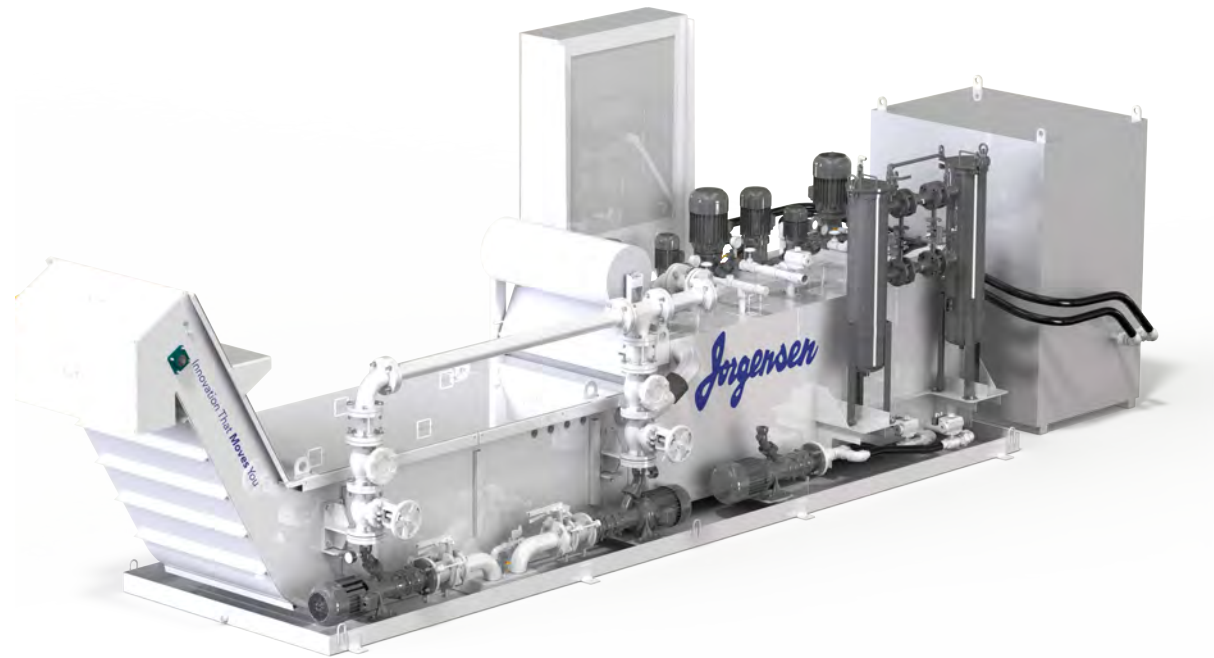




Conveyor and Filtration Solutions

# OPERATOR MANUAL

## Disposable Media Vacuum Filtration Unit



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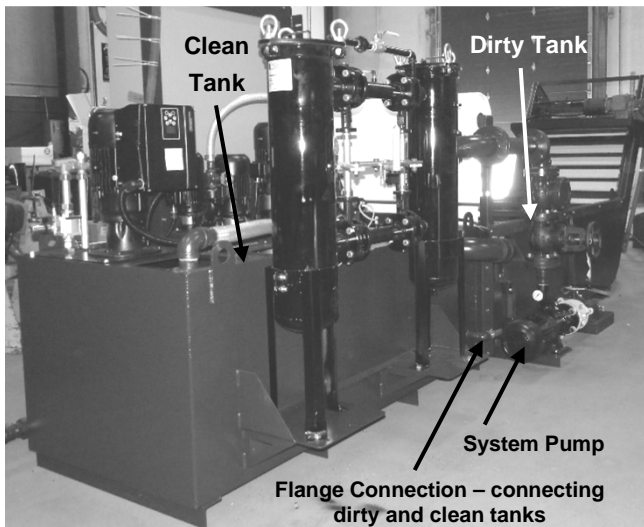
# Introduction

The Jorgensen Disposable Media Vacuum Filtration Unit provides clean coolant in applications where the machining process creates fine particles. Typically, these particles may be from grinding, machining cast iron or carbon fiber.

## General

Refer to Figures 1 through 7 for identification of major components of the Jorgensen Disposable Media Vacuum Filtration Unit.

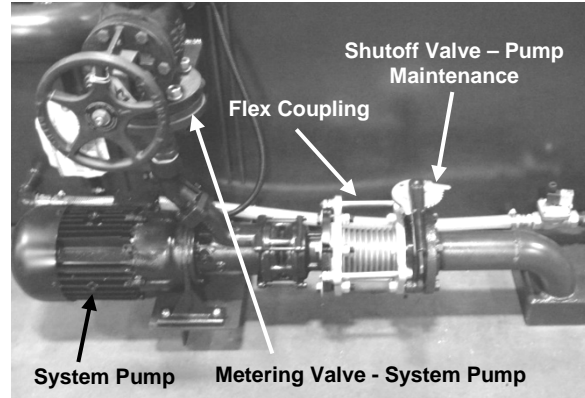
The Disposable Media Vacuum Filter consists of two tanks, clean and dirty. The dirty tank houses the vacuum chamber, and “drag chain,” plus supports the media roll. Note: Any reference to “Pump Side”, refers to side system pump is located.



**FIG. 1 Vacuum Media System as seen from the pump side, rear**  
Note: Dirty Tank shown with covers removed

Coolant in the unit is drawn by vacuum through a disposable filter media by a pump and motor. Clean coolant from this pump is channeled to both the machine (depending on the application) and the clean tank.

Flow rates from the system pump discharge to the clean tank are regulated by the metering valve located in the pump discharge line. See Figure 2.

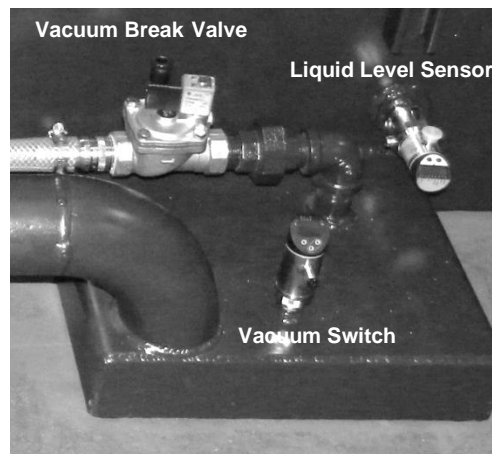


**FIG. 2 System (Vacuum) Pump Assembly**

In addition to machine supply pumps, the clean tank provides coolant to the vacuum break valve, which floods the vacuum chamber prior to drag chain and filter media indexing. The Clean tank may also contain an Ultra-Clean Section for a High-Pressure pump.

The standard clean tank is equipped with a low-liquid-level sensor, as well as a sight-glass and overflow pipes which drain excess coolant back into the filtration unit.

