFIER, si 1 ph 300A 400PIV	1
49		+159 911	PANEL, front lower	1
50		165 817	LABEL, warning general precautionary	1
51		Fig 7-3	PANEL, front w/components	1
52	CT1	165 415	TRANSFORMER, current sensing	1
53	F1,2	*169 296	FUSE, mintr gl 25A 125V	2
54	R2	165 599	RESISTOR, WW adj 225W 0-5 ohm	1

Item No.	Dia. Mkgs.	Part No.	Description	Quantity
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Figure 7-1. Main Assembly (Continued)

.....	PLG5	116 045	CONNECTOR & PINS, (consisting of)	1
.....		113 633	CONNECTOR, rect pin 20-14ga	6
.....	PLG6	136 810	CONNECTOR & PINS, (consisting of)	1
.....		113 633	CONNECTOR, rect pin 20-14ga	4
.....	PLG7		CONNECTOR, (see engine parts list)	1
.....	RC5		CONNECTOR, (see engine parts list)	1
.....	RC6	168 844	CONNECTOR, rect 4 pin/skt rcpt	1
.....		114 066	CONNECTOR, rect skt 20-14ga	4
.....	RC7		CONNECTOR, (part of TS1, see engine parts list)	1

+When ordering a component originally displaying a precautionary label, the label should also be ordered.

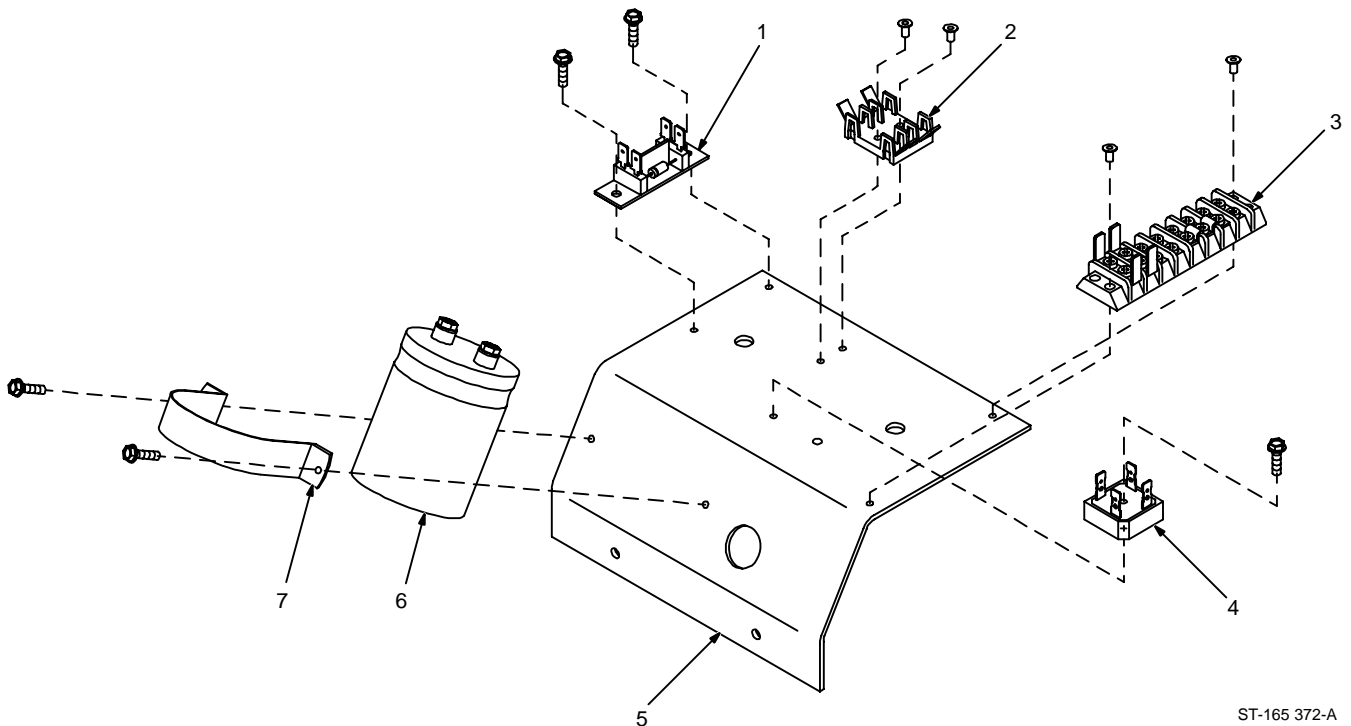
*Recommended Spare Parts.

