

**RAVEN**

*Simply improving your position.<sup>SM</sup>*

# SmarTrax™ Installation Manual



**Spra-Coupe 220**

## ***Disclaimer***

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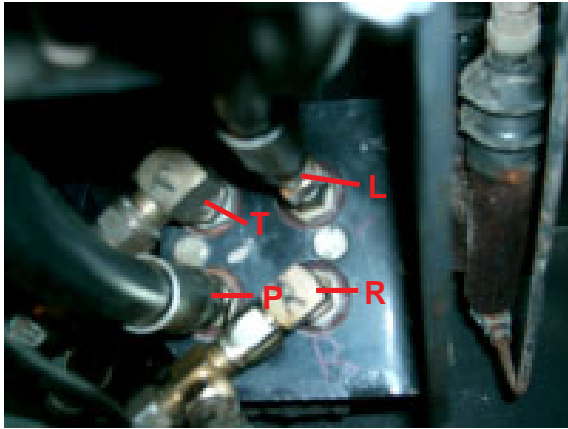


SPRA-COUPE 220

## MOUNTING HYDRAULIC VALVE AND BRACKET

- ◆ The mounting of hydraulic valve requires use of only T-shaped mounting bracket.
- ◆ Bracket is positioned on top of frame rail, adjacent to steering orbital.
- ◆ Holes are marked then drilled, and provided 3/8" bolts are used to fasten mounting bracket to frame rail.
- ◆ Raven valve is then attached to mounting bracket using provided bolts. Valve should be positioned so valve coil stack is pointing in a rearward direction.

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



- ◆ To begin installation of hydraulic hose kit, first disconnect existing pressure hose from steering orbital and then re-connect to port labeled “P” on Raven valve.
- ◆ EF hose connects to “EF” port on Raven valve and to open “P” port on steering orbital.
- ◆ Tank hose is disconnected from steer orbital, then #8 90° elbow and run tee are attached to orbital as shown in picture. Original tank line is re-connected to tee.
- ◆ Raven tank hose is then connected to “T” port on Raven valve to tee on tank port of steering orbital.



- ◆ Right steer hose is disconnected from steering orbital, then #6 90° elbow and run tee are attached to orbital as shown in picture. Original right steer hose is then connected to tee.
- ◆ Raven right steer hose is then connected to “B” port on Raven valve, to tee on right steer port of orbital.
- ◆ Left steer hose is disconnected from steer orbital, then #6 run tee is attached to orbital. Original left steer hose is re-attached to tee on orbital.



- ◆ Raven left steer hose is then connected to “A” port on Raven valve, to tee on left steer port of orbital.

NOTE: When routing hoses, be sure that hoses are not obstructing path of clutch pedal when being depressed.

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



- ◆ The SPS is mounted on right side of machine.



- ◆ One end is attached to tie rod as shown in picture, using provided clamps and mounting tab.



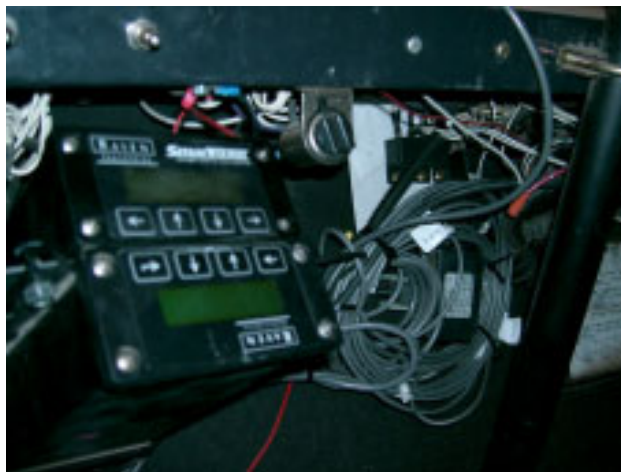
- ◆ Other end is attached to front axel near spindle, by welding mounting tab to machine as shown in picture.
- ◆ **IMPORTANT!** On initial startup, be sure to check SPS stroke by turning wheels slowly. Do not overextend or overcompress sensor!

## CABLE ROUTING



- ◆ Connect wire harness to left and right steering coils, SPS and pressure switch.
- ◆ Inner coil is right coil and outer coil is left coil. If steering is reversed, switch coil connections around.

## START-UP PROCEDURES



- ◆ Check 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.
- ◆ Adjust pressure switch to most responsive setting. For additional information, refer to Universal kit manual.









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# **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.

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