

AIR N ARC➤
300 GAS

AIR N ARC➤
300 COMPACT

POWERFLEX➤
AE GAS

POWERFLEX➤
AE GAS COMPACT

**AIR N ARC® ALL-IN-ONE POWER SYSTEMS® • AIR COMPRESSOR • GENERATOR •
WELDER • BATTERY BOOSTER • BATTERY CHARGER**

OPERATION MANUAL AND PARTS LIST

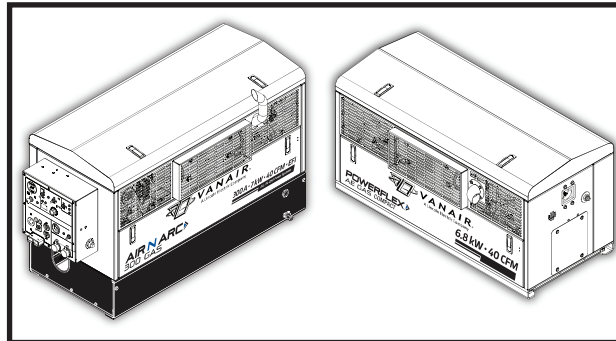
⚠ DANGER



DO NOT OPERATE IN AN ENCLOSED SPACE.
Running any combustion engine in an enclosed space will result in Carbon Monoxide (CO) poisoning and may cause overheating, which may result in fire and/or explosion.
CO build-up can cause death!



Overheating can ignite surrounding materials resulting in fire and/or explosion which may cause injury, death and equipment damage.



⚠ IMPORTANT



Read this manual before installing, operating or servicing this equipment. Failure to comply with the operation and maintenance instructions in this manual can result in personal injury, and can void the equipment warranty.

NOTE

This publication contains the latest information available at the time of preparation. Every effort has been made to ensure accuracy.

Vanair®, a Lincoln Electric Company, reserves the right to make design change modifications or improvements without prior notification.

IMPORTANT

An enclosed space refers to any area partially or fully enclosed by walls, a roof, or other boundaries.

These spaces can limit natural ventilation, restrict airflow, trap hazardous gases, and increase the risk of heat build-up, fire, or explosion.

It is the responsibility of the installation party to determine and mount Vanair® engine-driven equipment in a way that ensures proper airflow and ventilation for safe operation. Failure to provide proper ventilation and clearances may result in hazardous conditions.

Vanair® assumes no responsibility or liability for installations it did not perform.



Vanair® , a Lincoln Electric Company

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Michigan City, IN 46360

Telephone: (800) 526-8817

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NOTE

Making unauthorized modifications to the system components WILL VOID THE WARRANTY!

Always inform Vanair® before beginning any changes to the machine system.

NOTE

Use only Vanair® Vanguard™ Premium Synthetic Compressor Oil and Genuine Vanair® Parts. Inspect and replace damaged components before operation. Substituting non-Vanair® oil or non-genuine Vanair® filter components WILL VOID THE COMPRESSOR WARRANTY!

**KEEP THE MANUAL
WITH THE VEHICLE
OR EQUIPMENT**

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P/N: 090208-OP_r1

Effective Date:

APRIL 6, 2026
DEV

AIR N ARC®
ALL-IN-ONE POWER-SYSTEMS®

RELIANT™ SERIES

POWERFLEX™ SERIES

PRO SERIES

CONTRACTOR SERIES

VIPER™ SERIES

UTILITY MOUNTS

**ALL WARRANTY OR
RETURNS MUST BE
PRE-AUTHORIZED PRIOR
TO PERFORMING
ANY WARRANTY WORK.**

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EFFECTIVE: SEPTEMBER 9, 2022



VANAIR® VANTAGE
WARRANTY

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

LIMITED WARRANTY—Subject to the expressed terms and conditions set forth below, Vanair®, a Lincoln Electric Company ("Vanair"), of Michigan City, Indiana (USA), warrants to the original retail purchaser of new Vanair® equipment that such equipment is free from defects in materials and workmanship when shipped by Vanair®.

For warranty claims received by Vanair® within the applicable warranty periods described below, Vanair® will repair or replace any warranted equipment, parts or components that fail due to defects in material or workmanship or refund the purchase price for the equipment, at Vanair's discretion. Vanair® is not responsible for time or labor to gain access to the machine to perform work. **WARRANTY WILL BE VOID IF GENUINE VANAIR® PARTS AND FLUIDS ARE NOT USED.**

Vanair® must be notified in writing within thirty (30) days of any such defect or failure. All warranty or returns must be pre-authorized in writing prior to performing warranty work. Call Vanair® for process and forms. Vanair® will provide instructions on the warranty claim procedures to be followed.

Warranty will commence upon receipt of the Warranty Registration Card. If the Warranty Registration Card is not received within six (6) months of shipment from Vanair®, the warranty commencement date shall be thirty (30) days from the date of shipment from Vanair®. Records of warranty adherence are the responsibility of the end user.

1. Lifetime Warranty Parts – 3 Years Labor
 - Rotary Screw Air Compressor Air End
2. 6 Years Parts – 3 Years Labor
 - Vanair® Super Capacitor™ (VSC™)
3. 3 Years Parts – 1 Year Labor
 - Reciprocating Compressor Air End
 - Generators
 - Welders
4. 2 Years Parts – 1 Year Labor
 - Hydraulic Motors
 - Hydraulic Pumps
5. 1 Year Parts – 1 Year Labor
 - All electronics including, but not limited to:
 - I) I/O Boards
 - II) Modules
 - III) (Panel Boxes
 - IV) Instrumentation
 - Solenoids
 - Clutches
 - Running Gear/Trailers
 - Compressor/Hydraulic Coolers, including Fan and Radiator Core

This Limited Warranty shall not apply to:

1. Consumable components, such as shaft seals, valves, belts, filters, capacitors, contactors, relays, brushes or parts that fail due to normal wear and use.
2. Items furnished by Vanair®, but manufactured by others, such as engines and trade accessories (these items are covered by the manufacturer's warranty, if any).
3. Equipment that has been modified by any party other than Vanair® or equipment which has not been used and maintained in accordance with Vanair's specifications.

4. Equipment which has been improperly installed and/or improperly operated, based upon Vanair's specifications for the equipment or industry standards.
5. Equipment installed by non-authorized or third party personnel. Vanair® products are intended for purchase and use by commercial/industrial users and persons trained and experienced in the use and maintenance of industrial equipment.

In the event of a warranty claim covered by this Limited Warranty, the exclusive remedies shall be, at Vanair's sole discretion: (i) repair; or (ii) replacement; (iii) where authorized in writing by Vanair® in appropriate cases, the reasonable cost of repair or replacement at an authorized Vanair® service facility; or (iv) payment of (or credit for) the purchase price (less reasonable depreciation based upon actual use) upon return of the equipment at the warranty claimant's risk and expense. Vanair® will pay standard ground freight for any warranty item shipped to and from Vanair® or (Vanair® designated facility) within the first year of the applicable warranty period. Any additional expedited freight cost is the responsibility of the purchaser.

TO THE GREAT EXTENT PERMITTED BY APPLICABLE LAW, THE REMEDIES PROVIDED HEREIN ARE THE SOLE AND EXCLUSIVE REMEDIES APPLICABLE TO THE VANAIR® EQUIPMENT. IN NO EVENT SHALL VANAIR® BECOME LIABLE FOR DIRECT, INDIRECT, SPECIAL, PUNITIVE, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING LOSS OF PROFIT OR LOST BUSINESS OPPORTUNITY), WHETHER BASED ON CONTRACT, TORT OR ANY OTHER LEGAL THEORY. IN NO EVENT SHALL VANAIR® BECOME OBLIGATED TO PAY MORE ON ANY WARRANTY CLAIM THAN THE PURCHASE PRICE ACTUALLY PAID BY THE ORIGINAL RETAIL PURCHASER.

THIS LIMITED WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER WARRANTY OR GUARANTY ARISING BY OPERATION OF LAW. ANY WARRANTY NOT EXPRESSLY PROVIDED HEREIN, IMPLIED WARRANTY, GUARANTY AND ANY REPRESENTATION REGARDING THE PERFORMANCE OF THE EQUIPMENT, AND ANY REMEDY FOR BREACH OF CONTRACT, IN 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 ARE EXCLUDED AND DISCLAIMED BY VANAIR®.

Some states in the United States of America do not allow limitations of how long an implied warranty lasts, or the exclusion of incidental, indirect, special or consequential damages, and as such, the above limitations and exclusions may not apply to you. This warranty provides specific legal rights. Other rights may be available to you, 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 saved, the limitations and exclusions set out forth above may not apply. This Limited Warranty provides specific legal rights, and other rights may be available, but may vary from province to province.



VANAIR®
A Lincoln Electric Company

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WARRANTY CLAIMS PROCEDURE

CLAIMS PROCESS FOR WARRANTED VANAIR® PARTS

This process must be used by owners of Vanair® equipment in situations where a warranted item needs repair or replacement under the terms of the purchase warranty. Do not return items to Vanair® without prior authorization from the Vanair® Warranty Administrator.

PROCEDURE:

When a customer needs assistance in troubleshooting a system and/or returning parts, follow the steps below.

1. Locate the machine's serial number:

The machine package serial number plate is located inside the machine compartment on the floor near to the generator mounting location (see **Figure W-1**).

The engine and the compressor also have individual serial numbers respectively (see **Figure W-1**). For engine warranty issues, consult the Engine Operation Manual for the engine's limited warranty details. For particular compressor unit issues, the compressor serial number may be needed. In any case, engine and/or compressor issues can be confirmed using the machine serial number as found in **Figure W-1**.

2. Have a list of the symptoms/condition/malfunctions along with any applicable temperature and pressure readings, and also the number of operational hours available:

Note that the above information will also need to be included on the Return Material Authorization Form (per Step #6); this form is necessary for warranty processing if the warranty claim is deemed valid by the service case review.

3. Contact the Vanair® Service Department by phone (toll-free: 1-844-VAN-SERV // 1-219-879-5100) to speak with a Service Technician.

4. Vanair® Service will troubleshoot the problem based on the information provided by the customer, and attempt to return the unit to service as quickly as possible.
5. If the unit cannot be returned to service, and Vanair® determines this matter is a warranty issue, the Service Technician will assign an RMA (Return Material Authorization) number that will provide for the return of the item to Vanair® for analysis and a final determination as to the item's warranty status.

NOTE

The RMA number must be placed on the outside of the package being returned.

6. Warranty Claims are solicited via a Return Material Authorization (RMA) Form. This form can be obtained via download from the web site, or requested directly from the Vanair® Service Department:

Once a current form has been obtained, follow the instructions given on the form to fill in the information needed. This form is used for the purpose of soliciting a warranty case. All of the field information except for the bottom section block fields, which includes Disposition of Goods, Notifications and Additional Notes, will be required.

Customers have 30 days after the RMA number is issued to return the item. If the part is not returned within this period, the RMA is void and any claims will be denied.

NOTE

All labor claims or invoices must be approved by the Vanair® Warranty Administrator prior to starting repair work along with the cost of the repair.

Continued...

WARRANTY PROCEDURE

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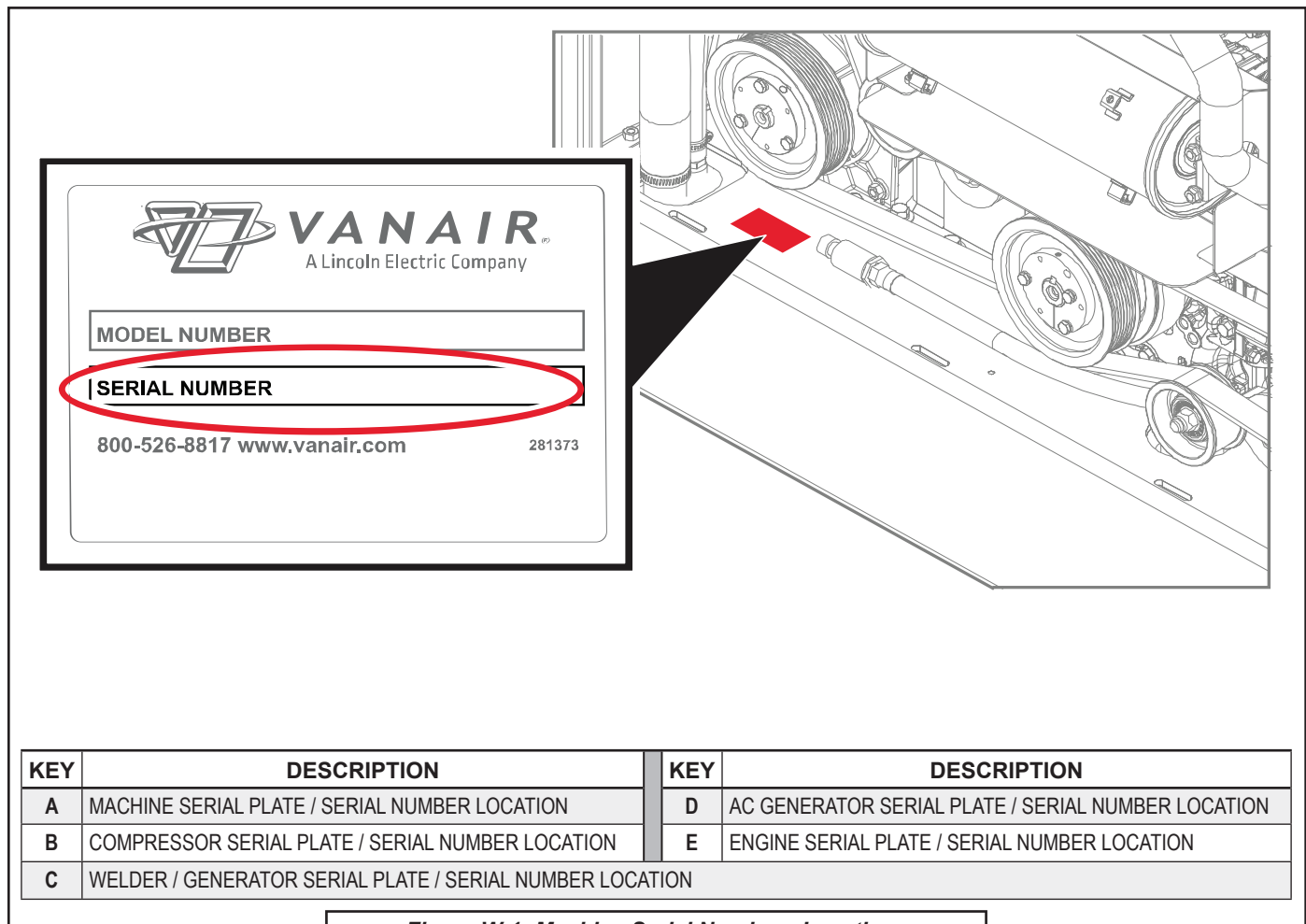


Figure W-1: Machine Serial Numbers Locations

NOTE (continued)

All paper work associated with the returned item and warranty repair cost must reference the RMA number issued against the part, and be forwarded to Vanair® within 30 days of the completion of work.

Before sending a warranty part to a customer, Vanair® will need a P.O. or credit card number to cover the cost of the part and shipping. After the part is analyzed and deemed to be covered under warranty, Vanair® will issue credit to the customer. All parts eligible for warranty must have the RMA number on the invoice at the time of purchase.

No items can be returned "freight collect". Freight costs will be addressed at the time the claim is closed. The customer pays any additional costs for warranty parts delivered through expedited services (i.e., Next Day,

Second Day).

IMPORTANT

Vanair® will NEVER accept any invoices for parts returned: Any parts returned via invoice will be returned freight collect. No parts are to be returned freight collect!

Vanair®, a Lincoln Electric Company, strives to continuously improve its customer service. Please forward any questions, comments, or suggestions to the Vanair® Service Department:

Service Toll Free: 1-844-VAN-SERV

1-844-826-7378

Service Direct: 1-219-879-5100, ext. 400

E-mail: service@vanair.com

SECTION 1: ⚠ SAFETY

1.1 ⚠ GENERAL INFORMATION

The products provided by Vanair®, a Lincoln Electric Company, are designed and manufactured for safe operation and maintenance. But it is ultimately the responsibility of the users and maintainers for safe use of this equipment. Part of this responsibility is to read and be familiar with the contents of this manual before operation or performing maintenance actions.

⚠ IMPORTANT



It is mandatory that all operators read this manual before operating or servicing the Air N Arc® 300 Gas, or PowerFlex™ AE Gas machines. Failure to do so could result in death, bodily injury or damage to equipment.

⚠ DANGER



DO NOT OPERATE IN AN ENCLOSED SPACE.

Running any combustion engine in an enclosed space will result in Carbon Monoxide (CO) poisoning and may cause overheating, which may result in fire and/or explosion.
CO build-up can cause death!



Overheating can ignite surrounding materials resulting in fire and/or explosion which may cause injury, death and equipment damage.

IMPORTANT

An enclosed space refers to any area partially or fully enclosed by walls, a roof, or other boundaries.

These spaces can limit natural ventilation, restrict airflow, trap hazardous gases, and increase the risk of heat build-up, fire, or explosion.

It is the responsibility of the installation party to determine and mount Vanair® engine-driven equipment in a way that ensures proper airflow and ventilation for safe operation.

Continued...

IMPORTANT (continued)

Failure to provide proper ventilation and clearances may result in hazardous conditions.
Vanair® assumes no responsibility or liability for installations it did not perform.

1.2 ⚠ DANGERS, WARNINGS, CAUTIONS, AND NOTES

⚠ DANGER

Identifies actions or conditions which will cause death, severe injury, equipment damage or destructive malfunctions.

⚠ WARNING

Identifies actions or conditions which may cause death, severe injury, equipment damage or destructive malfunctions.

⚠ CAUTION

Identifies actions or conditions which will or can cause injuries, equipment damage or malfunctions.

⚠ IMPORTANT

Emphasized information pertaining to the machine that may affect function, operation, maintenance and/or service, and may involve the possibility of bodily harm.

IMPORTANT

Emphasized information pertaining to the machine that may affect function, operation, maintenance and/or service.

NOTE

Additional information (or existing information) which should be brought to the attention of operators/maintainers affecting safety, operation, maintenance, or warranty requirements.

1.3 ▲ INTERNATIONAL SAFETY SYMBOL

The symbols shown and defined in **Section 1: Safety** are used throughout this manual to call attention to and identify possible hazards.



The international warning symbol shown above is used on all decals, labels and signs that concern information pertaining to bodily harm. When you see the international warning symbol, pay extremely careful attention, and follow the given instructions or indications to avoid any possible hazard.

1.4 ▲ ARC WELDING HAZARDS

1.4.1 ▲ ELECTRICAL 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 semi-automatic 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.
- Additional safety precautions are required when working in electrically hazardous conditions such as 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 work piece or ground.

- Do not work alone!
- Disconnect input power or stop engine before installing or servicing this equipment. Lockout/tag out input power according to OSHA29 CFR1910.147 (see **Section 1.9, Principal Safety Standards**).
- Properly install and ground this equipment according to its Owner's Manual and national, state, and local codes.
- 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.
- When making input connections, attach proper grounding conductor first and double-check connections.
- Frequently inspect input power cord 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.
- Do not touch electrode holders connected to two welding machines at the same time since double open-circuit voltage will be present.
- 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 workpiece to prevent contact with any metal object.
- Do not connect more than one electrode or work cable to any single weld output terminal.

1.4.2 **⚠ FUMES AND GASES CAN BE HAZARDOUS**



- Welding produces fumes and gases. Breathing these fumes and gases can be hazardous to your health.
- Keep your head out of the fumes. Do not breathe the fumes.
- If inside, ventilate the area and/or use local forced ventilation at the arc to remove welding fumes and gases.
- If ventilation is poor, wear an approved air-supplied respirator.
- Read and understand the Material Safety Data Sheets (MSDS's) and the manufacturer's instructions for metals, consumables, coatings, cleaners, and degreasers.
- Work in a confined space only if it 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 while wearing an air-supplied respirator. The coatings and any metals containing these elements can give off toxic fumes if welded.

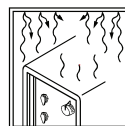
1.4.3 **⚠ BUILD UP OF GAS CAN INJURE OR KILL**



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

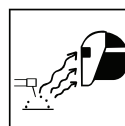
use approved air-supplied respirator.

1.4.4 **⚠ ENCLOSED SPACES CAN CAUSE A BUILD-UP OF NOXIOUS FUMES AND OVERHEATING**



- Do not use in enclosed spaces where deadly exhaust gases can build up and machine can overheat, causing fire.
- 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.

1.4.5 **⚠ 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 an approved welding helmet fitted with a proper shade of filter lenses 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, glare, and sparks; warn others not to watch the arc.
- Wear protective clothing made from durable, flame-resistant material (leather, heavy cotton, or wool) and foot protection.

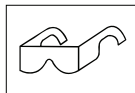
1.4.6 **⚠ WELDING CAN CAUSE FIRE AND EXPLOSION**



- 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.
- Remove all flammables within 35 ft (10.7 m) of the welding arc. If this is not possible, tightly cover them with approved covers.
- Do not weld where flying sparks can strike flammable material.
- Protect yourself and others from flying sparks and hot metal.
- 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.
- Do not weld on closed containers such as tanks, drums, or pipes, unless they are properly prepared according to AWSF4.1 (See **Section 1.9, Principal Safety Standards**).
- Connect ground cable as close to the welding area as practical to prevent welding current from traveling long, possibly unknown paths and causing electric shock, sparks, 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, boots, and a cap.
- Remove any combustibles, such as a butane lighter or matches, from your person before doing any welding.
- Follow requirements in OSHA1910.252 (a) (2) (iv) and NFPA 51B for hot work and have a fire watcher and extinguisher nearby.

1.4.7 **⚠ FLYING METAL CAN INJURE EYES**



- Sparks and flying metal can be caused by welding, chipping, wire brushing, and grinding. As welds cool, they can throw off slag.

- Wear approved safety glasses with side shields even under your welding helmet.

1.4.8 **⚠ HOT PARTS CAN CAUSE SEVERE BURNS**



- **Do not** touch hot parts bare handed.
- Allow cooling period before working on equipment.

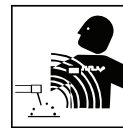
- To handle hot parts, use proper tools and/or wear heavy, insulated welding gloves and clothing to prevent burns.

1.4.9 **⚠ NOISE CAN DAMAGE HEARING**



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

1.4.10 **⚠ MAGNETIC FIELDS CAN AFFECT PACEMAKERS**



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

- 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.

1.4.11 **⚠ CYLINDERS CAN EXPLODE IF DAMAGED**



- Protect compressed gas cylinders from excessive heat, mechanical shocks, physical damage, slag, open flames, sparks, and arcs.

- Install cylinders in an upright position by securing to a stationary support or cylinder rack to prevent falling or tipping.
- Keep cylinders away from any welding or other electrical circuits.
- Never drape a welding torch over a gas cylinder.

- Never allow a welding electrode to touch any cylinder.
- Never weld on a pressurized cylinder—explosion will result.
- Use only correct shielding gas cylinders, regulators, hoses, and fittings designed for the specific application; maintain them and associated parts in good condition.
- Turn face away from valve outlet when opening cylinder valve.
- Keep protective cap in place over valve except when cylinder is in use or connected for use.
- Use the right equipment, correct procedures, and sufficient number of persons to lift and move cylinders.
- Read and follow instructions on compressed gas cylinders, associated equipment, and Compressed Gas Association (CGA) publication P-1 listed in Safety Standards.

1.5 ENGINE HAZARDS

1.5.1 BATTERY EXPLOSION CAN BLIND



- Always wear a face shield, rubber gloves, and protective clothing when working on a battery.
- Stop engine before disconnecting or connecting battery cables or servicing battery.
- Do not allow tools to cause sparks when working on a battery.
- Do not use weld mode to charge batteries or jump start vehicles.
- Observe correct polarity (+ and –) on batteries.
- Disconnect negative (–) cable first and connect it last.

1.5.2 FUEL CAN CAUSE FIRE OR EXPLOSION



- Stop engine and let it cool off before checking or adding fuel.
- Always keep nozzle in contact with tank when fueling.
- Do not add fuel while smoking or if unit is near

any sparks or open flames.

- Do not overfill tank—allow room for fuel to expand.
- Do not spill fuel. If fuel is spilled, clean up before starting engine.
- Dispose of rags in a fireproof container.

1.5.3 MOVING PARTS CAN CAUSE INJURY



- Keep away from fans, belts, and rotors. Keep all doors, panels, covers, and guards closed and securely in place.
- Stop engine before installing or connecting unit.
- Have only qualified people remove doors, panels, covers, or guards for maintenance and troubleshooting as necessary.
- Disconnect negative (–) battery cable from battery to prevent accidental starting during servicing.
- Keep hands, hair, loose clothing, and tools away from moving parts.
- Reinstall doors, panels, covers, or guards when servicing is finished and before starting engine.
- Before working on generator, remove spark plugs or injectors to keep engine from kicking back or starting.
- Block flywheel so that it will not turn while working on generator components.

1.5.4 HOT PARTS CAN CAUSE SEVERE BURNS



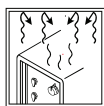
- Do not touch hot parts bare handed.
- Allow cooling period before working on equipment.

1.5.5 ENGINE EXHAUST GASES CAN KILL



- If used in a closed area, vent engine exhaust outside and away from any building air intakes.

1.5.6 ⚠ ENCLOSED SPACES CAN CAUSE A BUILD-UP OF NOXIOUS FUMES AND OVERHEATING



- Do not use in enclosed spaces where deadly exhaust gases can build up and machine can overheat, causing fire.

1.5.7 ⚠ BATTERY ACID CAN BURN SKIN AND EYES



- Do not tip battery.
- Replace damaged battery.
- Flush eyes and skin immediately with water.

1.5.8 ⚠ ENGINE HEAT CAN CAUSE FIRE



- Do not locate unit on, over, or near combustible surfaces or flammables.
- Keep exhaust and exhaust pipes way from flammables.

1.5.9 ⚠ EXHAUST SPARKS CAN CAUSE FIRE



- Use approved engine exhaust spark arrester in required areas — see applicable codes.

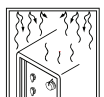
1.6 ⚠ COMPRESSED AIR HAZARDS

1.6.1 ⚠ BREATHING COMPRESSED AIR CAN CAUSE SERIOUS INJURY OR DEATH



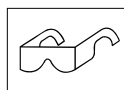
- Do not use compressed air for breathing.
- Use only for cutting, gouging, and tools.

1.6.2 ⚠ ENCLOSED SPACES CAN CAUSE A BUILD-UP OF NOXIOUS FUMES AND OVERHEATING



- Do not use in enclosed spaces where deadly exhaust gases can build up and machine can overheat, causing fire.

1.6.3 ⚠ COMPRESSED AIR CAN CAUSE INJURY



- Wear approved safety goggles.
- Do not direct air stream toward self or others.

1.6.4 ⚠ 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.

1.6.5 ⚠ 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.

1.6.6 ⚠ HOT PARTS CAN CAUSE SEVERE BURNS



- Do not touch hot parts bare handed.
- Allow cooling period before working on equipment.

1.6.7 ⚠ READ INSTRUCTIONS



- Read Owner's Manual before using or servicing unit.
- Stop engine and release air pressure before servicing.
- Use only genuine Air N Arc® replacement parts.

1.7 ⚠ ADDITIONAL SYMBOLS FOR INSTALLATION, OPERATION AND MAINTENANCE

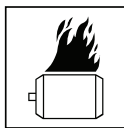
1.7.1 ⚠ FALLING UNIT CAN CAUSE INJURY



- Use lifting bail to lift unit and properly installed accessories only.
- Lift and support unit only with proper equipment and correct procedures.

- If using lift forks to move unit, be sure forks are long enough to extend beyond opposite side of unit.

1.7.2 OVERHEATING CAN DAMAGE MOTORS



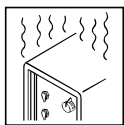
- Turn off or unplug equipment before starting or stopping engine.
- **DO NOT** let low voltage and frequency caused by low engine speed damage electric motors.

1.7.3 FLYING SPARKS CAN CAUSE INJURY



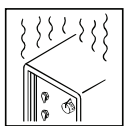
- Wear a face shield to protect eyes and face.
- Shape tungsten electrode only on grinder with proper guards in a safe location wearing proper face, hand, and body protection.
- Sparks can cause fires—keep flammables away.

1.7.4 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.

1.7.5 ENCLOSED SPACES CAN CAUSE A BUILD-UP OF NOXIOUS FUMES AND OVERHEATING



- **DO NOT** use in enclosed spaces where deadly exhaust gas can build up and machine can overheat, causing fire.

1.7.6 TILTING OF TRAILER CAN CAUSE INJURY



- Use tongue jack or blocks to support weight.
- Properly install unit onto trailer according to instructions supplied with trailer.

1.7.7 READ INSTRUCTIONS



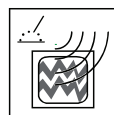
- Use only genuine Air N Arc® replacement parts.
- Perform engine and air compressor (if applicable) maintenance and service according to this manual and the engine/air compressor (if applicable) manuals.

1.7.8 H. F. RADIATION CAN CAUSE INTERFERENCE



- High-frequency (H.F.) 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.

1.7.9 ARC WELDING CAN CAUSE INTERFERENCE



- Electromagnetic energy can interfere with sensitive electronic equipment such as microprocessors, computers, and computer-driven equipment such as robots.
- Ensure 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.
- Ensure 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.

1.8 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.

1.9 PRINCIPAL SAFETY STANDARDS

- Safety in Welding, Cutting, and Allied Processes, ANSI Standard Z49.1, from Global Engineering Documents (phone: 1-877-413-5184, website: www.global.ihs.com).
- Recommended Safe Practices for the Preparation for Welding and Cutting of Containers and Piping, American Welding Society Standard AWSF4.1, from Global Engineering Documents (phone: 1-877-413-5184, web site: www.global.ihs.com).
- National Electrical Code, NFPA Standard 70, from National Fire Protection Association, P.O. Box 9101, 1 Battery March Park, Quincy, MA 02269-9101 (phone: 617-770-3000, web site: www.nfpa.org and www.sparky.org).
- Safe Handling of Compressed Gases in Cylinders, CGA Pamphlet P-1, from Compressed Gas Association, 1735 Jefferson Davis Highway, Suite 1004, Arlington, VA 22202-4102 (phone: 703-412-0900, web site: www.cganet.com).
- 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 (phone: 800-463-6727 or in Toronto 416-747-4044, web site: www.csainternational.org).

- Practice For Occupational And Educational Eye And Face Protection, ANSI Standard Z87.1, from American National Standards Institute, 11 West 42nd Street, New York, NY 10036-8002 (phone: 212-642-4900, web site: www.ansi.org).
- Standard for Fire Prevention During Welding, Cutting, and Other Hot Work, NFPA Standard 51B, from National Fire Protection
- Association, P.O. Box 9101, 1 Battery March Park, Quincy, MA 02269-9101 (phone: 617-770-3000, web site: www.nfpa.org).
- OSHA, Occupational Safety and Health Standards for General Industry, Title 29, Code of Federal Regulations (CFR), Part 1910, Subpart Q, and Part 1926, Subpart J, from U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250 (there are 10 Regional Offices; phone for Region 5, Chicago, is 312-353-2220, web site: www.osha.gov).

1.10 SAFETY DECALS

Safety decals are placed onto, or located near, system components that can present a hazard to operators or service personnel. All pertinent decals listed in **Section 7.17, Decal Identification/Locations**, are located near components or access paths. All information given on these decals is subject to respect in terms of safety precaution and awareness of hazardous conditions. Always heed the information noted on the safety decals.

WARNING

DO NOT REMOVE OR COVER ANY SAFETY LABEL. Replace any safety label that becomes damaged or illegible.

WARNING

If applicable: For machine packages that contain labels to be affixed after machine arrival, all safety decals MUST be placed on machine, in their appropriate positions respectively, as shown in the Decal Section (Section 7.17) of this manual.

1.11 ⚠ EMF INFORMATION

Considerations About Welding And The Effects Of Low Frequency Electric And Magnetic Fields
Welding current, as it flows through welding cables, will cause electromagnetic fields.

There has been and still is some concern about such fields. However, after examining more than 500 studies spanning seventeen years of research, a special blue ribbon committee of the National Research Council concluded that: "The body of evidence, in the committee's judgment, has not demonstrated that exposure to power-frequency electric and magnetic fields is a human-health hazard." However, studies are still going forth and evidence continues to be examined. Until the final conclusions of the research are reached, you may wish to minimize your exposure to electromagnetic fields when welding or cutting.

To reduce magnetic fields in the workplace, use the following procedures:

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 your body.
4. Keep welding power source and cables as far away from operator as possible.
5. Connect work clamp to workpiece as close to the weld as possible.

ABOUT PACEMAKERS:

Pacemaker wearers consult your doctor before welding or going near welding operations. If cleared by your doctor, then following the above procedures is recommended.

1.12 ⚠ MACHINE CANOPY ACCESS SAFETY SWITCHES

⚠ CAUTION
Machine hood and front access panel must be closed before starting. Interlock switches will not allow starting with panels open. After starting, engine hood may be opened, but opening belt access panel will shut down the engine.

Consult **Figure 1-1**. The Air N Arc® 300 Gas and

PowerFlex™ AE Gas machine packages are equipped with one or two safety switches, which will either shut down, or not allow the machine to start, if access doors are bridged. The hood safety switch (if present) will not allow the machine to start if the hood is open; the hood must be closed in order to start the machine. However if the engine is running, the switch is bypassed, and the hood may be raised.

The door safety switch will not allow the machine to run if an attempt to open the door panel occurs. If the door is open, machine will crank, but not start. Under condition of the machine running, if the switch is triggered, the machine will shut down.

1.13 ⚠ UPFITTER'S OBLIGATIONS

Any modifications or additions made to a vehicle by an upfitter must adhere to all applicable Federal Motor Vehicle Safety Standards (FMVSS), and applicable state regulations to assure the altered vehicle remains safe and meets the same safety requirements as a standard manufactured vehicle.

If unsure about the compliance requirements for specific modifications, vehicle upfitters should consult with the National Highway Traffic Safety Administration (NHTSA) to understand their obligations. www.NHTSA.gov or 1-888-327-4236.

When mounting Vanair® engine-driven equipment the following guidelines must be followed to ensure safe operation and ventilation:

1. Provide Adequate Ventilation:

- Ensure sufficient airflow openings for intake and exhaust to prevent CO build-up and overheating.
- Use louvers, vents, or fans to facilitate proper air exchange.

2. Exhaust Management:

- Route engine exhaust outside of the service body and away from any enclosed areas, vehicle occupants, or flammable materials.
- Use properly rated exhaust piping and ensure there are no leaks.
- Use properly rated heat shields and heat wrap.

3. Temperature Control:

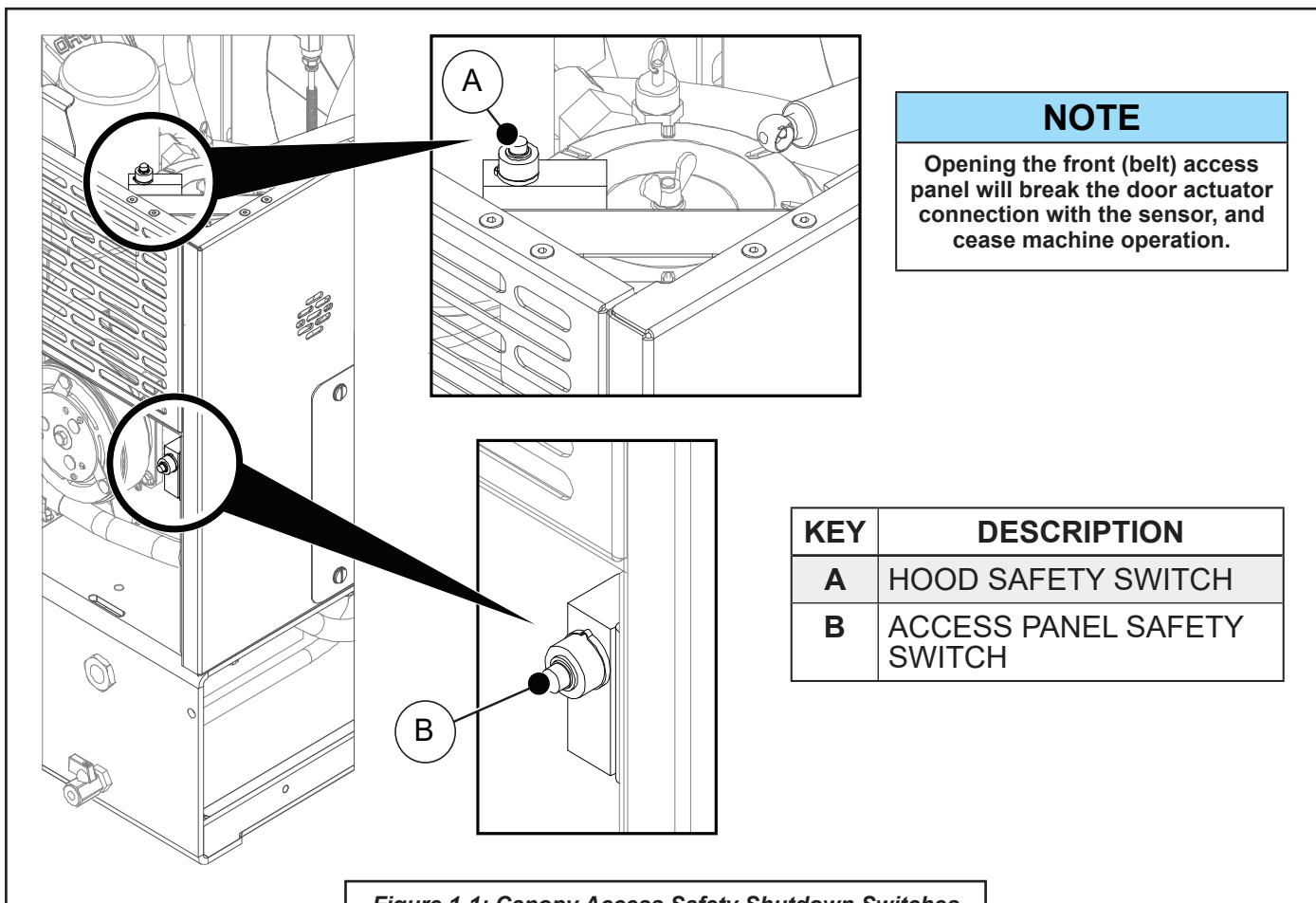


Figure 1-1: Canopy Access Safety Shutdown Switches

- Install heat shields or insulation where necessary to reduce heat transfer to nearby materials.
- Avoid placing flammable items near equipment that generates heat.

4. CO Detection:

- Install carbon monoxide detectors in areas where equipment is mounted to provide early warnings of hazardous gas build-up.

5. Regular Inspection:

- Frequently inspect the mounting area for adequate ventilation, proper exhaust routing, and any signs of heat damage or gas leaks.

It is the responsibility of the installation party to determine and mount Vanair® engine-driven

equipment in a manner that ensures adequate airflow and ventilation for safe operation. Failure to provide proper ventilation may result in hazardous conditions.

⚠ DANGER



DO NOT OPERATE IN AN ENCLOSED SPACE.

Running any combustion engine in an enclosed space will result in Carbon Monoxide (CO) poisoning and may cause overheating, which may result in fire and/or explosion. CO build-up can cause death!



Overheating can ignite surrounding materials resulting in fire and/or explosion which may cause injury, death and equipment damage.

IMPORTANT

An enclosed space refers to any area partially or fully enclosed by walls, a roof, or other boundaries.

These spaces can limit natural ventilation, restrict airflow, trap hazardous gases, and increase the risk of heat build-up, fire, or explosion.

It is the responsibility of the installation party to determine and mount Vanair® engine-driven equipment in a way that ensures proper airflow and ventilation for safe operation. Failure to provide proper ventilation and clearances may result in hazardous conditions.

Vanair® assumes no responsibility or liability for installations it did not perform.

1.14 DISPOSING OF MACHINE FLUIDS

Always dispose of machine fluids under the guidance of all applicable local, regional and/or federal law.

Vanair® encourages recycling when allowed. For additional information, consult the container for information.

In addition to the sections, also consult the Engine Operation Manual when performing maintenance.

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SECTION 2: SPECIFICATIONS

2.1 GENERAL INTRODUCTION

The tables and figures in this section list the specifications (including operational, output and dimensional) of the overall machine. Contact the Vanair® Service Department if additional specifications are needed that cannot be found in this manual.

Refer to **Figures 2-1A** and **2-1B** at the end of this Section for general machine component locations. For additional information, including measurement specifications, refer to the **Identification and Dimension** diagrams (**Section 7.20** through **Section 7.24**) in **Section 7: Illustrated Parts List**.

TABLE 2A: GENERATOR AND ENGINE SPECIFICATIONS

SYSTEM INFORMATION	SPECIFICATION
Rated Welder Output (where applicable):	300A High Frequency DC/CC, DC/CV; 100% Duty Cycle @ 260 Amps
Welding Leads (where applicable):	25 or 50 feet Optional (Refer to Table A.5: Available Options List in Appendix A: Additional Information at the back of this manual)
AC Generator:	6800 Watts Continuous Duty
AC Generator 120V Power Rating:	60 Hz 1 PH, 2-20 Amp Circuits
AC Generator 240V Power Rating:	60 Hz 1 PH, 28 Amp
Engine:	25 EFI [‡]
Engine Oil Capacity:	1.6 Quarts (factory fill is 10W-30); Refer to Engine Operation Manual for Extreme Conditions)
Fuel Consumption:	2.1 GPH at Full Engine Speed
Fuel Tank Capacity:	12 Gallons (when this option is purchased)
Fuel Type:	87 Octane or Higher Unleaded Gasoline ^{‡‡}
Operating Temperature Limits:	-20°F to 110°F; Extreme Weather Option
[‡] For in-depth specifications and requirements regarding the VNR750 EFI 25 HP engine, refer to the Engine Operation Manual.	
^{‡‡} Ethanol blended fuels, such as E85, are prohibited for use with the VNR750 EFI 25 HP engine. DO NOT use ethanol-based fuels.	

TABLE 2B: AIR COMPRESSOR SPECIFICATIONS

COMPRESSOR INFORMATION	SPECIFICATION
Compressor Type:	Single Stage, Oil Injected Rotary Screw
Air Compressor Capacity:	40 CFM @ 150 PSI
Inlet Control:	Zero (0) No Load / 100% Load
Air Filter:	Pleated Paper, Dry Type
Oil Filter:	70 micron Spin-on Type
Oil Capacity/Type:	Three (3) Quarts
Vanguard™ Premium Synthetic Oil	Refer to Table 2E in this Section
Air Tank Capacity:	Four (4) Gallons
<i>Table 2B continued on next page</i>	

TABLE 2B: AIR COMPRESSOR SPECIFICATIONS (continued)

COMPRESSOR INFORMATION	SPECIFICATION
Tank Pressure Rating:	200 PSI
Safety Relief Valve Setting:	200 PSI
Electrical System:	12 VDC
Cooling System:	Air to Oil Heat Exchanger
Instrument Gauges:	Pressure and Hour Meter
Adjustable Air Pressure Control Settings:	Cut-in Pressure: 125 PSI / Cut-out Pressure: 150 PSI (Factory Preset); 175 PSI (Maximum Cut-out)
Air Service Outlets:	Two (2) on Control Panel, One (1) on Machine (Refer to Figure 2-1A and 2-1B)

TABLE 2C: SPECIFICATIONS - UNIT DIMENSIONS ^I

Overall Package:	Length ^{II}	Width	Height
Air N Arc® 300 (Standard):	47.5"	23.8"	34.2"
Air N Arc® 300 (Compact):	48.2"	24.5"	24.5"
PowerFlex™ AE Gas (Standard):	47.5"	23.8"	34.2"
PowerFlex™ AE Gas (Compact):	48.2"	24.6"	24.5"
^I The dimensions given in this table are machine-only dimensions, and do not include any additional clearance and access space needed for operation and maintenance. Refer to Figure 3-1 for these additional clearance spaces, and Sections 7.20 through 7.24 , in Section 7, Illustrated Parts List , for additional machine schematic metrics.			
^{II} Add an additional 3.5" for directly-mounted instrument panel (plus additional access clearance on the instrument panel side of the machine. Refer to Figure 4-2A (PowerFlex™ AE Gas) or 4-2B (Air N Arc® 300) for panel specifications.			
NOTE: Machine weights not available at publication time: Refer to Vanair® Service Department for machine weights. Note that instrument panel adds 25 lbs.			

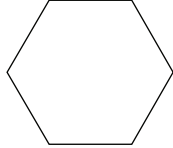
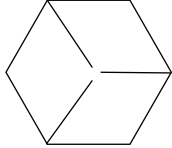
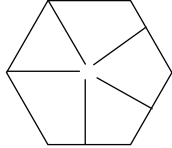
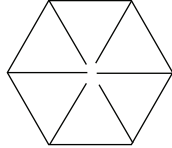
TABLE 2D: VARIOUS FUNCTION ACCEPTABLE TESTING OUTPUT RANGES

FUNCTION	ACCEPTABLE RANGE
Engine No-Load Hi RPM:	3625 ± 25
Engine Idle RPM:	2000 ± 30
Air Cut-in pressure:	115 ± 15
Air Cut-out pressure (@ 40 CFM):	150 ± 5

TABLE 2E: GENUINE VANGUARD™ OIL CHARACTERISTICS

FUNCTION	ACCEPTABLE RANGE / CONTENT
Viscosity:	178 SUS at 100°F (38°C)
Flashpoint:	495°F (257°C)
Pour point:	-49°F (-45°C)
Contains:	Rust and Oxidation Inhibitors
Contains:	Detergents

TABLE 2F: BOLT AND TORQUE SPECIFICATIONS

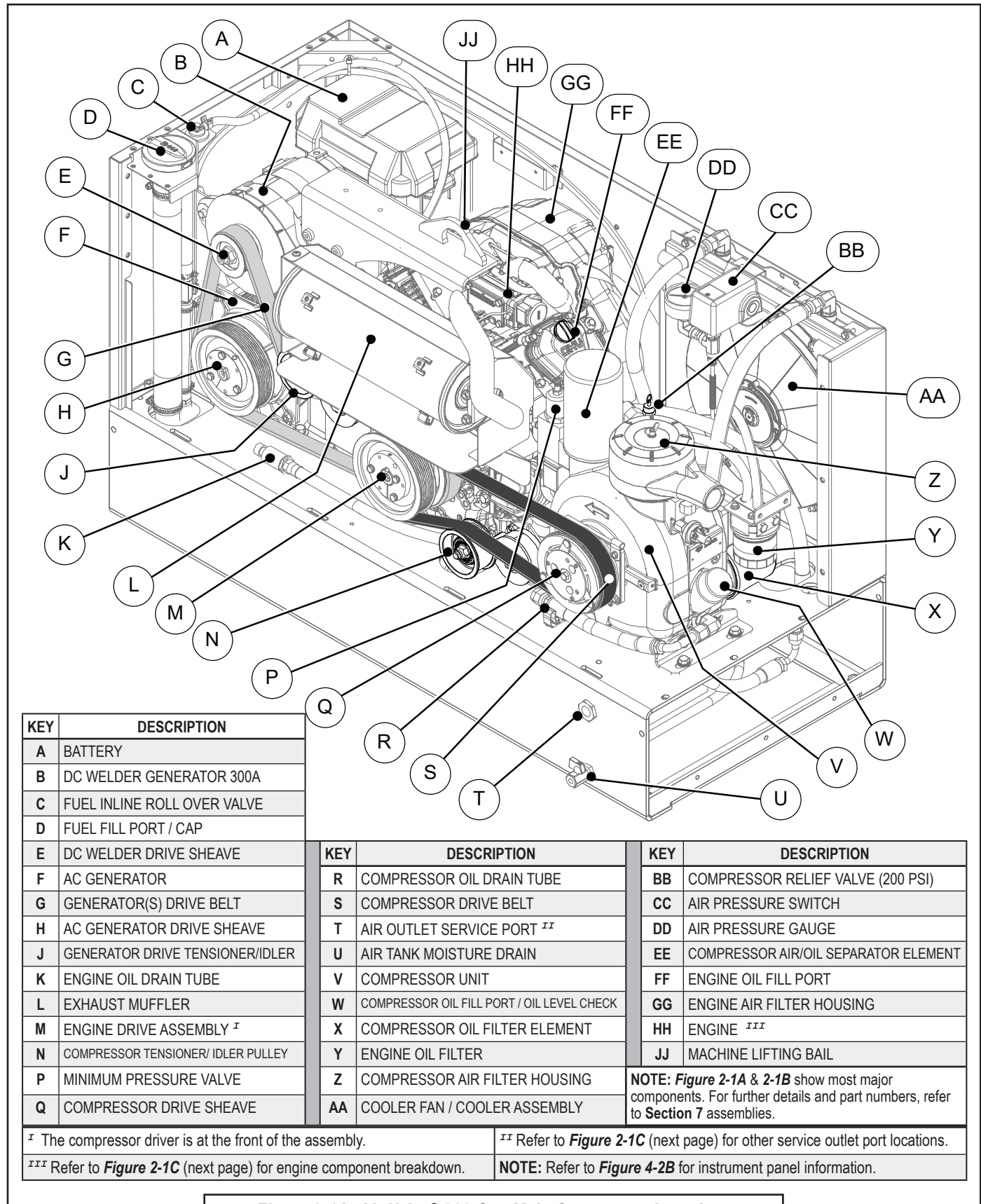
					
	2	5	7	8	SOCKET HEAD CAP SCREW
I.D. Marks	No markings	3 lines	5 lines	6 lines	Allen head
Material	Low carbon	Medium -carbon, tempered	Medium - carbon, quenched & tempered	Medium carbon, quenched & tempered	High-carbon, quenched & tempered
Tensile strength (minimum)	74,000 PSI	120,000 PSI	133,000 PSI	150,000 PSI	160,000 PSI

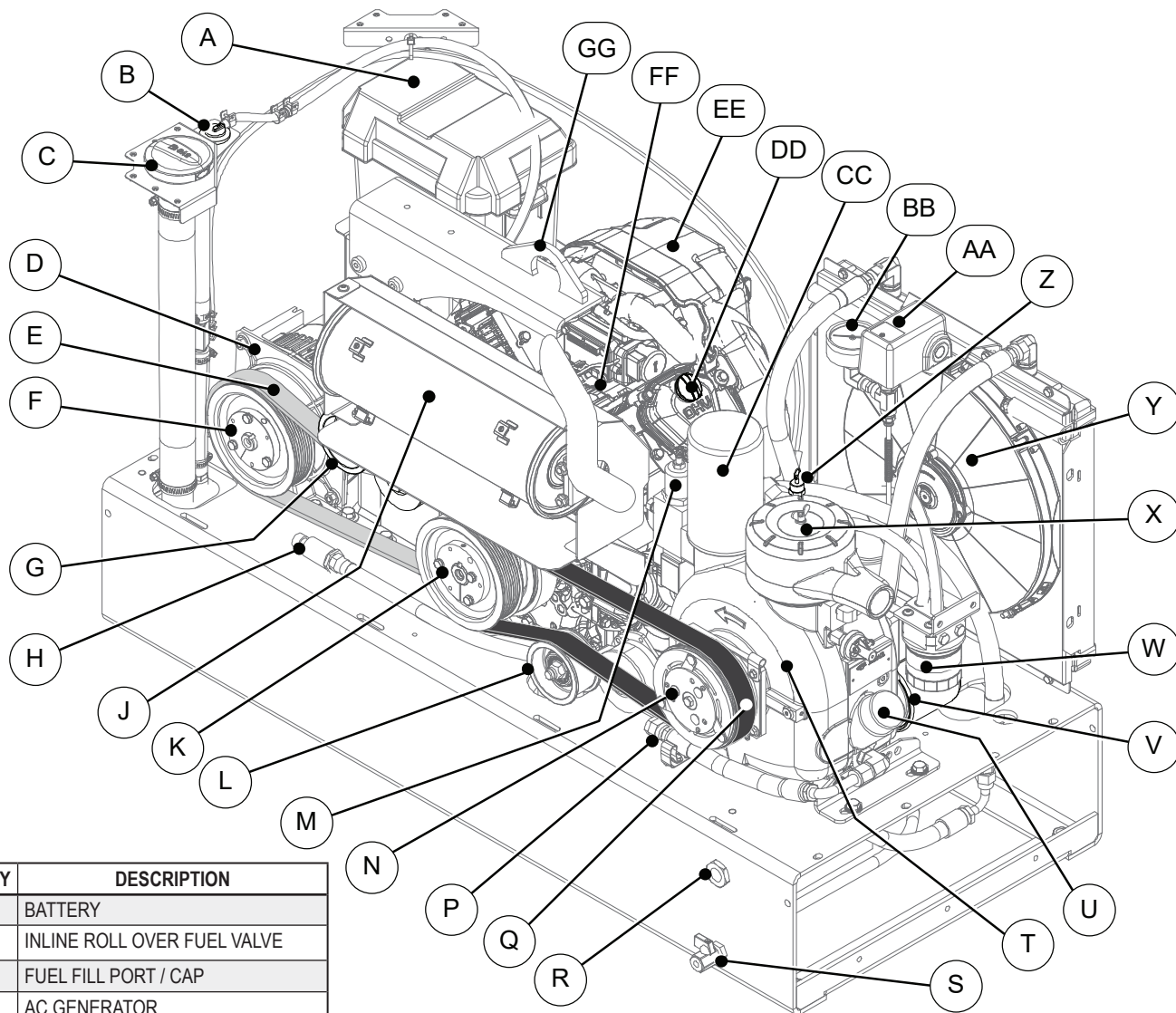
US BOLT TORQUE SPECIFICATIONS (Torque in foot-pounds)

		2	2	5	5	7	7	8	8	Socket head cap screw	Socket head cap screw
Bolt Diameter	Thread per inch	Dry	Oiled	Dry	Oiled	Dry	Oiled	Dry	Oiled	Dry	Oiled
1/4	20	4	3	8	6	10	8	12	9	14	11
1/4	28	6	4	10	17	12	9	14	10	16	13
5/16	18	9	7	17	13	21	16	25	18	29	23
5/16	24	12	9	19	14	24	18	29	20	33	26
3/8	16	16	12	30	23	40	30	45	35	49	39
3/8	24	22	16	35	25	45	35	50	40	54	44
7/16	14	24	17	50	35	60	45	70	55	76	61
7/16	20	34	26	55	40	70	50	80	60	85	68
1/2	13	38	31	75	55	95	70	110	80	113	90
1/2	20	52	42	90	65	100	80	120	90	126	100
9/16	12	52	42	110	80	135	100	150	110	163	130
9/16	18	71	57	120	90	150	110	170	130	181	144
5/8	11	98	78	150	110	140	140	220	170	230	184
3/4	10	157	121	260	200	320	240	380	280	400	320
3/4	16	180	133	300	220	360	280	420	320	440	350
7/8	9	210	160	430	320	520	400	600	460	640	510
7/8	14	230	177	470	360	580	440	660	500	700	560
1	8	320	240	640	480	800	600	900	680	980	780
1	12	350	265	710	530	860	666	990	740	1060	845

SECTION 1:
SAFETY

AIR N ARC® 300 GAS • AIR N ARC® 300 GAS
COMPACT • POWERFLEX™ AE GAS •
POWERFLEX™ AE GAS COMPACT





KEY	DESCRIPTION
A	BATTERY
B	INLINE ROLL OVER FUEL VALVE
C	FUEL FILL PORT / CAP
D	AC GENERATOR
E	GENERATOR DRIVE BELT
F	AC GENERATOR DRIVE SHEAVE
G	GENERATOR DRIVE TENSIONER/IDLER
H	ENGINE OIL DRAIN TUBE
J	EXHAUST MUFFLER
K	ENGINE DRIVE ASSEMBLY ^I
L	COMPRESSOR TENSIONER/IDLER
M	MINIMUM PRESSURE VALVE
N	COMPRESSOR DRIVE SHEAVE
P	COMPRESSOR DRAIN TUBE
Q	COMPRESSOR DRIVE BELT

KEY	DESCRIPTION
R	AIR OUTLET SERVICE PORT ^{II}
S	AIR TANK MOISTURE DRAIN
T	COMPRESSOR UNIT
U	COMPRESSOR OIL FILL PORT / OIL LEVEL CHECK
V	COMPRESSOR OIL FILTER ELEMENT
W	ENGINE OIL FILTER
X	COMPRESSOR AIR FILTER HOUSING
Y	COOLER FAN / COOLER ASSEMBLY
Z	COMPRESSOR RELIEF VALVE (200 PSI)

KEY	DESCRIPTION
AA	AIR PRESSURE SWITCH
BB	AIR PRESSURE GAUGE
CC	COMPRESSOR AIR/OIL SEPARATOR ELEMENT
DD	ENGINE OIL FILL PORT
EE	ENGINE AIR FILTER HOUSING
FF	ENGINE ^{III}
GG	MACHINE LIFTING BAIL

NOTE: Figure 2-1A & 2-1B show most major components. For further details and part numbers, refer to Section 7 assemblies.

