



A CARLISLE BRAND

**7105 HS**  
***PowerPinner®***  
**HIGH SPEED**  
**GLIDER**  
**OPERATOR'S MANUAL**



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# **GRIPNAIL® 7105HS *PowerPinner®* GLIDER**

## **INTRODUCTION**

The **GRIPNAIL®** 7105 HS *PowerPinner®* glider is designed to require minimum maintenance. The 7105 HS is PLC controlled , which simplifies trouble shooting. All hose connections between valves and cylinders use push-fit type fittings. These fittings save maintenance time if lubrication or replacement is required on any item.

## **OPERATOR SAFETY**

Proper safety precautions must be observed with any piece of equipment. This section contains several guidelines designed to ensure operator safety. Follow these directions at all times.

**REMEMBER—SAFETY FIRST!**

## **FIVE SAFETY RULES**

1. **DO NOT OPERATE** this machine without all covers and guards in place.
2. **DISCONNECT** all electrical power and compressed air sources before servicing.  
Follow OSHA standard 1910.147 “CONTROL of HAZARDOUS ENERGY (LOCKOUT/TAGOUT)” and NFPA70e “Standard for Electrical Safety in the Workplace”
3. **TROUBLESHOOTING** should be done by competent and qualified personnel only.
4. **THE OPERATOR** should always wear the personal protective equipment as outlined by his/her employer, such as eye and ear protection, to avoid injury.
5. **MAINTAIN** the equipment in good operating condition.

## SYSTEM REQUIREMENTS

ELECTRICAL: 190, 208, 230 VAC/60 HZ/1Ø 31.0, 28.4, 25.5 AMPS

This machine is a welder and is supplied with 35 amp dual-element, time delay (2kA inrush) main fuses. Select the size and style plug, receptacle and branch circuit protection accordingly.

(Recommend using a 50 Amp (minimum), slow blow Disconnect)

PNEUMATIC: 40-55 PSI @ 1 SCFM

## INSTALLATION INSTRUCTIONS

1. Place machine on a hard, flat, level surface. If the surface is irregular and shimming is required, use steel (sheet metal) to make shims. Normal vibratory parts feeder operation requires the machine to be stable and solidly supported. **DO NOT USE** cardboard, plywood, particle board, other composite wood products or soft materials as shim stock.
2. Place bowl feeder on machine into spaces provided, noting location of bowl exit. Plug the Feeder Bowl cable into the machine cable provided. (See Figure 1)
3. Ensure a 1/8 inch clearance gap exists between the feeder bowl exit and the entrance to the track assembly.
4. Connect air. Safety Note: Quick disconnect air fittings are recommended. **ALWAYS** install the *free flowing* MALE connector onto the machine. This will permit immediate exhausting of air from the machine when disconnected from the shop supply.
5. Connect electricity to the disconnect switch located inside the Electrical Enclosure. (See Figure 2) Measure the voltage at the customer supplied fused disconnect. Set the jumper on the terminal strip (190, 208 or 230) to match the incoming voltage. This machine is a welder and is supplied with 35 amp dual-element, time delay (2kA inrush) main fuses. Select the size and style plug, receptacle and branch circuit protection accordingly.



Feeder Bowl Cable

Figure 1

INCOMING POWER CONNECTION

Figure 2

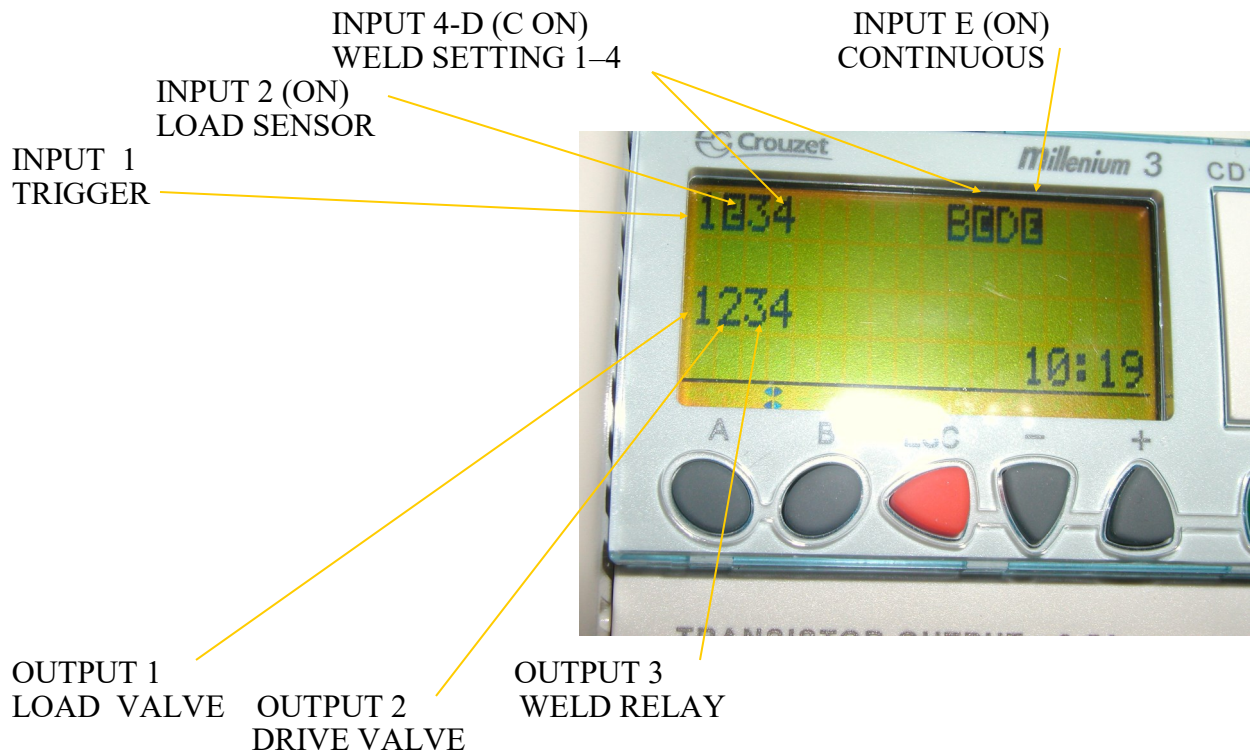




**GRIPNAIL® 7105HS PowerPinner® GLIDER**  
**MAINTENANCE**

1. DRAIN water from filter/regulator assembly DAILY.
2. REMOVE accumulated fiberglass and adhesive buildup from the magnetic driver and track daily or as required.
3. Check for loose hardware and tighten as required.

