# Table of Contents

**Overview** .................................................................................................................................. 4  
  Manual Scope ................................................................................................................................. 4  
  Limited Warranty ............................................................................................................................ 4  
**General Warnings and Safety** ................................................................................................... 5  
  GENERAL WARNING.................................................................................................................... 5  
  OPERATOR SAFETY STATEMENT ............................................................................................... 5  
  Cloth Replacement Advisory ......................................................................................................... 5  
**Receiving Equipment** ............................................................................................................. 6  
  Arrival Inspection ......................................................................................................................... 6  
  Unloading & Moving ...................................................................................................................... 6  
**Set-up and Installation** ............................................................................................................ 6  
  Filter Press Installation .................................................................................................................. 6  
  Filter Plate Installation ................................................................................................................. 6  
  Leveling the Press .......................................................................................................................... 7  
  Filter Cloth Installation .................................................................................................................. 7  
    Recessed & Membrane Plates ..................................................................................................... 7  
    Plate & Frame ............................................................................................................................. 8  
    Calked & Gasketed ...................................................................................................................... 8  
  Pre-Startup Inspection .................................................................................................................. 9  
    Inspection of the Hydraulic System .......................................................................................... 9  
    Operator Warning ...................................................................................................................... 10  
**Major Systems and Components** ............................................................................................ 10  
  Filter Press .................................................................................................................................... 10  
  Hydraulic Power Unit .................................................................................................................... 11  
    High Pressure Air Diaphragm Pump (AOD) ............................................................................. 13  
    Self-Compensating Operation ................................................................................................. 13  
    Sealing Force Pressure ............................................................................................................. 13  
    Hydraulic System Maintenance/Adjustments ......................................................................... 14  
    Relief Valve Setting ................................................................................................................... 15  
**Operation** ................................................................................................................................... 16
OVERVIEW

Manual Scope

The purpose of this manual is to familiarize the operator with the setup, operation, and maintenance of the filter press system. This manual will provide details of the components of the system, along with details of the operational sequence.

Limited Warranty

Unless otherwise specified in the terms of the purchase agreement, the warranty is as follows:

Seller warrants to the original purchaser that its Products, under normal use, shall be free from defects in material or workmanship, and shall conform substantially to any specifications provided, or agreed to in writing, by Seller, for a period of one (1) year from the date of delivery by Seller, provided that the Product has not been tampered with or repaired by any person other than Seller or its authorized agents, and provided further that Purchaser notifies Seller in writing of any such defects within ten (10) days after discovery thereof, and Seller confirms that the Product is defective upon its examination. Seller warrants that any Services provided by it shall be performed in a workmanlike manner and consistent with industry standards and warrants against defective Services for a period of thirty (30) days following completion of the Services provided. Seller shall not be liable for any damage to any Product resulting from the misuse or negligence or if any alterations or repairs have been made to the Product which have not been performed by or authorized in writing by Seller. The sole and exclusive obligation of Seller under this warranty is limited, at Seller’s option, to the replacement or reworking of the defective Products or Services or the return of that portion of the purchase price applicable to the defective Products or Services. This warranty does not cover defects, damage, or deterioration due to normal use, wear and tear, or exposure; normal maintenance services; replacement of service items; damage or defect due to misuse, alteration, negligence, or accident; or any Product modified or operated contrary to any instructions or specifications provided by Seller. Any and all performance figures provided by Seller are estimates only and not guarantees and may vary for numerous reasons including, without limitation, the ability of the operator and actual operating conditions. Seller makes no warranty with respect to goods, parts, accessories, or peripherals not manufactured by it which shall be subject only to whatever warranty may be issued by the manufacturer thereof. No person, agent, distributor, dealer, or company is authorized to change, modify, or amend the terms of this limited warranty in any manner. THE ABOVE WARRANTIES ARE GIVEN IN LIEU OF ANY OTHER REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AND INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.
GENERAL WARNINGS AND SAFETY

Please read the contents of the manual thoroughly prior to installation.