The drag chain and disposable filter media index to expose fresh media to the coolant typically under either of two conditions: 1) when the system control times out (dependent on control configuration), or 2) when the vacuum within the system exceeds a preset level on the vacuum switch. Vacuum switch is set in Inches/Mercury, (In/Hg).

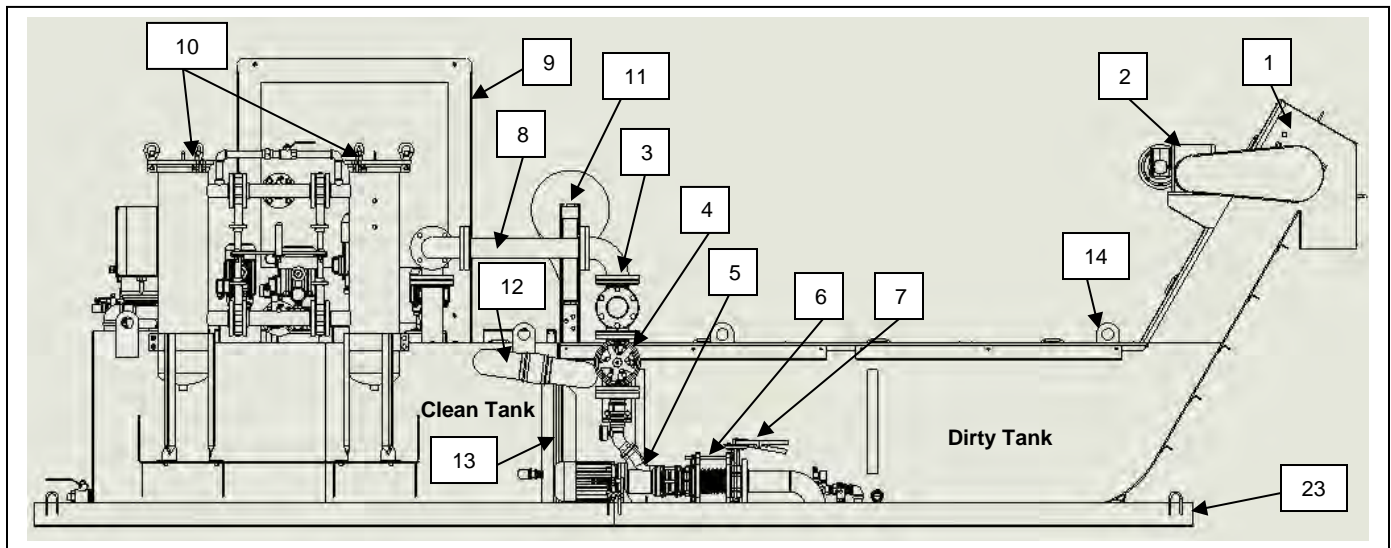


**FIG. 3 Positioning of Vacuum Break Valve and Vacuum Switch on vacuum chamber of unit.**

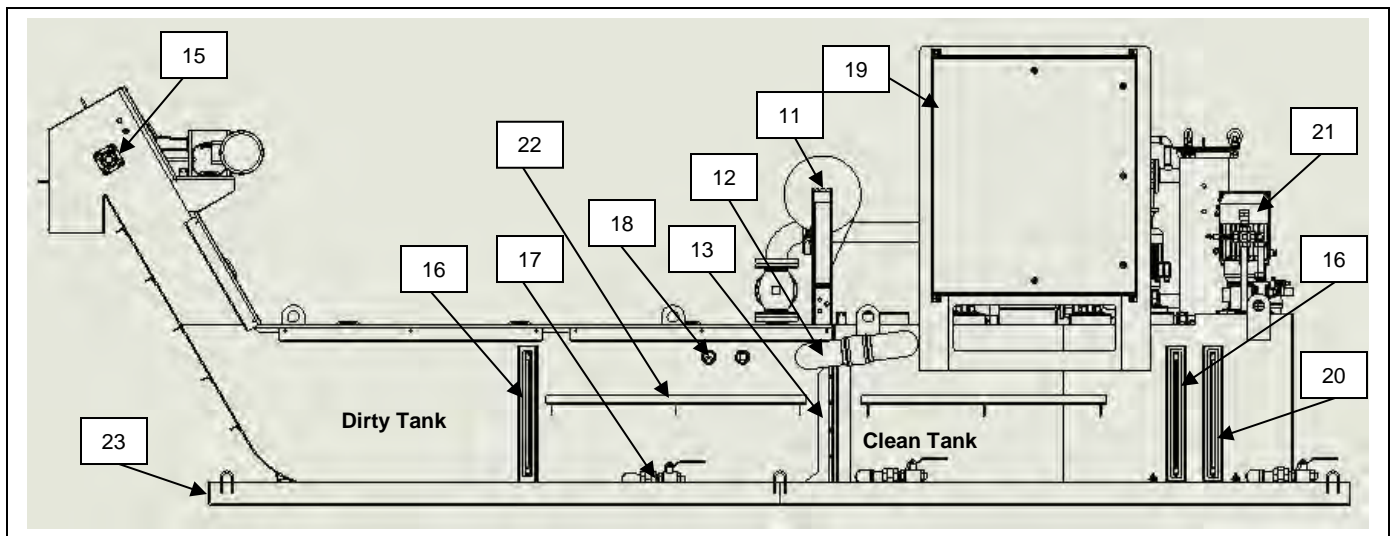
In either case, the vacuum break valve is opened by a control signal. This, in turn, floods the vacuum chamber, thereby freeing the media. This also causes the filter media to rise slightly to avoid damaging the filter media

as it and drag chain are indexed.

**FIG. 4 Key Components of the Jorgensen Conveyors Disposable Media Vacuum Filtration Unit**



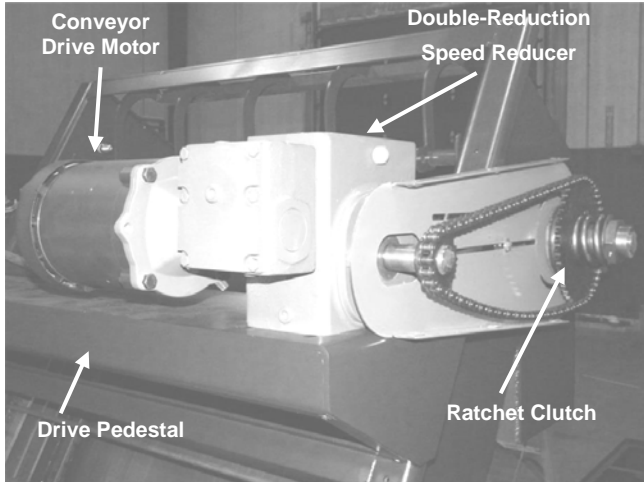
**FIG. 4-A Elevation View: System (Vacuum) Pump Side, Filtration Unit**



