

SmartTrax»»»

Straight shot to easy steering



Case IH SPX 3200B

(S/N 3805 & Lower; 2002 & Older)

Supplement & Installation Manual

DISCLAIMER

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CHAPTER

1

INTRODUCTION

Congratulations on your purchase of the Raven SmarTrax system! This system is designed to provide cutting-edge, hands-free steering of your machine via GPS coordinates.



Below you will see the kit contents that you should have received with this SmarTrax kit.

Basic Kit Contents

Case IH SPX 3200B SmarTrax Kit Contents

Quantity	Item Description	Part Number
1	Kit, SPS	063-0181-001
1	Cable, Hydraulic Solenoid/Override	115-0171-466
1	Weldment, Bracket, Univ. Hyd. Mtg, Part "A"	116-0159-527
1	Switch, Pres., Micro, HD 15-100 Bar Adj., W/90° Ftg.	422-0000-074
4	Bolt, 5/16-18 x 7/8" Hex	311-0052-104
4	Bolt, Hex, 3/8"-16 UNC x 1/2"	311-0054-105
4	Nut, 3/8"-16	312-1001-037
4	Washer, Lock, 5/16"	313-1000-019
4	Washer, Lock, Split, 3/8"	313-1000-022
4	Washer, Flat, 3/8"	313-2300-013
1	Valve, Hyd., OC, PWM	334-0003-064
1	Manual, Installation	016-0190-030
1	Manual, Installation, Smartrax	016-9001-008
1	Label, Warning, Do Not Step	041-0159-688
1	Label, Warning, Tampering	041-0159-689
1	Ftg., Adapter, Swivel Run Tee, -6 JIC M/M/F	333-0012-043
1	Ftg., Elbow, 90° Swivel, -8 JIC M/F	333-0012-064
2	Ftg., Adapter, Swivel Run Tee, -6 ORFS M/M/F	333-0012-069
3	Ftg., Adapter, Straight, -6 JIC (F) to -8 JIC (M)	333-0012-118
1	Ftg., Adapter, Straight, -8 JIC (F) to -6 JIC (M)	333-0012-141
1	Hose, Hyd., 6JF90S -6 43" 8JF	214-1000-109
2	Hose, Hyd., 6FF90S -6 36" 8JF	214-1000-120
1	Hose, Hyd., 6JF90S -6 36" 8JF	214-1000-122

CHAPTER

2

SAFETY

Hydraulic Safety Requirements



Important: Hydraulics are under pressure. Never attempt to open or work on a hydraulic system with the equipment running. Care should always be taken when first opening a system that was previously pressurized.

When disconnecting the hydraulic hoses or when purging is required, be aware that the hydraulic oil within the machine system may be extremely hot and under high pressure. Caution must be exercised. Any work carried out on the hydraulic system must be performed in accordance with the machine manufacturer's approved maintenance instructions. Raven Industries recommends that appropriate protective equipment be worn when working on the hydraulic system. Objects or materials that are able to bypass the machine's hydraulic filtration system will adversely reduce performance and possibly damage the hydraulic valves.

Electrical Safety Requirements

Do not reverse the power leads. Doing so will cause severe damage to the equipment. Always check to make sure that the power leads are connected to the right polarity as marked. Ensure that the power cable is the last cable to be connected.

Contacting Raven Industries

We welcome your feedback about this manual. If you have any comments or suggestions for improvement, please let us know by contacting our Customer Support Center by any of the following methods:

- ◆ **Via phone:** 1-800-243-5435

- ◆ **Via mail:**
Raven Industries
Flow Control Division
205 E. 6th St.
Sioux Falls, SD 57104

- ◆ **Via email:** fcdinfo@ravenind.com

CHAPTER

3

MOUNTING THE UNIVERSAL BRACKET AND VALVE

1. Mount the valve underneath the machine to cross member behind the orbital or to the inside of the left frame rail.



valve mounting location and orientation

NOTE: You may need to drill holes in the universal bracket to accommodate the bracket and valve block in the configuration shown above.

CHAPTER

4

HYDRAULICS

Installing the Hydraulics

NOTE: Refer to schematic at the end of this section when installing hydraulic lines.

1. Locate/identify the four ports on the steering orbital: T, P, L, R.
2. Install the two -6 M/M/F flat-faced o-ring run tees onto the L and R ports on the orbital.
3. Install the -6 M/M/F JIC run tee onto the T port on the orbital.