GENERAL WARNING

Do not open the filter press when it is under pressure. High-pressure discharge of air/liquid from between the plates could cause bodily injury or damage to the equipment (all pressure gauges must read "0" psig). In addition, keep arms, legs, bodies, and other obstructions out of the path of any hydraulically operated devices while in operation (i.e. Ram Extending or Retracting, Shifter Searching – Shifting, or Drip Trays Opening - Closing). The hydraulic system is capable of producing excessive forces that may cause bodily injury or death. **Use extreme caution while operating the filter press.** Inspect both sides of the filter press and remove any obstructions from the path of the movable head and plate stack prior to operation.

To stop hydraulic motion, RELEASE THE DIRECTION SWITCH (for ram, drip tray, or shifter), or TURN CONTROL POWER TO OFF.

OPERATOR SAFETY STATEMENT

**COMPLETE COMPLIANCE WITH THE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT, BY LAW, RESTS WITH THE EQUIPMENT PURCHASER. ASCENSION INDUSTRIES INC. NEITHER IMPLIES NOR WARRANTS, UNDER ANY CIRCUMSTANCES, THAT THE POINT OF OPERATION WILL BE GUARDED. IT IS THE RESPONSIBILITY OF THE USER OF THIS EQUIPMENT TO PROPERLY GUARD THE POINT OF OPERATION SO THAT THE OPERATOR CANNOT HAVE ANY PART OF HIS/HER BODY IN THE DANGER ZONE DURING THE OPERATING CYCLE.**

Cloth Replacement Advisory

All filter cloths must be replaced at the same time. Failure to replace all of the filter cloths at the same time may cause a pressure differential between the filter plates that could lead to internal or external plate failure. In extreme cases, filter plate integrity may be compromised, causing them to break apart under pressure.
RECEIVING EQUIPMENT

Arrival Inspection

Upon arrival of equipment, open and check all parts against the shipping invoice for correct quantity and for any damage.

Inspect all electrical, hydraulic, and pneumatic components for damage, which may have occurred in shipping. Take special note of any projecting items, e.g. plate handle assemblies.

If any problems are noted, please contact our office immediately at:

Phone: +1 (716) 693.9381        Fax: +1 (716) 564.9044

Direct your call or fax to Filtration Sales

Unloading & Moving

Unless otherwise specified, the Filter press is shipped completely assembled. Lifting lugs are provided on the front and rear heads of the unit as noted on the General Arrangement drawing.

Lifting lugs on the front/rear heads are the only lift points to be used. Do not connect lifting devices to the hydraulic system, rams, sidebars, or to the moveable head. Fork trucks may be used if applied to solid members at the front or rear ends only. Use caution to avoid damaging the plates.

SET-UP AND INSTALLATION

Filter Press Installation

1. Care must be taken to insure a level and square mounting foundation for the Filter press (within 1/8").
2. Do not pre-install anchor bolts due to the close tolerances of the press frame.
3. Position the press, allowing it to conform to the floor or support structure.
4. Anchor the piping end with 1/2" anchor bolts (or weld in position).
5. Install 1/2" anchor bolts or studs at the hydraulic end at the center of the slotted holes. Leave nuts loose or completely removed to allow for expansion.

Filter Plate Installation

1. Use rigging equipment to position the head plate (black cloth dogs) into the moveable head side of press.
2. Use rigging equipment to position all the intermediate plates (alternate between blue and red cloth dogs for each plate installed).
3. Use rigging equipment to position the tail plate (black cloth dogs) into the fixed head side of press.
Leveling the Press

Durco Filters™ recommends using the fluid level technique to check the installation of the press. Use a length of clear hose (3/8” to 3/4”) at least 10 feet longer than the diagonal dimension of the press.

With the hose filled to approx 3/4 full (colored fluid preferable), attach the hose to the sidebar at opposite ends of the press as shown in the diagram below. Make sure there are no bubbles in the line. The liquid level at point (2) should be set at the top of the sidebar.

Using a measuring tape, determine the offset fluid level to the side bar at point (1) (see below). Adjust the press as follows:

- If the fluid in the hose at point (1) is lower than the top of the sidebar, shim the leg at point (2) until the fluid level is equal to the top of the side bar.
- If the fluid in the hose at point (1) is higher than the top of the sidebar, shim the leg at point (1) until the fluid level is equal to the top of the side bar.

Continually check the level at point (2) as it may change as the press is shimmed.

Repeat this process for all legs of the press, keeping the original point (2) as the reference point.

