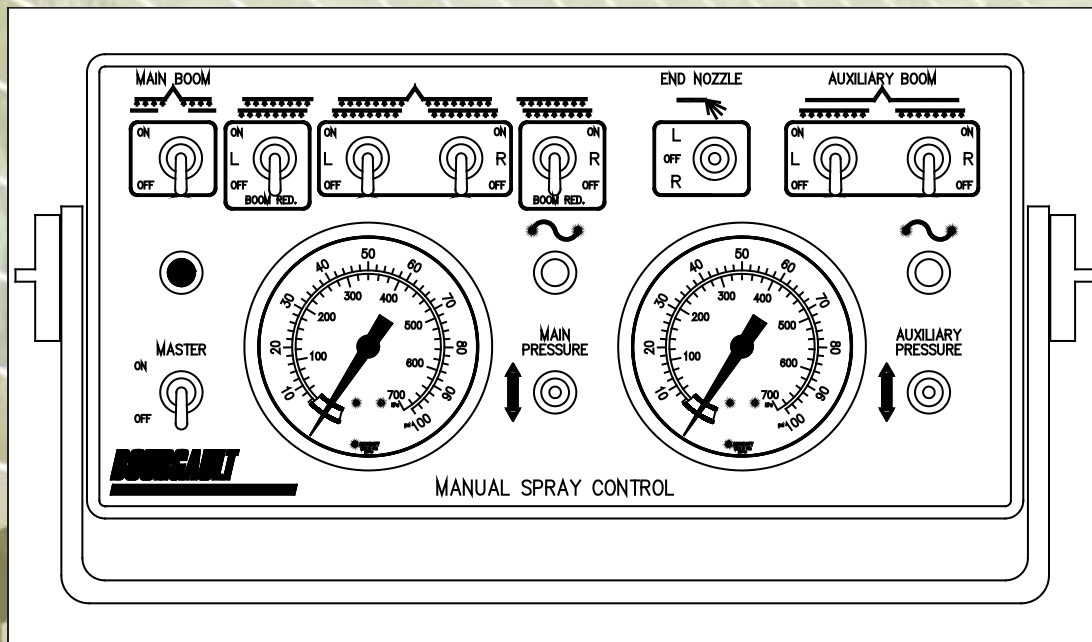


# Installation & Service Manual





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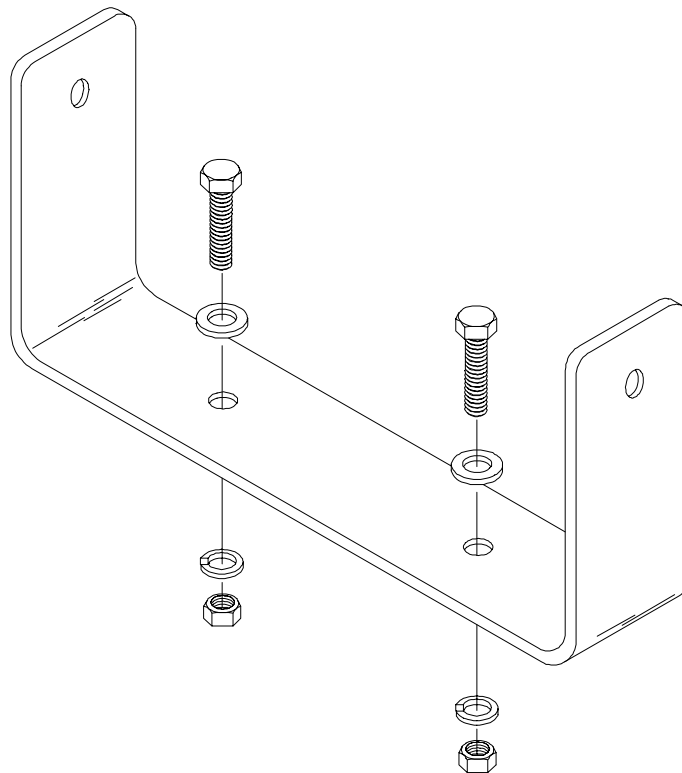
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# INSTALLATION

## 1. MOUNTING THE SPRAYER CONTROL CONSOLE

- 1) Select a mounting location for the Console in the tractor cab where the pressure gauge is clearly visible and switches are within easy reach.
- 2) Use the Console bracket as a pattern to drill the mounting holes. Drill one 1/4" hole and bolt the bracket in the position desired. Now drill the second hole and install the second mounting bolt.

