

RV Systems--The Basics (for New Owners)

An *Owner to Owner* seminar assembled by your GDOF moderators Jim Hinkle (TucsonJim), Rob Farrow (Cate&Rob), Howard Wilson (howson), Brian Cravener (Country Campers your presenter) and forum member Neil Citro (ncitro).

Seminar Topics

Electrical

- 12vDC
- 120vAC
- 7-Pin Harness (Tow Connector) and Breakaway Switch

Exterior

- Vents
- Cleaning the TPO Roof & Approve Slide-Outs Sealant

HVAC

- Furnace, Ducts & Registers

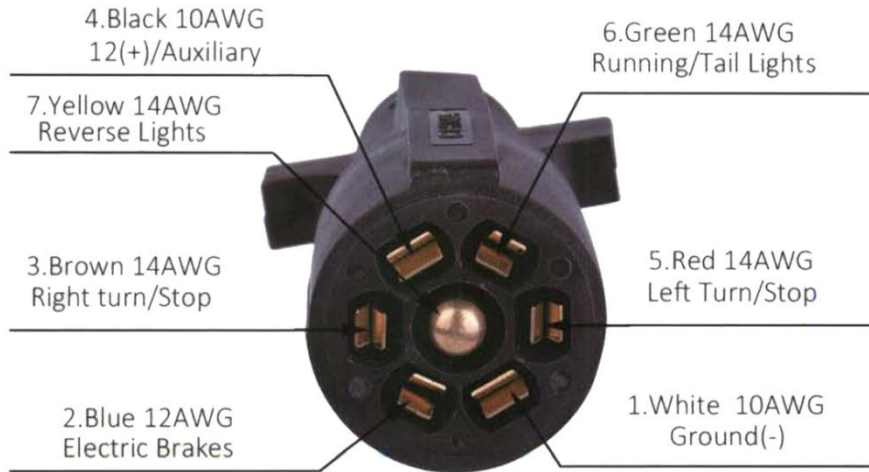
Propane

- Auto Changeover Two Stage Regulators

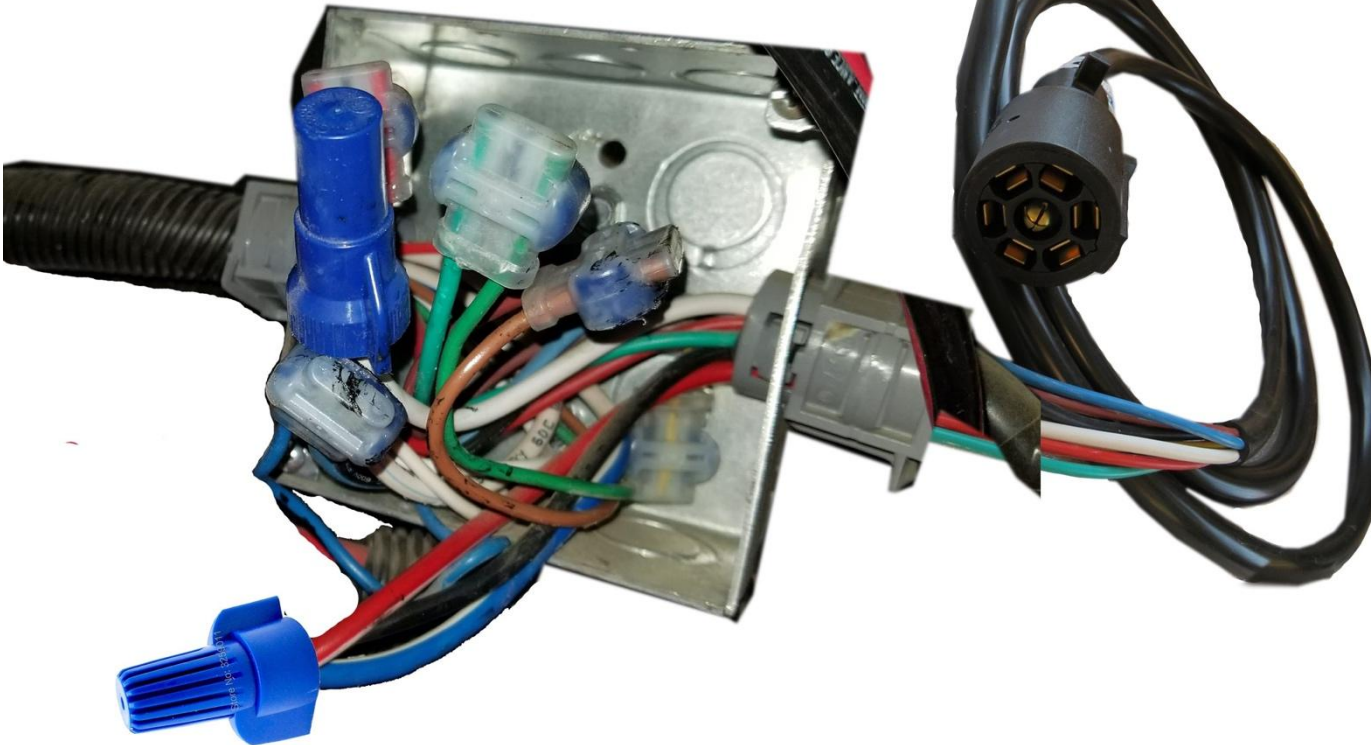
Plumbing

- Nautilus Panel
- Water Pump,
- Leaks!
- Water Heater
- Venting, Draining & Dumping
