

RAVEN



SMARTRAX SUPPLEMENT
INSTALLATION MANUAL
2425 BUHLER VERSATILE

117-0190-048

SmarTrax 
Straight shot to easy steering

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2425 Buhler Versatile



FIGURE 1

MOUNTING THE UNIVERSAL BRACKET

Position the bracket on the steel hood support plate between the engine and the front of the cab. Drill holes to fit the mounting bracket pattern and attach the universal mounting bracket to the machine using the provided 1/2" hex-head bolts. Figure 1 shows the bracket mounted to the machine with the valve and hoses attached.



FIGURE 2

MOUNTING THE STEERING POSITION SENSOR

Figure 2 shows the approximate mounting position of the steering position sensor. Attach the steering position sensor to the right side steering cylinder and rear frame cross member. **NOTE: It may be necessary to fabricate a mounting bracket to properly position the sensor.** Figures 3 and 4 show the ends of the sensor and their respective fabricated mounting brackets.



FIGURE 3



FIGURE 4



FIGURE 5

MOUNTING THE STEERING ASSIST VALVE AND PRESSURE SWITCH

Position the hydraulic valve on the universal bracket over the top of the proper hole pattern. Secure the valve to the bracket using the provided metric bolts and lock washers. **NOTE: It may be necessary to drill additional holes in the mounting bracket if the valve is not in an accessible position.**

Attach the pressure switch to the LS-Steer port on the Steering Assist Valve using the provided JIC fittings.

HOSE CONNECTIONS AND ROUTING

Pressure Hose

Remove the existing pump to orbital hose from the orbital and the priority valve. Attach a provided #12 JIC tee to the orbital. Attach the provided #12 JIC to #16 JIC hose to the tee and the priority valve. Place the #12 to #8 JIC adapter fitting on the run end of the tee. Connect the #8 JIC end of the pressure hose to the adapter fitting and the other end to the pressure port on the Steering Assist Valve.