4. Install the -6 JIC (F) to -8 JIC (M) adaptors onto the A, B, and T ports on the SmarTrax valve block.

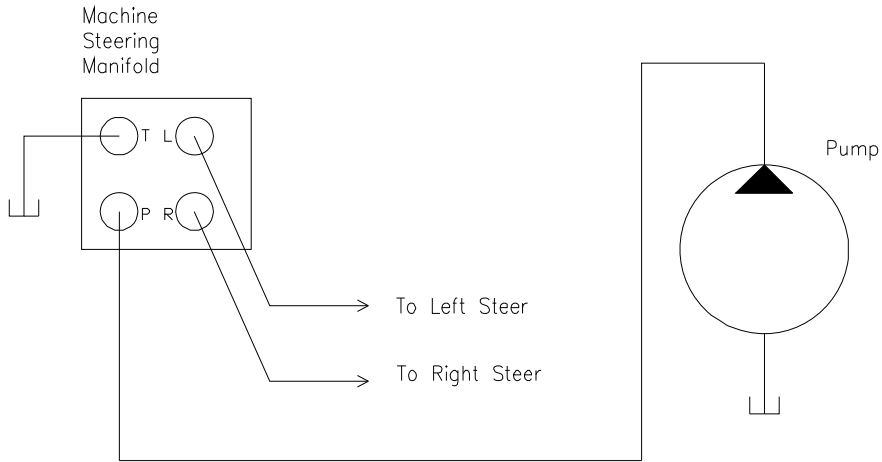
5. Install the -8 M/F 90° elbow to the EF port and the -8 JIC (F) to -6 JIC (M) adapter to the P port on the SmarTrax valve block.
6. Connect the pressure switch to the PS port on the SmarTrax valve block.
7. Disconnect line from P port on orbital and connect to P port on SmarTrax valve. Connect hose (P/N 214-1000-109) to the EF port on the Smartrax valve and then to the pressure port on the orbital.



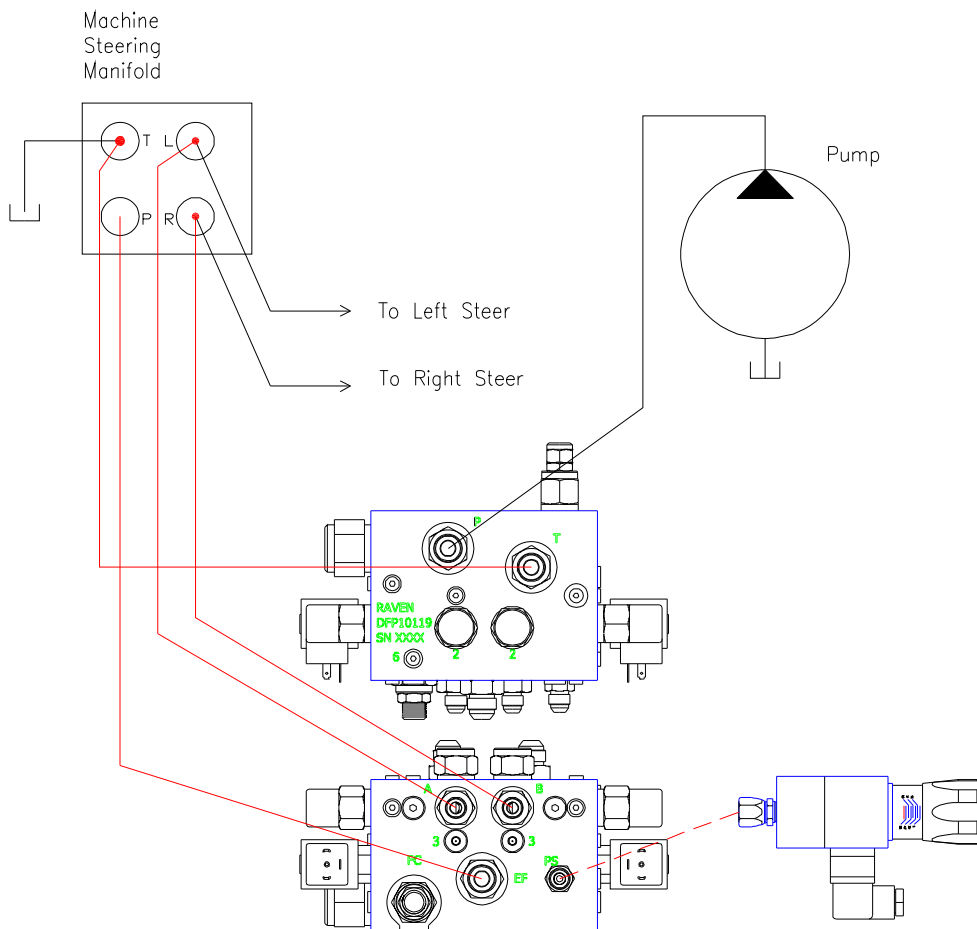
SmarTrax Valve Hoses/Fittings

8. Connect hoses (P/N 214-1000-120) to the tees installed in the left and right steering lines on the orbital and then to the A (left) and B (right) ports on the Smartrax valve.
9. Connect hose (P/N 214-1000-122) to the T port on the Smartrax valve and then to the tee in the tank line on the orbital.

Before Smartrax Installation



After Smartrax Installation



Notes:

CHAPTER

5

STEERING POSITION SENSOR & WIRING HARNESS INSTALLATION

Mounting the SPS

Important: Be sure not to over extend or over compress the steering position sensor when turning the wheels.

1. Attach the steering position sensor to the right steering cylinder using the supplied universal brackets and band clamps.



Steering Position Sensor mounting

Getting Power

1. Remove the access panel on right side of cab and locate a good source for switch power to power SmarTrax electronic accessories.



Switched Power Access Panel

Notes:

CHAPTER

6

START-UP PROCEDURES

After installing the SmarTrax on your machine, follow these start-up procedures.

- ◆ Make sure the Steering Position Sensor does not over-extend or over-compress when turning the wheels.
- ◆ Turn the wheels fully from side to side numerous times to remove air from the hydraulic system.
- ◆ Time the wheels for full left to right and right to left time of approx. 6 seconds. Refer to the Universal Kit Manual for instructions on this.
- ◆ Adjust the pressure switch to the most responsive setting. Refer to the Universal Kit Manual for instructions on this.

Notes:



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.

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