



# Product and Service Frequently Asked Questions

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# Product and Service Frequently Asked Questions

## HALE PRODUCTS MANUALS

### How to find Hale product manuals

- Go to the Hale Products website: [www.haleproducts.com](http://www.haleproducts.com)
- Product manuals PDFs can be found in the Installation/Service tab, where they can be either viewed or downloaded.

Overview	Specifications	Drawings	Installation / Service	Performance	Software/Multimedia
Installation and Service Documents					
Name					
  Service Bulletin - SB-152 Leak Check VPS and Interlock					
  PL533 - VPS Power Shift					

## PUMPS

### What is the recommended maintenance for Hale fire pumps?

- Refer to the appropriate pump manual for maintenance information for your pump.
- Pump product manuals can be found on the [haleproducts.com](http://haleproducts.com) website. Go to Installation/Service tab at the bottom of product page to find manuals

### What is the drip rate for packing on Hale Pumps?

The drip rate for packing on a Hale pump should be 30 drips per minute @150 PSI. It should not drip when not running.

### Do pump mechanical seals need regular maintenance?

Mechanical seals require no maintenance. Proper usage of the pump will insure the longevity of the mechanical seal.

### Does my pump have anodes?

Possibly. The location depends on the type of pump you have and should have at least one on the discharge, one on the left intake, and one on the right intake.



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## **When do I change my anodes?**

Alloy anodes should be inspected every 12 months. Replace anodes when more than 75% of the alloy has been consumed. Performance of the anode life will vary with water quality and PH.

## **Can I add anodes to my older Hale pump?**

Yes, contact Customer Service at 800-533-3569 for the correct part numbers.

## **Do stainless steel valves require lubricant?**

Yes, Hale stainless valves require lubricant: Green Grease or SuperLube®.

## **How often do I need to lubricate the stainless steel valves (SVS) on my pump?**

After each use, the valve should be opened and closed to verify that it operates smoothly. Apply an approved lubricant to the valve grease fittings, as necessary. Grease fittings are located in the valve adapters.

## **Do I need to lubricate the MIV Valve?**

Yes. Lubricate the valve bore and disc edges using Sunoco® Ultra® Prestige® 2EP grease or its equivalent. Cycle the valve to check for smooth operation. Periodically operate the valve to ensure proper operation. Grease, if necessary.

## **Is regular service required on the Pump Shift (VPS)?**

It is recommended to check the VPS every 12 months. Put the VPS shifter in the neutral position. Disconnect the air lines to the cylinder, put a couple drops of "air tool oil" into the ports to lubricate the seals, then reconnect the air line and activate the VPS system a couple of times.

## **What is the drip rate of a mechanical seal?**

None. If the mechanical seal is leaking it is bad and needs to be replaced.

## **How often should I change packing?**

Every two to three years or sooner if proper drip rate cannot be attained.

## **Why should I exercise my pump weekly?**

To make sure the pump operates properly and minimizes mineral build up.

## **Do I have to protect my pump from freezing?**

If your pump is going to be situated in temperatures below freezing, the pump should be drained to prevent damage.



# Product and Service Frequently Asked Questions

**What happens when I deadhead the flow on my centrifugal pump?**

The water temperature will rise and will eventually cause damage the impeller and clearance ring tolerances.

**After pumping salt water with a bronze pump, do I need to flush it with water?**

It is always recommended to flush any pump with clean water after you have pumped salt water.

**Can I add thermal protection to my older Hale pump?**

Yes, contact Customer Service at 800-533-3569 to obtain the correct part numbers.

**What does the term *midship* mean?**

A midship pump is mounted between the transmission and rear axle.

**Where can I find specifications for my new pump?**

To help you select the correct pump for your new truck, please contact Hale Customer Service at 800-533-3569.

**Can I use my pump for hose testing?**

No, your pump is not designed to be a hose tester.

**Can I run my pump without a qualified pump operator?**

Always have a qualified operator present anytime you are operating the pump.

**What does TPM stand for?**

Hale Total Pressure Master relief valve system. It is designed to protect the firefighter from over pressurization in the hose lines.