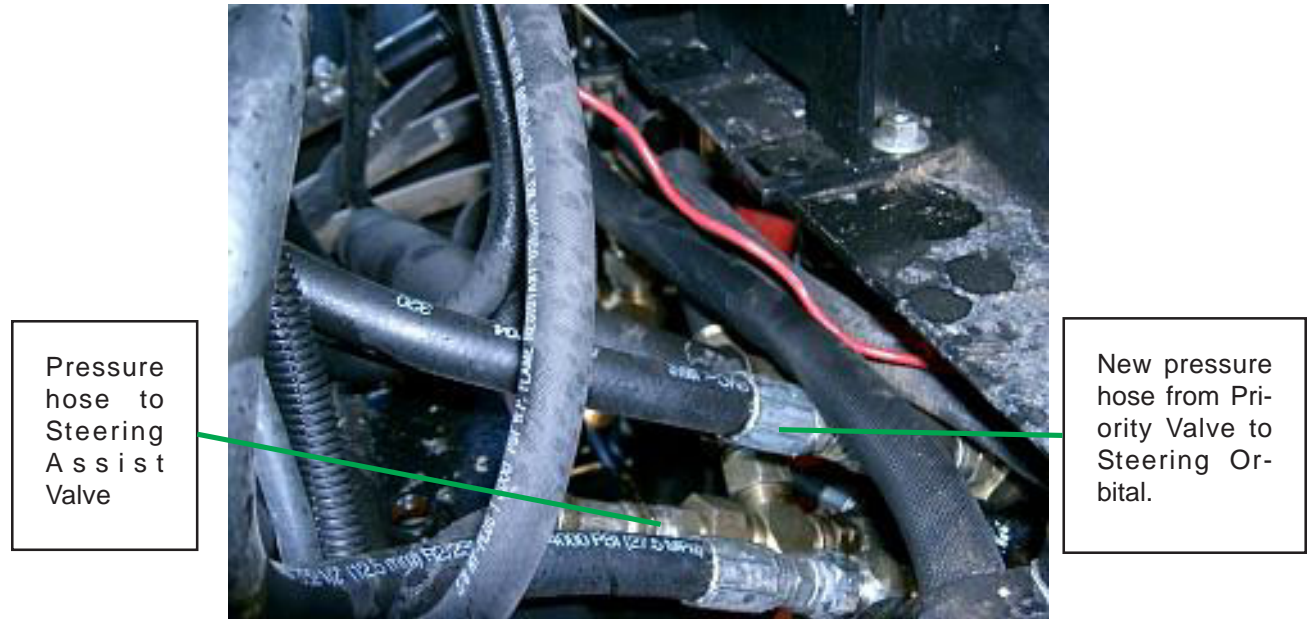


FIGURE 6

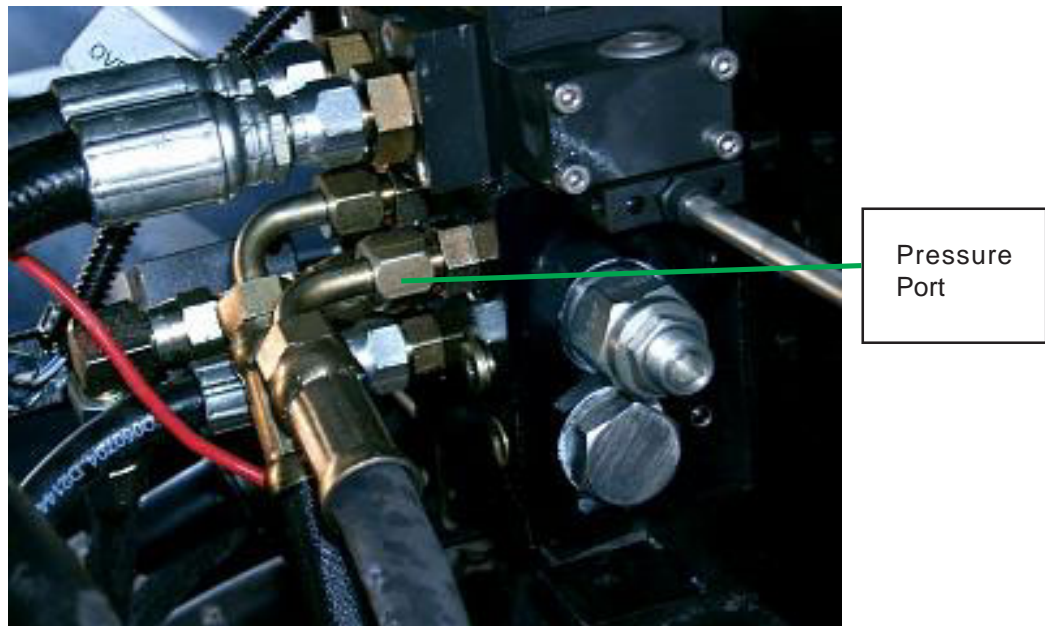


FIGURE 7

Tank Port Hose

Remove the existing tank to orbital hose at the return oil manifold and attach a provided #16 JIC tee fitting to the manifold. Connect the new #16 JIC hose to the tee fitting and to the orbital. Install a #16 to #12 and the #12 to #8 adapter fittings to the tee. Connect one end of the Tank hose to this fitting and the other end to the T-port on the Steering Assist Valve.

NOTE: It is important to trace the hoses so that the pressure and tank hoses are not accidentally swapped for each other. This will cause valve failure. If the Left and Right Steer hoses are swapped, the machine will steer opposite to the desired direction.