**FIG. 4-B Elevation View: Non-Pump Side, Filtration Unit**

- |  |  |
|--|--|
| 1. Discharge Section                             | 12. Overflow Pipe – Clean Tank to Dirty Tank         |
| 2. Drive Assembly                                | 13. Flange Connection – Clean to Dirty Tank          |
| 3. Anti-Syphon Check Valve                       | 14. Lifting Eye (4) per Tank                         |
| 4. Pump Discharge Metering Valve                 | 15. Head Shaft Bearing                               |
| 5. System (Vacuum) Pump                          | 16. Sight Gauge                                      |
| 6. Flex Coupling                                 | 17. Tank Drain                                       |
| 7. Shut-off Valve – Pump Maintenance Only        | 18. Dirty Coolant Inlet – Size and Location may vary |
| <b>Should Always Be Fully Open While Running</b> | 19. Control  |
| 8. System Pump Discharge Interconnection         | 20. Ultra-Clean Tank Sight Gauge (Optional)          |
| 9. Control Mount                                 | 21. High Pressure Pump (Optional)                    |
| 10. No. 8 Filter Bag Housing – Interconnected    | 22. Cable Trough (Optional)                          |
| 11. Roll Stand                                   | 23. Spill Containment Pan (Optional)                 |

In addition to the system pump, and vacuum chamber, the dirty tank houses the drag chain which moves the dirty filter paper as well as debris built up during the filtration process. The conveyor chain drive is also mounted to the dirty tank.

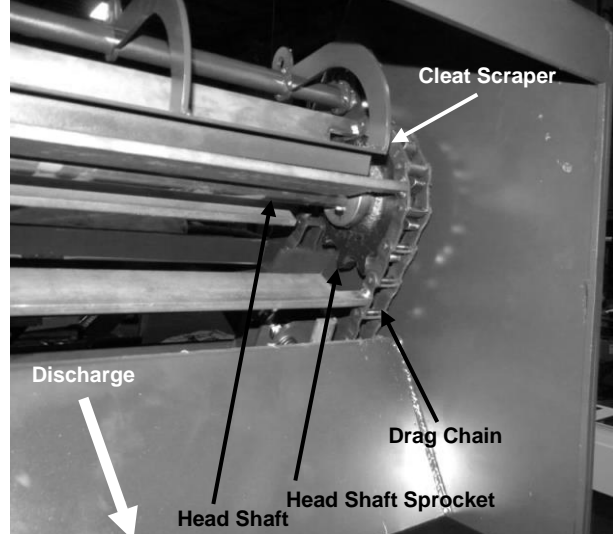


**FIG. 5 (Drag Chain) Conveyor Drive System**

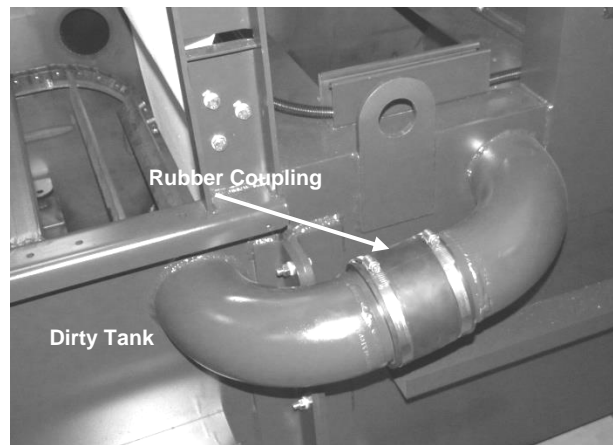
The Discharge Section of the Jorgensen Disposable Media Vacuum Filtration unit allows dirty media and debris to evacuate the system. This section also houses a cleat scraper which cleans each cleat of built up debris.

**Note:** The drag chain should never be run in Reverse, as doing so will cause the chain to jam in the lower curve. This is due to the Catenary Type take-up design. See Figure 21.

Typically, the tank drain, and sight-glass are mounted on the non-pump side of the both the dirty and clean tanks. The dirty coolant inlets are located on the non-pump side of the dirty tank. Clean tank overflows are located on both sides of the tanks.



**FIG. 6 Discharge Section**

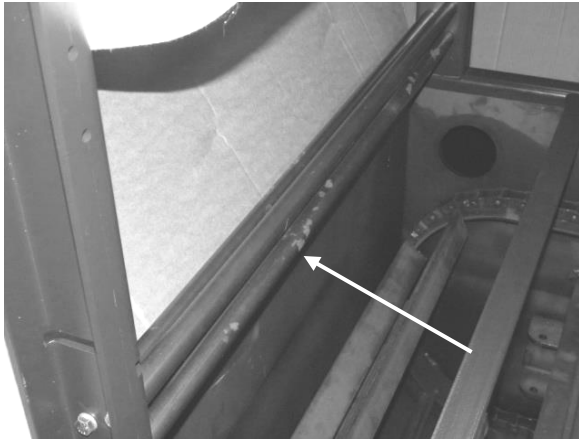


**FIG. 7 Overflow Connection – Typical both sides**

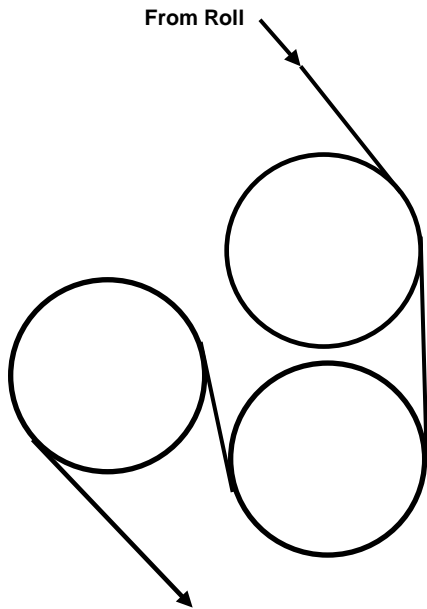
## Disposable Filter Media & Roll Stand

The disposable filter media comes in rolls, which must be manually changed (installed) when the Low Media light comes on or in worst case, the media runs out causing a fault.

When replacing the roll, care must be exercised to insure that the media is threaded through the brake bars. See Figures 9 and 10. These brake bars stop the roll from continuing to rotate after a media index, in turn insuring a taut media throughout the system.



**FIG. 8 Brake Bars on Roll Stand**

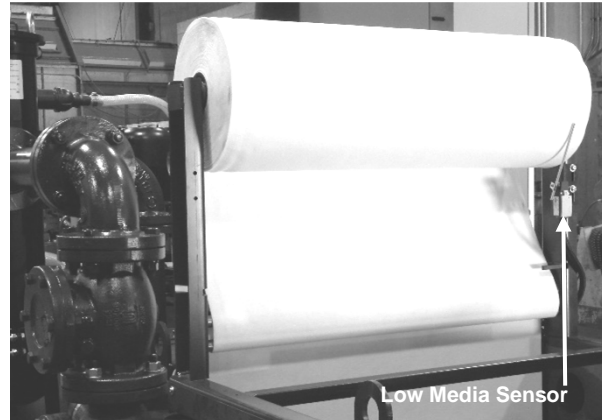


**FIG. 9 Correct Media Threading through Brake Bars**

In the standard configuration of the Jorgensen Disposable Media Vacuum Filtration Unit, two media monitoring sensors are present. First, the Low Media Sensor monitors the amount of media remaining on the roll. This activates a Low Media Light on the control panel. Second, a fork shaped sensor located on the frame of the roll stand, monitors the presence of the media. If the media runs out, a fault will occur.

