



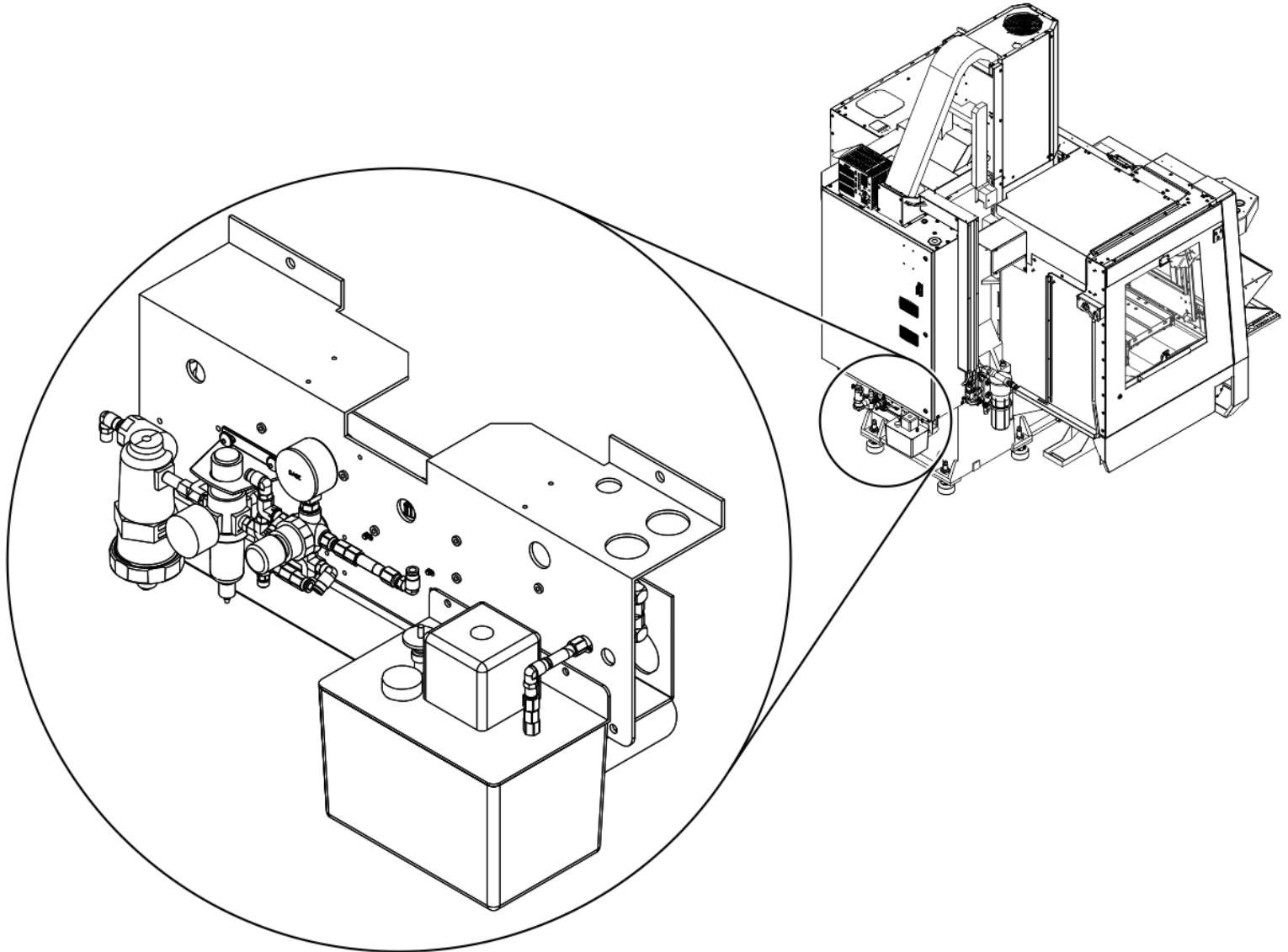
Overview - Bijur - Mechanical - Spindle Lubrication - Oil Pump

