

STANDARD OPERATION

To accurately calculate the Winch Hydraulic Pressure Gauge, Cutter Hydraulic Pressure Gauge, and Suction Pressure Gauge, the system considers:

- winch speed control
- depth in cut
- carriage push (if in use)
- cutter rotation
- ladder motion
- minimum pressure
- engine speed
- swing brake valve setting

Discharge and water service pressure is calculated based on the engine speed and adverse conditions. All gauge meter simulation code has an adjustable "randomness" to simulate real world conditions and feel.

ANCHOR DRAG

This simulates an anchor being dragged along the bottom. It depicts the anchor slipping by showing a sudden drop in winch pressure, then a sudden increase as the anchor occasionally grabs during the drag.

LOW DISCHARGE PRESSURE

This function displays low discharge pressure while the engine speed remains constant. This adverse condition assumes a plug in the pump or line before the discharge and will raise the suction pressure.

HIGH VACUUM (SUCTION PRESSURE)

This assumes a plug from cave in or too much material at mouth of suction.

CUTTER SHUTDOWN

This function will simulate cutter failure and shut down its rotation.

LOW SERVICE WATER PRESSURE

This can be caused by a plug in the service water pump, a line break, a belt slip, pulley wear, etc. and will be displayed on the dashboard gauge.

UNEXPECTED ENGINE SHUTDOWN

This shows a drop in all gauges as well as the engine RPM meter. Additionally, the graphics depict no motion of any winch, regardless of the lever controls.

LOW GEAR BOX OIL LEVEL

The low oil lamp will illuminate on the dashboard and the operator must react accordingly.