- Winterization
- Through-Frame (Electric & Hydraulic)
- Schwintek (or *In-Wall*)

Electrical: 7-Pin Harness (Tow Connector) & Breakaway Switch



Breakaway Switch



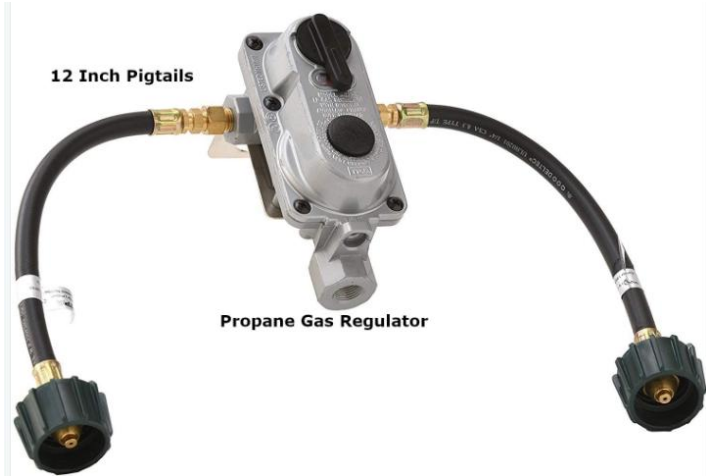
Electrical: 7-Pin Harness Aftermarket Modification

**MICTUNING Heavy Duty 7 Way Plug Inline Trailer Cord
with 7 Gang Junction Box - 8 Feet, Weatherproof**



Propane: Auto Changeover Two Stage Regulator

Auto Tank Selector (Low Pressure)



5th Wheel High Pressure (red) Regulator



Battery



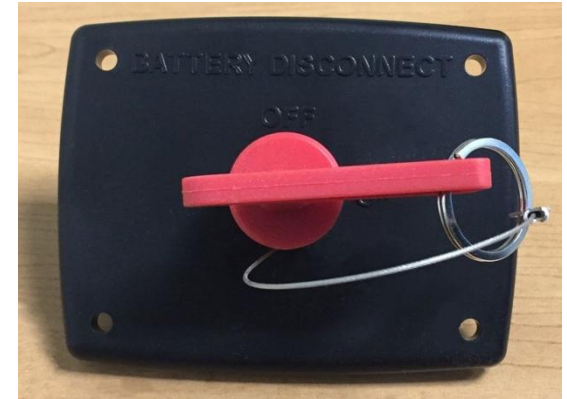
Battery Voltage	State of Charge
12.73	100%
12.62	90%
12.50	80%
12.37	70%
12.24	60%
12.10	50%
11.96	40%
11.81	30%
11.66	20%
11.51	10%