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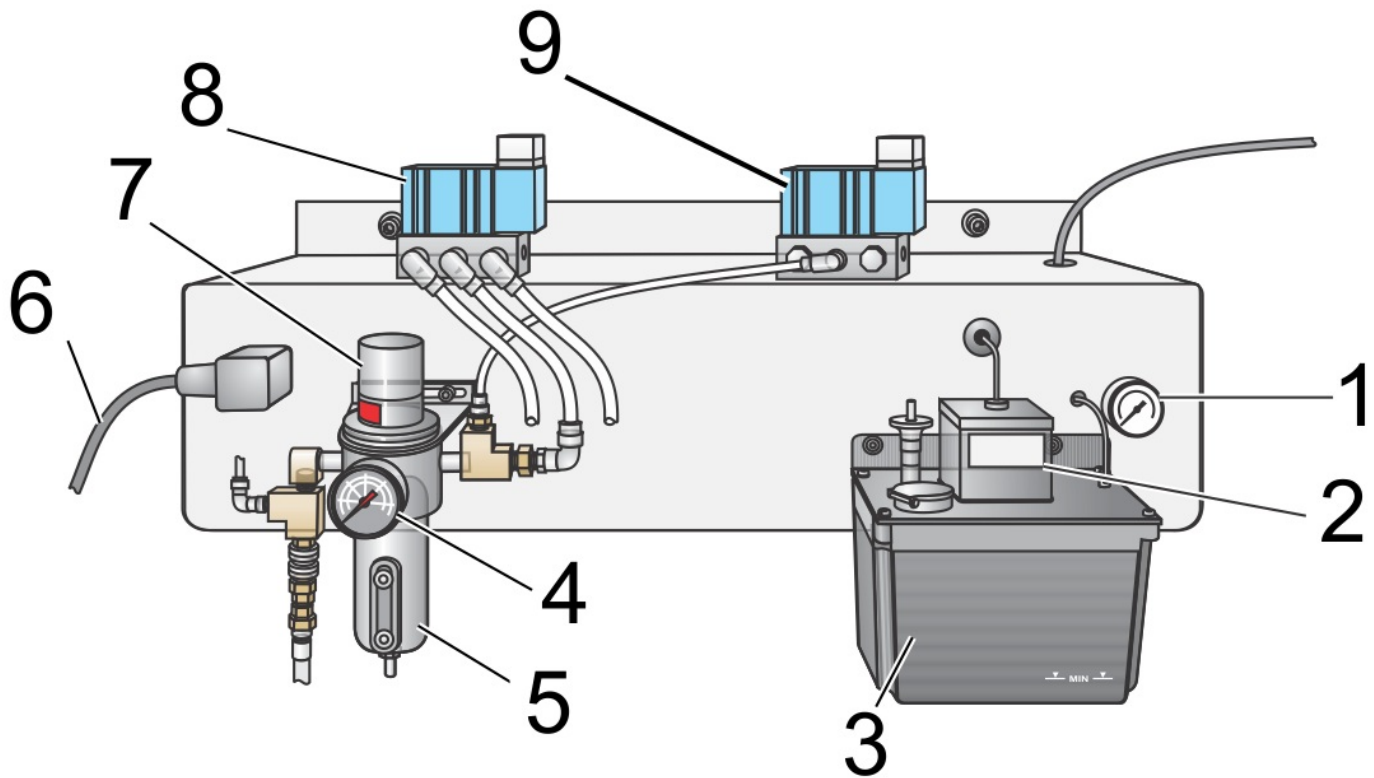


The Bijur mechanical oil pump spindle lubrication system is a resistance-type lubrication system that pumps oil through a nylon tube to the spindle.


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Bijur - Mechanical - Oil Pump - Identification (Front View)