^I The compressor driver is at the front of the assembly.

^{II} Refer to Figure 2-1C (page 2 - 6) for other service outlet port locations.

^{III} Refer to Figure 2-1C (page 2 - 6) for engine component breakdown.

NOTE: Refer to Figure 4-2A for instrument panel information.

Figure 2-1B: PowerFlex™ AE Gas Main Component Locations

SECTION 2: SPECIFICATIONS

AIR N ARC® 300 GAS • AIR N ARC® 300 GAS
COMPACT • POWERFLEX™ AE GAS •
POWERFLEX™ AE GAS COMPACT

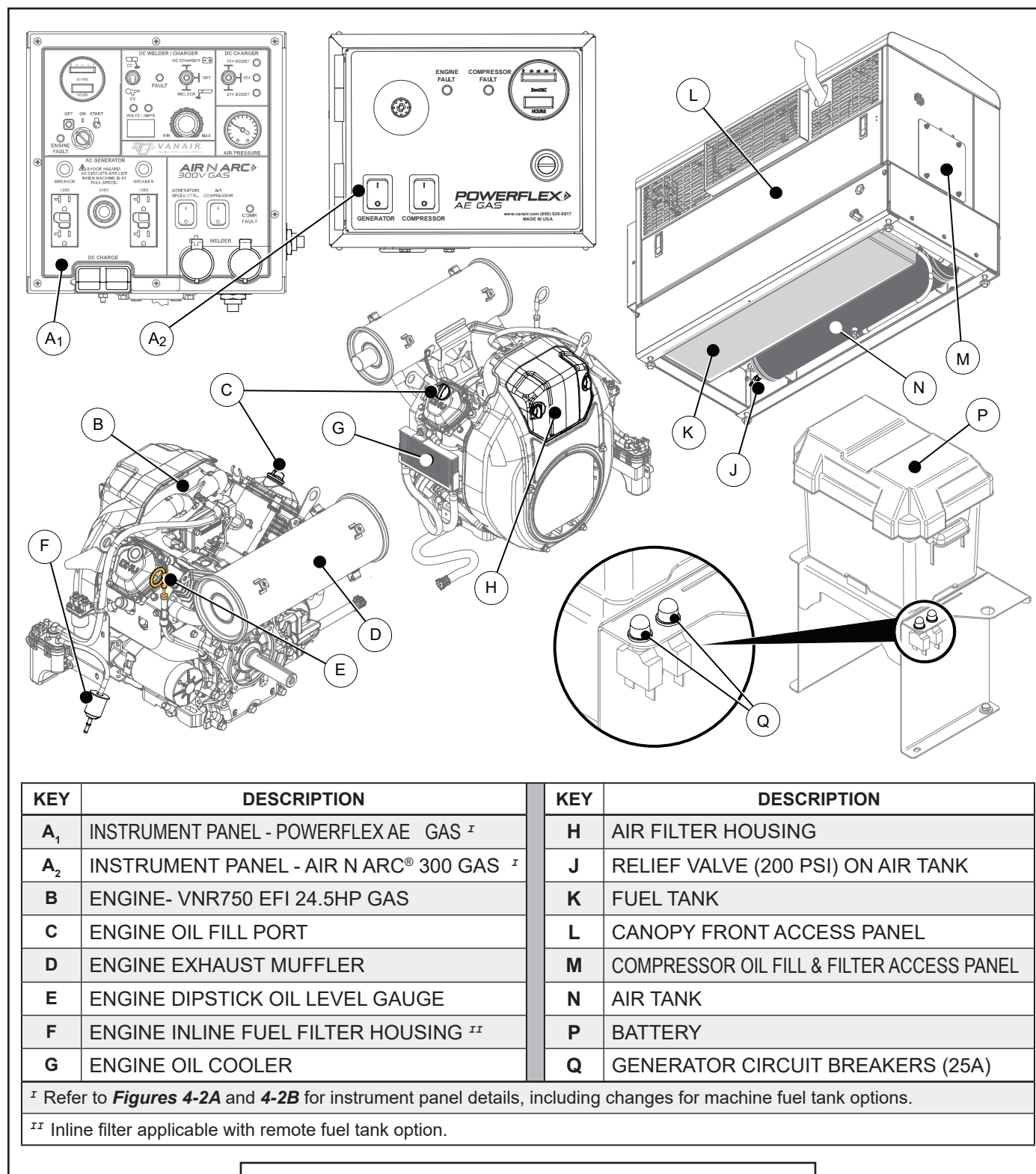


Figure 2-1C: Additional Machine Main Component Locations

SECTION 3: INSTALLATION

3.1 MACHINE PACKAGE RECEIPT/INSPECTION

Upon receipt of the machine package, inspect the exterior of the shipping crate for signs of shipping/transit damage. Any damage should be reported immediately to the shipping company. Open the lid and inspect the component parts and supports to ensure that there has been no internal movements of assemblies or components which may have caused damage. Contact Vanair® to report missing items, incorrect part number, or other discrepancies:

Vanair®, a Lincoln Electric Company

10896 West 300 North

Michigan City, IN 46360

Toll Free: (800) 526-8817

Telephone: (219) 879-5100

Service (toll free): (844) VAN-SERV

(844) 826-7378

vanair.com

Check fluid levels, if needed. Refer to **Section 5, Table 5A: Maintenance Schedule**; **Key #2** for engine oil level check, and **Key #5** for compressor oil level check.

3.2 GENERAL OVERVIEW OF INSTALLATION

When determining the factors involved with the installation of the The Air N Arc® 300 Gas or PowerFlex™ AE Gas machine packages on a vehicle, use this manual in tandem with the vehicle's own manual to aid in determining how the machine and its functions need to integrate with the vehicle's layout and systems.

DANGER



DO NOT OPERATE IN AN ENCLOSED SPACE.

Running any combustion engine in an enclosed space will result in Carbon Monoxide (CO) poisoning and may cause overheating, which may result in fire and/or explosion.

CO build-up can cause death!



Overheating can ignite surrounding materials resulting in fire and/or explosion which may cause injury, death and equipment damage.

IMPORTANT

An enclosed space refers to any area partially or fully enclosed by walls, a roof, or other boundaries.

These spaces can limit natural ventilation, restrict airflow, trap hazardous gases, and increase the risk of heat build-up, fire, or explosion.

It is the responsibility of the installation party to determine and mount Vanair® engine-driven equipment in a way that ensures proper airflow and ventilation for safe operation. Failure to provide proper ventilation and clearances may result in hazardous conditions.

Vanair® assumes no responsibility or liability for installations it did not perform.

WARNING

Installation must adhere to the safety precautions listed in the Safety Section of this manual for cooling and noxious fume ventilation.

If mounting footprint is tighter than the recommended minimum requirements, consult the Vanair® Service Department for application installation recommendations.

⚠ WARNING

ELECTRICAL HAZARD! Be sure the battery is disconnected before starting the installation.

NOTE

Although much of the information given in this installation section is comprehensive, these guidelines should be considered as referential material only, due to the diverse possibilities of the end user's vehicle make, model and year, and the unit model specifications.

NOTE

Install electrical components (circuit breakers, pressure switches, toggle switches, etc.) in locations where exposure to water or moisture will be most minimized.

NOTE

For guidance on machine start-up procedure and control panel functions, consult Section 4, Operation.

NOTE

In order to prevent accidental damage to vehicle components (fuel tanks, lines, brake lines, wiring harnesses), note their location before drilling any holes.

When determining the factors involved with the installation of the The Air N Arc® 300 Gas and PowerFlex™ AE Gas machine packages on a vehicle, use this manual in tandem with the vehicle's own manual to aide in determining how the machine and its functions need to integrate with the vehicle's layout and systems.

Refer to the **Installation and Dimension Diagrams** (Section 7.20 through 7.24, in Section 7) for the particular machine model build, and

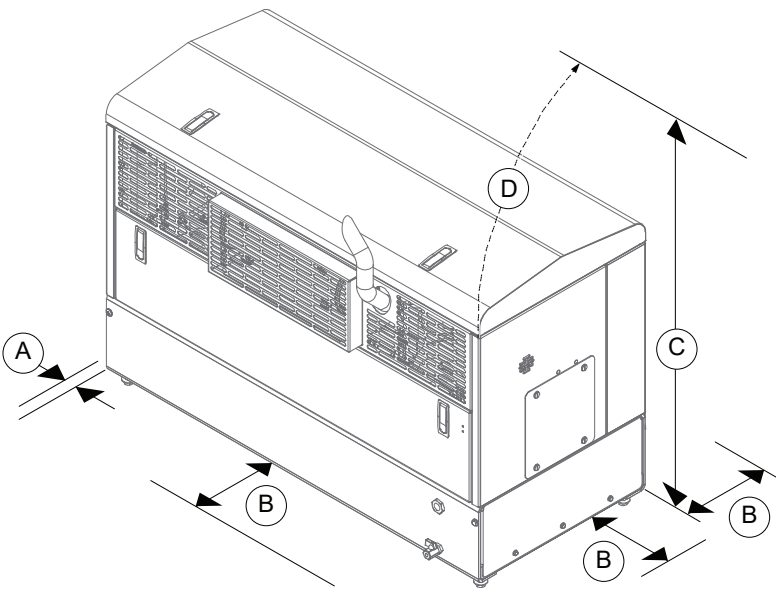
NOTE

Installation must adhere to the safety precautions listed in the Safety Section of this manual for cooling and noxious fume ventilation.

If mounting footprint is tighter than the recommended minimum requirements, consult the Vanair® Service Department for application installation recommendations.

NOTE

Refer to Identification and Dimension Sections (7.20 through 7.24 in Section 7 of this manual) for additional machine dimension specifications.



KEY	DESCRIPTION
A	1 inches (minimum) [†]
B	7 inches (minimum)

KEY	DESCRIPTION
C	47 inches (minimum)
D	65° angle

[†] Although panel is shown attached to the machine unit, the minimum dimension given here is for non-mounted instrument panel for this side (panel remote-mounted elsewhere). If panel is preferred to be mounted to the unit, as shown, it will add a minimum additional 11.06" (panel and bracket width) to the machine's length dimension. Be sure to leave enough space to allow for interaction of instrument panel.

Figure 3-1: Machine Mounting Minimum Clearance Space

wiring diagram (see **Section 7.18**) to assist with machine package installation.

MACHINE LOAD BEARING SURFACE

For particular load-bearing locations, if necessary, additional support may be needed to assure stability of the machine once it is mounted.

IMPORTANT

Mounting surface must be able to bear the weight of the machine.

Refer to **Figures 3-1**, the **Installation and Dimension Diagrams (Section 7.20 through 7.24, in Section 7)**, and the following instructions.

1. Remove packing and inspect machine and control panel for shipping damage.
2. Check fluid levels; refill if needed. Refer to the Engine Operation Manual for engine oil specification.
3. Check for possible leaks.

3.2.1 EXHAUST OUTLET LOCATION

Engine exhaust must have provision for exhausting without recirculating engine exhaust back to the cool air intake.

Exhaust tubing must be made of a flexible pipe with a secure connection at both ends. Maximum use length is 10 feet, with no sharp bends.

A spark arrestor assembly is also available (spark arrestor **no. MA68724** and diffuser disk for spark arrestor **no. MA69132**).

3.2.2 MACHINE CLEARANCE ALLOWANCE

DO NOT Install in an enclosed space:

⚠ DANGER



DO NOT OPERATE IN AN ENCLOSED SPACE.

Running any combustion engine in an enclosed space will result in Carbon Monoxide (CO) poisoning and may cause overheating, which may result in fire and/or explosion.
CO build-up can cause death!

Continued...

⚠ DANGER (continued)



Overheating can ignite surrounding materials resulting in fire and/or explosion which may cause injury, death and equipment damage.

IMPORTANT

An enclosed space refers to any area partially or fully enclosed by walls, a roof, or other boundaries.

These spaces can limit natural ventilation, restrict airflow, trap hazardous gases, and increase the risk of heat build-up, fire, or explosion.

It is the responsibility of the installation party to determine and mount Vanair® engine-driven equipment in a way that ensures proper airflow and ventilation for safe operation. Failure to provide proper ventilation and clearances may result in hazardous conditions.

Vanair® assumes no responsibility or liability for installations it did not perform.

IMPORTANT

This machine features removable access panels for common service items. Machine should be mounted in a way where all access panels can be opened and/or removed for service.

Machine minimum clearances for safety and servicing can be found in **Figure 3-1**. The machine must be mounted in a constantly-ventilated space.

3.2.2.1 MACHINE VENTILATION

Air N Arc® 300 Gas and PowerFlex™ AE Gas machines are air-cooled, and a constant provision for supply of cool air to the engine, compressor and alternator is required. Heated exhaust air must have provision for exhausting air without recirculating back to the cool air intake.

IMPORTANT

The minimum vent air opening area for the Air N Arc® 300 Gas or PowerFlex™ AE Gas machines is:

330 in² cold air in
360 in² hot air out

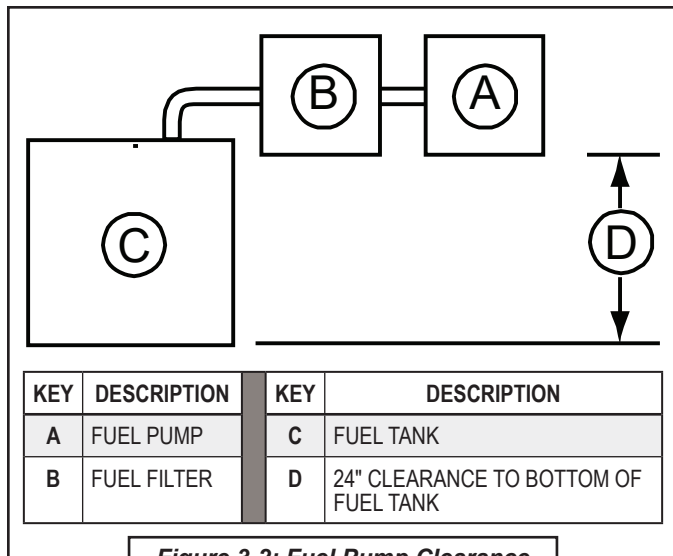


Figure 3-2: Fuel Pump Clearance

3.2.2.2 MACHINE PARAMETERS FOR AIR CIRCULATION REQUIREMENTS

Refer to **Figure 3-1**. Space allowances must be made for proper distance surrounding the machine to allow for adequate air circulation in order to cool the package during operation.

Most importantly a fresh, cool and unhindered air supply must be allowed at the air intake side of machine. In addition, clearance space surrounding the machine is needed for purposes of heat dissipation and maintenance and control.

When referring to the machine dimensions given in **Section 7, Illustrated Parts List (Section 7.20 through 7.24)** in this manual, take into account the additional cooling and maintenance space requirements before locating the machine mounting position (see **Figure 3-1** for minimum operation and service clearances).

If there is an air gap on the sides of the machine greater than one inch (1"), this gap must be baffled to prevent recirculation of hot air back to cool air intake. Contact Vanair® Service Department for details.

3.2.2.3 ROOF PANEL OPTION

If a roof above the machine is required it must be retractable to allow for proper air circulation.

IMPORTANT

If present, roof panel is required to have a switch so machine will not start with roof down.

The roof switch should be run in parallel with access panel switch (Reference Vanair® p/n: CO81774 [Door switch]).

3.3 SERVICE BODY PREP

Consult **Section 2, Specifications** for dimension requirements, **Figure 3-1** for additional operation and service requirements, and the following instructions.

1. Drill four (4) 9/16" mounting holes in the service body floor on an 18.0" x 44.5" square pattern at the desired mounting location.

IMPORTANT

Refer to the Installation and Dimension Sections (7.20 through 7.24 in Section 7 of this manual) for visual confirmation of machine mounting hole pattern.

Ensure that all proper machine clearances noted in **Figure 3-1** will be maintained before drilling.

2. For units without a fuel tank, follow these steps:
 - Mount the electric fuel pump at the desired location on the service body keeping it as close to the truck fuel tank as possible. Mount the electric fuel pump a maximum distance of 24 inches from the bottom of the tank (**Figure 3-2**).
 - Install 1/4" fuel line from the vehicle tank to the 1/4" fuel filter barb at machine.
 - Ensure that the lines do not make contact with sharp edges, moving parts or exhaust heat (consult **Section 7.25, Hose Installation Guide** for assistance in running hose lines).
 - Units must have a 74 micron fuel filter in line before the pump (refer to **Section 7.9** for location reference).

Install the remote control panel (Optional) at the desired location on the service body and route the control trunk line to the location where the unit

will mount. Ensure that all sharp edges that the trunk-line contacts are shielded or grommited, and that there are no excessively sharp bends in the trunk-line. Ensure the trunk line does not come in contact with exhaust parts.

3.4 MACHINE PACKAGE MOUNTING

⚠ WARNING

Follow all applicable safety recommendations as outlined in Section 1: Safety of this manual.

When determining package position on vehicle, be aware of the minimum space requirements needed for cooling and circulation requirements, and also package access for performing maintenance (see **Figures 3-1** and **3-2**).

NOTE

For mounting the control panel remotely, consult Section 3.5, and/or Contact Vanair® for further assistance.

1. Unbolt and separate the machine unit from the shipping crate pallet; refer to **Figure 2-1A** or **2-1B** for lifting bail location.
2. Place the unit in a preliminary position on the service body so that the front panel access and hood opening (front) side is easily accessible, and the control trunk line and all other connections will reach the unit.
3. Route the control trunk-line through the grommited opening. Connect the ½" air line via the JIC fitting on the end of the air tank, and connect and secure the weather proof connectors. The plugs are all differentiated to ensure that they cannot be mis-connected.
4. Connect and clamp the fuel line to the inline fuel filter located on the engine near the left valve cover as you are looking at the motor, if using truck tank.
5. Leaving the unit in the preliminary position, connect the ground cable to the unit battery, check all fluid levels. Replace the front access panel and close the unit hood.

6. Turn the Ignition switch on the control panel to "ON". Wait 30 seconds for the fuel pump to prime the fuel system. Start and run the unit for a few minutes, then turn the machine off. Check fuel connections for leaks, verify all connections, and replace access panel and close hood.
7. Move the unit into its final location for mounting, while positioning the control trunk line and all other connections.
8. Bolt the machine down with four ½" bolts inserted from the bottom.
9. Start the unit and fully test all functions. Warm the unit to full operating temperature. After the unit has cooled, check all fluid levels and add as needed.

3.5 (OPTIONAL) REMOTE-MOUNTING THE INSTRUMENT PANEL

If desired, the instrument panel may alternately be mounted in proximation to the machine rather than on the machine's side panel.

The remote-mounted panel should be installed in a location where it is easily accessible to operators, and protected from exposure to moisture, contamination, and excessive heat.

The mounting pattern dimensions for the instrument panel box can be found in **Section 7**, in the **Identification and Dimension Sections (7.20 through 7.24)** in this manual. Consult the correct section for visual confirmation of machine mounting hole pattern.

1. Install in the vehicle cab or at other locations on the vehicle, protected from the weather, using the two mounting slots on top of the flange.
2. Run the temperature gauge capillary line, and install the thermal well and sensing bulb into the ½" NPT port in the compressor discharge.

IMPORTANT

Do not cut or pinch the capillary tube: coil and secure any excess capillary line.

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SECTION 4: OPERATION

4.1 GENERAL INFORMATION

The Air N Arc® 300 Gas and PowerFlex™ AE Gas machine packages have a comprehensive array of controls and indicators for each function of the powersystem. Understanding the correct functions of the operational system will allow the operator to recognize various operational conditions, such as when the machine is functioning optimally, when maintenance is needed, or if there are indications of a malfunction. The information in **Section 4: Operation** will help the operator to recognize, distinguish and interpret these symptoms.

⚠ DANGER



DO NOT OPERATE IN AN ENCLOSED SPACE.

Running any combustion engine in an enclosed space will result in Carbon Monoxide (CO) poisoning and may cause overheating, which may result in fire and/or explosion. CO build-up can cause death!



Overheating can ignite surrounding materials resulting in fire and/or explosion which may cause injury, death and equipment damage.

IMPORTANT

An enclosed space refers to any area partially or fully enclosed by walls, a roof, or other boundaries.

These spaces can limit natural ventilation, restrict airflow, trap hazardous gases, and increase the risk of heat build-up, fire, or explosion.

It is the responsibility of the installation party to determine and mount Vanair® engine-driven equipment in a way that ensures proper airflow and ventilation for safe operation. Failure to provide proper ventilation and clearances may result in hazardous conditions.

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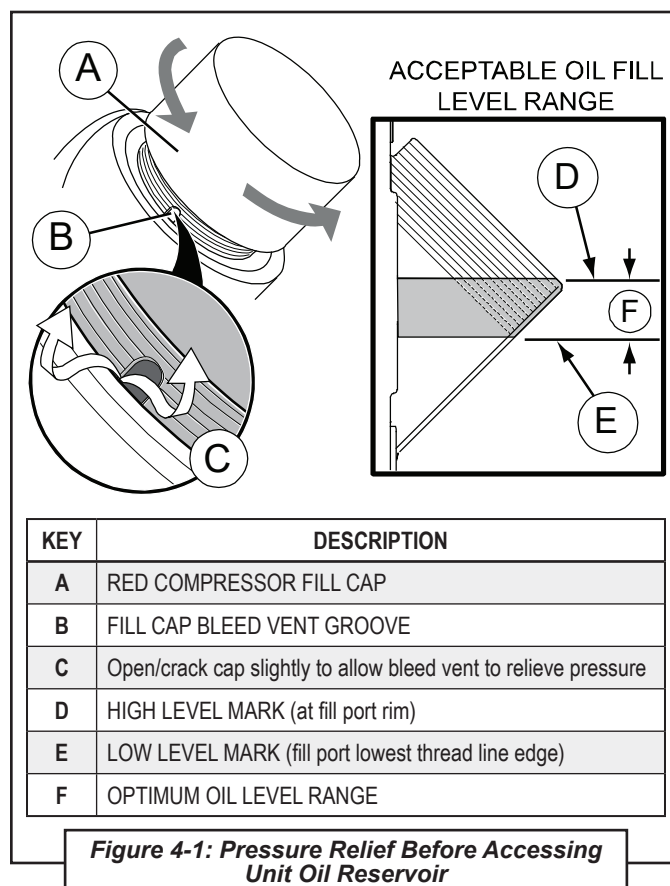
IMPORTANT (continued)

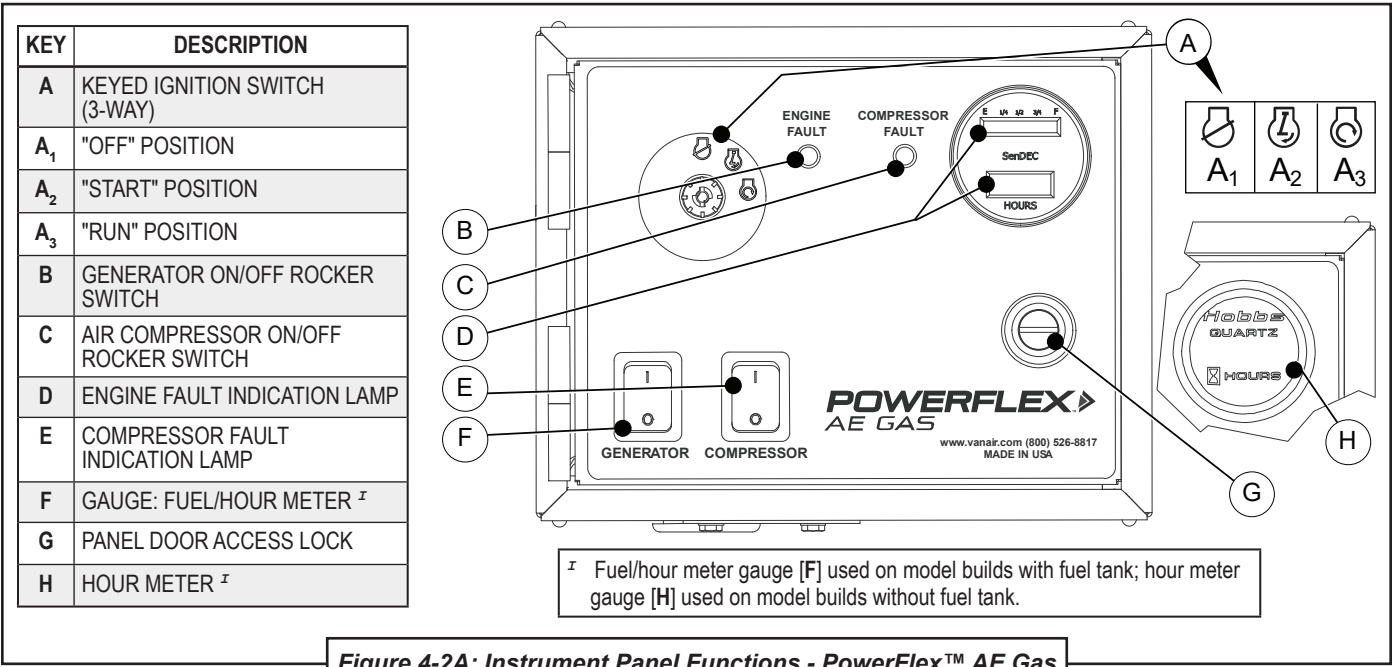
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⚠ WARNING

Before starting, performing maintenance, or replacing parts, relieve the entire system pressure by opening the air tank drain/vent valve, which will vent all pressure to the atmosphere.

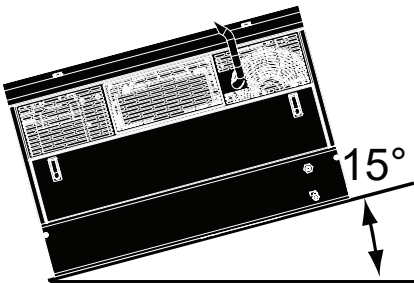
Refer to *Figure 4-1*. Open the compressor fill cap **SLOWLY** (contents under pressure) to make sure all pressure has been relieved.





⚠ CAUTION

Compressors and engines generate heat and create hot surfaces. Use caution when operating and servicing equipment. Some surfaces and components may be hot.



IMPORTANT

All machine package maximum operation angles of tilt are fifteen degrees (15°)

4.2 MACHINE START-UP AND SHUTDOWN PROCEDURE

IMPORTANT

If start-up and shut-down procedures are not followed, damage to the system and its components may occur.

Consult **Figure 4-2A** or **4-2B** (Instrument Panel

Functions) for operating procedures detailed in this section.

4.2.1 START-UP FROM MACHINE

To start up unit from machine, do the following:

⚠ WARNING

Machine hood and front access panel must be closed before starting. Interlock switches will not allow starting with panels open. After starting, engine hood may be opened, but opening belt access panel will shut down the engine.

1. Check to make sure all switches (Generator and Compressor) are in the **OFF** position prior to starting.
2. Turn the keyed ignition switch (PowerFlex™ Gas; **Figure 4-2A**; [A]; Air N Arc® 300 Gas; **Figure 4-2B** [C]) to the **START** position; wait 3-5 seconds for the fuel pump to prime the system.
3. Continue turning control switch to the **RUN** position (farthest switch position turning clockwise) until the engine starts.
4. Let engine run at idle for a 3-5 minutes to allow for warm up sequence.

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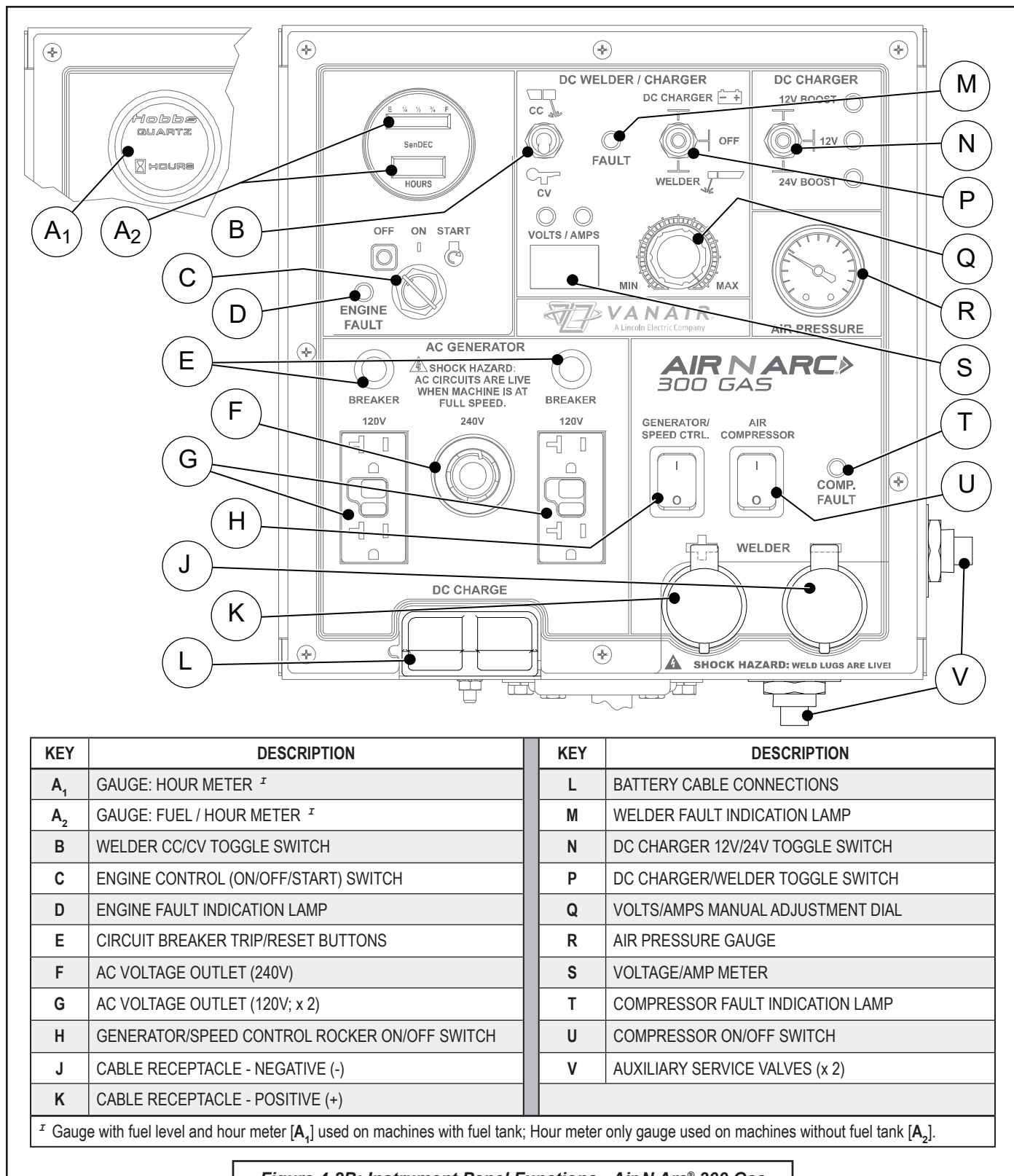


Figure 4-2B: Instrument Panel Functions - Air N Arc® 300 Gas

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NOTE

Refer to the Engine Operation Manual for additional information pertaining to engine start-up.

4.2.2 MACHINE SHUTDOWN

Consult **Figure 4-2A** or **4-2B**. To shut the engine off at any time, turn the engine control switch to the **OFF** position (farthest switch position turning counterclockwise). However, this method is best reserved for emergency shutdown situations only. Vanair® recommends that the following procedure is used for routine shutdowns in order to keep the system in optimal condition, and minimize undue stress that may occur during the next start up session if some of the machine conditions were left in working mode(s) or had auxiliary power draws left intact (such as a tool receptacle left plugged into the generator, etc.).

To prepare the machine for shutdown:

1. Shut off any tools or other items that are drawing power from the generator, or compressed air from the air tank.
2. Close all service valves.
3. Unplug any power cords that are plugged into the generator panel.
4. Turn the **Compressor** and **Generator** switches on the control panel to the **OFF** position.
5. Allow machine to run at idle for 3-5 minutes to allow for a cool down sequence.
6. Turn the Engine Control Switch to the **OFF** position.

IMPORTANT

After shutting down the machine, ensure that all appropriate switches are placed in their **OFF** positions so the machine can be started properly in future start-ups.

NOTE

Refer to the Engine Operation Manual for additional information pertaining to engine start-up

4.2.3 ⚠ EMERGENCY SHUTDOWN PROCEDURE

⚠ EMERGENCY SHUTDOWN

Turn the engine key switch to the **OFF** position to immediately shut down the machine.

IMPORTANT

Use this method **ONLY** for emergency cases: damage to the machine can occur if bypassing the standard shutdown procedure.

AFTER AN EMERGENCY SHUTDOWN:

Troubleshoot the problem before restarting the machine.

ALWAYS turn off or reset all functions, including turning off all service valves, that may have been active at the time the emergency shutdown.

4.3 ENGINE THROTTLE CONTROL FUNCTIONS

The engine speed is controlled by three factors:

1. The level of air pressure in the tank.
2. The position of the compressor switch.
3. Any combination of the operational system output functions (generator or compressor) used simultaneously will have an adverse affect on engine running at full throttle.

4.4 OPERATING THE WELDER (Where Applicable)

⚠ WARNING

Before attempting any welding procedure, the operator must be aware of general safety practices, and particularly those pertaining to welding, as found in Section 1.4, Arc Welding Hazards, in the Safety Section of this manual.

Consult **Figure 4-3**. The variable power dial adjusts the welder amperage (40 to 300 amps), or voltage (15 to 30 volts) for the desired weld heat.

Turning the power dial clockwise increases the amperage or voltage, and turning the power dial

counterclockwise decreases the amperage or voltage. The power dial may be adjusted while welding.

4.4.1 WELDER OPERATING PROCEDURE

4.4.1.1 CC (CONSTANT CURRENT) MODE

CC (Constant Current) Mode is commonly referred to as - Stick Welding, Arc Welding, or Shielded Metal Arc Welding (SMAW).

1. With the engine shut off, insert the twist lock connections of the work clamp and the electrode holder cables into the welder connection ports on the control panel. For Direct Current Electrode Positive (DCEP), connect the electrode holder to the positive (+) port, and the work clamp to the negative (-) port.

⚠ DANGER

DO NOT weld with the electrode holder connected to the negative (-) port and the work piece connected to the vehicle. Bodily harm and equipment damage may occur.

2. Select the appropriate electrode for the material and process being performed. See **Table 4A: ELECTRODE SPECIFICATIONS** for selecting an electrode.
3. Place the ground clamp on the work piece and insert the appropriate welding rod into the electrode clamp.

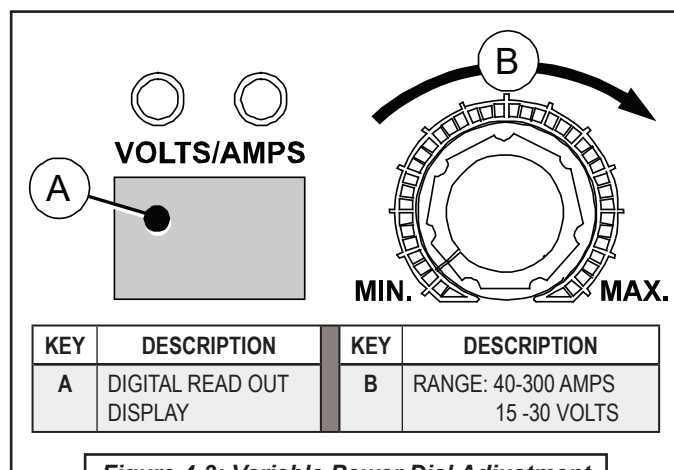


Figure 4-3: Variable Power Dial Adjustment

TABLE 4A: ELECTRODE SPECIFICATIONS

METAL THICKNESS	ELECTRODE SIZE	WELDING AMPERES
1/16-1/8	3/32	50-90
1/8-1/4	1/8	90-140
1/4-3/8	5/32	120-180
3/8-1/2	3/16	150-230

4. Start the engine (See **Section 4.2, Machine Start-up and Shutdown Procedure**).
5. On the control panel, place the CC/CV switch in CC mode. Place the DC Charger/Welder switch in welder mode.
6. Adjust the power dial to the appropriate amperage setting for the material and the electrode being used. (See **TABLE 4A: ELECTRODE SPECIFICATIONS** for electrode amperage ratings). At anytime during welding, the power dial may be adjusted to the desired amperage level.

NOTE

The amps/volts display will read the set value for two (2) seconds when the dial is adjusted, and the actual output value two (2) seconds after the dial has been adjusted.

7. When you strike the electrode against the material being welded, the engine will go to high idle and deliver the selected amperage through the electrode. Welding can now begin.

NOTE

If a longer welding lead is desired, optional 25 and 50 ft. lead segments may be purchased from Vanair® a Lincoln Electric Company, for a maximum lead length of 100 ft.

Refer to Table A.5: Available Options List in the Appendix A: Additional Information Section of this manual for option parts order information.

8. After a weld has been completed, and there is no contact between the electrode and the metal for 30 seconds, the engine will return to idle.

TABLE 4B: WELDING ROD TYPE, POLARITY AND FLUX CODES

DIGIT	TYPE OF COATING	WELDING CURRENT
10	High cellulose sodium	DC+
11	High cellulose potassium	AC or DC+ or DC-
12	High titania sodium	AC or DC-
13	High titania potassium	AC or DC+
14	Iron powder titania	AC or DC- or DC+
15	Low hydrogen sodium	DC+
16	Low hydrogen potassium	AC or DC+
27	Iron powder iron oxide	AC or DC+ or DC-
18	Iron powder low hydrogen	AC or DC+
20	High iron oxide	AC or DC+ or DC-
22	High iron oxide	AC or DC-
24	Iron powder titania	AC or DC- or DC+
28	Low hydrogen potassium iron powder	AC or DC+

What the numbers mean that are used to identify a stick welding electrode:

Using E6010 for an example...

The “E” indicates Electrode because some welding rods are not electrodes. The “60” in 6010 indicates the tensile strength in psi. 60,000 labs.

The last two (2) digits indicate position and polarity along with what type flux. See **TABLE 4B: WELDING ROD TYPE, POLARITY AND FLUX CODES**.

4.4.1.2 CV (CONSTANT VOLTAGE) MODE - USING A VOLTAGE SENSING SUITCASE FEEDER OR SPOOL GUN

CV (Constant Voltage) Mode – commonly referred to as - Wire Welding, MIG welding, or Gas Metal Arc Welding (GMAW)

NOTE

The amps/volts display will read the set value for two (2) seconds when the dial is adjusted, and the actual output value two (2) seconds after the dial has been adjusted.

1. With the engine shut off, insert the twist lock

connection of the ground clamp into the negative (-) welder connection port on the control panel. Insert the power lead segment from the suitcase feeder into the positive (+) welder connection port on the control panel.

2. Place the work clamp from the suitcase feeder and the work clamp from the Air N Arc® 300 Gas or PowerFlex™ AE Gas on the work piece.
3. Start the engine (See **Section 4.2, Machine Start-up and Shutdown Procedure**).
4. On the control panel, place the DC Charger/ Welder switch in welder mode. Place the CC/ CV switch in CV mode.
5. Adjust the power dial on the Air N Arc® 300 Gas to the appropriate voltage setting for the material being welded. Adjust the power dial on the suitcase feeder for the material being welded. At anytime during welding, the power dial may be adjusted to the desired voltage level.

4.5

OPERATING THE GENERATOR

⚠ WARNING

Do not rely on the thermal overload circuit breakers on the generator to protect personnel, power tools, or the generator. Do not rely on the thermal overload circuit breakers on the generator to protect personnel, power tools, or the generator.

The thermal overload circuit breakers on the generator require time to overheat when the generator is operating in an overload condition — they do not provide instant protection against short circuiting or overload conditions. Always use GFCI protected extension cords and power strips when using the generator.

IMPORTANT

Only plug power cords into the generator receptacles AFTER the engine is running at full speed.

Only plug power cords into the generator receptacles AFTER the engine is running at full speed.

Be careful not to overload the rated capacity of the generator - 6,800 watts (28 amps @ 240V) continuous.

IMPORTANT

The Air N Arc® 300 Gas and PowerFlex™ AE Gas machine operation systems are designed to support a multi-function project.

However, if the generator is operating at a high percentage of its rated capacity, and the air compressor is also being used, the resulting drop in engine speed may produce a low voltage condition that will damage the generator and power tools being used.

TO OPERATE THE GENERATOR:

1. Start the engine.
2. Turn the generator switch on the control panel to the ON position.

Combined output on all generator receptacles is limited to the total rated generator capacity. For example; if 1,500 watts (12.5 amps) is being drawn on the 120V duplex receptacle, only 3,700 watts (15.5 amps) is available at the 240V receptacle. Check the desired power tool, motor or extension cord manufacturer's specifications for general information on the power requirements of common power tools, motors and extension cords in order to confirm power draw limitations.

If the thermal overload circuit breakers on the generator are tripped due to an overload condition, press the white reset buttons to reset the breakers.

⚠ WARNING

If one of the generator circuit breakers is tripped, the cause of the overload must be determined before the circuit breaker is reset and work is resumed.

4.6 OPERATING THE COMPRESSOR

NOTE

The moisture drain valve on the air tank may be accessed at any time, including while the machine is in operation.

NOTE

The Air N Arc® 300 Gas and PowerFlex™ AE Gas machines feature a high pressure, 150 PSI air system.

Continued...

NOTE (continued)

Check the maximum air pressure rating on the air tools being used. The operator is responsible for regulating the air pressure when necessary (See *Section 5.4.2, Adjusting the Pressure Setting*).

NOTE

The pressurized air system requires routine maintenance. See Table 5A, Maintenance Schedule, in Section 5 to learn about important maintenance procedures.

IMPORTANT

For systems operating in high-moisture areas, refer to *Section 4.6.1, High Moisture Condition Emulsification of Oil in Rotary Screw Compressor Systems* and Table 4C, before starting the system.

TO OPERATE THE AIR COMPRESSOR:

1. Start the engine as per **Section 4.2.1**.
2. With the engine warmed up and operating in low idle, turn the compressor switch on the control panel to the **ON** position.

At this stage (when the compressor switch is selected, but the generator/throttle control is **OFF**) output is 30 CFM. However If the compressor switch is selected and the generator/throttle control switch is ON, then output is 40 CFM.

When purchasing air tools or planning a project, the rated capacity of the compressor (40 CFM @ 150 PSI) will need to be taken into consideration. In regard to air tool compressed air requirements, check the desired power tool manufacturer's specifications.

4.6.1 HIGH MOISTURE CONDITION: EMULSIFICATION OF OIL IN ROTARY SCREW COMPRESSOR SYSTEMS

Refer to **TABLE 4C** and the following. A serious condition may occur in operating environments that contain high levels of moisture, whereby condensation can occur within the oil system, and possibly lead to emulsification of the lubricant. Emulsification occurs when the system's oil absorbs moisture present in the operation system via condensation.

TABLE 4C: HIGH MOISTURE CONDITION OPERATION

Symptom	Cause	Prevention / Corrective Action
Emulsification of oil in compressor system: - Compressor oil is milky white in color - Compressor oil is broken down and lacks lubricity. - Compressor oil may develop solid chunks or clumps	Operating the compressor system for short periods of time: - Short cycling prevents the temperature of the oil from attaining a high enough temperature capable of vaporizing the moisture droplets. Operating the compressor system unloaded without air flow from the service line for long periods of time: - This can keep the oil temperature from getting hot enough to vaporize the moisture droplets, preventing the moisture from being able to escape the system. Additionally, there is no path for the moisture to escape the system. The thermal valve is faulty and activating the cooling fan too soon: - This prevents the oil from attaining a high enough temperature capable of vaporizing the moisture droplets. The air filter is saturated with water: - This forces moisture to be ingested by the compressor. Any of the above causes will be exacerbated in especially humid environments.	RECOMMENDED CHANGES: If the problem is not corrected by standard operating practices and regular preventative maintenance, consider the following: - Raise the average temperature of the compressor oil. - Change the operating procedure to allow for the compressor oil temperature to reach 180 °F before discharging any air. If the compressor isn't discharging any air, it's not ingesting any potentially humid air. It will build pressure upon initial startup, but then it will run closed and allow it to heat up. REPAIR/MAINTENANCE: Refer to Section 5 of the Operator's Manual for inspection, cleaning, and repair instructions. - Once the compressor oil becomes emulsified, it must be replaced along with the oil filter. Depending on the severity, other parts might also need to be replaced. - Check that the separator element is in good, working condition. - Check that the scavenge line is working properly. If the system is badly contaminated, Vanair® recommends a lube flush that will help clean out any remaining contamination throughout the system. Consult Vanair® Service Department for lube flush instructions. Check the moisture drain frequently on the air tank reservoir, to alleviate moisture build-up.

If the condition persists, Contact the Vanair® Service Department.

Consult the information in **Section 4.6.1.1** and **TABLE 4A** for preventative and corrective actions necessary to take for high moisture ambient environment operation.

4.6.1.1 PREVENTION OF EMULSIFICATION

1. Start the machine normally.

2. Do not immediately engage service air when full load is reached; allow the system to first warm up to 180°F. This warm-up period allows the moisture within the system to vaporize.

3. After temperature reaches 180°F, open service valve and discharge air for approximately ten (10) minutes to purge the system of moisture vapor.

4. A recommended minimal interval of 20 minutes should be allowed for total system

vapor purge run time, including all phases from warm up through machine venting.

4.6.1.2 INFREQUENT USE

In some installations the compressor may not be regularly used. In order to ensure the compressor system is maintained in working order, the compressor should be started and run at least once per month. Follow the procedure outlined in **Section 4.6.1.1** on a once per month basis.

Be sure to follow all fluid and filter maintenance as outlined in this manual following the recommended change intervals. In cases whereby the machine is scheduled to be idle for long periods of time, consult **Section 5.5, Storage and Intermittent Use** for long idle preparation.

4.7 EXTREME CONDITIONS

When operating in extreme cold or hot conditions, at a high altitude, or in the presence of high humidity, extra attention should be given to any indication that could lead to a serious problem. Preventative safeguards exist that can minimize the possibility of malfunctions that are prone to occur under certain ambient conditions. Refer to **Section 6.2, Extreme Condition Operation**, for additional information on variable ambient operating conditions, and adjustment adaptations that can be made accordingly.

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SECTION 5: MAINTENANCE

5.1 GENERAL INFORMATION

A strict maintenance program is the key to long life for the Air N Arc® 300 Gas and PowerFlex™ AE Gas packages. Following is a program that, when adhered to, should keep the package in top operating condition. Refer to **Table 5A** in this section for a detailed maintenance routine schedule for specific compressor system components.

⚠ WARNING

Before performing maintenance:

Shut down machine, relieve all system pressure and lock out all power, as per the Safety Section of this manual. If machine is hot, allow package to cool before removing any panel.

Always clearly tag the start-up instrumentation against accidental system start-ups during maintenance.

⚠ WARNING

DO NOT remove caps, plugs and/or other components when compressor is running or pressurized. Stop compressor and depressurize system prior to maintenance of system. Relieve the entire system pressure by opening the air tank drain/vent valve, which will vent all pressure to the atmosphere.

Wear personal protective equipment such as gloves, work boots, and eye and hearing protection as required for the task at hand.

Refer to *Figure 5-1*. Open compressor fill cap **SLOWLY** (contents under pressure) to make sure all pressure has been relieved.

⚠ WARNING

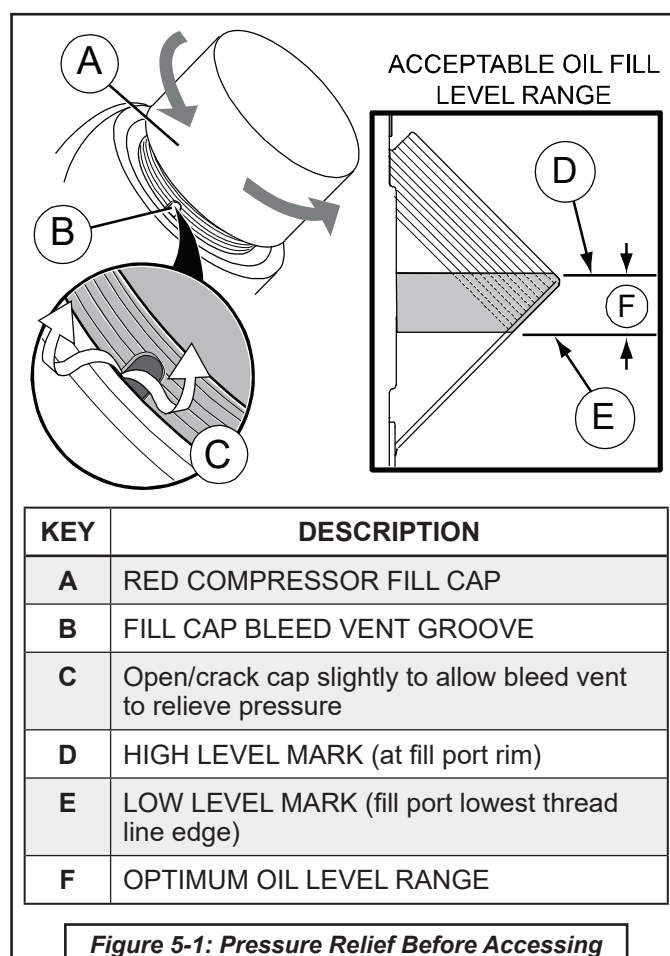
Follow all applicable safety recommendations as outlined in Section 1: Safety of this manual.

5.2 ROUTINE MAINTENANCE SCHEDULE

Vanair®, a Lincoln Electric Company, considers

the maintenance schedule given in **Table 5A: Maintenance Schedule** to be part of the warranty agreement with the customer. This maintenance regimen must be followed in order to protect the warranty of the machine package.

Vanair®, a Lincoln Electric Company, especially requires that a consistent service regimen be established for engine and compressor oil changes, and engine and compressor air filter servicing. The following schedule is designed so that many of the other maintenance tasks are completed when the engine and compressor air filters are serviced, and the engine oil is changed.



NOTE

Follow the prescribed periodic maintenance (PM) schedule as recommended. Perform the required PM schedule at recommended intervals. Failure to follow this prescribed periodic maintenance at the recommended intervals will impair the package safety, performance characteristics, shorten the package's life, and will negatively affect the warranty coverage of the package.

Note that more frequent intervals may be needed in adverse operating conditions (refer to Section 6.2, Extreme Condition Operation).

IMPORTANT

Consult the Engine Operation Manual for further detailed maintenance and interval descriptions in addition to the information given in Table 5A.

⚠ WARNING

Concerning the engine: In addition to the safety measures given in this manual, the operator must also be acquainted with the safety measures given in the Engine Operation Manual.

Please take a moment to become acquainted with the following service schedule. For assistance in obtaining routine maintenance or replacement parts, consult **Section 7.1, Parts Ordering Procedure**, and **Table 7A: Recommended Spare Parts List**.

5.3 REPLACEMENT PARTS

Replacement parts should be purchased through your local Vanair® representative or where the Air

N Arc® 300 Gas or PowerFlex™ AE Gas package was purchased. If, for any reason, parts are not available in this manner, they can be purchased through Vanair® directly.

NOTE

For assistance when ordering new replacement parts, consult Section 7.1, Parts Ordering Procedure, and Table 7A: Recommended Spare Parts List.

Vanair®, a Lincoln Electric Company

10896 West 300 North

Michigan City, IN 46360

Toll Free: (800) 526-8817

Telephone: (219) 879-5100

Service (toll free): (844) VAN-SERV

(844) 826-7378

vanair.com

NOTE

If additional spare parts are being stored for future use, make certain that they are stored in proper containers that allow for protection against contamination, and kept in a clean area of moderate temperature reading. For information on storing the machine package for periods of non-use, consult *Section 5.5.2, Long Term Storage*.

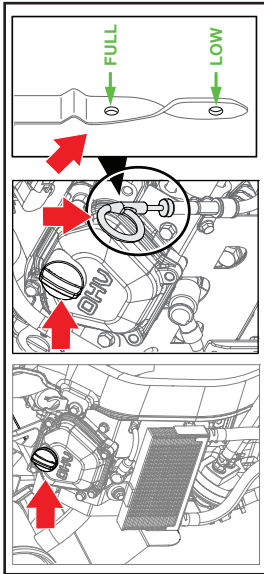
TABLE 5A: MAINTENANCE SCHEDULE							TABLE 5B: ROUTINE REPLACEMENT KIT ORDER INFORMATION ^z			
KEY	TASK DESCRIPTION	INTERVALS					DESCRIPTION	PART NO.	QTY	
		BREAK-IN PERIOD First 50 Hours	DAILY or Every 8 hours *	Every 6 Months or 100 Hours *	Every Year or 200 Hours *	Every Year or 300 Hours *				Every 500 Hours *
▲ WARNING Before performing maintenance: Shut down machine, relieve all system pressure and lock out all power, as per the Safety Section of this manual. Always clearly tag the start-up instrumentation against accidental system start-ups during maintenance.							1	Kit, Compressor Service - Initial 50 Hours ^{zz}	KIT1285	1
								2	Kit, Compressor Lifetime Warranty Service [500 Hours or One Year] ^{zz}	KIT1153
							3	Kit, Maintenance Engine ^{zz} & ^{zzz}	KIT1512	1
		* If an alternative time period is listed in the columns below, defer to that rather than the above schedule.					^z If working in dusty or dirty conditions, reduce the recommended time intervals between servicing by half for engine and compressor oil replacement, and engine and compressor filter servicing.			
							^{zz} Refer to Section 7, Table 7A for full replacement parts listing, including kit contents, non-routine kits, non-routine items, and options.			
							^{zzz} Defer to the Engine Operation Manual for engine maintenance intervals and task schedule.			
							PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.			
KEY	TASK DESCRIPTION						ACTION REQUIRED / REFERENCE			
1	Check tension of air compressor drive belt	■	■				The tension of the compressor drive belt is determined with the use of a tension tester tool. Refer to Section 5.4.2 for procedural details.			
2	Check engine oil level	■	■				 REFERENCE: • Engine Oil Fill Port (x2 port locations) [➔] • Engine Oil Level Check Dipstick [➔] • Engine Oil Dipstick - Gauge End [➔] ^z +++++ ^z Full level range is between the top hole and bottom hole of the gauge/dipstick. If too low, engine will shut down. DO NOT overfill. PROCEDURE: Order engine 10W-30 oil no. 844300-001-QT. Engine oil is sold by quart; two (2) quarts are needed for proper full fill capacity, if replacing all oil. Note that engine oil (quantity of [2] quarts) is also included with engine service kit no. KIT1512. For complete instructions on oil checking and charging, refer to Key #4, and the Engine Operation Manual.			
3	Check engine fuel lines	■				Every 50 hours	PROCEDURE: Inspect all fuel lines and connections. Tighten if necessary.			
Table continued on next page										

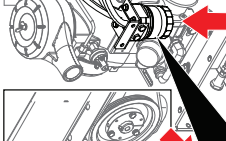
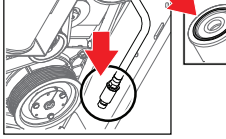
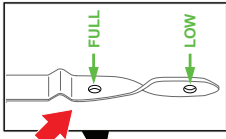
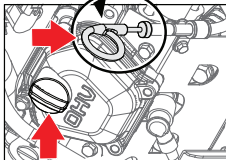
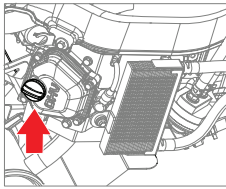
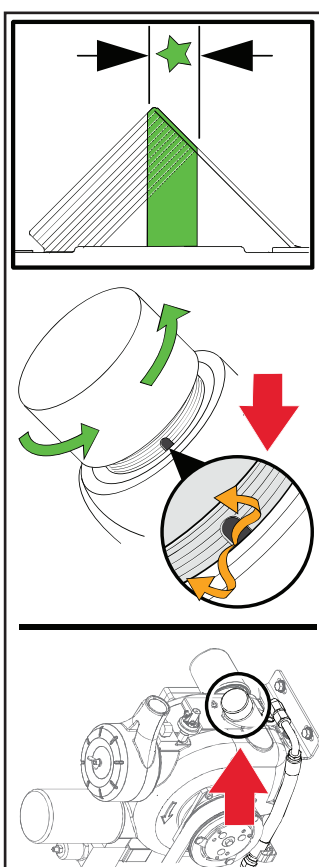
TABLE 5A: MAINTENANCE SCHEDULE					
KEY	TASK DESCRIPTION	INTERVALS			
		BREAK-IN PERIOD First 50 Hours	Refer to footnote ^x in Table 5B		
			DAILY or Every 8 hours *	Every 6 Months or 100 Hours *	Every Year or 200 Hours *
4	Change engine oil and engine filter				* If an alternative time period is listed in the columns below, defer to that rather than the above schedule.
* If an alternative time period is listed in the columns below, defer to that rather than the above schedule.					
Before performing maintenance: Shut down machine, relieve all system pressure and lock out all power, as per the Safety Section of this manual. Always clearly tag the start-up instrumentation against accidental system start-ups during maintenance.					
KEY	TASK DESCRIPTION	ACTION REQUIRED / REFERENCE			
4	Change engine oil and engine filter	 REFERENCE: • Engine Oil Fill Port (x 2 port locations) [↗] • Engine Oil Level Gauge Dipstick [↘] • Engine Oil Dipstick - Gauge End [↗] ^x ^x Full level range is between the top hole and bottom hole of the end of the gauge/dipstick. If too low, engine will shut down. DO NOT overfill. PROCEDURE: INITIAL 50 HOUR INTERVAL: Order engine 10W-30 oil no. 844300-001-QT (qt; x 2 ^{xx}), and engine oil filter no. 283769-01. Note that the full engine service kit no. KIT1512 also contains the two quarts of oil and an engine oil filter replacement. ^{xx} Engine oil capacity is 1.6 quarts; order two units (sold by the quart). For complete instructions on initial 50 hour oil change, refer to the Engine Operation Manual. Note: Refer to Key #2 for proper oil level check. <i>Continued on next page...</i>			

TABLE 5A: MAINTENANCE SCHEDULE					TABLE 5B: ROUTINE REPLACEMENT KIT ORDER INFORMATION ^z					
KEY	TASK DESCRIPTION	BREAK-IN PERIOD	INTERVALS				DESCRIPTION	PART NO.	QTY	
			Refer to footnote ^x in Table 5B							
4	Change engine oil and engine filter (continued)		FIRST 50 HOURS	DAILY or Every 8 hours *	Every 6 Months or 100 Hours *	Every Year or 200 Hours *	Every Year or 300 Hours *	1 Kit, Compressor Service - Initial 50 Hours ^{xx}	KIT1285	1
								2 Kit, Compressor Lifetime Warranty Service [500 Hours or One Year] ^{xx}	KIT1153	1
								3 Kit, Maintenance Engine ^{xx & xxx}	KIT1512	1
5	Check compressor oil level							^z If working in dusty or dirty conditions, reduce the recommended time intervals between servicing by half for engine and compressor oil replacement, and engine and compressor filter servicing.		
								^{xx} Refer to Section 7, Table 7A for full replacement parts listing, including kit contents, non-routine kits, non-routine items, and options.		
								^{xxx} Defer to the Engine Operation Manual for engine maintenance intervals and task schedule.		
					PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.					
					ACTION REQUIRED / REFERENCE					
					...continued from previous page...					
					PROCEDURE (continued):					
					Order engine service kit no. KIT1512 (refer to Section 7.2, Spare Parts List, in Section 7 for part breakdown of service kit contents, or individual replacement components).					
					For complete instructions on the engine maintenance tasks, refer to the Engine Operation Manual for: complete oil change, complete air filter change, and fuel filter replacements.					
										
