

INSTRUCTIONS AND PARTS MANUAL

GO-FER[®] IV

Please record your equipment identification information below for future reference. This information can be found on your machine nameplate.

Model Number _____

Serial Number _____

Date of Purchase _____

Whenever you request replacement parts or information on this equipment, always supply the information you have recorded above.

LIT-GO-FER4-IPM-0524

Bug-O Systems is committed to empowering our customers by providing operator controlled mechanized solutions for their welding, cutting and custom applications.



BUG-O SYSTEMS

A DIVISION OF WELD TOOLING CORPORATION



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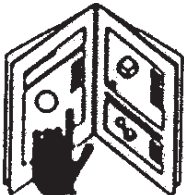
SAFETY

PROTECT YOURSELF AND OTHERS FROM SERIOUS INJURY OR DEATH. KEEP CHILDREN AWAY. BE SURE THAT ALL INSTALLATION, OPERATION, MAINTENANCE AND REPAIR PROCEDURES ARE PERFORMED ONLY BY QUALIFIED INDIVIDUALS.



ELECTRIC SHOCK can kill.

- 1) The equipment is not waterproof. Using the unit in a wet environment may result in serious injury. Do not touch equipment when wet or standing in a wet location.
- 2) The unused connectors have power on them. Always keep the unused connectors covered with the supplied protective panels. Operation of the machine without the protective panels may result in injury.
- 3) Never open the equipment without first unplugging the power cord or serious injury may result.
- 4) Verify the customer-supplied power connections are made in accordance with all applicable local and national electrical safety codes. If none exist, use International Electric Code (IEC) 950.
- 5) Never remove or bypass the equipment power cord ground. Verify the equipment is grounded in accordance with all applicable local and national electrical safety codes. If none exist, use International Electric Code (IEC) 950.



READ INSTRUCTIONS.

Read the instruction manual before installing and using the equipment.



EQUIPMENT DAMAGE POSSIBLE.

- 1) Do not plug in the power cord with out first verifying the equipment is OFF and the cord input voltage is the same as required by the machine or serious damage may result.
- 2) Always verify both the pinion and wheels are fully engaged before applying power or equipment damage may occur.
- 3) Do not leave the equipment unattended.
- 4) Remove from the work site and store in a safe location when not in use.



FALLING EQUIPMENT can cause serious personal injury and equipment damage.

Faulty or careless user installation is possible. As a result, never stand or walk underneath equipment.



MOVING PARTS can cause serious injury.

- 1) Never try to stop the pinion from moving except by removing power or by using the STOP control.
- 2) Do not remove any protective panels, covers or guards and operate equipment.

HIGH FREQUENCY WARNINGS

SPECIAL PRECAUTIONS ARE REQUIRED WHEN USING PLASMA, TIG OR ANY WELDING PROCESS THAT USES HIGH FREQUENCY TO STRIKE AN ARC.



WARNING: HIGH FREQUENCY CAN EFFECT MACHINE OPERATION AND THEREFORE, WELD QUALITY.

Read the precautions below before installing and using the equipment.

PRECAUTIONS:

- 1) Some plasma or welding cables are strong sources of high frequency interference. NEVER lay a plasma or welding cable across the controls of the machine.
- 2) Always physically separate the plasma or welding cable leads from the machine cables. For example, the plasma or welding cable leads should NEVER be bundled with a pendant cable or the machine power cord. Maximize the separation between any machine cables and the plasma or welding cables.
- 3) Strictly follow the grounding procedures specified for the plasma or welding unit. NOTE: Some plasma and welding units produce exceptionally large amounts of high frequency noise. They may require a grounding rod be driven into the earth within six feet (2 meters) of the plasma or welding unit to become compatible with an automatic cutting or welding process.
- 4) If the high frequency is produced using a spark gap, adjust the points so the gap is as small as possible. The larger the gap, the higher the voltage and the higher the interference.
- 5) Some plasma or welding units will inject high frequency interference into the AC power line. Use separate power line branches whenever possible to power the plasma or welding source and the machine. Do not plug them into the same outlet box.
- 6) High frequency noise may enter the machine through the plasma or welding supply remote contactor leads. Some plasma and welding sources can produce noise spikes of up to several thousand volts. These sources are not compatible with automated cutting and welding equipment. It is recommended that the remote contactor leads on these plasma or welding sources not be connected to the machine. An alternate solution is to purchase a separate remote contactor isolation box.

GO-FER® IV

INSTRUCTION AND PARTS MANUAL

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Patents Pending

INTRODUCTION

The GO-FER® IV is a portable, versatile and robust tractor designed for all your cutting and welding needs. It's like having three units in one! When used for cutting, you can utilize either oxy-fuel or plasma torches. It can also carry a Plasma torch for gouging. The GO-FER® IV can be used in all positions. The system includes rack & pinion drive and the wheels are secured within the V groove in the sides of the rail. These features allow travel in any plane, even upside down. (Working out of position requires additional magnets and a safety line should be used as needed.)

When utilized for straight line cutting and beveling with an oxy-fuel torch, this unit includes everything required except the torch itself. The torch holder will accept any standard 1-3/8" (35mm) diameter machine torch with a 32 pitch gear rack. The quick-action gas manifold mounted to the rear of the machine is used as a strain reliever for the torch hoses and gives the operator the ability to turn the gases on and off without having to readjust the gas flow of the torch. The Cable Anchor provides strain relief for the supply hoses and power cord.

With an ample speed range of 2.5-100 ipm (63.5 -2540 mm/min) the GO-FER® IV is perfectly designed to work in conjunction with a plasma cutting system. The GO-FER® IV includes a built-in contactor switch to turn the plasma on and off. Easy torch adjustment is provided to make straight plasma cuts and bevels. With the right tip in the plasma torch you can perform mechanized gouging without changing machines.

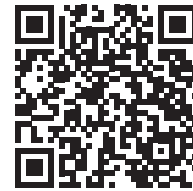
An alternate version of the GO-FER® IV is available, which includes a control pendant and cable. The control pendant allows the GO-FER® IV to be controlled and operated from a short distance.

The optional Welding Kit (GOF-3255) provides everything you need for in-process torch adjustment of the vertical and horizontal plane. The fits-all clamp will accept and accommodate any hand held or machine barrel welding gun and allow the operator to position the gun at any angle they desire. The built-in trigger contactor allows the operator to activate the wire feeder from a switch on the top of the unit.

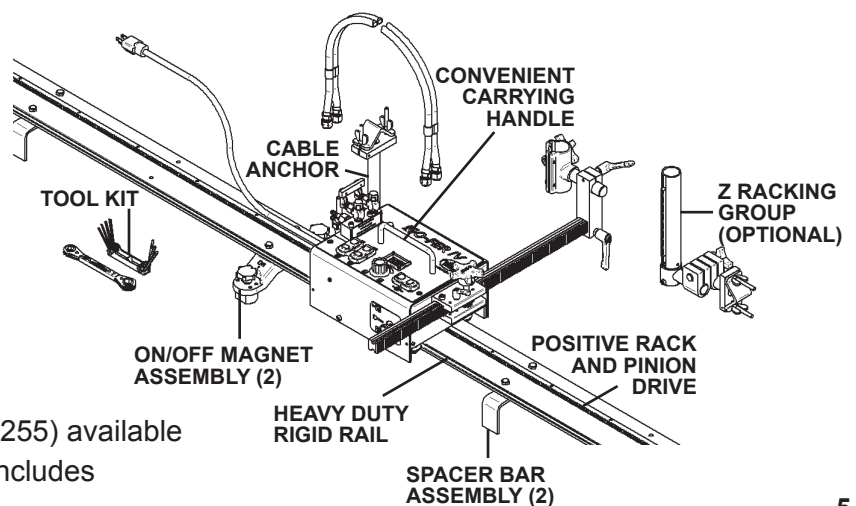
The GO-FER® IV runs on Bug-O's patented Aluminum Rigid Rail for straight-line travel or Bug-O's Semi-Flex Rail for diameters of 30' (9.1 m) or greater. The rail sections are joinable for unlimited run length and are positioned with strong, Rare-Earth, On/Off Magnets or Bug-O Vacuum cup support system for non-ferrous applications.

FEATURES

- A drive motor to suit all applications with speeds from 2.5 to 100 ipm (63.5-2540 mm/min)
- Dynamic braking of motor prevents drift in all positions
- Bright digital pre-settable travel speed meter for actual ipm
- Two independent built-in contactors for dual torch applications
- Large industrial sealed rocker switches (welding glove friendly)
- Quick-Action Gas manifold, twin-hose assembly and cable anchor
- Power cord with plug-in lock
- Torch adjustment racking for oxy-fuel and plasma cutting
- Low profile case
- Top Central Carrying Handle
- Proudly Made in USA
- Supported by our 3-Year Warranty
- Optional Weld Racking Group (GOF-3255) available
- An International version (GOF-4002) includes a 240v power cord and twist-lock plug



Bug-O Systems has a complete overview video of our GO-FER® IV. To watch this video, scan the qr code above or visit <http://goo.gl/BgiFWn>



TECHNICAL DATA

GOF-4000 Kit includes the following:

- 1 GOF-4001 Go-fer IV® 120 VAC base machine
- 1 ARR-1080 Heavy Duty Rigid Rail 93.50" (2.37m)
- 2 ARM-2010 On/Off Magnet Assembly
- 2 ARM-2015 Spacer Bar Assembly

- GOF-4002** 240 VAC Kit
- GOF-4100** 120 VAC Kit w/ Pendant
- GOF-4102** 240 VAC Kit w/ Pendant

NOTE: Base machine is dual voltage (120 - 240 VAC)
The only difference is the supplied power cord.

Power Requirement: - 60 watts at rated voltage:

- GOF-4000/GOF-4100 Kit** 120 VAC/50-60Hz/1Ph
- GOF-4002/GOF-4102 Kit** 240 VAC/50-60Hz/1Ph

Travel Speed: Infinitely variable from
2.5-100 ipm (63.5-2540 mm/min)

Load Capacity: 15 lbs. (6.8 kg) vertical
60 lbs. (27.3 kg) horizontal

Magnet Holding Power: 250 lbs. (113 kg)

Dimensions of

- GOF-4001/GOF-4101:**
- GOF-4003/GOF-4103:** 14.5" L x 27.5" W x 13.25" H
(369 mm x 699 mm x 337 mm)

Net Weight of

- GOF-4001/GOF-4101:**
- GOF-4003/GOF-4103:** 17 lbs. (7.7 kg)

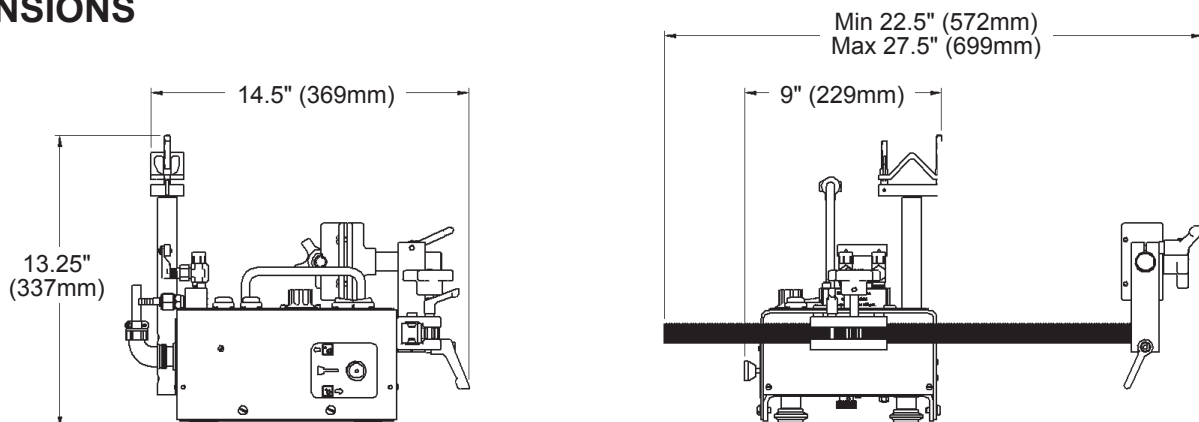
Rail:
8' Rail ARR-1080 93-7/16" (2.37 m) actual length
4' Rail ARR-1085 46-9/16" (1.18 m) actual length

Net Weight of Kit: 37 lbs. (16.8 kg)

Shipping Weight of Kit:
(Box 1) 26 lbs. (11.8 kg)
(Box 2) 16 lbs. (7.26 kg)

Dimensions of Kit:
(Box 1) 24" L x 10" W x 11" H
(610 mm x 254 mm x 279 mm)
(Box 2) 96" L x 5" W x 2" H
(2438 mm x 127 mm x 51 mm)

DIMENSIONS



OPERATING INSTRUCTIONS / SETUP

TRACK SETUP

Verify the workpiece is clean and free of contaminants such as rust and oil to insure maximum magnet holding power. Attach two **ARM-2010 "ON-OFF" Magnet Plate Assemblies (J)** one quarter of the length from each end of the track. The magnets hold the rail to a steel workpiece and give all position capability. Mount the **ARM-2015 Spacer Bar Assemblies (K)** between the **Magnet Plate Assemblies (J)** to provide additional rail support. The **ARR-1080** and **ARR-1085 Rails (I)** are supplied with a positive rail joining system that enables the user to construct a rail system of any length.

