



Safety Considerations

Guidelines for safe operation of Godwin Dri-Prime® pump systems

Consider the following guidelines for maximum safety and reliability of the Godwin Dri-Prime® pumpset and accessories.



Do's

1. Always disconnect negative battery cable before working on any pump or engine parts.
2. Make sure all hose joints are properly connected before starting pump.
3. Level the pump using jack stands or cribbing.
4. Install cribbing or support when using 8", 10" or 12" hoses on suction and discharge.
5. Allow engine to warm up before rising to operating speed.
6. Raise and lower engine speed gradually.
7. Consult Godwin Pumps or authorized distributor if operating engine over 1800 RPM.
8. Service diesel engine every 250 hours of running (see 250 hour servicing guidelines provided in this information box).
9. Open drain valves on volute and non-return valve after shutting down pump in freezing weather (ice will form and expand possibly causing damage).



Don'ts

1. Don't touch air compressor outlet line - **hot surface!**
2. Don't block air flow to engine radiator (prevents overheating).
3. Don't pump liquids other than pH of 7 (neutral), internal corrosion may occur.
4. Don't pump heavy abrasive material - internal erosion may occur.
5. Don't run diesel engine out of fuel - fuel delivery system will need to be bled prior to re-starting engine.
6. Don't open radiator cap when engine is still warm.



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Operating Instructions

Pre-startup equipment checklist

___ Check engine oil level

___ Check radiator coolant level*

* **Note** - Do Not open radiator cap when engine is still warm

___ Check diesel fuel level

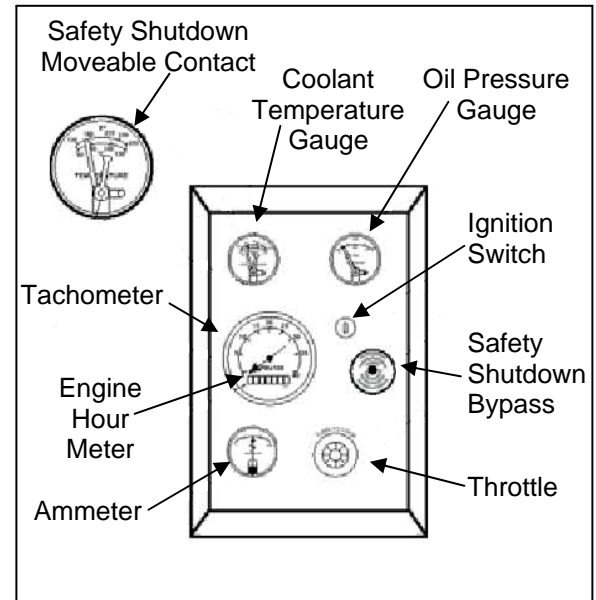
___ Check volute and non-return drain valves are in closed position

___ Check that all hoses are securely attached to pump suction and discharge

___ Check that hoses are properly supported and restrained

Equipment startup

1. To start diesel engine, depress and hold safety shut-down by-pass button (located below key switch on control panel), turn key switch to "on" position.
2. Hold by-pass button in for 30 seconds (until engine establishes oil pressure).
3. Release button and let diesel engine warm up momentarily.
4. Raise diesel RPM to operating speed. (Normal max. speed - 1800 RPM)
5. Air will discharge out of venturi outlet hose during priming sequence and during normal operation.
6. When air is evacuated from suction line, pump will prime and begin discharging product.
7. Adjust RPM of diesel engine to achieve desired product flow rate.



Equipment shut-down

1. Reduce RPM of diesel engine to idle speed.
2. Shut down diesel engine by turning key switch on Control panel to "off" position.
3. Open drain valves on volute and non-return check valve to drain suction and discharge hoses. (Note: Extremely important in freezing weather).

Notes:

- If pump fails to prime, consult "Simplified troubleshooting guide."
- If pump vibrates excessively or engine malfunctions, shut down pump and contact a Pacific Pump and Power representative for servicing.
- Diesel engine requires servicing every 250 hours of run-time. Consult "Service and Maintenance of Godwin Dri-Prime® pumps."