					REFERENCE:					
					• Compressor Oil Fill Port and Cap (red) [↑] ^z					
					• Cap Bleed Vent [↓] ^z					
					• Acceptable Oil Level Range [★]					
					^z Refer to Section 5.1 and Figure 5-1 for precautionary steps to take to relieve compressor sump pressure when removing the fill cap.					
					... Continued on next page					

**SECTION 5:
MAINTENANCE**

AIR N ARC® 300 GAS • AIR N ARC® 300 GAS
COMPACT • POWERFLEX™ AE GAS •
POWERFLEX™ AE GAS COMPACT

TABLE 5A: MAINTENANCE SCHEDULE						
A WARNING Before performing maintenance: Shut down machine, relieve all system pressure and lock out all power, as per the Safety Section of this manual. Always clearly tag the start-up instrumentation against accidental system start-ups during maintenance.	INTERVALS		Refer to footnote ^x in Table 5B			
	BREAK-IN PERIOD		DAILY or Every 8 hours *	Every 6 Months or 100 Hours *	Every Year or 200 Hours *	Every Year or 300 Hours *
			Every 500 Hours *			
			</			

TABLE 5B: ROUTINE REPLACEMENT KIT ORDER INFORMATION ^x

KEY #	DESCRIPTION	PART NO.	QTY
1	Kit, Compressor Service - Initial 50 Hours ^{xx}	KIT1285	1
2	Kit, Compressor Lifetime Warranty Service [500 Hours or One Year] ^{xx}	KIT1153	1
3	Kit, Maintenance Engine ^{xx} & ^{xxx}	KIT1512	1
^x If working in dusty or dirty conditions, reduce the recommended time intervals between servicing by half for engine and compressor oil replacement, and engine and compressor filter servicing. ^{xx} Refer to Section 7, Table 7A for full replacement parts listing, including kit contents, non-routine kits, non-routine items, and options. ^{xxx} Defer to the Engine Operation Manual for engine maintenance intervals and task schedule.			
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.			

ACTION REQUIRED / REFERENCE

...continued from previous page...
PROCEDURE: Order compressor oil no. 264626-1GAL. Remove cap after bleeding the cap vent. Add oil if necessary. Acceptable oil range is between the bottom edge of the port threads (low point), and the edge of the port lip (high point). Fill if oil level is below the low point.
PROCEDURE: Visually note any leaks or evidence of leaks around the compressor unit and hose connections. Tighten any loose connection point where needed. Repair or replace any damaged part.
PROCEDURE: Clean or clear as necessary. Use only low pressure air to clean cooler fins; do not use high pressure air nor a pressure washer.
IMPORTANT Do not clean radiator with firm tools such as spatulas or screwdrivers. Such instruments may damage the fins or tubes, and/or cause coolant leaks or decrease cooling performance.
PROCEDURE: Clean vent areas of any debris that might clog or hinder operation.

TABLE 5A: MAINTENANCE SCHEDULE				TABLE 5B: ROUTINE REPLACEMENT KIT ORDER INFORMATION ^{ix}																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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			BREAK-IN PERIOD	DAILY or Every 8 hours *	Every 6 Months or 100 Hours *	Every Year or 200 Hours *	Every Year or 300 Hours *	Every 500 Hours *																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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**SECTION 5:
MAINTENANCE**

AIR N ARC® 300 GAS • AIR N ARC® 300 GAS
COMPACT • POWERFLEX™ AE GAS •
POWERFLEX™ AE GAS COMPACT

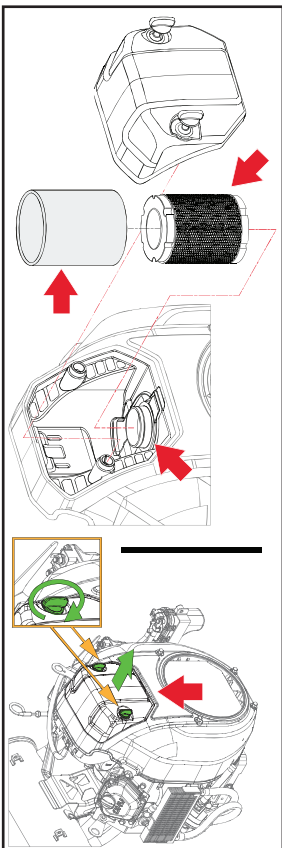
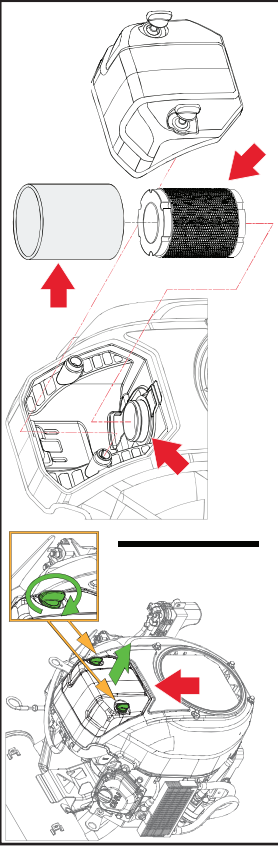
TABLE 5A: MAINTENANCE SCHEDULE				TABLE 5B: ROUTINE REPLACEMENT KIT ORDER INFORMATION ^x				
KEY	TASK DESCRIPTION	INTERVALS					PART NO.	QTY
		BREAK-IN PERIOD First 50 Hours	DAILY or Every 8 hours * Every 6 Months or 100 Hours *	Every Year or 200 Hours *	Every Year or 300 Hours *	Every 500 Hours *		
Before performing maintenance: Shut down machine, relieve all system pressure and lock out all power, as per the Safety Section of this manual. Always clearly tag the start-up instrumentation against accidental system start-ups during maintenance.		Refer to footnote ^x in Table 5B					1	1
		* If an alternative time period is listed in the columns below, defer to that rather than the above schedule.					2	1
							3	1
							PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.	
							ACTION REQUIRED / REFERENCE	
		Every six (6) months or 100 days					...continued from previous page...	
11	Replace engine fuel filter (continued)						PROCEDURE: Ensure all pressure is removed from the fuel system. Loosen line clamps before and after the filter element; replace with new filter, but ensure that the arrow on the filter body is placed in the direction of the fuel flow direction. Re-assemble both clamps to secure filter. Allow air to siphon from the fuel lines to ensure proper flow of fuel.	
12	Inspect air compressor drive belt and serpentine welder drive belt for wear, damage or excessive cracking						PROCEDURE: Ensure that drive belts are in satisfactory operating condition, and are tensioned adequately. The tension of the compressor drive belt is determined with the use of a tension tester tool. Refer to Section 5.4.2 for procedural details.	
13	Check battery cables and connections						PROCEDURE: Clean and tighten as necessary. Replace any worn cables.	
14	Inspect unit mounting bolts						PROCEDURE: Tighten any loose mounting bolts as necessary.	
15	Replace engine air filter							
							REFERENCE:	
							• Engine Air Filter Housing Cover [↕]	
							• Engine Air Filter Mounting Base [↗]	
							• Engine Air Filter Foam Wrap [↗]	
							• Engine Air Filter Element [↗]	
							Continued on next page.	

TABLE 5B: ROUTINE REPLACEMENT KIT ORDER INFORMATION ^x			
KEY #	DESCRIPTION	PART NO.	QTY
1	Kit, Compressor Service - Initial 50 Hours ^{xx}	KIT1285	1
2	Kit, Compressor Lifetime Warranty Service [500 Hours or One Year] ^{zz}	KIT1153	1
3	Kit, Maintenance Engine ^{xx} & ^{zz}	KIT1512	1

^x If working in dusty or dirty conditions, reduce the recommended time intervals between servicing by half for engine and compressor oil replacement, and engine and compressor filter servicing.
^{xx} Refer to Section 7, Table 7A for full replacement parts listing, including kit contents, non-routine kits, non-routine items, and options.
^{zz} Defer to the Engine Operation Manual for engine maintenance intervals and task schedule.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.

ACTION REQUIRED / REFERENCE	
...continued from previous page...	
PROCEDURE: Ensure all pressure is removed from the fuel system. Loosen line clamps before and after the filter element; replace with new filter, but ensure that the arrow on the filter body is placed in the direction of the fuel flow direction. Re-assemble both clamps to secure filter. Allow air to siphon from the fuel lines to ensure proper flow of fuel.	
PROCEDURE: Ensure that drive belts are in satisfactory operating condition, and are tensioned adequately. The tension of the compressor drive belt is determined with the use of a tension tester tool. Refer to Section 5.4.2 for procedural details.	
PROCEDURE: Clean and tighten as necessary. Replace any worn cables.	
PROCEDURE: Tighten any loose mounting bolts as necessary.	
	
REFERENCE: • Engine Air Filter Housing Cover [↕] • Engine Air Filter Mounting Base [↗] • Engine Air Filter Foam Wrap [↗] • Engine Air Filter Element [↗]	
Continued on next page...	

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(844) VAN-SERV • vanair.com

090208-OP_r1 (APRIL 6, 2026)

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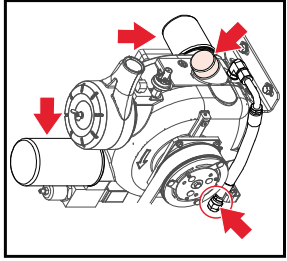
TABLE 5A: MAINTENANCE SCHEDULE												
⚠ WARNING Before performing maintenance: Shut down machine, relieve all system pressure and lock out all power, as per the Safety Section of this manual. Always clearly tag the start-up instrumentation against accidental system start-ups during maintenance.	INTERVALS		TABLE 5B: ROUTINE REPLACEMENT KIT ORDER INFORMATION ^z									
	Refer to footnote ^x in Table 5B		KEY #	DESCRIPTION	PART NO.	QTY						
	BREAK-IN PERIOD First 50 Hours	DAILY or Every 8 hours *	1	Kit, Compressor Service - Initial 50 Hours ^{xx}	KIT1285	1						
		Every 6 Months or 100 Hours *	2	Kit, Compressor Lifetime Warranty Service [500 Hours or One Year] ^{xx}	KIT1153	1						
		Every Year or 200 Hours *	3	Kit, Maintenance Engine ^{xx} & ^{xxx}	KIT1512	1						
	* If an alternative time period is listed in the columns below, defer to that rather than the above schedule.		If working in dusty or dirty conditions, reduce the recommended time intervals between servicing by half for engine and compressor oil replacement, and engine and compressor filter servicing.									
			^{xx} Refer to Section 7, Table 7A for full replacement parts listing, including kit contents, non-routine kits, non-routine items, and options.									
			^{xxx} Defer to the Engine Operation Manual for engine maintenance intervals and task schedule.									
			PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.									
KEY	TASK DESCRIPTION	ACTION REQUIRED / REFERENCE										
16	Replace spark plug (continued)	...continued from previous page... PROCEDURE (continued): Refer to key no. 10 and the Engine Operation Manual for spark plug inspection. For replacement follow these steps: When spark plugs maintenance replacement is needed replace both at the same time. Wipe any dirt or residue from around the spark plug covers. Remove the ignition protection covers; use a spark plug wrench to remove the worn spark plugs. When replacing the new plugs ensure not to damage them when setting them into position.										
17	Change air compressor oil, oil filter and coalescer element	 REFERENCE: The compressor oil is the key to a long useful life of the air compressor system. Dirt and other foreign matter can be introduced into the compressor system through the air intake. A clean air filter will ensure that the compressor is protected. <table><tr><td>• Compressor Oil Fill Port Cap [↗]</td><td>• Compressor Oil Filter [↓]</td></tr><tr><td>• Compressor Oil Drain Tube [↗]</td><td>• Element seal(s) [↗] ^z</td></tr><tr><td>• Compressor Coalescer Element [↕]</td><td></td></tr></table> ^z For both the oil filter and the separator elements: coat the seal ring of the replacement with a film of compressor oil before seating. <i>Continued on next page...</i>					• Compressor Oil Fill Port Cap [↗]	• Compressor Oil Filter [↓]	• Compressor Oil Drain Tube [↗]	• Element seal(s) [↗] ^z	• Compressor Coalescer Element [↕]	
• Compressor Oil Fill Port Cap [↗]	• Compressor Oil Filter [↓]											
• Compressor Oil Drain Tube [↗]	• Element seal(s) [↗] ^z											
• Compressor Coalescer Element [↕]												

TABLE 5B: ROUTINE REPLACEMENT KIT ORDER INFORMATION ¹			
KEY #	DESCRIPTION	PART NO.	QTY
1	Kit, Compressor Service - Initial 50 Hours ¹¹	KIT1285	1
2	Kit, Compressor Lifetime Warranty Service [500 Hours or One Year] ¹²	KIT1153	1
3	Kit, Maintenance Engine ¹¹ & ¹²	KIT1512	1

¹¹ If working in dusty or dirty conditions, reduce the recommended time intervals between servicing by half for engine and compressor oil replacement, and engine and compressor filter servicing.

¹² Refer to Section 7, Table 7A for full replacement parts listing, including kit contents, non-routine kits, non-routine items, and options.

¹³ Refer to the Engine Operation Manual for engine maintenance intervals and task schedule.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.

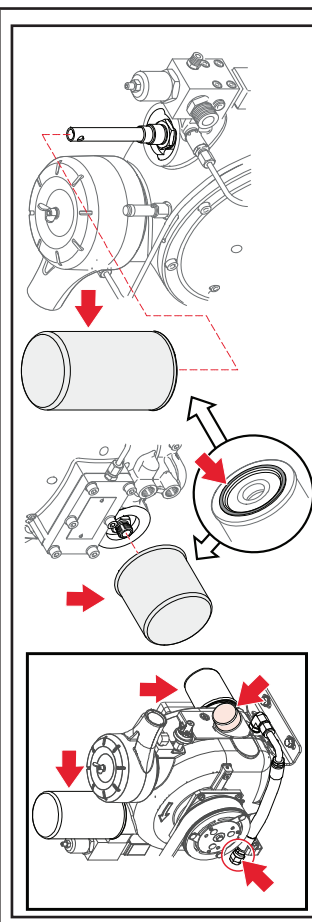
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PROCEDURE (continued):

Refer to key no. 10 and the Engine Operation Manual for spark plug inspection. For replacement follow these steps:

When spark plugs maintenance replacement is needed replace both at the same time. Wipe any dirt or residue from around the spark plug covers. Remove the ignition protection covers; use a spark plug wrench to remove the worn spark plugs.

When replacing the new plugs ensure not to damage them when setting them into position.



REFERENCE:

The compressor oil is the key to a long useful life of the air compressor system. Dirt and other foreign matter can be introduced into the compressor system through the air intake. A clean air filter will ensure that the compressor is protected.

• Compressor Oil Fill Port Cap [↗]	• Compressor Oil Filter [↘]
• Compressor Oil Drain Tube [↗]	• Element seal(s) [↗] ¹
• Compressor Coalescer Element [↘]	

¹ For both the oil filter and the separator elements: coat the seal ring of the replacement with a film of compressor oil before seating.

Continued on next page...

TABLE 5A: MAINTENANCE SCHEDULE				
KEY	TASK DESCRIPTION	INTERVALS		
		BREAK-IN PERIOD First 50 Hours	Refer to footnote ⁱ in Table 5B	
		DAILY or Every 8 hours *	Every 6 Months or 100 Hours *	Every 200 Hours *
			Every Year or 300 Hours *	Every 500 Hours *
A WARNING Before performing maintenance: Shut down machine, relieve all system pressure and lock out all power, as per the Safety Section of this manual. Always clearly tag the start-up instrumentation against accidental system start-ups during maintenance. * If an alternative time period is listed in the columns below, defer to that rather than the above schedule.				
KEY	TASK DESCRIPTION			
17	Change air compressor oil, oil filter and coalescer element (continued)			
18	Inspect the generator and the automatic belt tensioner			
19	Replace the air compressor and generator drive belts		Every 1000 hours	

TABLE 5B: ROUTINE REPLACEMENT KIT ORDER INFORMATION ⁱ			
KEY #	DESCRIPTION	PART NO.	QTY
1	Kit, Compressor Service - Initial 50 Hours ^{xx}	KIT1285	1
2	Kit, Compressor Lifetime Warranty Service [500 Hours or One Year] ^{xx}	KIT1153	1
3	Kit, Maintenance Engine ^{xx} & ^{xxx}	KIT1512	1

ⁱ If working in dusty or dirty conditions, reduce the recommended time intervals between servicing by half for engine and compressor oil replacement, and engine and compressor filter servicing.

^{xx} Refer to **Section 7, Table 7A** for full replacement parts listing, including kit contents, non-routine kits, non-routine items, and options.

^{xxx} Defer to the Engine Operation Manual for engine maintenance intervals and task schedule.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.

ACTION REQUIRED / REFERENCE

...continued from previous page...

PROCEDURE:

Order Compressor Lifetime Warranty kit no. KIT1153 for compressor air filter, oil filter and coalescer filter elements maintenance replacement.

PROCEDURE:

Refer to **Section 5.4.3.2** for full procedure on generator drive belt maintenance.

PROCEDURE:

Refer to **Section 5.4.2** for full procedure on drive belt maintenance, for both compressor and generator drive belts.

5.4 PARTS REPLACEMENT AND ADJUSTMENT PROCEDURES

⚠ WARNING

Follow all applicable safety recommendations as outlined in Section 1: Safety of this manual.

⚠ WARNING

Before performing maintenance:

Shut down machine, relieve all system pressure and lock out all power, as per the Safety Section of this manual. If machine is hot, allow package to cool before removing any panel.

NOTE THAT THE SYSTEM CAN BE STARTED REMOTELY:

Always clearly tag the start-up instrumentation against accidental system start-ups during maintenance.

⚠ CAUTION

Always wear personal protective equipment such as gloves, safety shoes or boots, eye, and hearing protection as required for the task at hand.

⚠ CAUTION

Compressors and engines generate heat and create hot surfaces. Use caution when operating or servicing equipment. Some surfaces and components may be hot.

IMPORTANT

Do not stop the engine suddenly! Stop the engine after approximately five (5) minutes of unloaded idling.

NOTE

Refer to the Engine Operation Manual for detailed maintenance and replacement procedures for the engine.

NOTE

It may be necessary to change the compressor oil and oil filter at earlier intervals if the compressor oil has water contamination or if the compressor system is operated in a dirty environment.

NOTE

Inspect and replace damaged components before operation with Genuine Vanair® Replacement Parts.

DO NOT mix different compressor fluid types. Use only Vanguard™ Premium Synthetic Compressor Oil.

Substituting non-Vanguard™ Oil or non-genuine Vanair® filter components will void the warranty.

5.4.1 ADJUSTING THE PRESSURE SETTING

⚠ WARNING

The compressor cut-in/cut-out pressures have been factory-adjusted within the limits of the compressor manufacturer, and should not need to be adjusted.

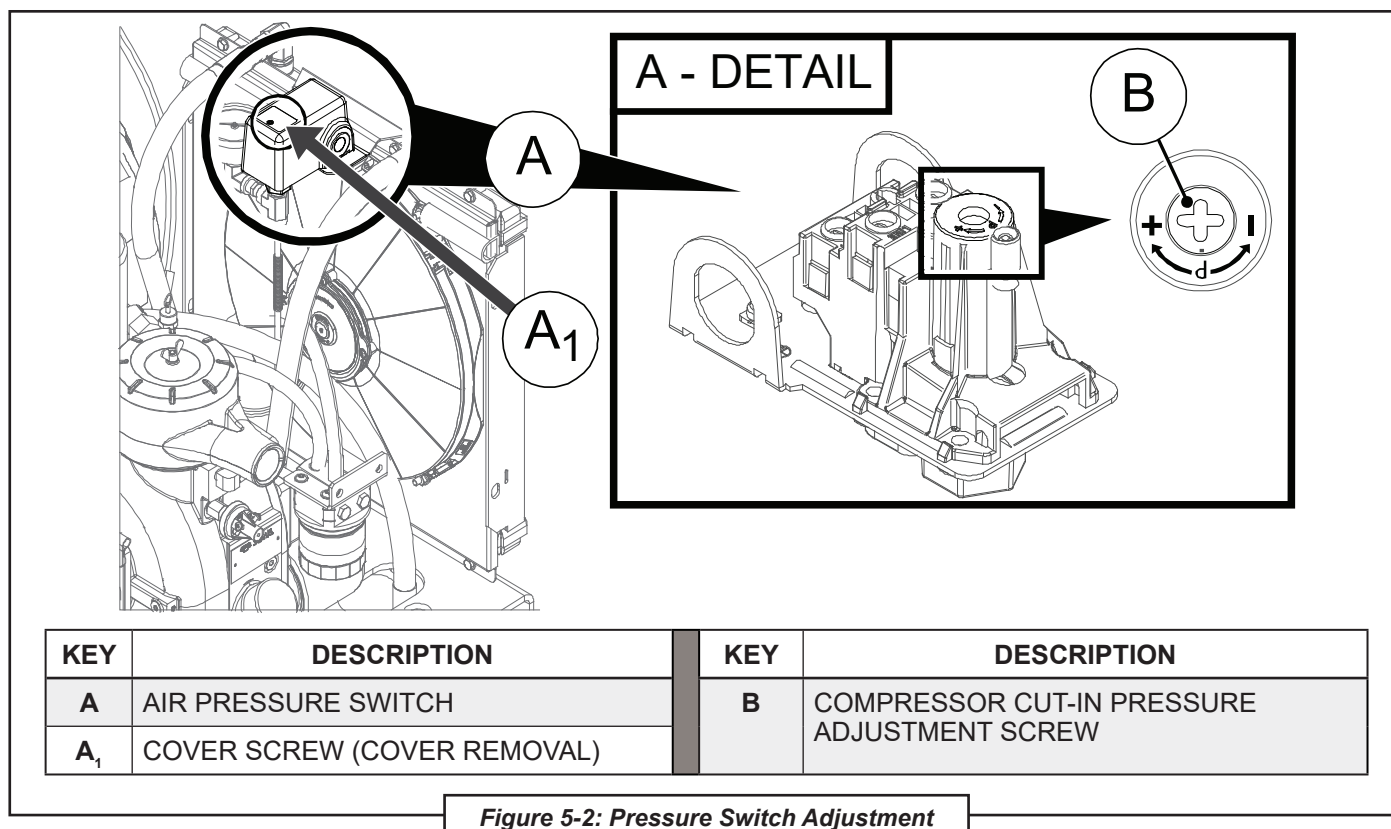
The maximum pressure limit of the compressor is 175 PSI. Pressure should never be allowed to go beyond this limit or what has been set by local laws and regulators. This system will disengage the clutch at 185 PSI. A 200 PSI safety relief valve is located on the air tank to prevent over pressurizing the system.

The Cut-in pressure is defined as the pressure in which the compressor starts pumping. Anytime the pressure in the tank falls below this pressure the compressor is allowed to start pumping.

The Cut-out pressure is defined as the pressure in which the compressor stops pumping. When the pressure in the air tank rises above this pressure the compressor is signaled to stop pumping.

Although pressure settings are adjusted at the factory before shipping, and should not need to be adjusted, a situation may occur where it is necessary to manually adjust or reset either or both of these settings. For such cases, consult **Figure 5-2**, and the following procedure:

1. Locate the air pressure control switch [A]. Remove the cover-retaining screw fastening the cover to the switch, and remove the cover.
2. To adjust the compressor pressure, turn the cut-in pressure adjustment screw [B] clockwise to increase the pressure and counterclockwise to lessen the pressure.
3. After making your adjustments, position and



re-fasten the cover to the pressure switch body with the cover retaining screw.

4. Close the hood, and cycle the compressor several times to ensure that the correct pressures are set.
5. If additional adjustments are needed, repeat steps #1 through #4 until the correct pressures are set.

5.4.2 RE-TENSIONING AND REPLACING THE SERPENTINE DRIVE BELTS

Refer to **Figure 5-3**. The compressor and generator are driven by the engine using two belts. The belts will generally not need replacement during the service life of the compressor system. However, over time they may become loose and need to be tightened. The proper tension can be determined by using a tension tester to measure the deflection from a given force.

However, should either or both belts prove to be too loose, they will need to be replaced.

NOTE

Vanair® recommends that the air compressor and generator belts both be changed at the same time even if only one of the belts is in need of being changed.

5.4.2.1 REPLACING THE AIR COMPRESSOR SERPENTINE DRIVE BELT

To replace the air compressor serpentine belt consult **Figures 5-3, 5-4**, and the following procedure:

With the machine off and the ignition key removed, open and remove the access panel.

LOOSENING THE COMPRESSOR DRIVE BELT

Refer to **Figure 5-4**. The drive belt circuit for both the compressor and generator drive systems are kept snug for traction by an auto-tensioner for each belt. To temporarily loosen a belt enough to remove it, place a socket wrench onto the auto-

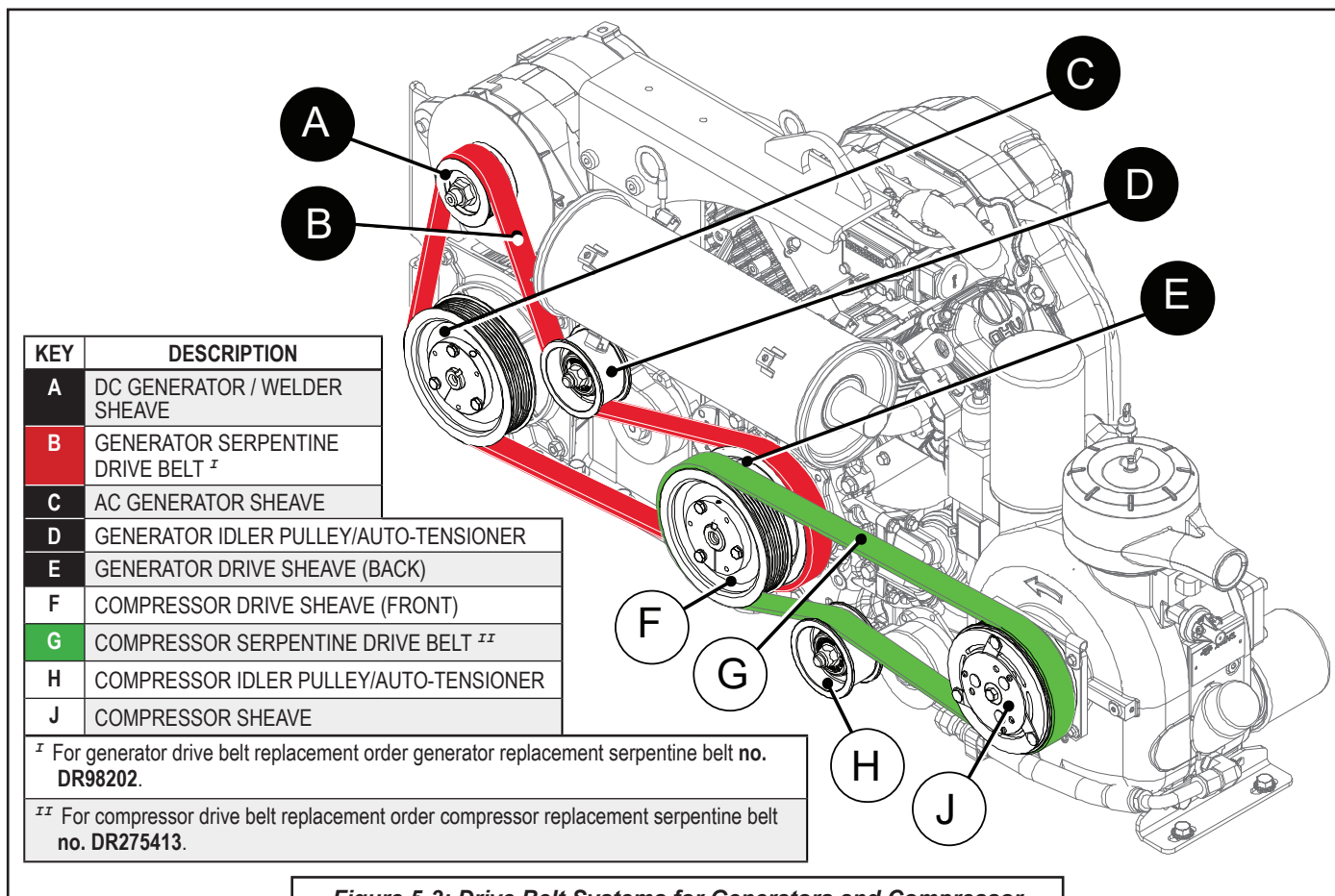


Figure 5-3: Drive Belt Systems for Generators and Compressor

tensioner pulley, and pull downwards (as shown in the figure). This will temporarily re-position the tensioner pulley enough to allow the belt to be removed from the drive system.

Take note that in order to remove the generator drive belt, the compressor drive belt must first be removed.

COMPRESSOR DRIVE BELT REMOVAL AND REPLACEMENT

1. With the compressor auto-tensioner held in the “down” (loose belt) position, as shown in **Figure 5-4**, position and route a new air compressor serpentine belt onto the proper driver tracks as shown in **Figure 5-3**, making sure that it goes on the outside driver of the double sheave track of the engine driveassembly. Also note that the grooved side of the drive belt goes on the inside of the belt for traction with the drive pulleys.

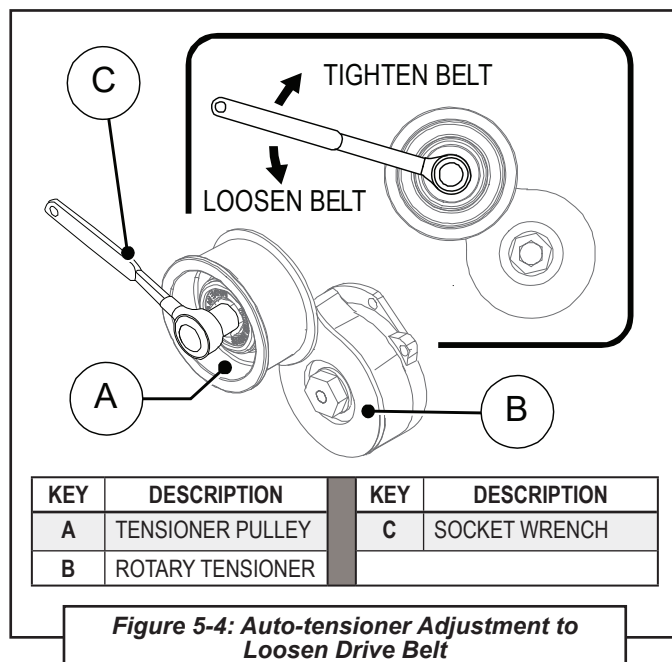


Figure 5-4: Auto-tensioner Adjustment to Loosen Drive Belt

2. Ensure that the belt is situated correctly on all drive pulleys and sheaves.
3. Allow the auto-tensioner to resume its normal operating position, and remove the socket wrench from the tensioner pulley.

5.4.2.2 REPLACING THE GENERATOR SERPENTINE DRIVE BELT

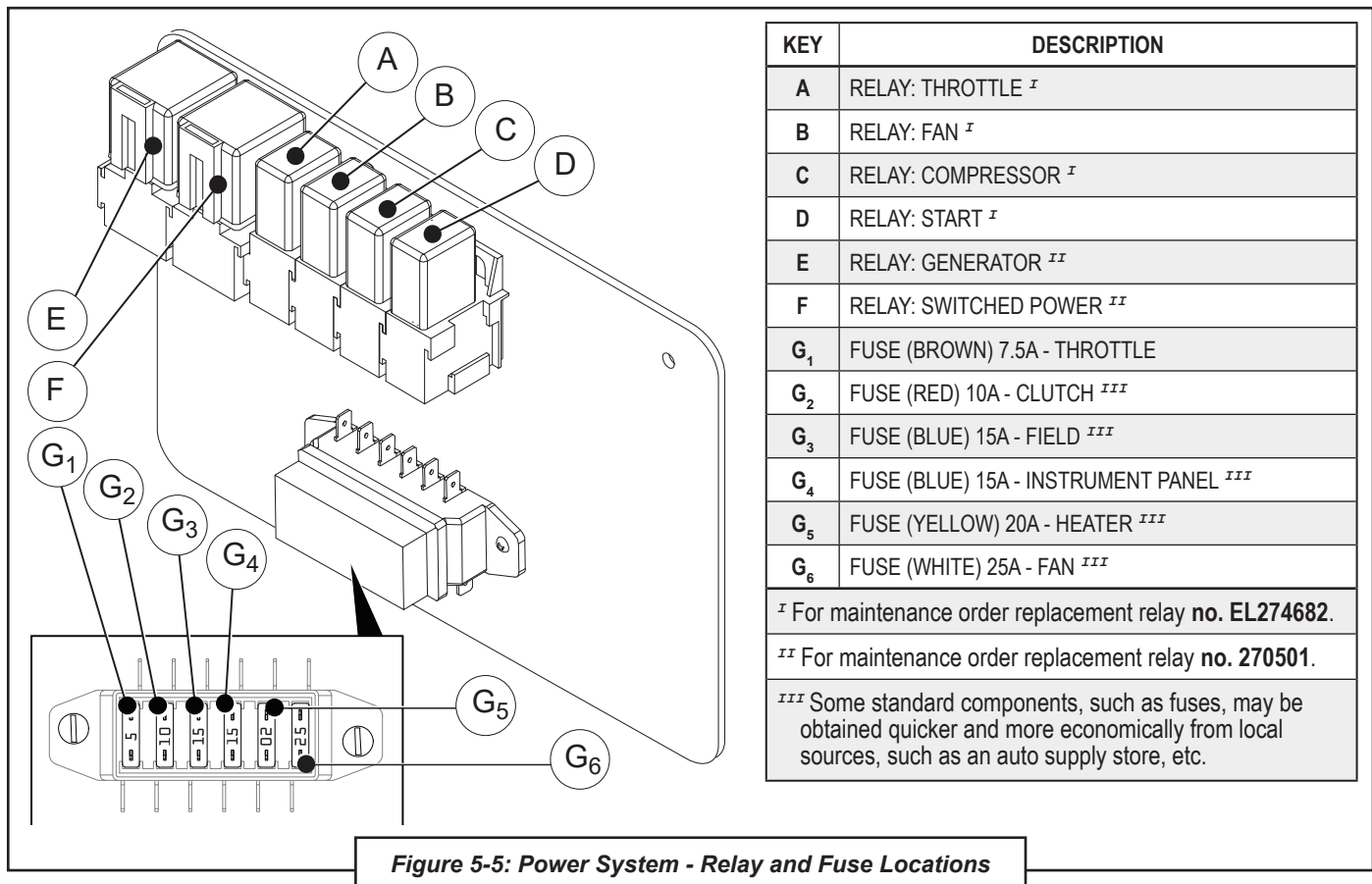
⚠ WARNING

With the machine off and the ignition key removed, open and remove the front access panel.

The compressor drive belt must first be removed in order to access the generator drive belt. Refer to **Section 5.4.2.1** for compressor serpentine belt removal. Once the compressor drive belt is removed, the worn generator serpentine belt can be replaced. Refer to **Figures 5-3** and **5-4**, and

the following steps:

1. Locate the generator auto-tensioner in **Figure 5-3 [D]**. Using a socket wrench, apply pressure downward to loosen the belt tension (as per **Figure 5-4**).
2. When belt is loose enough to clear the sheave(s), retain pressure on the socket wrench (auto-tensioner) in order to remove the belt from the drive track.
3. Obtain a replacement belt and ensure that the grooved side of the belt runs on the inside to directly contact the drive pulleys, then position and route the new generator serpentine belt as shown in **Figure 5-3**. Note that the auto-tensioner will need to be positioned with the aid of the socket wrench in order to allow the belt to fit to the generator drive system.
4. Replace the compressor serpentine drive belt (refer to **Section 5.4.2.1**).



5.4.3 SERVICING THE SYSTEM FUSES
AND CIRCUIT BREAKERS

Consult **Figures 5-5, 5-6 and 5-7** for the location and descriptions of the (Air N Arc® 300 only) DC welder generator fuse, the power system relays and fuses, and the engine and generator breakers.

DANGER

Fuses will need to be replaced if they are blown. When changing any fuse, or dealing directly with any function of the electrical system maintenance, always be aware of the safety warnings given in Section 1, Safety.

WARNING

Before performing maintenance:

Shut down machine, relieve all system pressure and lock out all power, as per the Safety Section of this manual. If machine is hot, allow package to cool before removing any panel.

Always clearly tag the start-up instrumentation against accidental system start-ups during maintenance.

KEY	DESCRIPTION
A	FUSE - 15A

Order 15A Replacement Fuse no. 265909; Please note that Some standard components, such as fuses, may be obtained quicker and more economically from local sources, such as an auto supply store, etc.

**Figure 5-6: DC Welder Generator Fuse Location
(Air N Arc® 300 Gas Models Only)**

KEY	DESCRIPTION	KEY	DESCRIPTION	KEY	DESCRIPTION
A	ENGINE ATO INLINE FUSE HOLDER (15A)	C	BATTERY BRACKET (REFERENCE)	E	GENERATOR CIRCUIT BREAKERS, 25A (x2)
B	INLINE AUTO-RESET BREAKER (40A)	D	BOOT FOR 25A CIRCUIT BREAKERS (x2)		

Figure 5-7: Engine and Generator Breakers

5.5 STORAGE AND INTERMITTENT USE

5.5.1 INTERMITTENT USE

If the unit is not used very regularly always treat the fuel with a fuel stabilizer.

Check all belts and hoses for signs of deterioration such as visible surface cracks, stiffness or discoloration.

5.5.2 LONG TERM STORAGE

Disconnect the battery cable that is connected to the positive (+) side of the battery.

De-pressurize the air tank and open the drain valve on the tank.

If fuel tank present, fill the fuel tank with fuel and fuel stabilizer to prevent moisture build-up in the tank, and start up to cycle fuel stabilizer throughout engine before storing.

After fuel stabilizer has been cycled, cover the unit with a tarp or plastic to prevent the accumulation of dust, but leave the bottom open for air circulation.

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SECTION 6: TROUBLESHOOTING

6.1 GENERAL INFORMATION

This section contains symptoms and usual causes for the most common types of problems that may occur. All available data concerning the trouble should be systematically analyzed before undertaking any repairs or component replacement.

A visual inspection is worth performing for almost all problems and may avoid unnecessary additional damage to the machine. The procedures which can be performed in the least amount of time and with the least amount of removal or disassembly of parts, should be performed first. Adherence to a routine maintenance regimen will minimize the occurrence of many common problems. Refer to **Table 5A: Maintenance Schedule**, for a typical maintenance regimen program.

Although Vanair® strives to anticipate situations that may occur during the operation life of the machine package, the Troubleshooting Guide may not cover all possible situations. Be aware that additional troubleshooting information may be found in other sources such as the Engine

Operation Manual and the Generator Operation Manual. Should the situation remain unresolved after exhausting available sources, contact the Vanair® Service Department at:

Vanair®, a Lincoln Electric Company
10896 West 300 North
Michigan City, IN 46360
Toll Free: (800) 526-8817
Telephone: (219) 879-5100
Service (toll free): (844) VAN-SERV
(844) 826-7378
vanair.com

NOTE

When contacting the Vanair® Service Department, please have machine serial number readily available to quickly expedite service. See *Figure 6-1* for serial plate and serial number locations.

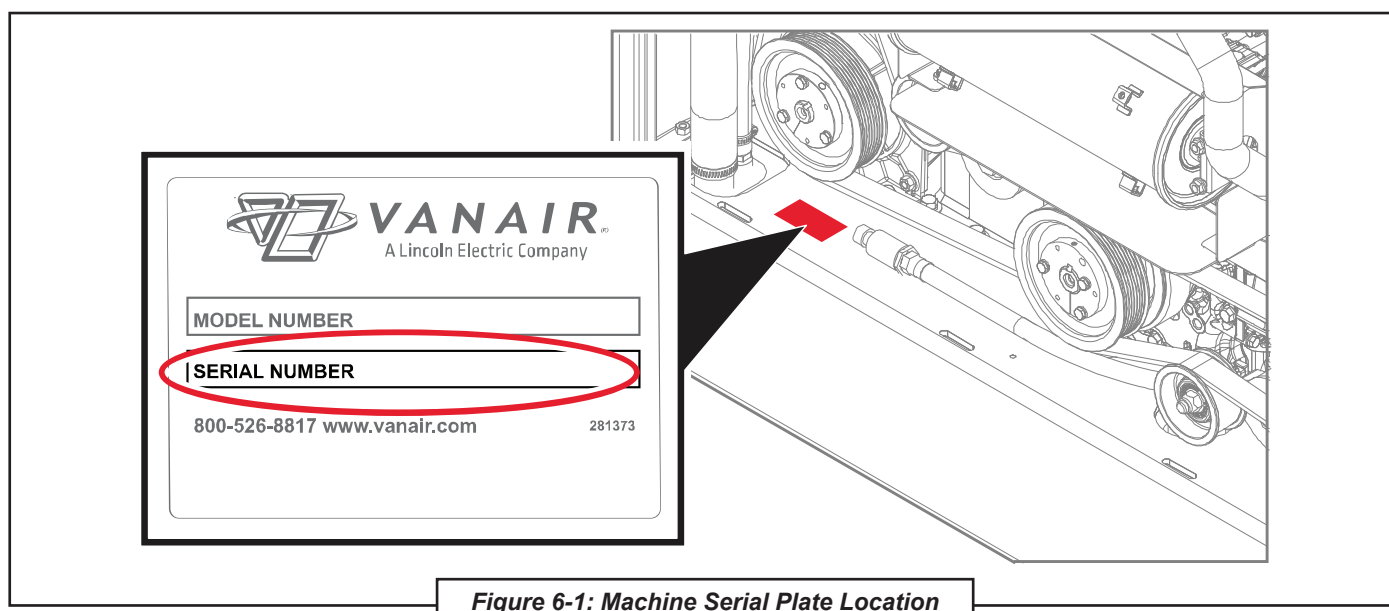


Figure 6-1: Machine Serial Plate Location

⚠ WARNING

Before starting, performing maintenance, or replacing parts, relieve the entire system pressure by opening the air tank drain/vent valve, which will vent all pressure to the atmosphere.

⚠ WARNING

Refer to *Figure 6-2*. Open fill cap **SLOWLY** (contents under pressure) to make sure all pressure has been relieved.

⚠ WARNING

DO NOT operate any of the machine's functions if there is a known unsafe condition. Disable the equipment by disconnecting it from its power source. Install a lock-out tag to identify the equipment as inoperable to other personnel to prevent accidental application.

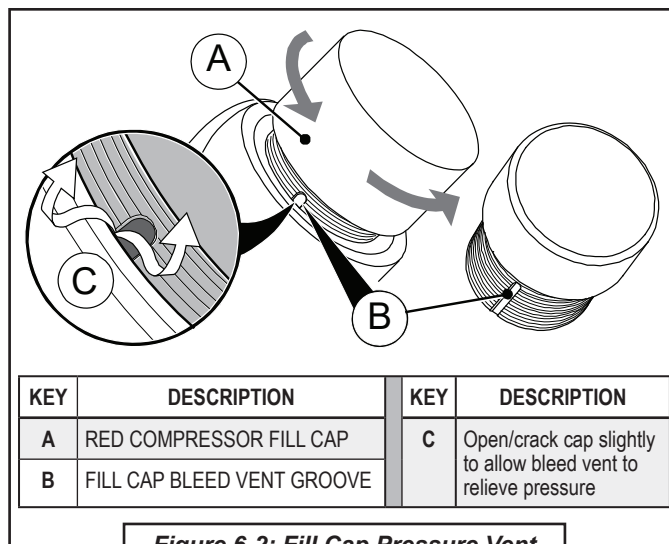


Figure 6-2: Fill Cap Pressure Vent

TABLE 6A: TROUBLESHOOTING GUIDE

Use Section 7, Illustrated Parts List, to visually identify and confirm any part number that may need to be replaced.

Fault/Malfunction	Possible Cause	Corrective Action
ENGINE (For additional information concerning an engine problem, consult the Engine Operation Manual)		
Engine will not crank	Faulty battery connection.	Check for proper battery connections and battery charge.
	Battery out of power	Recharge or replace battery.
	Engine fuse blown	Check engine fuse: See Section 5.4.3, Servicing the System Fuses and Circuit Breakers , and/or consult the Engine Operation Manual.
	Possible starter and/or solenoid problem	Replace if defective.
	Possible seized engine	Consult the Vanair® Service Department.
	Hood switch malfunction	Replace if defective.
	Machine hood shutdown safety switch prevents start-up of engine	Close hood panel or check if roof switch is faulty. See Section 1.12, Machine Canopy Access Safety Switches .
Engine will not start	Low fuel and/or oil supply	Check fuel gauge. Check engine oil level. Replenish as necessary. Consult the Engine Operation Manual for additional information on engine maintenance.
	Pinched fuel line	Replace or reroute if necessary.
	Plugged fuel filter(s)	Replace if necessary. Refer to the Engine Operation Manual.
	Low battery voltage	Recharge or replace if necessary.
		Loose connections—tighten connections.
		Dirty connections—clean connections.
	Plugged engine air filter	Replace engine air filter. Refer to Engine Operation Manual.

Continued on next page

TABLE 6A: TROUBLESHOOTING GUIDE		Use Section 7, Illustrated Parts List, to visually identify and confirm any part number that may need to be replaced.
Fault/Malfunction	Possible Cause	Corrective Action
ENGINE CONT. (For additional information concerning an engine problem, consult the Engine Operation Manual)		
Engine will not start (continued)	Defective oil pressure switch	Check continuity, and replace if necessary.
	Defective engine temperature switch	Check continuity, and replace if necessary.
	Poor ground connection	Check and clean/renew connection.
Improper Control Operation: Engine does not speed up	Throttle solenoid stuck	Lubricate; replace throttle solenoid if necessary.
	Governor stuck	Free governor and lubricate if necessary.
	Fuel filter partly plugged	Replace fuel filter. Refer to the Engine Operation Manual.
	Fuel filter partly plugged (continued)	Auxiliary fuel pump may be needed for remote fuel tank. Refer to Section 3, Installation .
	Pressure switch faulty	Replace pressure switch.
Defective Throttle Control Relay	Solenoid not actuating	Inspect; replace if necessary.
Improper Control Operation: Engine does not slow down replace relay.	Leak in control line	Check for leaks; replace line if necessary.
	Pressure switch out of adjustment	Adjust to proper pressure setting. Refer to Section 5.4.1, Adjusting the Pressure Setting . Replace if switch continues to deviate from setting.
	Pressure switch faulty	Replace pressure switch.
	Throttle solenoid stuck	Lubricate; replace throttle solenoid if necessary.
	Throttle relay faulty	Check for presence of power - if present,
	Governor stuck	Free governor and lubricate if necessary. Refer to Engine Operation Manual.
Engine overheats	Low oil level	Check engine oil level. Consult the Engine Operation Manual for additional information on engine maintenance.
	Located too close to obstruction	Move further from obstruction.
	Engine oil filter plugged	Replace engine oil filter. Refer to Engine Operation Manual.
	Engine oil radiator plugged	Clear debris/dirt from cooler core/flush shroud.
	Restricted cooling air in or out	Clear debris/dirt from engine radiator.
Engine stops during operation	Low oil level	Check engine oil level. Consult the Engine Operation Manual for additional information on engine maintenance.
	High engine temperature	Let engine cool. Check for engine coolant level. Refer to Engine Overheats fault.
	Engine shutdown switch activated	Confirm that access door is properly in place. Replace faulty engine shutdown switch; see Section 1.12, Machine Canopy Access Safety Switches .
Gradual loss of engine power	Contaminated fuel	Draw and replace fuel supply.
	Engine air filter contaminated	Check engine air filter. Replace if necessary (refer to the Engine Operation Manual).
	Low fuel level	Add fuel.
	Fuel filter(s) contaminated	Check fuel filters. Refer to the Engine Operation Manual.
	Overload	Reduce load; check load use, and reduce.
	Engine not warmed up	Allow engine to warm up.
Continued on next page		

TABLE 6A: TROUBLESHOOTING GUIDE		Use Section 7, Illustrated Parts List, to visually identify and confirm any part number that may need to be replaced.
Fault/Malfunction	Possible Cause	Corrective Action
COMPRESSOR		
Compressor overheats <i>This condition will cause a compressor shutdown and compressor fault light to turn on. Before restarting the compressor, determine the cause for overheating.</i>	Low compressor oil level	Check oil level and refill to proper level if necessary (ensure machine is parked on a level surface).
	Obstructed cooler fins	Clear/clean if required.
	Insufficient air flow over cooler	Check for obstructions (frame, body, etc.) to cooling air flow.
	Defective temperature switch	Check switch; replace if necessary.
	Compressor oil filter plugged	Replace compressor oil filter. Consult Section 5, Table 5A for periodic oil filter system maintenance procedures.
	Fan not operating	Check fan switch.
		Check ground connection.
		Check for / confirm +12V.
Compressor shuts down	Compressor temperature switch opening	Check compressor oil level. Replenish if necessary.
	Restricted cooling air intake	Reposition machine.
	Fan not operating	Check fan switch.
		Check ground connection.
		Check for / confirm +12V.
	Compressor oil filter plugged	Replace compressor oil filter. Consult Section 5, Table 5A for periodic oil filter system maintenance procedures.
	Clutch faulty	Inspect; replace if necessary.
	Plugged or restricted cooler core	Flush cooler. Consult the Vanair® Service Department for assistance in cleaning/flushing the cooler core.
	Contaminated cooler fins	Clean cooler fins.
Compressor will not build up pressure	Low compressor oil level	Check oil level and refill to proper level if necessary (ensure machine is parked on a level surface).
	Air demand too high	Check for leaks and take corrective action.
		Check air tools for wear, damage, or malfunctions. Replace or repair.
	Compressor capacity too low to accommodate demand	Substitute larger capacity compressor system.
	Compressor air filter plugged	Check compressor air filter. Replace if necessary.
	Pressure switch out of adjustment	Reset pressure switch. Refer to Section 5.4.1, Adjusting the Pressure Setting . Replace if switch continues to deviate from setting.
	Defective pressure switch	Replace pressure switch.
	Belt(s) slipping	Re-situate and adjust belt tension, or replace belt if necessary. Consult Section 5.4.2, Re-tensioning and Replacing the Serpentine Belts .
Continued on next page		

TABLE 6A: TROUBLESHOOTING GUIDE		Use Section 7, Illustrated Parts List, to visually identify and confirm any part number that may need to be replaced.
Fault/Malfunction	Possible Cause	Corrective Action
COMPRESSOR (continued)		
Compressor will not build up pressure (continued)	Service valve is open	Close service valve.
	Pressure gauge is malfunctioning	Check pressure gauge function/control line routing: adjust, repair or replace as necessary.
		Check for proper operation with an auxiliary air source. Replace if necessary.
	Inlet solenoid valve fails to open	Repair/replace inlet valve.
	Inlet solenoid faulty	Replace solenoid.
Compressor system over-pressures <i>This condition will cause a compressor shutdown, and a fault light will turn on. Before restarting the compressor, determine the cause of the over-pressure. May also cause the relief valve to open.</i>	Pressure switch setting too high	Reset pressure switch. Refer to Section 5.4.1, Adjusting the Pressure Setting . Replace if switch continues to deviate from setting.
	Pressure switch malfunction	Check for operation/damage: repair or replace.
	Unload solenoid valve defective	Replace solenoid valve.
	Leak in air control line	Check for leaks and take corrective action.
	Restriction in control line	Clean if soiled; if ice is present, clear and remove.
	Damaged/kinked control line	Check line for damage (wear, kinks, etc.). Re-route, re-tie or replace if necessary (refer to Section 7.25, Hose Installation Guide for assistance in running or checking hose lines).
	Damaged/kinked control line	Check line for damage (wear, kinks, etc.). Re-route, re-tie or replace if necessary (refer to Section 7.25, Hose Installation Guide for assistance in running or checking hose lines).
	Control line connections are not properly seated/poor connection quality	Check lines for proper seating/ensure line ends have been cut cleanly and are square. • Refer to Section 7.25, Hose Installation Guide for assistance in running or checking hose lines. • DO NOT use wire cutters: use a loom cutting tool or a clean, sharp razor blade.
	Inlet valve Teflon “O” ring popped out of groove	Replace “O” ring.
	Inlet valve piston is stuck in down position	Check for proper operation with an auxiliary air source—replace or rebuild inlet valve.
	Compressor shaft seal is leaking	Replace shaft seal with available kit.
	Minimum pressure/check valve is malfunctioning	Rebuild or replace check valve.
	Defective safety valve	Replace safety valve.
	Plugged coalescer	Replace coalescer.
<i>Continued on next page</i>		

TABLE 6A: TROUBLESHOOTING GUIDE		Use Section 7, Illustrated Parts List, to visually identify and confirm any part number that may need to be replaced.
Fault/Malfunction	Possible Cause	Corrective Action
COMPRESSOR (continued)		
No service air output (see also Compressor will not build up pressure)	If equipped, OSHA valve/velocity fuse, not functioning properly	Reset or replace OSHA valve.
	Clogged compressor air filter	Check compressor air filter; replace if necessary.
	Solenoid valve sending continuous signal to inlet valve	Rebuild or replace solenoid valve if defective.
	Incorrect compressor speed	Adjust speed. Refer to Section 5.4.1, Adjusting the Pressure Setting .
	Minimum pressure/check valve is malfunctioning	Rebuild or replace check valve.
	Belt not tensioned properly	Check belt tension; replace belt(s) if necessary. Refer to Section 5.4.2, Re-tensioning and Replacing the Serpentine Belts for belt maintenance or replacement procedures.
Compressor stalls	Pressure switch setting too high	Adjust pressure switch setting. Refer to Section 5.4.1, Adjusting the Pressure Setting . Replace if switch continues to deviate from setting.
	Speed is set too low	Check to see if compressor goes to high speed.
System operating pressure below specified minimum	Air demand too high	Check air tools for wear, damage, or malfunctions. Replace or repair.
	Compressor capacity too low to accommodate demand	Substitute larger capacity compressor system.
System operating pressure below specified minimum (continued)	System leaks or is damaged	Inspect for leaks. Repair and/or replace damaged parts as necessary.
	Pressure switch set too low/malfunction	Adjust pressure switch setting. Section 5.4.1, Adjusting the Pressure Setting . Replace if switch continues to deviate from setting.
	Input rpm too low	Adjust to proper setting.
	Contaminated inlet valve	Remove valve and clean piston. Order inlet valve repair kit if necessary.
	Inlet solenoid valve fails to open	Repair/replace inlet valve.
	Inlet valve frozen shut	Repair/replace inlet valve.
Excess amount of oil in air discharge	Machine not on level surface	Move machine to level surface.
	Compressor oil level too high	The correct oil level is between the bottom of the oil port threads (low level) to the top lip of the port's threads (high level) (refer to Figure 5-1). Drain excess oil to correct level.
	Scavenger system not operating	Inspect scavenger line for obstructions or leaks. Replace if necessary.
	Coalescer element plugged or damaged	Replace the coalescer element.
Continued on next page		

TABLE 6A: TROUBLESHOOTING GUIDE		Use Section 7, Illustrated Parts List, to visually identify and confirm any part number that may need to be replaced.
Fault/Malfunction	Possible Cause	Corrective Action
COMPRESSOR (continued)		
Excessive moisture in the compressed air	Moisture accumulating in air tank	Drain water from air tank.
GENERATOR		
No AC generator output	Circuit breaker / GFCI tripped	Replace/reset breakers.
	Serpentine belt damaged or not tensioned properly	Re-situate and adjust belt tension, or replace belt if necessary. Consult Section 5.4.2, Re-tensioning and Replacing the Serpentine Belts . Order replacement belt.
	Faulty AC generator relay	Check; replace if necessary.
	Faulty capacitor	Check; replace if necessary.
Low AC voltage	Engine speed too low for demand	Adjust speed control. Consult Section 5.4.1, Adjusting the Engine Speed , and the Engine Operation Manual.
	Weak, faulty or incorrect capacitor	Check; replace if necessary.
	Serpentine belt damaged or not tensioned properly	Re-situate and adjust belt tension, or replace belt if necessary. Consult Section 5.4.2, Re-tensioning and Replacing the Serpentine Belts .
High AC voltage	Engine speed too high for demand	Adjust speed control. Consult Section 5.4.1, Adjusting the Engine Speed , and the Engine Operation Manual.
	Wrong capacitor	Replace with correct-rated capacitor.