BE SURE TO PROVIDE MODEL AND SERIAL NUMBER WHEN ORDERING REPLACEMENT PARTS.

Item No.	Dia. Mkgs.	Part No.	Description	Quantity
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Figure 7-2. Bracket, Mtg w/Components (Fig 7-1 Item 47)

... 1	D4	135 184	DIODE BOARD	1
... 2		098 376	HOLDER, fuse mintr	1
... 3	1T	165 416	BLOCK, term 20A 8P	1
... 4	SR2	035 704	RECTIFIER, integ 40A 800V	1
... 5		160 572	BRACKET, mtg rectifier/components	1
... 6	C1	123 849	CAPACITOR, elctlt 100uf 75VDC	1
... 7		150 377	CLAMP, capacitor 2.500dia clip	1



ST-165 372-A

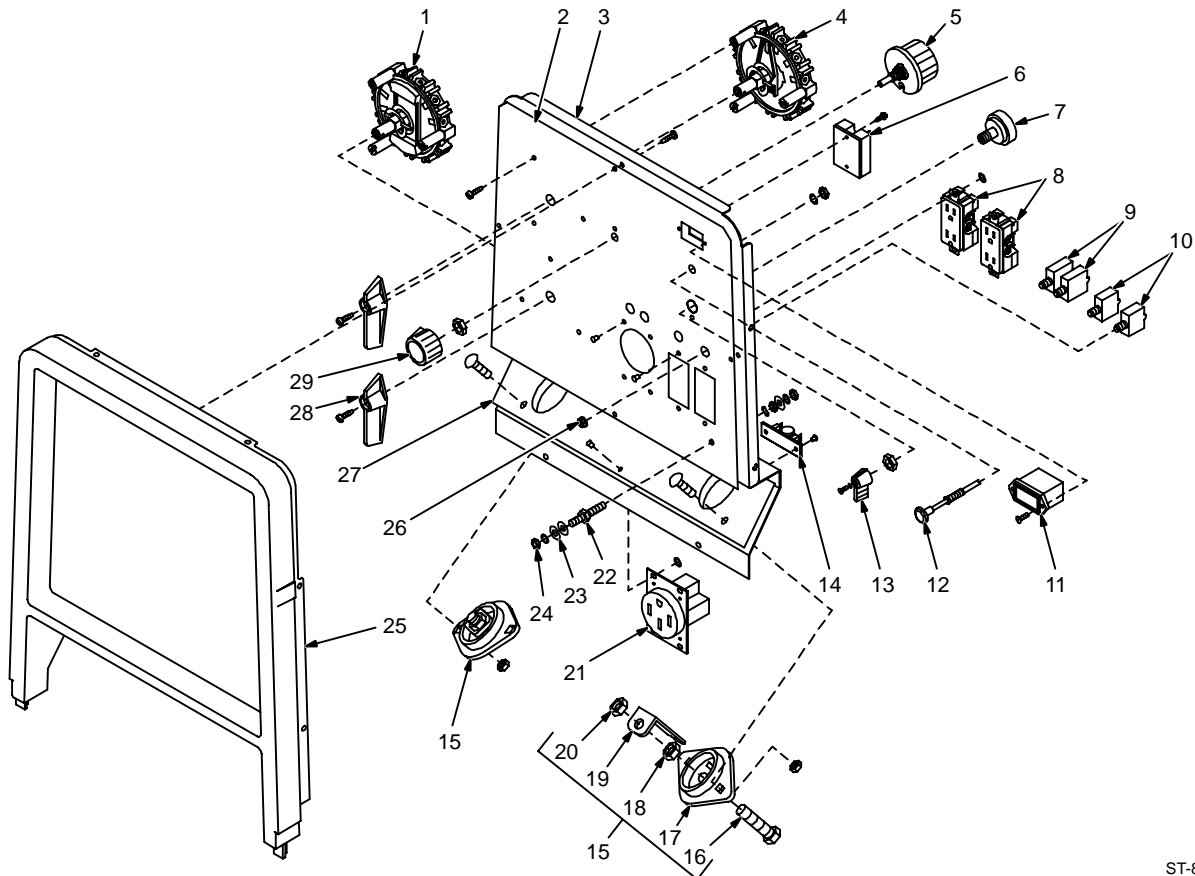
Figure 7-2. Bracket, Mtg w/Components

BE SURE TO PROVIDE MODEL AND SERIAL NUMBER WHEN ORDERING REPLACEMENT PARTS.

Item No.	Dia. Mkgs.	Part No.	Description	Quantity
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Figure 7-3. Panel, Front w/Components (Fig 7-1 Item 51)

1	S1	162 671	SWITCH, polarity 5 position	1
2			NAMEPLATE, (order by model and serial number)	1
3		165 602	PANEL, front	1
4	S3	165 487	SWITCH, selector 4 position	1