Oahu Office:

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See reverse side for safety considerations



Simplified Troubleshooting

Should the Godwin Dri-Prime® pump fail to prime, several simple checks can be made to isolate the problem. Tools required for trouble shooting include: Crescent wrench, long handled screw driver or pry bar.

Most common problems:

1. Suction screen plugged

Shut down pump and open volute drain valve. Product in suction hose will “backwash” screen. Also remove suction screen from product and inspect for debris.

2. Volute drain valve is open

An open volute drain valve will allow air into the pump. Close drain valve and start pump.

3. Air leaking into the pump from the non-return valve

Remove non-return valve lid or top of check valve. Inspect seat for debris. Clean and reassemble.

4. Venturi is partially plugged

Remove venturi and clean inlet and outlet. Excessive carbon build-up is a sign that the air compressor head needs cleaning and maintenance.

5. Venturi screen is plugged or Venturi ball is stuck

Remove four bolts holding venturi hat assembly to pump body. Remove screen and clean. Ensure check ball is moving freely in venturi hat. Replace screen and reassemble.

6. Suction hose leak

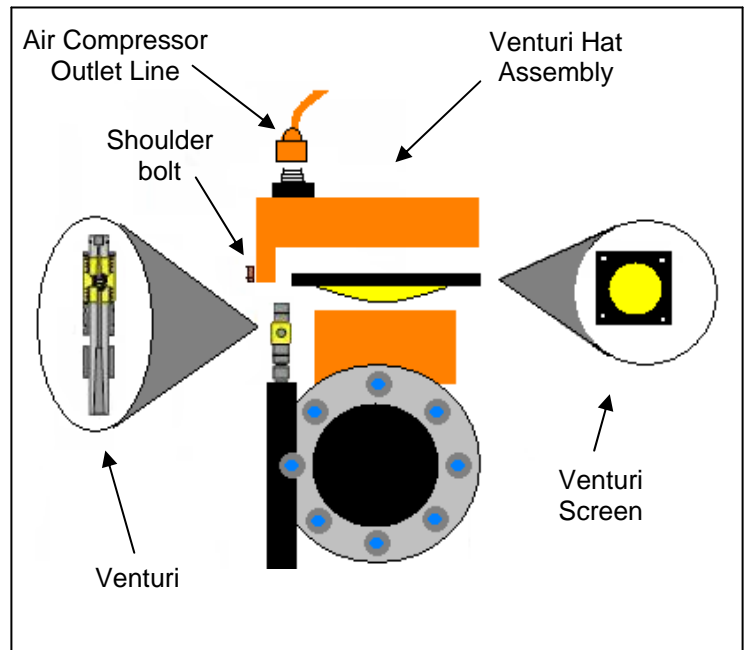
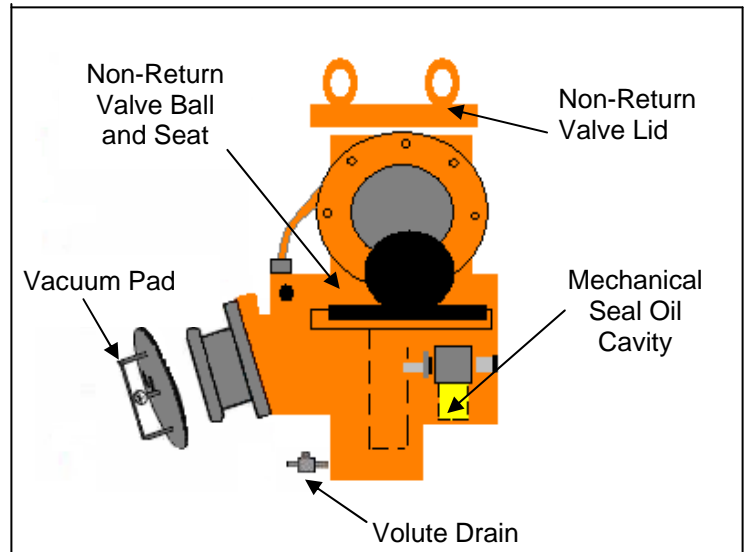
Check for missing or cut o-rings in quick disconnect joints or cuts on the suction hose.