**What is the proper way to set a relief valve?**

- Refer to muscle pump manual for proper setup and operation of your mechanical relief system.
- Pump product manuals can be found on the [haleproducts.com](http://haleproducts.com) website. Go to Installation/Service tab at the bottom of the product page to find manuals.



# Product and Service Frequently Asked Questions

## PUMP OIL

### When should you change the mid-ship pump gearbox oil?

Pump gearbox oil should be checked monthly and changed at a minimum of once a year.

- Prolonged pump usage at a fire should be followed by checking the pump's gear box oil.
- Hale's specific pump manuals contain information on oil checks/changes before, after and at different scheduled maintenance intervals. Manuals can be found on the [haleproducts.com](http://haleproducts.com) website. Go to Installation/Service tab at the bottom of product page to find manuals.

### What type of oil should be used when changing the pump drive unit?

- Front mounts use 30W non-detergent.
- Midship drive unit styles G and K use SAE EP-90, 80W90 or any multi-viscosity level oil.
- PTO gearboxes use SAE EP-90
- PTO Flex series gearboxes use SAE-50 Long-life synthetic transmission fluid.
- To find the correct oil to be used in Hale pumps, see specific pump product manuals, which can be found on the [haleproducts.com](http://haleproducts.com) website. Go to Installation/Service tab at the bottom of product page to find manuals.

### Do you recommend using a synthetic oil?

- Synthetic oils are recognized by Hale for use.
- Please refer to your Hale pump manual for specifics on the usage of synthetic oils. Hale's recommended oil checking and changing schedule should be adhered to, even if using synthetic oils.

### How much oil does the gearbox take?

- The Hale pump gearbox should be filled up to the oil fill line plug on the gearbox and/or to the oil level holes. The amount of oil will be different depending on the type of Hale gearbox you have attached to your pump and its orientation.
- To find the correct amount of oil to be used in Hale pump gearboxes, see specific pump product manuals, which can be found on the [haleproducts.com](http://haleproducts.com) website. Go to Installation/Service tab at the bottom of product page to find manuals.



# Product and Service Frequently Asked Questions

## **What is an auto-lube? Where is it located? What does it do?**

- An auto-lube is an outboard bearing assembly containing a miniature centrifugal pump built into the pump shaft end of Qmax and Qtwo model pumps. This pump continuously forces oil from the reservoir through the bearing, and back again. A balanced chamber behind the oil reservoir is connected by a passage to the inlet side of the pump. This chamber always keeps pressure in the oil reservoir equal to water pressure, whether you are pumping at high inlet pressure or pulling vacuum.
- The miniature pump adds enough extra pressure to constantly keep the flowing oil a few PSI higher than water pressure. Thus, oil pressure inside the double lip-type seal is always slightly higher than water pressure outside. Dirt and water are repelled by this condition.
- The auto-lube ensures continuous lubrication, even when you are pumping dry. It permits the use of a compact double lip-type seal and maintains a constant film of oil under this seal to prevent shaft wear. Because it is built into the main pump, it eliminates the need for a second set of packing or second mechanical seal.
- Refer to page 116 section 7.6 of the Hale Muscle Pump manual for additional details and pictures. The manual can be found on the [haleproducts.com](http://haleproducts.com) website. Go to Installation/Service tab at the bottom of product page to find manuals.

## **How do I change the oil in an auto-lube?**

- a. Park the vehicle on a level surface. Shut down the engine. Set the parking brake and chock the front and rear wheels.
- b. Drain water from the pump.
- c. Remove the fill and drain plugs from the auto-lube reservoir and drain oil.
- d. Refill the autolube from the bottom to insure that there is no air trapped in the housing.
- e. Install the top and bottom plugs.



# Product and Service Frequently Asked Questions

## PUMP TROUBLESHOOTING

### How do I adjust my packing?

The packing gland is factory adjusted for a leakage of about 30 drops per minute at 150 PSI (10 BAR) and no drippage when pump is not running.