5	R1	117 243	RHEOSTAT, WW 100W 10 ohm	1
6	PC1	142 724	MODULE, pull to idle 5 pin	1
7	S2	172 070	SWITCH, ignition 5 position w/out handle	1
8	RC2,3	167 657	RECEPTACLE, str dx grd 2P3W 15A 125V	2
9	CB1,2	117 501	CIRCUIT BREAKER, man reset 1P 40A 250VAC	2
10	CB3,4	093 996	CIRCUIT BREAKER, man reset 1P 20A 250VAC	2
11	HM	145 247	METER, hour 12-24VDC	1
12		136 949	CONTROL, push/pull	1
13		119 014	LEVER, switch	1
14	R3,VR1	046 819	SUPPRESSOR	1
15	Work, Elect	099 255	TERMINAL, pwr output neutral (consisting of)	2
16		601 976	SCREW, .500-13 x 1.500hexhd stl	1
17		039 040	TERMINAL BOARD, neutral	1
18		601 880	NUT, .500-13 x .31 high stl	1
19		039 044	BUS BAR, term bd	1
20		601 879	NUT, .500-13 x .44 high stl	1
21	RC1	164 704	RECEPTACLE, str 3P4W 50A 125/250V	1
22		083 030	STUD, brs .250-20 x 1.750	1
23		010 915	WASHER, flat .250 ID brs	3
24		601 836	NUT, .250-20 brs	3
25		159 921	BEZEL	1
26		147 195	NUT, .375-27 nyl	4
27			PLATE, ident control rating (order by model and serial number)	1
28		148 956	HANDLE, switch	2
29		097 924	KNOB, pointer	1