6.2 EXTREME CONDITION OPERATION

When operating in extreme cold or hot conditions, in the presence of high humidity, or at a high altitude, extra attention should be given to any indication that could lead to a serious problem. Engine power and compressor air output will be reduced at high altitude or hot ambient temperatures.

Machine review and maintenance check schedules should be more frequent than the normal suggestions given in the **Routine Maintenance Schedule (Table 5A in Section 5)**.

Become acquainted with the situation-adjusted operation approaches given in this section before operating the power system package in any type of extreme ambient condition. For additional operation information consult the Engine Operation Manual, or visit the engine manufacturer's web site given in that manual.

6.2.1 HIGH MOISTURE CONDITION OF COMPRESSOR OIL

Refer to **Section 4.6.1, High Moisture Condition: Emulsification of Rotary Screw Compressor Oil**, in **Section 4, Operation** for description and prevention of moisture condition obstacles.

6.2.2 COLD WEATHER OPERATION

Refer to the Engine Operation Manual for cold weather recommendations for engine operation, and **Table 6.2A**. When the temperature is very low, extra care must be taken regarding oil changes and viscosity. Also, for the overall system operation, freezing of water contained in the piping can also be a factor.

6.2.3 HIGH TEMPERATURE OPERATION

Consult the information in **Table 6.2B** for preventative and/or repair measures. Reduce

TABLE 6.2A: COLD WEATHER OPERATION

Symptom	Cause	Prevention / Corrective Action
Water freezes in the fuel line Lubrication oil viscosity increases	WATER Water in the fuel can freeze at temperatures below 32°F (0°C), blocking fuel lines. At an extremely cold temperature, the viscosity of lubrication oil may increase and the torque of starter may exceed its permissible value, hindering proper starting.	• Park the vehicle or equipment indoors when not in use. • Use a block heater. • Maintain the battery; this will make it easier to start a diesel engine in cold weather. • In below zero temperatures a fuel line deicer product may need to be used. • Check the fuel filter regularly to insure that it contains no water. • For additional engine precautions, consult the Engine Operation Manual. • Vanair® recommends installation of the cold weather heater option kit. Consult Vanair® for details. • Keep the fuel tank full to prevent condensation from forming inside the tank and lessen the chances of water getting in the fuel line. • The standard recommendation of 15W-40 engine oil is suitable for temperatures down to -4°F (-20°C). If temperatures are consistently below 30°F (-1°C), it is recommended that 5W-30 oil be used. If temperatures are below -25°F (-32°C), a high-performance, fully synthetic oil, such as AMSOIL 5W-30 should be used which is suitable to temperatures of -55°F (-48°C).
	Air lines freeze; moisture in hoses	• Ensure to operate the compressor at temperature and under load for 20 minutes in order to burn off excessive moisture. May need inline de-icer to prevent freezing.

load duty cycle to less than 60% when operating in ambient temperatures above 104°F (40°C).

Extra care should be taken to keep the engine and air compressor clean and to not restrict the air flow

around the unit. Consult the Engine Operation Manual for fuel, lubrication oil and cooling requirements under extreme temperatures.

When operating the machine in high temperature

TABLE 6.2B: HIGH TEMPERATURE OPERATION

Symptom	Cause	Prevention / Corrective Action
Overheating/high compartment temperatures Diminished engine performance	High ambient temperatures, confined spaces, soundproof cases and other reasons. Among these the most important factor is the temperature of the intake and cooling air.	• Extra care should be taken to keep the engine clean and to not restrict the air flow around the unit. • Consult the Engine Operation Manual for fuel, lubrication oil and cooling requirements under extreme temperatures. • At the minimum, all coolers, including air passage ways around the coolers, should be free of debris and dirt. The fan, driven by the engine, is designed to run continuously to assure a constant flow of cooling air. The operator should be aware that high temperatures can influence engine performance, which can directly effect some machine function capacity outputs.

TABLE 6.2C: HIGH DUST CONTENT OPERATION		
Symptom	Cause	Prevention / Corrective Action
Overheating System Contamination Stalling	Machine components exposed to frequent or constant dust interaction, can result in diminished system performance, or machine cessation.	- The intake air must be cleaned with the air cleaner—inspect the air filter frequently for dust build-up and replace as needed. - Ensure that the oil cooler fins are kept clean to prevent overheating. - If the machine is not being used for an extended period of time, an additional precaution, such as covering the machine with a tarp, will help to keep the inside of the machine free of dust particle accumulation. - For extreme cases of high dust content environments, machine fluids may need to be replaced at more frequent intervals. Adjust maintenance schedule accordingly.

areas, precautions should be taken to prevent overheating. At the minimum, all coolers, including air passage ways around the coolers, should be free of debris and dirt. The fan, driven by the engine, is designed to run continuously to assure a constant flow of cooling air.

The operator should be aware that high temperatures can influence engine performance, which can directly effect some machine function capacity outputs.

6.2.4 HIGH DUST CONTENT OPERATION

Consult the information in **Table 6.2C** for preventative and/or repair measures. When the

machine is to be used in continuously dusty environments, special care must be taken with the engine's air cleaner and radiator.

6.2.5 HIGH ALTITUDE OPERATION

Engine horsepower will decrease by 3.5% for every 1,000 feet over 6,000 feet increase in altitude. At high altitude overall unit performance will deteriorate, and care will need to be taken not to overload the engine.

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SECTION 7: ILLUSTRATED PARTS LIST

7.1 PARTS ORDERING INFORMATION

Part orders should be placed through the distributor from whom the unit was purchased. If for any reason parts cannot be obtained in this manner, contact the factory directly at the address or phone numbers below.

When ordering parts always indicate the Serial Number of the machine package. This can be obtained from the Bill of Lading for the machine package, or from the unit's serial number plate. See **Figure 7-1** for location of machine package serial plate. **Consult Table 7A: Recommended Spare Parts List** on the next page for a listing of replacement parts.

Vanair®, a Lincoln Electric Company

10896 West 300 North

Michigan City, IN 46360

Toll Free: (800) 526-8817

Telephone: (219) 879-5100

Service (toll free): (844) VAN-SERV

(844) 826-7378

vanair.com

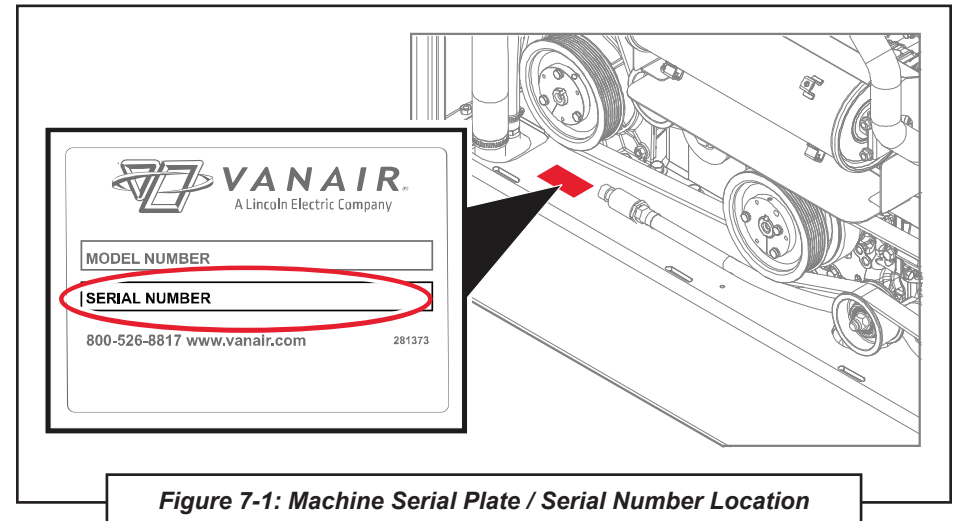


Figure 7-1: Machine Serial Plate / Serial Number Location

SECTION 7:
ILLUSTRATED PARTS LIST

AIR N ARC® 300 GAS • AIR N ARC® 300 GAS
COMPACT • POWERFLEX™ AE GAS •
POWERFLEX™ AE GAS COMPACT

TABLE 7A: RECOMMENDED SPARE PARTS LIST

NOTE For a complete list of available option parts for order, refer to Table A5 in the Appendix Section of this manual.

FULL SERVICE MAINTENANCE KITS

KEY NO.	ORDER NO. DESCRIPTION	ORDER NO.	QTY	KEY NO.	DESCRIPTION	ORDER NO.	QTY
1	Kit, Compressor Service - Initial 50 Hours ^{I & II}	KIT1285	1	4	Kit, Hose ^V	TU276220	1
2	Kit, Compressor Lifetime Warranty Service - 500 Hours ^{II & III}	KIT1153	1	5	Kit, Compressor Shaft Seal Replacement	^{VI}	1
3	Kit, Service VNR750EFI Engine ^{IV}	KIT1512	1				

INDIVIDUAL MAINTENANCE COMPONENTS

KEY NO.	DESCRIPTION	ORDER NO.	QTY	KEY NO.	DESCRIPTION	ORDER NO.	QTY	KEY NO.	DESCRIPTION	ORDER NO.	QTY
6	Filter, replacement element engine oil	283769-01	1	14	Separator, compressor coalescer	264470	1	22	Boot, circuit breaker (instr panel location)	PR270548	2
7	Filter, replacement engine fuel	283769-04	1	15	Element, compressor replacement air filter	264469	1	23	Battery, 12V replacement	^x	1
8	Filter, replacement engine air	283847-02	1	16	Relay, micro 20A/35A 14VDC	EL274682	5	24	Relay, 500A 12V coil NO	EL270483	2
9	Filter, replacement in-line engine fuel ^{VII}	280724	1	17	Relay, 40A	270501	2	25	Belt, compressor drive replcmnt	DR275413	1
10	Plug, spark VNR680 + VNR750 ^{VIII}	283769-03	2	18	Boot, breaker panel mount (generator)	PR81817	2	26	Belt, generator drive replcmnt ^{XI}	DR98202	1
11	Oil, engine 10W-30 (quart) ^{IX}	844300-001-QT	2	19	Breaker, 25A (generator)	CO270786	2	27	Fuses	^{VIII}	1
12	Oil, Vanair® Vanguard™ Compressor (gal)	264626-1GAL	1	20	Breaker, manual reset 20A (panel mount)	CO62617	2				
13	Filter, replacement compressor oil	264471	1	21	Breaker, circuit with studs 40A without brkt	270492	1				

^I Compressor 50 Hour Kit (no. KIT1285) consists of: oil filter replacement element no. 264471, and one (1) gallon of Vanair® Vanguard™ Compressor oil no. 264626-1GAL ^{II}.

^{II} Use only Vanair® Vanguard™ Premium Synthetic Oil and Genuine Vanair® Parts. Substituting non-Vanguard™ Oil or non-genuine Vanair® filter components WILL VOID THE COMPRESSOR WARRANTY!
Inspect and replace damaged components before operation. System fill capacity is approximately four (4) quarts.

^{III} Compressor Lifetime Warranty Service Kit (no. KIT1153) consists of: air filter replacement element no. 264469, oil filter replacement element no. 264471, separator replacement element no. 264470, and Vanair® Vanguard™ Compressor oil no. 264626-1GAL ^{IX}.

^{IV} Engine Kit (no. KIT1512) consists of: air filter replacement no. 283847-02, oil filter replacement element no. 283769-01, engine fuel filter no. 283769-04, spark plug no. 283769-03 (quantity of two [2]), 10W-30 motor oil no. 844300-001-QT (two [2] quarts). Do not mix different oil weights.

^V Hose Kit (no. TU276220) consists of replacement hoses for: oil drain, compressor to oil cooler (short), compressor to oil cooler (long), compressor to tank, tank to pressure gauge, air tank drain, and air tank to S.P. and a 37 JIC male plug.

^{VI} For kit component details consult the Vanair® Service Department.

^{VII} In-line filter is used for machines with remote tank. Example: Refer to Section 7.10.

^{VIII} Some standard components, such as spark plugs and fuses, may be obtained quicker and more economically from local sources, such as an auto supply store, etc. Refer to Figure 5-5 in Section 5, Maintenance, for fuse locations.

^{IX} Refer to the Engine Operation Manual for details on engine oil, including seasonal oil viscosities. Do not mix different oil viscosities.

^x Due to shipping regulations and restrictions pertaining to lead acid batteries, Vanair® recommends procuring a replacement battery from a localized source. Two possible replacement models include: BatteriesPlus® no. SLi96R, and NAPA battery no. BAT 7590.

^{XI} Generator drive belt replacement no. DR98202 is used for Air N Arc® 300 Gas models. Use generator drive belt replacement no. DR27584 for standard PowerFlex™ AE Gas machines, and generator drive belt replacement.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.

IMPORTANT

The above table listing contains items that require maintenance on a routine basis, and also those parts that may require maintenance over the course of the compressor package's performance schedule. Although this recommended list is pro-offered as a comprehensive guide to replacement parts, damage may occur to the machine beyond the scope of this listing.

Should any part of the compressor package that is not listed in Table 7A become damaged or inoperable, use the various sub-sections in Section 7 to best locate and identify the damaged part(s).

IMPORTANT

If additional spare parts are being stored for future use, ensure that they are stored in proper containers that allow for protection against contamination, and kept in a clean area of moderate temperature reading. For information on storing the machine package for periods of non-use, consult *Section 5.5.2, Long Term Storage*.

NOTES

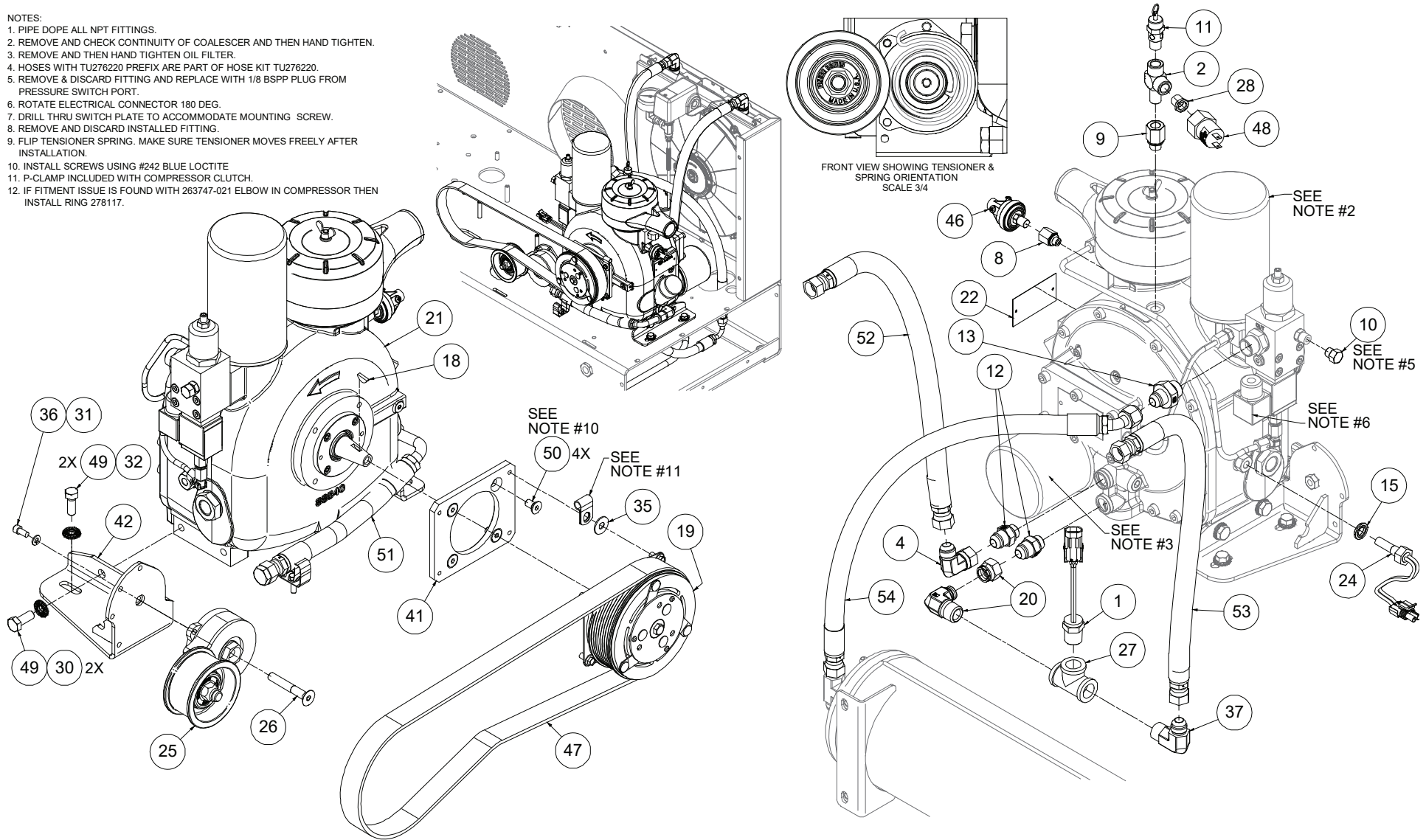
SECTION 7: ILLUSTRATED PARTS LIST

AIR N ARC® 300 GAS • AIR N ARC® 300 GAS
COMPACT • POWERFLEX™ AE GAS •
POWERFLEX™ AE GAS COMPACT

7.2 COMPRESSOR AND PARTS ASSEMBLY: AIR N ARC® 300 GAS, POWERFLEX™ AE GAS - 1 OF 2

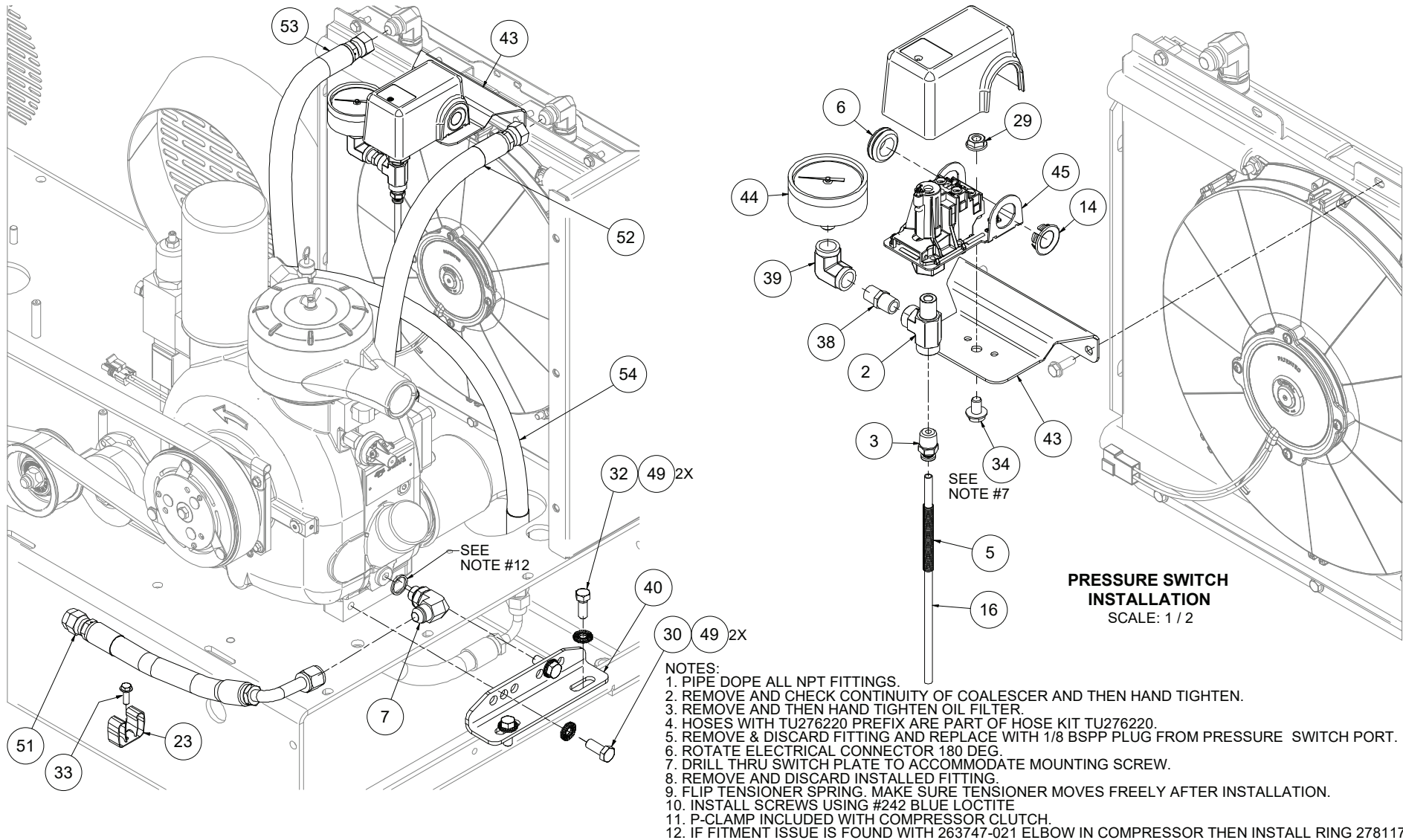
NOTES:

1. PIPE DOPE ALL NPT FITTINGS.
2. REMOVE AND CHECK CONTINUITY OF COALESCER AND THEN HAND TIGHTEN.
3. REMOVE AND THEN HAND TIGHTEN OIL FILTER.
4. HOSES WITH TU276220 PREFIX ARE PART OF HOSE KIT TU276220.
5. REMOVE & DISCARD FITTING AND REPLACE WITH 1/8 BSPP PLUG FROM PRESSURE SWITCH PORT.
6. ROTATE ELECTRICAL CONNECTOR 180 DEG.
7. DRILL THRU SWITCH PLATE TO ACCOMMODATE MOUNTING SCREW.
8. REMOVE AND DISCARD INSTALLED FITTING.
9. FLIP TENSIONER SPRING. MAKE SURE TENSIONER MOVES FREELY AFTER INSTALLATION.
10. INSTALL SCREWS USING #242 BLUE LOCTITE
11. P-CLAMP INCLUDED WITH COMPRESSOR CLUTCH.
12. IF FITMENT ISSUE IS FOUND WITH 263747-021 ELBOW IN COMPRESSOR THEN INSTALL RING 278117.



7.2 COMPRESSOR AND PARTS ASSEMBLY: AIR N ARC® 300 GAS, POWERFLEX™ AE GAS - 1 OF 2							
ITEM	DESCRIPTION	PART NUMBER	QTY	ITEM	DESCRIPTION	PART NUMBER	QTY
1	SWITCH , TEMPERATURE 165 (ELECTRIC)	260230	1	28	BUSHING, RED STEEL 1/4 x 1/8	807600-005	1
2	TEE, MALE STREET 1/4 x 1/4 x 1/4	260402-102	2	29	NUT, HEX FLANGE 5/16-18	825305-283	1
3	CONNECTOR, 1/4 T x 1/4 P PUSHON	261317	1	30	CAPSCREW, HEX 10mm 1.5 x 25	828010-025	4
4	ELBOW, 90 DEG. SWIVEL #8 FJIC x #8 MJIC	261842-006	1	31	CAPSCREW, S.H. BLACK 1/4-20 x 1/2	828204-050	1
5	LOOM, FLEX-GARD 1/4 ID	262751	1	32	CAPSCREW, HEX GR5 3/8-16 x 1	829106-100	4
6	GROMMET, RUBBER 5/8 x 7/8x 1/8	262905	1	33	SCREW, SER WASH 1/4-20 x 0.75	829704-075	1
7	ELBOW, 90 DEG. 1/2 MJIC X 3/8 MBSPP ADJ	263747-021	1	34	SCREW, SER WASH 5/16-18 x 0.5	829705-050	1
8	ADAPTER, FEMALE PIPE x BSPP 1/8	263748-001	1	35	WASHER, FLAT 5/16	838205-071	1
9	ADAPTER, FEMALE PIPE x BSPP 1/4	263748-004	1	36	WASHER, LOCK 1/4	838504-062	1
10	PLUG, MALE 1/8" BSPP W/ SEAL	263756-001	1	37	ELBOW, 37FL/90M #08 x 1/2	860208-050	1
11	VALVE, RELIEF 200 PSI 1/4 NPT MALE	264232	1	38	NIPPLE, PIPE HEX 1/4 x 1/4	860404-025	1
12	ADAPTER, M-JIC 1/2 x BSPP 3/8	264312-007	2	39	ELBOW, PIPE STEEL 1/4	860604-025	1
13	ADAPTER, MJIC x MBSPP 1/2 x 1/2	264312-008	1	40	BRACKET, COMPRESSOR MTG	A1270373	1
14	SEAL, KNOCKOUT 1/2"	264443	1	41	SPACER, CLUTCH AT COMPR	A1275138	1
15	WASHER, SEALING BSPP #4	264449-001	1	42	SUPT, COMPR & TENSIONER	A1276227	1
16	TUBING, 1/4DIA., NYLON BLACK	264480	1	43	SUPPORT, AIR PRESS SWITCH	A1276692	1
17	OIL, VANGUARD	264626	0.88 gal	45	SWITCH, PRESSURE ADJUSTABLE 50-175 PSI	CO271659	1
18	KEY, WOODROOF #505 5/32 x 5/8	265207	1	46	SWITCH, PRESSURE N.C. 35 PSI	CO274534	1
19	CLUTCH, 12VDC TAPER-SHAFT 8-GRV	266198	1	44	GAUGE, AIR DRY 0-200 PSI	CO72717	1
20	ELBOW, 1/2MPT X 1/2FJIC SWVL 90	268929-008	1	47	BELT, SERPENTINE 8K RIB X 50.5 LG	DR275413	1
21	COMPRESSOR, ROTORCOMP NK31 TAPER SHAFT	270116	1	48	SWITCH, PRESSURE N.C. 185 PSI	EL270002	1
22	TAG, COMPR VANAIR 31	270610	1	49	WASHER, 3/8ID X 13/16OD NORD-LOCK	FA49463	8
23	CLIP, TOOL ZINC 3/4 TO 1-1/8	272059	1	50	SCREW, SOCKET FLAT HEAD M8X1.25 16MM	FI275775	4
24	SWITCH, TEMP 235 DEG F NC 1/4-19 BSPP	272268	1	51	HOSE, COMPRESSOR OIL DRAIN	TU276220-020	1
25	TENSIONER, ROTARY MODIFIED W/ IDLER THRU MOUNT	279758	1	52	HOSE, COMPRESSOR TO OIL COOLER	TU276220-021	1
26	CAPSCREW, S.H. FLAT 3/8-16 UNC X 2-1/2"	280407	1	53	HOSE, COMPRESSOR TO OIL COOLER	TU276220-022	1
27	TEE, PIPE GALV 1/2	804415-020	1	54	HOSE, COMPRESSOR TO TANK	TU276220-023	1
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.							

7.2 COMPRESSOR AND PARTS ASSEMBLY: AIR N ARC® 300 GAS, POWERFLEX™ AE GAS - 2 OF 2



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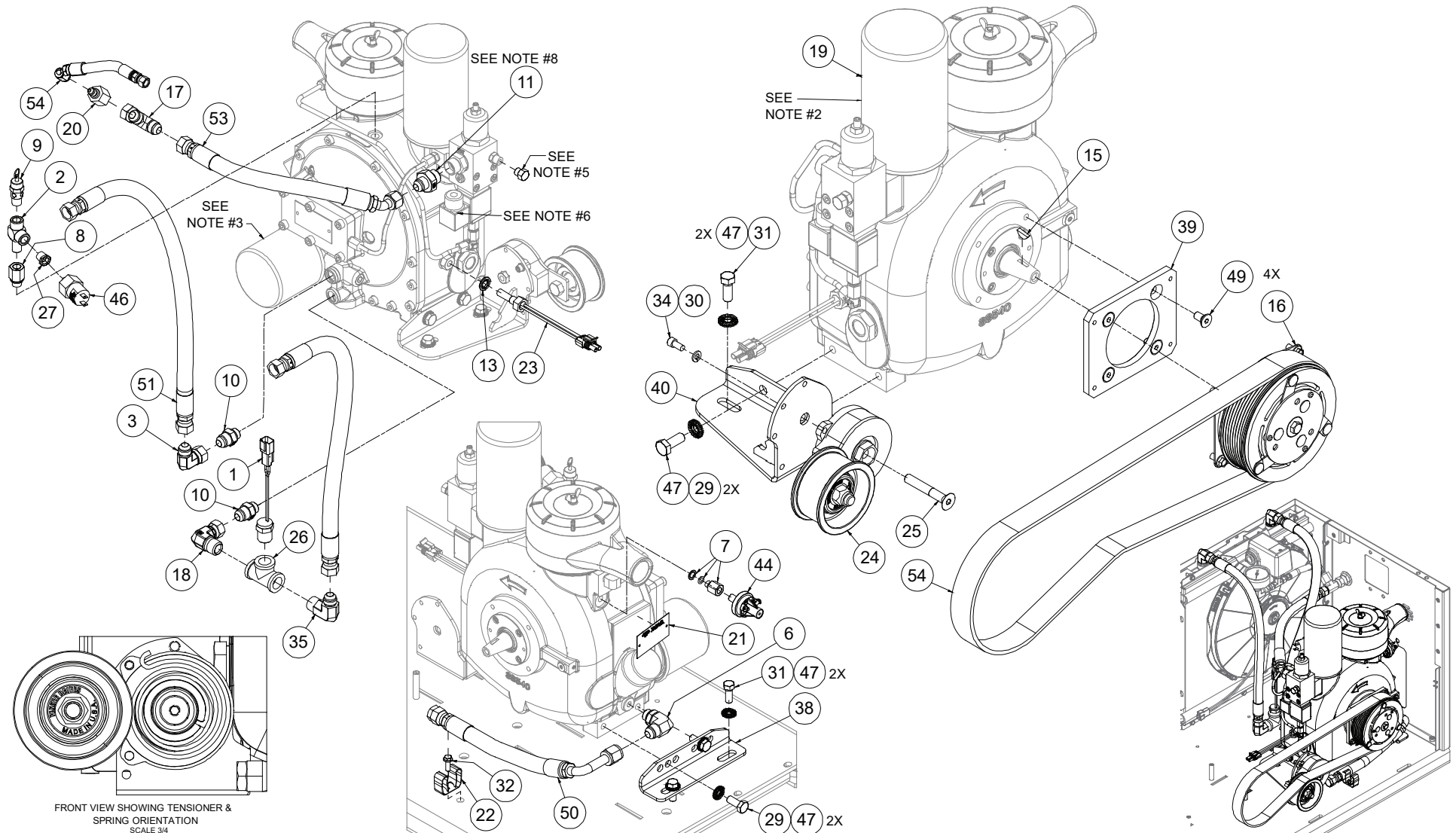
7.2 COMPRESSOR AND PARTS ASSEMBLY: AIR N ARC® 300 GAS, POWERFLEX™ AE GAS - 2 OF 2

ITEM	DESCRIPTION	PART NUMBER	QTY	ITEM	DESCRIPTION	PART NUMBER	QTY
1	SWITCH , TEMPERATURE 165 (ELECTRIC)	260230	1	28	BUSHING, RED STEEL 1/4 x 1/8	807600-005	1
2	TEE, MALE STREET 1/4 x 1/4 x 1/4	260402-102	2	29	NUT, HEX FLANGE 5/16-18	825305-283	1
3	CONNECTOR, 1/4 T x 1/4 P PUSHON	261317	1	30	CAPSCREW, HEX 10mm 1.5 x 25	828010-025	4
4	ELBOW, 90 DEG. SWIVEL #8 FJIC x #8 MJIC	261842-006	1	31	CAPSCREW, S.H. BLACK 1/4-20 x 1/2	828204-050	1
5	LOOM, FLEX-GARD 1/4 ID	262751	1	32	CAPSCREW, HEX GR5 3/8-16 x 1	829106-100	4
6	GROMMET, RUBBER 5/8 x 7/8x 1/8	262905	1	33	SCREW, SER WASH 1/4-20 x 0.75	829704-075	1
7	ELBOW, 90 DEG. 1/2 MJIC X 3/8 MBSPP ADJ	263747-021	1	34	SCREW, SER WASH 5/16-18 x 0.5	829705-050	1
8	ADAPTER, FEMALE PIPE x BSPP 1/8	263748-001	1	35	WASHER, FLAT 5/16	838205-071	1
9	ADAPTER, FEMALE PIPE x BSPP 1/4	263748-004	1	36	WASHER, LOCK 1/4	838504-062	1
10	PLUG, MALE 1/8" BSPP W/ SEAL	263756-001	1	37	ELBOW, 37FL/90M #08 x 1/2	860208-050	1
11	VALVE, RELIEF 200 PSI 1/4 NPT MALE	264232	1	38	NIPPLE, PIPE HEX 1/4 x 1/4	860404-025	1
12	ADAPTER, M-JIC 1/2 x BSPP 3/8	264312-007	2	39	ELBOW, PIPE STEEL 1/4	860604-025	1
13	ADAPTER, MJIC x MBSPP 1/2 x 1/2	264312-008	1	40	BRACKET, COMPRESSOR MTG	A1270373	1
14	SEAL, KNOCKOUT 1/2"	264443	1	41	SPACER, CLUTCH AT COMPR	A1275138	1
15	WASHER, SEALING BSPP #4	264449-001	1	42	SUPT, COMPR & TENSIONER	A1276227	1
16	TUBING, 1/4DIA., NYLON BLACK	264480	1	43	SUPPORT, AIR PRESS SWITCH	A1276692	1
17	OIL, VANGUARD	264626	0.88 gal	45	SWITCH, PRESSURE ADJUSTABLE 50-175 PSI	CO271659	1
18	KEY, WOODROOF #505 5/32 x 5/8	265207	1	46	SWITCH, PRESSURE N.C. 35 PSI	CO274534	1
19	CLUTCH, 12VDC TAPER-SHAFT 8-GRV	266198	1	44	GAUGE, AIR DRY 0-200 PSI	CO72717	1
20	ELBOW, 1/2MPT X 1/2FJIC SWVL 90	268929-008	1	47	BELT, SERPENTINE 8K RIB X 50.5 LG	DR275413	1
21	COMPRESSOR, ROTORCOMP NK31 TAPER SHAFT	270116	1	48	SWITCH, PRESSURE N.C. 185 PSI	EL270002	1
22	TAG, COMPR VANAIR 31	270610	1	49	WASHER, 3/8ID X 13/16OD NORD-LOCK	FA49463	8
23	CLIP, TOOL ZINC 3/4 TO 1-1/8	272059	1	50	SCREW, SOCKET FLAT HEAD M8X1.25 16MM	FI275775	4
24	SWITCH, TEMP 235 DEG F NC 1/4-19 BSPP	272268	1	51	HOSE, COMPRESSOR OIL DRAIN	TU276220-020	1
25	TENSIONER, ROTARY MODIFIED W/ IDLER THRU MOUNT	279758	1	52	HOSE, COMPRESSOR TO OIL COOLER	TU276220-021	1
26	CAPSCREW, S.H. FLAT 3/8-16 UNC X 2-1/2"	280407	1	53	HOSE, COMPRESSOR TO OIL COOLER	TU276220-022	1
27	TEE, PIPE GALV 1/2	804415-020	1	54	HOSE, COMPRESSOR TO TANK	TU276220-023	1
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.							

SECTION 7:
ILLUSTRATED PARTS LIST

AIR N ARC® 300 GAS • AIR N ARC® 300 GAS
COMPACT • POWERFLEX™ AE GAS •
POWERFLEX™ AE GAS COMPACT

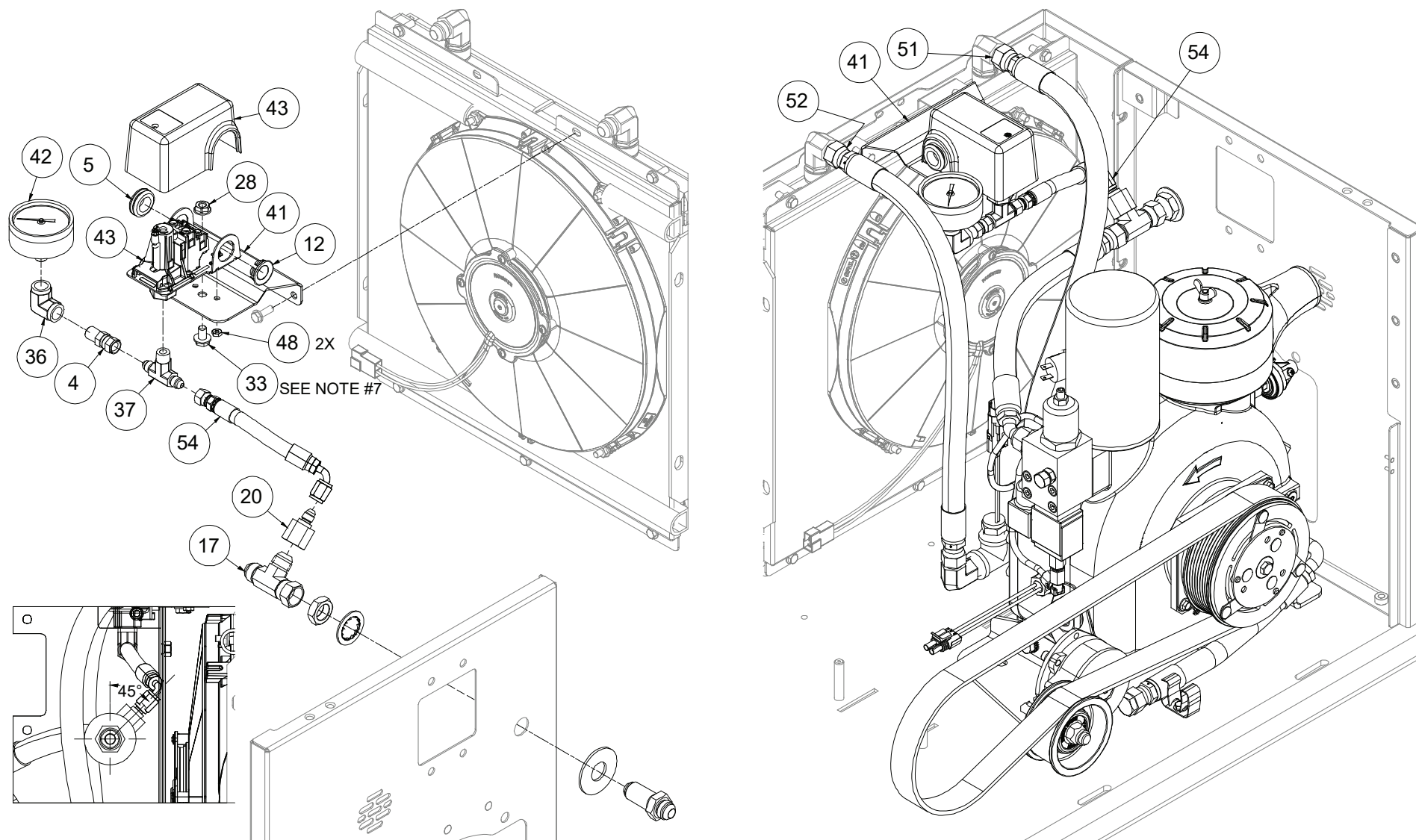
7.3 COMPRESSOR AND PARTS ASSEMBLY: AIR N ARC® 300 GAS, POWERFLEX™ AE GAS - 1 OF 2 (COMPACT)



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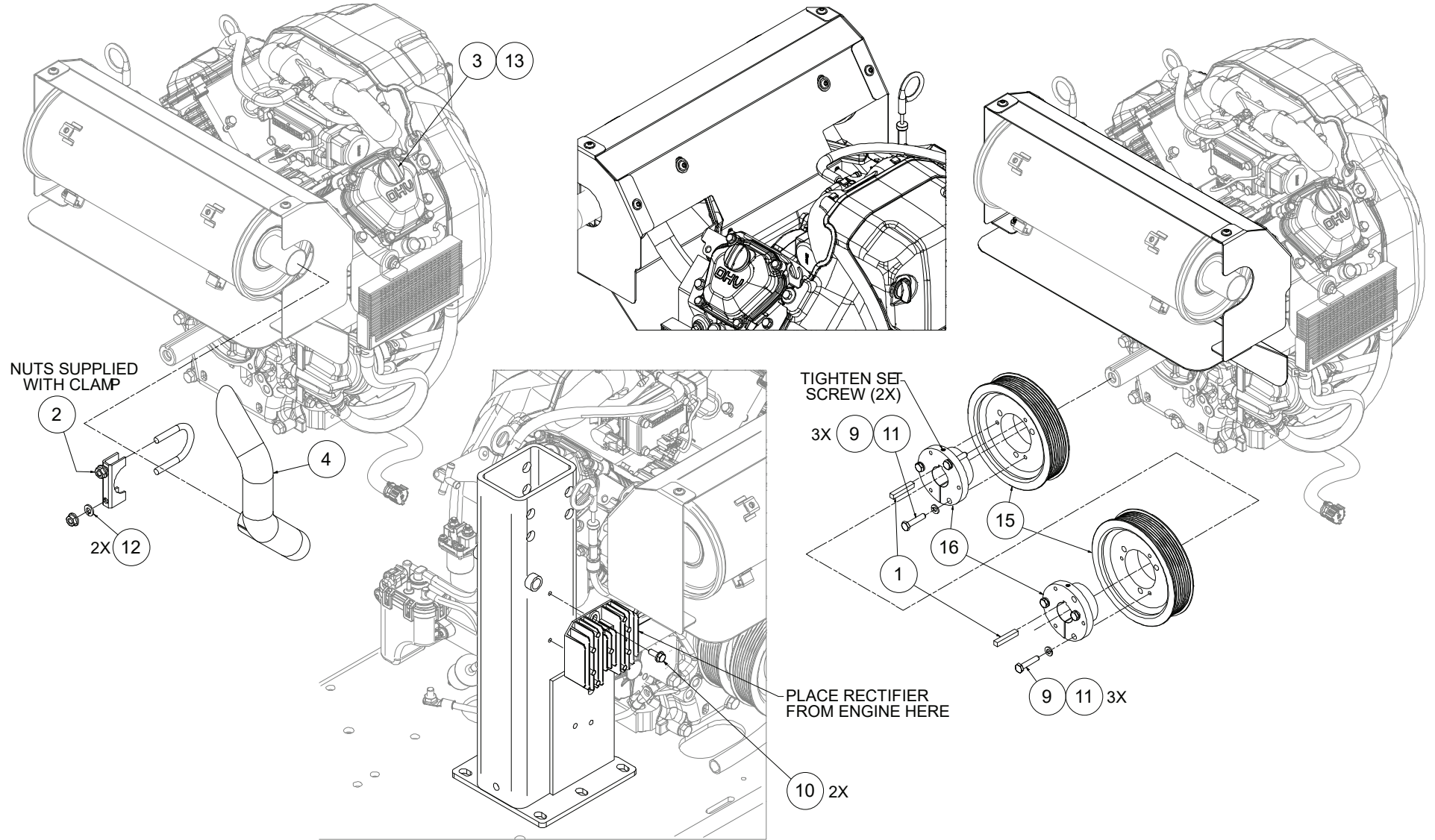
7.3 COMPRESSOR AND PARTS ASSEMBLY: AIR N ARC® 300 GAS, POWERFLEX™ AE GAS - 1 OF 2 (COMPACT)								
ITEM	DESCRIPTION	PART NUMBER	QTY		ITEM	DESCRIPTION	PART NUMBER	QTY
1	SWITCH , TEMPERATURE 165 (ELECTRIC)	260230	1		28	NUT, HEX FLANGE 5/16-18	825305-283	1
2	TEE, MALE STREET 1/4 x 1/4 x 1/4	260402-102	1		29	CAPSCREW, HEX 10mm 1.5 x 25	828010-025	4
3	ELBOW, 90 DEG. SWIVEL #8 FJIC x #8 MJIC	261842-006	1		30	CAPSCREW, S.H. BLACK 1/4-20 x 1/2	828204-050	1
4	CONNECTOR, SWIVEL, 1/4MP X 1/4FJIC	262070-007	1		31	CAPSCREW, HEX GR8 3/8-16 x 1	829406-100	4
5	GROMMET, RUBBER 5/8 x 7/8x 1/8	262905	1		32	SCREW, SER WASH 1/4-20 x 0.75	829704-075	1
6	ELBOW, 90 DEG. 1/2 MJIC X 3/8 MBSPP ADJ	263747-021	1		33	SCREW, SER WASH 5/16-18 x 0.5	829705-050	1
7	ADAPTER, FEMALE PIPE x BSPP 1/8	263748-001	1		34	WASHER, LOCK 1/4	838504-062	1
8	ADAPTER, FEMALE PIPE x BSPP 1/4	263748-004	1		35	ELBOW, 37FL/90M #08 x 1/2	860208-050	1
9	VALVE, RELIEF 200 PSI 1/4 NPT MALE	264232	1		36	ELBOW, PIPE STEEL 1/4	860604-025	1
10	ADAPTER, M-JIC 1/2 x BSPP 3/8	264312-007	2		37	TEE, 37FL/M BR #4 x 1/4	861704-025	1
11	ADAPTER, MJIC x MBSPP 1/2 x 1/2	264312-008	1		38	BRACKET, COMPRESSOR MTG	A1270373	1
12	SEAL, KNOCKOUT 1/2"	264443	1		39	SPACER, CLUTCH AT COMPR	A1275138	1
13	WASHER, SEALING BSPP #4	264449-001	1		40	SUPT, COMPR & TENSIONER	A1276227	1
14	OIL, VANGUARD	264626	0.87 gal		41	SUPPORT, AIR PRESS SWITCH	A1276692	1
15	KEY, WOODROOF #505 5/32 x 5/8	265207	1		42	GAUGE, AIR DRY 0-200 PSI	CO72717	1
16	CLUTCH, 12VDC TAPER-SHAFT 8-GRV	266198	1		43	SWITCH, PRESSURE ADJUSTABLE 50-175 PSI	CO271659	1
17	TEE, RUN SWIVEL 1/2	268769-004	1		44	SWITCH, PRESSURE N.C. 35 PSI	CO274534	1
18	ELBOW, 1/2MPT X 1/2FJIC SWVL 90	268929-008	1		45	BELT, SERPENTINE 8K RIB X 50.5 LG	DR275413	1
19	COMPRESSOR, ROTORCOMP NK31 TAPER SHAFT	270116	1		46	SWITCH, PRESSURE N.C. 185 PSI	EL270002	1
20	REDUCER, #8 FJIC X #4 MJIC	270441-003	1		47	WASHER, 3/8ID X 13/16OD NORD-LOCK	FA49463	8
21	TAG, COMPR VANAIR 31	270610	1		48	NUT, MACHINE SCREW #8-32	FA277891	2
22	CLIP, TOOL ZINC 3/4 TO 1-1/8	272059	1		49	SCREW, SOCKET FLAT HEAD M8X1.25 16MM	FI275775	4
23	SWITCH, TEMP 235 DEG F NC 1/4-19 BSPP	272268	1		50	HOSE, COMPRESSOR OIL DRAIN	TU277966-001	1
24	TENSIONER, ROTARY MODIFIED W/ IDLER THRU MOUNT	279758	1		51	HOSE, COMPRESSOR TO COOLER	TU277966-002	1
25	CAPSCREW, S.H. FLAT 3/8-16 UNC X 2-1/2"	280407	1		52	HOSE, COMPRESSOR TO OIL COOLER	TU277966-003	1
26	TEE, PIPE GALV 1/2	804415-020	1		53	HOSE, COMPRESSOR TO BULKHEAD	TU277966-004	1
27	BUSHING, RED STEEL 1/4 x 1/8	807600-005	1		54	HOSE, COMPR TO PRESS GAUGE	TU277966-005	1
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.								

7.3 COMPRESSOR AND PARTS ASSEMBLY: AIR N ARC® 300 GAS, POWERFLEX™ AE GAS - 2 OF 2 (COMPACT)



7.3 COMPRESSOR AND PARTS ASSEMBLY: AIR N ARC® 300 GAS, POWERFLEX™ AE GAS - 2 OF 2 (COMPACT)							
ITEM	DESCRIPTION	PART NUMBER	QTY	ITEM	DESCRIPTION	PART NUMBER	QTY
1	SWITCH , TEMPERATURE 165 (ELECTRIC)	260230	1	28	NUT, HEX FLANGE 5/16-18	825305-283	1
2	TEE, MALE STREET 1/4 x 1/4 x 1/4	260402-102	1	29	CAPSCREW, HEX 10mm 1.5 x 25	828010-025	4
3	ELBOW, 90 DEG. SWIVEL #8 FJIC x #8 MJIC	261842-006	1	30	CAPSCREW, S.H. BLACK 1/4-20 x 1/2	828204-050	1
4	CONNECTOR, SWIVEL, 1/4MP X 1/4FJIC	262070-007	1	31	CAPSCREW, HEX GR8 3/8-16 x 1	829406-100	4
5	GROMMET, RUBBER 5/8 x 7/8x 1/8	262905	1	32	SCREW, SER WASH 1/4-20 x 0.75	829704-075	1
6	ELBOW, 90 DEG. 1/2 MJIC X 3/8 MBSPP ADJ	263747-021	1	33	SCREW, SER WASH 5/16-18 x 0.5	829705-050	1
7	ADAPTER, FEMALE PIPE x BSPP 1/8	263748-001	1	34	WASHER, LOCK 1/4	838504-062	1
8	ADAPTER, FEMALE PIPE x BSPP 1/4	263748-004	1	35	ELBOW, 37FL/90M #08 x 1/2	860208-050	1
9	VALVE, RELIEF 200 PSI 1/4 NPT MALE	264232	1	36	ELBOW, PIPE STEEL 1/4	860604-025	1
10	ADAPTER, M-JIC 1/2 x BSPP 3/8	264312-007	2	37	TEE, 37FL/M BR #4 x 1/4	861704-025	1
11	ADAPTER, MJIC x MBSPP 1/2 x 1/2	264312-008	1	38	BRACKET, COMPRESSOR MTG	A1270373	1
12	SEAL, KNOCKOUT 1/2"	264443	1	39	SPACER, CLUTCH AT COMPR	A1275138	1
13	WASHER, SEALING BSPP #4	264449-001	1	40	SUPT, COMPR & TENSIONER	A1276227	1
14	OIL, VANGUARD	264626	0.87 gal	41	SUPPORT, AIR PRESS SWITCH	A1276692	1
15	KEY, WOODROOF #505 5/32 x 5/8	265207	1	42	GAUGE, AIR DRY 0-200 PSI	CO72717	1
16	CLUTCH, 12VDC TAPER-SHAFT 8-GRV	266198	1	43	SWITCH, PRESSURE ADJUSTABLE 50-175 PSI	CO271659	1
17	TEE, RUN SWIVEL 1/2	268769-004	1	44	SWITCH, PRESSURE N.C. 35 PSI	CO274534	1
18	ELBOW, 1/2MPT X 1/2FJIC SWVL 90	268929-008	1	45	BELT, SERPENTINE 8K RIB X 50.5 LG	DR275413	1
19	COMPRESSOR, ROTORCOMP NK31 TAPER SHAFT	270116	1	46	SWITCH, PRESSURE N.C. 185 PSI	EL270002	1
20	REDUCER, #8 FJIC X #4 MJIC	270441-003	1	47	WASHER, 3/8ID X 13/16OD NORD-LOCK	FA49463	8
21	TAG, COMPR VANAIR 31	270610	1	48	NUT, MACHINE SCREW #8-32	FA277891	2
22	CLIP, TOOL ZINC 3/4 TO 1-1/8	272059	1	49	SCREW, SOCKET FLAT HEAD M8X1.25 16MM	FI275775	4
23	SWITCH, TEMP 235 DEG F NC 1/4-19 BSPP	272268	1	50	HOSE, COMPRESSOR OIL DRAIN	TU277966-001	1
24	TENSIONER, ROTARY MODIFIED W/ IDLER THRU MOUNT	279758	1	51	HOSE, COMPRESSOR TO COOLER	TU277966-002	1
25	CAPSCREW, S.H. FLAT 3/8-16 UNC X 2-1/2"	280407	1	52	HOSE, COMPRESSOR TO OIL COOLER	TU277966-003	1
26	TEE, PIPE GALV 1/2	804415-020	1	53	HOSE, COMPRESSOR TO BULKHEAD	TU277966-004	1
27	BUSHING, RED STEEL 1/4 x 1/8	807600-005	1	54	HOSE, COMPR TO PRESS GAUGE	TU277966-005	1
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.							

