

**Hagie 2100/2101 Series SmarTrax™  
Installation Manual**

*P/N 016-0190-057 Rev A 01-16*

## ***Disclaimer***

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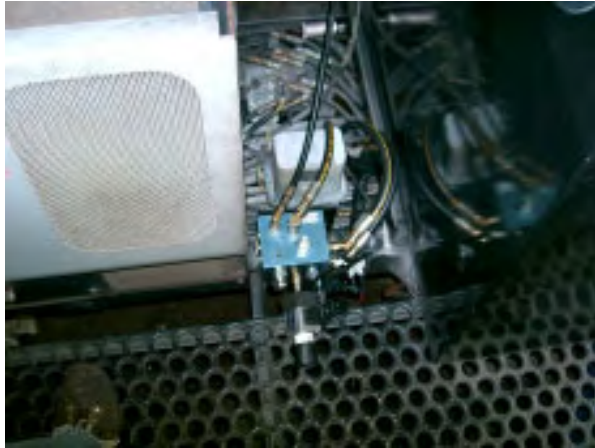


Hagie 2100/2101

## SMARTRAX STEERING INSTALLATION

- ◆ To begin installation, remove steel grating from bottom of machine.
- ◆ Remove #8 JIC (M) port from “P” port on Raven Hydraulic Valve. Replace with supplied #6 JIC (M) to #8 SAE o-ring fitting.
- ◆ Attach pressure switch to “PS” port on hydraulic block using only the straight fitting.

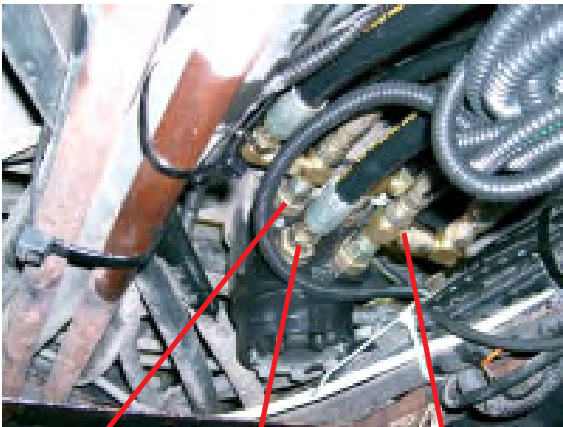
## MOUNTING UNIVERSAL BRACKET



- ◆ Universal bracket mounts to frame rail on right side of machine between cab and engine.
- ◆ Bracket must be welded to frame.
- ◆ Mount valve loosely to bracket to assure proper clearance around valve.
- ◆ Weld bracket to frame.
- ◆ Mount valve to bracket.
- ◆ NOTE: Cover existing wires and hoses below welding area.



## INSTALLING TANK, EXCESS FLOW, LEFT AND RIGHT STEER LINES



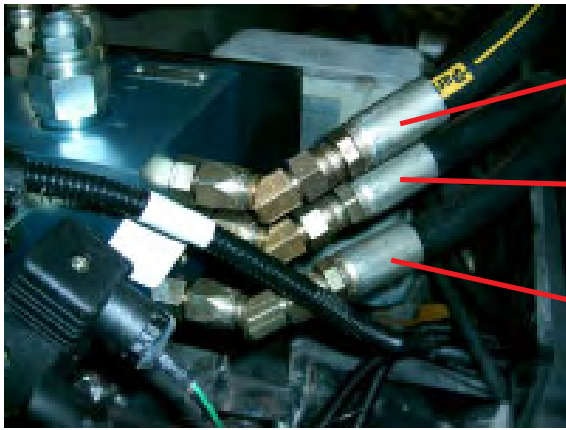
Tank

Pressure

Right

- ◆ Remove existing tank, pressure, left, and right lines from orbital.
- ◆ Install #6 JIC run tees onto tank, left, and right ports.
- ◆ Re-attach original tank, left, and right hoses to run end of tee.  
NOTE: Ports are labeled on orbital.
- ◆ Attach supplied tank, left, and right steer hoses to previously installed run tees. Use 90° fitting end.
- ◆ Attach provided “excess flow” hose to pressure port on orbital.
- ◆ Route hoses back to hydraulic block.