ST-800 816

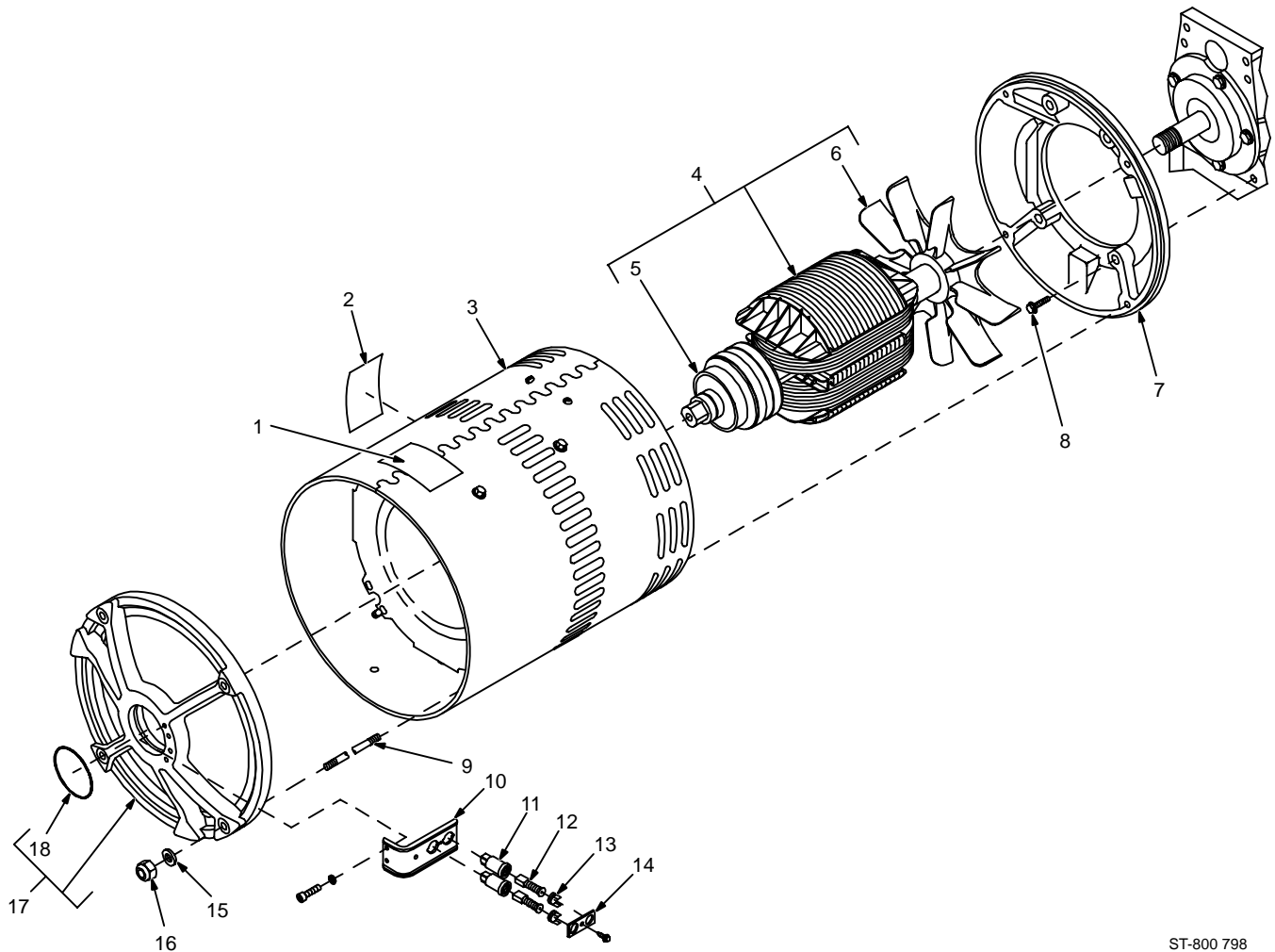
Figure 7-3. Panel, Front w/Components

BE SURE TO PROVIDE MODEL AND SERIAL NUMBER WHEN ORDERING REPLACEMENT PARTS.

Item No.	Part No.	Description	Quantity
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Figure 7-4. Generator (Fig 7-1 Item 26)

... 1	013 367	.. LABEL, warning moving parts can cause serious injury	1
... 2	165 818	.. LABEL, warning engine fuel can cause fire	1
... 3	+159 943	.. STATOR, generator	1
... 4	159 909	.. ROTOR, generator (consisting of)	1
... 5	053 390	.. BEARING, ball rdl sgl row 1.370 x 2.830 x .6	1
... 6	160 566	.. FAN, rotor	1
... 7	160 567	.. ADAPTER, engine	1
... 8	142 156	.. SCREW, .375-16 x 1.750hexhd	4
... 9	160 573	.. STUD, stl .375-16 x 17.125	4
... 10	125 548	.. HOLDER, brush elect	1
... 11	005 614	.. HOLDER, brush	2
... 12	*126 984	.. BRUSH w/SPRING	2
... 13	161 306	.. CAP, brushholder	2
... 14	047 879	.. BAR, retaining brushholder	1
... 15	010 910	.. WASHER, flat .406 ID stl	4
... 16	010 909	.. NUT, .375-16 stl	4
... 17	160 943	.. ENDBELL, (consisting of)	1
... 18	143 220	.. O-RING, 2.859 ID x .139CS	1