**PLC  
INPUTS & OUTPUTS**



**SEQUENCE OF OPERATION**

1. Input 2 (Load Sensor) AND Input 4 OR B OR C OR D MUST be on.
2. Input 1 (Foot or Trigger) is activated momentarily or continuously held.
3. Output 2 (Drive) turns on.
4. Output 3 (Weld Relay) turns on and stays on based on the time setting from Input 4-D.
5. Output 3 (Weld Relay) turns off.
6. Output 2 (Drive) turns off.
7. Output 1 (Load) turns on.
8. Input 2 (Load Sensor) turns off.
9. Output 1 (Load) turns off.
10. Input 2 (Load Sensor) turns on.
11. Input 1 (Foot or Trigger) must be off after Step 9 to restart the sequence (if CONTINUOUS off).

## **TROUBLESHOOTING**

### **A. Drive head doesn't operate after foot pedal or triggers are depressed.**

1. Check incoming power connection and ON switch. Page 4 & 13.
2. Is air connection and/or shop supply valve open?
3. Is the load sensor indicator lights ON? Page 11.
  - a. If not ON, check the sensor position.
  - b. If not ON, check 24 Volt DC power supply in control box. Page 12.
4. Check drive valve fuse #3.
5. Is the foot pedal/trigger input light (I1) and drive valve output light (O2) ON when the foot pedal/trigger is depressed. Page 5.
6. Check internal connections in foot pedal/trigger and external cable condition. Page 15.

### **B. New weld pins do not load onto drive head.**

1. Check the drive cylinder and magnetic driver. If either is discovered loose, readjust and tighten. See page 8.
2. Check load valve fuse #4.
3. Turn OFF all power and air, then manually check load cylinder for binding.

### **C. Vibratory feeder bowl doesn't operate.**

1. Check the power cord connection.
2. Check the position of the speed control setting.
3. Check the sensor on track.
4. Check the feeder bowl control fuse (3 amp). Page 12

### **D. Improper weld.**

1. Adjust weld setting. Page 13.
2. Clean upper and lower weld tips.
3. Check the weld transformer is set on the correct taps to match incoming voltage.

## **WELD SETTING ADJUSTMENTS**

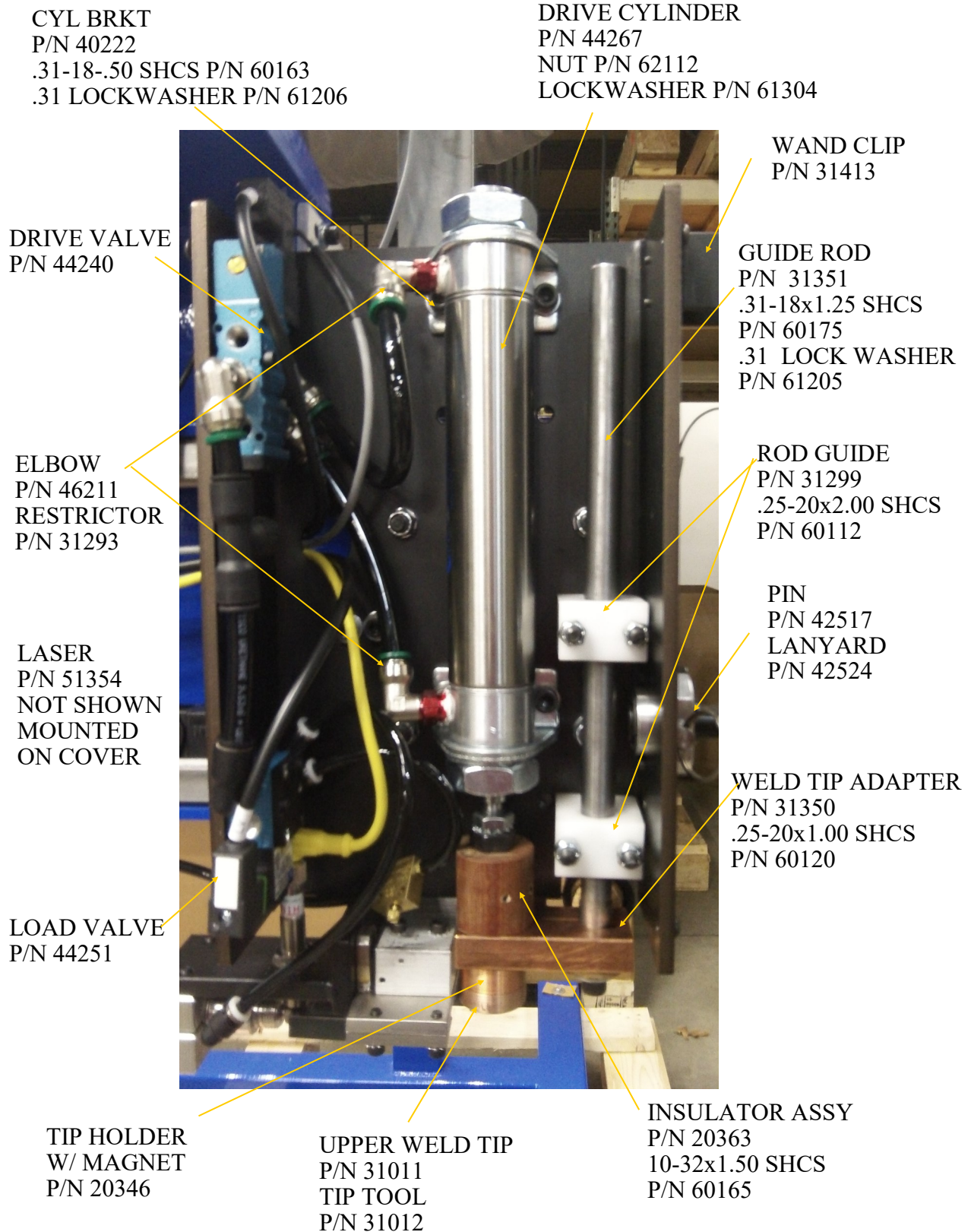
1. With the power “ON”, set the WELD SETTING switch to correspond to the pin being fastened. (Note: These setting are reference starting points only.)