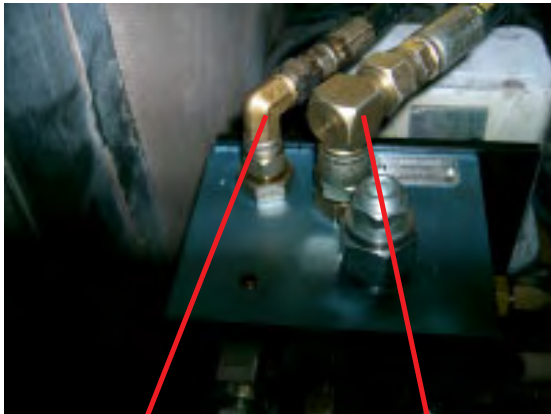


Tank

Left

Right

- ◆ Attach excess flow hose to “EF” port on top of Raven valve using supplied 90° #8 JIC fitting.
- ◆ Attach tank hose to “T” port.
- ◆ Attach left steer hose to “A” port.
- ◆ Attach right steer hose to “B” port.



Original Pressure  
Hose

E x c e s s  
Flow Hose

## INSTALLING PRESSURE LINE

Original pressure line is removed from orbital, routed back to hydraulic manifold, and attached to “P” port on hydraulic block.

## MOUNTING STEERING POSITION SENSOR (S.P.S.)



- ◆ The SPS mounts on right side steering cylinder
- ◆ Supplied mounting tab must be welded to support bracket at base end of cylinder.
- ◆ Install bolt in tab and tighten before welding.
- ◆ Bracket must be made to mount other end of SPS.
- ◆ Be sure not to over extend or over compress sensor.





## CABLE ROUTING



Access  
Hole

- ◆ Connect wire harness to SPS, left and right valve coils, and pressure switch. Left coil is outer one, right coil is inner one.
- ◆ Run harness into cab through access hole at right rear of floor cab.

## START-UP PROCEDURES

- ◆ Check the S.P.S. stroke length to be sure it is not over compressed or over extended.
- ◆ Turn steering wheel full left and right to purge system of air.
- ◆ Set valve timing for a left to right and right to left time of 12 to 13 seconds. Use controller to pulse valve left and right.
- ◆ Adjust pressure switch to most responsive setting. For additional information, refer to Universal kit manual.



**RAVEN**

# **RAVEN INDUSTRIES**

## **Limited Warranty**

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### ***What Does this Warranty Cover?***

This warranty covers all defects in workmanship or materials in your Raven Applied Technology Product under normal use, maintenance, and service.

### ***How Long is the Coverage Period?***

Raven Applied Technology Products are covered by this warranty for 12 months after the date of purchase. This warranty coverage applies only to the original owner and is nontransferable.

### ***How Can I Get Service?***

Bring the defective part and proof of purchase to your Raven Dealer. If your Dealer agrees with the warranty claim, the Dealer will send the part and proof of purchase to their distributor or to Raven Industries for final approval.

### ***What Will Raven Industries Do?***

Upon confirmation of the warranty claim, Raven Industries will, at our discretion, repair or replace the defective part and pay for return freight.

### ***What is not Covered by this Warranty?***

Raven Industries will not assume any expense or liability for repairs made outside our facilities without written consent. Raven Industries is not responsible for damage to any associated equipment or products and will not be liable for loss of profit or other special damages. The obligation of this warranty is in lieu of all other warranties, expressed or implied, and no person or organization is authorized to assume any liability for Raven Industries.

Damages caused by normal wear and tear, misuse, abuse, neglect, accident, or improper installation and maintenance are not covered by this warranty.