Electrical: 12vDC

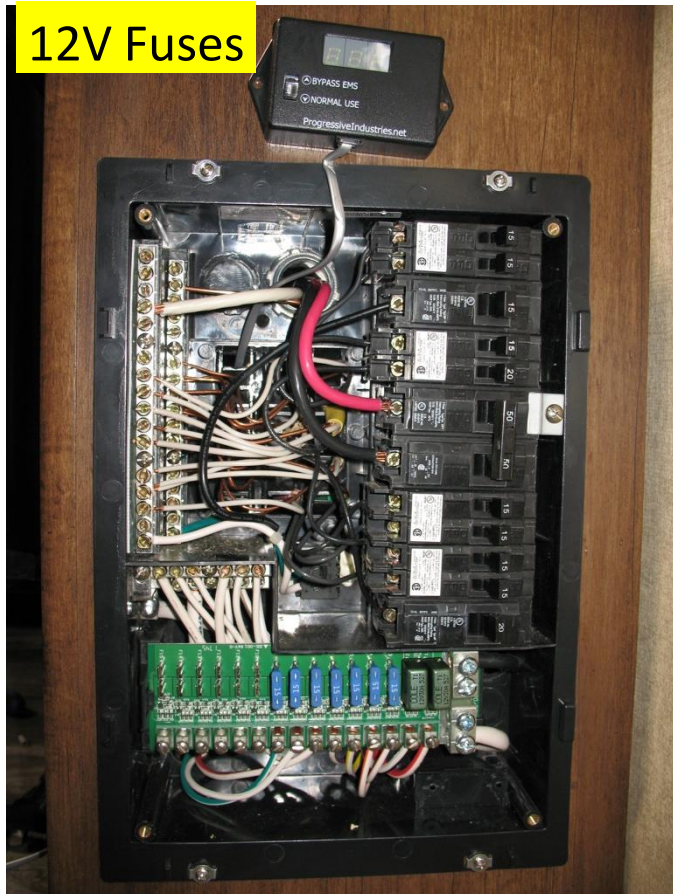
Self Resetting
Circuit Breaker



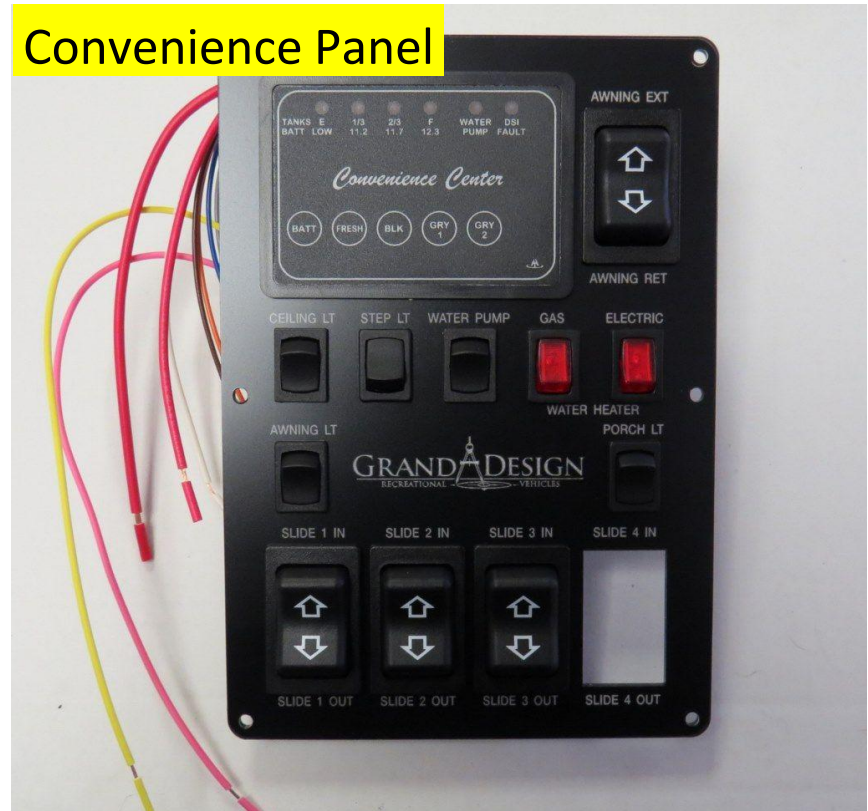
Battery
Disconnect



12V Fuses



Convenience Panel



Electrical: 120vAC

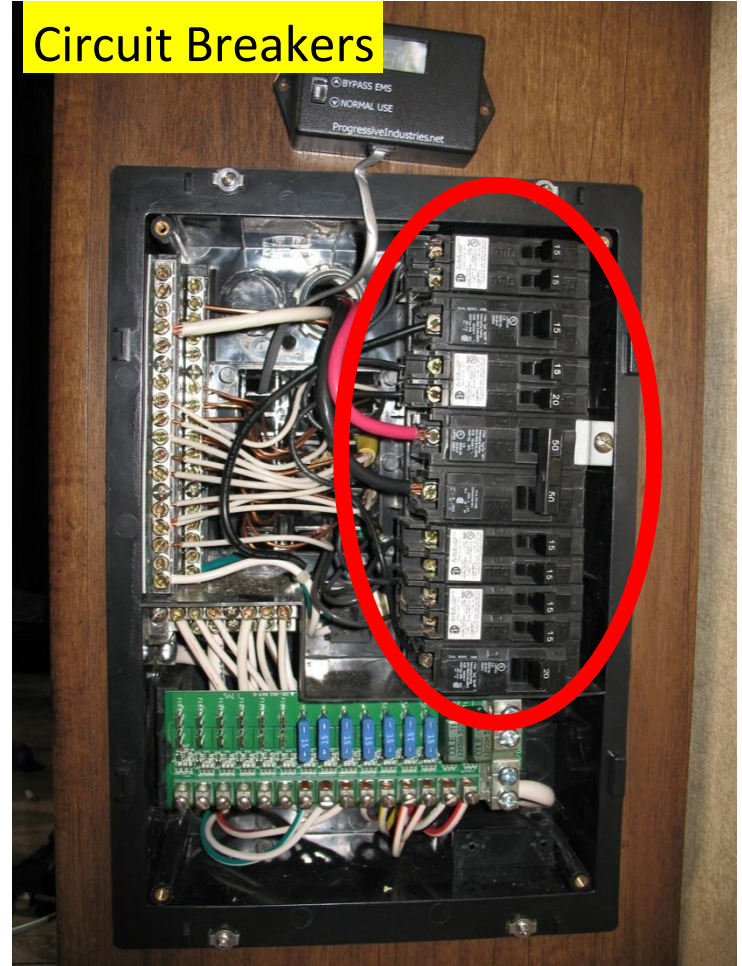
30A vs 50A



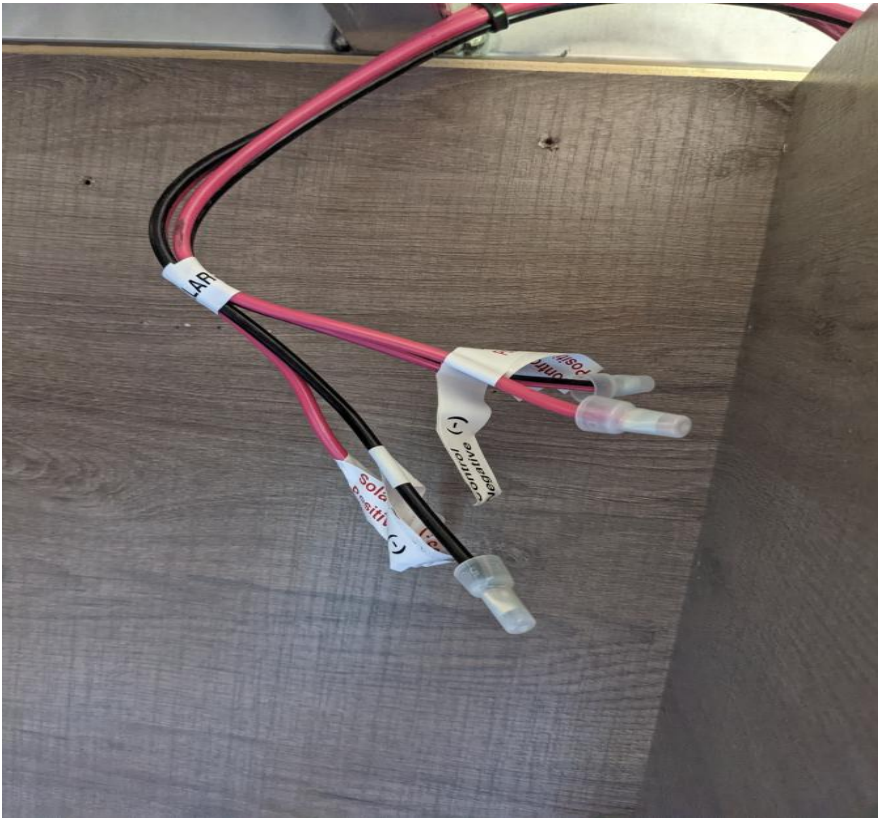
Converter vs Inverter



Circuit Breakers



Solar System



Exterior: Roof Vents

Holding Tank Vent Stack



Attic Vent



Exterior: Cleaning the TPO Roof & Approved Sealants

Most GD Roofs (late model trailers) have TPO roofs from Alpha Systems



ALPHA SYSTEMS
CLEANING AND MAINTAINING THE TUFF-PLY ROOF

ALPHAPLY AND SUPERFLEX

Typical Entry in a Grand Design Owners' Manual

- Apply a generous amount of **Alpha Systems 1010 Non-Sag Sealant** over top of any existing sealant needing resealed.
- **PLEASE NOTE:** ONLY ALPHA SUPPLIED SEALANTS SHOULD COME IN CONTACT WITH THE SUPERFLEX ROOF MEMBRANE.