ST-800 798

Figure 7-4. Generator

+When ordering a component originally displaying a precautionary label, the label should also be ordered.

*Recommended Spare Parts.

BE SURE TO PROVIDE MODEL AND SERIAL NUMBER WHEN ORDERING REPLACEMENT PARTS.

OPTIONS AND ACCESSORIES

LP GAS CONVERSION KIT

(#043 050 Factory)

(#043 065 Field)

Consists of calibrated LP gas carburetor and LP gas converter. Field kit includes mounting hardware and complete instructions. Does not include tank, bracket, or hose from tank to converter. System is liquid withdrawal type. Operation on LP gas reduces rated output by 15%.

FA-7.5 FLAME ARRESTOR FUEL CAP (Gasoline Red)

(#042 632 Field only)

Lockable for added protection.

FUEL GAUGE

(#165 816 Field only)

Handy and convenient accessory designed for the 8.5 gal. fuel tank.

SPARK ARRESTOR

(#041 747 Field only)

Mandatory when operating on California grasslands, brush, or forest-covered land, and all National Forests. For other areas, check your state and local laws.

GFCI PANEL MOUNT KIT

(#043 037 Factory)

(#043 038 Field)

Ground Fault Circuit Interruptors are required on some construction sites. Kit contains two easy-to-install GFCI 120 VAC duplex receptacles. (240 VAC GFCI receptacle not required).

FULL KVA PLUG KIT

(#119 172)

240 VAC, 50 Amp plug (NEMA 14-50 P) to fit KVA Receptacle.

HIGH ALTITUDE MODIFICATION

Not available from MILLER Electric. Please contact your local Onan Dealer or Distributor.

NO. 2WA WELDING ACCESSORY PACKAGE

(#040 039)

Consists of 35 ft. (10.7 m) No. 2 electrode cable with insulated electrode holder and lug, 30 ft. (9.1 m) No. 2 work cable with work clamp and lug, welding helmet, and wire scratch brush.

CC-1 SERIES CANVAS COVERS

CC-1A (#040 252) Blue

CC-1C (#042 360) Gray

Attractive, waterproof canvas covers resists stains and mildew, and protect the finish of your welder. Blue cover has MILLER logo and name across side.

GTAW (TIG) WELDING

HF-251 SERIES

High-Frequency Arc Starter and Stabilizer

HF-251D-1 115 Volt

(#042 388)

A portable 250 Amp unit for 50, 60, and 100 Hz input.

GAS TUNGSTEN ARC (TIG) TORCHES

Lit. Index No. TG/1.0

Rely on the MILLER line of GTAW (TIG) torches for your most demanding welding jobs. MILLER Electric offers a complete line of TIG torches with a wide variety of features and accessories.

GMAW/FCAW WELDING

S-32P SERIES COMPACT, PORTABLE WIRE FEEDER

Lit. Index No. M/6.26

For .023 - 5/64 in. (0.6 - 2.0 mm) hard and flux cored wire.

SPOOLMATIC® 30A

(1 lb. Spool Gun)

(#130 831)

Extend the weld process range by adding a handy portable system for small wire GMAW. Rated 200 Amps at 100% duty cycle and has 30 ft. (9.1 m) cable assembly. WC-115 and WC-115A also required. (See below.)

WC-115A WELD CONTROL

(#137 546)

Provides control circuitry to operate spool gun from MILLER and competitive engine-driven products. See Lit. Index No. M/1.2 for complete information.

