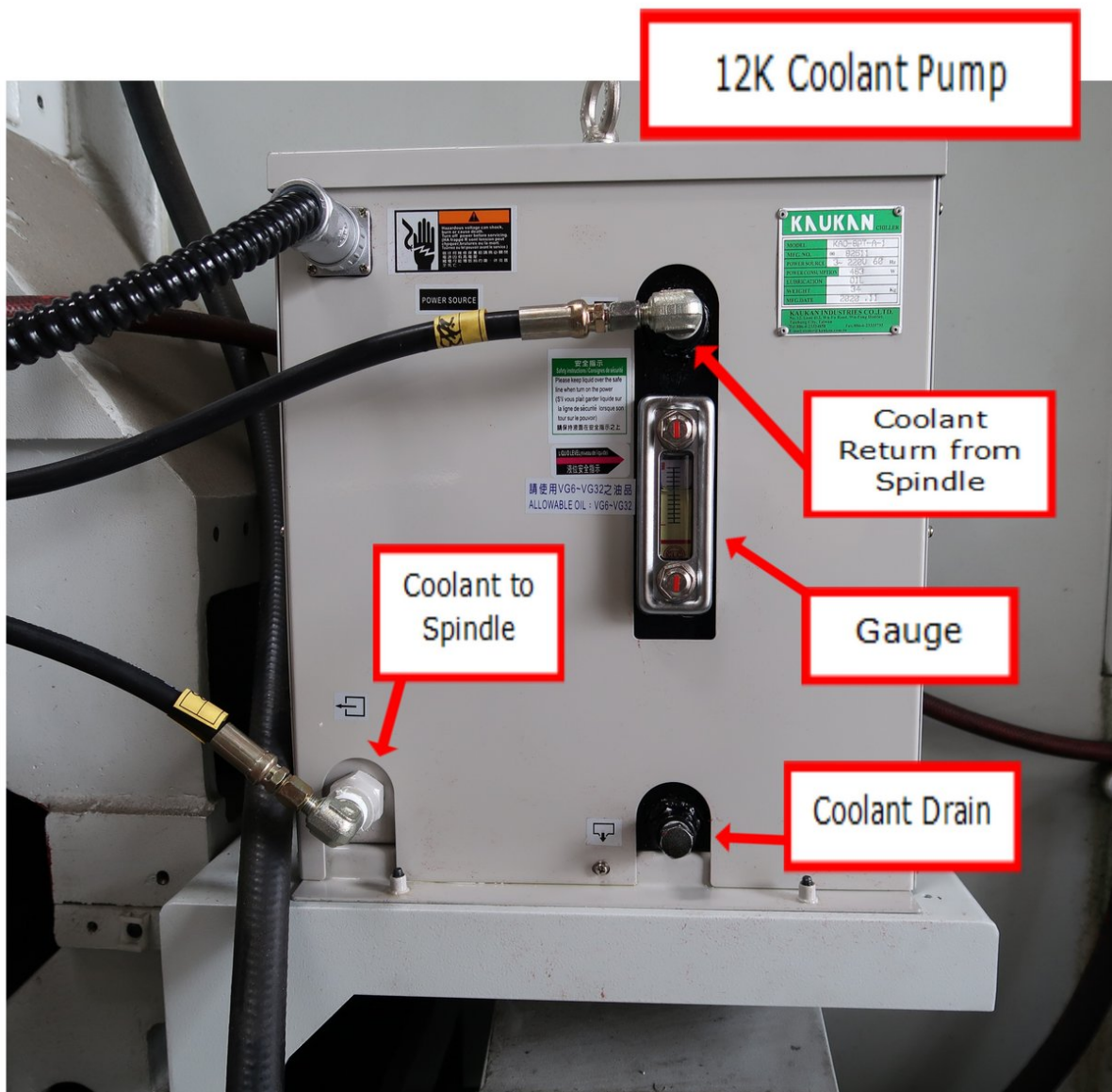


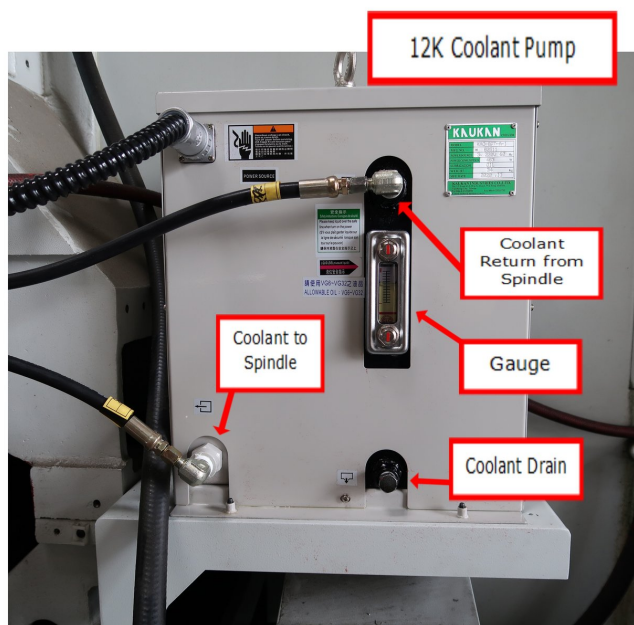


12K Spindle - Route Cooler Hoses

Written By: Trent Plungas

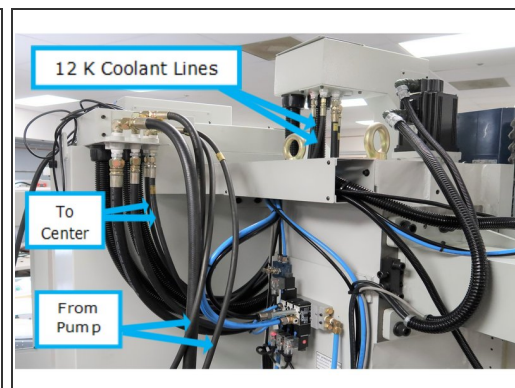
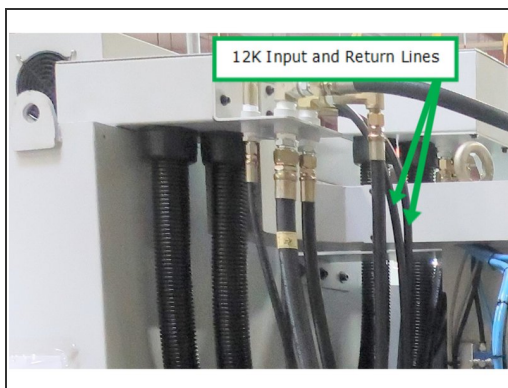


Step 1 — 12K Coolant Starting at Pump



- Coolant fluid is pressurized and pushed thru hoses starting at the pump.
- Coolant output to spindle is labeled as well as the return line. Maintenance person could remove the pump cover and open the coolant tank cap to check for bubbles in fluid to confirm operation as needed.
- Pump has a gauge for monitoring level as well as a drain plug for changing the coolant.

Step 2 — Coolant Travels Through Flexible Hoses



- Coolant lines from the pump to the bracket.
- Bracket is the start of a big loop of lines that allows fluid to be delivered to the spindle constantly as it travels up and down through its range of motion. The 12K Spindle coolant lines are part of this process along with electric lines and other options.
- The bracket supports the weight of the lines as well as provide a location to connect hoses and fittings as needed.
- The loop comes to the top of the spindle housing along its way to the front of the mill.

Step 3 — Coolant In Housing and Spindle



- The second set of fittings are used to direct the coolant from the loop into the housing and down to the spindle.
- Coolant lines come down through the housing and terminate at the spindle. Shown are the entry and exit points as the coolant flows through the spindle.