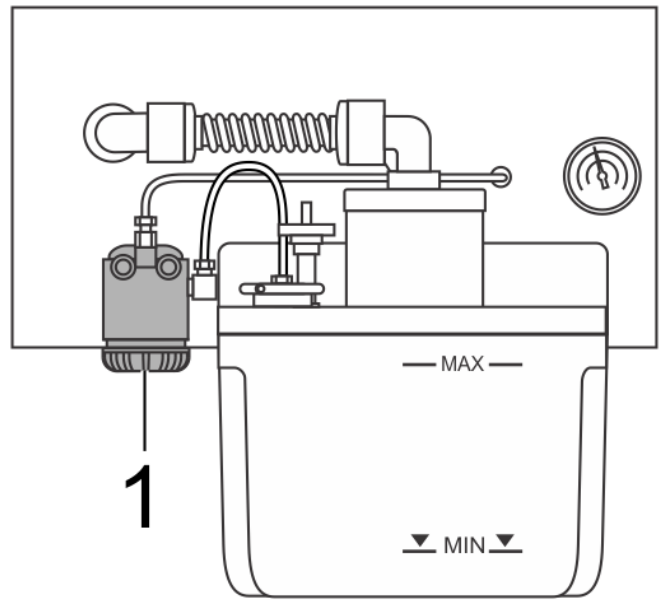
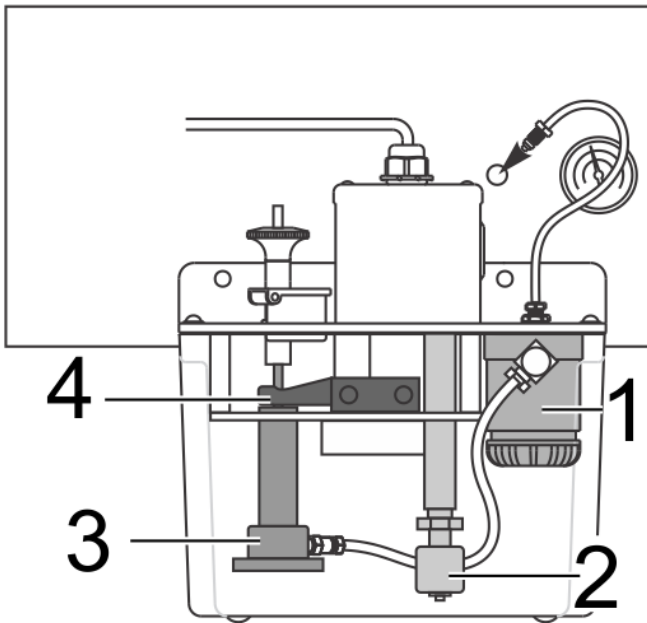
Use the information below to identify the parts of the lubrication system. The example shown in this section is used on a lathe.




1. Oil Pressure Gauge - Shows the pressure (in psi) at which the oil is pumped from the reservoir.
2. Oil Pump - Pumps the oil from the reservoir. Every 30 minutes, the pump sends 3cc of oil (at approximately 35 psi or 2.41 bar) to the lubrication points. This quantity of oil is fully distributed throughout the lube system in 8 to 10 minutes.
3. Oil Reservoir - Stores the oil.

 **Note:** To prevent build up of contamination, use Mobil SHC 625, Mobil 1 5W-20, or Mobil 1 10W-30. Do not use Mobil Vactra #2.


4. Air Pressure Gauge - Indicates the pressure (in psi) at which the air is regulated.
5. Air Filter - Filters and removes moisture from the air before it goes to the solenoid valves.
6. Power Cable - Supplies power to the air/lubrication panel from the control cabinet and carries signals from the switches to the control.
7. Air Pressure Regulator - Keeps the air supply to the lubrication system at a constant pressure, approximately 85-90 psi (5.86-6.20 bar).
8. Air Solenoid Assembly (lathes only) - 4-way, 2-position valve that controls the air to the turret air cylinder.
9. Air Solenoid Assembly (lathes only with the parts-catcher option) - 3-way, 2-position valve that controls the air to the parts catcher air cylinder.