7. Compressor filter dirty

Remove compressor air filter and clean or replace.

8. Venturi hose kinked or too small

Check venturi hose. Make sure there are no kinks. Must use 1" hose or bigger.



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Routine Servicing

Frequency of servicing: every 250 hours of run time
 Godwin recommends that the date and hour total of servicing be written on the engine oil filter at each interval.

Engine

Replace the following items:

- ⌚ Motor oil (15W-40 recommended)
- ⌚ Oil filter ⌚ Fuel filter ⌚ Air filter

Check the following items:

- ⌚ Coolant level ⌚ Fan belts
- ⌚ Hoses ⌚ Electrical connections

Pump End

Check the following items:

- ⌚ Oil bath mechanical seal oil - quantity and quality
 (15W-40 oil, **Note:** do not overfill seal cavity)
- ⌚ Venturi assembly (remove, inspect, clean)

Note: If venturi shows carbon build-up, compressor head may need maintenance

- ⌚ Inspect impeller for excessive wear and pitting
- ⌚ Inspect and clean venturi screen
- ⌚ Inspect seal of Non-return valve ball and seat

Note: some models use a check valve design instead of a ball.

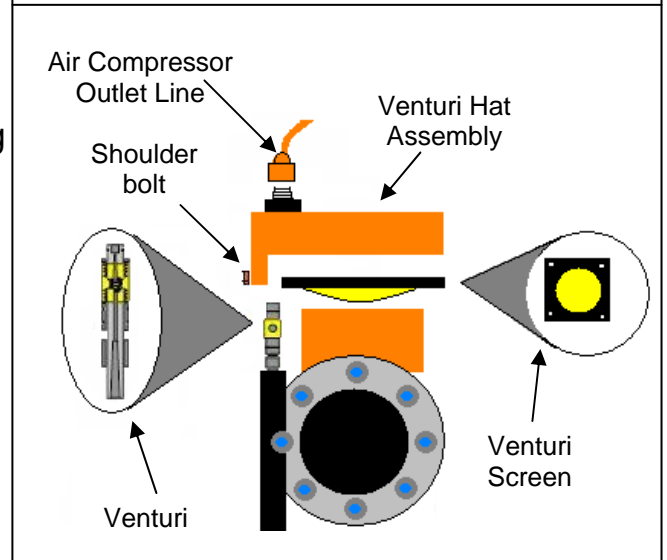
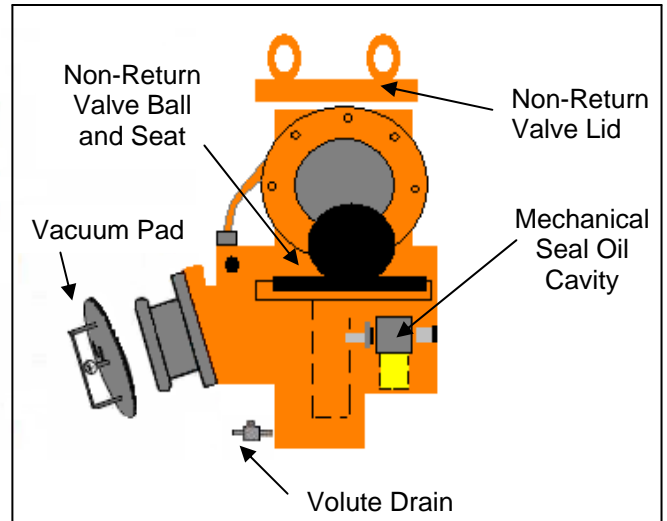
Air Compressor

Replace the following items:

- ⌚ Air filter

Check the following items:

- ⌚ Inspect air outlet line for leaks and damage
- ⌚ Inspect relief valve for excessive fouling
- ⌚ Inspect drive belt from engine shaft to air compressor pulley



Vacuum Pad Test

A vacuum pad test should read between 23" and 25" of mercury at sea level.
 Vacuum pads are available for purchase from Pacific Pump and Power.

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See reverse side for simplified troubleshooting information