HVAC: Furnace

Typical Suburban (Dometic) Furnace



Sail Switch



Aftermarket Rotating/Dampered Register



Typical Furnace Duct



Plumbing: Nautilus Panel

P1



P4



Plumbing: Water Pump

Typically-supplied pump

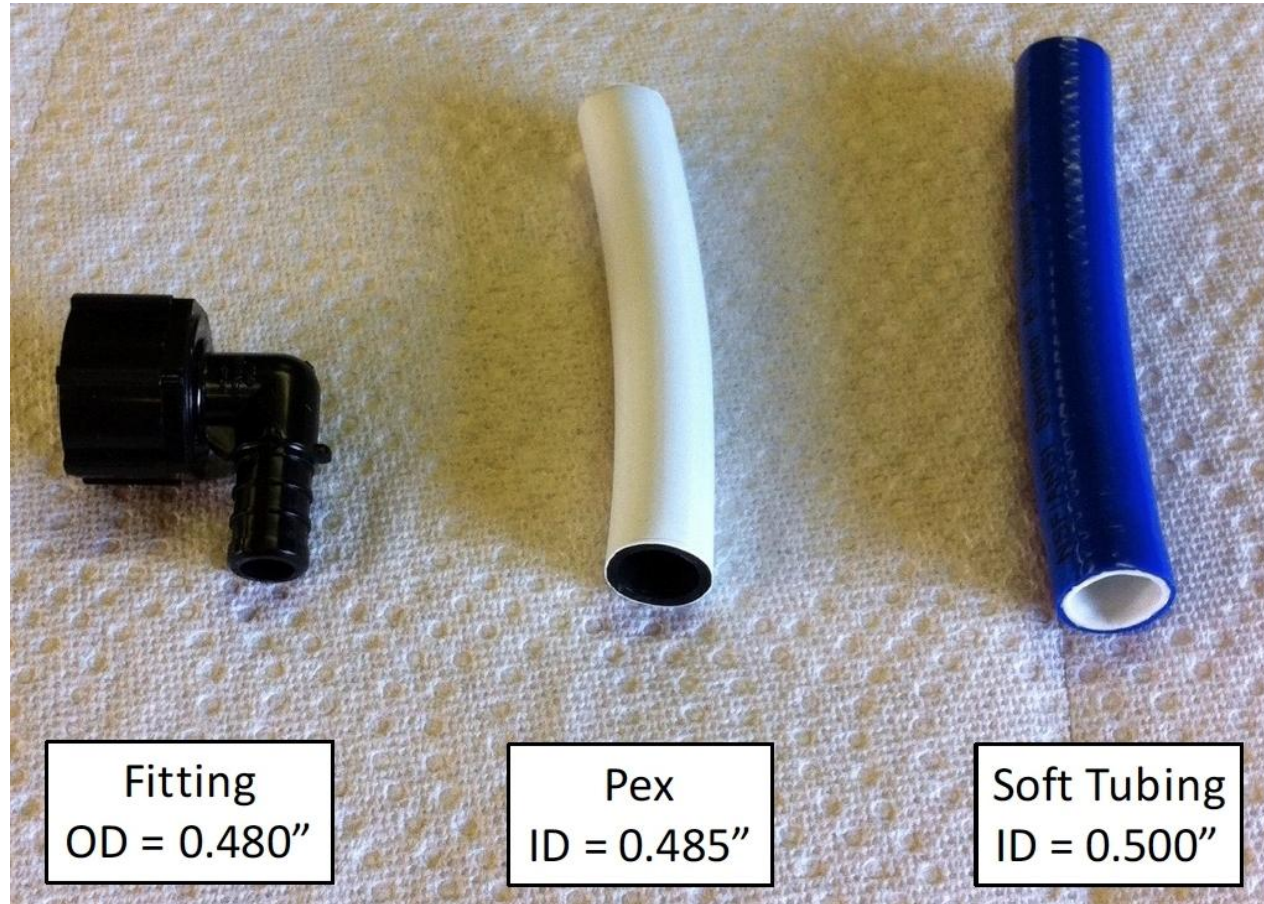


Filter Bowl



Plumbing: Leaks!

Soft Tubing on Pex Fittings (Not Ideal)



Hand-tightened Fittings



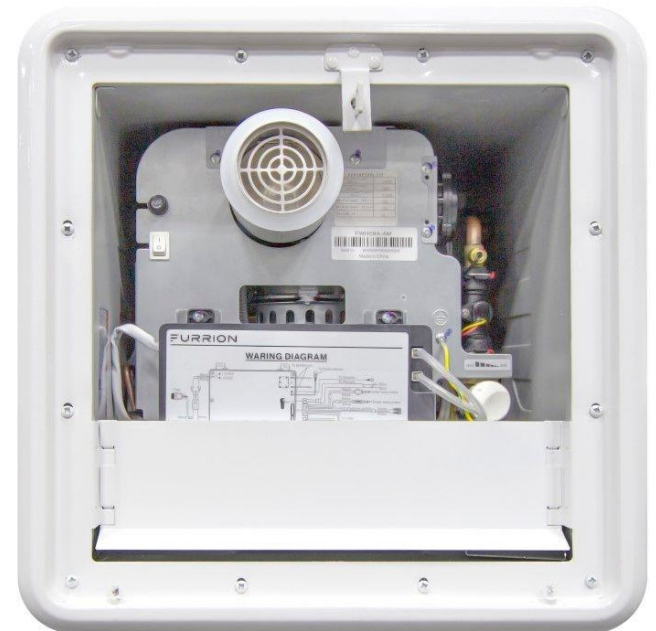
Cone Seal

Plumbing: Water Heater

Standard 6 or 10 gallon



Tankless “On Demand”



Plumbing: Venting, Draining & Dumping

Dump Valve Cable
and Pull Handle



Aftermarket Add-On Gate Valve



Hepvo Valve



Air Admittance Valve (AAV)