1. Oil Filter - Removes contamination from the oil.

 **Note:** Some Bijur mechanical oil pumps have an external filter next to the oil reservoir.

2. Low-Level Switch - Tells you if the oil level is low. This triggers Alarm 121 Low Lube or Low Pressure.

 **Note:** Oil reservoirs manufactured before November 2013 have a low-level switch.

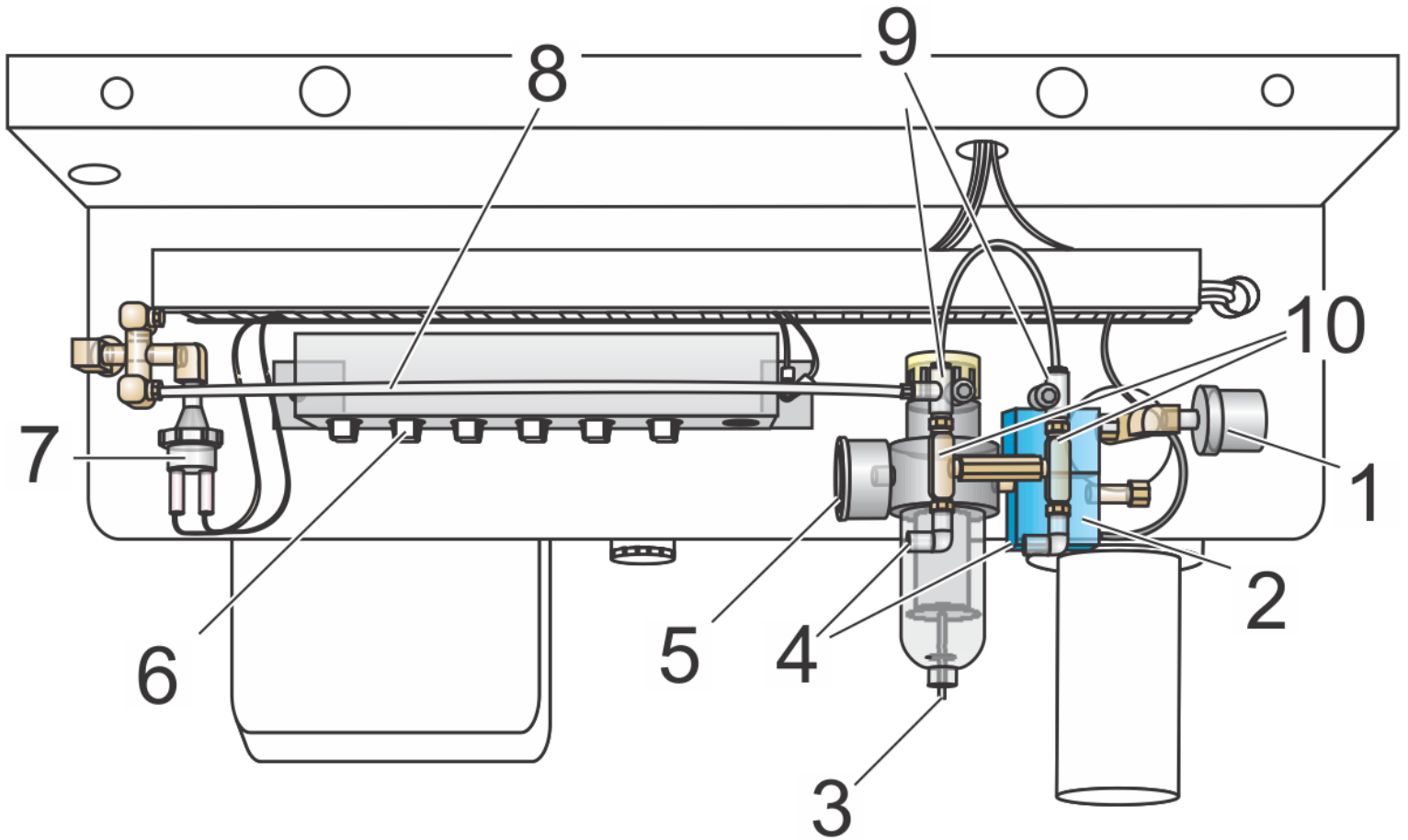
3. Oil Plunger - Pulls oil in from the oil reservoir and pushes oil out through a nylon tube.