PIN	SETTING
57	1
107	1-2
127	2
137	2-3
157	3
207	4

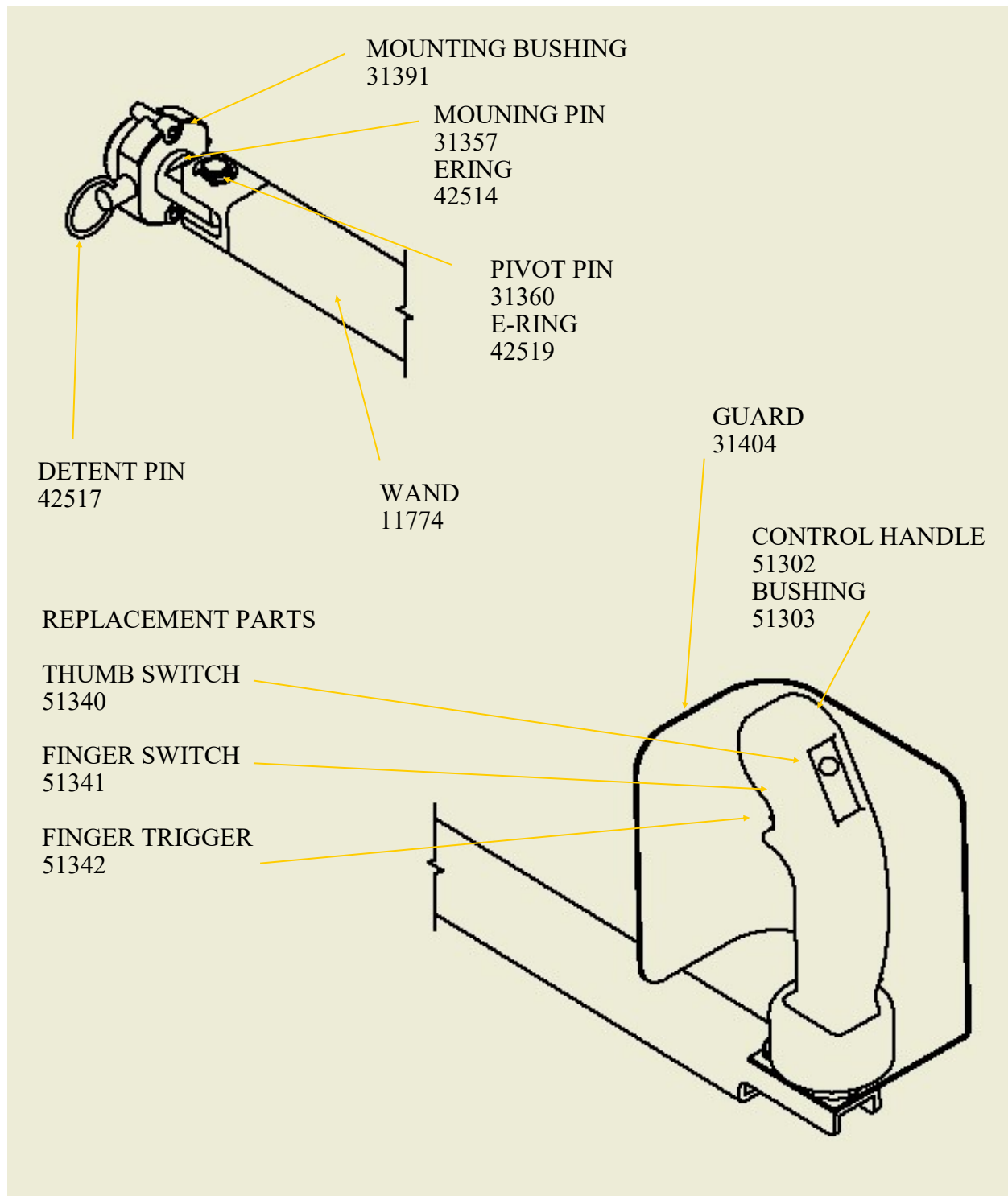
2. Place the sheet metal flat on the lower weld tip or anvil and press the foot pedal.
3. Make several test welds to insure uniform and proper weld.