The Low Media switch has a “whisker” monitoring roll diameter. Care should be taken when changing rolls, so as to not damage or knock the switch out of alignment. If a catastrophic event occurs, readjustment of this switch may be necessary. If the “whisker” is bent, either straightening or replacement

is necessary.



**FIG. 10 Roll in place on Roll Stand.  
Note “whisker” on low media sensor.**

## Clean Tank

As previously stated, the Clean Tank is located behind the dirty tank, the two being connected through use of flange connections. See Figure 4. The system (vacuum) pump discharges filtered coolant directly into the clean tank.

The Clean Tank may be fitted with one or several machine supply pumps dependent on user requirements. Additionally, if a high pressure supply (500 – 1000PSI) is required, the High Pressure Pump and ultra-clean reservoir are located within the confines of the Clean Tank as well.

Finally, the clean tank supports the electronic control and pneumatic panel (if required). Bag filter housings are mounted to the pump side of the Clean Tank, if high pressure is incorporated within the scheme of the system. See Figures 11 and 12, page 5.

Back side of Control

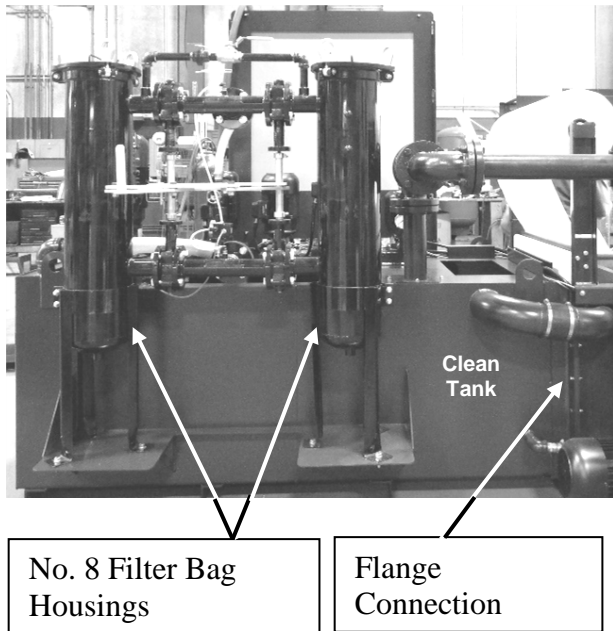


FIG. 11 Clean Tank (Pump Side)

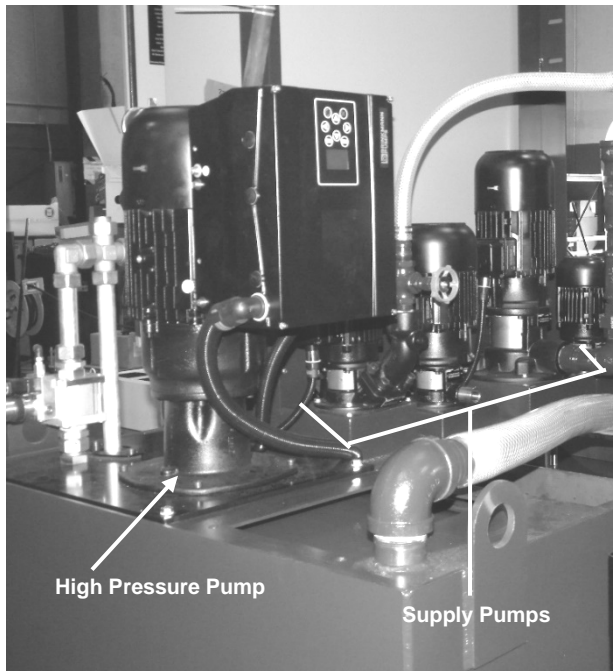


FIG. 12 Pump array on Clean Tank

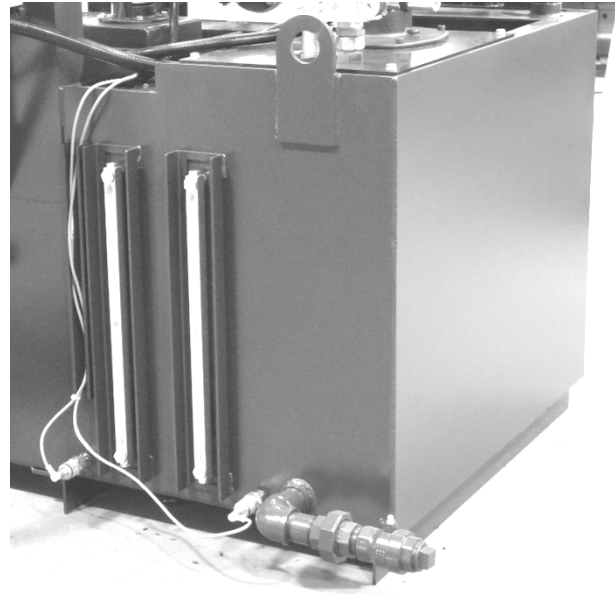


FIG. 13 Clean Tank - Sight Glasses, Liquid Level sensors and tank drain, non-pump side.

## Filter Bag Assembly

The Filter Bag Housings are interconnected utilizing a manual switchover, or if requested, an automatic switchover may be fitted. A pump located on the filtered side of the clean tank, pumps clean coolant through the bag in use, filtering it to 5 – 10 micron and then into the Ultra-Clean side of the clean tank.

When a high differential pressure between the dirty and clean bags is reached, the control will be signaled by a Pressure Differential Switch. See Figure 14. This warning signal informs the operator that it is time to switch bags.

Manual switchover can be achieved by moving the hand lever from the used bag side to the fresh bag side.

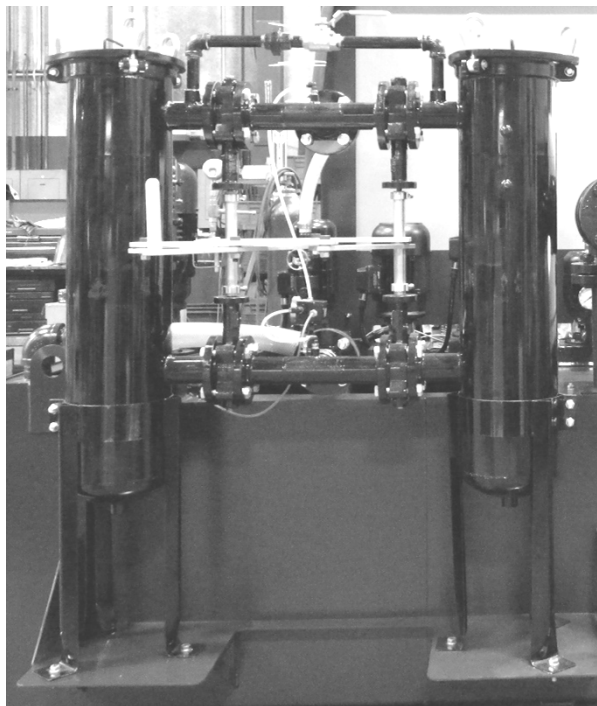


FIG. 14 Filter Bag Housing Assembly

At the very top of the filter bag assembly is located a Pressure Equalization valve. This valve should be normally-closed, and used only when experiencing difficulty switching over from one side to the other.