1. First check the leakage rate; adjust the packing only if necessary.
2. If the packing requires adjustment, follow these steps:
  - a. Shut off engine while making packing adjustments.
  - b. To adjust the packing, connect the pump to a hydrant or some other source of water at about 150 PSI. If this is not possible, operate the pump at about 150 PSI from draft or from the booster tank, discharging through the booster line, another small nozzle or circulating back to the tank. Count the drops per minute.
  - c. Pull or loosen the lock. The lock is either a spring-loaded pin or a screw and locknut. The end of the lock fits into a slot in the adjusting gland.
  - d. To loosen or tighten the packing gland:
    - i. Insert a 3/8 extension into one of the slots. Refer to the Hale Maintenance/Service Chart.
    - i. To loosen the nut, turn it in the direction of engine rotation.
    - ii. To tighten the nut, turn it in the direction that is opposite to engine rotation.
    - iii. Repeat step 1 and verify that leakage is correct. Tighten for less leakage, loosen for more leakage.
  - e. Always make sure the lock pin for the adjusting gland is set before operation of the pump.

### Pump will not generate enough pressure to meet the pump test.

Possible causes for pump not generating enough pressure:

1. Insufficient engine power
2. Transfer valve not in proper "Volume" position (two-stage pumps only)
3. Relief valve improperly set
4. Engine governor set incorrectly



# Product and Service Frequently Asked Questions

5. Truck transmission in wrong gear or clutch is slipping
6. Vacuum leaks
7. Bad suction or discharge hoses

See Troubleshooting Section of pump manual for additional details. Pump product manuals can be found on the [haleproducts.com](http://haleproducts.com) website. Go to Installation/Service tab at the bottom of product page to find manuals

## **MIV green or red light stays on all the time.**

Probable causes of this and possible solutions are as follows:

1. No 12VDC power.
  - a. Solution: Energize battery master switch.
2. Bulb burned out (has no effect on motor operation).
  - a. Solution: Replace bulb with part number 200-0540-02-0.
3. Defective micro switch.
  - a. Solution: Check micro-switch operation. If micro-switch is defective, replace switch using micro-switch replacement kit (part number 200-120-50-0 for MIV-M and part number 200-1210-52-0 for MIV-E).
4. Short in wire.
  - a. Solution: Check wiring for abrasion, cuts and wear. Repair as necessary.

## **MIV lights do not work**

Probable causes and possible solutions are as follows:

1. No 12VDC power.
  - a. Solution: Energize battery master switch.
2. Bulb burned out (has no effect on motor operation).
  - a. Solution: Replace bulb with part number 200-0540-02-0.
3. Defective micro switch.
  - a. Solution: Check micro- witch operation. If micro switch is defective, replace switch using micro switch replacement kit, part number 200-120-50-0 for MIV-M and part number 200-1210-52-0 for MIV-E
4. Short in wire.
  - a. Solution: Check wiring for abrasion, cuts and wear. Repair as necessary.





# Product and Service Frequently Asked Questions

5. MIV-M mechanical stop(s) improperly adjusted.
  - a. Solution: Adjust mechanical stop(s) for proper operation.
6. MIV-E manual override hand wheel only needs to be turned slightly and light changes.
  - a. Solution: Improperly installed micro switch(es). Replace micro switch(es).
7. MIV-E upper micro switch roller too close to lower sequencing slot in shaft.
  - a. Solution: Add switch spacer (part number 159-1520-00-0) between switches.
8. Incorrectly wired micro switch(es).
  - a. Solution: Refer to wiring diagrams in pump manual or contact Hale Customer Service at 800-533-3569 to have a copy of the wiring diagram sent to you.

## **Relief valve opens as soon as I put the pump in gear and will not close.**

1. Check to see that the tubing coming into your relief valve from the PM control is connected properly and not damaged.
2. If okay, remove the fitting in the top of the relief valve and insert a 1/64" drill bit or straightened paper clip into the orifice under the fitting. This will help clear a restriction caused by calcification or hard water.
3. If the relief valve remains unresponsive, carefully remove the relief valve cover to expose the piston. The weep hole in the piston should be cleared the same way the orifice was cleared.
4. Check for damaged or disfigured parts, replace them if necessary, install new O-rings, lubricate with a water-soluble lubricant, and reassemble.

## **When pulling a vacuum, I can only develop 10-15" and then lose it quickly.**

This is an indication that air is getting into the pump and the pump isn't completely sealed.

1. Inspect the check valve in the line going back to the top of the tank is working correctly. Tighten all valve caps and lubricate if necessary.
2. It's also an indication of damaged or corroded packing or mechanical seal. Replace if necessary.