**DRIVE HEAD ASSEMBLY**



## WAND AND TRIGGER ASSEMBLY

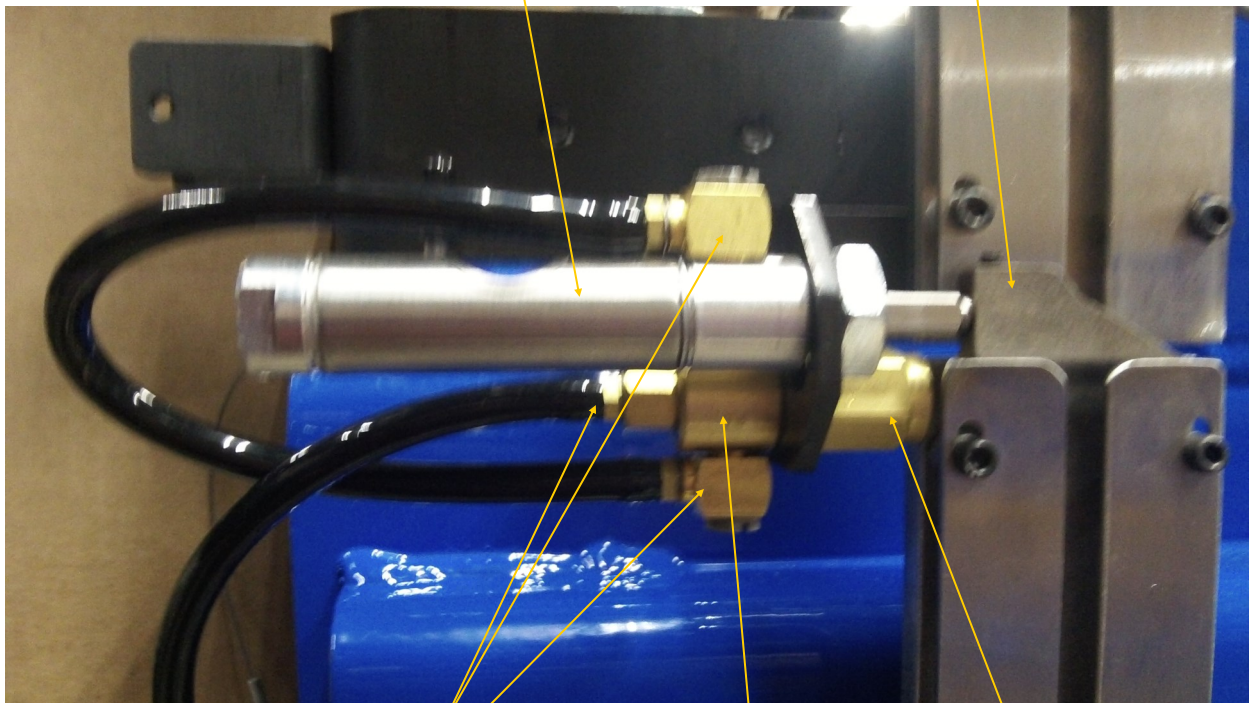




**SLIDE GATE ASSEMBLY**

SLIDE CYLINDER  
P/N 44270

SLIDE GATE  
P/N 31418

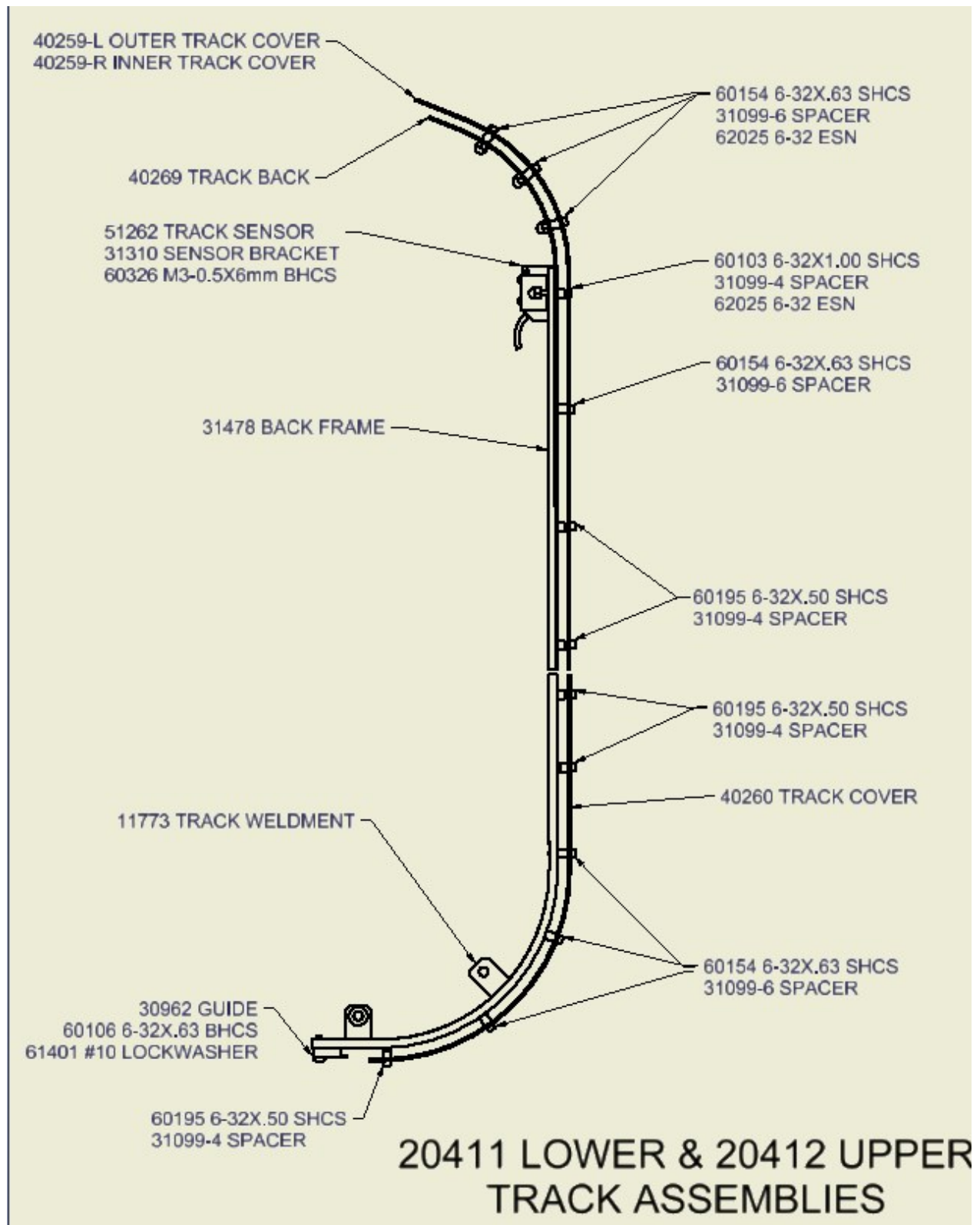


(3) BARB FITTING  
P/N 46105  
(2) ELBOW  
P/N 46103

SLIDE VALVE  
P/N 44271

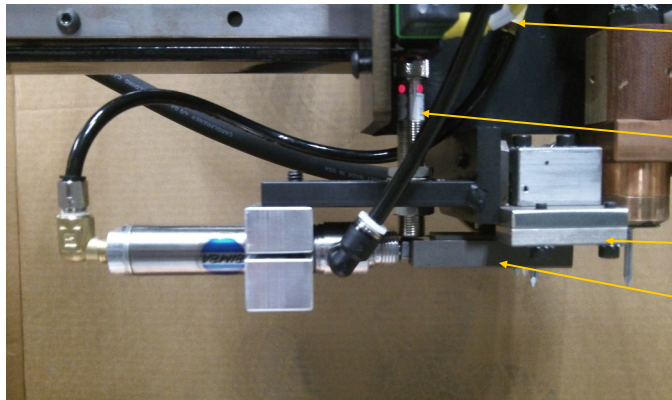
SLIDE ACTUATOR  
P/N 44272

# GRIPNAIL® 7105HS *PowerPinner®* GLIDER





## LOAD CYLINDER ASSEMBLY

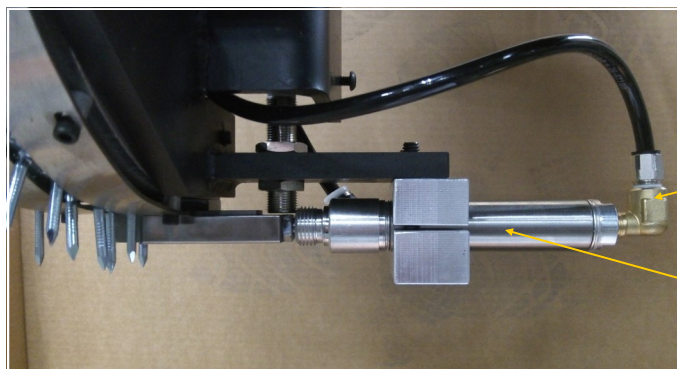


PROXIMITY SENSOR  
CABLE  
P/N 51269

PROXIMITY SENSOR  
P/N 51268

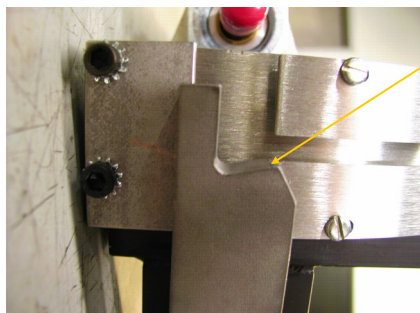
BLOCK GUIDE  
P/N 30962

TRANSFER BLOCK  
P/N 31491



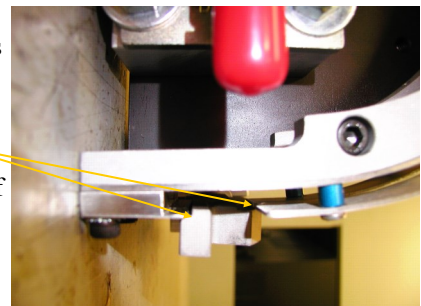