Filter Cloth Installation

NOTE: All grab handles and plates should be inspected while installing cloths; note any damage to plates and replace any cracked grab handle.

Recessed & Membrane Plates

Three (3) cloth types are supplied for the standard Filter Press:

- One (1) head cloth with a reversed neck seam
- One (1) tail cloth which has no center feed hole
- Multiple chamber cloths with standard necks.
These cloths all have 1/2" grommets at the top, which locate on the cloth dogs. They also have 3/8" grommets on each side used to tie the ends together. The procedure for installation is as follows:

1. Locate the head and tail cloths and set them apart.
2. Roll up the chamber plate cloth tightly and pass it through the plate center hole.
3. Unfold the cloth and position it with the 1/2" grommets at the top. Secure the grommets to the five (5) cloth dogs, using red plastic caps supplied.
4. Pull the cloth tight to remove any wrinkles. Tie the ends (sides) together using plastic electrical wire ties while maintaining cloth alignment over the filtrate holes.
5. Repeat the process for all chamber plates. The tail cloth is a simpler installation, but keep the smooth side toward the chamber.
6. Examine the cloth hole alignment. If misalignment occurs anywhere, it may be necessary to trim the holes but this should not be done until after a complete filter cycle has been run so that the cloths have taken a set. If trimming is necessary, a sharp knife should be used to remove enough material to uncover the plate holes. Then the rough edges must be "finished" with a soldering iron, etc. to prevent unraveling.
7. After the cloths have all been installed, wipe the sealing surface with baby powder, talc, or flour. This will prevent the bags from sticking together. Then, close and pressurize the press and then reopen. Examine the cloths for wrinkles and remove overlaps, etc.

**Plate & Frame**

All cloths are the same and they do not have center holes. Therefore, only steps 3 to 7 above apply.

**Calked & Gasketed**

1. Locate Head and Tail Cloths and set them apart.
2. Roll up one half of the filter cloth tightly and pass through the center hole of the plate.
3. Unfold the cloth and position it evenly point to point over the entire plate.
4. Using a Wedge (made of plastic) and a hammer or cloth air hammer, drive the rounded edge into the groove in the plate (do this carefully so as not to damage the cloth). See diagram below.
5. Work wedge around until all rounded edges are seated.
Figure 2: Bag Replacement Instructions for Calked & Gasketed Plates

Pre-Startup Inspection

- Inspect all cloths for proper fit. There should be no wrinkles or overlaps.
- Check the filter-regulator-lubricator (Pneumatic/Hydraulic systems only). Verify that the lubricator is not empty. Top off if required with SAE-10 non-detergent oil if necessary. Drain the filter regulators regularly.

Inspection of the Hydraulic System

1. Inspect hydraulic system oil level with the hydraulic ram(s) retracted. If additional fluid is needed, please refer to filling instructions in the Hydraulic Power Unit section of the manual.
2. Inspect all fittings and connections for tightness.
3. Pneumatic/Hydraulic Units Only: Inspect the regulator air bowl for contamination, clean as required.
4. A moisture trap or separator is recommended for the air supply to the Filter press hydraulic system in order to extend component life.

It should not be necessary to make any adjustments of relief valves, speed control valves, or air regulator since all valves and controls are preset at the factory. If difficulties arise refer to Hydraulic Power Unit section of the manual.
Operator Warning

Under no circumstances is the high-pressure relief valve to be removed from the system, or changed from the factory setting; bodily injury or equipment damage could result.

To stop any hydraulic motion, RELEASE THE DIRECTION SWITCH, or TURN CONTROL POWER TO OFF.

Improper use of this equipment can result in injury or death.

MAJOR SYSTEMS AND COMPONENTS

Filter Press

Your Durco Filters™ press is designed for many years of trouble-free and efficient separation of solids from liquids and for fast, simple removal of the filter cakes.