FIGURE 8

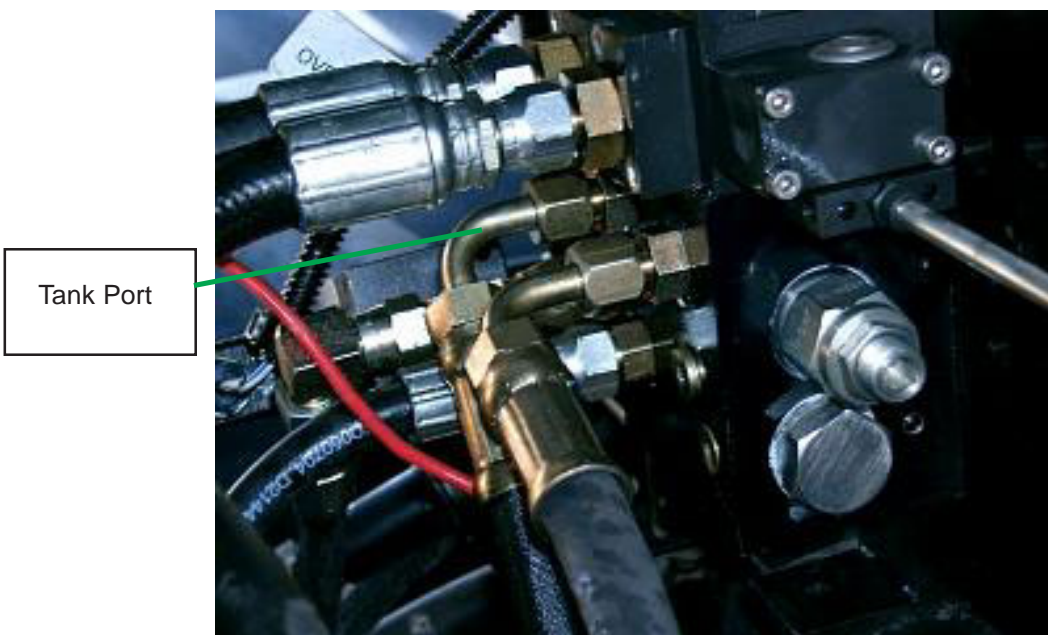


FIGURE 9

Left Steer Hose

Remove the hose attached to the Left Steer port of the orbital. Attach a provided #10 JIC tee fitting to the orbital and attach the original hose to an open port on the tee. Connect the provided Left Steer hose to the remaining open port on this tee and attach the other end to the A port on the Steering Assist Valve.

Right Steer Hose

Remove the hose attached to the Right Steer port of the orbital. Attach a provided #10 JIC tee fitting to the orbital and attach the original hose to an open port on the tee. Connect the provided Right Steer hose to the remaining open port on this tee and attach the other end to the B-port on the Steering Assist Valve.