## **There is water in my gearbox and no oil.**

Water can enter the gear box one of three ways:

1. Poor, excessively leaking packing or mechanical seal can allow water to travel along the pump shaft while in operation and pass the slinger ring and oil seal to enter the gearbox.
2. Normal packing dripping onto the input shaft during operation can pass a deteriorated input shaft water slinger and oil seal to enter the gearbox.



# Product and Service Frequently Asked Questions

3. Damaged gearbox cooling line. The cooling line passes through the gearbox from driver's to passenger's side. Damage to this copper line is an indication that the gearbox has been exposed to freezing temperatures. Hale recommends installing a drain valve tee onto one end of the cooler tube to open for drainage if exposure to freezing temperatures is expected.

**I cannot get the auto-lube out of the pump body.**

Call Hale Technical Service for assistance 1-800-533-3569

**Auto-lube is full of water.**

Remove and rebuild the auto-lube. Follow directions located in the Hale Muscle Pump Manual located on the website.

## PUMP WARRANTY AND SERVICE

**What is the warranty on a Hale Pump?**

The complete warranty can be found at [Hale Products Warranty](#).

**Where can I get my pump repaired under warranty?**

- Warranty repairs are handled through your local Hale dealer or service center. Click on the "FAST" link [Hale Products FAST Service Partner](#) or visit the Hale website for a list of Hale Factory Authorized Service Centers.

**Does Hale have field service technicians?**

No. Hale does not have field service technician to repair pumps. We rely on our network of Hale Factory Authorized Service Centers (FAST) and dealers for repairs and warranty work. To find a list of our service providers, go to [Hale Products FAST Service Partner](#).

**Do the technicians need to be certified to do warranty work?**

- You do not need to be a certified Emergency Vehicle Technician (EVT) to work on a Hale pump, but all warranty work must be approved by Hale prior to any work being done. Contact Customer Service at 800-533-3569 for more information.
- We encourage technicians at our Hale Factory Authorized Service Centers (FAST) to attend our Hale Training Academy to become certified to work on Hale equipment.
- Hale is authorized by the EVT Certification Commission to administer the national EVT test at the end of Hale Training Academy sessions in Ocala, Florida and Conshohocken, Pennsylvania. We encourage our Hale service center techs to take the F3 Fire Pumps and Accessories test (requires an additional fee).
- To learn more about the Hale Training Academy, go to [Hale Training Academy](#)



# Product and Service Frequently Asked Questions

## **I have an older Hale pump are parts still available?**

Yes. Contact Customer Service at 800-533-3569 for assistance. Have your pump's serial number ready so we can provide you with parts pricing and availability.

## **Where can I get parts for my American Godiva / Barton American Pump?**

- Hale offers support for American Godiva and Barton American pumps.
- Call our Customer Service department at 800-533-3569 for assistance. Have your pump's serial number ready, which will help us to identify the pump and allow us to provide you with the parts pricing price and availability.

## **Where do you find a pump serial number and why do you need it?**

- The serial number is located on a tag on the pump panel, a tag on the gear box, and stamped into the head of the pump.
- You will need the serial number when ordering parts.

## **Does my pump need annual testing?**

Yes, NFPA 1911 requires annual pump service testing.

## **Who can test pumps?**

Anyone who has the F3 EVT certification.

## **FOAM and CAFS**

### **How do I flush my foam system?**

Please refer to your foam system manual for details or watch the video on Hale's YouTube channel: [SmartFOAM System Flush video](#)

### **How do I operate my SmartFOAM system?**

Please refer to your foam system manual for details or watch the video on Hale's YouTube channel: [SmartFOAM Operation video](#)

### **How do I calibrate my foam system?**

For FoamLogix and SmartFOAM, please refer to the online manuals for complete directions. Foam manuals can be found on the [haleproducts.com](http://haleproducts.com) website. Go to Installation/Service tab at the bottom of product page to find manuals

You can also find the instructions on Hale's YouTube Channel:

[SmartFOAM Calibration Settings video](#)



# Product and Service Frequently Asked Questions

## How often do the foam systems need to be calibrated?

Foam calibration and water flow calibration should be done annually.