IMPORTANT: When cutting out of position, a safety line should be attached to rail to prevent injury.

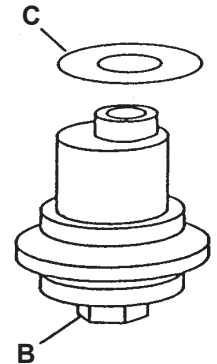
POSITIONING AND ADJUSTING THE MACHINE ON THE TRACK

Disengage the clutch by centering the clutch **Knob (A)** over the hole in the cover and pulling the knob out. This disengages the drive pinion. Slide the carriage wheels into the track V-grooves from the end of the track. The carriage will move smoothly along the track if the wheels are properly aligned.

The **GO-FER® IV** wheels are factory adjusted to fit ARR-1080 rails. Wheel adjustment should be verified on older machines. Grasp the carriage sides. The wheels are too loose if the carriage can be moved from side to side. Use a finger to keep one of the wheels from rotating while manually pushing the carriage along the track. The wheels are adjusted too tight if firm finger pressure is not enough to prevent wheel rotation.

WHEEL ADJUSTMENT

The wheels along one side of the carriage have **Stainless Shim Washers (C)** underneath. These wheels **(E)** are adjustable. Readjust these wheels (if necessary) by rotating the **Hex Bolt (B)** with a 1/2" (13 mm) wrench. Gently push the clutch **Knob (A)** back into the case while gently rocking the machine forward and backward. This will engage the drive pinion. The rocking motion is necessary to insure proper gear mesh.



WELDING GUN SET-UP

Insert the **Racking Group (L)** into the torch holder on the rack. Attach the rod, the clamp and the gun to the end of the vertical tube rack. Clamp welding gun into gun clamp. Adjust the racking system to set the gun to the desired position. Support the gun cable in the **Cable Anchor (H)** provided. The cable anchor acts as a strain relief to keep the supply cable from dragging the gun out of position. 2-wire Contactor connections for 1 or 2 guns can be made to the 4-pin connector (supplied) located on the rear of the machine. Switch "I" controls (pins A & B); switch "II" controls (pins C & D).

PLASMA TORCH SET-UP

Insert the cutting torch into the torch holder on the rack. Adjust the torch holder, the clamp and the rack to set the torch to the desired position. Support the supply cable in the **Cable Anchor (H)** provided. The cable anchor acts as a strain relief to keep the supply cable from dragging the torch out of position. Connect the contactor circuit by crimping the two female connectors, (supplied) to a 22-18 gauge, two-conductor cable from the trigger circuit of the Plasma unit and plug them into the leads on the plug of the **Contactor Control Plug (M)**.

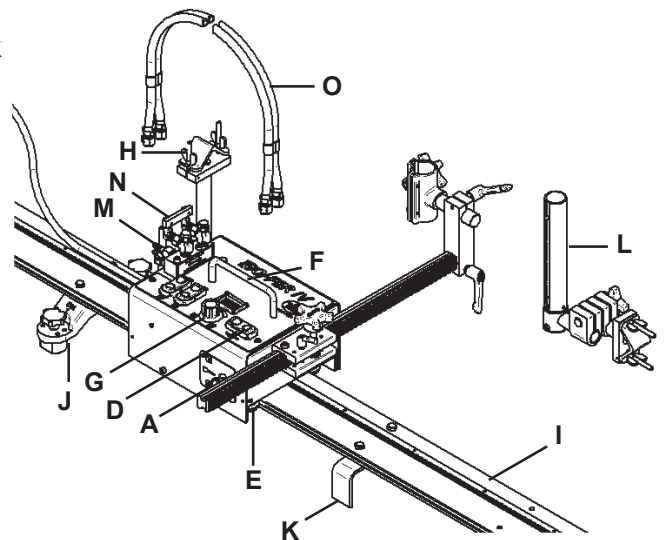
OXY-FUEL TORCH SET-UP

Insert the cutting torch into the torch holder on the rack. Adjust the torch holder, the clamp and the rack to set the torch to the desired position. Connect the **Hose Assembly (O)** to the **Quick Action Manifold (N)** and to the cutting torch. The manifold acts as a strain relief for the supply hoses as well as a quick shut off valve for the gases. Once the torch valves are adjusted, the manifold eliminates the need to readjust the valves after each cut and keeps the supply lines from dragging the torch out of position.

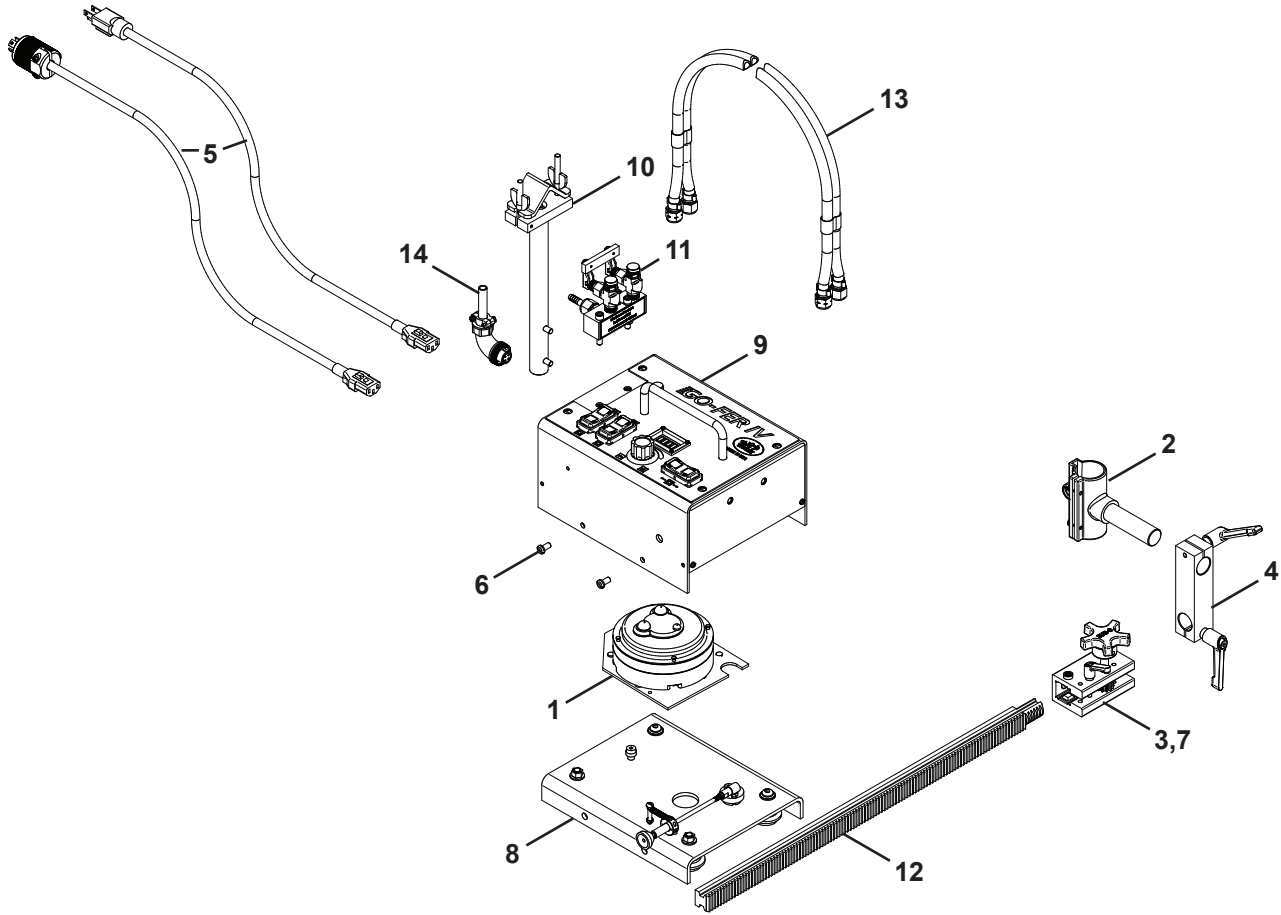
MACHINE OPERATION

Set **Switch (D)** to the center "**STOP**" position. Plug in the power cord. Verify the **Power Indicator Light (F)** comes on. Set **Switch (D)** to the forward or reverse position to begin forward or reverse travel. Adjust the travel speed using the **Speed Control (G)**.

The **Fuses** protect the unit against overload or electrical faults. **CAUTION: IF THE FUSES HAVE BLOWN, FIND AND CORRECT THE CAUSE BEFORE REPLACING.**

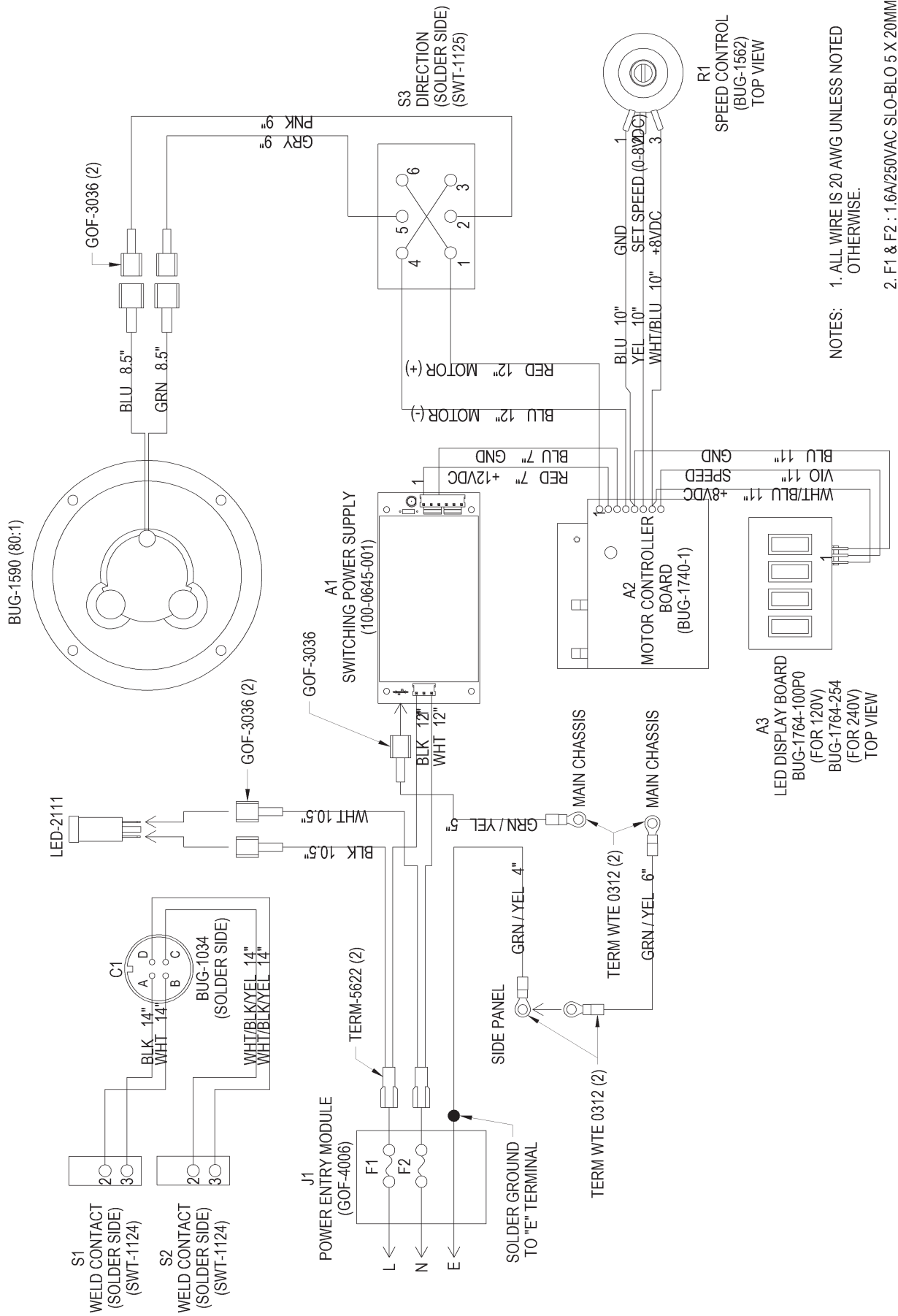


GOF-4001, GOF-4003 GO-FER® IV BASE MACHINE / EXPLODED VIEW / PARTS LIST



| <u>ITEM</u> | <u>QTY</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> |
|-------------|------------|-----------------|-----------------------------------|
| 1 | 1 | BUG-1625-D | Drive Assembly |
| 2 | 1 | BUG-5188 | Torch Holder Assembly |
| 3 | 1 | BUG-5451 | 3.5" Rackholder |
| 4 | 1 | BUG-5462-5 | Right Angle Clamp Assembly, 5" LG |
| 5 | 1 | BUG-9454 | V-Lock 110VAC Cord 2M |
| | | BUG-9454-240 | V-Lock Power Cord (GOF-4003 only) |
| 6 | 4 | FAS-0155 | Pan Hd Scr 1/4-20 x 1/2 |
| 7 | 2 | FAS-0958 | Flt Hd Soc Scr 1/4-20 x 7/8 |
| 8 | 1 | GOF-3001 | Carriage Assembly |
| 9 | 1 | GOF-4010 | Cover Assembly |
| | | GOF-4012 | Cover Assembly (GOF-4003 only) |
| 10 | 1 | GOF-4018 | Cable Anchor Assembly |
| 11 | 1 | GOF-4025 | Manifold Assembly |
| 12 | 1 | PAN-1029 | Rack 22-5/8" |
| 13 | 1 | CIR-1010-3 | Hose Assembly |
| 14 | 1 | MUG-1617 | Cable Connector, 4-T, F, Elbow |