ELBOW  
P/N 46112  
FITTING  
P/N 46210

LOAD CYLINDER  
P/N 44295  
FLOW CONTROL  
P/N 44157  
FITTING  
P/N 46122



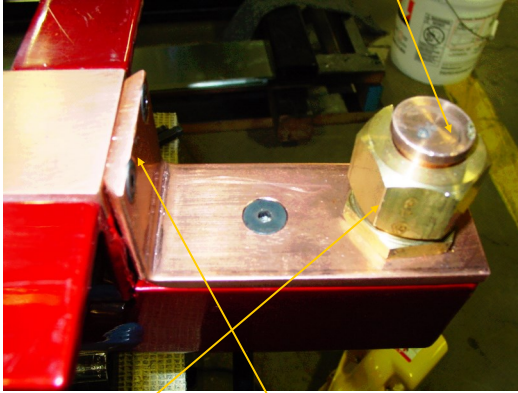
Position the Transfer Block so this point intrudes on the Pin path by approximately 1/32".

Rotate the Transfer Block to horizontal, to assure the top key section equally engages the bottom of the Track .



## GRIPNAIL® 7105HS *PowerPinner®* GLIDER

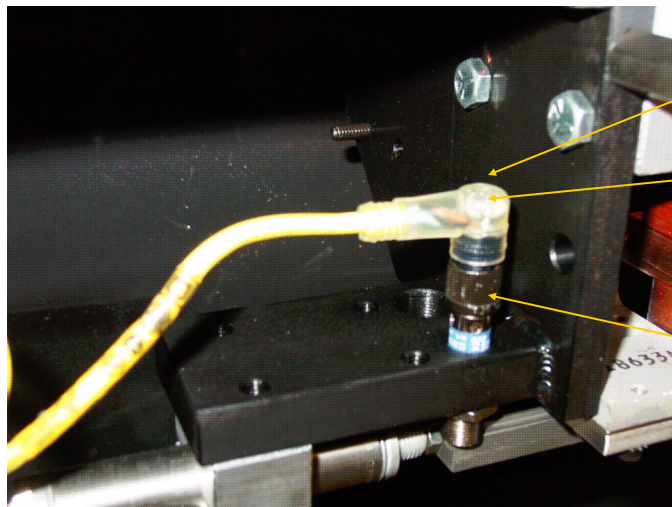
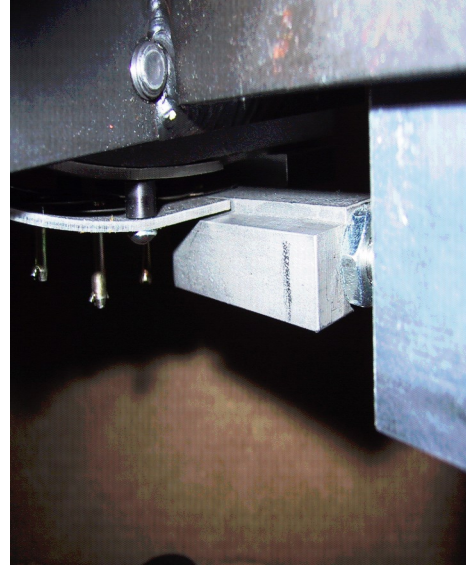
LOWER WELD TIP  
P/N 31032



ELECTRODE NUT  
P/N 31278  
STEM  
P/N 31277

BUSS RETURN  
31362  
ANVIL  
P/N 31361

The transfer block fits into the track for easy alignment.