4. Lever Arm - Raises and lowers the plunger.

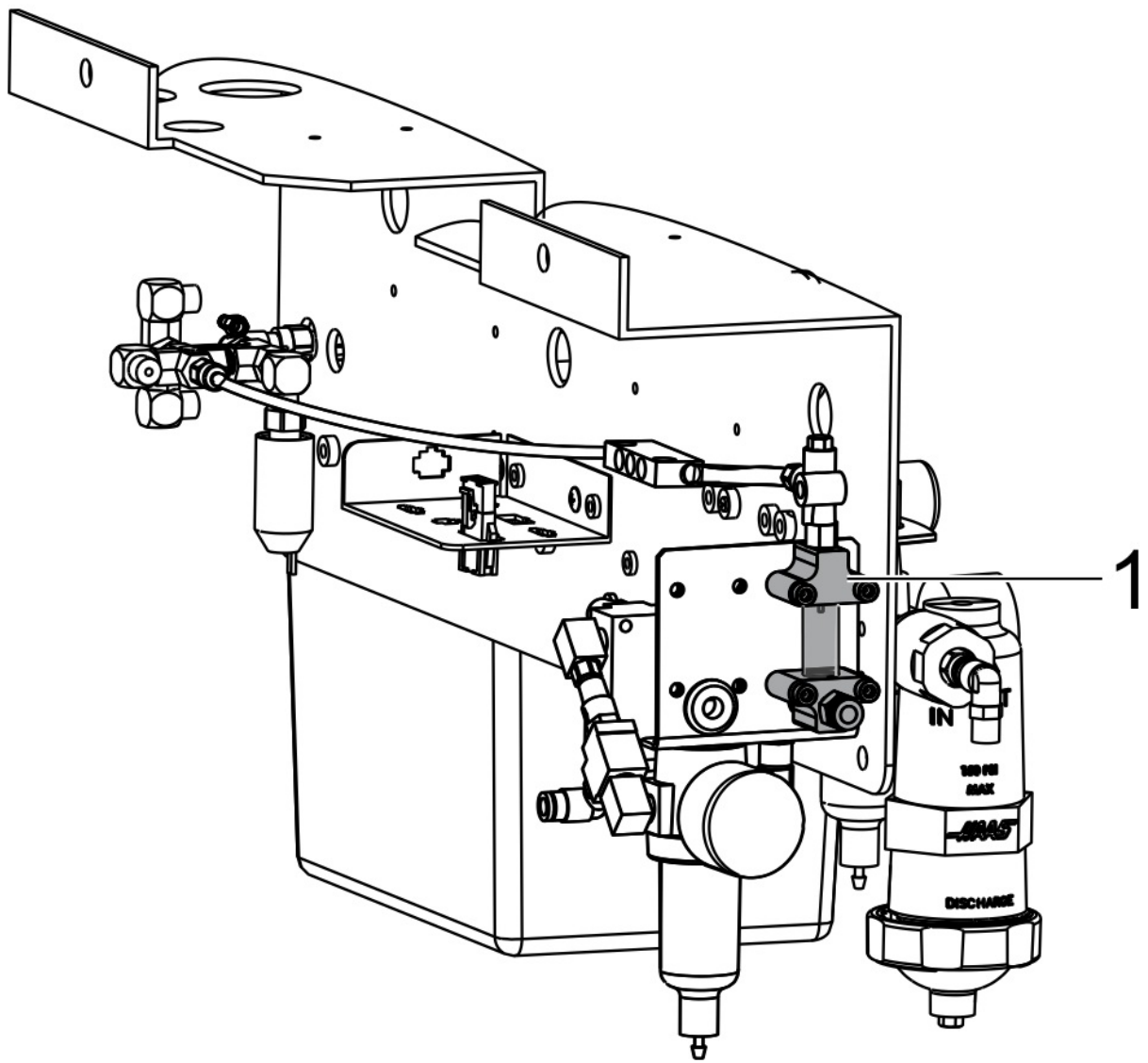
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Bijur - Mechanical - Oil Pump - Identification (Rear View)


The example shown in this section is used on a lathe.