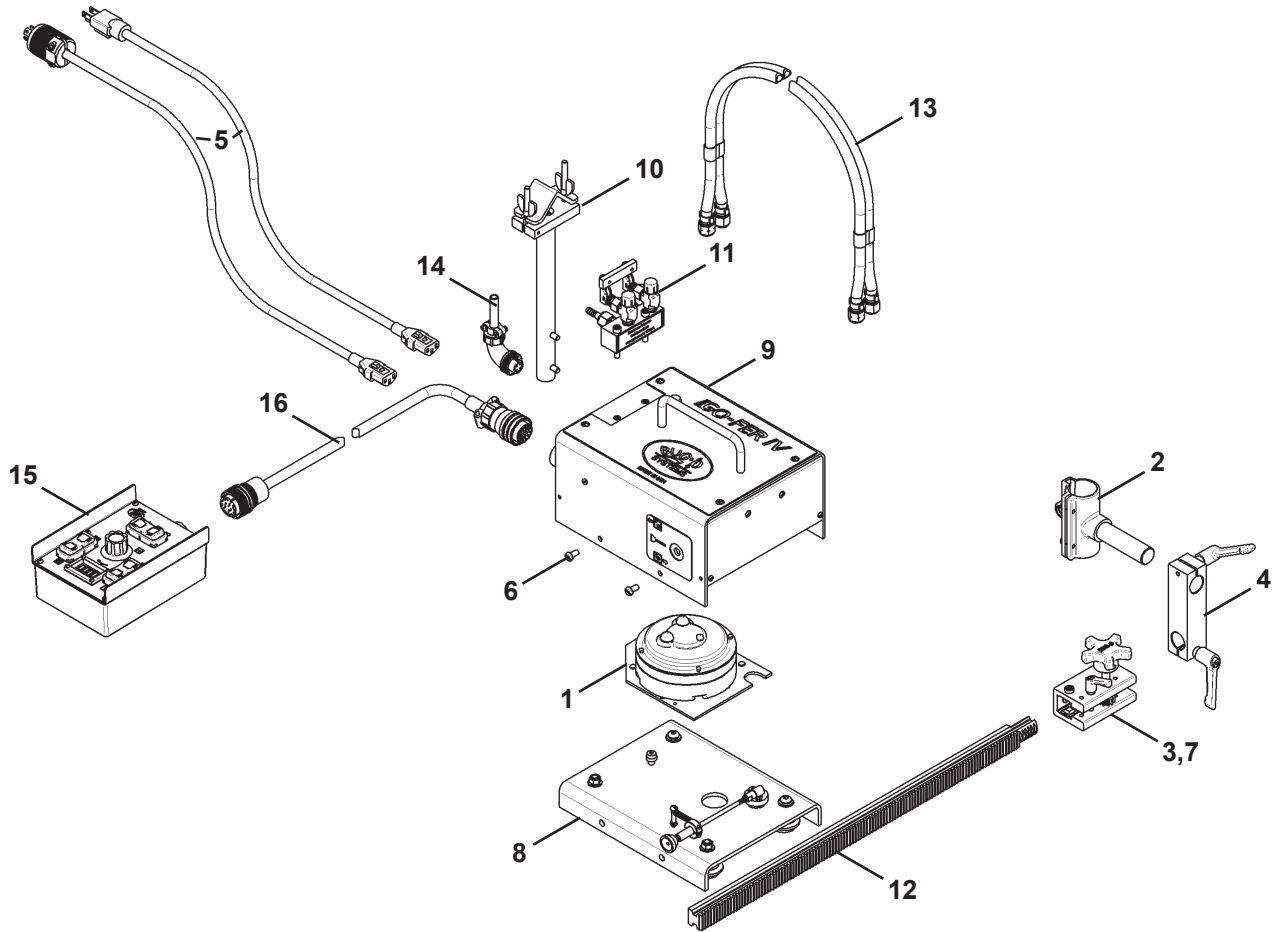
GO-FER® IV / WIRING DIAGRAM



NOTES: 1. ALL WIRE IS 20 AWG UNLESS NOTED OTHERWISE.

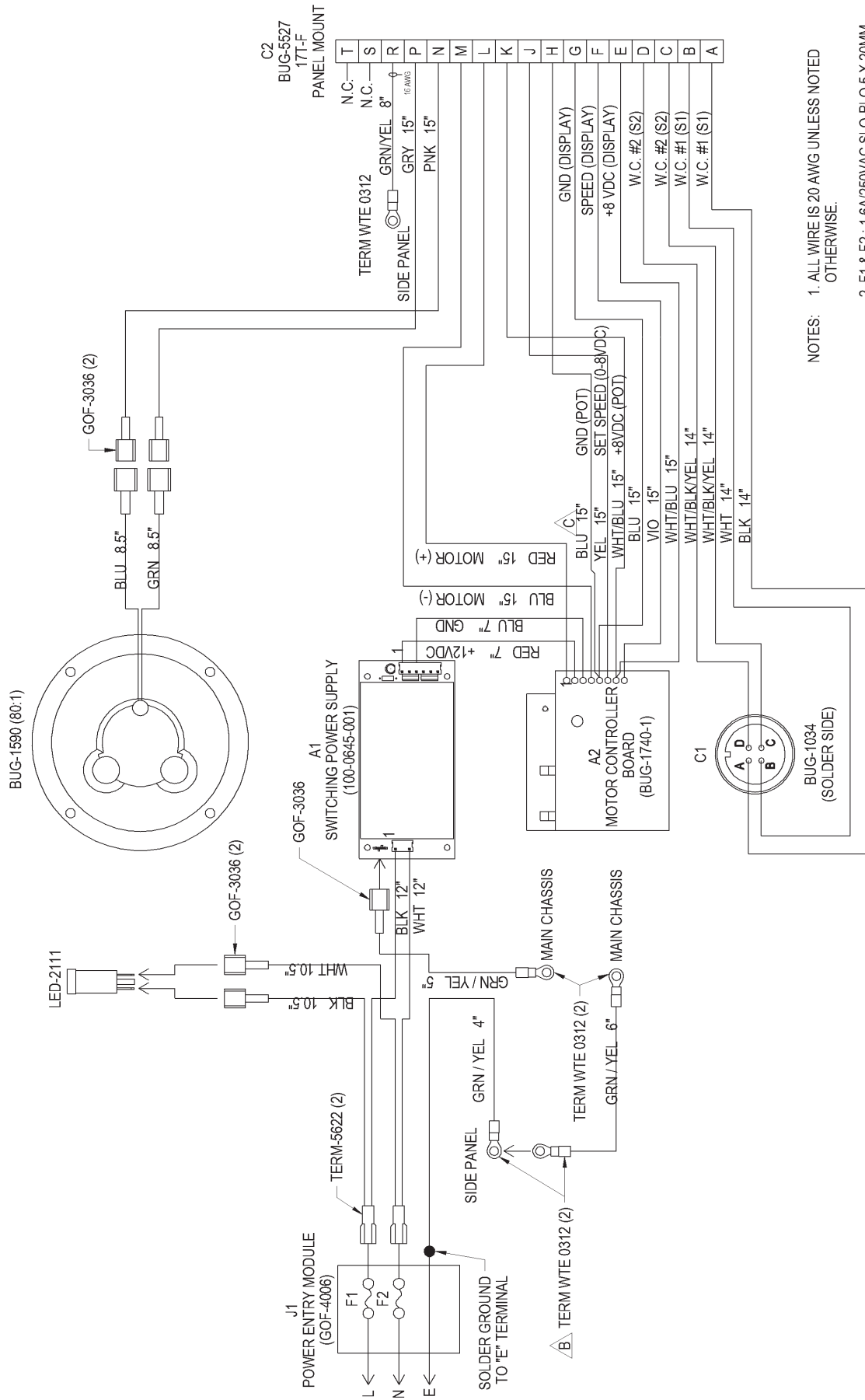
2. F1 & F2 : 1.6A/250VAC SLO-BLO 5 X 20MM

GOF-4101, GOF-4103 GO-FER® IV BASE MACHINE WITH PENDANT / EXPLODED VIEW / PARTS LIST



| <u>ITEM</u> | <u>QTY</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> |
|-------------|------------|-----------------|--|
| 1 | 1 | BUG-1625-D | Drive Assembly |
| 2 | 1 | BUG-5188 | Torch Holder Assembly |
| 3 | 1 | BUG-5451 | 3.5" Rackholder |
| 4 | 1 | BUG-5462-5 | Right Angle Clamp Assembly, 5" LG |
| 5 | 1 | BUG-9454 | V-Lock 110VAC Cord 2M |
| | | BUG-9454-240 | V-Lock Power Cord (GOF-4103 only) |
| 6 | 4 | FAS-0155 | Pan Hd Scr 1/4-20 x 1/2 |
| 7 | 2 | FAS-0958 | Flt Hd Soc Scr 1/4-20 x 7/8 |
| 8 | 1 | GOF-3001 | Carriage Assembly |
| 9 | 1 | GOF-4110 | Cover Assembly |
| | | GOF-4112 | Cover Assembly (GOF-4103 only) |
| 10 | 1 | GOF-4018 | Cable Anchor Assembly |
| 11 | 1 | GOF-4025 | Manifold Assembly |
| 12 | 1 | PAN-1029 | Rack 22-5/8" |
| 13 | 1 | CIR-1010-3 | Hose Assembly |
| 14 | 1 | MUG-1617 | Cable Connector, 4-T, F, Elbow |
| 15 | 1 | GOF-4150 | Control Pendant |
| | | GOF-4152 | Control Pendant (GOF-4103 only) |
| 16 | 1 | GOF-4160-10 | Control Pendant Cable, 10' Lg (Standard) |
| | | GOF-4160-15 | Control Pendant Cable, 15' Lg (Optional) |
| | | GOF-4160-25 | Control Pendant Cable, 25' Lg (Optional) |
| | | GOF-4160-30 | Control Pendant Cable, 30' Lg (Optional) |