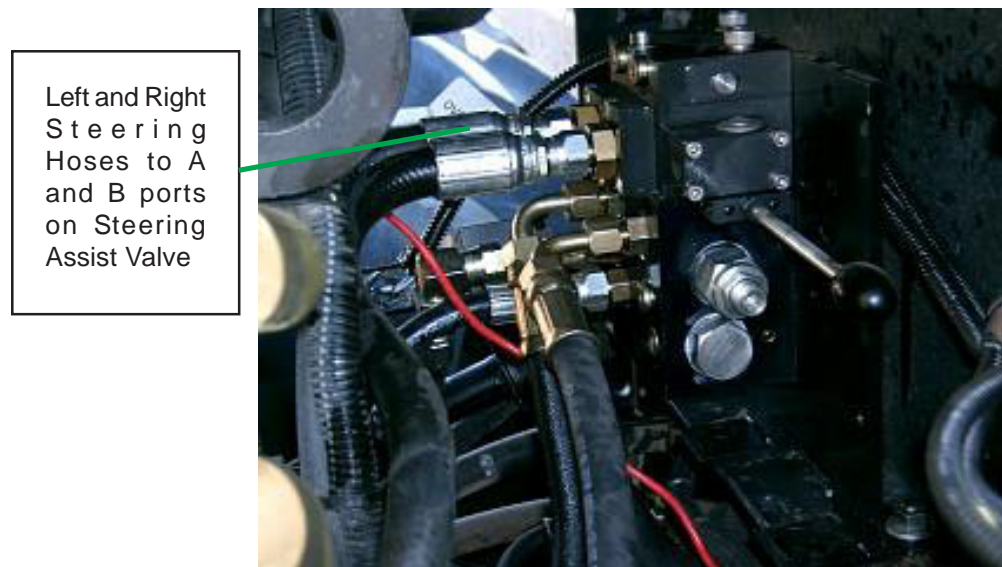


FIGURE 10

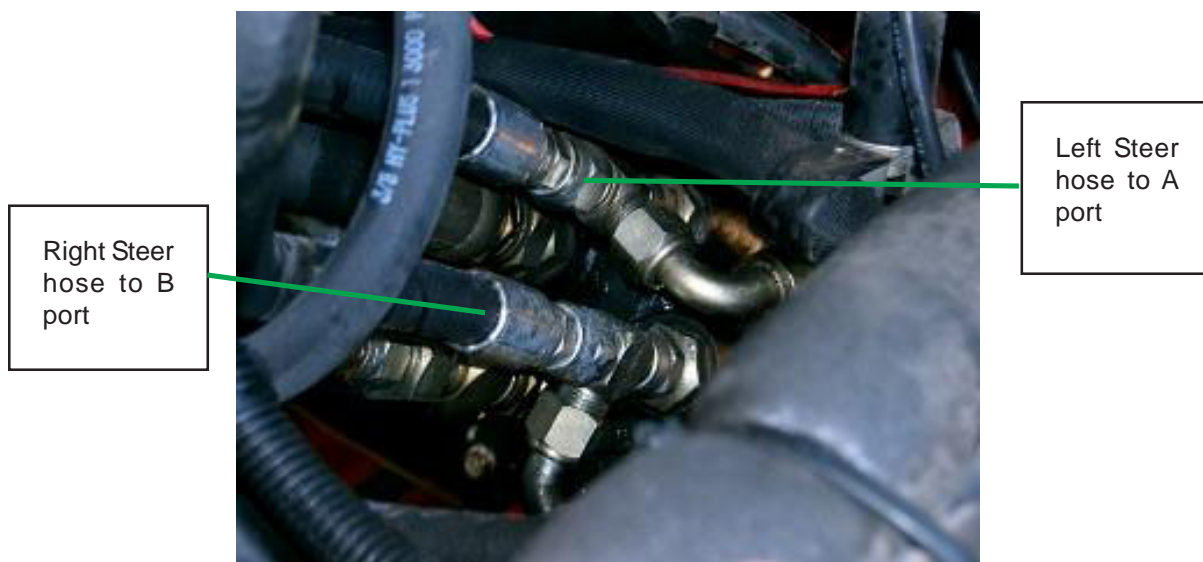


FIGURE 11

LS-PV and Load Sense

Remove Load Sense line off of the orbital and off of the priority valve. Attach the new 48" LS-PV hose to the priority valve and to the LS-PV port on the Steering Assist Valve. Attach the LS-Steer hose to the run tee on the pressure switch back to the Load Sense port on the steering orbital.



RAVEN INDUSTRIES LIMITED WARRANTY

WHAT IS COVERED?

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

HOW LONG IS THE COVERAGE PERIOD?

This warranty coverage runs for 12 months from the purchase date of your Raven Flow Control Product. This warranty coverage applies only to the original owner and is not transferrable.

HOW CAN YOU GET SERVICE?

Bring the defective part, and proof of date of purchase, to your local dealer. If your dealer agrees with the warranty claim, he will send the part, and proof of purchase to his distributor or to Raven for final approval.

WHAT WILL RAVEN INDUSTRIES DO?

When our inspection proves the warranty claim, we will, at our option, repair or replace the defective part and pay for return freight.

WHAT DOES THIS WARRANTY NOT COVER?

Raven Industries will not assume any expense or liability for repairs made outside our plant without written consent. We are not responsible for damage to any associated equipment or product 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 is authorized to assume for us any liability. Damages caused by normal wear and tear, misuse, abuse, neglect, accident, or improper installation and maintenance are not covered by this warranty.



RAVEN INDUSTRIES FLOW CONTROL DIVISION
205 East Sixth Street - P.O. Box 5107 - Sioux Falls, South Dakota 57117-5107
E-mail: fcinfo@ravenind.com
www.ravenprecision.com
Toll-free: 800-243-5435 - Fax: 605-331-0426

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