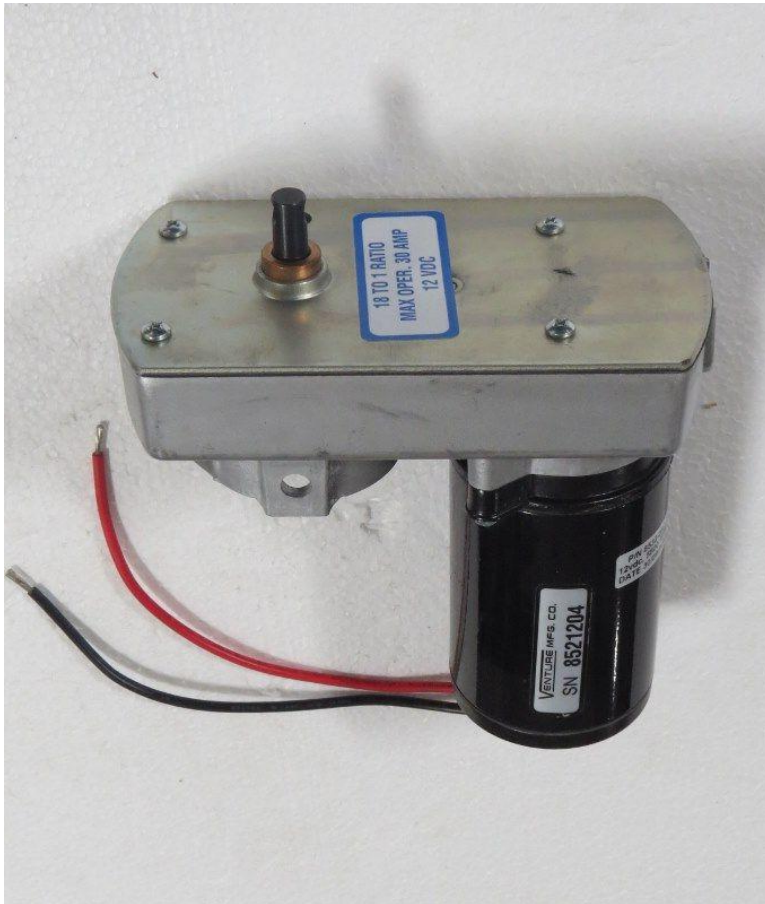


Plumbing: Winterization

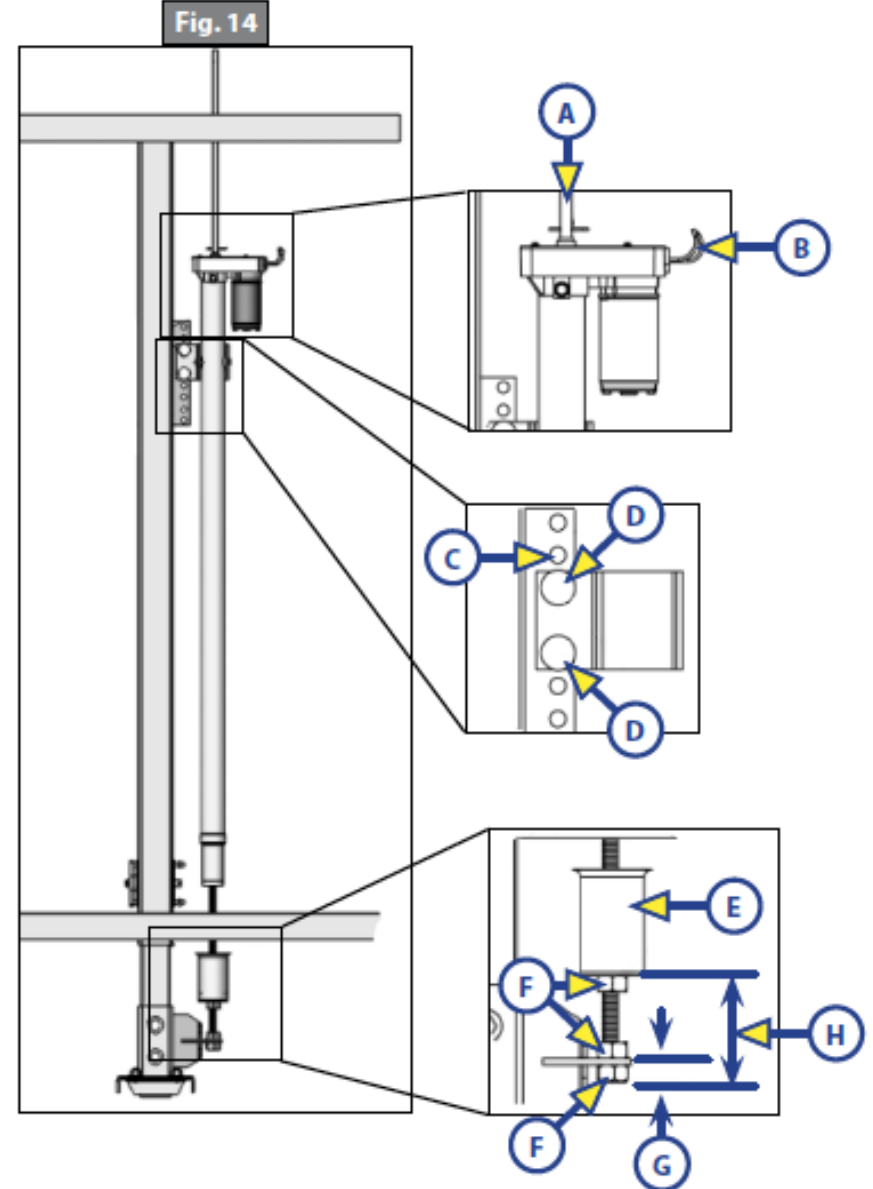


Slide-Outs: Through Frame (Electric)