Model: EP470/32-25
Plates: 470mm Stainless Steel Standard Recessed Type, 32 mm cake thickness
No Chambers: 25
Filtration Capacity: 94.3 sq. ft. (5.85 sq. meters)
Max Pressure/Temp: 100 psig @ 180°F
Closure Mechanism: Single Hydraulic Ram
Hydraulic Type: Pneumatic Hydraulic
Plate Shifter: None
Liner Piping: Polypropylene
Frontal Piping: None
Controls: None
Safety Equipment: Hydraulic Fluid Pressure Transmitter
Exterior Finish: Carbon Steel Painted
Hydraulic Power Unit

The Hydraulic power unit is shown in the pictures below. The components and their functions are described in Table 1. The Hydraulic power unit consists of a reservoir tank, release valve, and a high pressure air pump. This unit controls ram motion, drip tray (optional) and plate shifting (optional) and the high pressure air pump controls the plate sealing pressure.

![Figure 3: Hydraulic Power Unit - View 1](Shown with front panel/cover removed)
Figure 4: Hydraulic Power Unit - View 2
(Operating side)
Table 1: HPU Components

<table>
<thead>
<tr>
<th>Tag No.</th>
<th>Description (Function)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1H</td>
<td>Inlet air supply ball valve</td>
</tr>
<tr>
<td>V2H</td>
<td>Filter Regulator, main supply (conditions air supply)</td>
</tr>
<tr>
<td>V3H</td>
<td>Manual 4 way selector valve</td>
</tr>
<tr>
<td>V4H</td>
<td>Valve, Oil Supply to High Pressure Pump (supplies air to High Pressure pump for sealing force)</td>
</tr>
<tr>
<td>V5H</td>
<td>Valve, High Pressure Relief (sets pressure on High Pressure Manifold)</td>
</tr>
<tr>
<td>V6H</td>
<td>Release Valve (removes high pressure from back side of ram when retracting)</td>
</tr>
<tr>
<td>V7H</td>
<td>Air Regulator to High Pressure Pump</td>
</tr>
<tr>
<td>AP</td>
<td>High Pressure Air Pump (supplies sealing force)</td>
</tr>
<tr>
<td>C1</td>
<td>Hydraulic Ram (holds press together)</td>
</tr>
<tr>
<td>F1</td>
<td>Suction Strainer</td>
</tr>
<tr>
<td>R</td>
<td>Reservoir</td>
</tr>
<tr>
<td>SG</td>
<td>Sight Glass</td>
</tr>
<tr>
<td>Fill</td>
<td>Oil to Reservoir</td>
</tr>
</tbody>
</table>

**High Pressure Air Operated Piston Pump (AOP)**

The AOP is a low-flow, high-pressure pump that uses air pressure to create hydraulic pressure via a ratio of pressures on each side of a piston. The AOP has a ratio of 71:1 (input to output pressure). The motive air to the pump is supplied via the adjustable air regulator V7H. It is activated once the set point of PSH-2 has been reached (see above), thus opening the Air Supply Valve to Pneumatic Booster Pump and allowing motive air to the pump. When the pressure ratio at the pump has been satisfied, the pump stalls. The pressure at which the pump stalls can be identified as the **Sealing Force Pressure**.

**Self-Compensating Operation**

The AOP allows the hydraulic system to be self-compensating, as it will automatically cycle if the hydraulic pressure drops below the sealing pressure. Temperature, feed pressure, and variations in the seals may cause the pump to cycle at periodic intervals.

**Sealing Force Pressure**

The ultimate sealing force is set via the Filter/Regulator. Using the example of 56 psi set pressure and given a 71:1 ratio of the AOP, the ultimate sealing pressure can be determined as follows:

\[
56 \text{ psi} \times 71 = 4000 \text{ psi}
\]

*Note: The High Pressure Relief Valve should be set at some point higher than this to prevent the AOP from constant cycling.*

Refer to Table 2 for exact operating pressure and relief valve settings for specific filter press models.
Hydraulic System Maintenance/Adjustments

The hydraulic system has been adjusted and tested at the factory. These instructions are to be used only if re-calibration or refilling becomes necessary. Some procedures will require two persons.