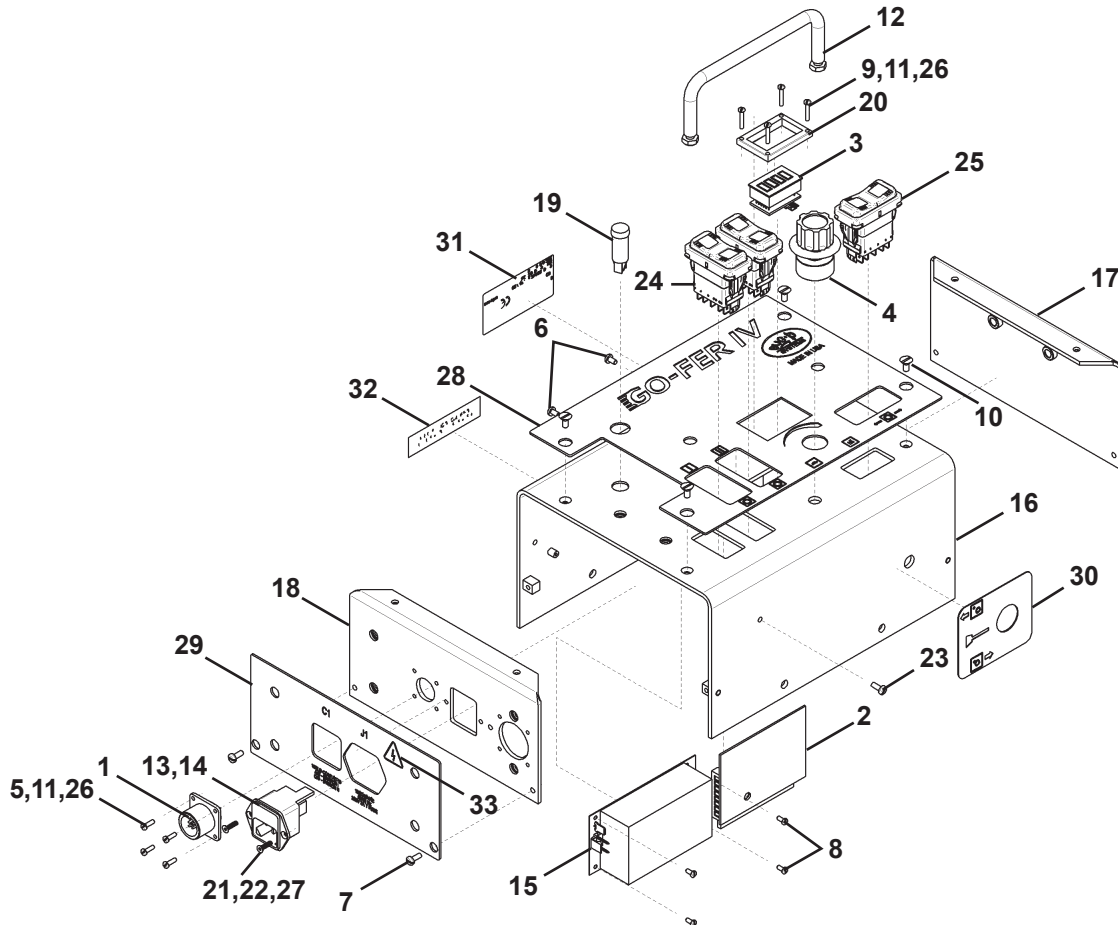
GO-FER® IV WITH PENDANT / WIRING DIAGRAM



NOTES: 1. ALL WIRE IS 20 AWG UNLESS NOTED OTHERWISE.

2. F1 & F2 : 1.6A/250VAC SLO-BLO 5 X 20MM.

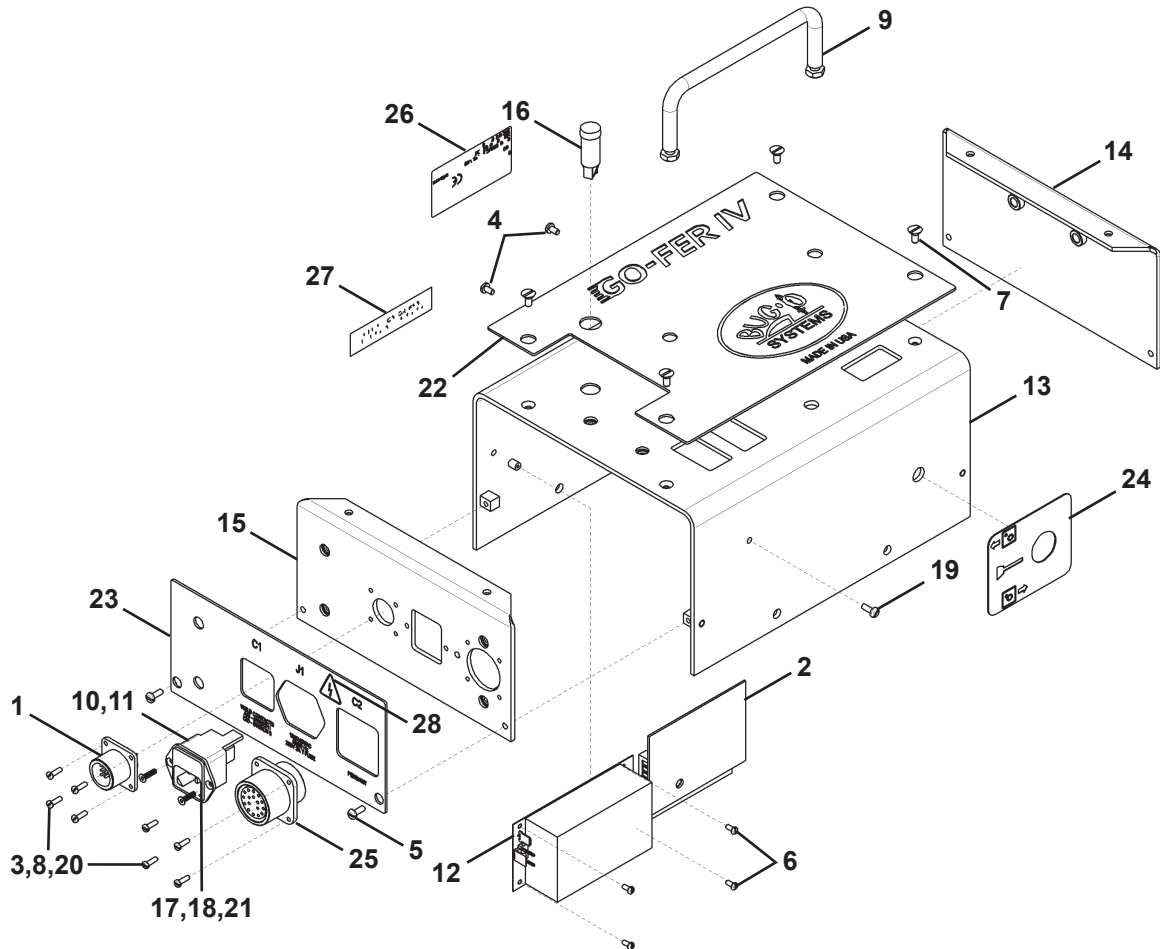
GOF-4010, GOF-4012 COVER ASSEMBLY / EXPLODED VIEW / PARTS LIST



| <u>ITEM</u> | <u>QTY</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> |
|-------------|------------|-----------------|--|
| 1 | 1 | BUG-1034 | Panel Connector, 4-T, M |
| 2 | 1 | BUG-1740-1 | Modified Speed Card |
| 3 | 1 | BUG-1764-100P0 | Meter Display Board Assembly |
| | | BUG-1764-254 | Meter Display Board Assembly (GOF-4003 Only) |
| 4 | 1 | BUG-1562 | Multi-Turn Potentiometer |
| 5 | 4 | FAS-0104 | Pan Hd Sltd 4-40 x 3/8 |
| 6 | 2 | FAS-0112 | Pan Hd Slit 6-32 x 1/4 |
| 7 | 4 | FAS-0114 | Pan Hd Scr 6-32 x 3/8 |
| 8 | 4 | FAS-0202 | Rnd Hd Scr 4-40 x 1/4 |
| 9 | 4 | FAS-0205 | Rnd Hd #4-40 x 1/2 |
| 10 | 4 | FAS-0824 | Flt Hd Slit Scr 8-32 x 3/8 |
| 11 | 8 | FAS-1305 | Hex Nut 4-40 |
| 12 | 1 | GOF-3019 | Handle w/ Bolts |
| 13 | 1 | GOF-4006 | Power Entry Module |
| 14 | 1 | GOF-4007 | Fuse Drawer |
| 15 | 1 | 100-0645-001 | Switching Power Supply |
| 16 | 1 | GOF-4011 | Cover Panel Assembly |
| 17 | 1 | GOF-4016 | Plate Assembly - Rackholder Side |
| 18 | 1 | GOF-4017 | Plate Assembly - Connector Side |
| 19 | 1 | LED-2111 | LED Panel Mnt 125/250V Clear |
| 20 | 1 | MDS-1011 | Display Bezel |
| 21 | 2 | MET-0944-SS | Flt Hd Soc Scr M3 x 12 |
| 22 | 2 | MET-1340-SS | M3 Hex Nut |
| 23 | 2 | SCW WTE 0514 | Pan Hd #8-32 x 3/8 |
| 24 | 2 | SWT-1124 | Switch, Rocker, SPST |
| 25 | 1 | SWT-1125 | Switch, Rocker, E-Circuit, DPDT |
| 26 | 8 | WAS-0201 | #4 Internal Star Lock Washer |
| *27 | 2 | FUS-0303 | Fuse 1.6A/250VAC Slo-Blo 5x20mm |
| 28 | 1 | GOF-4035 | Go-fer® IV Legend Plate |
| 29 | 1 | GOF-4036 | Go-fer® IV Connector Side Legend Plate |
| 30 | 1 | GOF-4037 | Go-fer® IV Side Legend Plate |
| 31 | 1 | 100-0427 | CE Name Plate |
| 32 | 1 | BUG-2414 | Patent Label |
| 33 | 1 | 100-0429 | Electric Shock Label |