Electric Motor



Drive Side (with Manual Override)

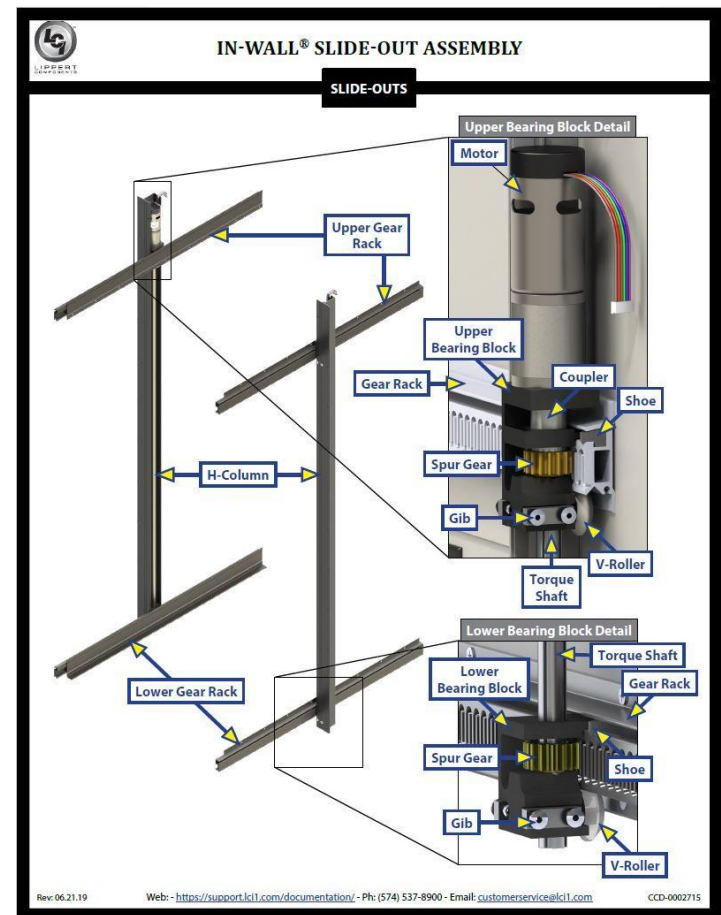


Slide-Outs: Schwintek (or *In-Wall*)