Warnings

- Under no circumstances is the High Pressure Relief Valve to be removed from the system or raised from the factory’s setting. Operator injury or hydraulic system damage could result.
- WHEN EXTENDING RAM, SERIOUS INJURY OR DEATH WILL RESULT IF OPERATORS OR PLANT PERSONNEL PLACE ARMS, LEGS OR THE ENTIRE BODY IN THE PATH OF THE PLATE STACK OR THE MOVABLE HEAD WHILE THE MOVABLE HEAD OR PLATE STACK IS EXTENDING. THE HYDRAULIC SYSTEM OF THE FILTER PRESS IS CAPABLE OF PRODUCING FORCES IN GREAT EXCESS OF THAT REQUIRED TO PRODUCE BODILY HARM OR DEATH. USE EXTREME CAUTION BEFORE EXTENDING RAM. INSPECT BOTH SIDES OF THE FILTER PRESS AS WELL AS THE AREA BETWEEN THE PLATE STACK AND THE FIXED HEAD FOR ANY PERSONNEL. All hydraulic motion can be immediately stopped by turning off main power, either manually or automatically via Rip Cord if so equipped.

Filling the Reservoir (Air over hydraulic systems)

Durco Filters™ recommends using Superior Lubricant AW-32, Mobil DTE24 or equivalent.

1. Locate all valves and adjustments per the hydraulic diagram (Drawing EP12-01S)
2. Ensure hydraulic cylinder is fully retracted.
3. Turn off air supply V1H on the top of the hydraulic box. Lock out, Tag out if necessary.
4. Quickly cycle Extend/Retract selector V3H to drain air from the system.
5. Verify air pressure is at 0 psi on gauge attached to Filter/Regulator V2H.
6. Remove fill plug from hydraulic reservoir.
7. Add Mobil DTE24 or equivalent, until level is within 2” from the top of the sight glass.
   
   **Note:** Ensure the cylinder is fully retracted before filling reservoir.
8. Clean, apply thread tape and re-install fill plug.
9. Ensure Extend/Retract selector V3H is in the “Retract” position.
10. Turn on air supply V1H on the top of the hydraulic box.
Relief Valve Setting

High Pressure Relief Valve (Air over hydraulic systems)

Note: To allow check/adjustment of this valve, the Filter/Regulator set pressure will also require adjustment and resetting.

1. Make sure the pressure on the High Pressure Manifold Gauge reads zero.

2. Extend the Ram. If the Filter/Regulator is set properly, the AOD will cease cycling at around 3000 psi. This should be ~42 psi on the air regulator. This should be ~42 psi on the air regulator (refer to sealing force pressure section above).

3. Slowly increase the set pressure of the Filter/Regulator to allow pressure to build in the high pressure manifold to NO MORE THAN 4000 PSI. This should be ~56 psi on the air regulator.

4. If the High Pressure Relief Valve did not relieve before the completion of step 2, and did relieve before Filter/Regulator was set to 56 psi, the valve is properly set. Re-adjust the Filter/Regulator to the settings in Table 2 and skip the remaining steps. Otherwise, proceed to step 5.

5. Adjust the High Pressure Relief Valve until the High Pressure Manifold Gauge reads 3400 psi.

6. Once the relief valve is adjusted:
   a. Retract the Ram
   b. Reset the Filter/Regulator to the settings shown in Table 2.
   c. Extend the Ram and ensure the pressure builds to ~3000 psi and the AOD ceases cycling.
OPERATION

Sequence Steps

The Sequence of Operation (Table 2) shows the steps that are to be performed in the operation of the filter station.

Table 2: Sequence of Operation

<table>
<thead>
<tr>
<th>STEP</th>
<th>START BY</th>
<th>DESCRIPTION</th>
<th>TERMINATE BY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>OPERATOR</td>
<td>CLOSE FILTER / RAM EXTEND</td>
<td>BUTTON</td>
</tr>
<tr>
<td>2</td>
<td>P.BUTTON</td>
<td>FILT FILTER / PRE-COAT</td>
<td>TIME</td>
</tr>
<tr>
<td>3</td>
<td>TIME</td>
<td>FILTERING</td>
<td>TIME</td>
</tr>
<tr>
<td>4</td>
<td>TIME</td>
<td>CORE BLOW</td>
<td>TIME</td>
</tr>
<tr>
<td>5</td>
<td>TIME</td>
<td>AIR BLOW DOWN</td>
<td>TIME</td>
</tr>
<tr>
<td>6</td>
<td>TIME</td>
<td>FILTER VENT</td>
<td>PL &gt; 0 PSIG</td>
</tr>
<tr>
<td>7</td>
<td>OPERATOR</td>
<td>OPEN FILTER</td>
<td>OPERATOR</td>
</tr>
<tr>
<td>8</td>
<td>BUTTON</td>
<td>SHIFT PLATES</td>
<td>OPERATOR</td>
</tr>
</tbody>
</table>