After changing filter bags, cover bolts are to be tightened equally and torqued to 60 Ft-Lb maximum.

**Safety Note: Use Extreme Caution when opening a filter bag housing to change filter bag.**

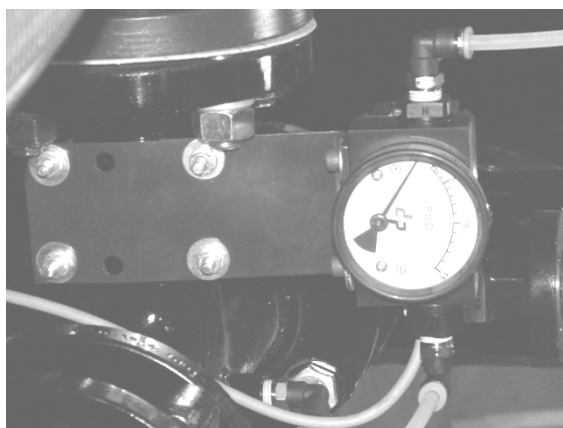


FIG. 15 Pressure Differential Switch

## Control Panel

Most often, the control is mounted to one side of the clean tank. See Figure 4 and 11.

The control may be configured in a variety of ways, dependent on end-user request. The standard control has features necessary for operation of the vacuum media filter. In some cases, the features of the standard control may be incorporated into the machine tool manufacturers' control.

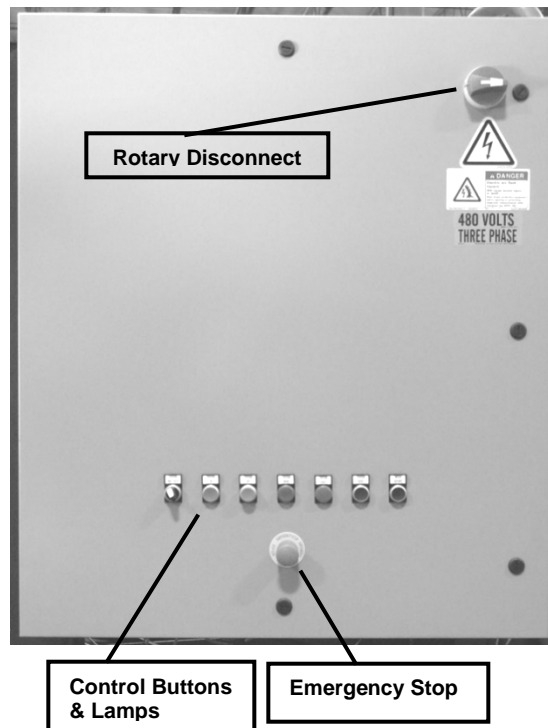


FIG. 16 Control Panel

**Rotary Disconnect** – Removes power from control entirely. Panel cannot be opened without turning the disconnect to “Off” position.

**System Manual/Auto** – Auto: all functions of unit are controlled by the system control or in some cases by in conjunction with the machine tool control. Manual: Allows Media Advance and other manual functions to be used, either through the machine tool control or the optional HMI on the system control.

**System Off** – Stops system but leaves control powered. Not to be used for maintenance.

**System On** – puts system back into operation.

**Lamp: System Ready** – system ready to run.



**Lamp: System Fault** – a fault has occurred. Check for run out media, full filter bag, or high coolant in either tank.

**System Reset** – resets control after a fault is cleared.

**Media Advance** – used to initially thread media through dirty tank, or in event media has run out. Can only be used in Manual mode.

**Emergency Stop** – drops power to system and control, but does not cut incoming power. Only the Rotary Disconnect cuts power from entire control.

## Pneumatics

The latest generation vacuum filtration units from Jorgensen Conveyors, do not use pneumatic componentry unless pneumatically controlled shut-off valves or those used to vary pump output are fitted. In these cases, the Filter/Regulator is located underneath the control panel on the clean tank.

## Installation

The Vacuum Disposable Media Conveyor filtration unit is most often shipped fully assembled.

- Use the proper lifting device to unload the filtration unit.
- Uncrate the unit carefully, and inspect for damage that may have occurred during transit. If damage has occurred, notify the carrier immediately.
- Review this manual in its entirety. If you have any questions, contact Jorgensen Conveyors immediately.
- This unit has been run-in and tested in our facility. However, transportation can sometimes affect factory settings. If necessary, adjust the unit as directed in this manual.
- Check for and remove any loose material in the unit, especially from the bottom of the filtration unit.
- A Final Assembly drawing, specific to your filtration unit, has been provided as well as pertinent Control Drawings and in some cases an Installation Drawing. Refer to these drawings and use the following discussion as a guide on how to proceed with installation.

Refer to the Final Assembly drawing and proceed

as follows:

1. Move the filtration unit into position. When lifting, insure that both tanks are lifted equally, alleviating strain on flange connection.  
  
Note: Improper lifting may cause mechanical damage to unit.
2. Be sure that the filtration unit is level. Check level of both tanks. Shim as needed to gain level in both directions of tanks. Note: An Out of Level dirty tank can cause the media to bunch and skew within the tank during operation.
3. Connect all piping and couplings, making sure all fittings are air tight. Leaks in any part of the system may lead to coolant on floor, and/or improper system operation.
4. If required connect plant air (minimum 80 psi clean and dry) to the Filter/Regulator. Set the pressure regulator to 80 psi.
5. Refer to the electrical schematic and connect electric power to the fused safety disconnect.

## Start-Up

The following instructions apply to initial start-up, or to re-start after a major shut down.

### WARNING!

**Failure to follow start-up instructions can cause personal injury.**

- Individuals that are working on or around machinery must wear correct personal safety equipment.
- Be sure that all liquids are drained from interconnecting hoses, pipes, or tubes.
- Be sure that electric power is turned “OFF” and that proper Tag Out/Lock Out measures are taken.

Proceed as follows:

1. Be sure that the filtration unit is correctly installed and level.
2. Check and tighten all bolts, and inspect for obstructions that may hinder movement of the conveyor drag chain.
3. Verify electrical connections, turn on electrical

power, and check rotation of the pumps and conveyor drive motor.