*Not shown

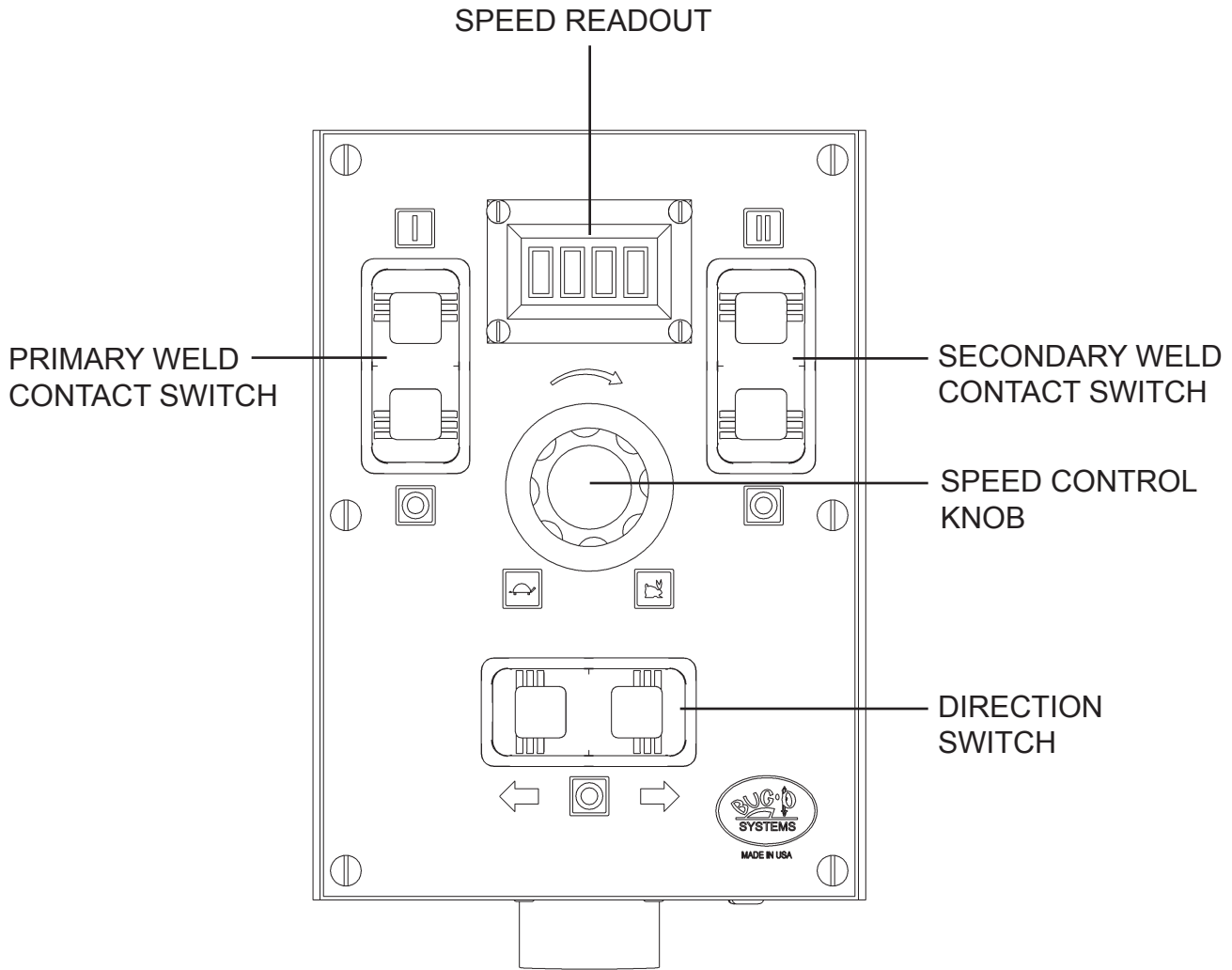
GOF-4110, GOF-4112 COVER ASSEMBLY / EXPLODED VIEW / PARTS LIST



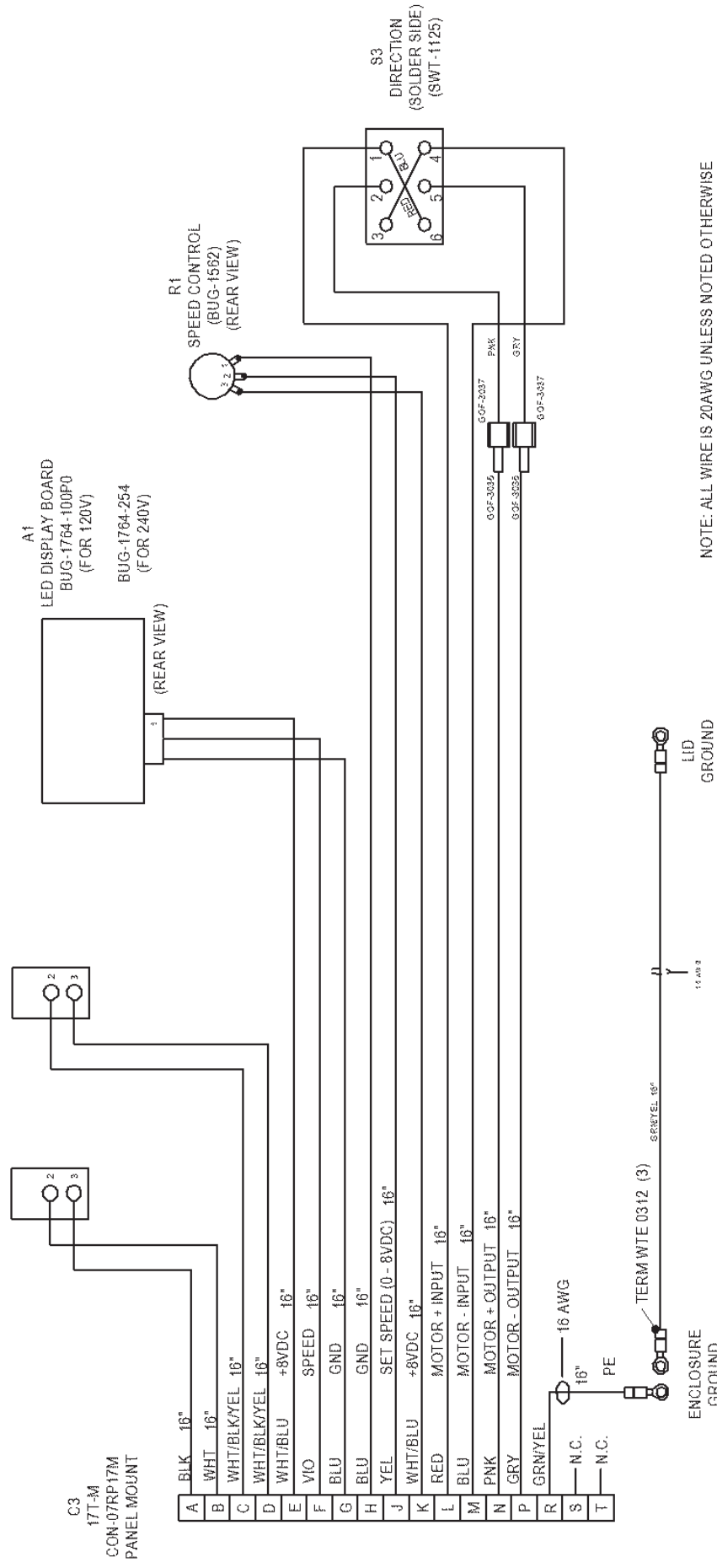
| <u>ITEM</u> | <u>QTY</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> |
|-------------|------------|-----------------|--|
| 1 | 1 | BUG-1034 | Panel Connector, 4-T, M |
| 2 | 1 | BUG-1740-1 | Modified Speed Card |
| 3 | 4 | FAS-0104 | Pan Hd Sltd 4-40 x 3/8 |
| 4 | 2 | FAS-0112 | Pan Hd Slit 6-32 x 1/4 |
| 5 | 4 | FAS-0114 | Pan Hd Scr 6-32 x 3/8 |
| 6 | 4 | FAS-0202 | Rnd Hd Scr 4-40 x 1/4 |
| 7 | 4 | FAS-0824 | Flt Hd Slit Scr 8-32 x 3/8 |
| 8 | 8 | FAS-1305 | Hex Nut 4-40 |
| 9 | 1 | GOF-3019 | Handle w/ Bolts |
| 10 | 1 | GOF-4006 | Power Entry Module |
| 11 | 1 | GOF-4007 | Fuse Drawer |
| 12 | 1 | 100-0645-001 | Switching Power Supply |
| 13 | 1 | GOF-4011 | Cover Panel Assembly |
| 14 | 1 | GOF-4016 | Plate Assembly - Rackholder Side |
| 15 | 1 | GOF-4117 | Plate Assembly - Connector Side |
| 16 | 1 | LED-2111 | LED Panel Mnt 125/250V Clear |
| 17 | 2 | MET-0944-SS | Flt Hd Soc Scr M3 x 12 |
| 18 | 2 | MET-1340-SS | M3 Hex Nut |
| 19 | 2 | SCW WTE 0514 | Pan Hd #8-32 x 3/8 |
| 20 | 8 | WAS-0201 | #4 Internal Star Lock Washer |
| *21 | 2 | FUS-0303 | Fuse 1.6A/250VAC Slo-Blo 5x20mm |
| 22 | 1 | GOF-4135 | Go-Fer® IV Legend Plate |
| 23 | 1 | GOF-4136 | Go-Fer® IV Connector Side Legend Plate |
| 24 | 1 | GOF-4037 | Go-Fer® IV Side Legend Plate |
| 25 | 1 | BUG-5527 | Panel Connector 17-T, F |
| 26 | 1 | BUG-1338 | Name Plate |
| 27 | 1 | BUG-2414 | Patent Label |
| 28 | 1 | 100-0429 | Electric Shock Label |

*Not shown

GOF-4150, GOF-4152 PENDANT

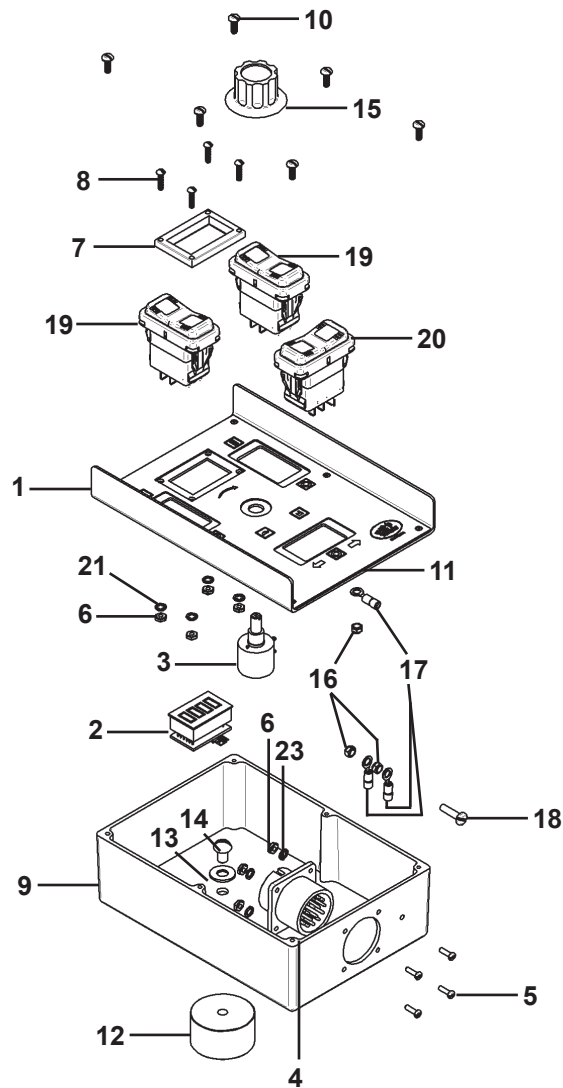


GOF-4150, GOF-4152 PENDANT / WIRING DIAGRAM



NOTE: ALL WIRE IS 20AWG UNLESS NOTED OTHERWISE

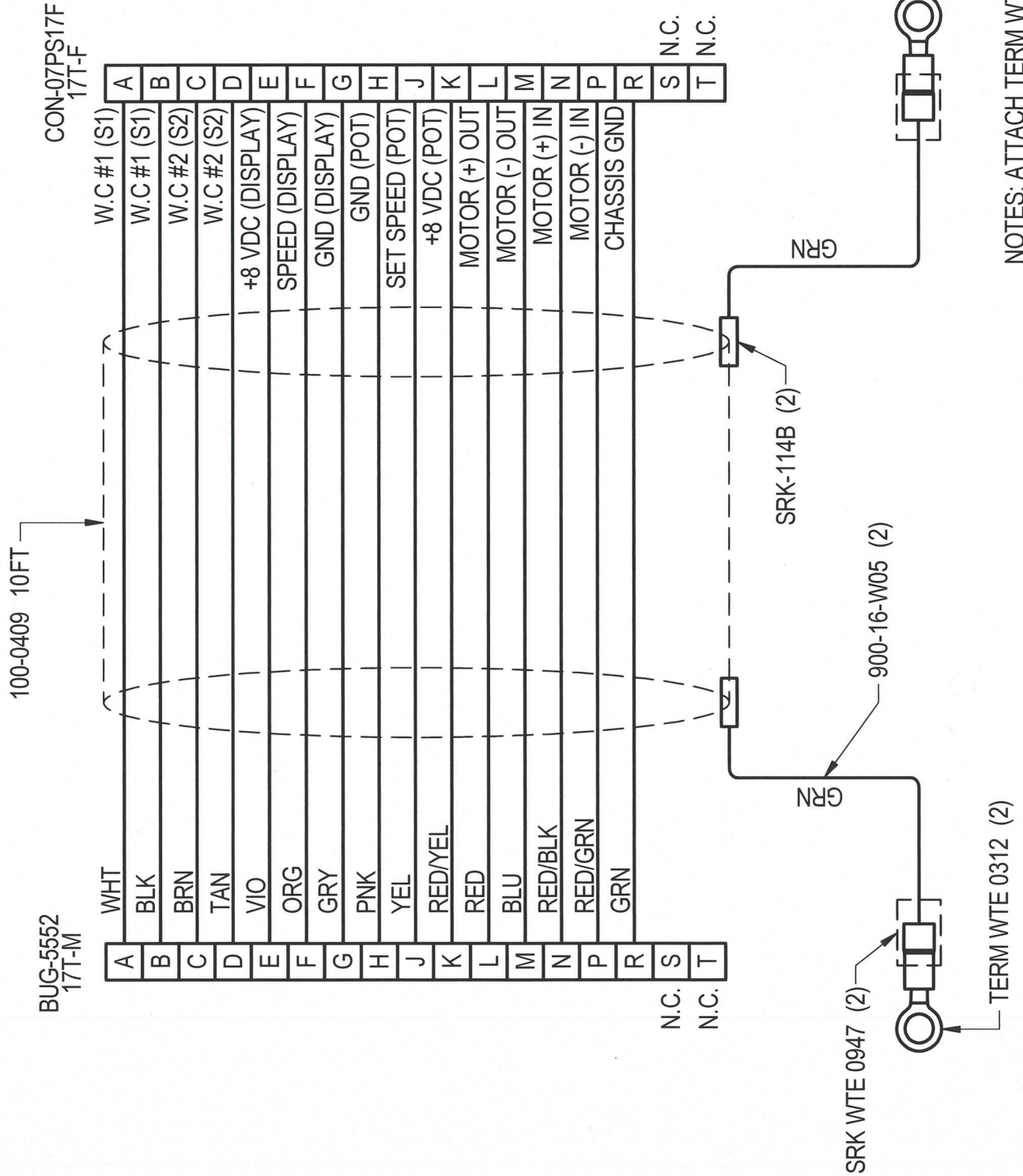
GOF-4150 GOF-4152/ EXPLODED VIEW / PARTS LIST



| <u>ITEM</u> | <u>QTY</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> |
|-------------|------------|-----------------|----------------------------|
| 1 | 1 | GOF-4153 | Pendant Box Lid |
| 2* | 1 | BUG-1764-100P0 | Meter Display Board 120V |
| 3 | 1 | BUG-1562 | Potentiometer |
| 4 | 1 | CON-07RP17M | Panel Connector, 17-T, M |
| 5 | 4 | FAS-0240 | Rnd Hd Slit Scr 4-40 x 3/8 |
| 6 | 8 | FAS-1305 | Hex Nut 4-40 |
| 7 | 1 | MDS-1011 | Display Bezel |
| 8 | 4 | FAS-0205-B | 4-40 x 1/2 Round Hd |
| 9 | 1 | HDT-1143-PRS | Pendant Box |
| 10 | 6 | MET-01431 | M3.5 x 10 Pan Head, Zinc |
| 11 | 1 | GOF-4154 | Legend Plate |
| 12 | 1 | ARM-2101 | Magnet, Round w/Cover |
| 13 | 1 | WAS-0240 | 1/4 SAE Flat Washer |
| 14 | 1 | FAS-0254 | Rnd Hd Scr 1/4-20 x 3/8 |
| 15 | 1 | BUG-9687 | Knob |
| 16 | 3 | FAS-1322 | #8 Hex Lock Nut |
| 17 | 3 | TERM WTE 0312 | Ring Lug #8 |
| 18 | 1 | FAS-0126 | #8/32 x 5/8 Blk |
| 19 | 2 | SWT-1124 | Rocker Switch - 2 Pin |
| 20 | 1 | SWT-1125 | Rocker Switch - 6 Pin |
| 21 | 8 | WAS-0201 | #4 Lock Washer |

