## Service Call:

Adjusting an Optima Demand Throttle Switch

## Tools Required:

Small Socket set
Metric Allen set

## Model(s):

Optima HR, Optima HRX, Optima TC, and Optima TCX

## Video Tech-tip:

A video tech-tip is available as a reference to this written procedure.

# Tech Tip Safety Rules

**Danger**

Failure to obey the instructions and safety rules in the appropriate Operator's Manual and Service Manual for your machine will result in death or serious injury. Many of the hazards identified in the operator's manual are also safety hazards when maintenance and repair procedures are performed.

**Do Not Perform Maintenance Unless:**

- You are trained and qualified to perform maintenance on this machine.
- You read, understand and obey:
  - manufacturer's instructions and safety rules
  - employer's safety rules and worksite regulations
  - applicable governmental regulations
- You have the appropriate tools, lifting equipment and a suitable workshop.

The information contained in this tech tip is a supplement to the service manual. Consult the appropriate service manual of your machine for safety rules and hazards.

# Overview

The demand throttle switch is a high-pressure switch used to sense the pressure in the hydraulics coming from the enable system and winch circuit from the top controls. When there is an increase in pressure, the switch signals the truck engine computer. This raises the engine RPM to the speed needed to provide the correct pump flow.

The pressure setting is made after the pump flow has been determined and the engine speed set to provide the desired flow. The switch only controls engine speed, not the flow produced. The flow is determined by the PTO selection, the pump size, and the engine speed as set by the truck engine computer or throttle solenoid.

The pressure switch is adjustable from 100 to 4000 PSI. The demand throttle pressure switch comes preset at 425 psi and is only activated by the upper controls.

**Note:** Most Optima units have a demand disable switch at the upper controls to disable demand throttle.

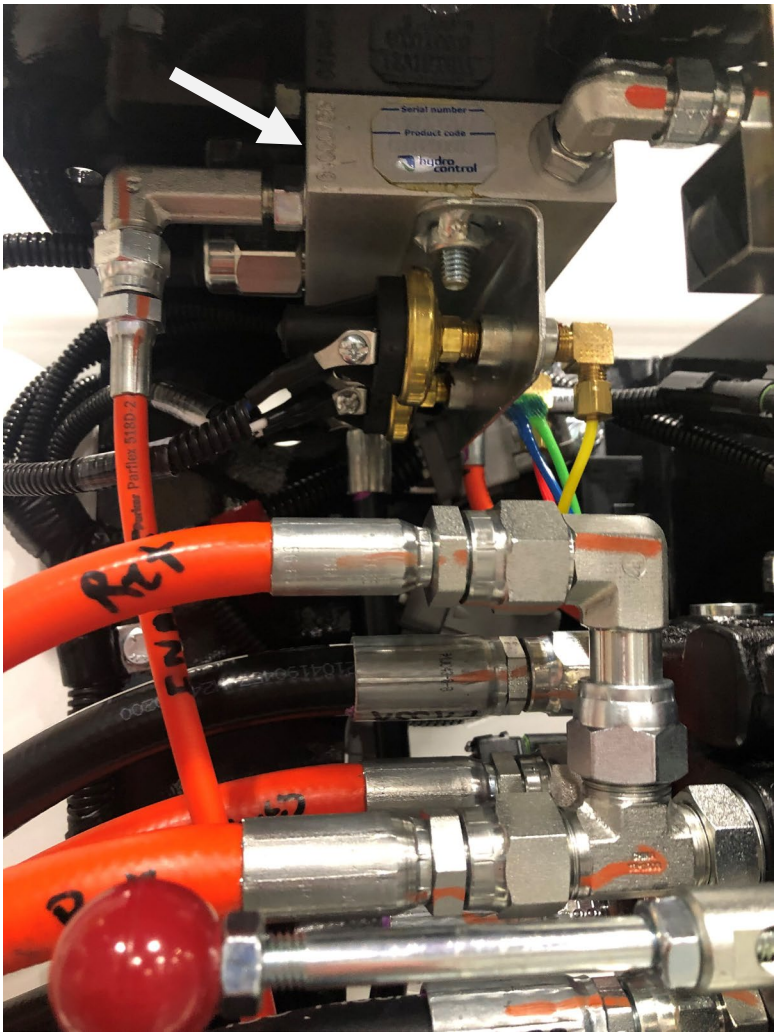
**Note:** Multiple pressure switches may be installed on the unit. Consult the unit specific documentation to identify the function of each of the pressure switches.

## Step 1

Remove the lower control cover to access the demand throttle manifold using the small socket set.