7.4 ENGINE AND DRIVE PARTS: AIR N ARC® 300 GAS, POWERFLEX™ AE GAS - 1 OF 2 (STANDARD)

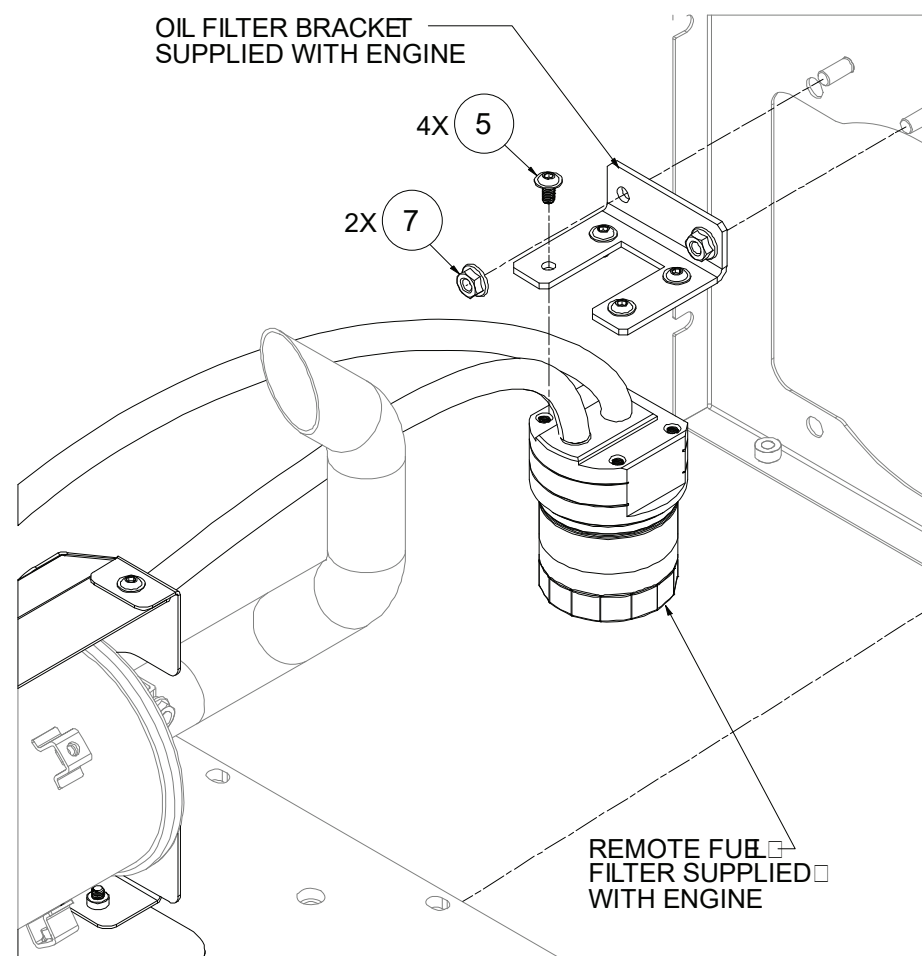
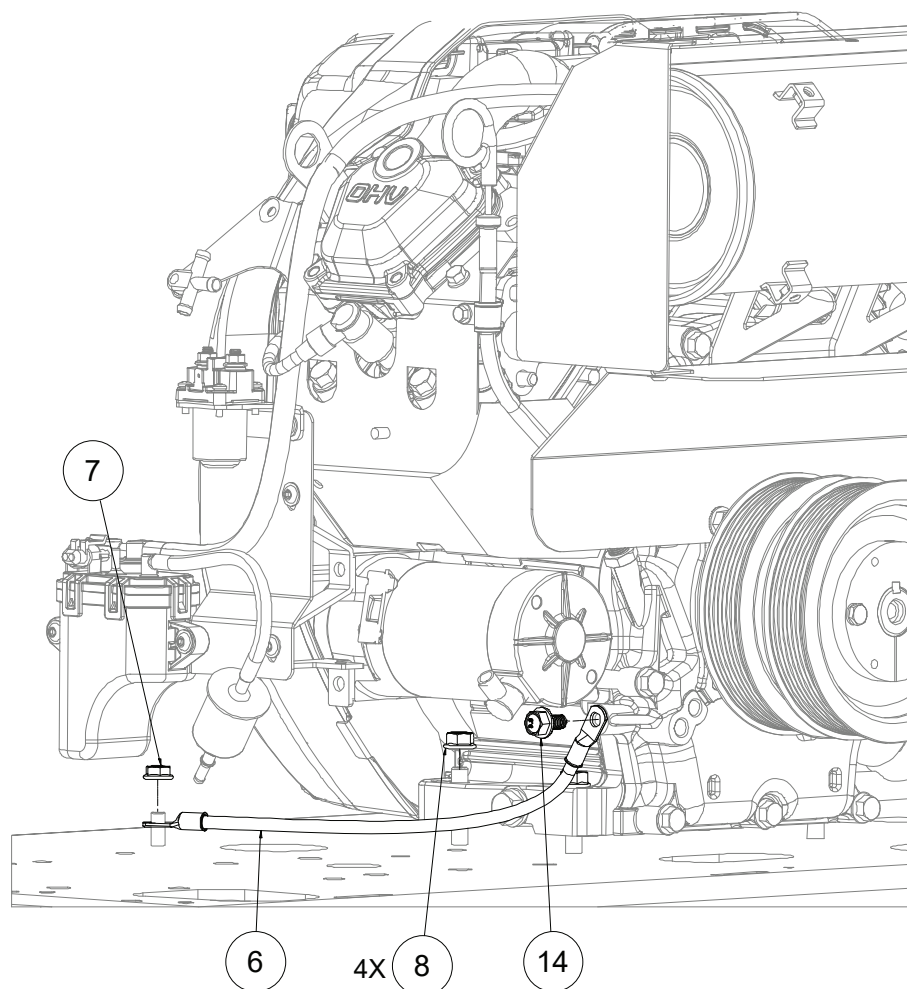


7.4 ENGINE AND DRIVE PARTS: AIR N ARC® 300 GAS, POWERFLEX™ AE GAS - 1 OF 2 (STANDARD)			
ITEM	DESCRIPTION	PART NUMBER	QTY
1	KEY, SQUARE 1/4 X 1/4 X 1 1/2	262082	2
2	CLAMP, EXHAUST 1-3/8"	262906-138	1
3	ENGINE, GAS VNR750 EFI 24.5HP (ANA300V)	283847	1
4	TUBE, ENG EXHAUST OUTLET	284768	1
5	SCREW, FLANGED BUTTON HEX HEAD M6-1.0MM X 12MM	285962-012	4
6	CABLE, ENGINE GROUND 300V	286359	1
7	NUT, HEX FLANGE 5/16-18	825305-283	3
8	NUT, HEX FLANGE 3/8-16	825306-347	4
9	CAPSCREW, HEX GR5 1/4-20 x 1.25	829104-125	6
10	SCREW, SER WASH 1/4-20 x 0.625	829704-062	2
11	WASHER, LOCK 1/4	838504-062	6
12	WASHER, LOCK 5/16	838505-078	2
13	OIL, MOTOR 10W-30	844300-001	1.6 qts
14	SCREW, SER WASH M8-1.25 X 16MM LG	880908-016	1
15	SHEAVE, SERPENTINE, 8 GROOVE	A15891Z	2
16	BUSHING, SDS, QD, 1 1/8DIA	DR85785Z	2
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.			

SECTION 7:
ILLUSTRATED PARTS LIST

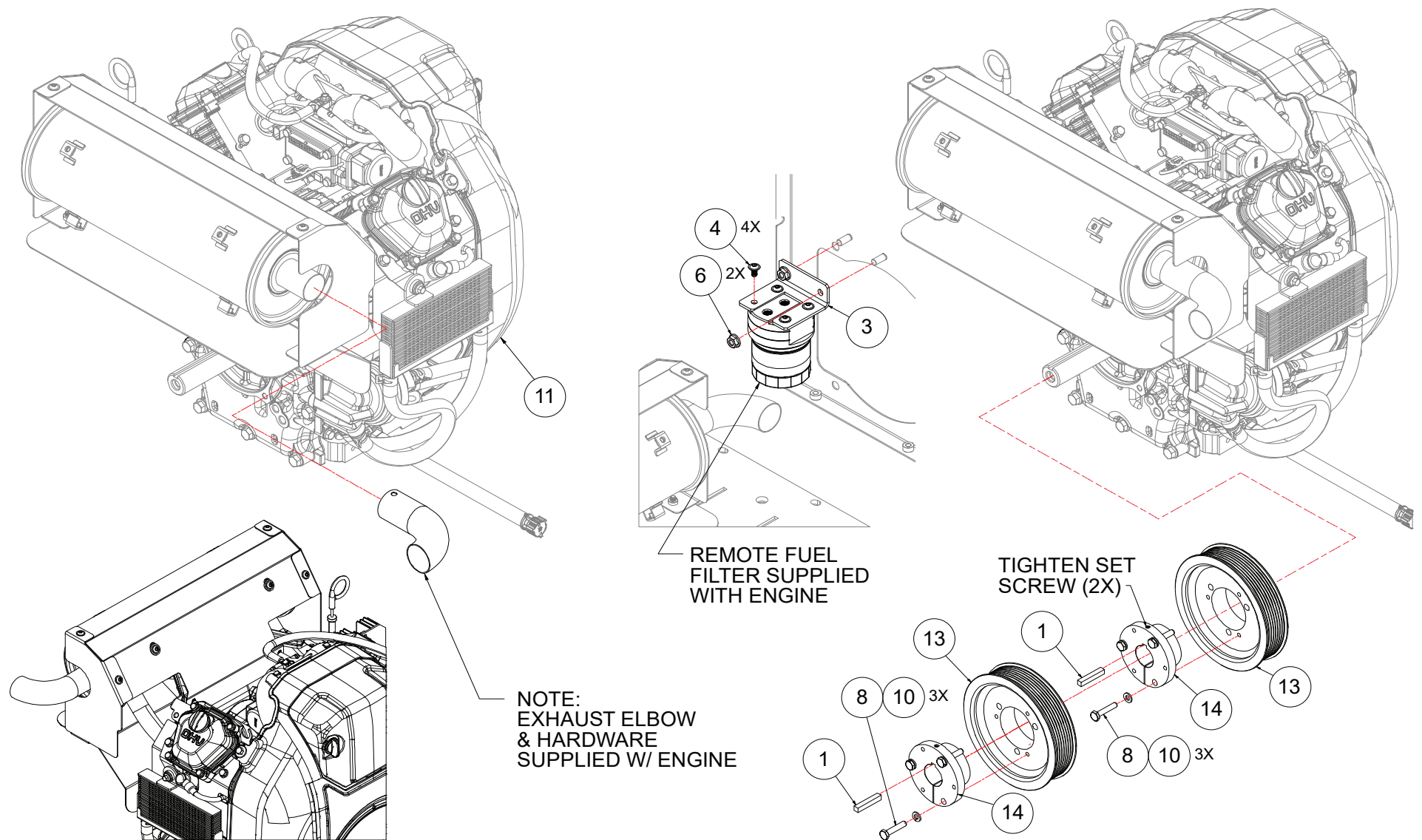
AIR N ARC® 300 GAS • AIR N ARC® 300 GAS
COMPACT • POWERFLEX™ AE GAS •
POWERFLEX™ AE GAS COMPACT

7.4 ENGINE AND DRIVE PARTS: AIR N ARC® 300 GAS, POWERFLEX™ AE GAS - 2 OF 2 (STANDARD)



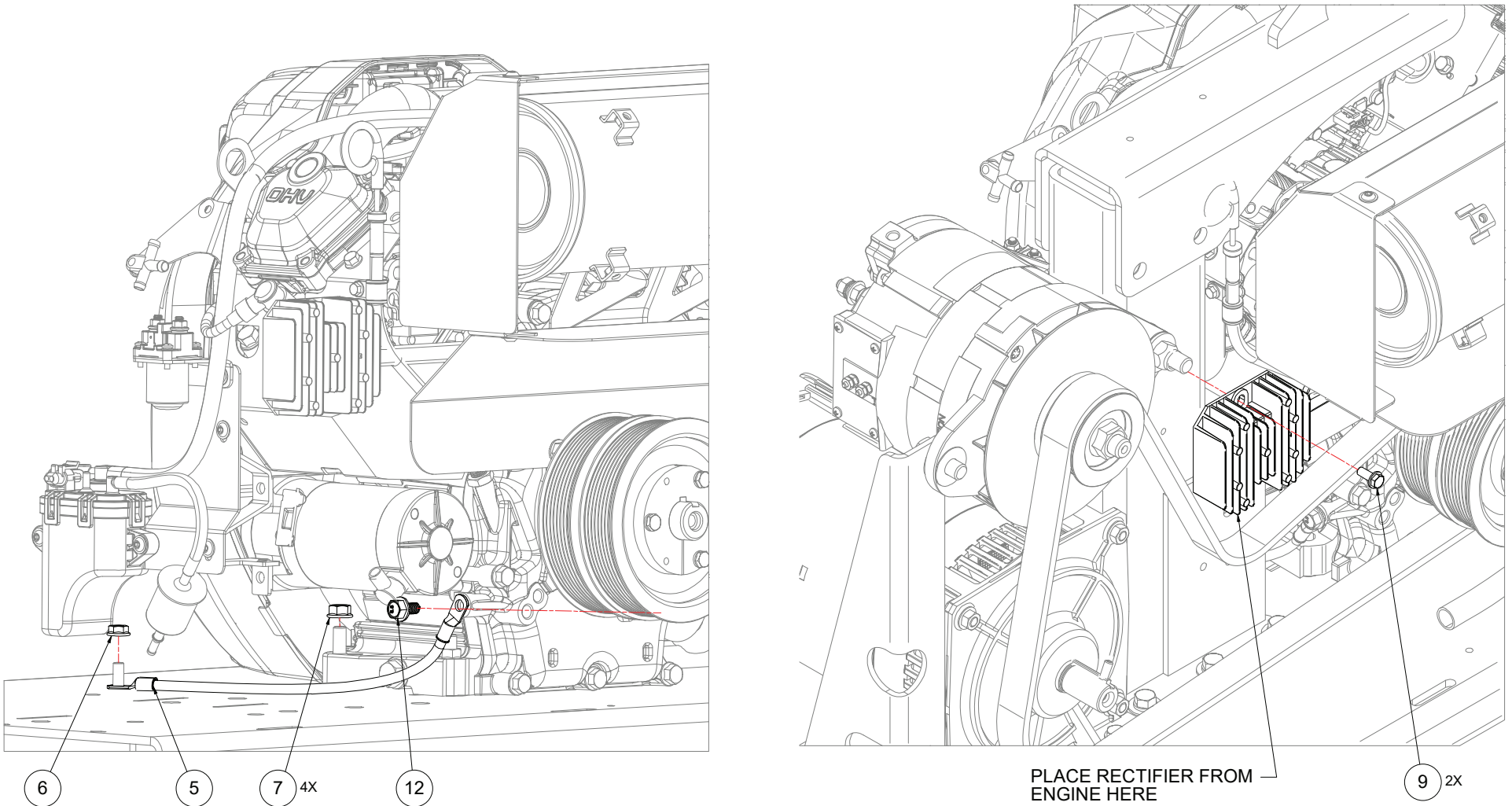
7.4 ENGINE AND DRIVE PARTS: AIR N ARC® 300 GAS, POWERFLEX™ AE GAS - 2 OF 2 (STANDARD)			
ITEM	DESCRIPTION	PART NUMBER	QTY
1	KEY, SQUARE 1/4 X 1/4 X 1 1/2	262082	2
2	CLAMP, EXHAUST 1-3/8"	262906-138	1
3	ENGINE, GAS VNR750 EFI 24.5HP (ANA300V)	283847	1
4	TUBE, ENG EXHAUST OUTLET	284768	1
5	SCREW, FLANGED BUTTON HEX HEAD M6-1.0MM X 12MM	285962-012	4
6	CABLE, ENGINE GROUND 300V	286359	1
7	NUT, HEX FLANGE 5/16-18	825305-283	3
8	NUT, HEX FLANGE 3/8-16	825306-347	4
9	CAPSCREW, HEX GR5 1/4-20 x 1.25	829104-125	6
10	SCREW, SER WASH 1/4-20 x 0.625	829704-062	2
11	WASHER, LOCK 1/4	838504-062	6
12	WASHER, LOCK 5/16	838505-078	2
13	OIL, MOTOR 10W-30	844300-001	1.6 qts
14	SCREW, SER WASH M8-1.25 X 16MM LG	880908-016	1
15	SHEAVE, SERPENTINE, 8 GROOVE	A15891Z	2
16	BUSHING, SDS, QD, 1 1/8DIA	DR85785Z	2
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.			

7.5 ENGINE AND DRIVE PARTS: AIR N ARC® 300 GAS, POWERFLEX™ AE GAS - 1 OF 2 (COMPACT)



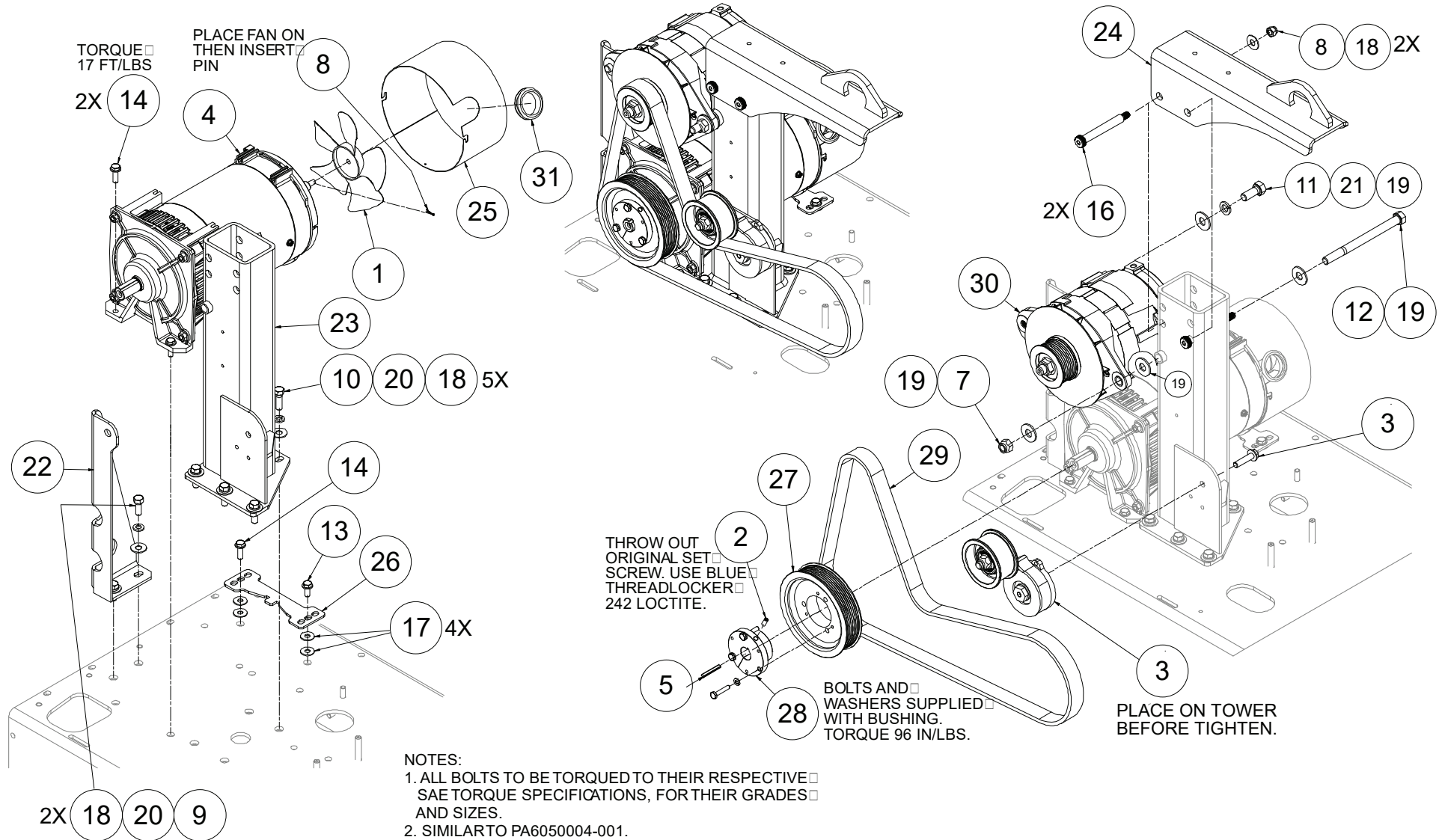
7.5 ENGINE AND DRIVE PARTS: AIR N ARC® 300 GAS, POWERFLEX™ AE GAS - 1 OF 2 (COMPACT)			
ITEM	DESCRIPTION	PART NUMBER	QTY
1	KEY, SQUARE 1/4 X 1/4 X 1 1/2	262082	2
2	ENGINE, GAS VNR750 EFI 24.5HP (ANA300V)	283847	1
3	SUPPORT, REMOTE OIL FILTER ANA300V	284767	1
4	SCREW, FLANGED BUTTON HEX HEAD M6-1.0MM X 12MM	285962-012	4
5	CABLE, ENGINE GROUND 300V	286359	1
6	NUT, HEX FLANGE 5/16-18	825305-283	3
7	NUT, HEX FLANGE 3/8-16	825306-347	4
8	CAPSCREW, HEX GR5 1/4-20 x 1.25	829104-125	6
9	SCREW, SER WASH 1/4-20 x 0.625	829704-062	2
10	WASHER, LOCK 1/4	838504-062	6
11	OIL, MOTOR 10W-30	844300-001	1.6 qts
12	SCREW, SER WASH M8-1.25 X 16MM LG	880908-016	1
13	SHEAVE, SERPENTINE, 8 GROOVE	A15891Z	2
14	BUSHING, SDS, QD, 1 1/8DIA	DR85785Z	2
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.			

7.5 ENGINE AND DRIVE PARTS: AIR N ARC® 300 GAS, POWERFLEX™ AE GAS - 2 OF 2 (COMPACT)



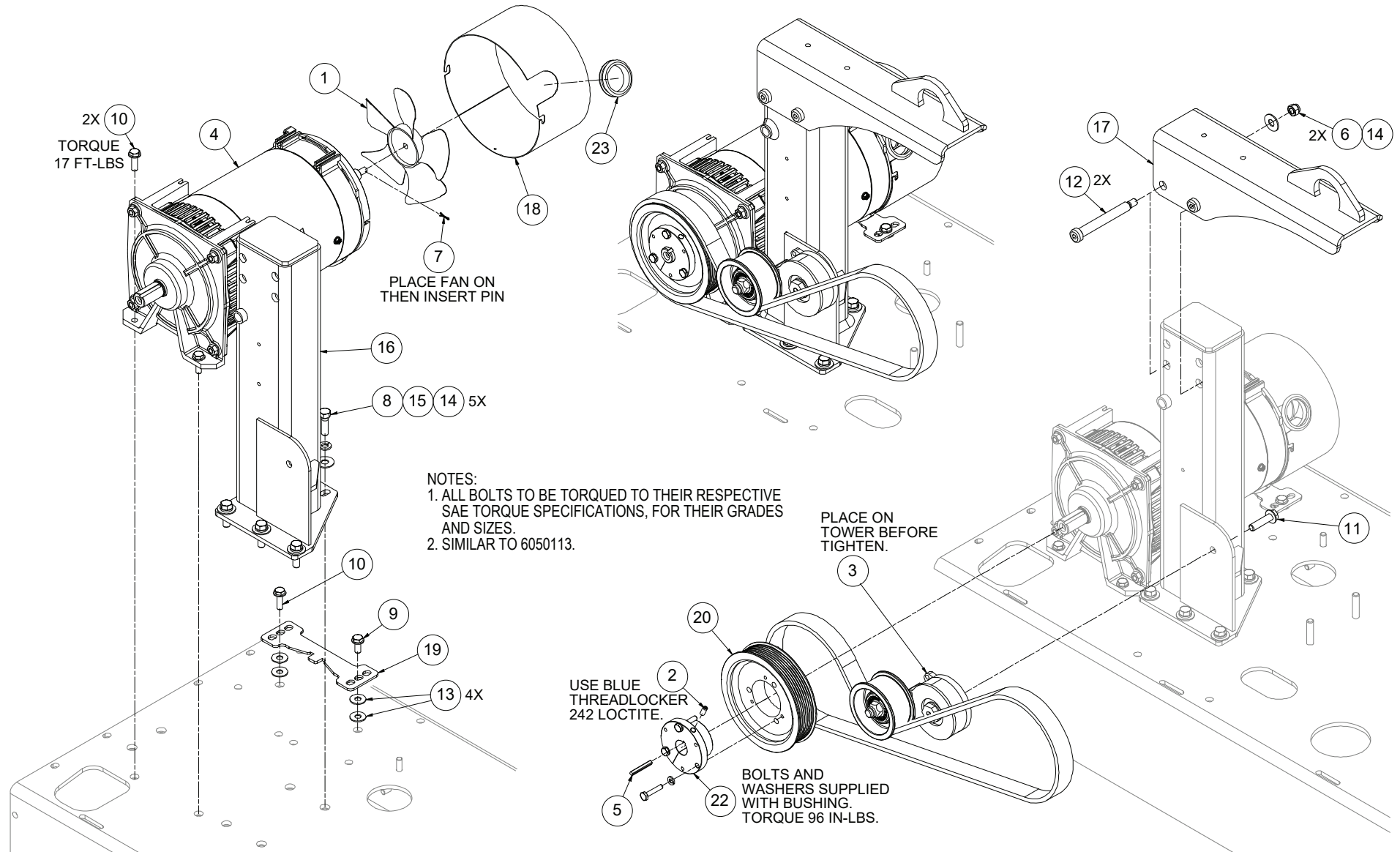
7.5 ENGINE AND DRIVE PARTS: AIR N ARC® 300 GAS, POWERFLEX™ AE GAS - 2 OF 2 (COMPACT)			
ITEM	DESCRIPTION	PART NUMBER	QTY
1	KEY, SQUARE 1/4 X 1/4 X 1 1/2	262082	2
2	ENGINE, GAS VNR750 EFI 24.5HP (ANA300V)	283847	1
3	SUPPORT, REMOTE OIL FILTER ANA300V	284767	1
4	SCREW, FLANGED BUTTON HEX HEAD M6-1.0MM X 12MM	285962-012	4
5	CABLE, ENGINE GROUND 300V	286359	1
6	NUT, HEX FLANGE 5/16-18	825305-283	3
7	NUT, HEX FLANGE 3/8-16	825306-347	4
8	CAPSCREW, HEX GR5 1/4-20 x 1.25	829104-125	6
9	SCREW, SER WASH 1/4-20 x 0.625	829704-062	2
10	WASHER, LOCK 1/4	838504-062	6
11	OIL, MOTOR 10W-30	844300-001	1.6 qts
12	SCREW, SER WASH M8-1.25 X 16MM LG	880908-016	1
13	SHEAVE, SERPENTINE, 8 GROOVE	A15891Z	2
14	BUSHING, SDS, QD, 1 1/8DIA	DR85785Z	2
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.			

7.6 GENERATOR AND PARTS - AIR N ARC® 300 GAS ISO-GND



7.6 GENERATOR AND PARTS - AIR N ARC® 300 GAS ISO-GND							
ITEM	DESCRIPTION	PART NUMBER	QTY	ITEM	DESCRIPTION	PART NUMBER	QTY
1	FAN, 6-5/8" DIA CCW	270691	1	16	SCREW, MACH SHOULDER 1/2 X 3-1/2	830508-350	2
2	SCREW, SET 1/4-20 X 5/8 CUPPT	273095	1	17	WASHER, FLAT 5/16	838205-071	4
3	TENSIONER, ROTARY MODIFIED W/ IDLER 3/8-16 MOUNT	279757	1	18	WASHER, FLAT 3/8	838206-071	9
				19	WASHER, FLAT 1/2	838208-112	4
4	GENERATOR, AC 6.8KW (SINGLE SHAFT)	285359	1	20	WASHER, LOCK 3/8	838506-094	7
5	KEY, SQUARE 3/16 x 3/16 x 1.5	821103-150	1	21	WASHER, LOCK 1/2	838508-125	1
6	NUT, HEX LOCKING 3/8-16	825506-198	2	22	BRACKET, WELD GENERATOR	A1269734	1
7	NUT, HEX LOCKING 1/2-13	825508-262	1	23	BRACKET, LIFT BALE / SUPPORT	A1269735	1
8	PIN, COTTER 1/16 X 1/2	827101-050	1	24	BRACKET, LIFT BALE	A1270039	1
9	CAPSCREW, HEX GR8 3/8X1	829406-100	2	25	SHROUD, A/C GENERATOR	A1270800	1
10	CAPSCREW, HEX GR8 3/8-16X1 1/4	829406-125	5	26	MOUNT, REAR GENERATOR	A15865P	1
11	CAPSCREW, HEX GR8 1/2-13 x 1.25	829408-125	1	27	SHEAVE, SERPENTINE, 8 GROOVE	A15891Z	1
12	CAPSCREW, HEX GR8 1/2-13 x 6.5	829408-650	1	28	BUSHING, SDS-QD 7/8DIA. 3 BOLT FLG	DR41395Z	1
13	SCREW, SER WASH 5/16-18 x 0.75	829705-075	1	29	BELT, SERPENTINE 8K RIB X 65.2 LG ANA300G	DR98202	1
14	SCREW, SER WASH 5/16-18 x 1	829705-100	3	30	WELDER, GENERATOR 300A DC ISO GRD	GE273696	1
15	SCREW, SER WASH 3/8-16 x 1.5	829706-150	1	31	GROMMET, BLACK RUBBER, 1.75ID	PR33078	1
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.							

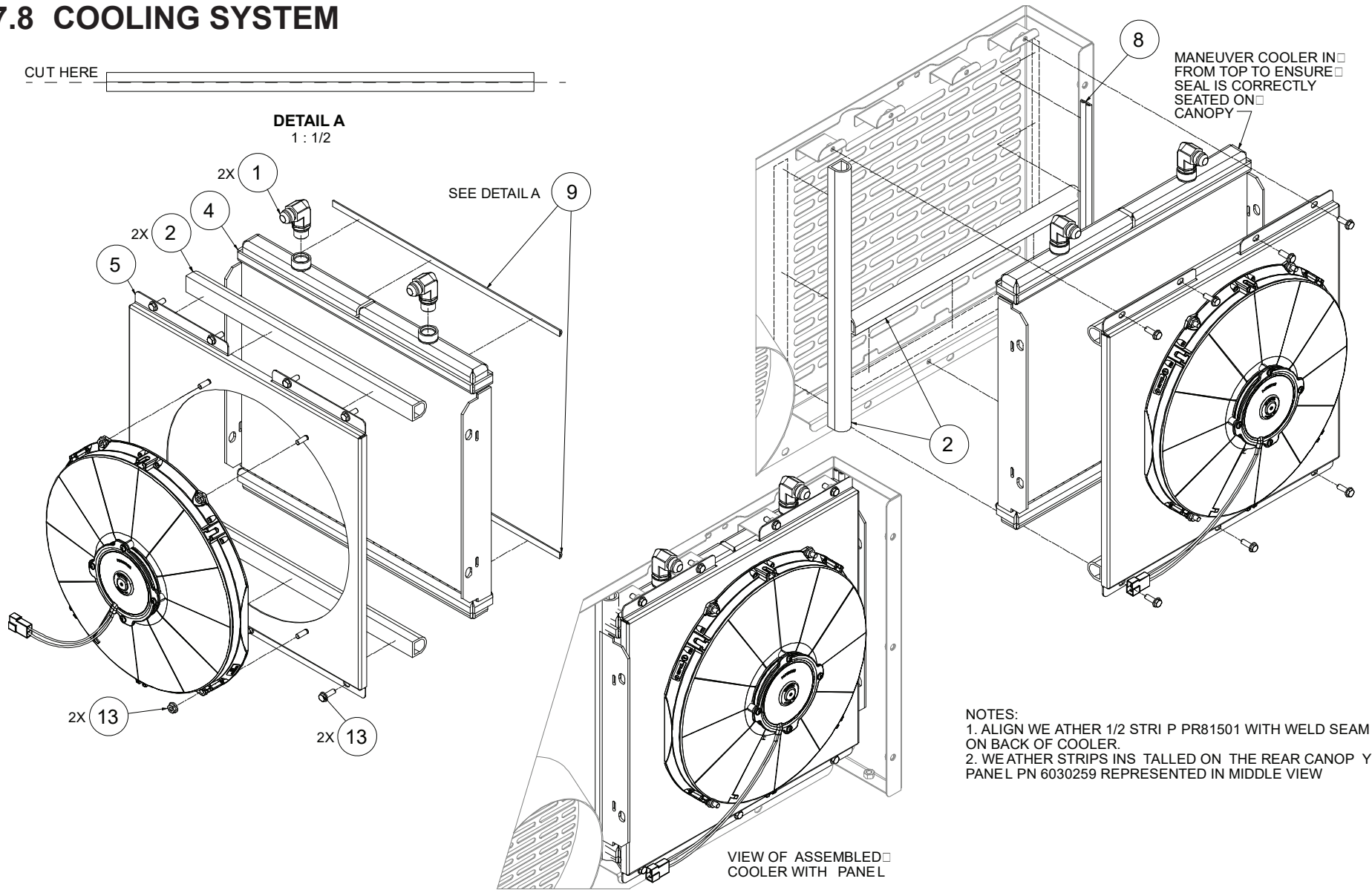
7.7 GENERATOR AND PARTS - POWERFLEX™ AE GAS



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7.7 GENERATOR AND PARTS - POWERFLEX™ AE GAS			
ITEM	DESCRIPTION	PART NUMBER	QTY
1	FAN, 6-5/8" DIA CCW	270691	1
2	SCREW, SET 1/4-20 X 5/8 CUPPT	273095	1
3	TENSIONER, ROTARY MODIFIED W/ IDLER 3/8-16 MOUNT	279757	1
4	GENERATOR, AC 6.8KW (SINGLE SHAFT)	285359	1
5	KEY, SQUARE 3/16 x 3/16 x 1.5	821103-150	1
6	NUT, HEX LOCKING 3/8-16	825506-198	2
7	PIN, COTTER 1/16 X 1/2	827101-050	1
8	CAPSCREW, HEX GR8 3/8-16X1 1/4	829406-125	5
9	SCREW, SER WASH 5/16-18 x 0.75	829705-075	1
10	SCREW, SER WASH 5/16-18 x 1	829705-100	3
11	SCREW, SER WASH 3/8-16 x 1.5	829706-150	1
12	SCREW, MACH SHOULDER 1/2X 3 3/4	830508-375	2
13	WASHER, FLAT 5/16	838205-071	4
14	WASHER, FLAT 3/8	838206-071	7
15	WASHER, LOCK 3/8	838506-094	5
16	BRACKET, LIFT BALE / SUPPORT	A1269735	1
17	BRACKET, LIFT BALE	A1270039	1
18	SHROUD, A/C GENERATOR	A1270800	1
19	MOUNT, REAR GENERATOR	A15865P	1
20	SHEAVE, SERPENTINE, 8 GROOVE	A15891Z	1
21	BELT, SERPENTINE 8K RIB X 53.7 LG ANA300D	DR27584	1
22	BUSHING, SDS-QD 7/8DIA. 3 BOLT FLG	DR41395Z	1
23	GROMMET, BLACK RUBBER, 1.75ID	PR33078	1
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.			

7.8 COOLING SYSTEM



7.8 COOLING SYSTEM				
ITEM	DESCRIPTION	PART NUMBER	QTY	LENGTH
1	ELBOW, 90 DEG #8 MJIC x #8 MSAE	260403-104	2	-
2	SEAL, RUBBER "D" TRIM-LOK	264138	4	16.5 in
3	FAN & MOTOR ASSY, 12VDC-9.5 AMP PULL	265917	1	-
4	COOLER,OIL NK31 SAE O-RING	275073	1	-
5	SHROUD, COOLER	284541	1	-
6	NUT, HEX FLANGE 1/4-20	825304-236	4	-
7	SCREW, SER WASH 1/4-20 x 0.75	829704-075	7	-
8	GASKET, ADHESIVE BACK, D SHAPE	PR81501	2	16.5 in
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.				

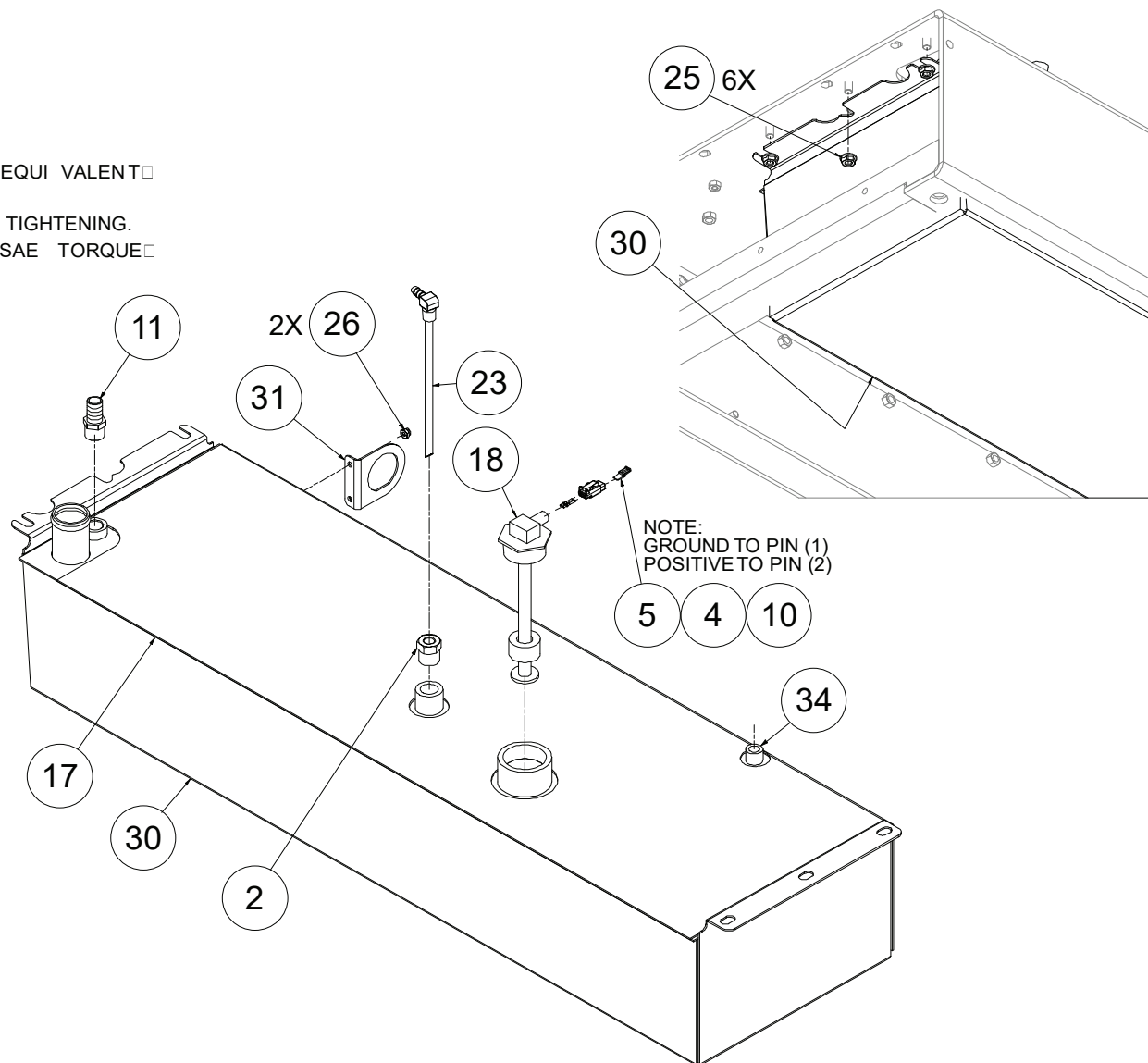
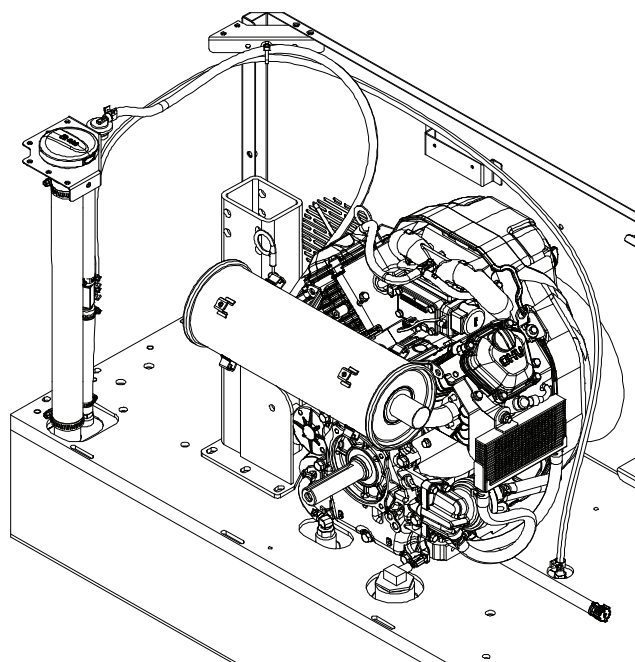
SECTION 7:
ILLUSTRATED PARTS LIST

AIR N ARC® 300 GAS • AIR N ARC® 300 GAS
COMPACT • POWERFLEX™ AE GAS •
POWERFLEX™ AE GAS COMPACT

7.9 FUEL TANK - 1 OF 3

NOTES:

1. USE LOCTITE 567 THREAD SEALANT WITH PTFE OR EQUIVALENT SEALANT ON ALL MALE PIPE THREADS.
2. LUBRICATE ALL SEALS/GASKETS/O-RINGS BEFORE TIGHTENING.
3. ALL BOLTS TO BE TORQUED TO THEIR RESPECTIVE SAE TORQUE SPECIFICATIONS FOR THEIR GRADES AND SIZES.

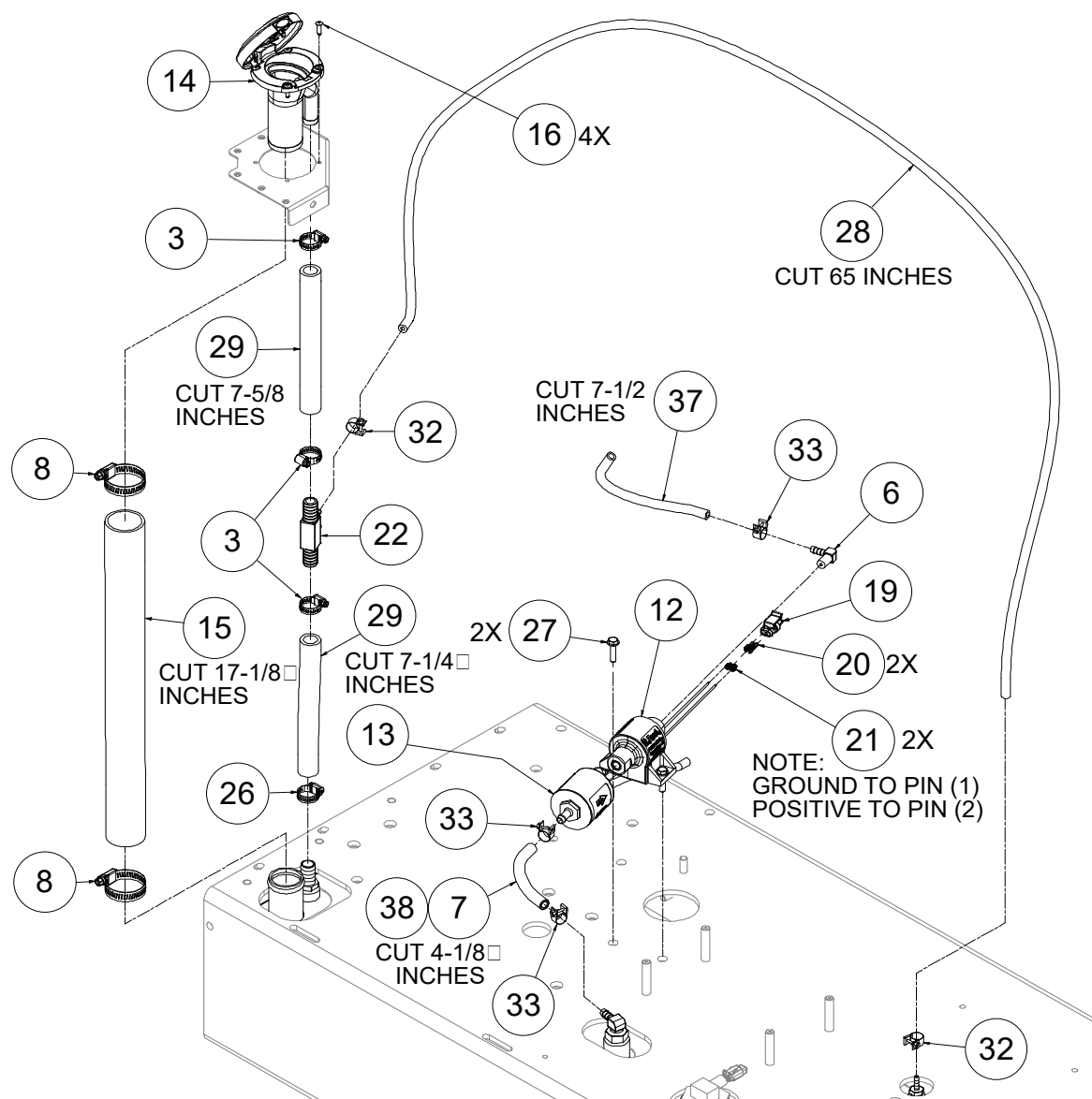
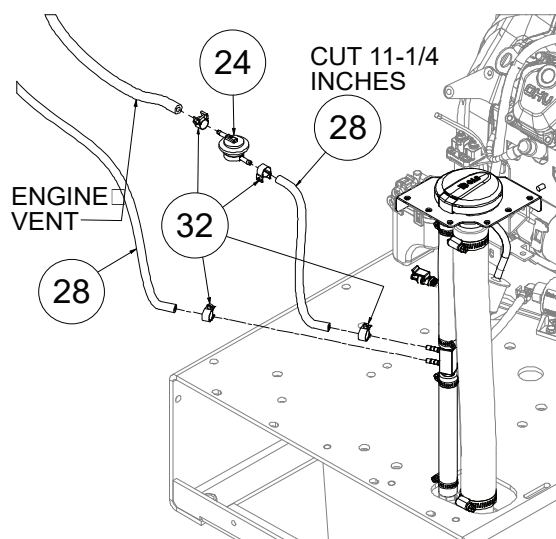


7.9 FUEL TANK - 1 OF 3							
ITEM	DESCRIPTION	PART NUMBER	QTY	ITEM	DESCRIPTION	PART NUMBER	QTY
1	CLAMP, HOSE SUPPORT .50	261837	1	21	SEAL, AMP SPRSL 1.5 SER 18-16AWG	285940	2
2	BUSHING, PIPE BRASS 1/4 x 1/2	264093	1	22	BARB, 4-WAY TEE 5/8 TO 3/16	285969	1
3	CLAMP, HOSE #6 (5/16 INCH - 7/8 INCH)	264787	5	23	TUBE, FUEL P.U. 1/4 NPT TO 5/16 BRB	285974	1
4	CONNECTOR, DEUTSCH 2-PIN DTM06-2S	269037	1	24	FUEL, IN-LINE ROLL OVER VALVE	285989	1
5	WEDGELOCK, DEUTSCH WM-2S	269047	1	25	NUT, HEX FLANGE 5/16-18	825305-283	6
6	ELBOW, 1/8 NPT x 1/4 HOSE BARB	269963	1	26	NUT, HEX LOCKING #10-24	825502-083	2
7	LOOM, FBRLSS HIGH TEMP 1/2" (1200F)	270242	4.13 in	27	SCREW, SER WASH 1/4-20 x 1	829704-100	2
8	CLAMP, HOSE, #24, 1"-2" DIA.	270493	2	28	HOSE, FUEL 3/16 IN-ID SAE-30R7 (FT)	842315-019	76.25 in
10	TERMINAL, DEUTSCH SCKT 0462-005-20141	274773	2	29	HOSE, FUEL LN 5/8 IN-ID SAE-30R7 (FT)	842315-062	14.9 in
11	END, 5/8 HOSE BARB TO 1/2 MNPT	276267	1	30	FUEL TANK, 12 GAL	A1269741	1
12	PUMP, FUEL 1.0-2.0PSI 7GPH	280723	1	31	BRACKET, WIRING HARNESS	A1270047	1
13	FILTER, FUEL 1/8NPT X 5/16HOSE 74 MICRN	280724	1	32	CLAMP, HOSE T-BOLT STYLE 9MM	FA66533	4
14	CAP, GAS FILL NECK	282962	1	33	CLAMP, HOSE, T-BOLT STYLE, 12mm	FA86779	5
15	HOSE, FUEL FILL 1-1/2" FLEXIBLE	283077	17.1 in	34	HOSEBARB, 1/4MNPT X 3/16 BRASS	FI92363	1
16	RIVET, BLND OPNED END 5/32" GRIP RANGE 0.189"-0.378"	283912	4	35	TIE, CABLE PUSH MOUNT W/ UMBRLLA	HA270685	1
17	SHIELD, HEAT FUEL TANK	285293	1	36	MOUNT, CABLE TIE ADHSV BCK 1-1/8 SQ x 3/16 HIGH SLMF	SHOP548	1
18	SENDER, FUEL LEVEL 7LG	285693	1	37	HOSE, FUEL 1/4" SAEJ30R14T2 APPRVD	TU269439	7.5 in
19	CONNECTOR, AMP SPRSL 1.5 SER 2-PIN FML	285937	1	38	HOSE, FUEL 5/16" SAEJ30R14T2 APPRVD	TU270137	4.13 in
20	TERMINAL, AMP SPRSL 1.5 SER FML 18-16AWG	285939	2				
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.							

SECTION 7: ILLUSTRATED PARTS LIST

**AIR N ARC® 300 GAS • AIR N ARC® 300 GAS
COMPACT • POWERFLEX™ AE GAS •
POWERFLEX™ AE GAS COMPACT**

7.9 FUEL TANK - 2 OF 3



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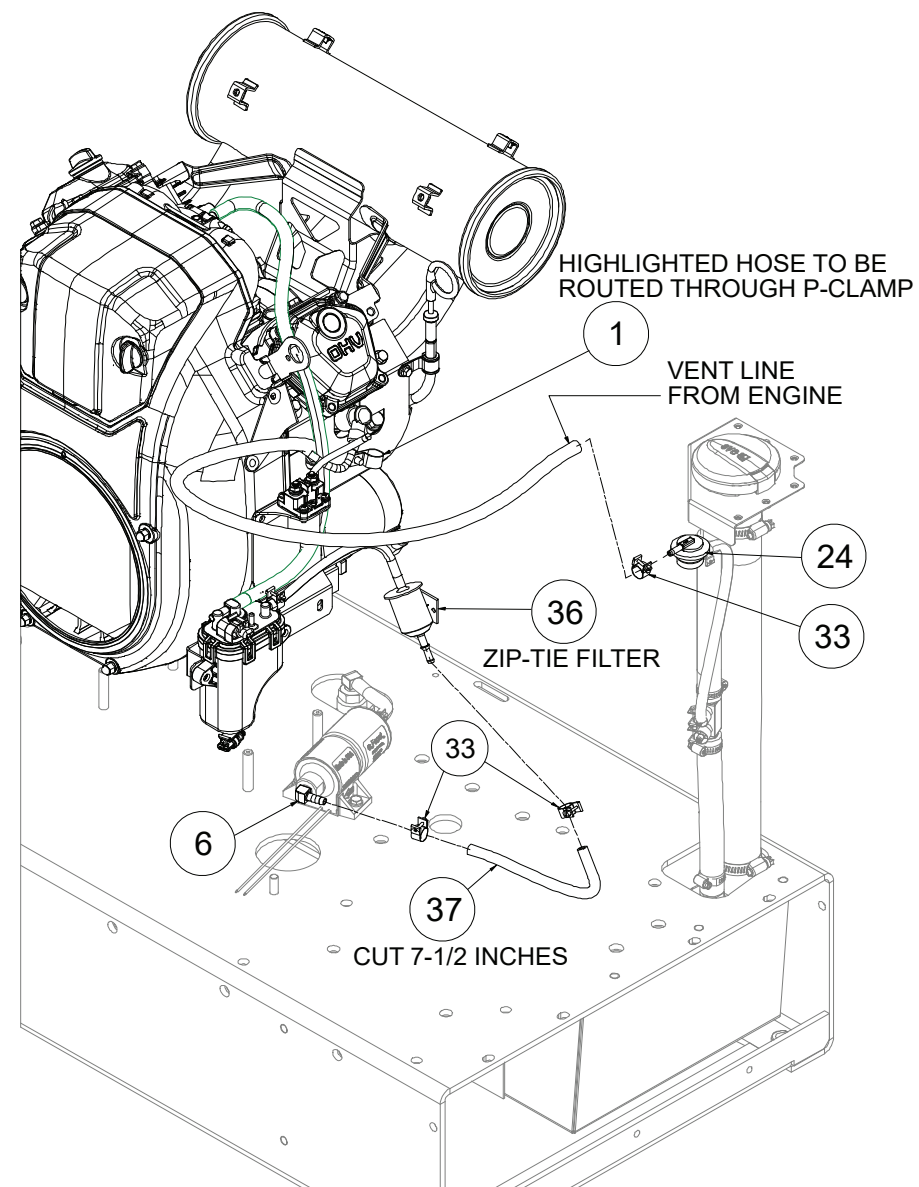
7.9 FUEL TANK - 2 OF 3

ITEM	DESCRIPTION	PART NUMBER	QTY	ITEM	DESCRIPTION	PART NUMBER	QTY
1	CLAMP, HOSE SUPPORT .50	261837	1	21	SEAL, AMP SPRSL 1.5 SER 18-16AWG	285940	2
2	BUSHING, PIPE BRASS 1/4 x 1/2	264093	1	22	BARB, 4-WAY TEE 5/8 TO 3/16	285969	1
3	CLAMP, HOSE #6 (5/16 INCH - 7/8 INCH)	264787	5	23	TUBE, FUEL P.U. 1/4 NPT TO 5/16 BRB	285974	1
4	CONNECTOR, DEUTSCH 2-PIN DTM06-2S	269037	1	24	FUEL, IN-LINE ROLL OVER VALVE	285989	1
5	WEDGELOCK, DEUTSCH WM-2S	269047	1	25	NUT, HEX FLANGE 5/16-18	825305-283	6
6	ELBOW, 1/8 NPT x 1/4 HOSE BARB	269963	1	26	NUT, HEX LOCKING #10-24	825502-083	2
7	LOOM, FBRGLSS HIGH TEMP 1/2" (1200F)	270242	4.13 in	27	SCREW, SER WASH 1/4-20 x 1	829704-100	2
8	CLAMP, HOSE, #24, 1"-2" DIA.	270493	2	28	HOSE, FUEL 3/16 IN-ID SAE-30R7 (FT)	842315-019	76.25 in
10	TERMINAL, DEUTSCH SCKT 0462-005-20141	274773	2	29	HOSE, FUEL LN 5/8 IN-ID SAE-30R7 (FT)	842315-062	14.9 in
11	END, 5/8 HOSE BARB TO 1/2 MNPT	276267	1	30	FUEL TANK, 12 GAL	A1269741	1
12	PUMP, FUEL 1.0-2.0PSI 7GPH	280723	1	31	BRACKET, WIRING HARNESS	A1270047	1
13	FILTER, FUEL 1/8NPT X 5/16HOSE 74 MICRN	280724	1	32	CLAMP, HOSE T-BOLT STYLE 9MM	FA66533	4
14	CAP, GAS FILL NECK	282962	1	33	CLAMP, HOSE, T-BOLT STYLE, 12mm	FA86779	5
15	HOSE, FUEL FILL 1-1/2" FLEXIBLE	283077	17.1 in	34	HOSEBARB, 1/4MNPT X 3/16 BRASS	FI92363	1
16	RIVET, BLND OPNED END 5/32" GRIP RANGE 0.189"-0.378"	283912	4	35	TIE, CABLE PUSH MOUNT W/ UMBRLLA	HA270685	1
17	SHIELD, HEAT FUEL TANK	285293	1	36	MOUNT, CABLE TIE ADHSV BCK 1-1/8 SQ x 3/16 HIGH SLMF	SHOP548	1
18	SENDER, FUEL LEVEL 7LG	285693	1	37	HOSE, FUEL 1/4" SAEJ30R14T2 APPRVD	TU269439	7.5 in
19	CONNECTOR, AMP SPRSL 1.5 SER 2-PIN FML	285937	1	38	HOSE, FUEL 5/16" SAEJ30R14T2 APPRVD	TU270137	4.13 in
20	TERMINAL, AMP SPRSL 1.5 SER FML 18-16AWG	285939	2				

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.

**AIR N ARC® 300 GAS • AIR N ARC® 300 GAS
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POWERFLEX™ AE GAS COMPACT**

Diagram illustrating the installation of the vent hose for the engine. The hose is connected to the engine's vent port and routed through the frame to the exterior. A callout '35' points to the connection point on the frame.