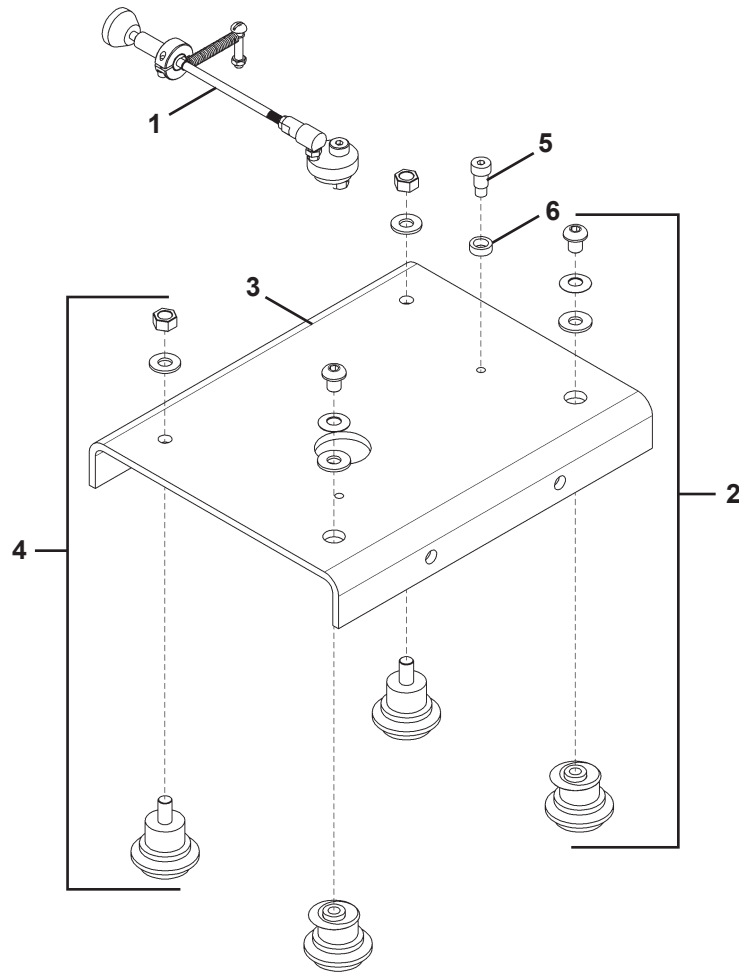
*BUG-1764-254 Meter Display for 240V

GOF-4160 -10 PENDANT CABLE WIRING DIAGRAM



NOTES: ATTACH TERM WTE 0312 TO EACH END OF BUG-5552 AND CON-07PS17F

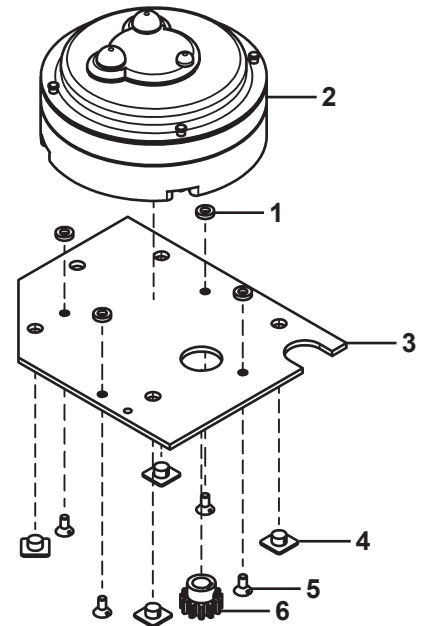
GOF-3001 CARRIAGE ASSEMBLY / EXPLODED VIEW / PARTS LIST



| <u>ITEM</u> | <u>QTY</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> |
|-------------|------------|-----------------|-----------------------------------|
| 1 | 1 | BUG-1605 | Cam Clutch Assembly |
| 2 | 2 | BUG-1982 | External Adj Leg & Wheel Assembly |
| 3 | 1 | GOF-3002 | Carriage Plate |
| 4 | 2 | GOF-3003 | Fixed Wheel Assembly |
| 5 | 1 | GOF-3004 | Soc Hd Shld Scr, Clutch Pivot |
| 6 | 1 | GOF-3008 | Swivel Spacer |

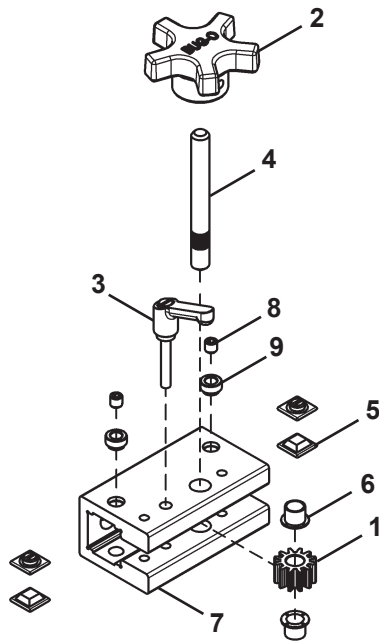
BUG-1625-D DRIVE ASSEMBLY / EXPLODED VIEW / PARTS LIST

| <u>ITEM</u> | <u>QTY</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> |
|-------------|------------|-----------------|-------------------------------|
| 1 | 4 | AFR-1015 | Spacer Washer |
| 2 | 1 | BUG-1590 | Gear Motor |
| 3 | 1 | BUG-1618 | Swivel Plate |
| 4 | 4 | BUG-2593 | Guide |
| 5 | 4 | FAS-0824 | Flt Hd Slit Scr 8-32 x 3/8 |
| 6 | 1 | GOF-3014 | Drive Pinion w/ Key Set Screw |

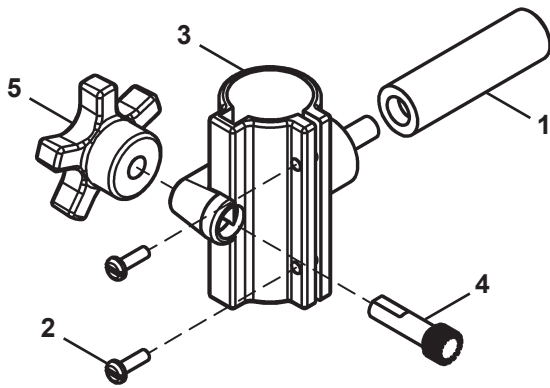


BUG-5451 3.5" RACKHOLDER / EXPLODED VIEW / PARTS LIST

| <u>ITEM</u> | <u>QTY</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> |
|-------------|------------|-----------------|--------------------------------|
| 1 | 1 | BUG-2024 | Spur Gear |
| 2 | 1 | BUG-2032 | Knob |
| 3 | 1 | BUG-2234 | Adjustable Clamping Lever |
| 4 | 1 | BUG-2424 | Shaft |
| 5 | 4 | BUG-2594 | Taper Glide |
| 6 | 2 | BUG-2939 | Flanged Nyliner |
| 7 | 1 | BUG-5452 | 3 1/2" Rackholder Body |
| 8 | 2 | FAS-0452 | Set Scr 1/4-20 x 1/4 Cup Point |
| 9 | 2 | SCF-1006 | 1/4-20 Self Clinching Nut |



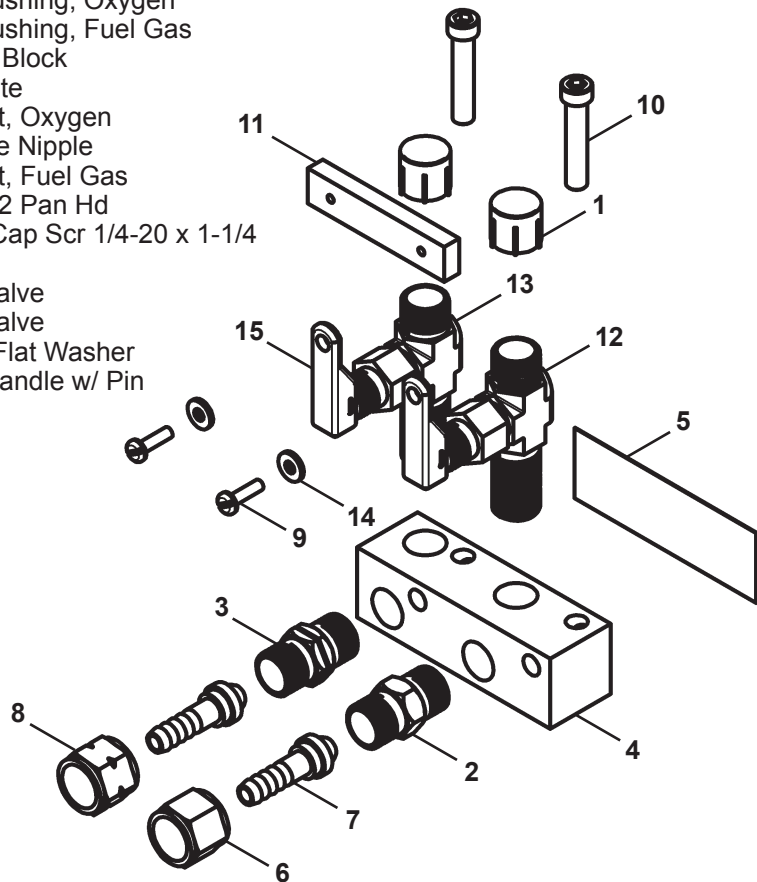
BUG-5188 TORCH HOLDER ASSEMBLY / EXPLODED VIEW / PARTS LIST



| <u>ITEM</u> | <u>QTY</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> |
|-------------|------------|-----------------|------------------------|
| 1 | 1 | BUG-2698 | Rod 3" |
| 2 | 2 | FAS-0736 | Fil Hd Scr 10-24 x 5/8 |
| 3 | 1 | BUG-2916 | Torch Holder Body |
| 4 | 1 | BUG-2033 | Pinion |
| 5 | 1 | BUG-2032 | Knob, Black |

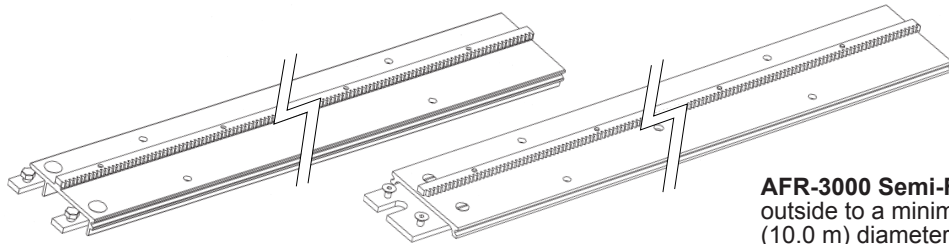
GOF-4025 MANIFOLD ASSEMBLY / EXPLODED VIEW / PARTS LIST

| <u>ITEM</u> | <u>QTY</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> |
|-------------|------------|-----------------|-------------------------------|
| 1 | 4 | BUG-2062 | Male Thread Protector |
| 2 | 1 | BUG-9096 | Outlet Bushing, Oxygen |
| 3 | 1 | BUG-9097 | Outlet Bushing, Fuel Gas |
| 4 | 1 | BUG-9113 | Manifold Block |
| 5 | 1 | BUG-9238 | Nameplate |
| 6 | 1 | CIR-1012 | Hose Nut, Oxygen |
| 7 | 2 | CIR-1013 | 1/4" Hose Nipple |
| 8 | 1 | CIR-1014 | Hose Nut, Fuel Gas |
| 9 | 2 | FAS-0115 | 6-32 x 1/2 Pan Hd |
| 10 | 2 | FAS-2551 | Soc Hd Cap Scr 1/4-20 x 1-1/4 |
| 11 | 1 | GOF-3028 | Bar |
| 12 | 1 | GOF-3032 | Toggle Valve |
| 13 | 1 | GOF-3033 | Toggle Valve |
| 14 | 2 | WAS-0210 | #6 SAE Flat Washer |
| 15 | 2 | GOF-3039 | Plastic Handle w/ Pin |



ACCESSORIES

ARR-1085 4' (1.18 m) Heavy Duty Rigid Rail
ARR-1080 8' (2.37 m) Heavy Duty Rigid Rail

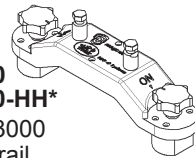


AFR-3000 Semi-Flex Rail can be bent inside or outside to a minimum radius of 15' (5.0 m) or 30' (10.0 m) diameter without permanent deformation.