### **WARNING!**

**Never remove safety covers or guards from the unit while electrical power is connected.**

**Insure that the pumps do not operate without coolant present to avoid damaging pump seals.**

4. Fill the dirty tank with clean coolant until the lower run of drag chain and cleats are covered. Manually advance the drag belt to insure that it runs through unit smoothly.
5. Thread fresh filter media through the unit following the instructions on page 12. Manually advance media through unit to insure it tracks correctly.
6. Fill the filtration unit with coolant to its operating level as follows:
  - Fill the transfer tank of the auxiliary conveyor (if provided) to level as shown on Final Assembly drawing.
  - Fill the clean tank until the tank is completely filled and overflows into dirty tank. Fill dirty tank to level shown on Final Assembly drawing.
  - Prime the system pump if it requires it.
  - After initial start-up, coolant may need to be added as coolant carrying hoses fill.
  - A balanced system should not overflow at shutdown, nor should any pump starve during operation.

### **WARNING!**

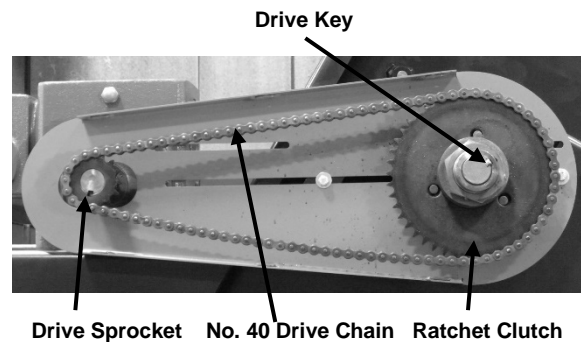
**Coolant spilled on floor creates slippery and hazardous conditions. Clean the floor of any spills or leaks immediately.**

7. Insure that the System Pump Maintenance Shut-off Valve (Refer to Figure 2) is fully open, and the pump discharge metering valve is correctly set for required flow rate.

8. Media has been threaded through the entire dirty tank with a short length protruding from the discharge.
9. Push the START button on the control panel. The system pump will start. If not, check for any fault conditions.

## **Service & Maintenance**

### **Inspection and Adjustment of Head Shaft**



**FIG. 17 Standard Drive Chain Assembly**

### **WARNING!**

**Failure to follow safety procedures can cause personal injury. Disconnect all electrical power from the filtration unit and properly Lock Out/Tag Out before removing covers or servicing the head shaft assembly.**

1. Lock out and tag out electrical power to the filtration unit.
2. Remove the drive system safety cover.
3. Loosen the drive motor/speed reducer mounting bolts and slide the assembly forward on its adjustment screws to relieve tension on the drive chain. See Figure 16.
4. Disconnect the master link from the drive chain and remove the chain from the head shaft drive sprocket.
5. Remove fasteners securing the head shaft cover and remove the cover.
6. The head shaft can be now be inspected as follows:
  - A. If the drag chain runs against one side of the conveyor:

- Loosen the setscrews securing the sprockets to the shaft.
- Move the drag chain and sprockets toward the side of the machine having the greatest clearance.
- Measure the distance between the chain and the side of the machine. Be sure that the distance is equal for both sides.
- Retighten the head shaft sprocket setscrews.

B. Drive sprocket turns but head shaft does not, check the drive key to ensure that it is not sheared (see Figure 16). If the key is not sheared, check ratchet clutch for a misadjusted spring, or damage to teeth. If a Shear Pin Drive has been fitted then see “Replacement of Head Shaft Shear Pin.”

C. The head shaft turns, but the drag chain does not move, inspect the head shaft sprocket keyways. If the keyways or square keys are damaged, refer to “Removal of Head shaft.”

D. The head shaft has lateral movement in the bearings: Check the head shaft bearing setscrews for tightness. If loose, proceed as follows:

- Adjust head shaft so that the drag chain has equal distance between the chain and the side of the machine.
- Tighten head shaft bearing setscrews.

E. Head shaft bearings are seized and do not rotate: Refer to “Removal of Head Shaft.”

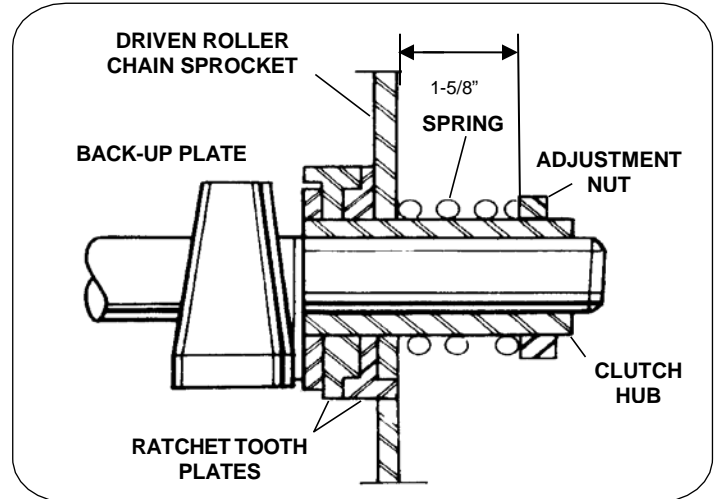


FIG. 18 Ratchet Slip Clutch Assembly

This unit is designed to limit the torque transmitted by the drive system in those instances when the torque exceeds a preset value as a result of overload, shock load, or jamming of the conveyor. The clutch consists of a driven roller chain sprocket mounted with a set of ratchet-tooth plates on a clutch hub with a back-plate, and a spring with an adjustable hex nut (and locking setscrew) to provide tensioned spring pressure on the sprocket (See Figure 17).

When a severe overload occurs the ratchet-tooth plates, engaged on the driven sprocket, push the driven sprocket against the spring slipping past one another until the overload is cleared. After clearing the overload, no resetting is necessary.

**Note:** If the clutch is allowed to slip for an extended period, some wearing of the ratchet-teeth may occur.

### Adjustment

This unit is preset at Jorgensen Conveyors, and should only require reset if clearing the overload does not stop the ratcheting. Proceed as follows:

### WARNING!

**Failure to follow safety procedures can cause personal injury!**

**Disconnect all electrical power from the filtration unit and Lock Out/Tag Out before servicing the ratchet slip clutch.**

## Ratchet Slip Clutch

1. Lock out and tag out electrical power to the filtration unit.
2. Remove the drive guard.
3. Clear the filter conveyor of any jamming material or overload.
4. Load the conveyor with a maximum expected load.
5. Apply electric power and start the conveyor. If the overload continues, lock out and tag out electric power to the conveyor and continue with Step 6.
6. Tighten the adjusting hex nut until there is 1-5/8" minimum between the spring side of the hex nut and the spring side of the sprocket. See Figure 18.
7. After final adjustment, lock the hex nut in place with the setscrew.
8. If the conveyor is now functioning properly, replace the guards and/or shrouding, and return the unit to service.