PREVENTATIVE MAINTENANCE

Daily Inspection by Operators

1. Inspect all cloths during the shifting/cake drop sequence. **CAUTION:** DO NOT use sharp tools to clean bags. Plastic spatulas work the best. See Ascension Industries for P/N. To insure proper sealing and minimal wicking, care must be taken in proper cleaning and fitting so as to have no wrinkles or solids at sealing surfaces. All parts need to be free of solids and cloth obstructions. Trim bags if necessary.

2. Prior to closing the press, check the level of hydraulic fluid in the reservoir. Full is to the top of the sight level glass. If necessary, add fluid according to the section titled: *Filling the Reservoir.* **CAUTION:** DO NOT OVERFILL.

3. Check the air filter-regulator-lubricator (pneumatic/hydraulic units only). Dump solids and water from the filter. Check that the lubricator is not empty. Top off if required. Use only SAE-10 non-detergent oil.
Monthly Maintenance Inspection

1. Grease all Zerk fittings on movable head wheels. Use #2 lithium grease or equivalent.
2. Inspect hydraulic ram at point it attaches to movable head. While retracting, it is normal to have a gap between cylinder rod end and movable head of approximately the thickness of a dime.
3. Inspect all hydraulic hoses for wear and abrasion. Replace if worn.
4. Inspect hydraulic system for leaks. Repair if necessary.

Yearly Maintenance & Inspection

Not included as part of the Durco Filters™ standard warranty. Durco Filters™ recommends inspection by our trained Field Service Technicians.

1. Inspect all components for signs of wear.
2. Replace hydraulic suction strainer (F1).
3. Drain hydraulic reservoir of fluid and replace with Superior Lubricant AW-32, Mobil DTE24 or equivalent.

NOTE: In corrosive vapor or frequent wash down environments, inspect the hydraulic oil frequently for signs of water or contamination.
## TROUBLESHOOTING

### General Troubleshooting

<table>
<thead>
<tr>
<th>No.</th>
<th>Problem</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Filter cake too wet</td>
<td>Cycle too short due to blinded bags</td>
<td>See blinded bags</td>
</tr>
<tr>
<td>2</td>
<td>Blinded bags</td>
<td>Normal saturation</td>
<td>Clean bags</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Feed rate too high</td>
<td>Taper the fill rate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Excessive polymer, etc.</td>
<td>Clean bags, correct dosage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Incompatible influent</td>
<td>Lab test</td>
</tr>
<tr>
<td>3</td>
<td>Leaking filter plates</td>
<td>Misalignment of bags or plates</td>
<td>Adjust</td>
</tr>
<tr>
<td>4</td>
<td>Defective bags</td>
<td>Excess ultraviolet exposure</td>
<td>Use proper bags</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sharp cleansing tools</td>
<td>Use plastic scraper</td>
</tr>
<tr>
<td>5</td>
<td>Dirty filtrate</td>
<td>Defective bags, wrinkled bag</td>
<td>Correct bag</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Incompatible influent</td>
<td>Lab test</td>
</tr>
<tr>
<td>6</td>
<td>Ram won’t move</td>
<td>Shifter out of position</td>
<td>Return shifter to park</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shifter in Park limit switch</td>
<td>Adjust limit switch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hydraulic fault</td>
<td>Repair or adjust hydraulic system</td>
</tr>
<tr>
<td>7</td>
<td>Press not accepting feed</td>
<td>Blinded bags</td>
<td>Clean bags</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A valve is closed</td>
<td>Check valves</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Press full</td>
<td>Clean press</td>
</tr>
<tr>
<td>8</td>
<td>Air pump cycling too rapidly</td>
<td>Pump not properly primed</td>
<td>See hydraulic section on priming the pump</td>
</tr>
<tr>
<td></td>
<td>(Pneumatic Units)</td>
<td>Relief valve set too low</td>
<td>Adjust relief valve per Hydraulic Section</td>
</tr>
<tr>
<td>9</td>
<td>Air pump not building high pressure</td>
<td>Inlet air set too high</td>
<td>Adjust inlet regulator per Hydraulic Section</td>
</tr>
<tr>
<td></td>
<td>(Pneumatic Units)</td>
<td></td>
<td>Check components for bypass heat or noise</td>
</tr>
</tbody>
</table>
## Electrical Troubleshooting