WC-115 CONTACTOR KIT

(#137 547 Factory)

(#137 548 Field)

Required when using the SPOOLMATIC® 30A and WC-115A with Bobcat 225G Plus or 225D. See Lit. Index No. M/1.2 for complete information.

CSA KIT NRTL/C

(#043 010 Factory)

(#043 011 Field)

Consists of 15 Amp circuit breaker kit for 120 VAC receptacles. Add to meet Canadian requirements. Factory kit lists CSA NRTL/C on rating card.

EDT 1000-2B TWO WHEEL TRAILER

(#042 878)

Rugged 1000 lb. capacity trailer designed to transport welders and equipment. Features adjustable bed for easy mounting of MILLER and competitive welders and other similar construction equipment. Permits user to achieve desired tongue weight. Torsional axle, leveling jack, improved fenders with skirt and safety chains. Optional easy-to-install fender and light kit (#042 897) required for highway operation. Meets or exceeds DOT standards.

Note: Hitches must be ordered separately.

Specifications:

GAWR: 1300 lbs. (590 kg)

GVWR: 1300 lbs. (590 kg)

Net Payload: 1000 lbs. (454 kg)

Road Clearance: 8-1/2 in. (216 mm)

Track: 47-1/2 in. (1.2 m)

Tire Size: 4.80 - 12

Net Wt. 250 lbs. (113 kg)

Ship Wt. 370 lbs. (168 kg)

When equipped with fender and light kit and 2 in. (50 mm) ball hitch, this trailer conforms to all applicable U.S. Federal motor vehicle safety standards in effect on date of manufacture.

When ordering trailers without the fender and light kit and ball hitch, the purchase order must include the statement, "For off-the-road use only."

FENDER AND LIGHT KIT 10B

(#042 897)

Includes fenders, lights, wiring harness, mounting hardware and easy-to-use instructions. Shipping weight 37 lbs. (17 kg)

HITCHES

2 in. (50 mm) BALL

(#042 705)

Shipping weight 5 lbs. (2 kg).

OPTIONS AND ACCESSORIES

CLEVIS

(Not for highway use)

(#042 707)

Shipping weight 11 lbs. (5 kg).

2-1/2 in. (64 mm)

LUNETTE EYE

(#042 706)

Shipping weight 9 lbs. (4 kg).

VERSATILE HAND RUNNING GEAR WITH OPTIONS

No. 27 Running Gear has adjustable axle and choice of handles to match your job. Sturdy three-wheel design. Standard handle designed for use on smooth surfaces and where compact package is needed. Change axle location and use extended handle to create wheel barrow style unit. Replaces No. 4B, No. 25, CR-4B running gear used on previous Bobcat model. Protective cover can be used without modification.

NO. 27 HAND RUNNING GEAR

(#043 014)

Rugged, lightweight design provides maximum maneuverability. Comes with standard handle, large 480/400 x 8 pneumatic tires, adjustable axle and easy-to-read instructions.

CYLINDER RACK

(#043 040)

Designed for use with No. 27 RG. Consists of base tray with bottle bracket, and vertical support rack with safety chain.

LP TANK MOUNT & BRACKET

(#043 013)

Consists of base tray and bellyband bracket to mount #33 and #43 vertical LP tanks. Must be used with No. 27RG. Includes tank-to-regulator gas hose.

EXTENDED HANDLE

(#043 047)

Easy to install tubular steel wheel barrow style handle makes No. 27 RG perfect for construction sites or rough shop floors. Shown at left.

Note: Do not use with LP Tank or Cylinder Rack option.

CABLE HOLDER

(#043 046)

Pictured at left, the saddle bag style cable holder is perfect match to No. 27 RG. Convenient wrap-around storage of coiled cable for transportation.

Note: For best results do not weld when cable is coiled!

STAINLESS STEEL KIT

(#043 051 Factory)

(#043 052 Field)

Dress up your welder. Consists of brushed stainless steel sheet metal and hardware with matching 2-color logo.