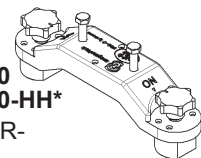
R.E. On-Off Magnet Assemblies

Holding power 250 lbs. (113.4 kg)
 Can be switched on and off for rapid set-up.

AFR-2010
AFR-2010-HH*
 For AFR-3000
 semi-flex rail

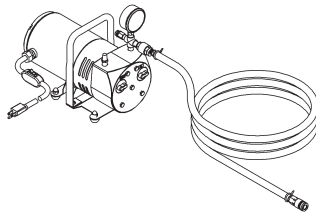


ARM-2010
ARM-2010-HH*
 For all ARR-
 rigid rails

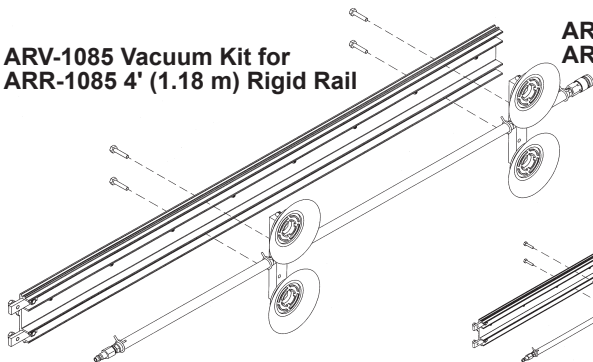


*All **XXX-2010-HH** are "High Heat" models and are rated at 180°C (356°F) for high temperature applications.

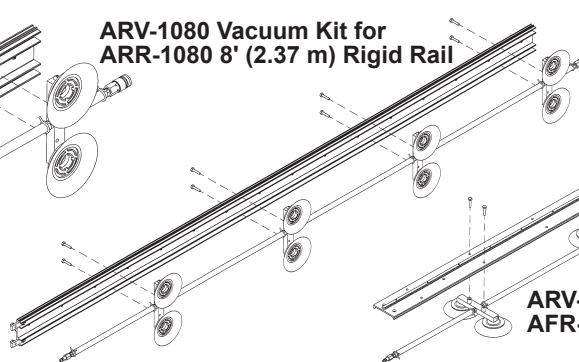
ARV-2020 120 Volt/50-60 Hz
ARV-2030 220 Volt/50-60 Hz
 The ARV-2020 (ARV-2030) Vacuum Pump Kit is recommended for use with a maximum of four (4) pieces of rail, or sixteen (16) vacuum bars.



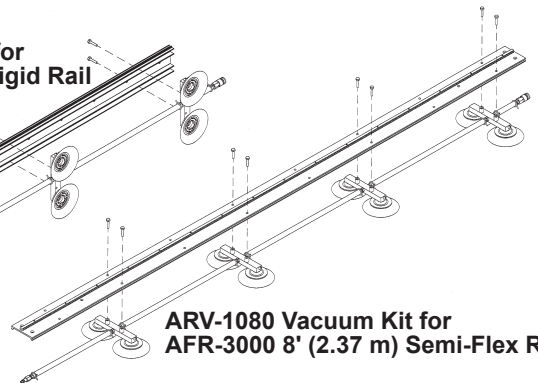
ARV-1085 Vacuum Kit for ARR-1085 4' (1.18 m) Rigid Rail



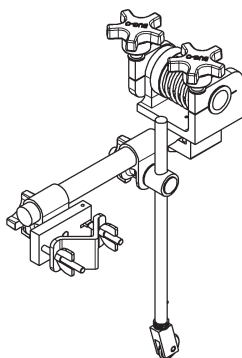
ARV-1080 Vacuum Kit for ARR-1080 8' (2.37 m) Rigid Rail



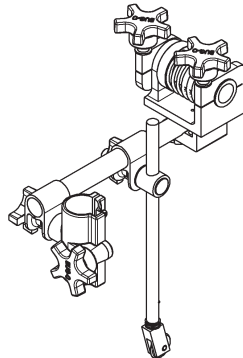
ARV-1080 Vacuum Kit for AFR-3000 8' (2.37 m) Semi-Flex Rail



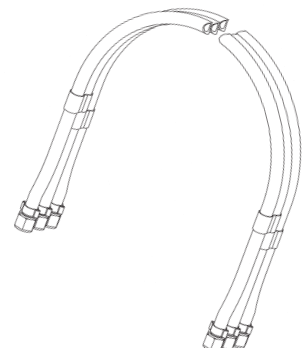
PAN-1007
Panograph Assembly
 w/ Fits-All Clamp
 (For Other Torches)



PAN-1010
Panograph Assembly
 w/ Torch Holder
 (For U.S.A. Torches)

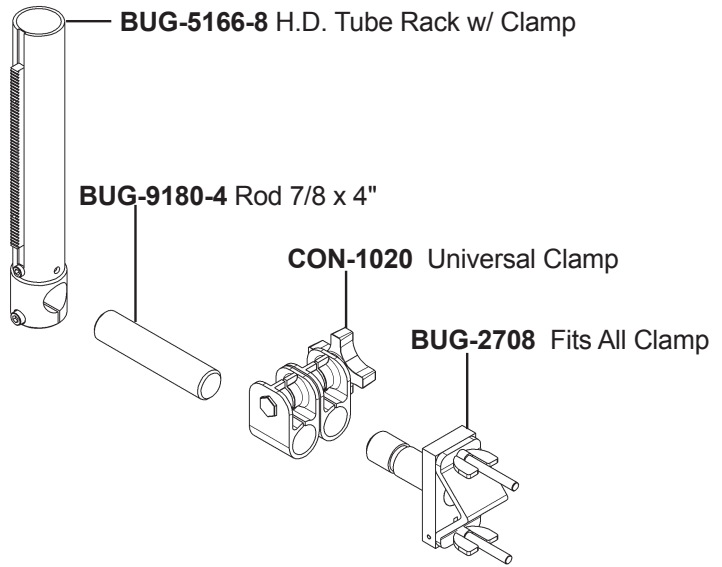
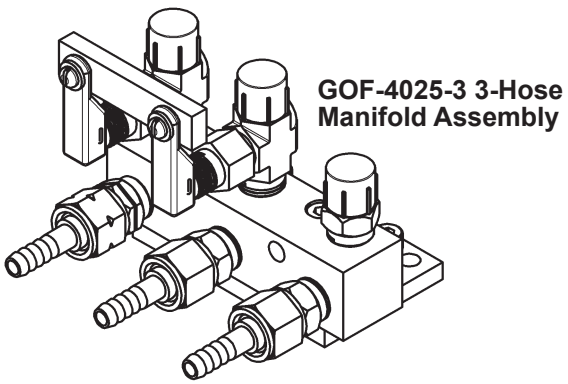


MUG-1119-32
3-Hose Assembly

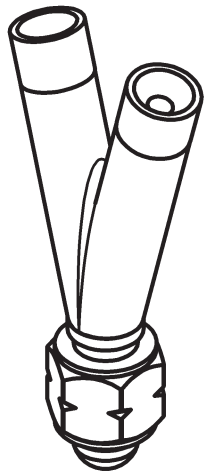


ACCESSORIES, CONT'D.

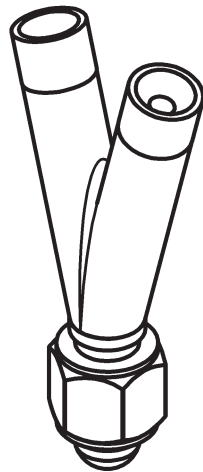
GOF-3255 Welding Support Kit:
The addition of this item provides a vertical racking motion for hand held guns.



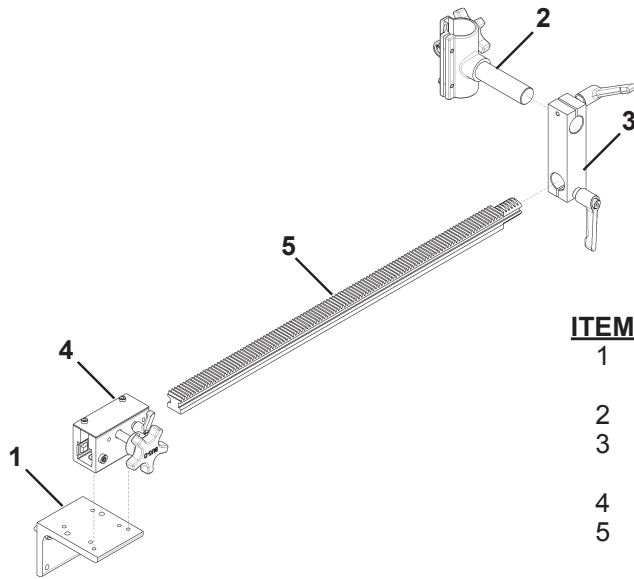
BUG-9107
Y Connector, Fuel Gas



BUG-9108
Y Connector, Oxygen



ACCESSORIES, CONT'D.



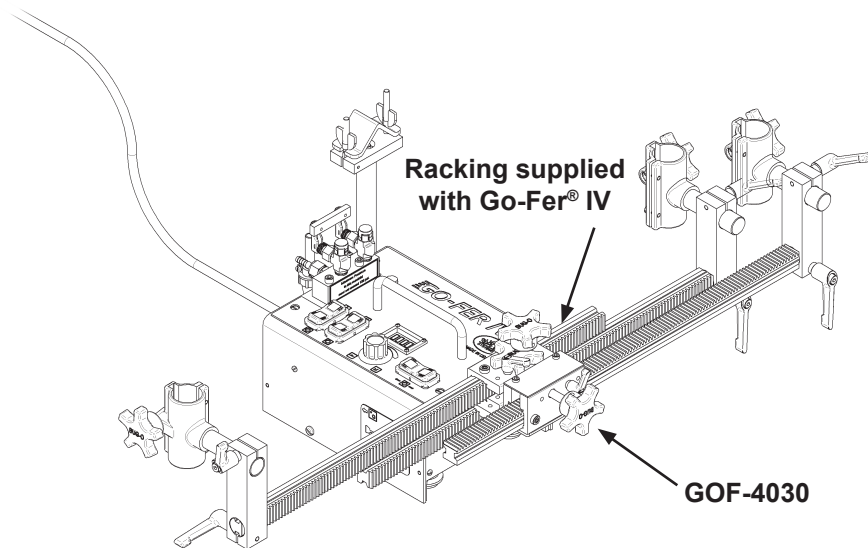
GOF-4030 SECOND GUN RACKING

| <u>ITEM</u> | <u>QTY</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> |
|-------------|------------|-----------------|-----------------------------------|
| 1 | 1 | BUG-1891 | Double Racker Mounting Angle |
| 2 | 1 | BUG-5188 | Torch Holder Assembly |
| 3 | 1 | BUG-5462-5 | Right Angle Clamp Assembly, 5" LG |
| 4 | 1 | GOF-4031 | Rack Holder |
| 5 | 1 | PAN-1029 | Rack 22-5/8" Length |

To install GOF-4030 Dual Racking:

- Remove standard racking from the Go-Fer® IV, including clamp block
- Install the standard racking onto the BUG-1891 bracket
- Install the assembled racking to the Go-Fer® IV as shown below

Note: Both racking arms can be mounted with both gun holders on one side if preferred.

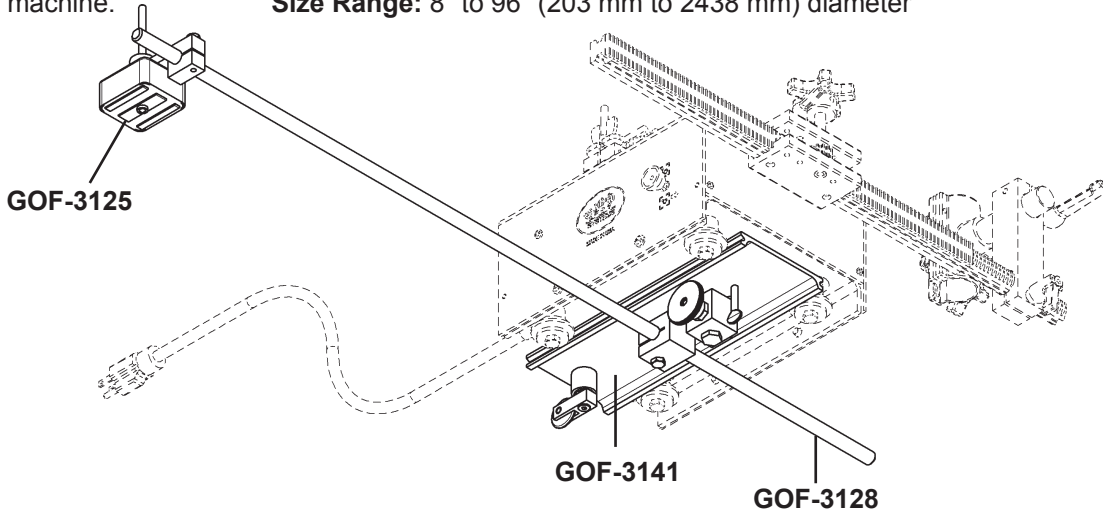


ACCESSORIES, CONT'D.