<table>
<thead>
<tr>
<th>No.</th>
<th>Problem</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ram will not retract.</td>
<td>Rip Cord tripped (where supplied)</td>
<td>Reset limit switch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inlet pressure is not low (where supplied)</td>
<td>Check inlet gauge / switch for adjustment, readjust and try again.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drip trays are not open (where supplied)</td>
<td>Check to see if trays are open.  Check limit switch.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Head retracted limit switch</td>
<td>Check to see if the limit switch is tripped or damaged</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hydraulic pump not running</td>
<td>Restart pump</td>
</tr>
<tr>
<td>2</td>
<td>Ram will not extend.</td>
<td>Shifter in Park limit Switch</td>
<td>The Shifter must be in park and tripping the limit, May need adjustment.</td>
</tr>
<tr>
<td>3</td>
<td>Hydraulic Pump will not start</td>
<td>Rip Cord Tripped (if supplied)</td>
<td>Reset limit switch.  (This is most likely cause)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Circuit breaker In Motor starter panel tripped (if supplied)</td>
<td>Reset circuit breaker 1M.</td>
</tr>
<tr>
<td></td>
<td>Air Pump solenoid will not turn on (Pneumatic Units)</td>
<td>H-Pressure Enable switch PSH-2</td>
<td>Switch may need adjustment to decrease set point.  See Pressure Switch Adjustment section.</td>
</tr>
<tr>
<td>4</td>
<td>Shifter will not search or shift (fwd or rev)</td>
<td>Head Retracted limit switch</td>
<td>Make sure the ram is tripping the switch.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rip Cord Tripped (if equipped)</td>
<td>Reset switch, restart hydraulic pump</td>
</tr>
<tr>
<td>5</td>
<td>“Press Closed and Sealed” indicator not functioning</td>
<td>High Pressure Limit switch PSH-3</td>
<td>Switch may need adjustment to decrease set point.  See Pressure Switch Adjustment section.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Press not truly closed and sealed</td>
<td>See section on filter operation (step 1). Check for obstructions.</td>
</tr>
</tbody>
</table>
FIELD SERVICE & SPARE PARTS

Field Service Requirements

Ascension Industries Inc. offers field service technical assistance. Should you need to discuss any concerns with our technicians, please feel free to call or fax during normal business hours, 8:00 a.m. to 4:30 p.m. EST and ask for the Sales Department. They will provide you with our standard rate sheets and service agreements.

Phone: +1 (716) 693.9381
Fax: +1 (716) 564.9044
Web Site: www.durcofilters.com
Address: Ascension Industries, Inc.
1254 Erie Avenue
North Tonawanda, NY 14120

Replacement or Spare Parts

Replacement and/or spare parts orders can be placed directly from the factory in North Tonawanda, New York. You may also contact your local Durco Filters™ Representative.

If required, stocked parts can be shipped the same day. The order must be received by the factory before 1:00 p.m. Eastern Standard Time. A nominal same day expediting fee will be applied.

For emergency shipment of stocked parts during holiday shutdown periods, an additional surcharge is applicable. During holiday shutdown periods, telephone messages are checked on a daily basis.

When placing orders, be sure to include Ascension Industries original equipment order number (S.O. No.) and the model of your Ascension unit.

Any questions or concerns please call or fax during normal business hours, 8:00 am to 5:00 pm EST.
LISTING OF FIGURES

Figure 1: Leveling Diagram .................................................................................................................. 7
Figure 2: Bag Replacement Instructions for Calked & Gasketed Plates ........................................... 9
Figure 3: Hydraulic Power Unit - View 1 ............................................................................................... 11
Figure 4: Hydraulic Power Unit - View 2 ............................................................................................. 12

LISTING OF TABLES

(Operating side)Table 1: HPU Components ......................................................................................... 12
Table 2: Sequence of Operation ......................................................................................................... 16
Table 3: General Troubleshooting ..................................................................................................... 18
Table 4: Electrical Troubleshooting .................................................................................................. 19
DRAWINGS & SCHEMATICS