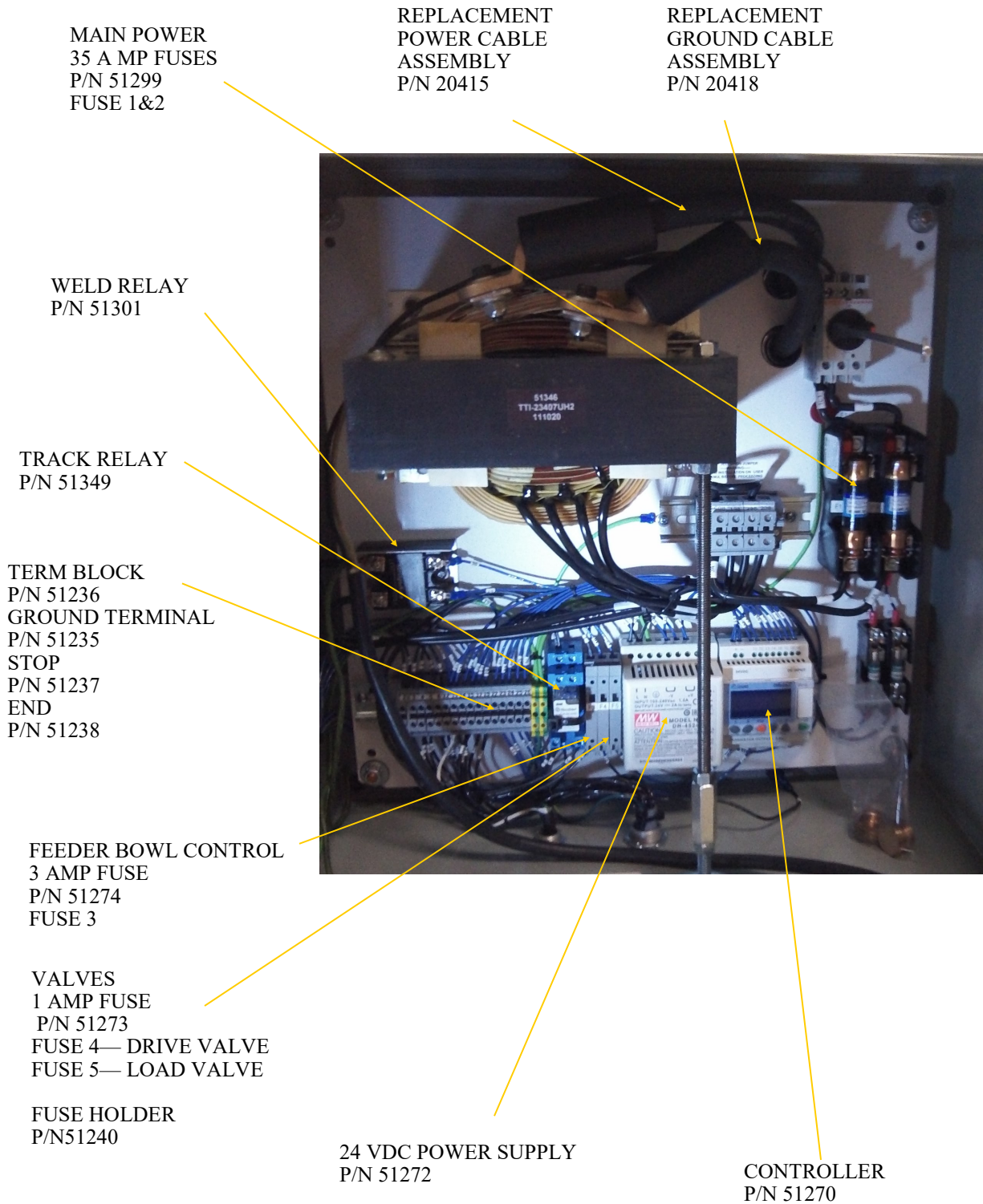


GREEN LED

YELLOW LED

LOAD SENSOR

## ELECTRICAL ASSEMBLY





## GRIPNAIL® 7105HS *PowerPinner®* GLIDER

Pictured below are the machine's electrical controls.

The vibratory feeder speed control is used to optimism the bowl feed rate.

The digital volt meter monitors the incoming voltage.

The weld setting switch is adjusted based on weld pin and gauge.

The main disconnect switch applies power to the machine, and also provides a means for LO/TO for the electrical power.

- CONTINUOUS SWITCH  
P/N 51313  
CONTINUOUS INDICATOR LIGHT  
P/N 51337
- DIGITAL VOLT METER  
P/N 51293
- DISCONNECT  
P/N 51380  
SHAFT  
P/N 51381  
HANDLE  
P/N 51382
- WELD SETTING SWITCH  
OPERATOR P/N 50224  
CONTACTS P/N 50225
- VIBRATORY FEEDER  
SPEED CONTROL  
P/N 51419-2  
KNOB P/N 50001



## **PRESSURE REGULATOR**

BRACKET W/ NUT  
P/N 42445



FILTER/ REGULATOR  
P/N 40206

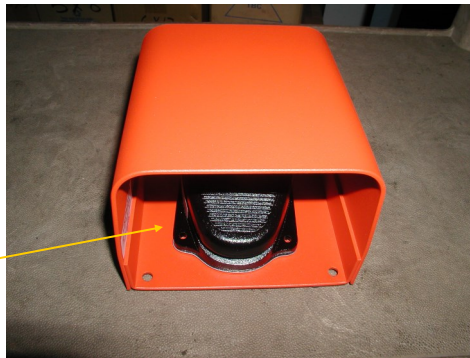
REGULATOR  
GAGE  
P/N 44120

## GRIPNAIL® 7105HS *PowerPinner®* GLIDER

### FOOT PEDAL

NOTE: RELEASE pedal completely after each cycle. Both air and electrical power must be on to operate foot pedal.