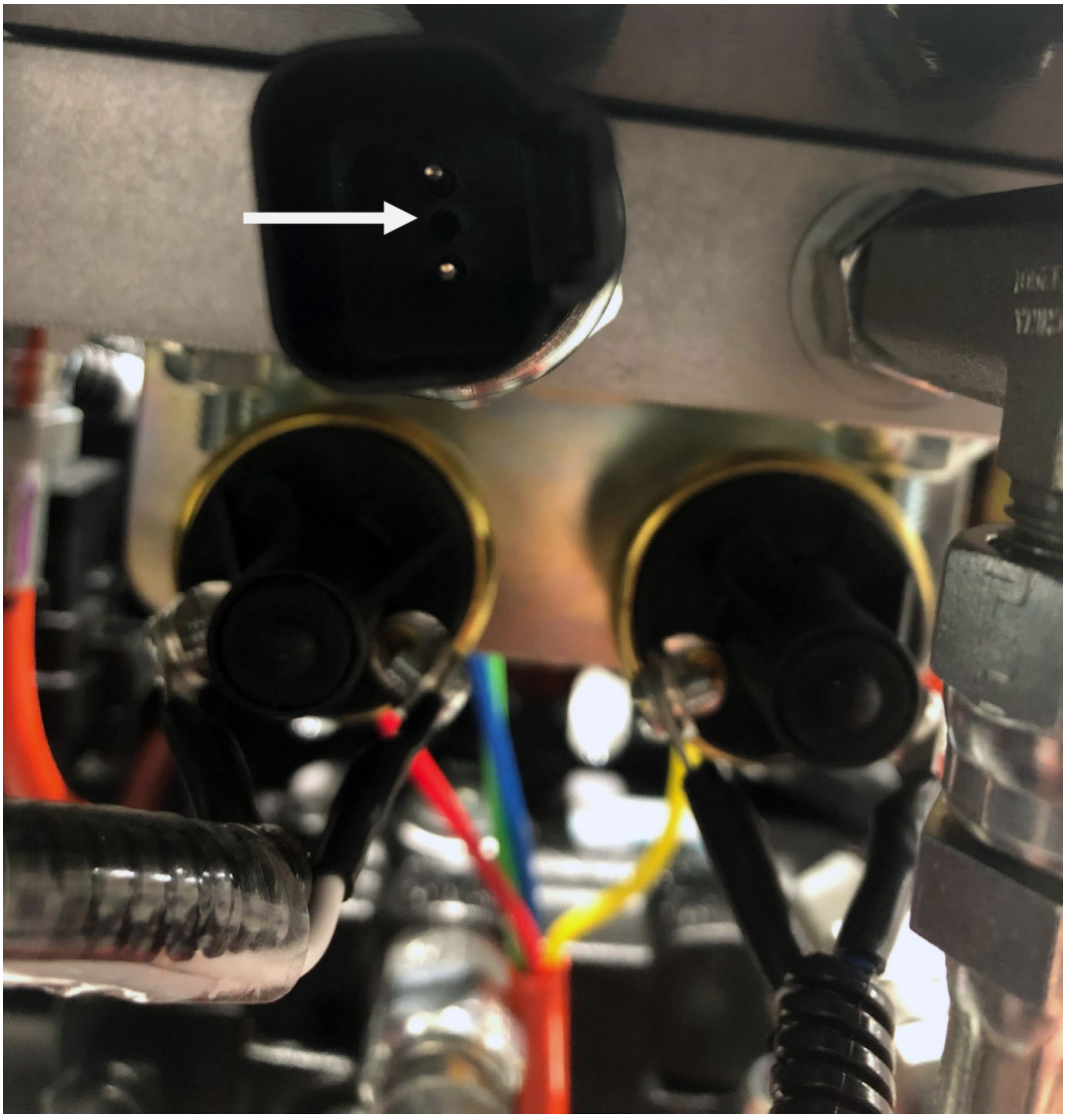
## Step 2

Locate the demand throttle manifold mounted to the top of the control valve bracket.



## Step 3

Unplug the weather pack plug from the pressure switch and locate the adjustment hole in between the 2 terminals on the switch.



## Step 4

**Note:** Make sure the oil is at operating temperature when adjusting the pressure.

Using a 1.5 MM Allen wrench, adjust the pressure switch clock-wise (CW) to increase the pressure or counter clock-wise (CCW) to decrease the pressure.

**Note:** Increasing the pressure means it will take more pressure to activate the throttle and cause it to ramp down quicker. Decreasing the pressure means it will ramp sooner but also take longer to ramp down. If it is decreased to much it may not ramp down at all.

## Conclusion

The switch is adjusted so that each of the single stick functions and the winch control will activate the switch and increase the engine speed.

Rotation is the lowest pressure function, adjust the switch so the engine speed increases when rotation function is being moved and the boom starts to rotate.

The engine speed must return to low idle when the controls are in neutral and no functions are enabled.