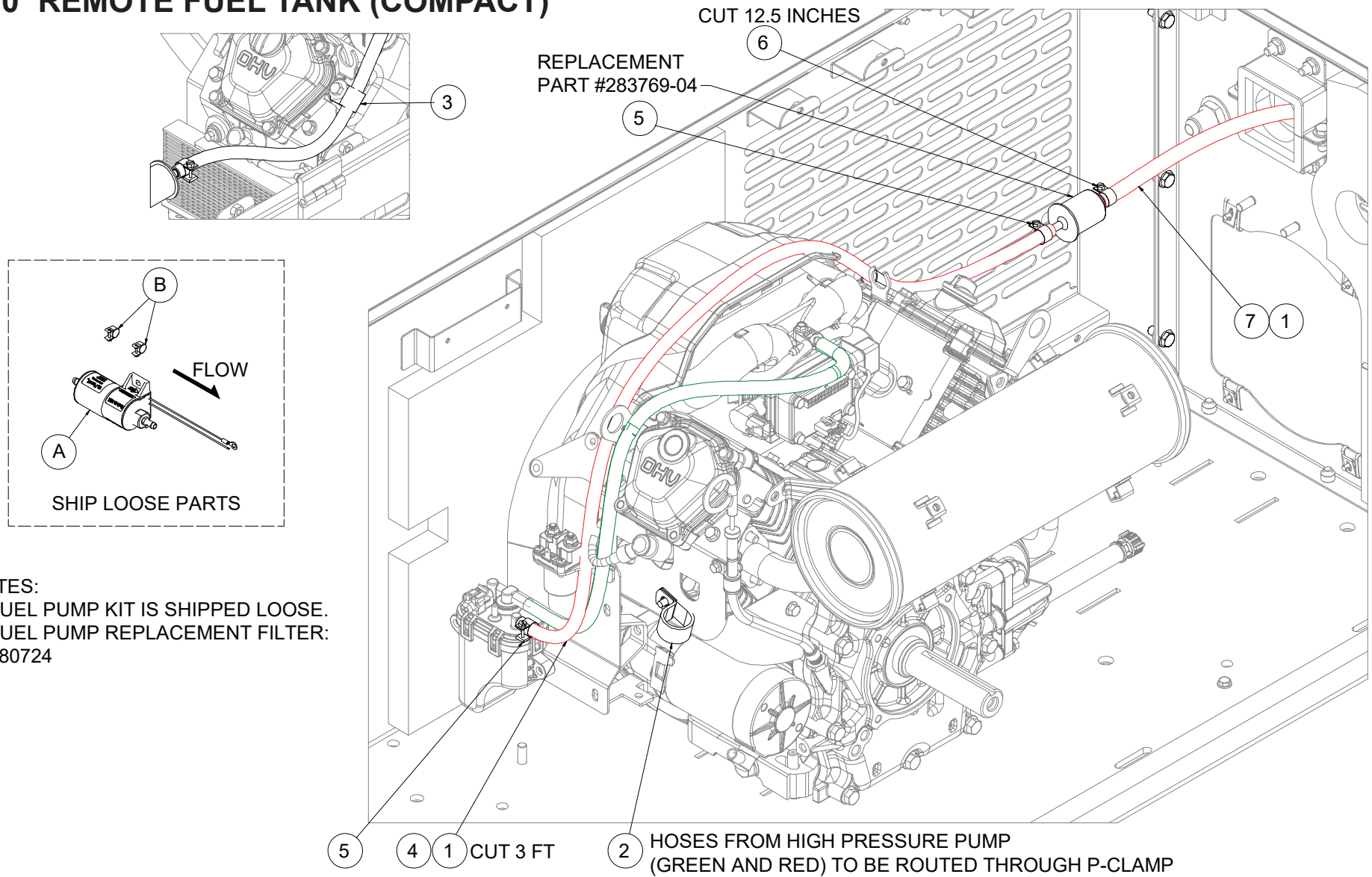
7.9 FUEL TANK - 3 OF 3							
ITEM	DESCRIPTION	PART NUMBER	QTY	ITEM	DESCRIPTION	PART NUMBER	QTY
1	CLAMP, HOSE SUPPORT .50	261837	1	21	SEAL, AMP SPRSL 1.5 SER 18-16AWG	285940	2
2	BUSHING, PIPE BRASS 1/4 x 1/2	264093	1	22	BARB, 4-WAY TEE 5/8 TO 3/16	285969	1
3	CLAMP, HOSE #6 (5/16 INCH - 7/8 INCH)	264787	5	23	TUBE, FUEL P.U. 1/4 NPT TO 5/16 BRB	285974	1
4	CONNECTOR, DEUTSCH 2-PIN DTM06-2S	269037	1	24	FUEL, IN-LINE ROLL OVER VALVE	285989	1
5	WEDGELOCK, DEUTSCH WM-2S	269047	1	25	NUT, HEX FLANGE 5/16-18	825305-283	6
6	ELBOW, 1/8 NPT x 1/4 HOSE BARB	269963	1	26	NUT, HEX LOCKING #10-24	825502-083	2
7	LOOM, FBRGLSS HIGH TEMP 1/2" (1200F)	270242	4.13 in	27	SCREW, SER WASH 1/4-20 x 1	829704-100	2
8	CLAMP, HOSE, #24, 1"-2" DIA.	270493	2	28	HOSE, FUEL 3/16 IN-ID SAE-30R7 (FT)	842315-019	76.25 in
10	TERMINAL, DEUTSCH SCKT 0462-005-20141	274773	2	29	HOSE, FUEL LN 5/8 IN-ID SAE-30R7 (FT)	842315-062	14.9 in
11	END, 5/8 HOSE BARB TO 1/2 MNPT	276267	1	30	FUEL TANK, 12 GAL	A1269741	1
12	PUMP, FUEL 1.0-2.0PSI 7GPH	280723	1	31	BRACKET, WIRING HARNESS	A1270047	1
13	FILTER, FUEL 1/8NPT X 5/16HOSE 74 MICRN	280724	1	32	CLAMP, HOSE T-BOLT STYLE 9MM	FA66533	4
14	CAP, GAS FILL NECK	282962	1	33	CLAMP, HOSE, T-BOLT STYLE, 12mm	FA86779	5
15	HOSE, FUEL FILL 1-1/2" FLEXIBLE	283077	17.1 in	34	HOSEBARB, 1/4MNPT X 3/16 BRASS	FI92363	1
16	RIVET, BLND OPND END 5/32" GRIP RANGE 0.189"-0.378"	283912	4	35	TIE, CABLE PUSH MOUNT W/ UMBRLLA	HA270685	1
17	SHIELD, HEAT FUEL TANK	285293	1	36	MOUNT, CABLE TIE ADHSV BCK 1-1/8 SQ x 3/16 HIGH SLMF	SHOP548	1
18	SENDER, FUEL LEVEL 7LG	285693	1	37	HOSE, FUEL 1/4" SAEJ30R14T2 APPRVD	TU269439	7.5 in
19	CONNECTOR, AMP SPRSL 1.5 SER 2-PIN FML	285937	1	38	HOSE, FUEL 5/16" SAEJ30R14T2 APPRVD	TU270137	4.13 in
20	TERMINAL, AMP SPRSL 1.5 SER FML 18-16AWG	285939	2				
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.							

SECTION 7:

ILLUSTRATED PARTS LIST

**AIR N ARC® 300 GAS • AIR N ARC® 300 GAS
COMPACT • POWERFLEX™ AE GAS •
POWERFLEX™ AE GAS COMPACT**

7.10 REMOTE FUEL TANK (COMPACT)



NOTES:

1. FUEL PUMP KIT IS SHIPPED LOOSE.
2. FUEL PUMP REPLACEMENT FILTER:
280724

7.10 REMOTE FUEL TANK (COMPACT)			
ITEM	DESCRIPTION	PART NUMBER	QTY
1	LOOM, FIBERGLASS HIGH TEMP 1/2 INCH (1200F)	270242	4.04 ft
2	CLAMP, HOSE SUPPORT 1.00 ID	272025	1
3	CLAMP, 9/16 MED DUTY 0.406 HOLE DIA.	286374	1
4	HOSE, FUEL 3/16" SAE J30R14T2 CARB APPROVED (3 FT)	286378	1
5	CLAMP, HOSE, T BOLT STYLE 9mm	FA66533	2
6	CLAMP, HOSE, T-BOLT STYLE, 12mm	FA86779	1
7	HOSE, FUEL 1/4 INCH SAEJ30R14T2 APPROVED	TU269439	1.04 ft
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.			

<i>SHIP LOOSE PARTS LIST</i>			
ITEM	DESCRIPTION	PART NUMBER	QTY
A	PUMP, FUEL 2.5-4PSI 20GPH	280722	1
B	CLAMP, HOSE, T-BOLT STYLE 14MM	FA78162	2
	CLAMP, 9/16 MED DUTY 0.406 HOLE DIA.	286374	1
	CLAMP, HOSE SUPPORT 1.00 ID	272025	1

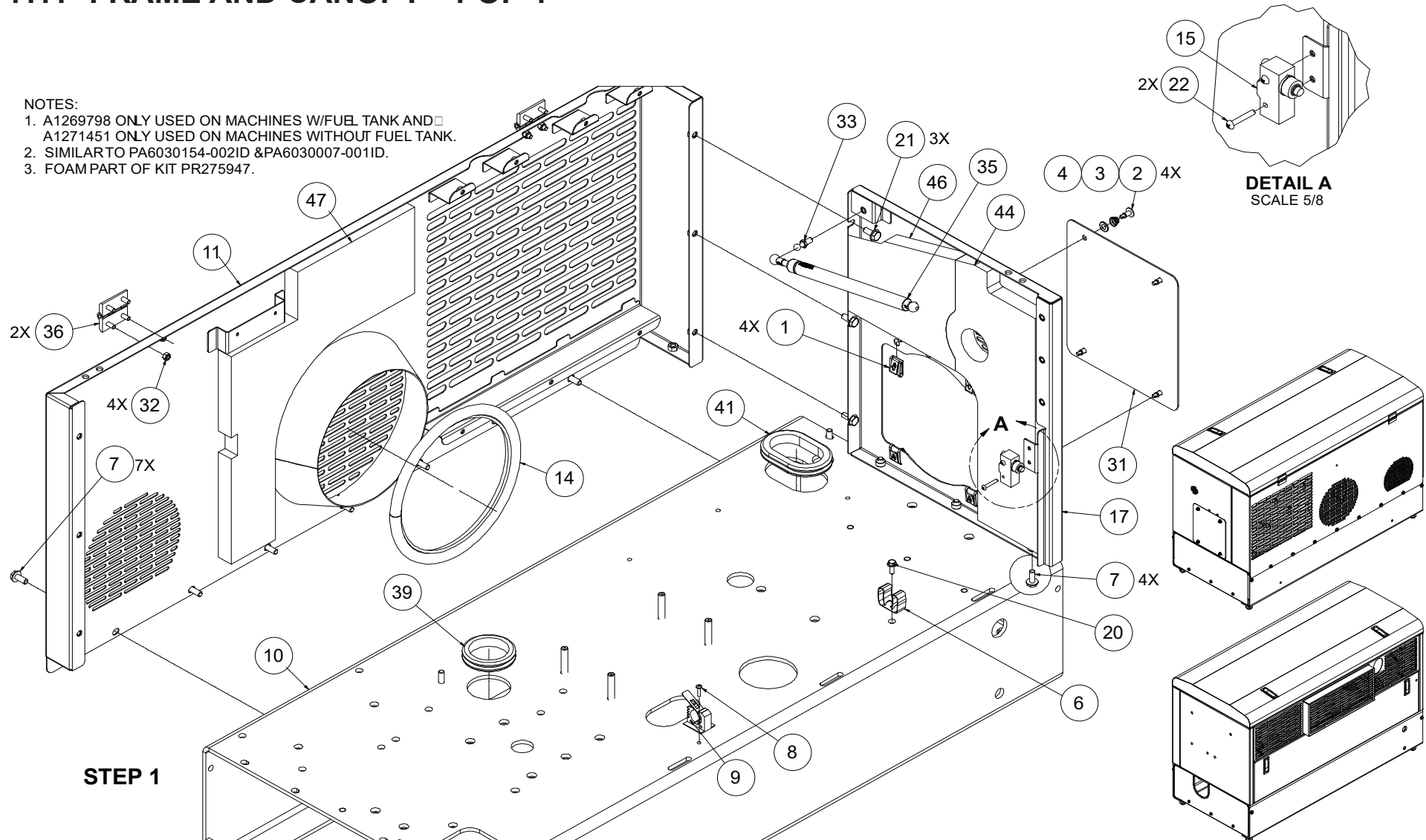
SECTION 7:
ILLUSTRATED PARTS LIST

AIR N ARC® 300 GAS • AIR N ARC® 300 GAS
COMPACT • POWERFLEX™ AE GAS •
POWERFLEX™ AE GAS COMPACT

7.11 FRAME AND CANOPY - 1 OF 4

NOTES:

1. A1269798 ONLY USED ON MACHINES W/FUEL TANK AND □
A1271451 ONLY USED ON MACHINES WITHOUT FUEL TANK.
2. SIMILAR TO PA6030154-002ID & PA6030007-001ID.
3. FOAM PART OF KIT PR275947.



7.11 FRAME AND CANOPY - 1 OF 4

ITEM	DESCRIPTION	PART NUMBER	QTY	ITEM	DESCRIPTION	PART NUMBER	QTY
1	CLIP, SOUTHCO #85	263959-010	4	25	CANOPY, SIDE LH ANA300G	A1269766	1
2	WASHER, SOUTHCO #85	263959-012	4	26	COVER, BASE	A1269769	1
3	SPRING, SOUTHCO #85	263959-013	4	27	SUPPORT, CROSS BRACE	A1269797	1
4	STUD, SOUTHCO #85 FLAT HEAD	263959-014	4	28	COVER, BASE WITH CUTOUT	A1269980	1
5	LATCH, SENTRY PANEL	267124	4	29	SUPPORT, CROSS BRACE	A1270459	1
6	CLIP, TOOL ZINC 3/4 TO 1-1/8	272059	1	30	SUPPORT, CROSS BRACE LESS FUEL	A1271451*	1
7	BOLT, FLANGE 5/16-18 x 3/4 SILVER	278623-075	19	31	PANEL, ACCESS COMPR OIL FILTER/FILL	A1273055	1
8	SCREW, PHILLIPS #8-32 X 3/4"	278824	1	32	NUT, LOCK, M6 X 1.0 PITCH	FA55272	9
9	CLAMP, HOSE 1/2" TO 7/8" RUBBER	280707	1	33	STUD, BALL, .39DIA. X .55LG.	FA58724	4
10	PLATFORM, ANA300V (VNR750EFI)	284766	1	34	CAPSCREW, S.H.FLAT #10-24 X 1/2	FA269805	14
11	PANEL, REAR CANOPY ANA 300V	284770	1	35	GAS SPRING, 6 STROKE, 20#	HA72205	2
12	CANOPY, FRONT TOP EXHAUST ANA300V	285372	1	36	HINGE, 2" X 2", BLACK	HA88014	2
13	SUPPORT, FUEL FILL NECK 300V	285933**	1	37	GASKET, SEAL AND TRIM	PR35734	19.44 ft
14	TRIM, SIDE BLB 1/16 EDGE, 3/8 GRIP, 5/8 BLB	286010	28.5 in	38	TRIM-LOK, 1/32 GROOVE 3/8 LONG VINYL BLACK	PR45785	0.86 ft
15	SWITCH, SAFETY NO/NC 15A W/BOOT	286551	2	39	GROMMET, BLACK RUBBER, 2.25ID	PR74492	1
16	CANOPY, DOOR FRONT-LOWER	286639	1	40	KIT, 1" ACOUSTICAL FOAM INSULATION	PR270019-1	1
17	PANEL, CANOPY RH W/ACCESS 300V	286649	1	41	GROMMET, BLACK RUBBER, 3.00ID	PR272450	1
18	NUT, HEX LOCKING #8-32	825501-070	2	42	PLUG, HOLE 3/8 DIA, WH	PR272560	5
19	CAPSCREW, HEX GR8 1/2-13 x 1.75	829408-175	4	43	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-4	1
20	SCREW, SER WASH 1/4-20 x 0.625	829704-062	7	44	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-5	1
21	SCREW, SER WASH 5/16-18 x 0.75	829705-075	12	45	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-6	1
22	SCREW, ROUND HD PHILLIPS #8-32 X 1	831601-100	4	46	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-7	1
23	WASHER, FLAT 1/2	838208-112	4	47	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-8	1
24	CANOPY, HOOD (FLAT TOP)	A1278000	1				

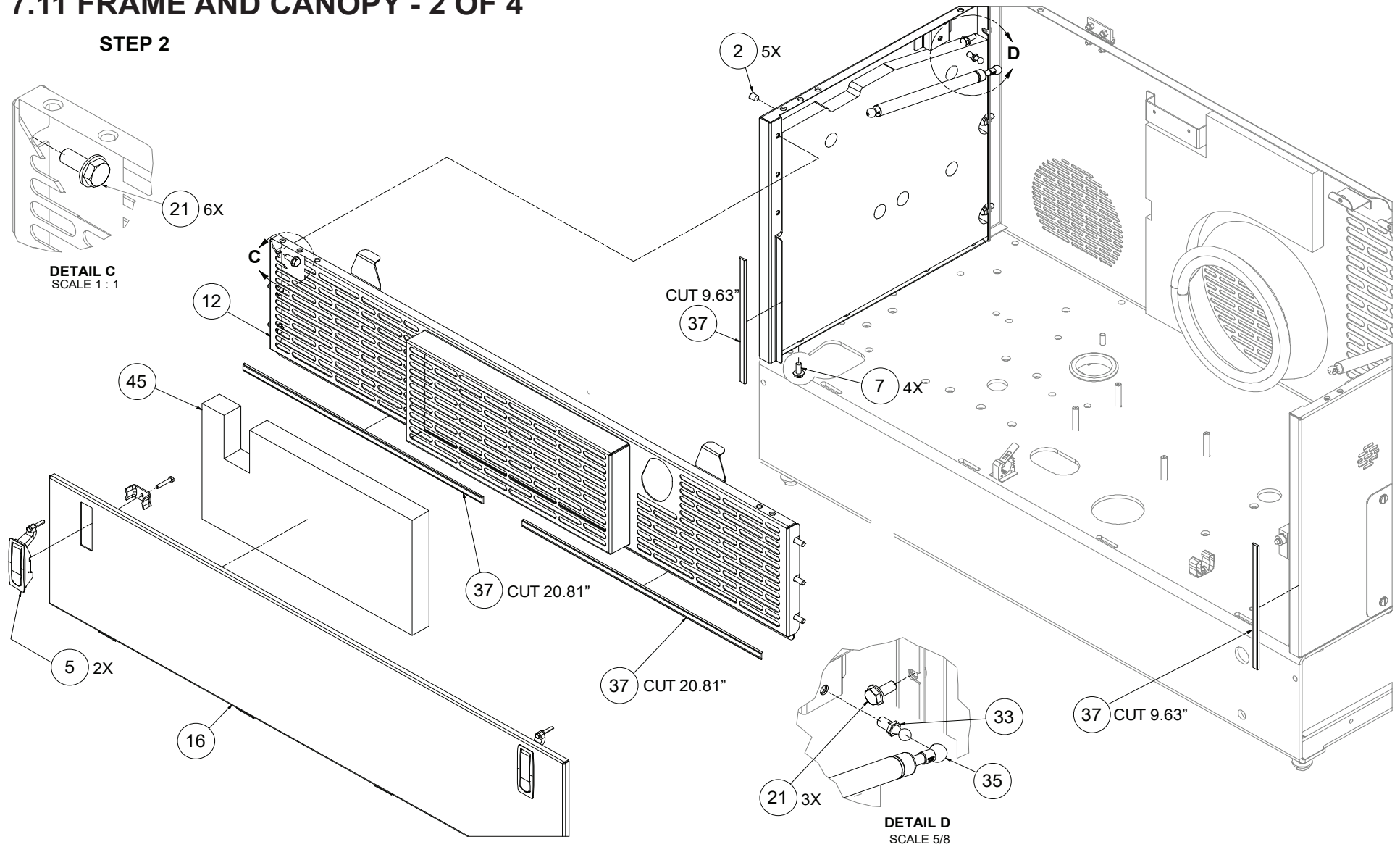
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.

SECTION 7:
ILLUSTRATED PARTS LIST

AIR N ARC® 300 GAS • AIR N ARC® 300 GAS
COMPACT • POWERFLEX™ AE GAS •
POWERFLEX™ AE GAS COMPACT

7.11 FRAME AND CANOPY - 2 OF 4

STEP 2

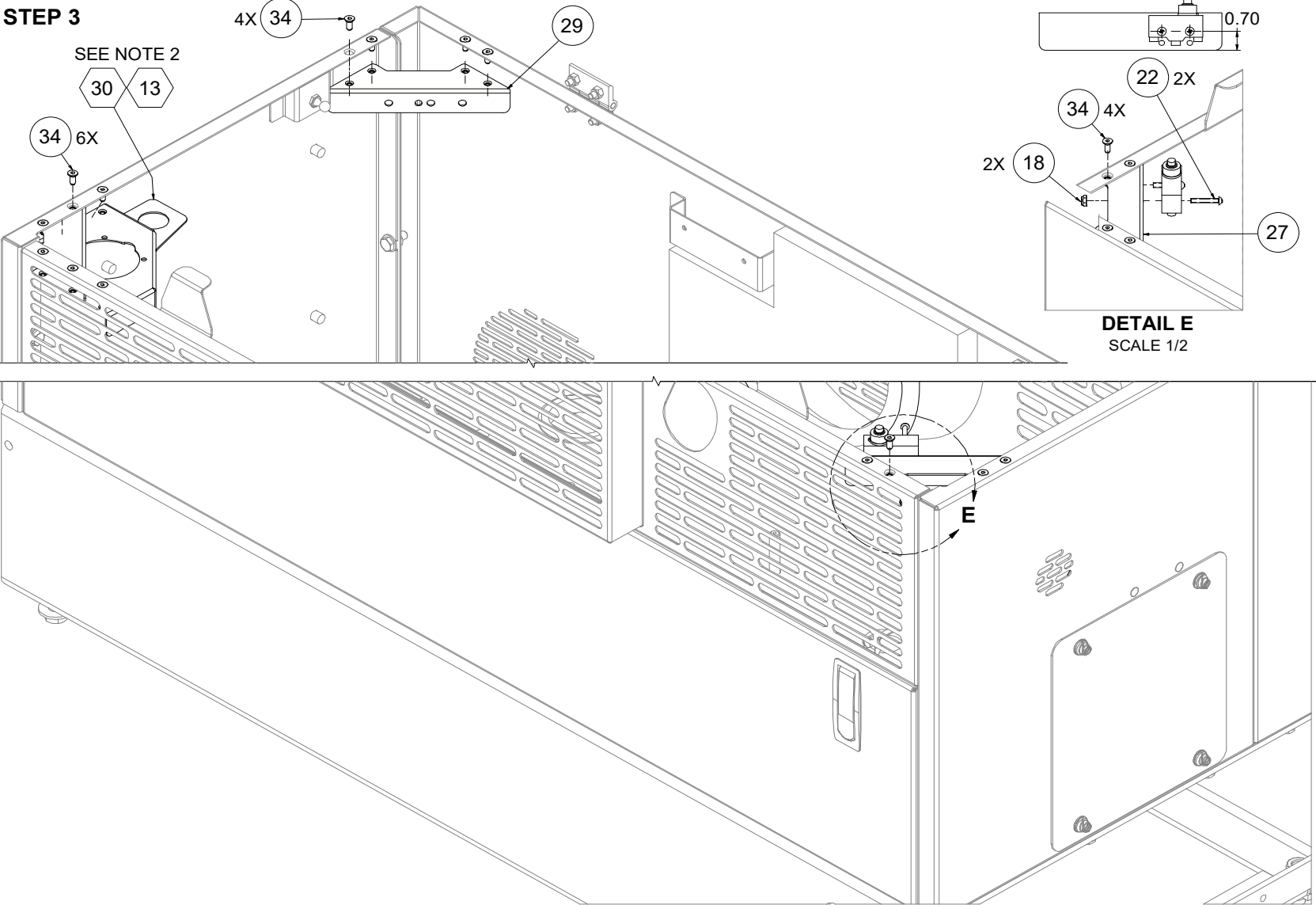


7.11 FRAME AND CANOPY - 2 OF 4

ITEM	DESCRIPTION	PART NUMBER	QTY	ITEM	DESCRIPTION	PART NUMBER	QTY
1	CLIP, SOUTHCO #85	263959-010	4	25	CANOPY, SIDE LH ANA300G	A1269766	1
2	WASHER, SOUTHCO #85	263959-012	4	26	COVER, BASE	A1269769	1
3	SPRING, SOUTHCO #85	263959-013	4	27	SUPPORT, CROSS BRACE	A1269797	1
4	STUD, SOUTHCO #85 FLAT HEAD	263959-014	4	28	COVER, BASE WITH CUTOUT	A1269980	1
5	LATCH, SENTRY PANEL	267124	4	29	SUPPORT, CROSS BRACE	A1270459	1
6	CLIP, TOOL ZINC 3/4 TO 1-1/8	272059	1	30	SUPPORT, CROSS BRACE LESS FUEL	A1271451*	1
7	BOLT, FLANGE 5/16-18 x 3/4 SILVER	278623-075	19	31	PANEL, ACCESS COMPR OIL FILTER/FILL	A1273055	1
8	SCREW, PHILLIPS #8-32 X 3/4"	278824	1	32	NUT, LOCK, M6 X 1.0 PITCH	FA55272	9
9	CLAMP, HOSE 1/2" TO 7/8" RUBBER	280707	1	33	STUD, BALL, .39DIA. X .55LG.	FA58724	4
10	PLATFORM, ANA300V (VNR750EFI)	284766	1	34	CAPSCREW, S.H.FLAT #10-24 X 1/2	FA269805	14
11	PANEL, REAR CANOPY ANA 300V	284770	1	35	GAS SPRING, 6 STROKE, 20#	HA72205	2
12	CANOPY, FRONT TOP EXHAUST ANA300V	285372	1	36	HINGE, 2" X 2", BLACK	HA88014	2
13	SUPPORT, FUEL FILL NECK 300V	285933**	1	37	GASKET, SEAL AND TRIM	PR35734	19.44 ft
14	TRIM, SIDE BLB 1/16 EDGE, 3/8 GRIP, 5/8 BLB	286010	28.5 in	38	TRIM-LOK, 1/32 GROOVE 3/8 LONG VINYL BLACK	PR45785	0.86 ft
15	SWITCH, SAFETY NO/NC 15A W/BOOT	286551	2	39	GROMMET, BLACK RUBBER, 2.25ID	PR74492	1
16	CANOPY, DOOR FRONT-LOWER	286639	1	40	KIT, 1" ACOUSTICAL FOAM INSULATION	PR270019-1	1
17	PANEL, CANOPY RH W/ACCESS 300V	286649	1	41	GROMMET, BLACK RUBBER, 3.00ID	PR272450	1
18	NUT, HEX LOCKING #8-32	825501-070	2	42	PLUG, HOLE 3/8 DIA, WH	PR272560	5
19	CAPSCREW, HEX GR8 1/2-13 x 1.75	829408-175	4	43	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-4	1
20	SCREW, SER WASH 1/4-20 x 0.625	829704-062	7	44	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-5	1
21	SCREW, SER WASH 5/16-18 x 0.75	829705-075	12	45	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-6	1
22	SCREW, ROUND HD PHILLIPS #8-32 X 1	831601-100	4	46	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-7	1
23	WASHER, FLAT 1/2	838208-112	4	47	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-8	1
24	CANOPY, HOOD (FLAT TOP)	A1278000	1				

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.

7.11 FRAME AND CANOPY - 3 OF 4



6030259_r2_3

7.11 FRAME AND CANOPY - 3 OF 4

ITEM	DESCRIPTION	PART NUMBER	QTY	ITEM	DESCRIPTION	PART NUMBER	QTY
1	CLIP, SOUTHCO #85	263959-010	4	25	CANOPY, SIDE LH ANA300G	A1269766	1
2	WASHER, SOUTHCO #85	263959-012	4	26	COVER, BASE	A1269769	1
3	SPRING, SOUTHCO #85	263959-013	4	27	SUPPORT, CROSS BRACE	A1269797	1
4	STUD, SOUTHCO #85 FLAT HEAD	263959-014	4	28	COVER, BASE WITH CUTOUT	A1269980	1
5	LATCH, SENTRY PANEL	267124	4	29	SUPPORT, CROSS BRACE	A1270459	1
6	CLIP, TOOL ZINC 3/4 TO 1-1/8	272059	1	30	SUPPORT, CROSS BRACE LESS FUEL	A1271451*	1
7	BOLT, FLANGE 5/16-18 x 3/4 SILVER	278623-075	19	31	PANEL, ACCESS COMPR OIL FILTER/FILL	A1273055	1
8	SCREW, PHILLIPS #8-32 X 3/4"	278824	1	32	NUT, LOCK, M6 X 1.0 PITCH	FA55272	9
9	CLAMP, HOSE 1/2" TO 7/8" RUBBER	280707	1	33	STUD, BALL, .39DIA. X .55LG.	FA58724	4
10	PLATFORM, ANA300V (VNR750EFI)	284766	1	34	CAPSCREW, S.H.FLAT #10-24 X 1/2	FA269805	14
11	PANEL, REAR CANOPY ANA 300V	284770	1	35	GAS SPRING, 6 STROKE, 20#	HA72205	2
12	CANOPY, FRONT TOP EXHAUST ANA300V	285372	1	36	HINGE, 2" X 2", BLACK	HA88014	2
13	SUPPORT, FUEL FILL NECK 300V	285933**	1	37	GASKET, SEAL AND TRIM	PR35734	19.44 ft
14	TRIM, SIDE BLB 1/16 EDGE, 3/8 GRIP, 5/8 BLB	286010	28.5 in	38	TRIM-LOK, 1/32 GROOVE 3/8 LONG VINYL BLACK	PR45785	0.86 ft
15	SWITCH, SAFETY NO/NC 15A W/BOOT	286551	2	39	GROMMET, BLACK RUBBER, 2.25ID	PR74492	1
16	CANOPY, DOOR FRONT-LOWER	286639	1	40	KIT, 1" ACOUSTICAL FOAM INSULATION	PR270019-1	1
17	PANEL, CANOPY RH W/ACCESS 300V	286649	1	41	GROMMET, BLACK RUBBER, 3.00ID	PR272450	1
18	NUT, HEX LOCKING #8-32	825501-070	2	42	PLUG, HOLE 3/8 DIA, WH	PR272560	5
19	CAPSCREW, HEX GR8 1/2-13 x 1.75	829408-175	4	43	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-4	1
20	SCREW, SER WASH 1/4-20 x 0.625	829704-062	7	44	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-5	1
21	SCREW, SER WASH 5/16-18 x 0.75	829705-075	12	45	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-6	1
22	SCREW, ROUND HD PHILLIPS #8-32 X 1	831601-100	4	46	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-7	1
23	WASHER, FLAT 1/2	838208-112	4	47	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-8	1
24	CANOPY, HOOD (FLAT TOP)	A1278000	1				
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.							

**AIR N ARC® 300 GAS • AIR N ARC® 300 GAS
COMPACT • POWERFLEX™ AE GAS •
POWERFLEX™ AE GAS COMPACT**

STEP 4



7.11 FRAME AND CANOPY - 4 OF 4

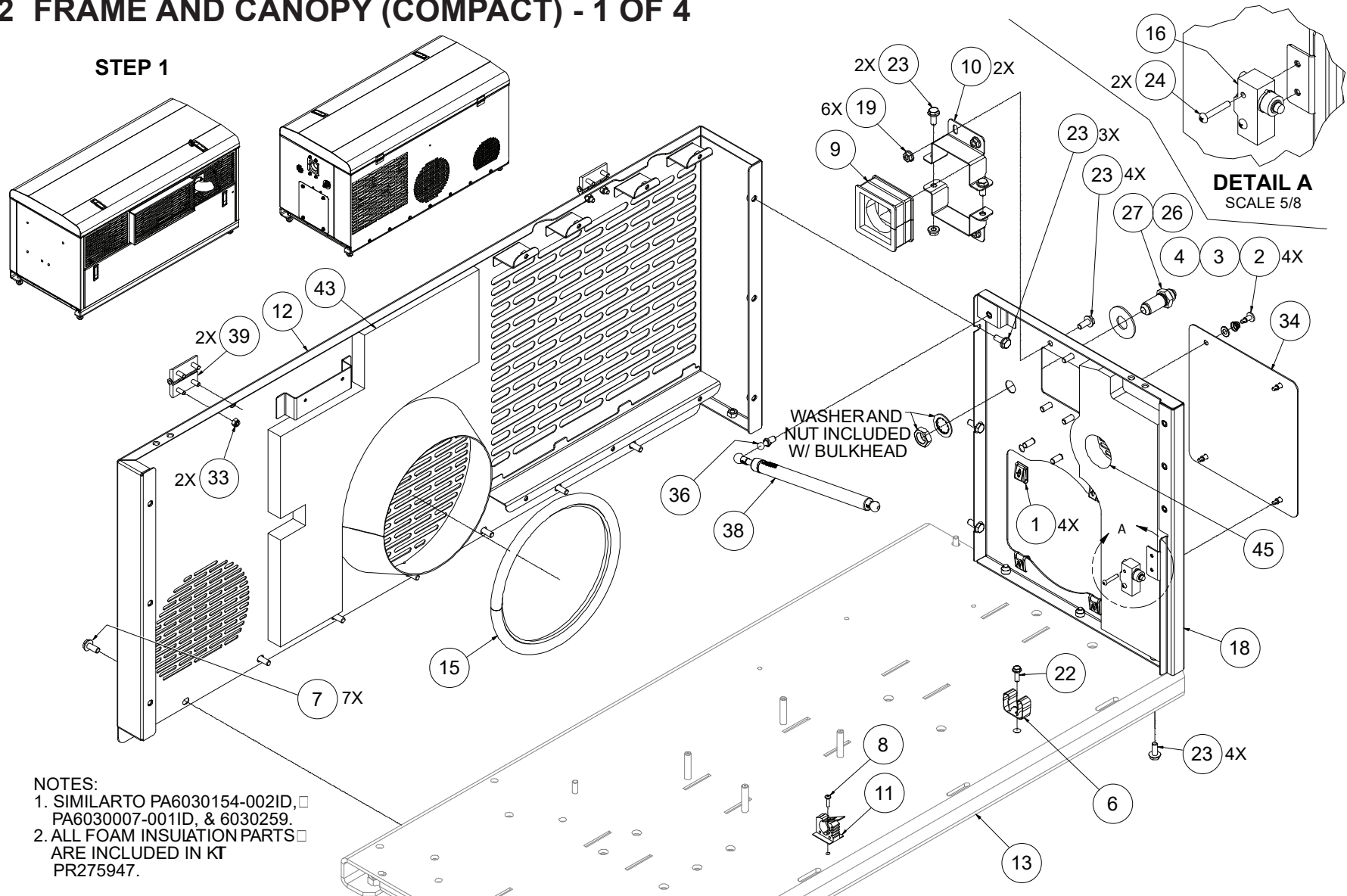
ITEM	DESCRIPTION	PART NUMBER	QTY	ITEM	DESCRIPTION	PART NUMBER	QTY
1	CLIP, SOUTHCO #85	263959-010	4	25	CANOPY, SIDE LH ANA300G	A1269766	1
2	WASHER, SOUTHCO #85	263959-012	4	26	COVER, BASE	A1269769	1
3	SPRING, SOUTHCO #85	263959-013	4	27	SUPPORT, CROSS BRACE	A1269797	1
4	STUD, SOUTHCO #85 FLAT HEAD	263959-014	4	28	COVER, BASE WITH CUTOUT	A1269980	1
5	LATCH, SENTRY PANEL	267124	4	29	SUPPORT, CROSS BRACE	A1270459	1
6	CLIP, TOOL ZINC 3/4 TO 1-1/8	272059	1	30	SUPPORT, CROSS BRACE LESS FUEL	A1271451*	1
7	BOLT, FLANGE 5/16-18 x 3/4 SILVER	278623-075	19	31	PANEL, ACCESS COMPR OIL FILTER/FILL	A1273055	1
8	SCREW, PHILLIPS #8-32 X 3/4"	278824	1	32	NUT, LOCK, M6 X 1.0 PITCH	FA55272	9
9	CLAMP, HOSE 1/2" TO 7/8" RUBBER	280707	1	33	STUD, BALL, .39DIA. X .55LG.	FA58724	4
10	PLATFORM, ANA300V (VNR750EFI)	284766	1	34	CAPSCREW, S.H.FLAT #10-24 X 1/2	FA269805	14
11	PANEL, REAR CANOPY ANA 300V	284770	1	35	GAS SPRING, 6 STROKE, 20#	HA72205	2
12	CANOPY, FRONT TOP EXHAUST ANA300V	285372	1	36	HINGE, 2" X 2", BLACK	HA88014	2
13	SUPPORT, FUEL FILL NECK 300V	285933**	1	37	GASKET, SEAL AND TRIM	PR35734	19.44 ft
14	TRIM, SIDE BLB 1/16 EDGE, 3/8 GRIP, 5/8 BLB	286010	28.5 in	38	TRIM-LOK, 1/32 GROOVE 3/8 LONG VINYL BLACK	PR45785	0.86 ft
15	SWITCH, SAFETY NO/NC 15A W/BOOT	286551	2	39	GROMMET, BLACK RUBBER, 2.25ID	PR74492	1
16	CANOPY, DOOR FRONT-LOWER	286639	1	40	KIT, 1" ACOUSTICAL FOAM INSULATION	PR270019-1	1
17	PANEL, CANOPY RH W/ACCESS 300V	286649	1	41	GROMMET, BLACK RUBBER, 3.00ID	PR272450	1
18	NUT, HEX LOCKING #8-32	825501-070	2	42	PLUG, HOLE 3/8 DIA, WH	PR272560	5
19	CAPSCREW, HEX GR8 1/2-13 x 1.75	829408-175	4	43	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-4	1
20	SCREW, SER WASH 1/4-20 x 0.625	829704-062	7	44	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-5	1
21	SCREW, SER WASH 5/16-18 x 0.75	829705-075	12	45	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-6	1
22	SCREW, ROUND HD PHILLIPS #8-32 X 1	831601-100	4	46	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-7	1
23	WASHER, FLAT 1/2	838208-112	4	47	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-8	1
24	CANOPY, HOOD (FLAT TOP)	A1278000	1				

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.

SECTION 7:
ILLUSTRATED PARTS LIST

AIR N ARC® 300 GAS • AIR N ARC® 300 GAS
COMPACT • POWERFLEX™ AE GAS •
POWERFLEX™ AE GAS COMPACT

7.12 FRAME AND CANOPY (COMPACT) - 1 OF 4



7.12 FRAME AND CANOPY (COMPACT) - 1 OF 4

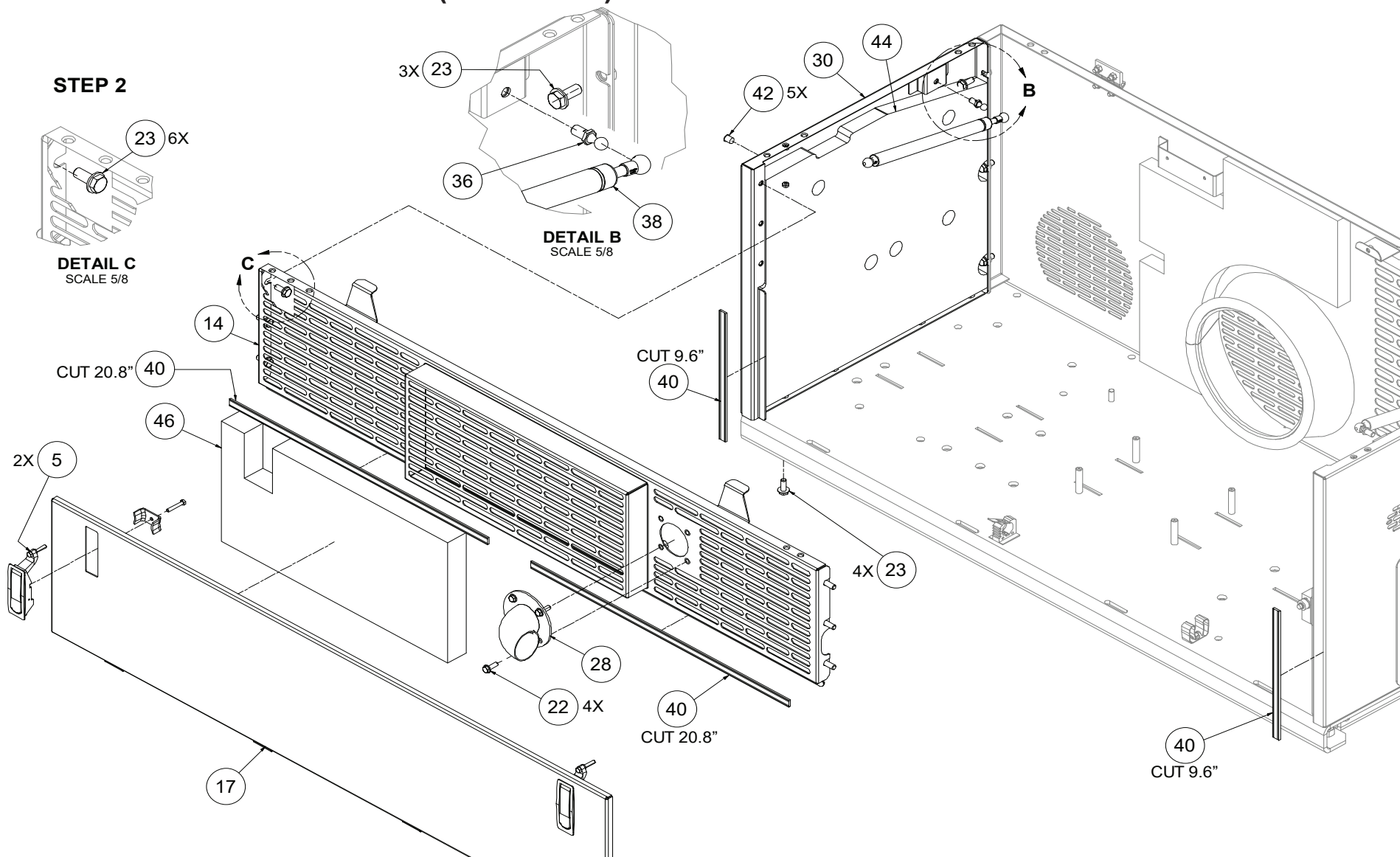
ITEM	DESCRIPTION	PART NUMBER	QTY	ITEM	DESCRIPTION	PART NUMBER	QTY
1	CLIP, SOUTHCO #85	263959-010	4	24	SCREW, ROUND HD PHILLIPS #8-32 X 1	831601-100	4
2	WASHER, SOUTHCO #85	263959-012	4	25	WASHER, FLAT 1/2	838208-112	4
3	SPRING, SOUTHCO #85	263959-013	4	26	WASHER, FLAT 3/4	838212-112	1
4	STUD, SOUTHCO #85 FLAT HEAD	263959-014	4	27	BULKHEAD, MJIC x MJIC #8	862108-050	1
5	LATCH, SENTRY PANEL	267124	4	28	EXHAUST, OUTLET ELBOW	A14883P	1
6	CLIP, TOOL ZINC 3/4 TO 1-1/8	272059	1	30	CANOPY, SIDE LH ANA300G	A1269766	1
7	BOLT, FLANGE 5/16-18 x 3/4 SILVER	278623-075	7	31	SUPPORT, CROSS BRACE	A1269797	1
8	SCREW, PHILLIPS #8-32 X 3/4"	278824	1	32	SUPPORT, CROSS BRACE	A1270459	1
9	GROMMET, SPLIT CABLE GLAND 54MM	279672	1	33	SUPPORT, CROSS BRACE LESS FUEL	A1271451	1
10	SUPT, TRUNKLINE THRU CANOPY	279673	2	34	PANEL, ACCESS COMPR OIL FILTER/FILL	A1273055	1
11	CLAMP, HOSE 1/2" TO 7/8" RUBBER	280707	1	29	CANOPY, HOOD (FLAT TOP)	A1278000	1
12	PANEL, REAR CANOPY ANA 300V	284770	1	35	NUT, LOCK, M6 X 1.0 PITCH	FA55272	9
13	PLATFORM, ANA300V SHORT (VNR750EFI)	285786	1	36	STUD, BALL, .39DIA. X .55LG.	FA58724	4
14	CANOPY, FRONT TOP EXHAUST ANA300V (COMPACT)	285787	1	37	CAPSCREW, S.H.FLAT #10-24 X 1/2	FA269805	12
15	TRIM, SIDE BULB 1/16 EDGE, 3/8 GRIP, 5/8 BULB	286010	28.5 in	38	GAS SPRING, 6 STROKE, 20#	HA72205	2
16	SWITCH, SAFETY NO/NC 15A W/BOOT	286551	2	39	HINGE, 2" X 2", BLACK	HA88014	2
17	CANOPY, DOOR FRONT-LOWER	286639	1	40	GASKET, SEAL AND TRIM	PR35734	16.10 ft
18	PANEL, CANOPY RH W/ACCESS & HARN PORT	286749	1	41	KIT, 1" ACOUSTICAL FOAM INSULATION	PR270019-1	1
19	NUT, HEX FLANGE 5/16-18	825305-283	6	42	PLUG, HOLE 3/8 DIA, WH	PR272560	5
20	NUT, HEX LOCKING #8-32	825501-070	2	43	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-3	1
21	CAPSCREW, HEX GR8 1/2 - 13 x 1 3/4	829408-175	4	44	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-4	1
22	SCREW, SER WASH 1/4-20 x 0.75	829704-075	5	45	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-5	1
23	SCREW, SER WASH 5/16-18 X 0.75	829705-075	26	46	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-6	1

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.

SECTION 7:
ILLUSTRATED PARTS LIST

AIR N ARC® 300 GAS • AIR N ARC® 300 GAS
COMPACT • POWERFLEX™ AE GAS •
POWERFLEX™ AE GAS COMPACT

7.12 FRAME AND CANOPY (COMPACT) - 2 OF 4



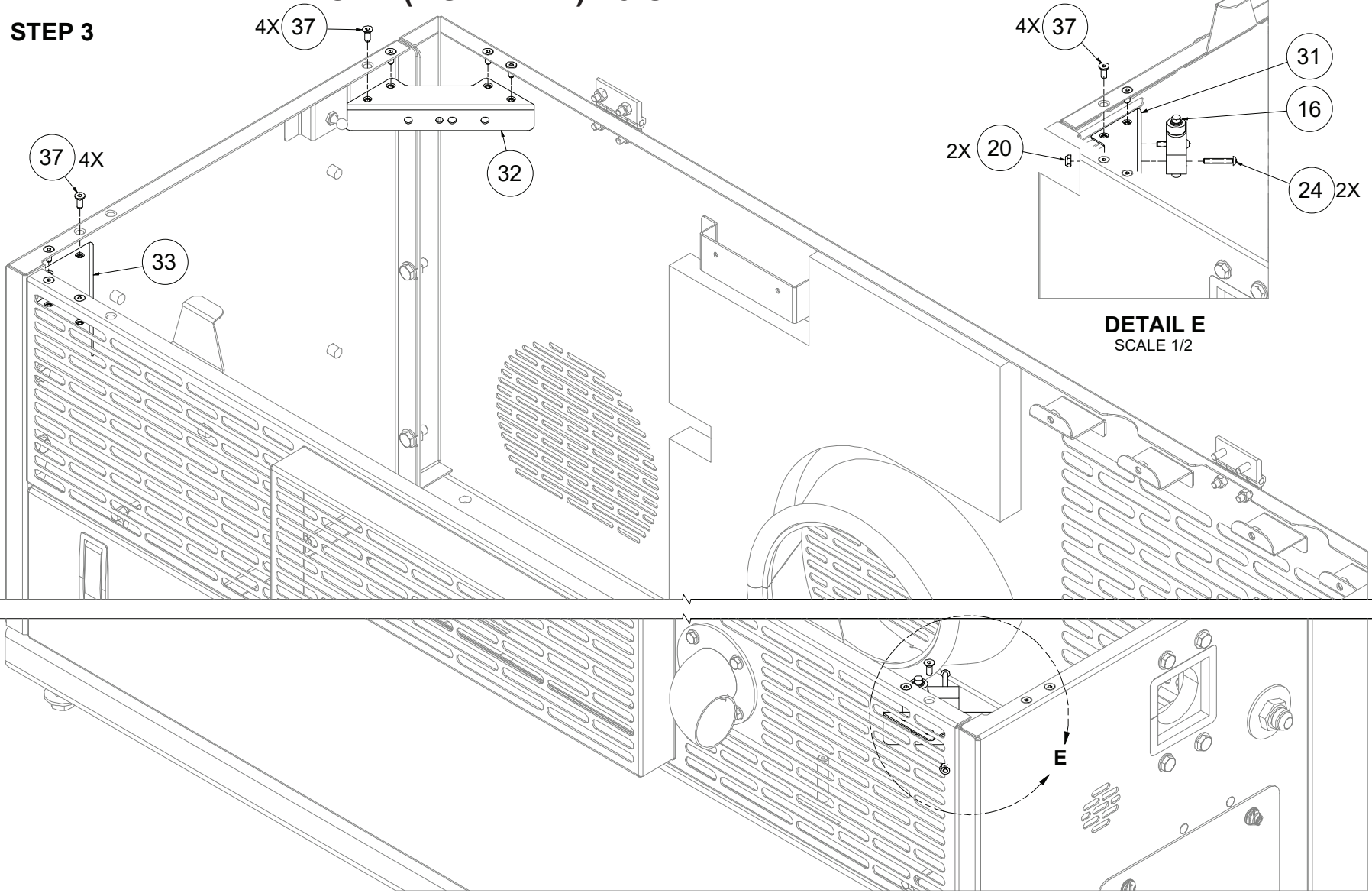
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7.12 FRAME AND CANOPY (COMPACT) - 2 OF 4

ITEM	DESCRIPTION	PART NUMBER	QTY	ITEM	DESCRIPTION	PART NUMBER	QTY
1	CLIP, SOUTHCO #85	263959-010	4	24	SCREW, ROUND HD PHILLIPS #8-32 X 1	831601-100	4
2	WASHER, SOUTHCO #85	263959-012	4	25	WASHER, FLAT 1/2	838208-112	4
3	SPRING, SOUTHCO #85	263959-013	4	26	WASHER, FLAT 3/4	838212-112	1
4	STUD, SOUTHCO #85 FLAT HEAD	263959-014	4	27	BULKHEAD, MJIC x MJIC #8	862108-050	1
5	LATCH, SENTRY PANEL	267124	4	28	EXHAUST, OUTLET ELBOW	A14883P	1
6	CLIP, TOOL ZINC 3/4 TO 1-1/8	272059	1	30	CANOPY, SIDE LH ANA300G	A1269766	1
7	BOLT, FLANGE 5/16-18 x 3/4 SILVER	278623-075	7	31	SUPPORT, CROSS BRACE	A1269797	1
8	SCREW, PHILLIPS #8-32 X 3/4"	278824	1	32	SUPPORT, CROSS BRACE	A1270459	1
9	GROMMET, SPLIT CABLE GLAND 54MM	279672	1	33	SUPPORT, CROSS BRACE LESS FUEL	A1271451	1
10	SUPT, TRUNKLINE THRU CANOPY	279673	2	34	PANEL, ACCESS COMPR OIL FILTER/FILL	A1273055	1
11	CLAMP, HOSE 1/2" TO 7/8" RUBBER	280707	1	29	CANOPY, HOOD (FLAT TOP)	A1278000	1
12	PANEL, REAR CANOPY ANA 300V	284770	1	35	NUT, LOCK, M6 X 1.0 PITCH	FA55272	9
13	PLATFORM, ANA300V SHORT (VNR750EFI)	285786	1	36	STUD, BALL, .39DIA. X .55LG.	FA58724	4
14	CANOPY, FRONT TOP EXHAUST ANA300V (COMPACT)	285787	1	37	CAPSCREW, S.H.FLAT #10-24 X 1/2	FA269805	12
15	TRIM, SIDE BULB 1/16 EDGE, 3/8 GRIP, 5/8 BULB	286010	28.5 in	38	GAS SPRING, 6 STROKE, 20#	HA72205	2
16	SWITCH, SAFETY NO/NC 15A W/BOOT	286551	2	39	HINGE, 2" X 2", BLACK	HA88014	2
17	CANOPY, DOOR FRONT-LOWER	286639	1	40	GASKET, SEAL AND TRIM	PR35734	16.10 ft
18	PANEL, CANOPY RH W/ACCESS & HARN PORT	286749	1	41	KIT, 1" ACOUSTICAL FOAM INSULATION	PR270019-1	1
19	NUT, HEX FLANGE 5/16-18	825305-283	6	42	PLUG, HOLE 3/8 DIA, WH	PR272560	5
20	NUT, HEX LOCKING #8-32	825501-070	2	43	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-3	1
21	CAPSCREW, HEX GR8 1/2 - 13 x 1 3/4	829408-175	4	44	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-4	1
22	SCREW, SER WASH 1/4-20 x 0.75	829704-075	5	45	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-5	1
23	SCREW, SER WASH 5/16-18 X 0.75	829705-075	26	46	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-6	1
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.							