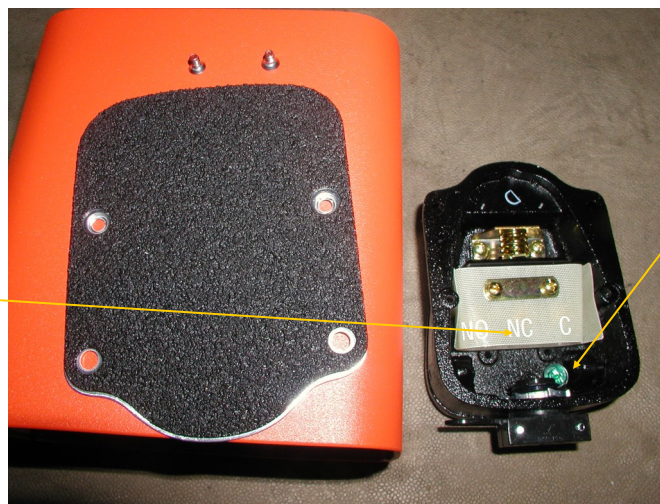
FOOT PEDAL  
P/N 51264



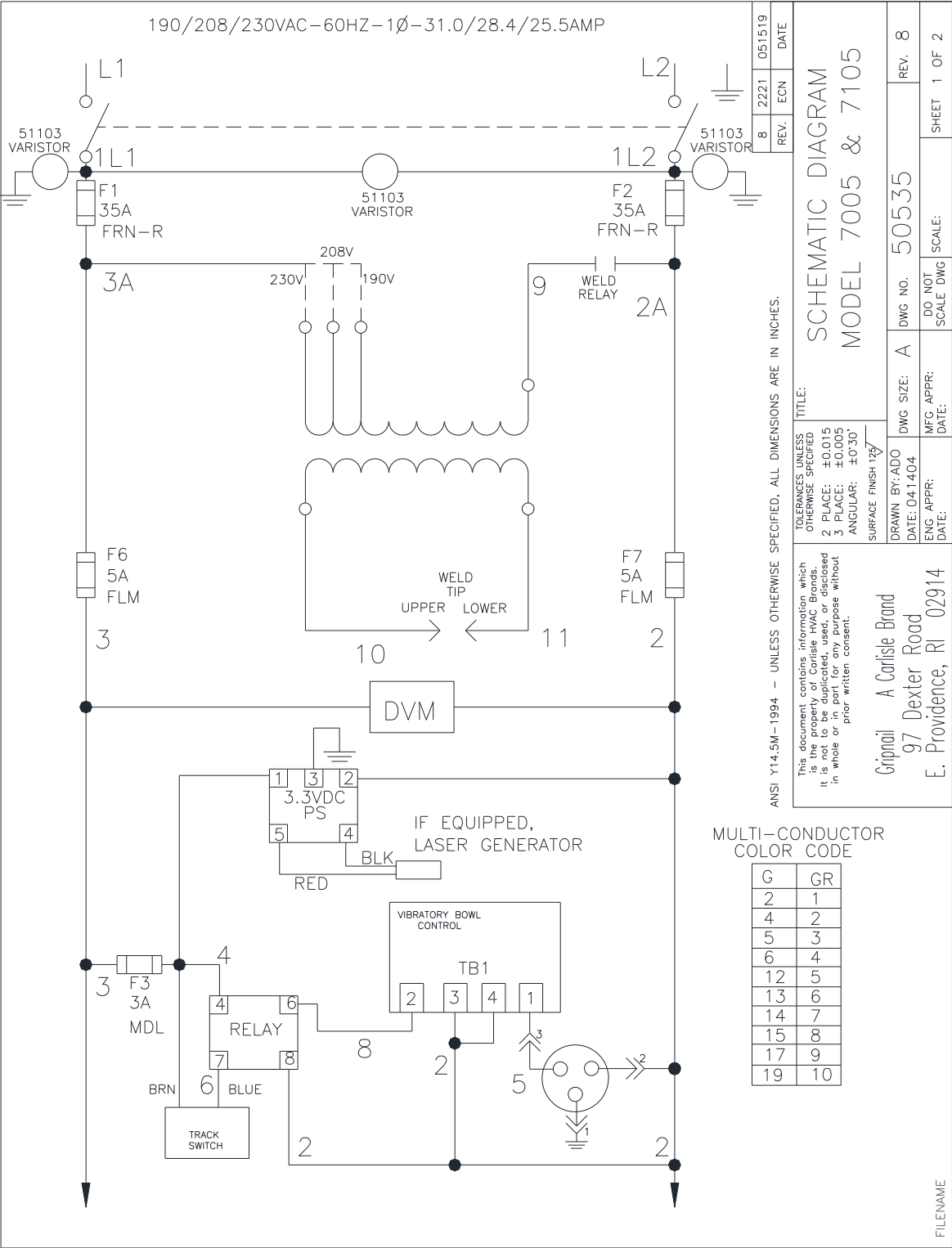
FOOT PEDAL INTERNAL CONNECTIONS  
USE NORMALLY OPEN TERMINALS

TERMINAL  
CONNECTIONS

GROUND  
WIRE



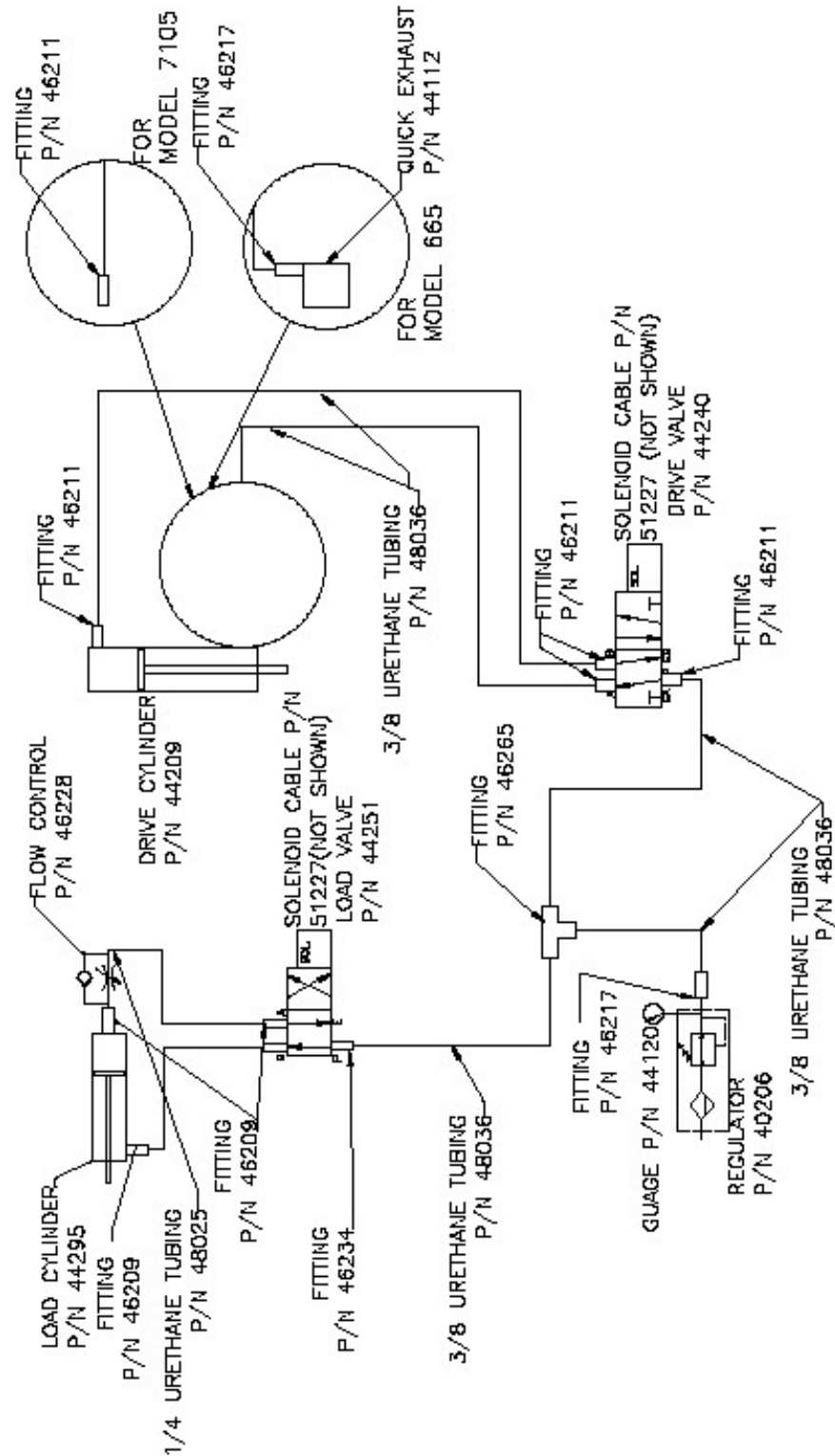
**GRIPNAIL® 7105HS PowerPinner® GLIDER**  
**ELECTRICAL SCHEMATIC**