The only maintenance required for the ratchet slip clutch is periodic inspection for binding between the ratchet-tooth plates, and worn teeth.

### Replacement of Head Shaft Shear Pin (If provided)

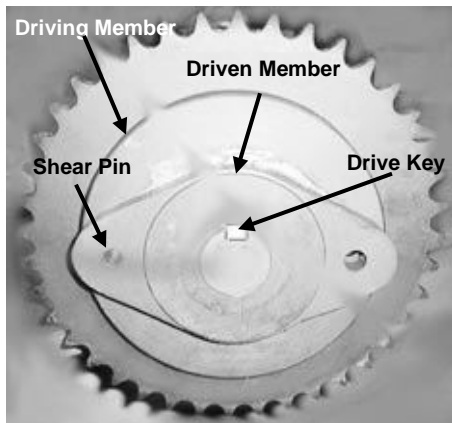


FIG. 19 Shear Pin Clutch Assembly

The head shaft may be equipped with a shear pin clutch to prevent overload. The ratchet slip clutch is discussed later in this manual.

### **WARNING!**

**Failure to follow safety procedures can cause personal injury!**

**Disconnect all electrical power from the filtration unit and Lock Out/Tag Out before removing the head shaft cover or servicing the head shaft drive assembly.**

Refer to Figure 19 and proceed as follows:

1. Lock out and tag out electrical power to the filtration unit.
2. Loosen the drive motor/speed reducer mounting bolts and slide the assembly forward on its adjustment screws to relieve tension on the drive chain. See Figure 16.
3. Remove the drive system safety cover.
5. Disconnect the master link from the drive chain, and remove the chain from the head shaft drive sprocket.
6. Remove pieces of the broken shear pin from the driving and driven members of the hub.
7. Align the driving and driven members of the hub, and insert the replacement shear pin.
8. Verify that the replacement shear pin is correctly aligned in the hub.
9. Reinstall the drive chain, and adjust the drive motor chain tension.
10. Reinstall the drive safety cover over the drive system.
11. Apply electrical power to the unit.

### Drive Chain Adjustment

1. Check sprocket alignment using a straight edge or taut cord stretched across the faces of the reducer drive sprocket and the head shaft sprocket. The tolerance is  $\pm 0.5$  degrees or 1/8" per foot.
2. Make sure all set screws, bolts and nuts are tight.
3. Check sprockets and components. Make sure all are in good condition and free from wear. The roller chain should be lubricated and free from chips or turnings.
4. Check chain tension. Deflection of the span (see Table 2 at end of this manual) for tension purposes

should be as follows:

- Horizontal drive: 4-6% of span length
- Vertical drive: 2-3% of span length.

## Removal of Head Shaft Assembly

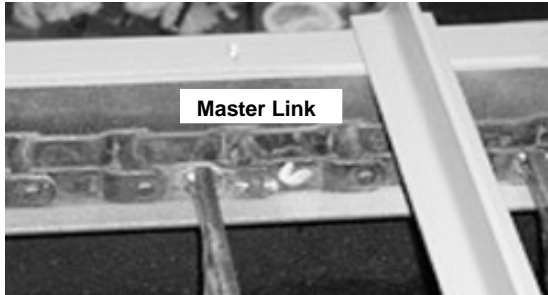


FIG. 20 Drag Chain Master Link

### **WARNING!**

**Failure to follow safety procedures can cause personal injury!**

**All electrical power must be disconnected from the unit and Lock Out/Tag Out performed before removing the head shaft cover or servicing the head shaft assembly. Lifting equipment must be employed when disconnecting the drag chain assembly. Lifting equipment must be employed when removing the head shaft assembly.**

1. Jog the drag chain until the master link, Figure 20 is in an accessible location.
2. Lock out and tag out electrical power to the filtration unit.
3. Remove the drive system safety cover.
4. Loosen the drive motor/speed reducer mounting bolts and slide the assembly forward on its adjustment screws to relieve tension on the drive chain. See Figure 17.
5. Disconnect the master link from the drive chain, and remove the drive chain from the head shaft drive sprocket.
6. Remove the fasteners securing the head shaft and incline covers. Remove the covers.
7. Locate the master link of the drag chain, and mark the chain where the master link resides.
8. Attach a suitable lifting device to the drag flight chain cleat nearest the head shaft.
9. Disconnect the drag chain master links (one per side).
10. Using a suitable lifting device, pull the drag chain out of the discharge section of the unit and lower the drag chain between the head-section cross-members.
11. Loosen the setscrews securing the bearings and head shaft sprockets to the head shaft.
12. Attach the lifting device to the head shaft. Place a slight tension on the lifting device.
13. Remove the fasteners securing the head shaft bearings. Remove the non-drive side bearing from the head shaft.
14. Push the head shaft towards the drive side, moving it out of the head section.
15. Once clear of the non-drive side head plate, slide the head shaft sprockets off the head shaft.
16. Continue to move the head shaft out of the head-section. Balance the head shaft, and connect the lifting device to the head shaft outside of the drive side head plate.
17. Slide the head shaft out of the head plate on the drive side and lower the head shaft to a bench or other safe working area.

## Installation & Adjustment of Drag Chain Assembly

### Removal

### **WARNING!**

**Failure to follow safety procedures can cause personal injury!**

**Disconnect all electrical power from the filtration unit and Lock Out/Tag Out before removing covers or servicing the head shaft drive assembly.**

1. Always make sure the conveyor is locked out and tagged out at the power source.
2. Remove the sprocket and chain guards.

3. Remove the drag chain.

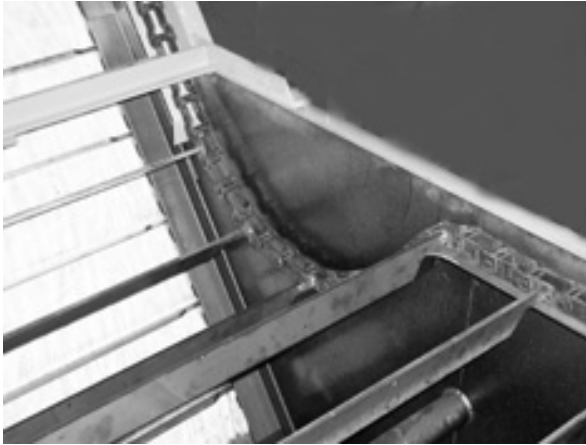


FIG. 21 Catenary Take-up of Drag Chain

4. Remove the cotter pin from the master link either side of the drag chain assembly (Figure 20), then remove chain pins to disconnect the drag chain assembly.
5. Place the chain pins back in the top half of the drag chain assembly.
6. Facing the discharge opening, extract the lower half of the drag chain. Pull and guide the drag chain assembly to the floor and let it fold. Two mechanics or an overhead lift may be required.
7. Remove all foreign objects from the casing.
8. Inspect the drag chain assembly and casing for worn or damaged parts.

## Installation

**NOTE:** If installing a new drag chain, be sure that the length of the new chain is identical to the length of the old chain so that the catenary will form properly. See Figure 10.