## Can I use A and B foam in the same system?

The 1.7 and 2.1 systems are A foam only. The 3.3, 5.0, and 6.5 systems are both A and B, but you must perform a flush between A and B foam usage.

Both the manual (MDTII) and air (ADT) options are offered as options when ordering your system or can be ordered aftermarket.

## Do you have service kits for foam systems?

### Repair kits:

Description	Qty.	Part number
Plunger and seals	1	117495
Valves and seals	1	117496
Cam bearings	1	117497
Foam sensor repair kit	1	119348

### 3.3-6.5

#### Foam Feedback Sensor Kit 546-3240-00-0

## My foam system seems to be using too much foam for the water used.

The system needs to be re-calibrated. Please refer to your foam system calibration section in the manual for details or see Hale's YouTube channel:

[SmartFOAM Calibration Settings video](#)

## What type of foam can I use with my Hale Foam Master / Foam Logix?

The type of foam that can be used will vary depending on the model of the system. For a foam concentrate compatibility list, please contact Hale technical support at 1-800-533-3569.

## What does "NO PR" mean on my Foam Logix control head?

Typically means a possible faulty speed/flow sensor. Start by checking to see if the LED is flashing on the side of the sensor.

## The flow meter on my foam system does not read accurately.

- Refer to the troubleshooting section of your foam system's operating manual and follow the instructions. If there isn't a manual present, you can retrieve one from the Hale website.



# Product and Service Frequently Asked Questions

- Foam manuals can be found on the [Hale Products](#) website. Go to Installation/Service tab at the bottom of product page to find manuals.

## **When do I need to clean the strainers in my foam system?**

Strainers need to be serviced monthly.

## **Can I leave foam in solution in my pump?**

Class A Foams on the approved foam list can be left in the pumps. All other foam types (especially Class B) or foams not on the approved list need to be flushed after each use.

## **What oil do I use to change the oil in the foam pump's gearbox?**

Hale's foam pumps do not have gearboxes and have no oil needing to be replaced.

## **What maintenance is required on a CAFS system?**

- Please reference the CAFS manual for all maintenance items including:
  - Tuning the compressor
  - Checking the belt tension
  - Changing the compressor oil
  - Changing the clutch fluid
  - Draining moisture from the compressor system
- CAFS manuals can be found on the [Hale Products](#) website. Go to Installation/Service tab at the bottom of individual product pages

- Common Service Parts:

Item	Qty.	Part Number
Filter - Oil	2	010-0650-01-0
Filter - Air	2	010-0690-00-0
Separator Element Replacement Kit	1	010-0950-00-0
Compressor Oil		SAE 15W-40HD
Hot Shift Oil		Dexron III or Mercon ATF

## **What maintenance is required on a CAFS system?**

- Please reference the CAFS manual for all maintenance items.
- CAFS manuals can be found on the [Hale Products](#) website. Go to Installation/Service tab at the bottom of individual product pages



# Product and Service Frequently Asked Questions

## GOVERNORS

### The new governor into my older truck and it does not work. Why not?

1. The first step is to make sure the settings are the same as the old governor.
2. Write down all the settings from your old governor.
3. If the old one will not power up, call Technical Service at 800-533-3569 or refer to the governor manual online.

### How do I set the idle set point on the Captain/UNI governor?

1. Fully engage pump and make sure all interlocks are in place. Circulate some water from tank to pump.
2. Enter password: DEC,IDLE,INC,INC,IDLE,IDLE,INC,IDLE,INC. The display will indicate *SET IDLE*.
3. Hit the increase button till the RPMS start to increase, then hit the decrease button *ONCE*.
4. Push the *PRESET* button to *STORE*. Then *IDLE* to exit.

## TRAINING

### Do you offer factory training?

We offer factory training on Hale and Class 1 products. For a list of upcoming training classes, please visit our [Hale Training Academy](#) website.

### Where can I find NFPA documents?

Go to [NFPA.org](#)

## PLANT TOURS

### Do you offer plant tours?

- We offer tours of our Ocala, Florida facility. Please call Customer Service at 800-533-3569 to schedule a tour date and time.
- If you are passing through the Ocala area and did not pre-schedule a tour, please call to see if we can accommodate your request.