**GRIPNAIL® 7105HS PowerPinner® GLIDER**  
**PNEUMATIC DIAGRAM**



**GRIPNAIL® 7105HS PowerPinner® GLIDER  
REPLACEMENT PARTS LIST**

ITEM#	PART#	DESCRIPTION	QTY (EA OR FT)
1	31361	Lower Weld Anvil	1
2	51262	Track Sensor	1
3	51302	Trigger Assembly	1
4	31278	Electrode nut	1
5	31032	Lower Weld Tip	1
6	31011	Upper Weld Tip	1
7	20346	Up Weld Tip & Magnet	1
8	20412	Upper Track Assembly	1
9	20411	Lower Track Assembly	1
10	44267	Drive cylinder	1
11	44295	Load cylinder	1
12	31491	Transfer block	1
13	20277	Feeder bowl assembly	1
14	42361-3	Feeder base 60 HZ (42361-8 50 HZ)	1
15	40206	Filter/ Regulator 1/2 npt	1
16	44120	Gage, regulator 1/4 npt, 0-160 psi	1
17	42515	Deadbolt Latch	1
18	42445	Bracket, wall, with nut	1
19	44251	Valve, load	1
20	44240	Valve, drive	1
21	51227	Cord set, valve	2
22	51264	Foot pedal	1
23	51268	Load sensor	1
24	51269	Load sensor cable	1
25	51270	Crouzet controller	1
26	51272	Power supply—24 volts, 2.5 amps	1
27	51419-2	Control, feeder base	1
28	51273	Fuse 1A, MDL-1	2
29	51299	Fuse 35A, FRN-R-35A	2
30	51274	Fuse, 3A, MDL-3	1
31	51301	Weld relay	1
32	20440	Replacement Weld Cable Assembly	1
33	20415	Replacement Weld Power Cable Assembly	1
34	20418	Replacement Weld Ground Cable Assembly	1
35	50224	Weld Setting Switch Operator	1
36	50225	Weld Setting Switch Contact Block	1
37	51313	Continuous ON/OFF Switch	1
38	51337	Continuous Indicator Light	1
39	51379	Fuse 5A, FLM	2
40	42505	Feeder Base Spring 3/16	As Required
41	42506	Feeder Base Spring 1/8	As Required
42	42507	Feeder Base Spring 3/32	As Required
43	42508	Feeder Base Spring 1/16	As Required
44			

## **SERVICE POLICY**

Proper operation of your machine is a top priority with Carlisle Construction Material. We will assist you to the best of our abilities to see it is kept in peak operating condition.

In many cases, service needs can be made simply by calling the Customer Service Department. If it becomes necessary for a service technician to visit your plant, we can make the arrangements.

All Carlisle Construction Material machines are covered under a one year New Machine Warranty (see Warranty next page). Replacement parts covered by the warranty are supplied free of charge, provided the original parts are returned to Carlisle Construction Material and do not show signs of abuse.

At the end of the new machine warranty period, the buyer has the option of purchasing a Limited Extended Parts Warranty. This warranty covers specified machine parts only. Call the Customer Service Department for full details.

All warranties on Carlisle Construction Material equipment are good only if fasteners produced by Carlisle Construction Material are used. If it is determined that fasteners other than those manufactured by Carlisle Construction Material have been used, the warranty is voided. At Carlisle Construction Material, we believe in servicing what we sell for the lifetime of the equipment. If you are having difficulty with your machine or if you have any questions regarding service and warranty policy, please call, fax, or write:

**Customer Service Department**  
97 Dexter Road  
East Providence, Rhode Island 02914  
Phone: (401) 216-7900  
Fax (401) 438-8520  
Email: [GN.Sales@CarlisleHVAC.com](mailto:GN.Sales@CarlisleHVAC.com)  
Website: [www.gripnail.com](http://www.gripnail.com)

## **WARRANTY**

All Carlisle Construction Material Fastening Equipment is thoroughly inspected and tested before leaving the factory. Carlisle Construction Material warrants its equipment to be free from defects in workmanship and materials under normal and proper use for a period of one (1) year from date of sale to original end purchaser.

The warranty does not apply when repairs or attempted repairs have been made by persons other than Carlisle Construction Material authorized service personnel, or where it is determined by our service personnel that the equipment has been subjected to misuse, negligence or accident. If it is determined that any fasteners other than weld pins manufactured by Carlisle Construction Material have been used in this machine or tool, the warranty is terminated.

Carlisle Construction Material shall not be liable for contingent damages or delays caused by defective materials or any other means beyond our control.

**Customer Service Department**

97 Dexter Road

East Providence, Rhode Island 02914

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