7.12 FRAME AND CANOPY (COMPACT) - 3 OF 4

STEP 3



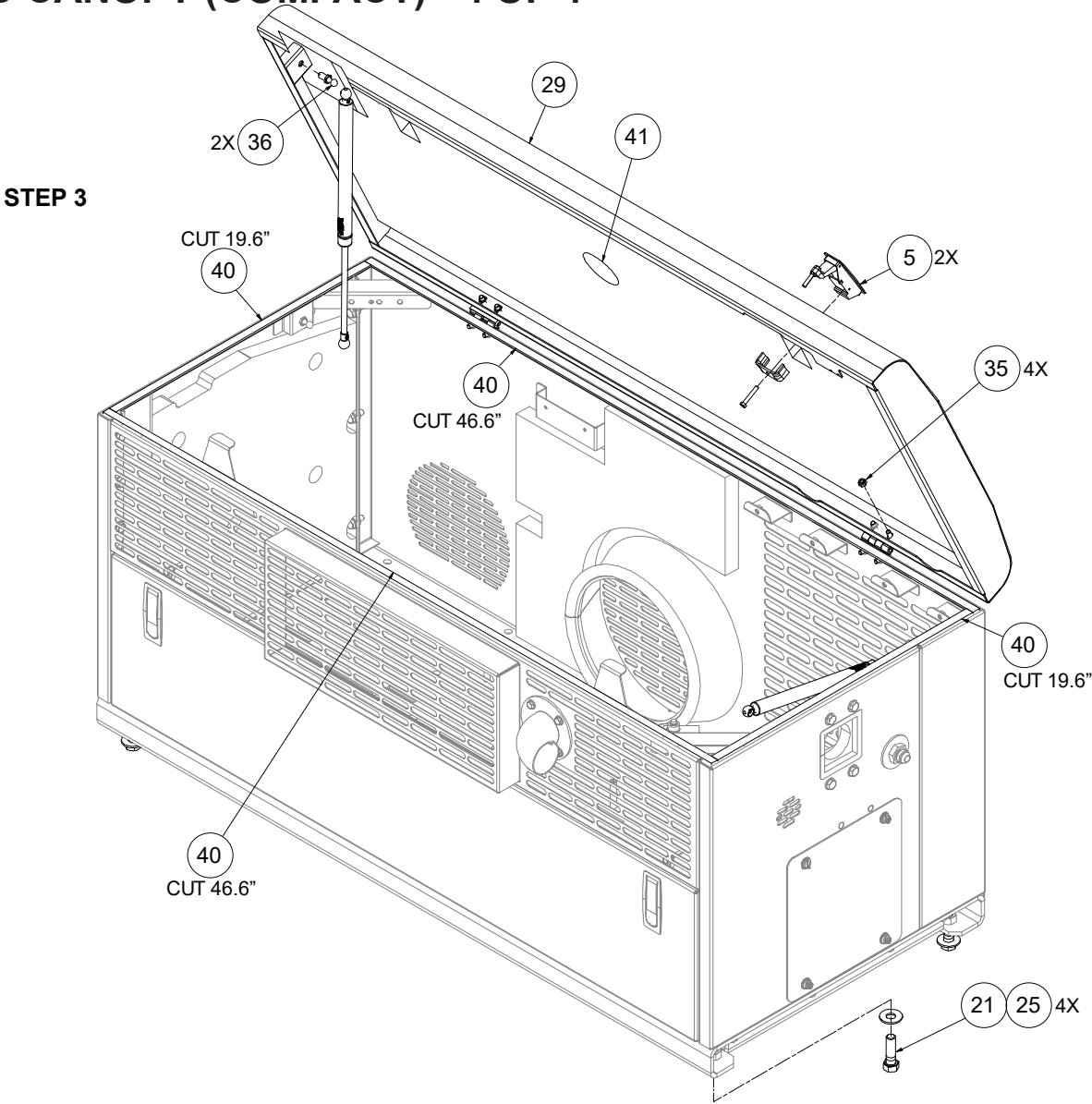
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7.12 FRAME AND CANOPY (COMPACT) - 3 OF 4

ITEM	DESCRIPTION	PART NUMBER	QTY	ITEM	DESCRIPTION	PART NUMBER	QTY
1	CLIP, SOUTHCO #85	263959-010	4	24	SCREW, ROUND HD PHILLIPS #8-32 X 1	831601-100	4
2	WASHER, SOUTHCO #85	263959-012	4	25	WASHER, FLAT 1/2	838208-112	4
3	SPRING, SOUTHCO #85	263959-013	4	26	WASHER, FLAT 3/4	838212-112	1
4	STUD, SOUTHCO #85 FLAT HEAD	263959-014	4	27	BULKHEAD, MJIC x MJIC #8	862108-050	1
5	LATCH, SENTRY PANEL	267124	4	28	EXHAUST, OUTLET ELBOW	A14883P	1
6	CLIP, TOOL ZINC 3/4 TO 1-1/8	272059	1	30	CANOPY, SIDE LH ANA300G	A1269766	1
7	BOLT, FLANGE 5/16-18 x 3/4 SILVER	278623-075	7	31	SUPPORT, CROSS BRACE	A1269797	1
8	SCREW, PHILLIPS #8-32 X 3/4"	278824	1	32	SUPPORT, CROSS BRACE	A1270459	1
9	GROMMET, SPLIT CABLE GLAND 54MM	279672	1	33	SUPPORT, CROSS BRACE LESS FUEL	A1271451	1
10	SUPT, TRUNKLINE THRU CANOPY	279673	2	34	PANEL, ACCESS COMPR OIL FILTER/FILL	A1273055	1
11	CLAMP, HOSE 1/2" TO 7/8" RUBBER	280707	1	29	CANOPY, HOOD (FLAT TOP)	A1278000	1
12	PANEL, REAR CANOPY ANA 300V	284770	1	35	NUT, LOCK, M6 X 1.0 PITCH	FA55272	9
13	PLATFORM, ANA300V SHORT (VNR750EFI)	285786	1	36	STUD, BALL, .39DIA. X .55LG.	FA58724	4
14	CANOPY, FRONT TOP EXHAUST ANA300V (COMPACT)	285787	1	37	CAPSCREW, S.H.FLAT #10-24 X 1/2	FA269805	12
15	TRIM, SIDE BULB 1/16 EDGE, 3/8 GRIP, 5/8 BULB	286010	28.5 in	38	GAS SPRING, 6 STROKE, 20#	HA72205	2
16	SWITCH, SAFETY NO/NC 15A W/BOOT	286551	2	39	HINGE, 2" X 2", BLACK	HA88014	2
17	CANOPY, DOOR FRONT-LOWER	286639	1	40	GASKET, SEAL AND TRIM	PR35734	16.10 ft
18	PANEL, CANOPY RH W/ACCESS & HARN PORT	286749	1	41	KIT, 1" ACOUSTICAL FOAM INSULATION	PR270019-1	1
19	NUT, HEX FLANGE 5/16-18	825305-283	6	42	PLUG, HOLE 3/8 DIA, WH	PR272560	5
20	NUT, HEX LOCKING #8-32	825501-070	2	43	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-3	1
21	CAPSCREW, HEX GR8 1/2 - 13 x 1 3/4	829408-175	4	44	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-4	1
22	SCREW, SER WASH 1/4-20 x 0.75	829704-075	5	45	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-5	1
23	SCREW, SER WASH 5/16-18 X 0.75	829705-075	26	46	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-6	1

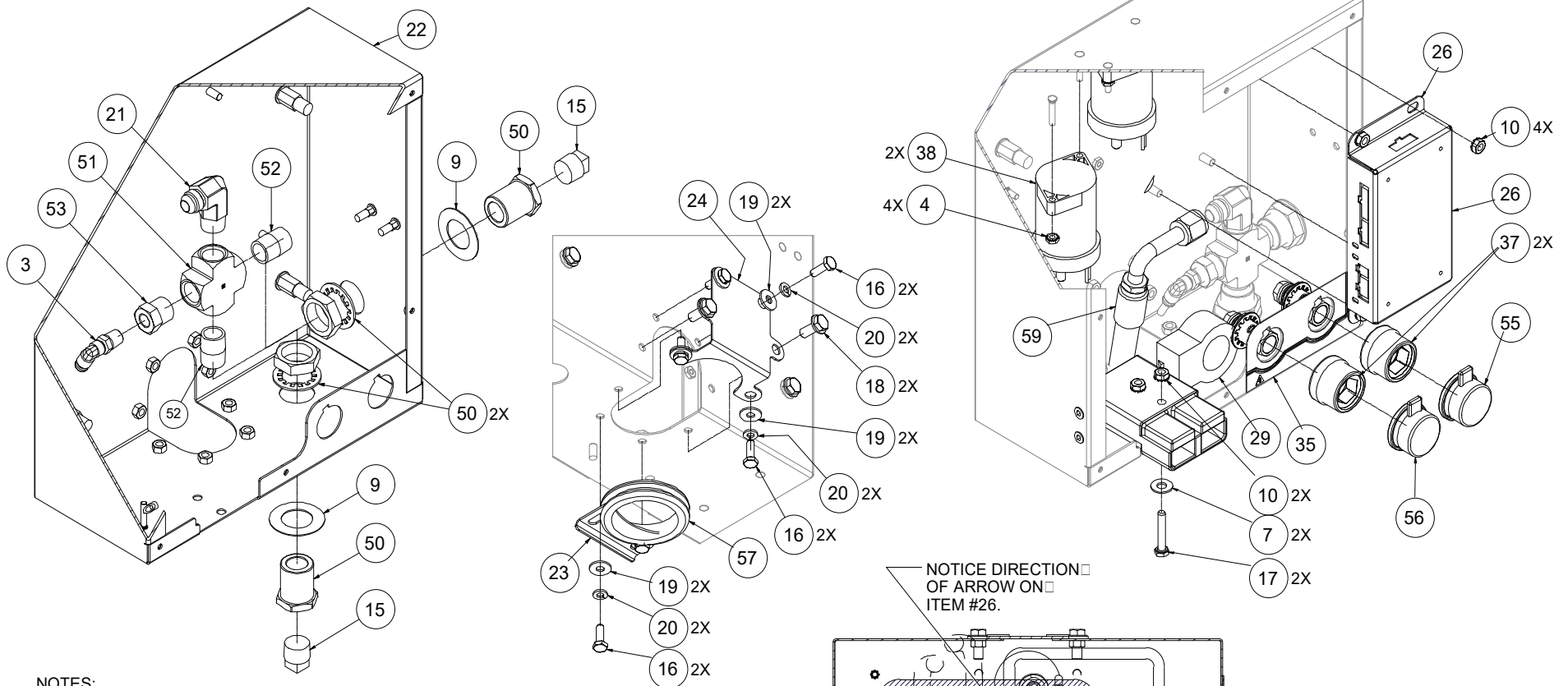
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.

7.12 FRAME AND CANOPY (COMPACT) - 4 OF 4



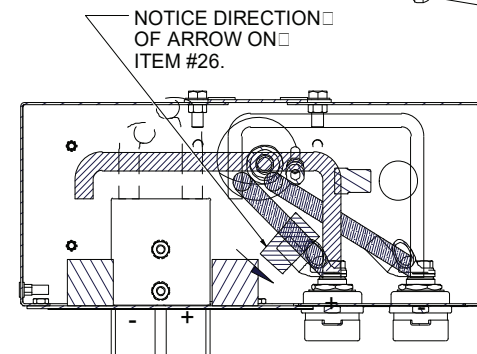
7.12 FRAME AND CANOPY (COMPACT) - 4 OF 4								
ITEM	DESCRIPTION	PART NUMBER	QTY		ITEM	DESCRIPTION	PART NUMBER	QTY
1	CLIP, SOUTHCO #85	263959-010	4		24	SCREW, ROUND HD PHILLIPS #8-32 X 1	831601-100	4
2	WASHER, SOUTHCO #85	263959-012	4		25	WASHER, FLAT 1/2	838208-112	4
3	SPRING, SOUTHCO #85	263959-013	4		26	WASHER, FLAT 3/4	838212-112	1
4	STUD, SOUTHCO #85 FLAT HEAD	263959-014	4		27	BULKHEAD, MJIC x MJIC #8	862108-050	1
5	LATCH, SENTRY PANEL	267124	4		28	EXHAUST, OUTLET ELBOW	A14883P	1
6	CLIP, TOOL ZINC 3/4 TO 1-1/8	272059	1		30	CANOPY, SIDE LH ANA300G	A1269766	1
7	BOLT, FLANGE 5/16-18 x 3/4 SILVER	278623-075	7		31	SUPPORT, CROSS BRACE	A1269797	1
8	SCREW, PHILLIPS #8-32 X 3/4"	278824	1		32	SUPPORT, CROSS BRACE	A1270459	1
9	GROMMET, SPLIT CABLE GLAND 54MM	279672	1		33	SUPPORT, CROSS BRACE LESS FUEL	A1271451	1
10	SUPT, TRUNKLINE THRU CANOPY	279673	2		34	PANEL, ACCESS COMPR OIL FILTER/FILL	A1273055	1
11	CLAMP, HOSE 1/2" TO 7/8" RUBBER	280707	1		29	CANOPY, HOOD (FLAT TOP)	A1278000	1
12	PANEL, REAR CANOPY ANA 300V	284770	1		35	NUT, LOCK, M6 X 1.0 PITCH	FA55272	9
13	PLATFORM, ANA300V SHORT (VNR750EFI)	285786	1		36	STUD, BALL, .39DIA. X .55LG.	FA58724	4
14	CANOPY, FRONT TOP EXHAUST ANA300V (COMPACT)	285787	1		37	CAPSCREW, S.H.FLAT #10-24 X 1/2	FA269805	12
15	TRIM, SIDE BULB 1/16 EDGE, 3/8 GRIP, 5/8 BULB	286010	28.5 in		38	GAS SPRING, 6 STROKE, 20#	HA72205	2
16	SWITCH, SAFETY NO/NC 15A W/BOOT	286551	2		39	HINGE, 2" X 2", BLACK	HA88014	2
17	CANOPY, DOOR FRONT-LOWER	286639	1		40	GASKET, SEAL AND TRIM	PR35734	16.10 ft
18	PANEL, CANOPY RH W/ACCESS & HARN PORT	286749	1		41	KIT, 1" ACOUSTICAL FOAM INSULATION	PR270019-1	1
19	NUT, HEX FLANGE 5/16-18	825305-283	6		42	PLUG, HOLE 3/8 DIA, WH	PR272560	5
20	NUT, HEX LOCKING #8-32	825501-070	2		43	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-3	1
21	CAPSCREW, HEX GR8 1/2 - 13 x 1 3/4	829408-175	4		44	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-4	1
22	SCREW, SER WASH 1/4-20 x 0.75	829704-075	5		45	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-5	1
23	SCREW, SER WASH 5/16-18 X 0.75	829705-075	26		46	KIT, 1" ACOUSTICAL FOAM INSULATION	PR275947-6	1
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.								

7.13 INSTRUMENT PANEL - AIR N ARC® 300 GAS STANDARD (1 OF 2)



NOTES:

1. PIPE DOPE ALL PIPE FITTINGS.
2. APPLY BOTH DECALS BEFORE PLACING COMPONENTS.
3. BOLTS GO THROUGH CANOPY TO MOUNT PANEL.
4. TOGGLE SWITCHES AND POTENTIOMETER ARE INCLUDED WITH HARNESS #EP269872.
5. MACHINES W/O FUEL TANK REPLACE CO269748 WITH 040035 HOUR METER
ON BOM PA6040168, TAPE OFF 3 EXTRA WIRES 1 T, 3D AND 8.
6. REFERENCE WIRING DIAGRAM ID269868-01 FOR ISOLATED GROUND UNITS.



WELD WIRING CONNECTION
SCALE 1/2

7.13 INSTRUMENT PANEL - AIR N ARC® 300 GAS STANDARD (1 OF 2)

ITEM	DESCRIPTION	PART NUMBER	QTY	ITEM	DESCRIPTION	PART NUMBER	QTY	ITEM	DESCRIPTION	PART NUMBER	QTY
1	GAUGE, HOUR METER 12VDC ¹	040035	1	21	ELBOW, 37FL/90M #08 x 1/2	860208-050	1	41	HARNESS, WIRE INST PNL LIGHTS	EP269871	1
2	ELBOW, 1/4T x 1/8P PUSH-ON	261309	1	22	PANEL, CONTROL BOX	A1269489	1	42	HARNESS, WIRE INST PNL SWTCH	EP269872	1
3	ELBOW, 90 deg. PUSH ON 1/4T x 1/4P	261310	1	23	CLAMP, CONTROL PANEL CABLE	A1269491	1	43	HARNESS, WELD CABLE MACH	EP270170	1
4	NUT, HEX #10-32 KEPS	261595-032	4	24	COVER, CONTROL PANEL CABLES	A1269492	1	44	HARNESS, WELD CABLE JUMPER	EP270171	1
5	NUT, HEX #6-32 KEPS	261595-632	6	25	FACEPLATE, CONTROL PANEL	A1272405	1	45	HARNESS, A/C PNL TO MACHINE	EP270230	1
6	RECEPTACLE, 120V/20A GFCI	262392	2	26	MODULE, WELD CNTRL SYS ASSY	CO269598	1	46	HARNESS, WIRE INST. PNL DSPLY	EP270315	1
7	WASHER, NYLON 5/16-18	262943	2	27	SWITCH, IGNITION EFI ENGINES	CO269713	1	47	CABLE, WELD LCKOUT JMPR RED	EP270990	1
8	TUBING, 1/4DIA., NYL, 230 PSI X 1.25 FT	264480	1	28	GAUGE, FUEL / HOUR METER	CO269748	1	48	CABLE, WELD LCKOUT JMPR BLK	EP277928	1
9	WASHER, FLT RDCING 3/4 x 1 ELECT.	267994	2	29	SENSOR, HALL EFCT WLD CNTRLS	CO269900	1	49	SCREW, PHILLIPS 10-32 X 1/2" SS	FA33542	7
10	NUT, LOCKWASHER 1/4-20	270970	6	30	DISPLAY, PNL AMP/VOLT MTR LED	CO270314	1	50	PIPE BRASS, BULKHEAD 1/2 NPT	FI23542	2
11	LAMP, INDICATOR 12V 0.3W	276037	5	31	SWITCH, ROCKER DPST LED	CO272343	2	51	PIPE BRASS, CROSS, 1/2 NPT.	FI25405	1
12	LAMP, INDICATOR 12V 0.3W	276038	3	32	KNOB, PLASTIC, 1.3 DIA., 1/4 SHFT	CO59489	1	52	NIPPLE, PIPE XS CLS 1/2, BRASS	FI34220	2
13	NUT, PUSH TINNERMAN 5/16 3W LED	277273	8	33	CIRCUIT BREAKER, 20 AMP	CO62617	2	53	BUSHING, PIPE BRASS 1/4 x 1/2	FI75068	1
14	COUPLING, PIPE 1/8	806230-005	1	34	GAUGE, AIR, DRY, 0-200 PSI	CO89649	1	54	BOOT, CIRCUIT BREAKER 3/8	PR270548	2
15	PLUG, PIPE 1/2	807800-020	2	35	DECAL, CONTROL PANEL, WELDER	DL272786	1	55	CAP, RUBBER TETHRD 1-3/8 BLK	PR272373	1
16	CAPSCREW, HEX GR5 1/4-20 x 0.75	829104-075	6	36	DECAL, INST PNL FACEPLATE	DL277917	1	56	CAP, RUBBER TETHRD 1-3/8 RED	PR272390	1
17	CAPSCREW, HEX GR5 1/4-20 x 1.5	829104-150	2	37	RECEPTACLE, PANEL 350 AMP	EL269932	2	57	GROMMET, BLK RUBBER, 2.25ID	PR74492	1
18	SCREW, SER WASH 5/16-18 x 0.75	829705-075	6	38	RELAY, 500 AMP 12V COIL NO	EL270483	2	58	BOOT, SWITCH WEATHER PROOF	PR77230	3
19	WASHER, FLAT 1/4	838204-071	6	39	RECEPTACLE, 240V/30A TURNLOK	EL271419	1	59	HOSE, AIR TANK TO PANEL	TU278417	1
20	WASHER, LOCK 1/4	838504-062	6	40	HARNESS, WIRE INST PNL	EP269870	1				

¹ Bill of Material no. 6040168.

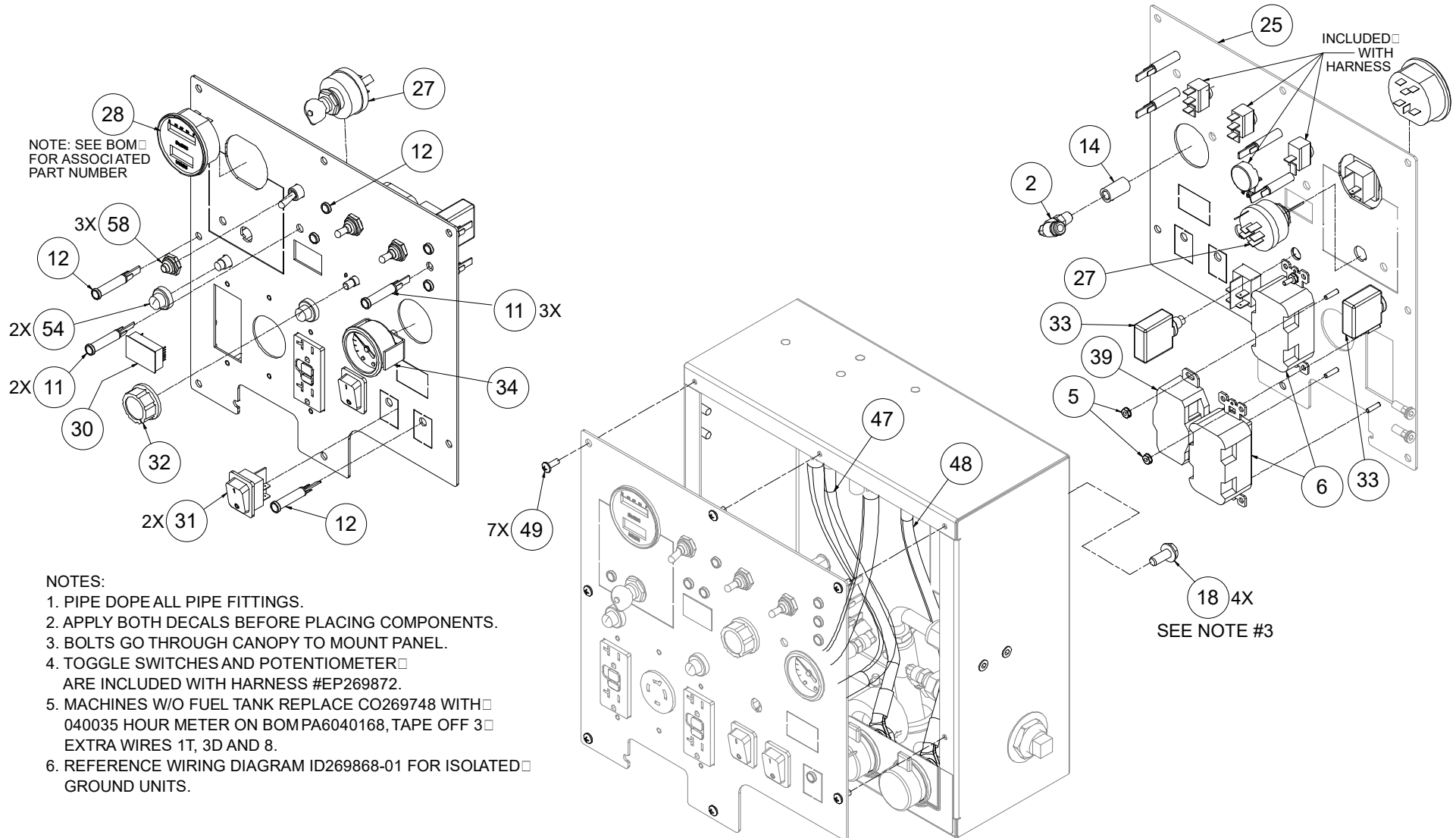
¹¹ Bill of Material no. 6040167.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.

SECTION 7:
ILLUSTRATED PARTS LIST

AIR N ARC® 300 GAS • AIR N ARC® 300 GAS
COMPACT • POWERFLEX™ AE GAS •
POWERFLEX™ AE GAS COMPACT

7.13 INSTRUMENT PANEL - AIR N ARC® 300 GAS STANDARD (2 OF 2)



7.13 INSTRUMENT PANEL - AIR N ARC® 300 GAS STANDARD (2 OF 2)

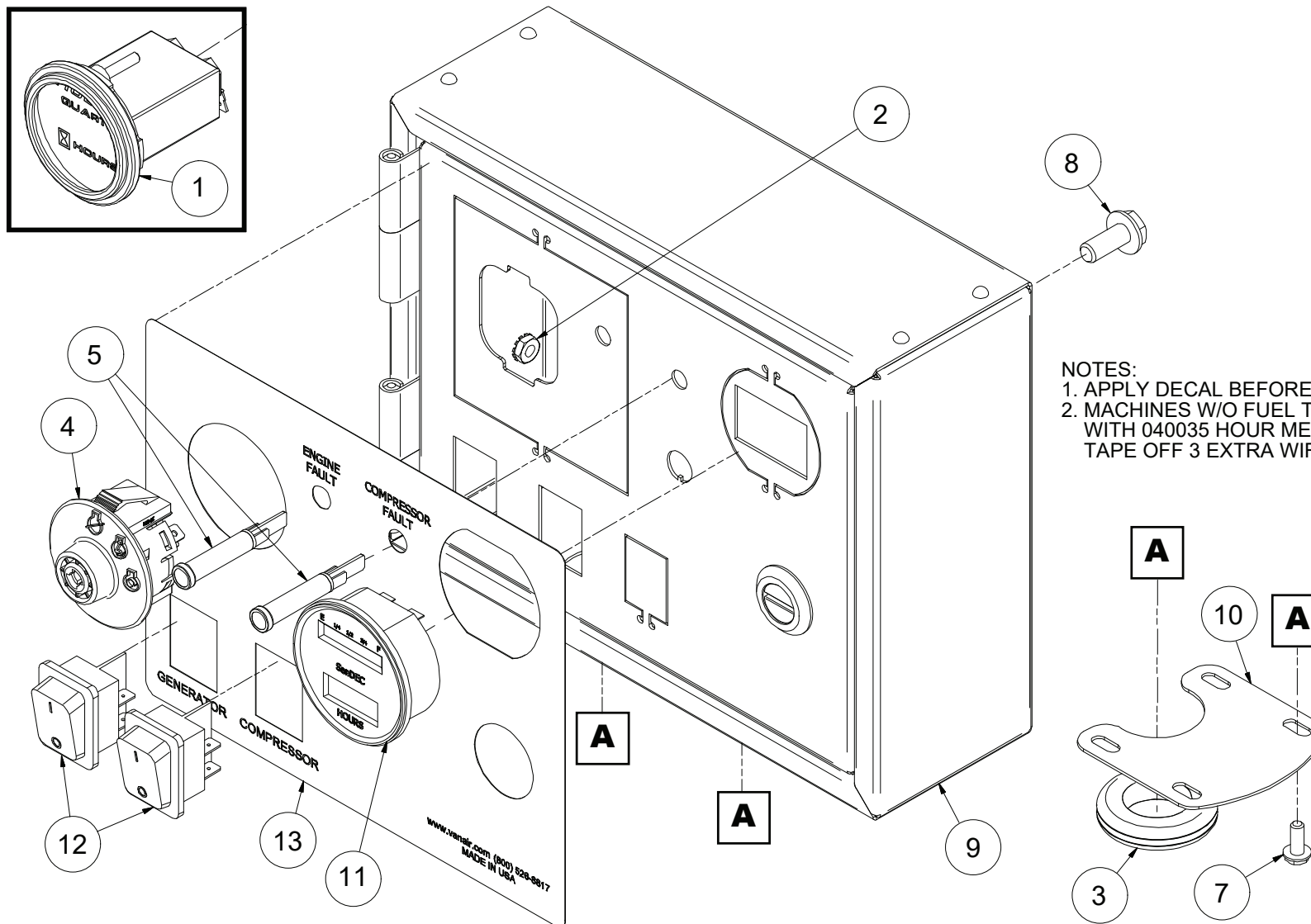
ITEM	DESCRIPTION	PART NUMBER	QTY	ITEM	DESCRIPTION	PART NUMBER	QTY	ITEM	DESCRIPTION	PART NUMBER	QTY
1	GAUGE, HOUR METER 12VDC ¹	040035	1	21	ELBOW, 37FL/90M #08 x 1/2	860208-050	1	41	HARNESS, WIRE INST PNL LIGHTS	EP269871	1
2	ELBOW, 1/4T x 1/8P PUSH-ON	261309	1	22	PANEL, CONTROL BOX	A1269489	1	42	HARNESS, WIRE INST PNL SWTCH	EP269872	1
3	ELBOW, 90 deg. PUSH ON 1/4T x 1/4P	261310	1	23	CLAMP, CONTROL PANEL CABLE	A1269491	1	43	HARNESS, WELD CABLE MACH	EP270170	1
4	NUT, HEX #10-32 KEPS	261595-032	4	24	COVER, CONTROL PANEL CABLES	A1269492	1	44	HARNESS, WELD CABLE JUMPER	EP270171	1
5	NUT, HEX #6-32 KEPS	261595-632	6	25	FACEPLATE, CONTROL PANEL	A1272405	1	45	HARNESS, A/C PNL TO MACHINE	EP270230	1
6	RECEPTACLE, 120V/20A GFCI	262392	2	26	MODULE, WELD CNTRL SYS ASSY	CO269598	1	46	HARNESS, WIRE INST. PNL DSPLY	EP270315	1
7	WASHER, NYLON 5/16-18	262943	2	27	SWITCH, IGNITION EFI ENGINES	CO269713	1	47	CABLE, WELD LCKOUT JMPR RED	EP270990	1
8	TUBING, 1/4DIA., NYL, 230 PSI X 1.25 FT	264480	1	28	GAUGE, FUEL / HOUR METER	CO269748	1	48	CABLE, WELD LCKOUT JMPR BLK	EP277928	1
9	WASHER, FLT RDCING 3/4 x 1 ELECT.	267994	2	29	SENSOR, HALL EFCT WLD CNTRLS	CO269900	1	49	SCREW, PHILLIPS 10-32 X 1/2" SS	FA33542	7
10	NUT, LOCKWASHER 1/4-20	270970	6	30	DISPLAY, PNL AMP/VOLT MTR LED	CO270314	1	50	PIPE BRASS, BULKHEAD 1/2 NPT	FI23542	2
11	LAMP, INDICATOR 12V 0.3W	276037	5	31	SWITCH, ROCKER DPST LED	CO272343	2	51	PIPE BRASS, CROSS, 1/2 NPT.	FI25405	1
12	LAMP, INDICATOR 12V 0.3W	276038	3	32	KNOB, PLASTIC, 1.3 DIA., 1/4 SHFT	CO59489	1	52	NIPPLE, PIPE XS CLS 1/2, BRASS	FI34220	2
13	NUT, PUSH TINNERMAN 5/16 3W LED	277273	8	33	CIRCUIT BREAKER, 20 AMP	CO62617	2	53	BUSHING, PIPE BRASS 1/4 x 1/2	FI75068	1
14	COUPLING, PIPE 1/8	806230-005	1	34	GAUGE, AIR, DRY, 0-200 PSI	CO89649	1	54	BOOT, CIRCUIT BREAKER 3/8	PR270548	2
15	PLUG, PIPE 1/2	807800-020	2	35	DECAL, CONTROL PANEL, WELDER	DL272786	1	55	CAP, RUBBER TETHRD 1-3/8 BLK	PR272373	1
16	CAPSCREW, HEX GR5 1/4-20 x 0.75	829104-075	6	36	DECAL, INST PNL FACEPLATE	DL277917	1	56	CAP, RUBBER TETHRD 1-3/8 RED	PR272390	1
17	CAPSCREW, HEX GR5 1/4-20 x 1.5	829104-150	2	37	RECEPTACLE, PANEL 350 AMP	EL269932	2	57	GROMMET, BLK RUBBER, 2.25ID	PR74492	1
18	SCREW, SER WASH 5/16-18 x 0.75	829705-075	6	38	RELAY, 500 AMP 12V COIL NO	EL270483	2	58	BOOT, SWITCH WEATHER PROOF	PR77230	3
19	WASHER, FLAT 1/4	838204-071	6	39	RECEPTACLE, 240V/30A TURNLOK	EL271419	1	59	HOSE, AIR TANK TO PANEL	TU278417	1
20	WASHER, LOCK 1/4	838504-062	6	40	HARNESS, WIRE INST PNL	EP269870	1				

¹ Bill of Material no. 6040168.

¹¹ Bill of Material no. 6040167.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.

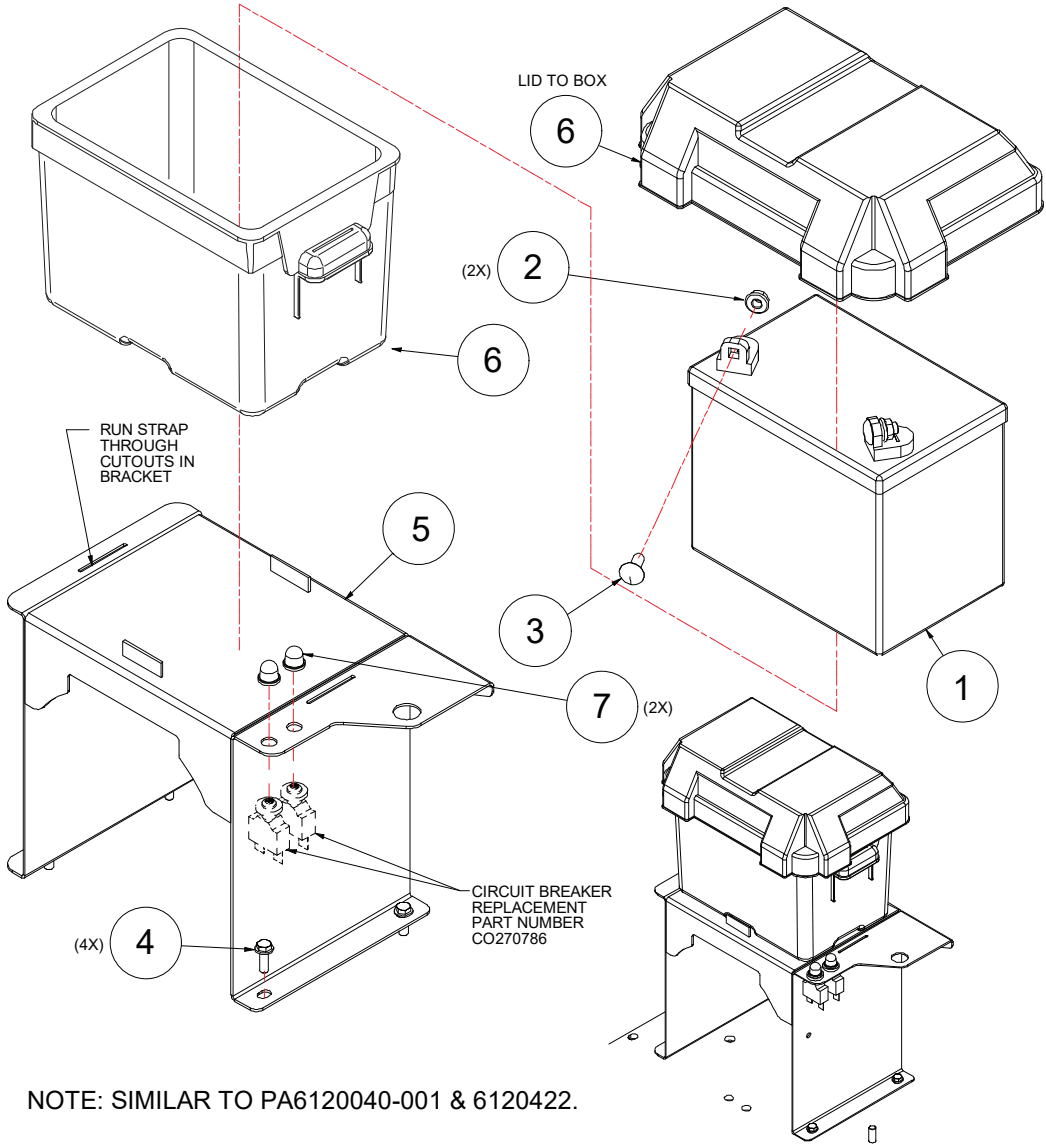
7.14 INSTRUMENT PANEL - POWERFLEX™ AE GAS



NOTES:
1. APPLY DECAL BEFORE PLACING COMPONENTS.
2. MACHINES W/O FUEL TANK REPLACE CO269748
WITH 040035 HOUR METER ON BOM PA6040176,
TAPE OFF 3 EXTRA WIRES 1T, 3D AND 8.

7.14 INSTRUMENT PANEL - POWERFLEX™ AE GAS			
ITEM	DESCRIPTION	PART NUMBER	QTY
1	GAUGE, HOUR METER (MACHINES W/O FUEL TANK; SEE ITEM #11 FOR FUEL TANK)	040035	1
2	NUT, HEX #10-32 KEPS	261595-032	1
3	GROMMET, RUBBER 1 x 1 3/8 x 3/32	265879	1
4	SWITCH, KEYED IGNITION 5 PIN	274173	1
5	LAMP, INDICATOR 12V 0.3W RED LED DAYLIGHT	276038	2
6	NUT, PUSH TINNERMAN (USE ON 276038)	277273	2
7	SCREW, SER WASH #10-24 x 0.5	829702-050	4
8	SCREW, SER WASH 5/16-18 x 0.75	829705-075	4
9	BOX, INST PNL DC MACHINE CONTROL	A1274610	1
10	COVER, SLIDE WIRING INST PNL	A1274611	1
11	GAUGE, FUEL/HOUR METER (MACHINES W/FUEL TANK; SEE ITEM #1 FOR NO FUEL TANK)	CO269748	1
12	SWITCH, ROCKER 12V DPST CLEAR LIGHT	CO272343	2
13	DECAL, FACEPLATE MACHINE CONTROLS	DL274690	1
14	HARNESS, WIRE INST PNL POWERFLEX AE GAS	EP275882	1
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.			

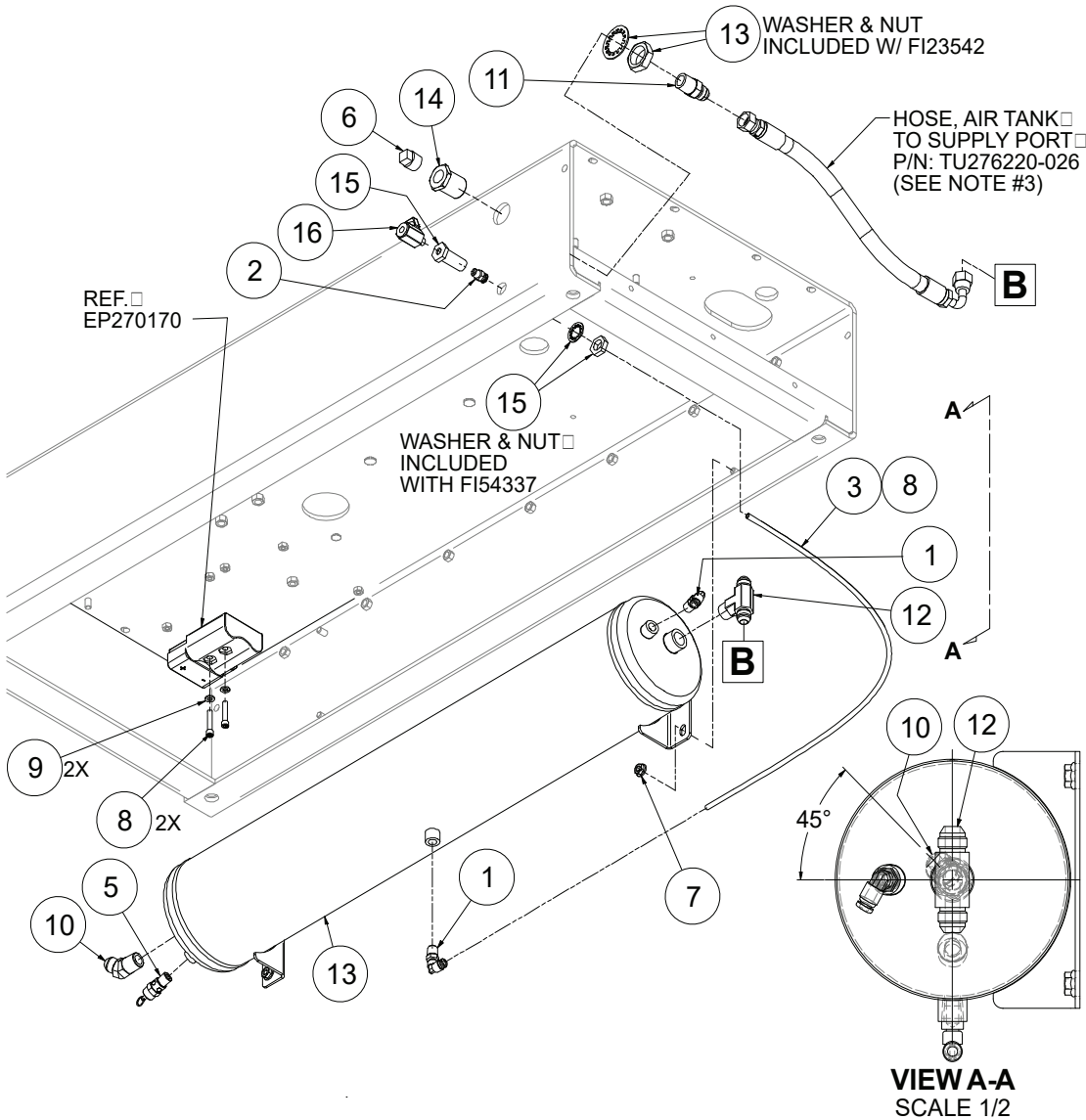
7.15 ELECTRICAL SYSTEM



NOTE: SIMILAR TO PA6120040-001 & 6120422.

ITEM	DESCRIPTION	PART NUMBER	QTY
1	BATTERY,12V GROUP U1LF 350 CCA	277481	1
-	HARNESS, WIRE MAIN ANA300V VNR750EFI	284765	1
2	NUT, HEX FLANGE 5/16-18	825305-283	2
3	BOLT, CARRIAGE 5/16-18 x 3/4	829505-075	2
4	SCREW, SER WASH 1/4-20 x 0.75	829704-075	4
5	BRACKET, BATTERY	A1270053	1
6	BOX, BATTERY	EL269924	1
-	HARNESS, WIRE AC GENERATOR ANA 300G	EP269874	1
-	CABLE, BATTERY, POSITIVE	EP274022	1
-	CABLE, BATTERY, NEGATIVE	EP274023	1
7	BOOT, BREAKER, PANEL MOUNT	PR81817	2
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.			

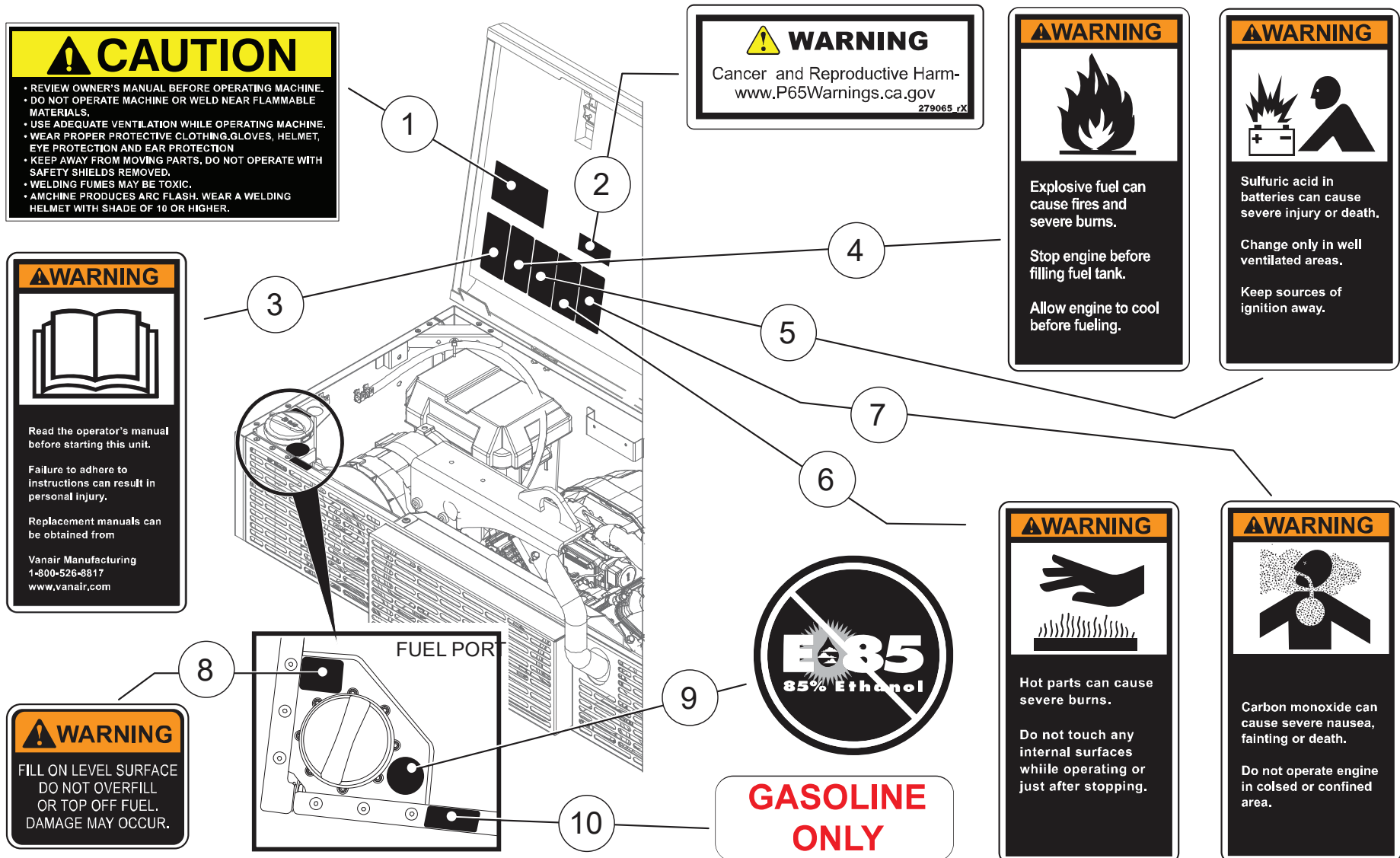
7.16 AIR STORAGE ASSEMBLY



ITEM	DESCRIPTION	PART NUMBER	QTY
1	ELBOW, 90 deg. PUSH ON 1/4T x 1/4P	261310	2
2	CONNECTOR, 1/8P x 1/4T PUSH ON	261316	1
3	TUBING, NYLON 1/4 NATURAL WHITE WP 250 PSI	261322	2.5 ft
4	LOOM, FLEX-GARD 3/8 ID 300 DEG. F.	261410	2.5 ft
5	VALVE, RELIEF 200 PSI 1/4 NPT MALE	264232	1
6	PLUG, PIPE 1/2	807800-020	1
7	NUT, HEX FLANGE 5/16-18	825305-283	4
8	CAPSCREW, S.H. 1/4-20 x 1 1/4	828304-125	2
9	WASHER, LOCK 1/4	838504-062	2
10	ELBOW, 45 DEG. 1/2 MPT x #8 MJIC	860008-050	1
11	CONNECTOR, 37FL/MPT #08 x 1/2	860108-050	1
12	TEE, 37FL/M BR #8 x 1/2	861708-050	1
13	TANK, AIR ACCUMULATOR 4 GAL	A1269633	1
14	PIPE BRASS, BULKHEAD 1/2 NPT	FI23542	1
15	PIPE BRASS, BULKHEAD 1/8 NPT	FI54337	1
16	VALVE, BALL MINI, 1/8NPT M/F,	FI95272	1

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.

7.17 DECAL IDENTIFICATION/LOCATIONS - 1 OF 5

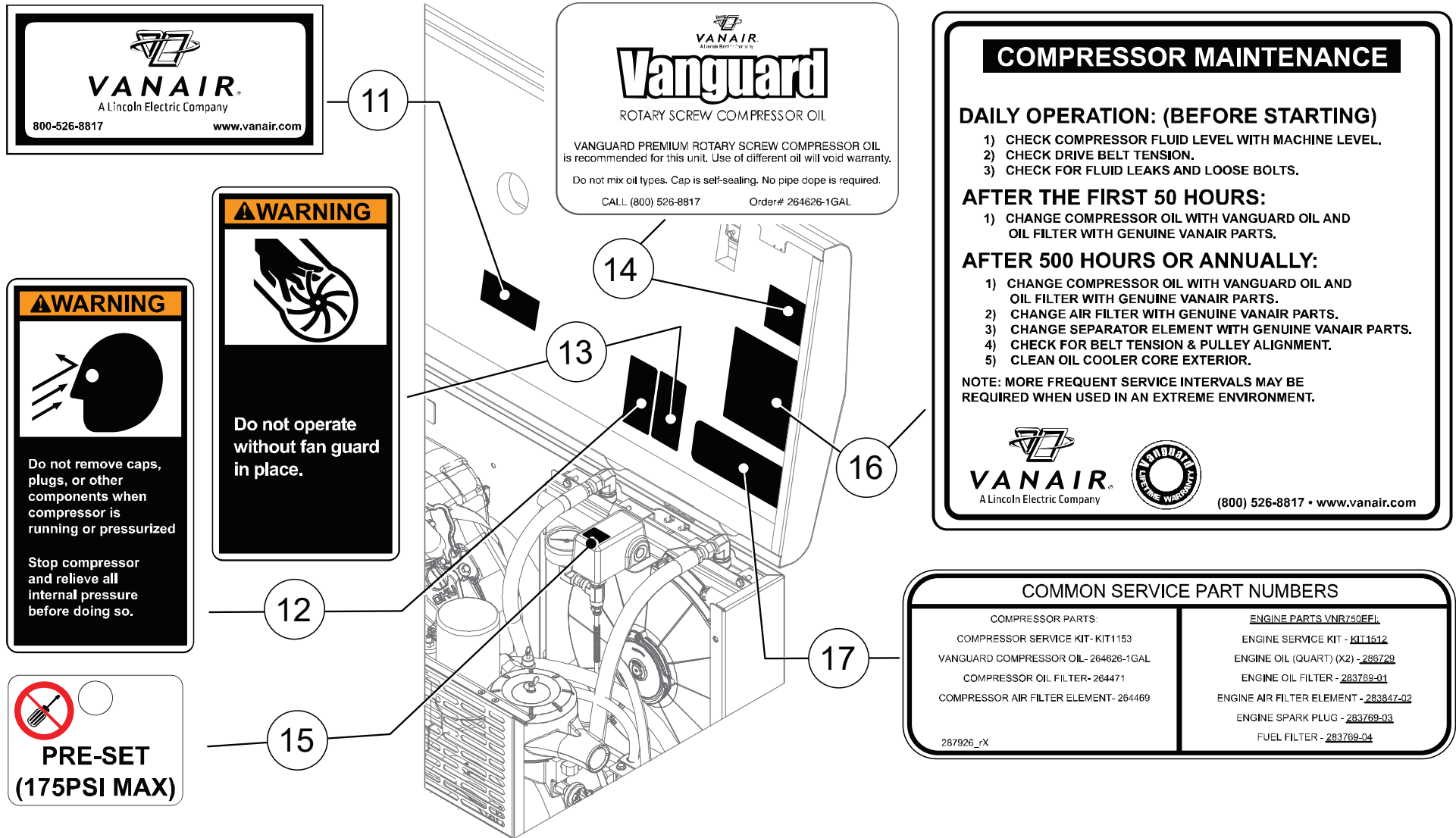


7.17 DECAL IDENTIFICATION/LOCATIONS - 1 OF 5			
ITEM	DESCRIPTION	PART NUMBER	QTY
1	DECAL, CAUTION ANA	DL270120	1
2	DECAL, WARN-CANCER, REPRO, HARM	279065	1
3	DECAL, READ MANUAL	272424	1
4	DECAL, EXPLOSIVE FUEL	264377	1
5	DECAL, SULFURIC ACID	264375	1
6	DECAL, HOT PARTS	264372	1
7	DECAL, CARBON MONOXIDE	264376	1
8	DECAL, DO NOT TOP OFF	272649	1
9	DECAL, NO E85 GAS CAP LOGO	DL270183	1
10	DECAL, GASOLINE ONLY	275977	1
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.			

⚠ WARNING

DO NOT REMOVE OR COVER
 ANY SAFETY DECAL. Replace
 any safety decal that becomes
 damaged or illegible.

7.17 DECAL IDENTIFICATION/LOCATIONS - 2 OF 5



7.17 DECAL IDENTIFICATION/LOCATIONS - 2 OF 5			
ITEM	DESCRIPTION	PART NUMBER	QTY
11	DECAL, VANAIR ADDRESS	265605	1
12	DECAL, WARNING PLUGS	264378	1
13	DECAL, WARNING FAN GUARD	264383	1
14	DECAL, ROTARY SCREW OIL	272501	1
15	DECAL, PRESSURE ADJ SWITCH	DL276173-1	1
16	DECAL, MAINTENANCE VIPER	263388	1
17	DECAL, COMMON SERVICE PARTS ANA300	287926	1
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.			

⚠ WARNING

DO NOT REMOVE OR COVER
 ANY SAFETY DECAL. Replace
 any safety decal that becomes
 damaged or illegible.

7.17 DECAL IDENTIFICATION/LOCATIONS - AIR N ARC® 300 GAS EXTERIOR (3 OF 5)



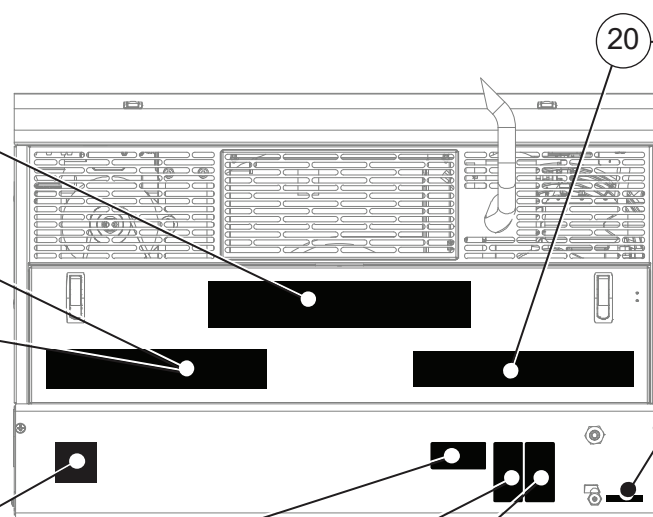
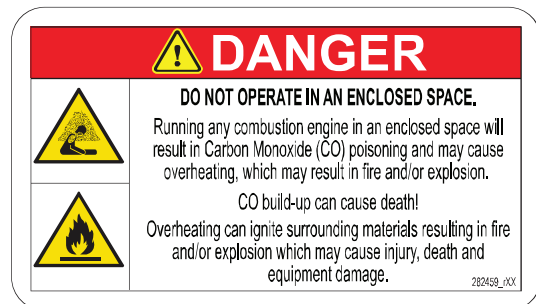
AIR N ARC
300 GAS

AIR N ARC
300 COMPACT

VANLINK
Scan code for instant access to product details

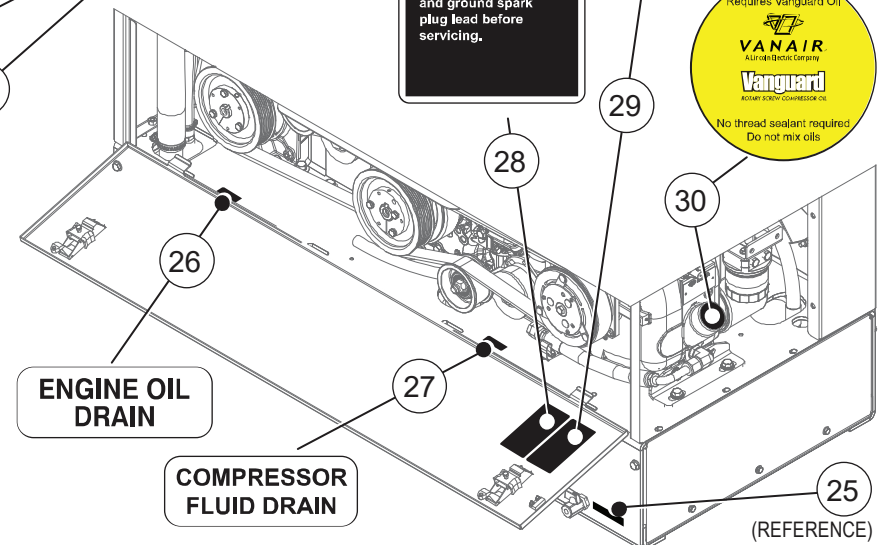


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300 A • 7 kW • 40 CFM • EFI
ALL-IN-ONE Power Systems®

AIR TANK DRAIN
Drain Daily



ENGINE OIL DRAIN

COMPRESSOR FLUID DRAIN

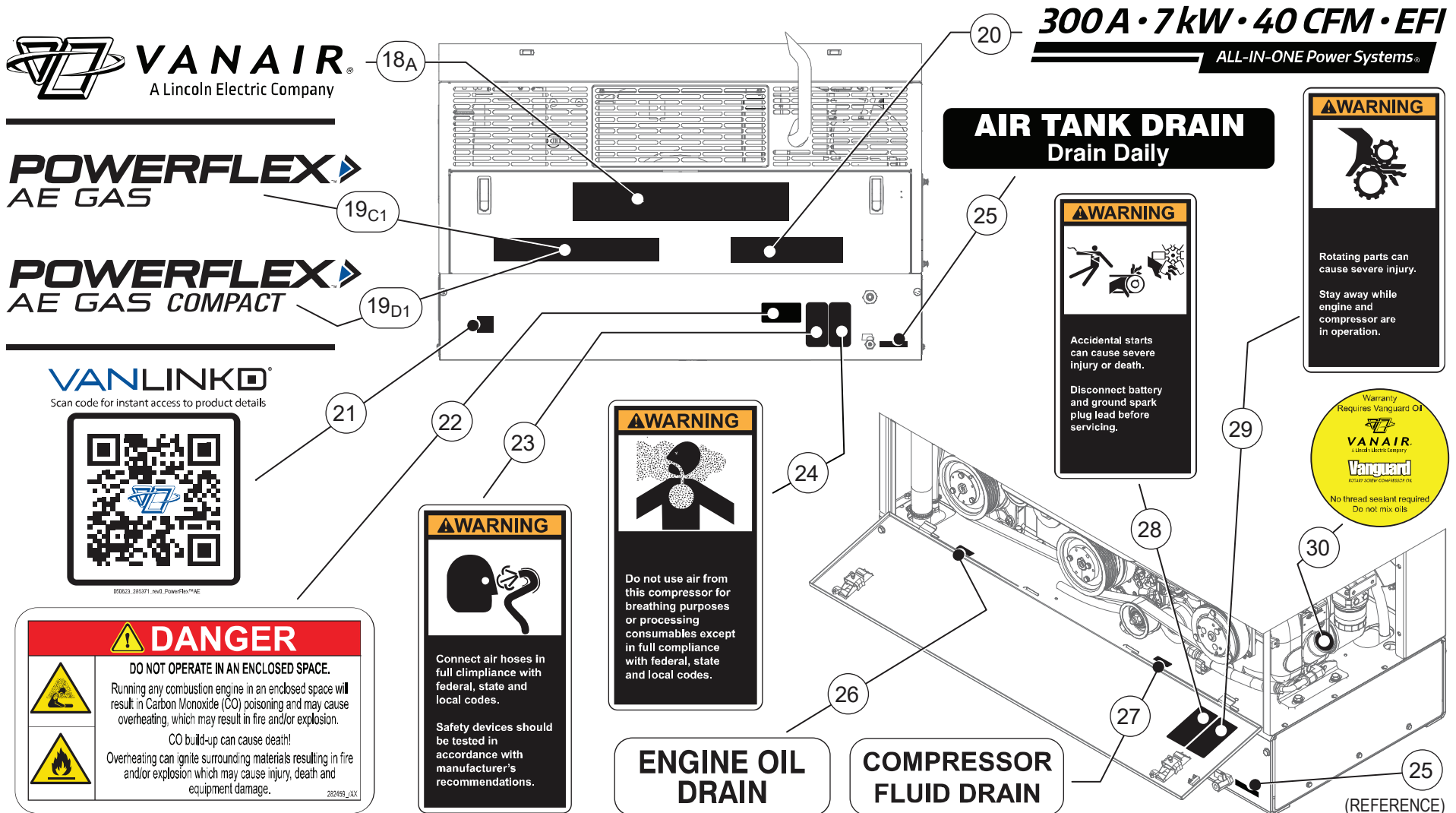
(REFERENCE)

7.17 DECAL IDENTIFICATION/LOCATIONS - AIR N ARC® 300 GAS EXTERIOR (3 OF 5)			
ITEM	DESCRIPTION	PART NUMBER	QTY
18 _A	LOGO, VANAIR STACKED (12.5 X 6.5)	275056-C	1
19 _{A1}	LOGO, ANA 300 GAS (16 X 2.9)	277443-A	1
19 _{B1}	LOGO, ANA 300 GAS COMPACT	¹	1
20	LOGO, ANA 300 GAS PERFORMANCE BADGE (16 X 2.5)	277442-A	1
21	DECAL, QR CODE 300G	283715	1
22	DECAL, DANGER DO NOT OPERATE IN AN ENCLOSED SPACE (4" X 2")	282459	1
23	DECAL, CONNECT AIR HOSE	261885	1
24	DECAL, DO NOT USE AIR	261886	1
25	DECAL, LABEL AIR TANK DRAIN WHITE	DL269676	1
26	DECAL, ENGINE OIL DRAIN	275053	1
27	DECAL, COMPRESSOR FLUID DRAIN	275054	1
28	DECAL, AUTO-STARTING	264373	1
29	DECAL, ROTATING PARTS	264374	1
30	DECAL, VANGUARD OIL FILL CAP	263533-1	1
¹ For decal replacement consult the Vanair® Service Department.			
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.			