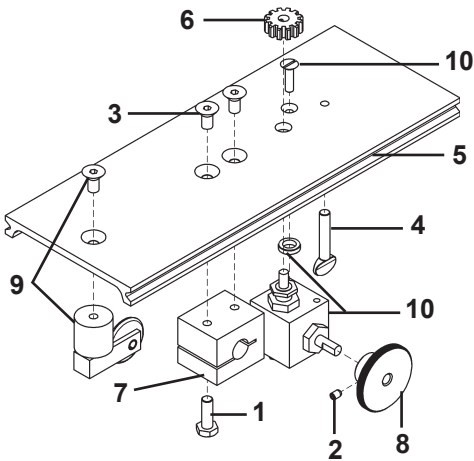
GOF-3142 Radius Cutting Attachment:

Enables GO-FER® IV H.S. to be quickly changed from a straight line to a circle-cutting machine.

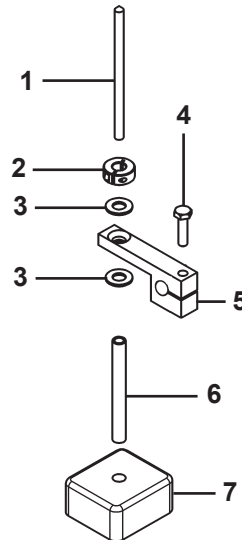
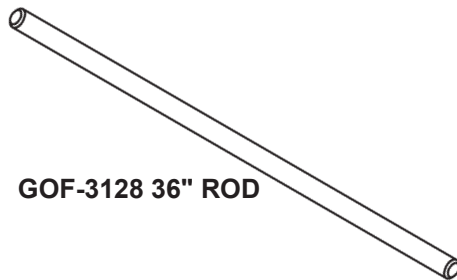
Size Range: 8" to 96" (203 mm to 2438 mm) diameter



GOF-3141 RAIL ASSEMBLY



| <u>ITEM</u> | <u>QTY</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> |
|-------------|------------|-----------------|------------------------------|
| 1 | 1 | FAS-0357 | Hex Hd Cap Scr 1/4-20 x 3/4" |
| 2 | 1 | FAS-0422 | Set Scr #8-32 x 1/4 |
| 3 | 2 | FAS-0955 | Flt Hd Soc Scr 1/4-20 x 1/2" |
| 4 | 1 | GOF-3121 | Thumb Screw |
| 5 | 1 | GOF-3126 | Rail |
| 6 | 1 | GOF-3129 | Pinion & Set Screw |
| 7 | 1 | GOF-3134 | Support |
| 8 | 1 | GOF-3134 | Drive Wheel |
| 9 | 1 | GOF-3135 | Leg Assembly |
| 10 | 1 | GOF-3140 | Right Angle Drive |



GOF-3125 MAGNET PIVOT

| <u>ITEM</u> | <u>QTY</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> |
|-------------|------------|-----------------|----------------------------|
| 1 | 1 | GOF-3137 | Pivot Point |
| 2 | 1 | BUG-9012 | Locking Collar |
| 3 | 2 | BUG-2034 | Teflon Washer |
| 4 | 1 | FAS-0359 | Hex Hd Cap Scr 1/4-20 x 1" |
| 5 | 1 | GOF-3138 | Offset Link |
| 6 | 1 | GOF-3136 | Sleeve |
| 7 | 1 | GOF-3133 | Magnet |

**SPK-GOF-4001 GO-FER® IV
SPARE PARTS KIT / PARTS LIST**

| <u>QTY</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> |
|------------|-----------------|---------------------------------|
| 1 | LED-2111 | Power LED |
| 1 | 100-0645-001 | Power Supply |
| 1 | BUG-1764-100P0 | LED Display |
| 2 | FUS-0303 | Fuse, 1.6A |
| 1 | SWT-1124 | Switch, SPST |
| 1 | SWT-1125 | Switch, DPDT |
| 1 | BUG-1562 | Pot, 10k 3-Turn |
| 1 | BUG-9687 | Knob |
| 1 | GOF-4035 | Go-Fer® IV Legend Plate |
| 1 | GOF-3014 | Drive Pinion w/Key Set Screw |
| 1 | BUG-1740-1 | Speed Card |

**SPK-GOF-4003 GO-FER® IV
SPARE PARTS KIT / PARTS LIST**

| <u>QTY</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> |
|------------|-----------------|---------------------------------|
| 1 | LED-2111 | Power LED |
| 1 | 100-0645-001 | Power Supply |
| 1 | BUG-1764-254 | LED Display |
| 2 | FUS-0303 | Fuse, 1.6A |
| 1 | SWT-1124 | Switch, SPST |
| 1 | SWT-1125 | Switch, DPDT |
| 1 | BUG-1562 | Pot, 10k 3-Turn |
| 1 | BUG-9687 | Knob |
| 1 | GOF-4035 | Go-Fer® IV Legend Plate |
| 1 | GOF-3014 | Drive Pinion w/Key Set Screw |
| 1 | BUG-1740-1 | Speed Card |

**SPK-GOF-4101 GO-FER® IV
WITH PENDANT SPARE PARTS
KIT / PARTS LIST**

| <u>QTY</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> |
|------------|-----------------|---------------------------------|
| 1 | BUG-1562 | Pot, 10k 3-Turn |
| 1 | BUG-1740-1 | Speed Card |
| 1 | BUG-1764-100P0 | LED Display |
| 1 | BUG-9687 | Knob |
| 2 | FUS-0303 | Fuse, 1.6A |
| 1 | GOF-3014 | Drive Pinion w/Key Set Screw |
| 1 | 100-0645-001 | Power Supply |
| 1 | GOF-4135 | Go-Fer® Legend Plate |
| 1 | GOF-4136 | Go-Fer® IV End Legend Plate |
| 1 | LED-2111 | Power LED |
| 1 | SWT-1124 | Switch, SPST |
| 1 | SWT-1125 | Switch, DPDT |

**SPK-GOF-4103 GO-FER® IV
WITH PENDANT SPARE PARTS
KIT / PARTS LIST**

| <u>QTY</u> | <u>PART NO.</u> | <u>DESCRIPTION</u> |
|------------|-----------------|---------------------------------|
| 1 | BUG-1562 | Pot, 10k 3-Turn |
| 1 | BUG-1740-1 | Speed Card |
| 1 | BUG-1764-254 | LED Display |
| 1 | BUG-9687 | Knob |
| 2 | FUS-0303 | Fuse, 1.6A |
| 1 | GOF-3014 | Drive Pinion w/Key Set Screw |
| 1 | 100-0645-001 | Power Supply |
| 1 | GOF-4135 | Go-Fer® Legend Plate |
| 1 | GOF-4136 | Go-Fer® IV End Legend Plate |
| 1 | LED-2111 | Power LED |
| 1 | SWT-1124 | Switch, SPST |
| 1 | SWT-1125 | Switch, DPDT |

TROUBLESHOOTING GUIDE

| PROBLEM | CAUSE | REMEDY |
|---------------------------------------|--|--|
| Does not run, indicator light off. | No power to machine. | Check power line supply voltage. Plug in line cord firmly. |
| Does not run, indicator light off. | Wiring shorts. Fuses blown. Shorted motor. Faulty speed control board. Defective power supply board. | Disconnect machine and examine internally; rewire at fault. If none found, throw direction switch to "OFF", replace fuses and plug in: If fuses are not blown, replace drive unit. If fuses blow again, replace control board. (OR) Replace power supply board. |
| Does not run, indicator light on. | Bad connection. Faulty speed control board. | Check wiring connections, 12 VDC should appear across output of power supply board. Tighten terminal screws on speed control board. If DC Volts = 0 across leads to motor; replace control board. |
| Unit runs, but no control over speed. | Faulty speed control board. | Replace speed control board. (Check connection first). |

NOTE: Make sure unit is plugged into correct voltage, (120 VAC, 240 VAC) corresponding to Model No. rating.

BUG-O SYSTEMS INTERNATIONAL

EC DECLARATION OF CONFORMITY

Manufacturer and technical
Documentation Holder:

Bug-O Systems International
a Division of Weld Tooling Corporation
280 Technology Drive
Canonsburg, PA 15317-9564

Hereby declare that machinery: **GO-FER IV**, including options and accessories

Sales codes: GOF-4000, GOF-4001, GOF-4002, GOF-4003
(sales code may also contain prefixes and suffixes)

Is in conformity with Council Directives and amendments:

- 2006/42/EC – Machinery Directive.
- 2014/35/EU – Electromagnetic Compatibility (EMC) Directive
- 2011/65/EU – Restriction of the use of certain hazardous substances (RoHS)

Standards:

- EN 12100:2010 – Safety of Machinery – General principles for design – Risk assessment and risk reduction.
- EN 60204-1:2016 – Safety of machinery – Electrical equipment of machines Part 1: General Requirements.
- EN 61000-6-2 – Electromagnetic compatibility (EMC) – Part 6-2 Generic standards – Immunity for industrial environments.
- EN 61000-6-4 – Electromagnetic compatibility (EMC) – Part 6-4 Generic standards – Emissions for industrial environments.
- EN 50581:2012 – Technical documentation for the assessment of electrical and electronic products with respect to restriction of hazardous substances.

The machinery, product, assembly or sub-assembly covered by this Declaration of Conformity must not be put into service until the machinery into which it is to be incorporated (if applicable) is declared in conformity with provisions of the applicable directives(s).

Authorized representative for the compilation of the relevant technical documentation and issuer of EC Declaration of Conformity:

Date of Issue: June 19, 2019

Place of issue: 280 Technology Drive, Canonsburg, PA 15317, USA

Typed Name of Authorized Person: MATTHEW W. CABLE - PRESIDENT

WARRANTY

Limited 3-Year Warranty

Model _____
Serial No. _____
Date Purchased: _____
Where Purchased: _____

For a period ending one (1) year from the date of invoice, Manufacturer warrants that any new machine or part is free from defects in materials and workmanship and Manufacturer agrees to repair or replace at its option, any defective part or machine. HOWEVER, if the invoiced customer registers the Product Warranty by returning the Warranty Registration Card supplied with the product within 90 days of the invoice date, or by registering on-line at www.bugo.com, Manufacturer will extend the warranty period an additional two (2) years which will provide three (3) total years from the date of original invoice to customer. This warranty does not apply to machines which, after Manufacture's inspection are determined by Manufacturer to have been damaged due to neglect, abuse, overloading, accident or improper usage. All shipping and handling charges will be paid by the customer.

The foregoing express warranty is exclusive and Manufacturer makes no representation or warranty (either express or implied) other than as set forth expressly in the preceding sentence. Specifically, Manufacturer makes no express or implied warranty of merchantability or fitness for any particular purpose with respect to any goods. Manufacturer shall not be subject to any other obligations or liabilities whatsoever with respect to machines or parts furnished by Manufacturer.

Manufacturer shall not in any event be liable to Distributor or any customer for any loss of profits, incidental or consequential damages or special damages of any kind. Distributor's or customer's sole and exclusive remedy against Manufacturer for any breach of warranty, negligence, strict liability or any other claim relating to goods delivered pursuant hereto shall be for repair or replacement (at Manufacturer's option) of the machines or parts affected by such breach.

Distributor's Warranty:

In no event shall Manufacturer be liable to Distributor or to any customer thereof for any warranties, representations or promises, express or implied, extended by Distributor without the advance written consent of Manufacturer, including but not limited to any and all warranties of merchantability or fitness for a particular purpose and all warranties, representations or promises which exceed or are different from the express limited warranty set forth above. Distributor agrees to indemnify and hold Manufacturer harmless from any claim by a customer based upon any express or implied warranty by Distributor which exceeds or differs from Manufacturer's express limited warranty set forth above.

HOW TO OBTAIN SERVICE:

If you think this machine is not operating properly, re-read the instruction manual carefully, then call your Authorized BUG-O dealer/distributor. If they cannot give you the necessary service, write or phone us to tell us exactly what difficulty you have experienced. BE SURE to mention the MODEL and SERIAL numbers.