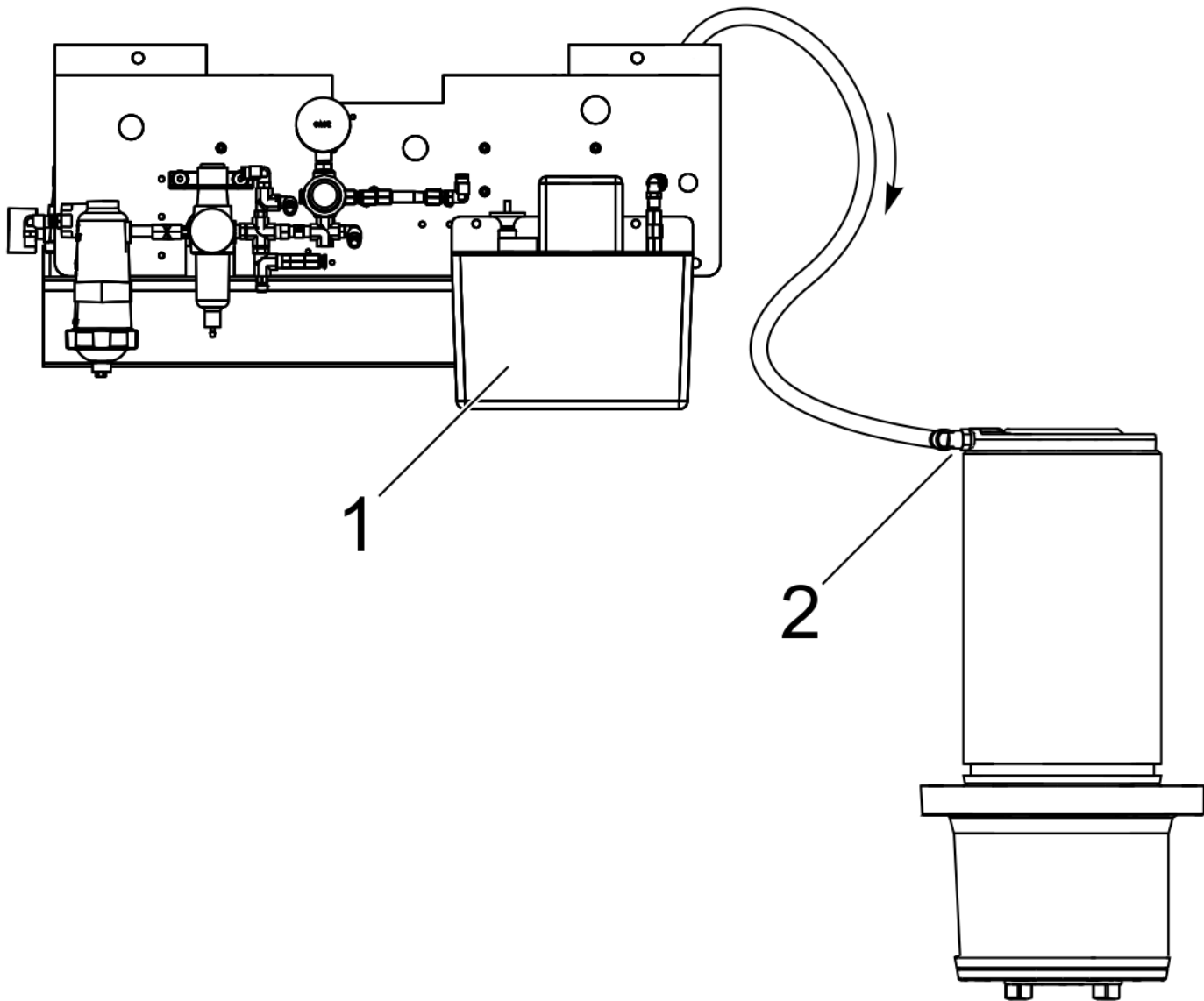
1. Air Pressure Switch - Monitors the air supply pressure, and sends a signal to the control to stop the machine if the air pressure falls below 70 psi (4.82 bar).
2. Solenoid Valve - Opens while the spindle turns to send the air/oil mixture to the spindle bearings.
3. Air Regulator (lathes only) - Keeps the air pressure correct (10-12 psi or 0.68 - 0.83 bar) to the spindle bearings.
4. Oil Mist Ports - Connect to the nylon tube that carries the air/oil mixture to the spindle bearings. Mills have (1) oil mist port. Lathes have (2) oil mist ports. One port supplies the front spindle bearing, and the other supplies the rear bearing.
5. Air Pressure Gauge - Shows the pressure of the air/oil mixture to the spindle bearings.
6. Connector Plate - Contains all of the electrical connectors for the air-lubrication panel.
7. Pressure Switch- Monitors the oil supply pressure and sends a signal to the control to stop the machine if the pressure drops below the minimum level for a set period of time.
8. Oil Line - Sends oil to the ballscrews, linear guide trucks, and spindle bearings.
9. Oil Ports - Connects to nylon tubes that carries the oil to the ballscrews and linear guide trucks.
10. Flowmeters - Controls the amount of oil sent to the spindle.



1. Drip Sight Glass - Allows you to see how much oil is supplied to the spindle. Some systems may have this option installed.

 **Note:** The first drip sight glass was installed on Haas machines with the Grease-Gun Axis Lubrication System manufactured after April 2010.

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Mill spindles have (1) lubrication point and lathe spindles have (2). A nylon tube supplies the spindle with an air/oil mixture through a non-restrictor fitting.

- The spindle is lubricated with an air/oil mixture distributed from the oil reservoir.
 - Every 30 minutes, when the spindle is in motion, the oil pump inside the oil reservoir [1] delivers the air/oil mixture through a nylon tube [2] to the spindle for lubrication.
 - This system used DTE25, Vactra, or SHC 625 oils stored in the oil reservoir.

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VF - 40-Taper - Bijur Mechanical Oil Pump - Air-Oil and Air System - Schematic

To view the schematic for this system, see the [VF - 40-Taper - Bijur - Mechanical - Oil Pump - Air-Oil and Air System - Schematic](#)