⚠ WARNING

**DO NOT REMOVE OR COVER ANY SAFETY
DECAL. Replace any safety decal that
becomes damaged or illegible.**

7.17 DECAL IDENTIFICATION/LOCATIONS - POWERFLEX™ AE GAS EXTERIOR (4 OF 5)



7.17 DECAL IDENTIFICATION/LOCATIONS - POWERFLEX™ AE GAS EXTERIOR (4 OF 5)

ITEM	DESCRIPTION	PART NUMBER	QTY
18 _A	LOGO, VANAIR HRZ (21 X 3.7)	275056-C	1
19 _{C1}	LOGO, POWERFLEX AE GAS (16 X 2.4)	280776-A	1
19 _{D1}	LOGO, POWERFLEX AE GAS COMPACT	[†]	1
20	LOGO, ANA 300 GAS PERFORMANCE BADGE (16 X 2.5)	277442-A	1
21	DECAL, QR CODE 300G	283715	1
22	DECAL, DANGER DO NOT OPERATE IN AN ENCLOSED SPACE (4" X 2")	282459	1
23	DECAL, CONNECT AIR HOSE	261885	1
24	DECAL, DO NOT USE AIR	261886	1
25	DECAL, LABEL AIR TANK DRAIN WHITE	DL269676	1
26	DECAL, ENGINE OIL DRAIN	275053	1
27	DECAL, COMPRESSOR FLUID DRAIN	275054	1
28	DECAL, AUTO-STARTING	264373	1
29	DECAL, ROTATING PARTS	264374	1
30	DECAL, VANGUARD OIL FILL CAP	263533-1	1

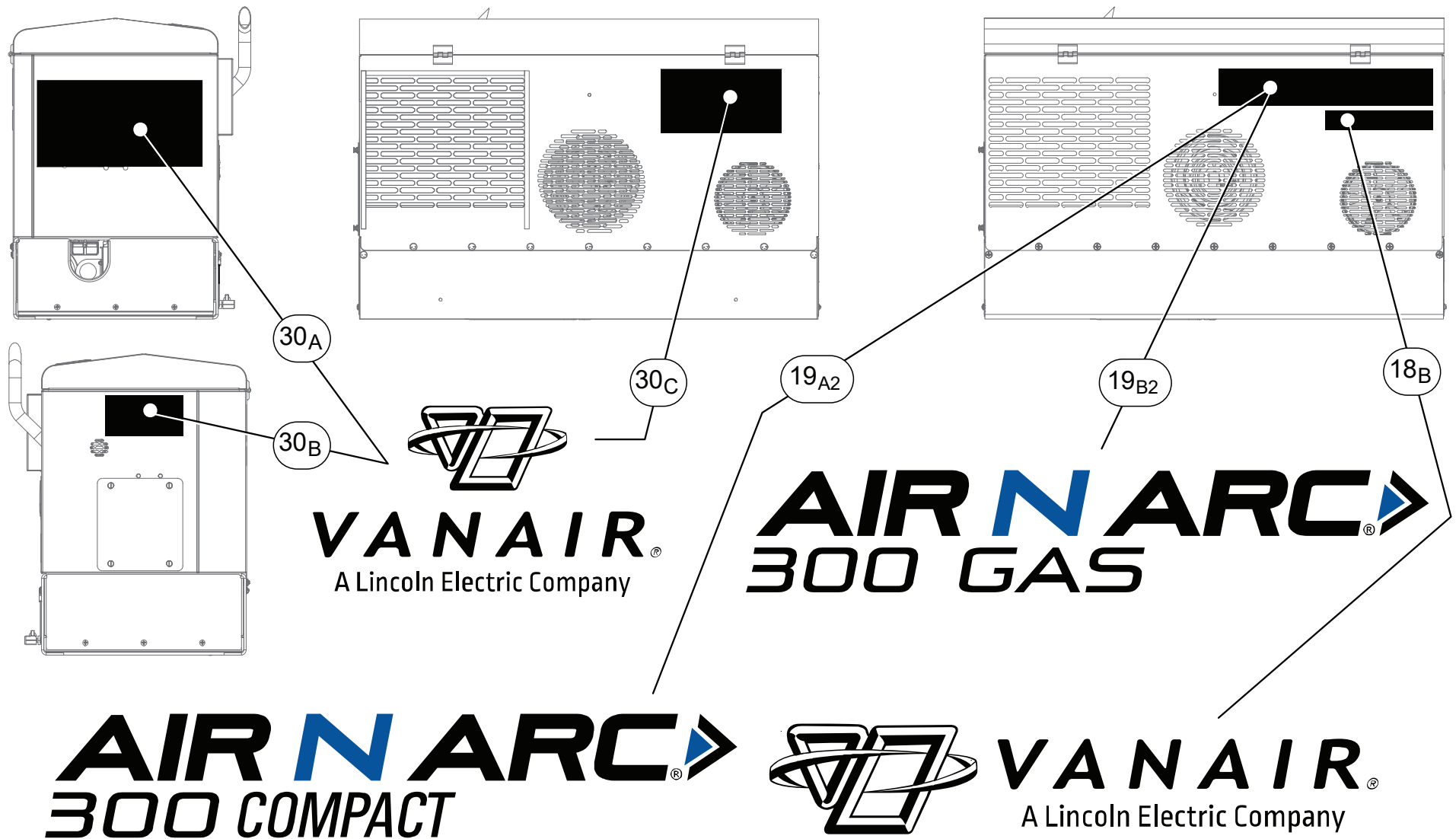
[†] For decal replacement consult the Vanair® Service Department.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.

WARNING

**DO NOT REMOVE OR COVER ANY SAFETY
 DECAL. Replace any safety decal that
 becomes damaged or illegible.**

7.17 DECAL IDENTIFICATION/LOCATIONS - EXTERIOR (5 OF 5)



7.17 DECAL IDENTIFICATION/LOCATIONS - EXTERIOR (5 OF 5)			
ITEM	DESCRIPTION	PART NUMBER	QTY
30 _A	LOGO, VANAIR STACKED (17 X 8.9)	275057-C	1
30 _B	LOGO, VANAIR STACKED (8.5 X 4.5)	275057-C	1
30 _C	LOGO, VANAIR STACKED (12.5 X 6.5)	275057-C	1
19 _{A2}	LOGO, VANAIR HORIZONTAL - (19 X 3.3)	275056-C	1
19 _{B2}	LOGO, ANA 300 GAS COMPACT	-	1
18 _B	LOGO, POWERFLEX AE GAS (16 X 2.4)	280776-A	1
^x Decal used on PowerFlex machines only.			
PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.			

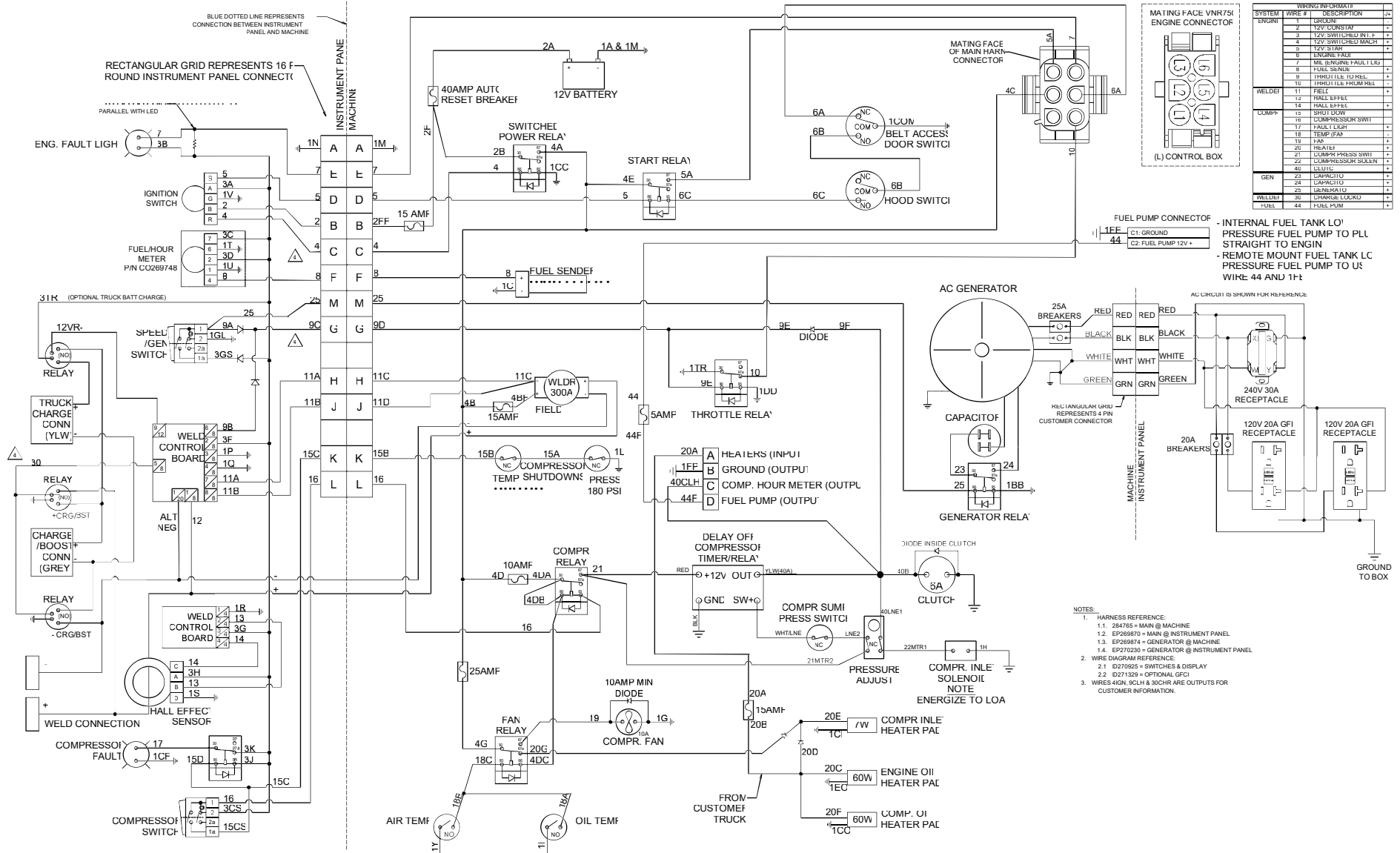
⚠ WARNING

DO NOT REMOVE OR COVER
 ANY SAFETY DECAL. Replace
 any safety decal that becomes
 damaged or illegible.

SECTION 7:
ILLUSTRATED PARTS LIST

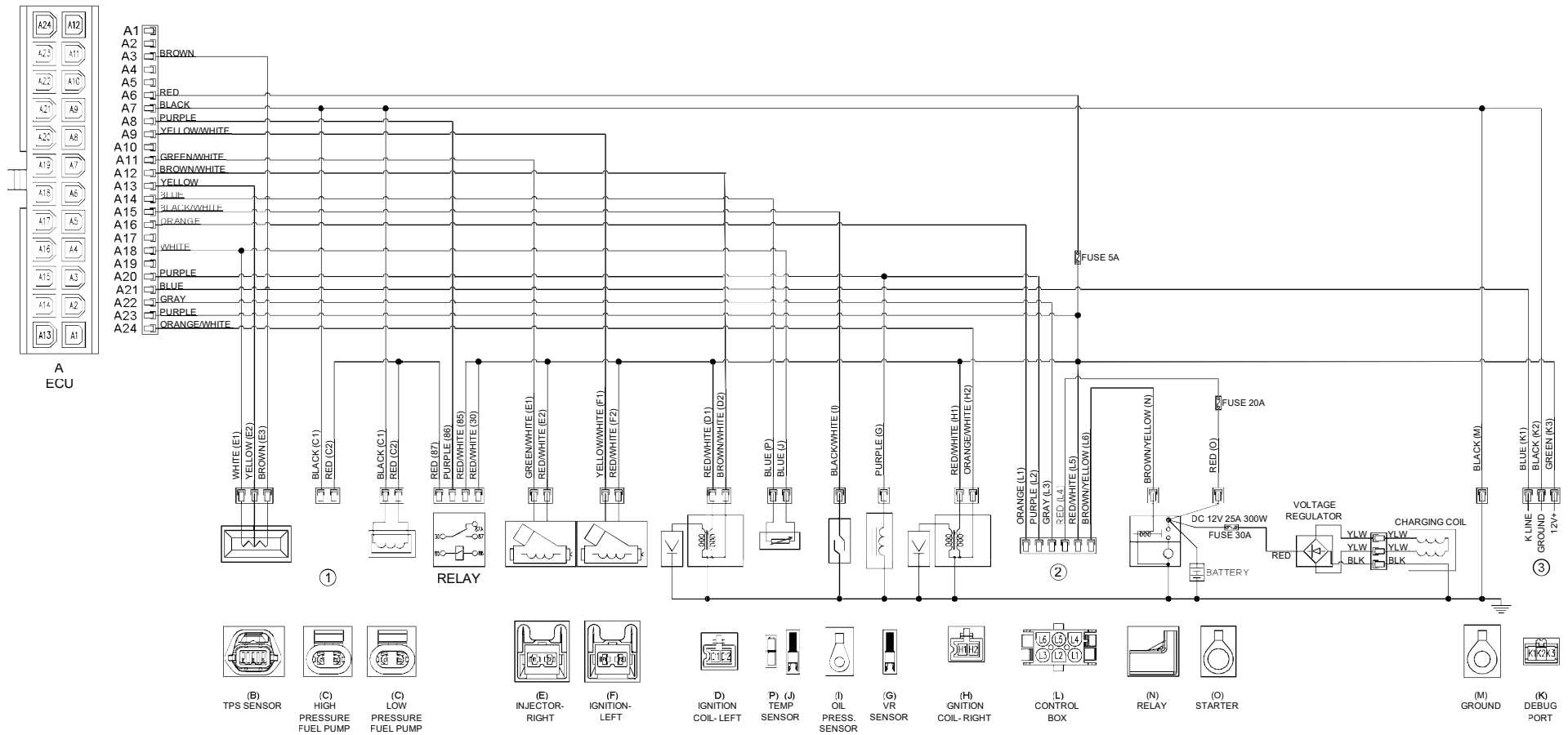
**AIR N ARC® 300 GAS • AIR N ARC® 300 GAS
COMPACT • POWERFLEX™ AE GAS •
POWERFLEX™ AE GAS COMPACT**

7.18 WIRING DIAGRAM: AIR N ARC® 300 (VNR750EFI) - 1 OF 2



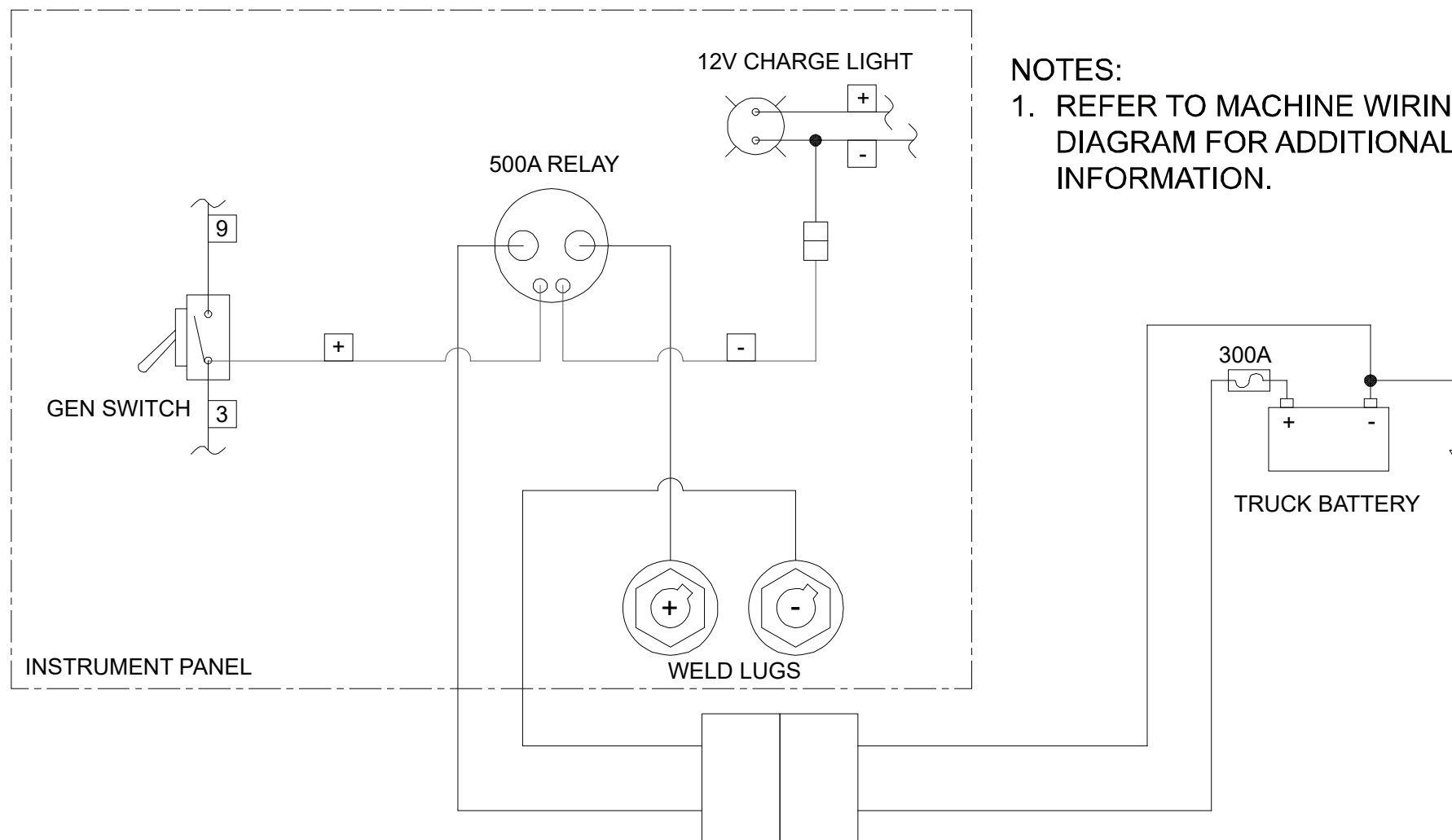
7.18 WIRING DIAGRAM: AIR N ARC 300® (VNR750EFI) - 1 OF 2

VNR750EFI - ENGINE
WIRING DIAGRAM



PORT NUMBER	ENGINE PORT NUMBER	MACHINE PORT NUMBER	INSTRUCTION
1	DJ7021-1.5-2	DJ7021-1.5-1	FUEL PUMP
2	HX63080-61	HX63080-61	PIN 1= BLUE SPEED CONTROL INPUT (GROUND FOR IL PIN 2= FLAME OUT (GROUND TO KIL PIN 3= MIL (MALFUNCTION INDICATOR LIG PIN 4= BATTERY PIN 5= 12VDC SWITCH POWER (IGNITIC PIN 6= STARTER SOLENOID (ENGINE CRANK/ST/

7.19 WIRING DIAGRAM - BATTERY CHARGE OPTION



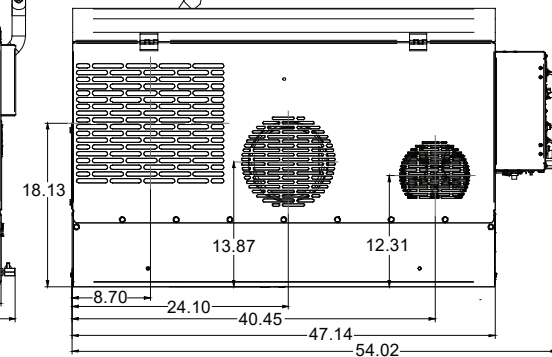
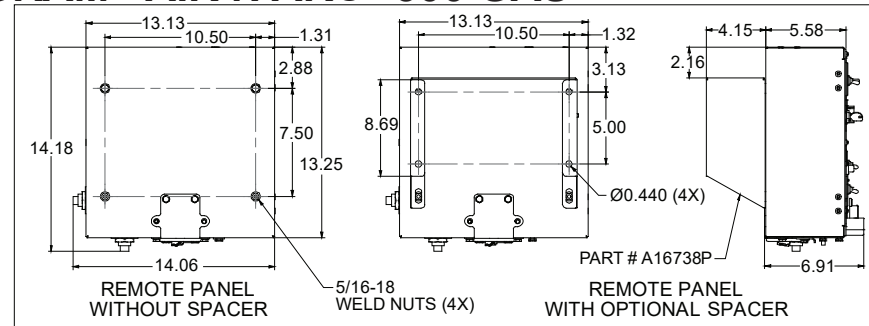
NOTES:

1. REFER TO MACHINE WIRING DIAGRAM FOR ADDITIONAL INFORMATION.

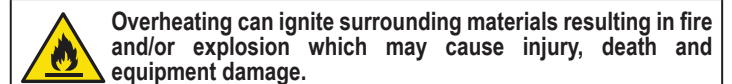
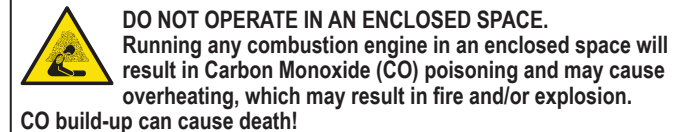
Technical drawing of the rear view of the vehicle chassis. The drawing shows the rear suspension, fuel fill underhood, and various dimensions. Key dimensions include: 6.00 (width of the upper section), 8.00 (width of the lower section), 0.43 (small offset), 21.06 (height of the main body), 23.80 (total height), 8.00 (width of the fuel fill area), 1.57 (width of the fuel fill area), 2.68 (width of the fuel fill area), and 2.68 (width of the fuel fill area). The text "AIR FLOW" is written vertically, and "FUEL FILL UNDERHOOD" is written horizontally.

Technical drawing of the rear view of the control panel, showing dimensions and components. The drawing includes the following labels and dimensions:

- Dimensions:**
 - Overall width: 47.12
 - Overall height: 34.18
 - Top left section width: 5.61
 - Top middle section width: 32.31
 - Bottom left section width: 6.89
 - Bottom left section height: 12.88
 - Bottom middle section width: 47.52
 - Bottom right section width: 5.00
 - Bottom right section height: 6.13
 - Bottom right section height (lower): 1.50
 - Bottom right section height (lower): 0.07
 - Overall bottom width: 54.21
- Components and Labels:**
 - CONTROL PANEL (MAY BE REMOTELY MOUNTED)
 - 1/2 NPT AIR SERVICE PORT
 - REMOVABLE ACCESS PANEL FOR BELT & OIL DRAINS (SHOWN AS TRANSPARENT)
 - AIR CONDENSATE DRAIN
 - 1/2 NPT AIR SERVICE PORT



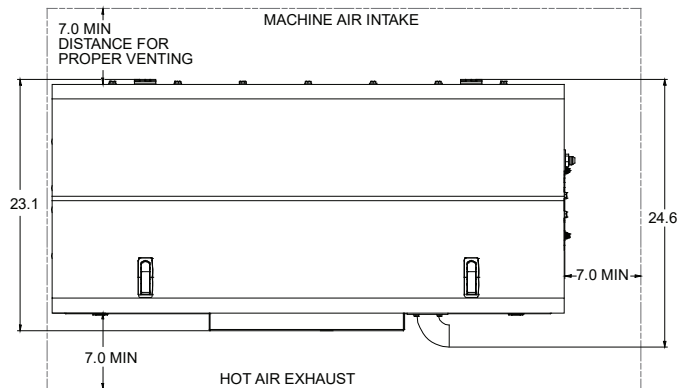
⚠ DANGER



SECTION 7:
ILLUSTRATED PARTS LIST

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7.21 INSTALLATION AND DIMENSION DIAGRAM - AIR N ARC® 300 COMPACT



NOTE

The dimensions listed in this diagram are the minimum required clearance distances needed for properly cooling the machine. Additional clearance room may be desired for easier access for control and/or maintenance functions.

⚠ DANGER



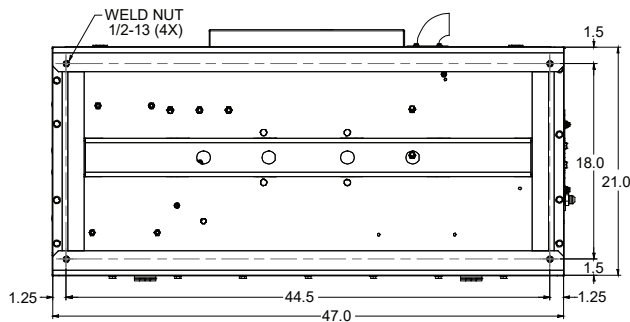
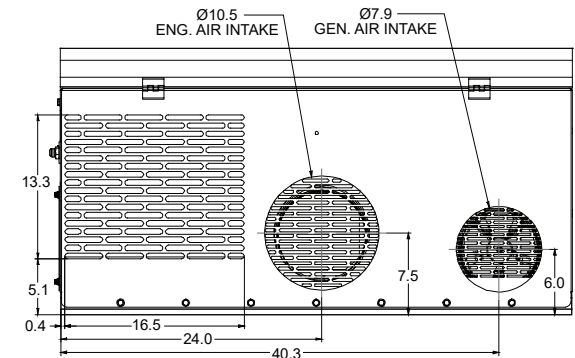
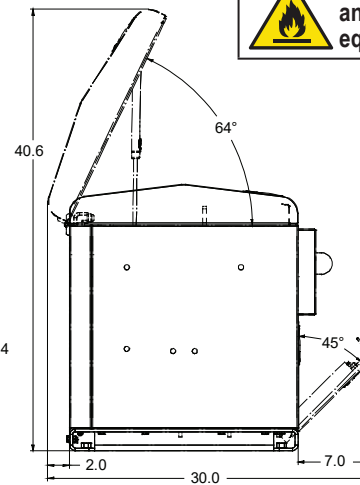
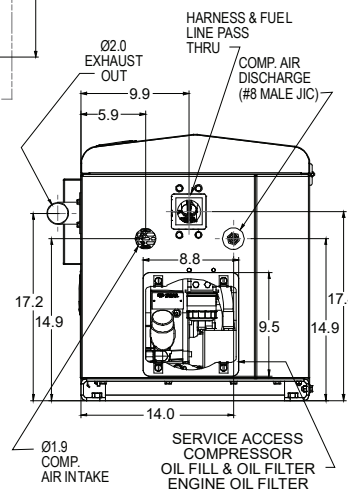
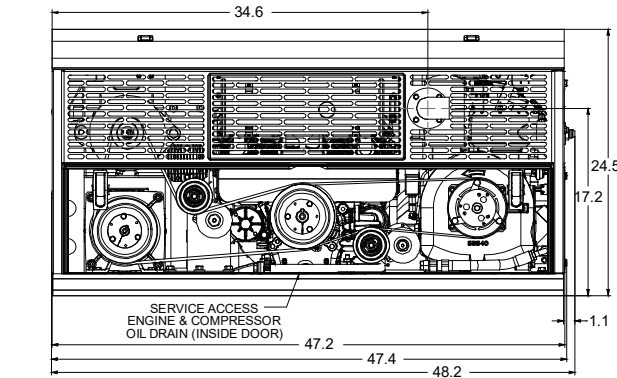
DO NOT OPERATE IN AN ENCLOSED SPACE.

Running any combustion engine in an enclosed space will result in Carbon Monoxide (CO) poisoning and may cause overheating, which may result in fire and/or explosion.

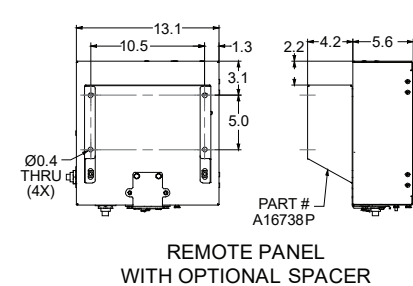
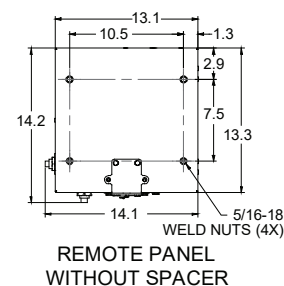
CO build-up can cause death!



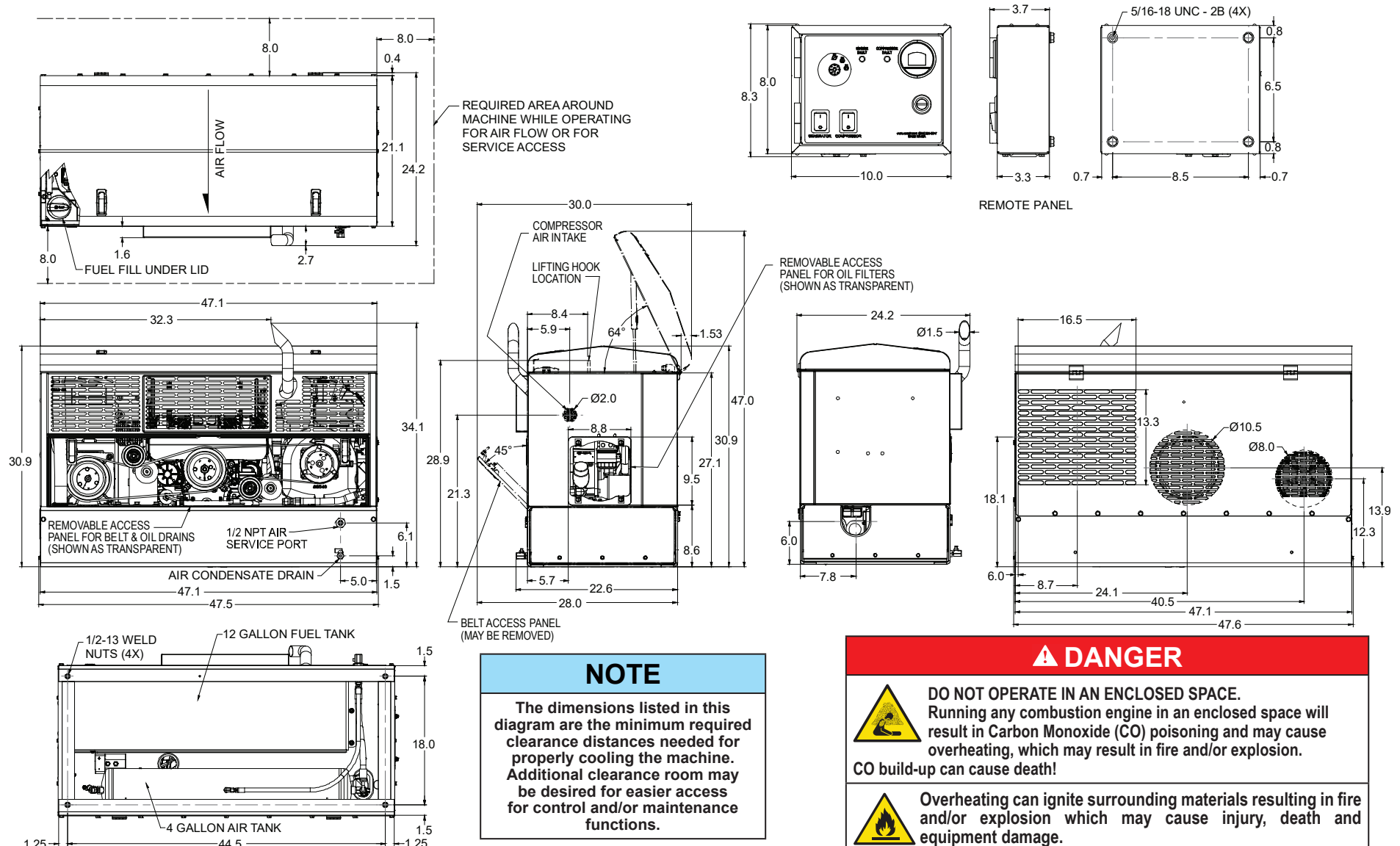
Overheating can ignite surrounding materials resulting in fire and/or explosion which may cause injury, death and equipment damage.



NOTE:
SIMILAR TO 051710.

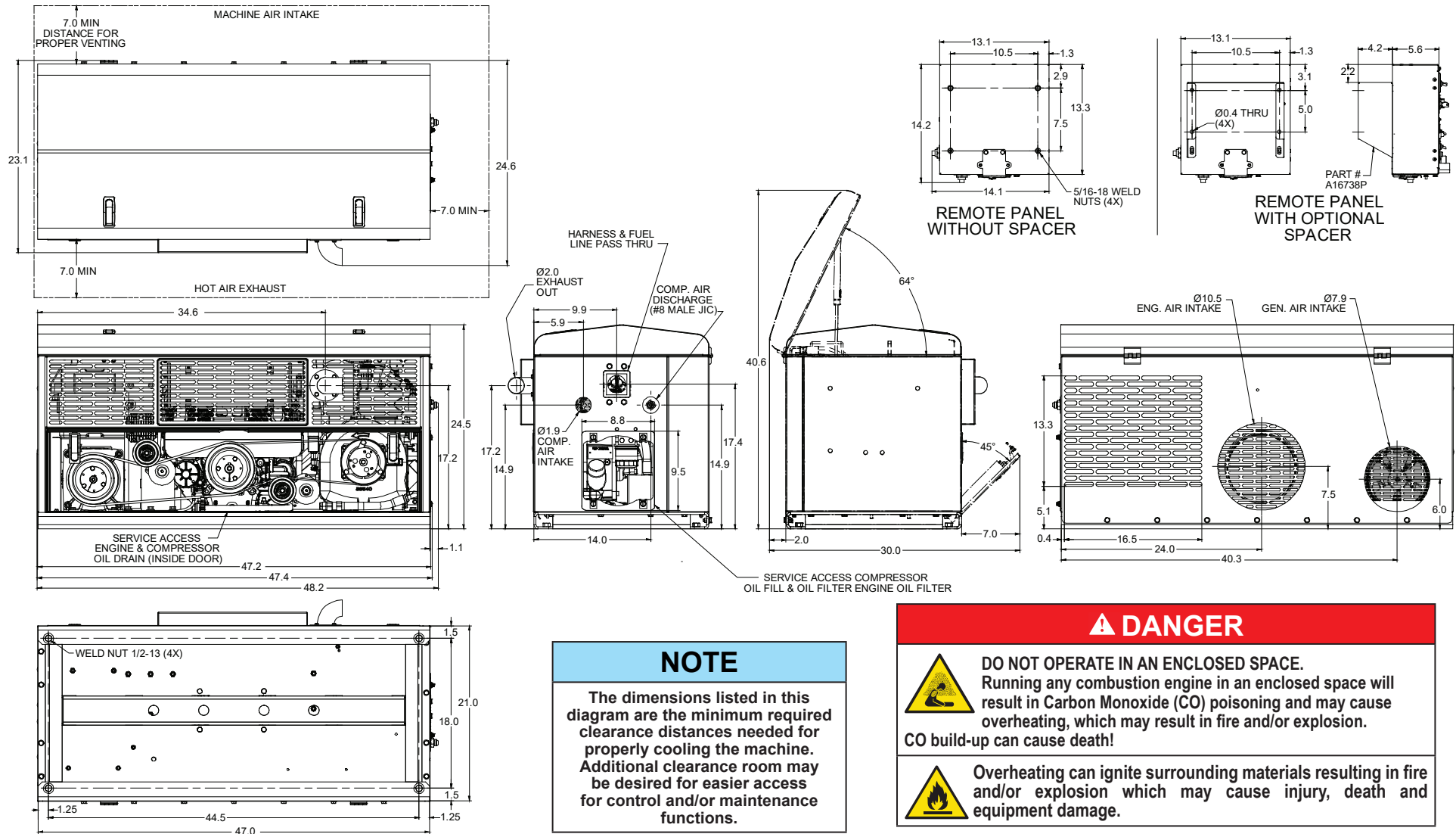


7.22 INSTALLATION AND DIMENSION DIAGRAM - POWERFLEX™ AE GAS WITH FUEL TANK

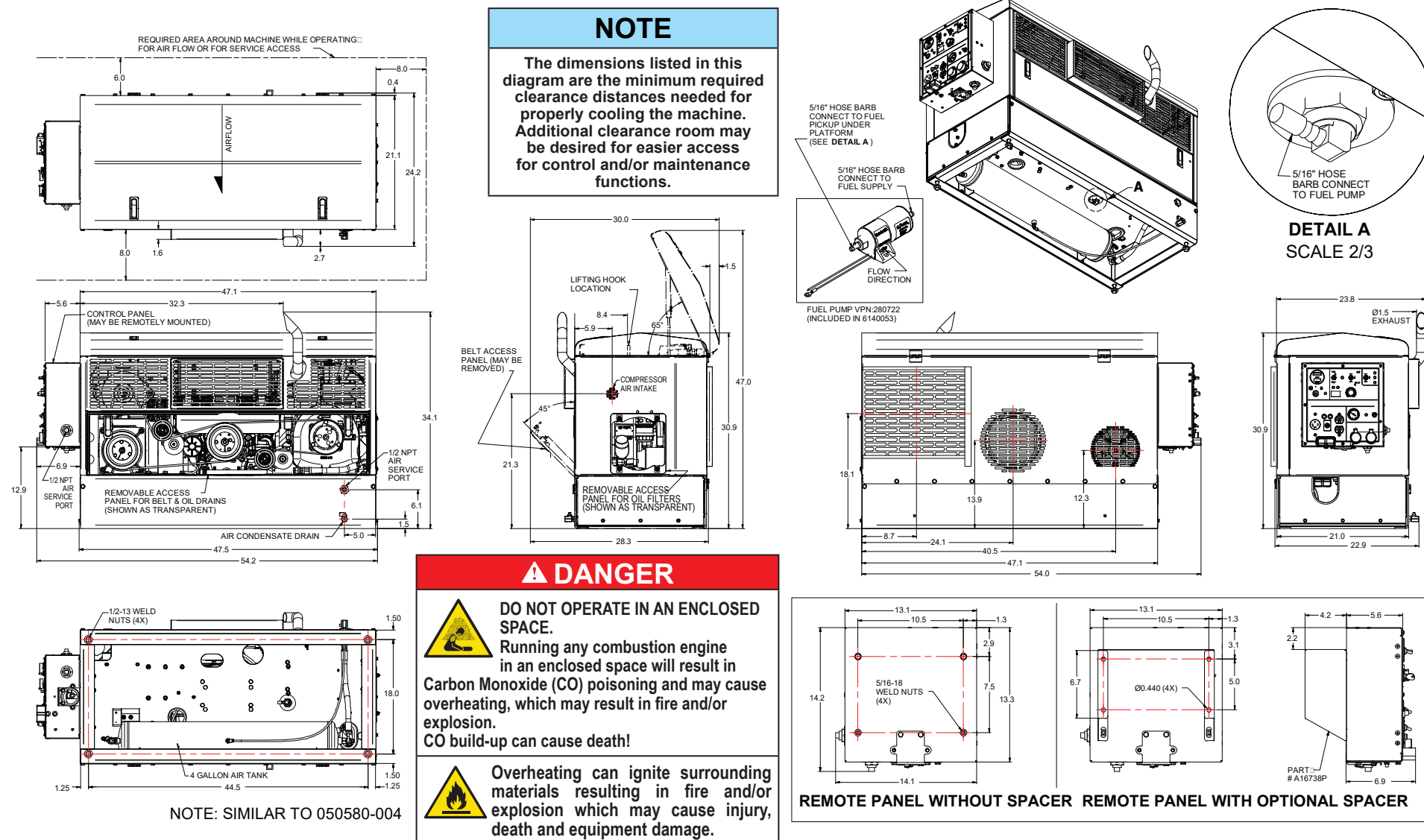


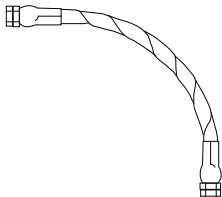
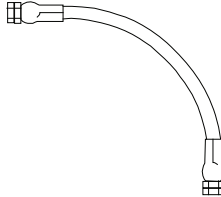
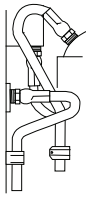
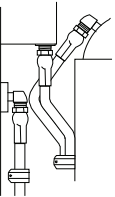
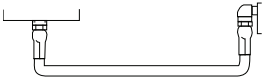
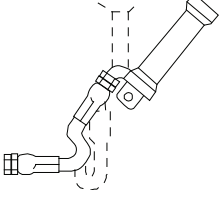
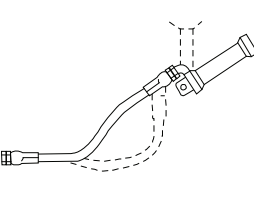
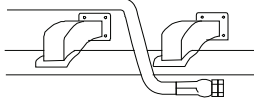
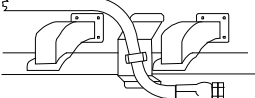
052398ID_r0

7.23 INSTALLATION AND DIMENSION DIAGRAM - POWERFLEX™ AE GAS COMPACT



7.24 INSTALLATION AND DIMENSION DIAGRAM - AIR N ARC® 300 GAS WITHOUT FUEL



7.25 HOSE INSTALLATION GUIDE					
HOSE LAYOUT CONSIDERATION	WRONG	RIGHT	HOSE LAYOUT CONSIDERATION	WRONG	RIGHT
1. Hose is weakened when installed in twisted position. Pressure in twisted hose tends to loosen fitting connections. Design so that machine motion produces bending rather than twisting.			4. Use elbows or other adapters as necessary to eliminate excess hose length and to insure neater installation for easier maintenance.		
2. Ample bend radius should be provided to avoid collapsing of line and restriction of flow.			5. When hose assembly is installed in a flexing application, remember that metal hose fittings are not part of the flexible portion. Allow ample free length for flexing.		
3. Exceeding minimum bend radius will greatly reduce hose assembly life.			6. When properly routing, use clamps to secure the hose in its proper position.		

APPENDIX A: ADDITIONAL INFORMATION

TABLE A.1 - ELECTRIC MOTOR CHART - STARTING WATTS [‡]

HORSEPOWER	RUNNING WATTS	UNIVERSAL MOTOR (sm. appliance)	INDUCTION MOTOR	CAPACITOR MOTOR	SPLIT PHASE MOTOR
1/6	275	400	600	850	1200
1/4	400	500	850	1050	1700
1/3	450	600	950	1350	1950
1/2	600	750	1300	1800	2600
3/4	850	1000	1900	2600	X
1	1000	1250	2300	3000	X
1 1/2	1600	1750	3200	4200	X
2	2000	2350	3900	5100	X
3	3000	X	5200	6800	X
5	4800	X	7500	9800	X

[‡] Approximate current requirements.

NOTE: For pumps, air compressors, air conditioners, inverters add at least 25% to starting current.

TABLE A.2 - EXTENSION CORD CHART

CONTINUOUS LOAD (use either Amps or Watts below)			MINIMUM GAUGE (AWG)		
AMPS	@120 volts	@240 volts	0-50 feet	50-100 feet	100-150 feet
2	240	480	22	20	18
3	360	720	22	18	16
4	480	960	20	16	16
5	600	1200	18	16	14
6	720	1440	18	16	14
8	960	1920	16	14	12
10	1200	2400	16	12	12
12	1440	2880	16	12	10
14	1680	3660	14	12	10
16	1920	3840	14	10	10
18	2160	4320	14	10	8
20	2400	4800	12	10	8
22	2640	5280	12	10	8
25	3000	6000	12	10	6
30	3600	7200	10	8	6
35	4200	8400	10	8	4
40	4800	9600	8	6	2
50	6000	12000	6	4	2
60	7200	14400	4	2	

TABLE A.3 - WATTAGE REQUIREMENTS FOR COMMON RECEPTACLE UNITS

COMMON RECEPTACLE UNIT		WATTAGE	
		STARTING	RUNNING
Battery charger, 10 amps		—	200
Drill	- 1/4"	400	300
	- 3/8"	650	475
	- 1/2"	900	750
	- 1"	1250	1000
Welder 100 amps DC		—	3600
Floodlight		—	1000
Grain cleaner, 1/4 HP		1000	650
Grain elevator, 3/4 HP		3000	1400
Grinders (by motor size)			
Heater radiant portable		—	1300
Heater portable liquid fuel	- 50,000 BTU	675	225
	- 100,000 BTU	1260	420
	- 150,000 BTU	1875	625
Impact wrench	- 1/2"	750	600
	- 3/4"	900	750
	- 1"	1400	1200
Milk cooler		1800	1100
Mixer, 3 ½ cubic feet		2300	1000
Motors			
Belt sander		2600	1200
Disc sander		2600	1200
Orbital sander		2600	1200
Chain saw			
6" circular saw		2200	950
7 ¼" circular saw		2600	1200
8 ½" circular saw		3000	1500
10" circular saw		3900	2000
Sump pump		1300	400
Water pump submersible	- 3000 GPH	1750	500
	- 5000 GPH	2500	650
	- 10000 GPH	3750	1000
	- 15000 GPH	5000	1500
Water pump non-submersible	- 3000 GPH	2250	600
	- 5000 GPH	2850	750
	- 10000 GPH	4100	1100
	- 15000 GPH	5250	1600

TABLE A.4 - AIR TOOL CONSUMPTION CHART	
TOOL	AIR REQUIRED CFM @ 90 PSI
Dual Action (DA) Sanders	28.8 - 43.2 SCFM
5" High Speed Sanders	28.8 - 43.2 SCFM
Jitterbug Sanders	28.8 SCFM
Straight Line Sanders	28.8 SCFM
Air Belt Sanders	28.8 - 43.2 SCFM
Gasket Scrapers	43.2 SCFM
Air Punch and Flange Tool	28.8 SCFM
3/8" Drill	28.8 SCFM
1/2" Drill	28.8 SCFM
Screw Driver	18 SCFM
Impact Screw Driver	28.8 SCFM
Speed Saw	36 - 43.2 SCFM
Body Saw	57.6 SCFM
Jig Saw	43.2 SCFM
16 Gauge Nibbler	28.8 SCFM
Cut off Tool	28.8 SCFM
150 mm Air Hammer	28.8 SCFM
190 mm Air Hammer	30.24 SCFM
High Speed Grinder	57.6 SCFM
Mini Air Grinder	21.6 SCFM
Mini Angle Head Grinder	21.6 SCFM
1/4" Angle Head Grinder	57.6 SCFM
Tire Buffer	28.8 SCFM
1/4" Ratchet Wrench	21.6 SCFM
3/8" Ratchet Wrench	28.8 SCFM
3/8" Butterfly Impact Wrench	21.6 SCFM
1/2" Impact Wrench	28.8 SCFM
1/2" Heavy Duty Impact Wrench	39.60 SCFM
3/4" Impact Wrench	54 SCFM
3/4" Impact Wrench with 6" anvil	54 SCFM
30 lb Pavement Breaker	37 SCFM
60 lb Pavement Breaker	48 SCFM
90 lb Pavement Breaker	68 - 85 SCFM
4" Piercing Tool	60 SCFM
60 lb 1650 BPM Rock Drill	95 SCFM
50 lb 1800 BPM Rock Drill	123 SCFM
Chipping Hammer	26 - 33 SCFM

TABLE A.5 - AVAILABLE OPTIONS LIST

KEY NO.	OPTION ITEM	DESCRIPTION	PART ORDER NUMBER	QTY
1	COLD WEATHER OPTION KIT (300)	This kit (factory install) extends cold weather temperature operation range from 0°F to -40°F (-18° to -40°C).	032793	1
2	BATTERY BOOST CABLES	These cables are 25 feet in length, with quik-connect ends.	MA269938	1 set
3	30 GALLON REMOTE AIR TANK ASSEMBLY	This remote-mounted air option allows for an additional capacity for air storage, in addition to the standard four gallon air tank on the machine.	OA49645	1
4	DUAL 14 GALLON (28 GALLON TOTAL) AIR TANK ASSEMBLY	This remote-mounted air option allows for an additional capacity for air storage, in addition to the standard four gallon air tank on the machine.	032708	1
5	SINGLE 14 GALLON AIR TANK ASSEMBLY	This remote-mounted air option allows for an additional capacity for air storage, in addition to the standard four gallon air tank on the machine.	032707	1
6	BATTERY	12 volt, 35 amp, sealed lead acid.	MA31821 [‡]	1
7	EXTENSION SEGMENT FOR WELD CABLE	50 feet in length, 1/0 cable with connectors	MA269942	1
8	WELD HELMET	2 x 4 auto-darkening lens, solid color (blue)	MA269903	1
9	WELD HELMET LENS	Replacement lens for welding shield	MA270500	
10	WELD LEAD	25 feet in length, 1/0 cable with electrode holder and connector	MA269814-25	1
11	WELD LEAD	50 feet in length, 1/0 cable with electrode holder and connector	MA269814-50	1
12	WELD LEAD	25 feet in length, 1/0 cable with ground clamp, and connector	MA269815-25	1
13	WELD LEAD	50 feet in length, 1/0 cable with ground clamp, and connector	MA269815-50	1
14	WELDING ROD	LaGrange 100 KSI 1/8" blue	MA98018	per pound
15	WELDING ROD	LaGrange 100 KSI 3/32" blue	MA44890	per pound
16	WELDING ROD	LaGrange 100 KSI 5/32" blue	MA99727	per pound
17	ISOLATOR (BOLT DOWN)	Used to dampen vibration transferred from direct mounting of package. One per mounting bolt (x 4) needed.	KIT1202-001	4
18	BLOCK HEATER	120V AC	MA273477	1

[‡] Due to shipping regulations and restrictions pertaining to lead acid batteries, Vanair® recommends procuring a replacement battery from a localized source. Two possible replacement models include: BatteriesPlus® no. SLI96R, and NAPA battery no. BAT 7590.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE MACHINE SERIAL NUMBER.

TABLE A.6 - ELECTRODE IGNITION PROCEDURE

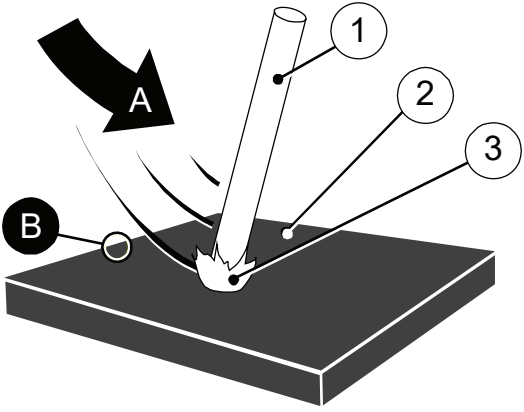
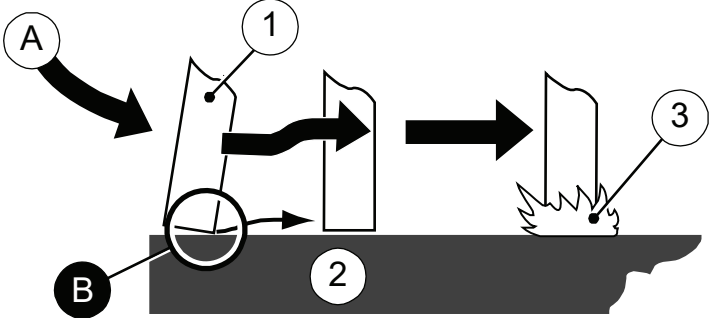
			
KEY	DESCRIPTION	KEY	ACTION
1	ELECTRODE	A	Direction of striking: electrode is dragged across the work piece in a similar manner to striking a match
2	WORK PIECE SURFACE	B	Electrode is lifted slightly when it touches the work piece, but continues on with the striking motion
3	ARC		
NOTES			
If arc goes out, electrode was lifted too high; repeat with electrode closer to work piece surface			
If electrode sticks to work piece surface, quickly twist the electrode to free it.			

TABLE A.7 - PROCESS/CONTACTOR SWITCH SETTINGS

Switch Setting	Process	Output On/Off Control
Electrode Hot - Wire	MIG (GMAW)	Electrode Hot
Electrode Hot - Stick	Stick (SMAW)	
Select Preferred Dig	Electrode Hot	
Electrode Hot - Stick	Air Carbon Arc (CAC-A) Cutting and Gouging Select Any Dig	Electrode Hot
Electrode Hot - Lift Arc w/Auto-Crater	TIG (GTAW) Lift Arc w/Auto-Crater (GTAW)(DC only)	Electrode Hot
Electrode Hot - Lift Arc w/Auto-Stop	TIG (GTAW) Lift Arc w/Auto-Stop (GTAW)(DC only)	Electrode Hot
TIG - Remote On/Off	TIG (GTAW) With HF Unit, Pulsing Device, or Remote Control (AC or DC)	At Remote Receptacle
Stick - Remote On/Off	Stick (SMAW) with Remote On/Off	At Remote Receptacle
Wire - Wire Feeder (CV) Using Remote	MIG (GMAW)	At Remote Receptacle

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APPENDIX B: SERVICE LOG

B.1 GENERAL DESCRIPTION

The maintenance and service log given in this appendix can be used to track and keep a record of the maintenance intervals of the machine, as well as any non-routine repairs or changes made, throughout the productive life of the machine package.

The service log generally gives two types of login periods of operation—by hours, and by date intervals. Service should adhere to whichever occurs first between the two types.

Keeping such a record is extremely beneficial when considering a solution to any troubleshooting problem that might occur. For additional assistance in setting up a routine and orderly schedule to track machine maintenance and repair, refer to **Section 5, Maintenance**, and particularly **TABLE 5A: Maintenance Schedule Table**.

NOTE

When determining a service schedule, always take into account the type of environmental conditions where the machine will be operating. Extreme working conditions will usually mean lessening the intervals between service checks. For more information, consult Section 6.2, Extreme Condition Operation, and its sub-sections.

For procedure on ordering parts, consult **Section 7, Parts Ordering Procedure**, **Table 7A: Recommended Spare Parts List**, and **Appendix A, Section A.5, Available Options List**.

If a part needs to be replaced, but is not listed in any of the above sections, it can readily be identified visually by scanning through the various parts list sub-sections of **Section 7, Illustrated Parts List**. The various parts list sections identify each part by its individual part number, which in turn can be used to order any part that needs to be replaced.

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