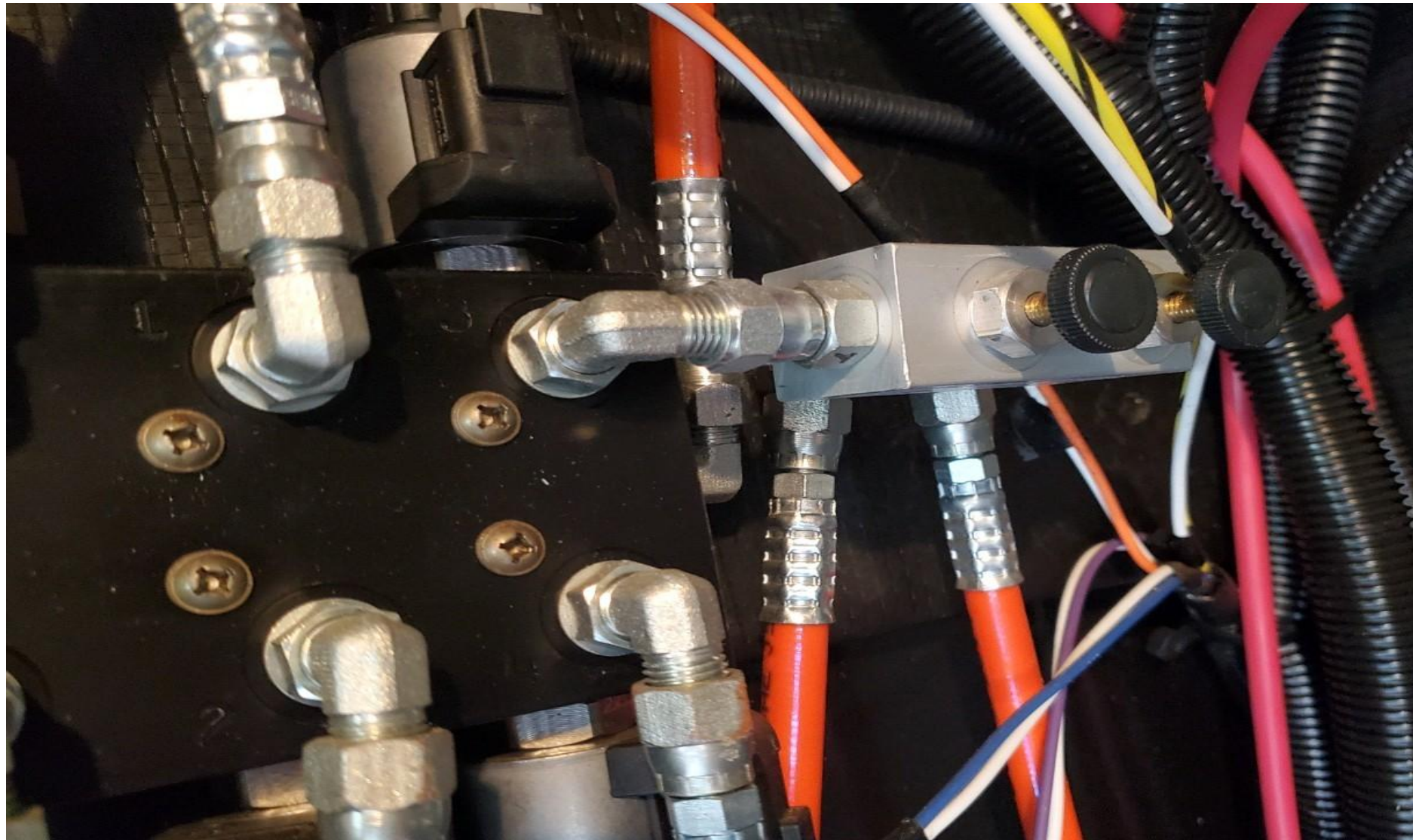
Rails=Schwintek



Controller



Slide-Outs: Through Frame (Hydraulic)

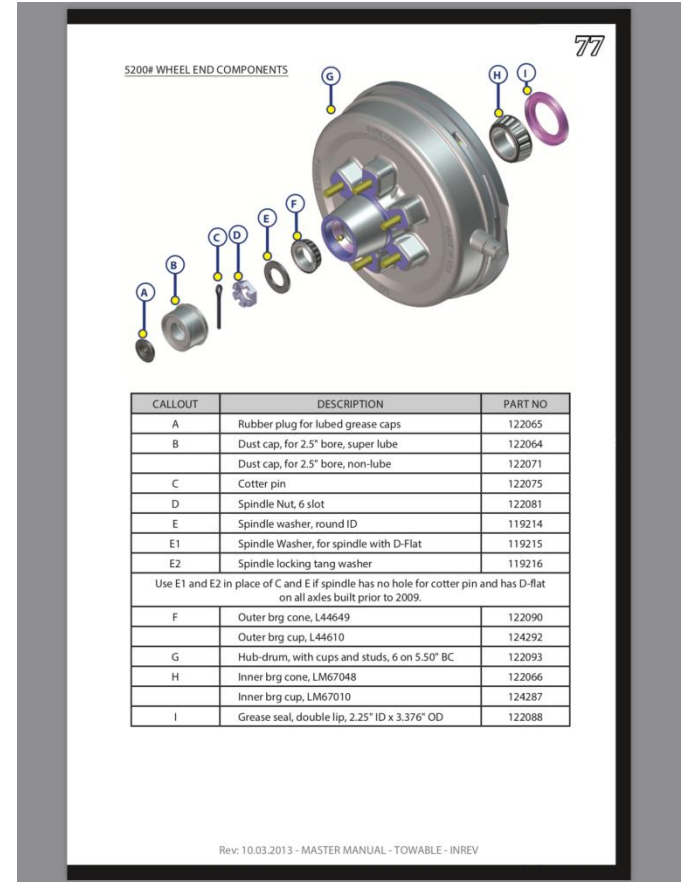


Slide-Outs: Through Frame (Hydraulic)



Awnings & Slide Toppers



[illegible]

Vapor Detectors

Propane:
12V Hardwired



Smoke: Living Area
9V Battery



Smoke & CO: Sleeping Area
9V Battery



All sensors have a finite life and
need to be replaced as required