1. Place the end of the drag chain assembly into the lower run of the conveyor casing. Cleats "Up" on lower run. See Figure 21.
2. Feed the drag chain assembly through the casing until it comes up over the drive sprockets.
3. Pull the top run of the drag chain assembly over the head shaft sprockets until it is centered with the take-up slots.

4. Re-install the chain pins and secure with the cotter pins, making sure all drag chain assembly parts are in their proper position.

## Changing Disposable Filter Media

### Initial Feeding of Media

1. Tie a knot in the beginning of the roll and feed the knot beneath and behind one of the drag chain flights.
2. Place Manual/Auto Switch into Manual position. Continuously press the Media Advance button on the control panel until the knot in the media exits the unit.
- 3.

### Splicing New Roll onto Expiring Media

1. Cut expiring media from roll. Allow enough slack to form a joint with new roll.
2. Place new roll into Roll Stand and feed through Brake Bars. See Figures 8 – 10, Page 4.
3. Place the inside of expiring web, side closest to the rear sheet metal of dirty tank, against inside of fresh media; again side that would be closest to rear sheet metal of dirty tank.
4. Fold the two media's together and over against fresh media.
5. Use a standard stapler, and staple the joint in several places starting at each edge toward the center as much as stapler will allow. See Figure 22.

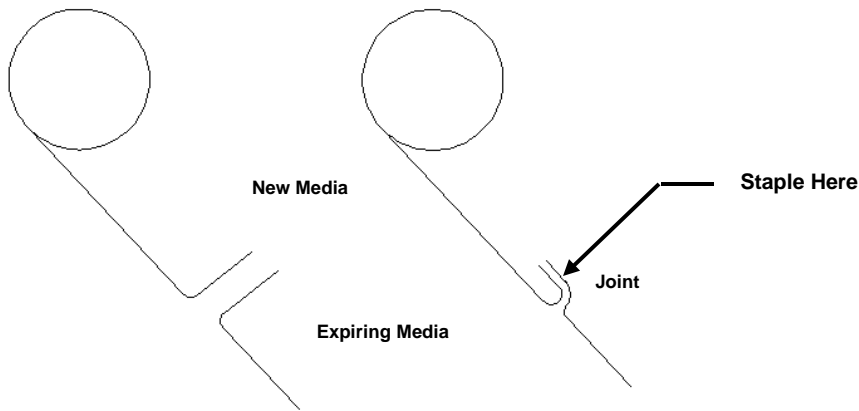


FIG. 22 Creating Media Splice Joint

## Lubrication

### Reducer

Recommended lubrication oil is shown in Table 1 at the end of this manual. For other temperatures or synthetics contact the manufacturer.

**NOTE:** When changing oil in a double reduction unit, make sure the primary and secondary chambers are both changed.

### Head Shaft Bearings

There are a total of 2 grease fittings that require lubrication – one on either end of the head shaft to lubricate the head shaft bearings. There may be more grease fittings if the unit is equipped with a re-winder or other auxiliary equipment. In any case, grease all bearings as follows.

For normal operating conditions, apply No. 2 grease through the grease fittings every 90 days. Grease should conform to NLGI No. 2 consistency, and should be free of chemical impurities such as free acid or alkali, and mechanical impurities such as dust, rust, metal particles, or abrasives. Add grease slowly until a slight bead forms between the seals. **Caution: do not over-grease bearings, doing so will damage seals.**

## Tables

| MANUFACTURER | AMBIENT TEMPERATURE |                     |
|--------------|---------------------|---------------------|
|              | 15 to 60°F          | 50 to 125°F         |
| AMOCO        | Worm Gear Oil       | Cylinder Oil 680    |
| CHEVRON      | Cylinder 460X       | Cylinder Oil - 680X |
| EXXON        | Cylesstic TK460     | Cylesstic TK680     |
| GULF         | Senate 460          | Senate 680D         |
| MOBIL        | 600W Super          | Extra Hecla Super   |
| SHELL        | Valvata Oil J460    | Valvata Oil J680    |
| SUN          | Gear Oil 7C         | Gear Oil 8C         |
| TEXACO       | Honor Cyl. Oil      | 650T Cyl. Oil       |
| UNOCAL       | Steaval A           | Worm Gear 140       |
| Compound     | AGMA 7              | AGMA 8              |

Table 1. Suggested Speed Reducer Lubricants

|              |      |      |      |       |       |       |       |       |       |
|--------------|------|------|------|-------|-------|-------|-------|-------|-------|
| Drive Center | 5"   | 10"  | 15"  | 20"   | 30"   | 40"   | 60"   | 80"   | 100"  |
| Horizontal   | .25" | .50" | .75" | 1.00" | 1.50" | 2.00" | 3.00" | 4.00" | 5.00" |
| Vertical     | .12" | .25" | .38" | .50"  | .75"  | 1.00" | 1.50" | 2.00" | 2.50" |

Table 2. Tangent Length between Sprockets



## Warranty

Jorgensen Conveyors, Inc. guarantees the material of our manufacture against defects in material or workmanship under normal and proper use for one year in service or eighteen months from shipment, whichever occurs first. Material which we purchase can be guaranteed by use only to the extent of the original manufacturer's guarantee. We shall not be held liable for damages or delay caused by defective material, or contingent claims of any kind arising from loss of production owing to failure of shipment. Our obligation under this warranty is limited to furnishing new or replacing defective material without charge f.o.b. factory. No allowance will be made for repairs or alterations unless made with our written consent.

Caution should be used in the care and application of our products as the guarantee recited above does not apply where lack of proper maintenance or misapplication exists. We will not be liable for improper storage or handling of our products prior to placement in service.

The within equipment will be specifically designed and manufactured for and will be sold to purchaser for the sole purpose of transporting and conveying raw materials, work in process and finished goods of purchaser. Purchaser does hereby agree to exonerate, indemnify, defend and hold seller harmless of and from all loss, liability and damages which may be suffered by or asserted against the seller, and all costs and expenses which seller may incur because of any claim or claims which may be asserted against seller by any person for death or injury to anyone sustained while riding or attempting to ride upon said equipment.

### **WARNING:**

**Failure to comply with safety procedures in this manual places personnel health and safety at serious risk!**

- **Do not operate or perform maintenance on this equipment without reading the proper instruction manuals pertaining to its safe operation or repair.**
- **Never work on, or around machinery without wearing proper personal safety equipment.**
- **Never remove covers or guards from machine with electrical power connected, or air pressure applied.**
- **Never attempt to repair or adjust pressure devices without disconnecting electrical power and draining all liquid from interconnecting hoses, pipes, or tubes.**
- **Never operate machinery with safety covers removed.**

## Notes

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The logo for Jorgensen features the name "Jorgensen" in a dark blue, cursive script font. Below it, the tagline "Conveyor and Filtration Solutions" is written in a smaller, orange, sans-serif font.

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