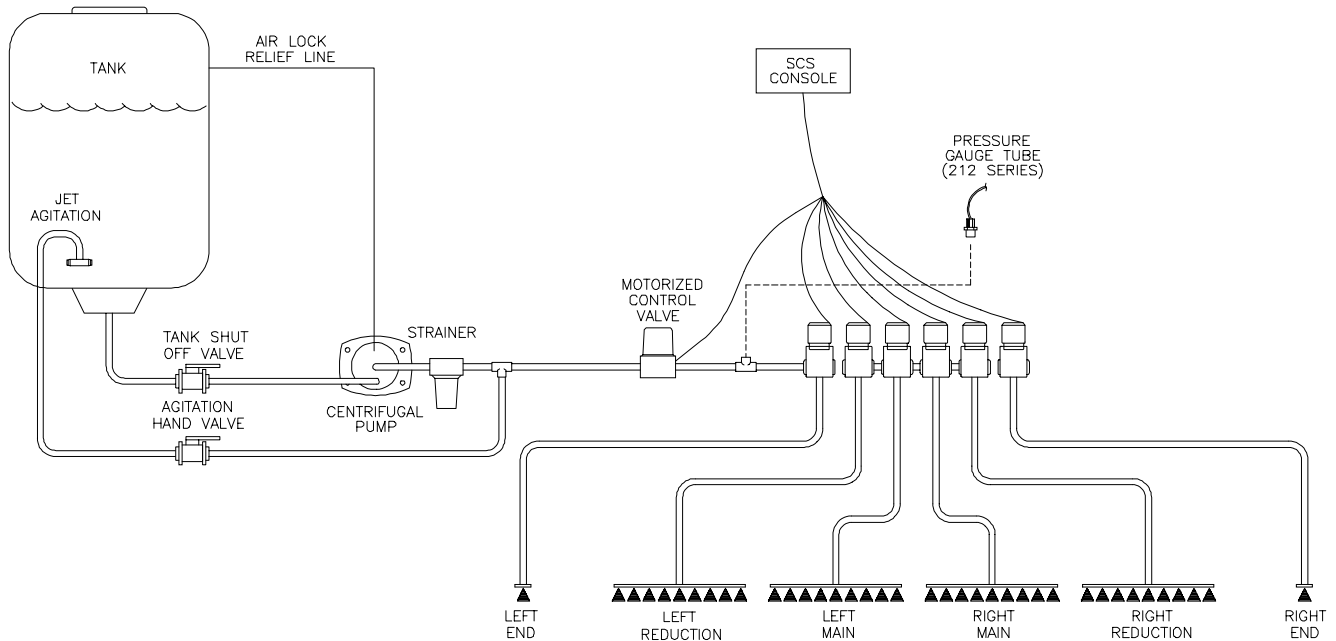
### SCS 212 CONSOLE BRACKET



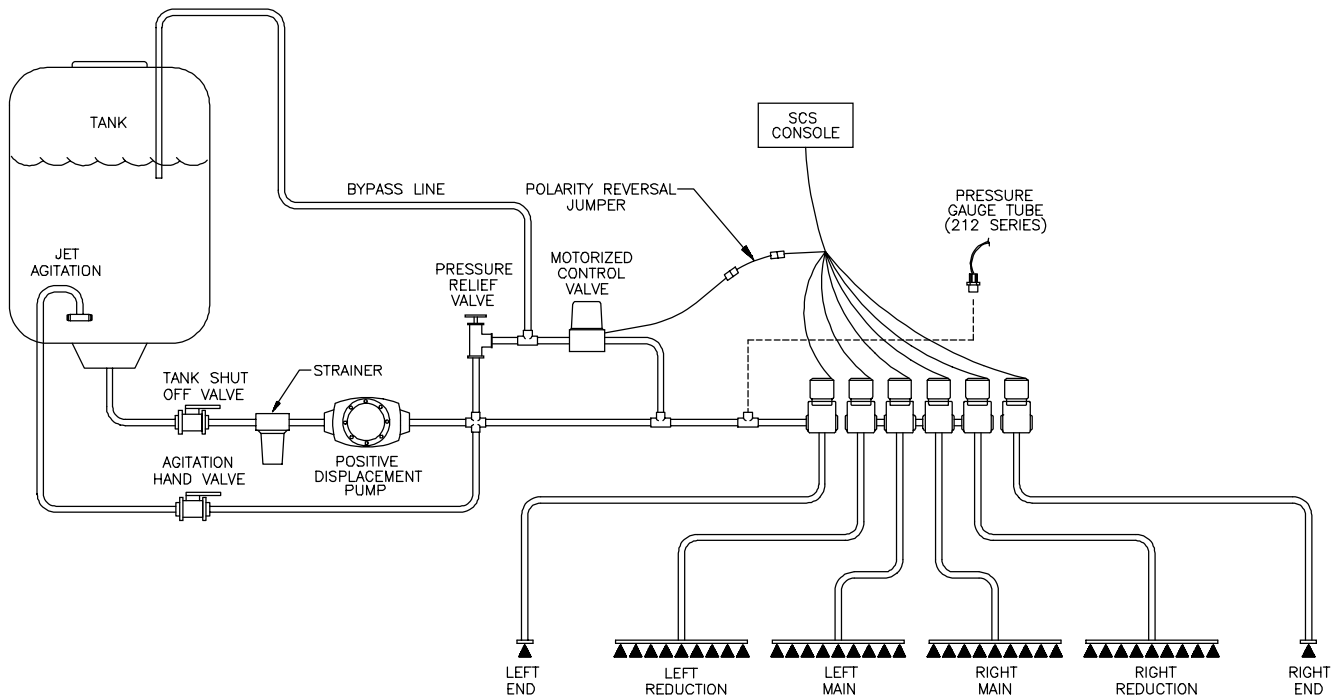
## 2. INSTALLING THE MOTORIZED CONTROL VALVE

Install the motorized Control Valve as shown in the Sprayer Plumbing Diagrams below. The plumbing will vary depending on whether your sprayer has a positive displacement pump or a centrifugal pump.

**SPRAYER PLUMBING DIAGRAM  
(USING CENTRIFUGAL PUMP)**

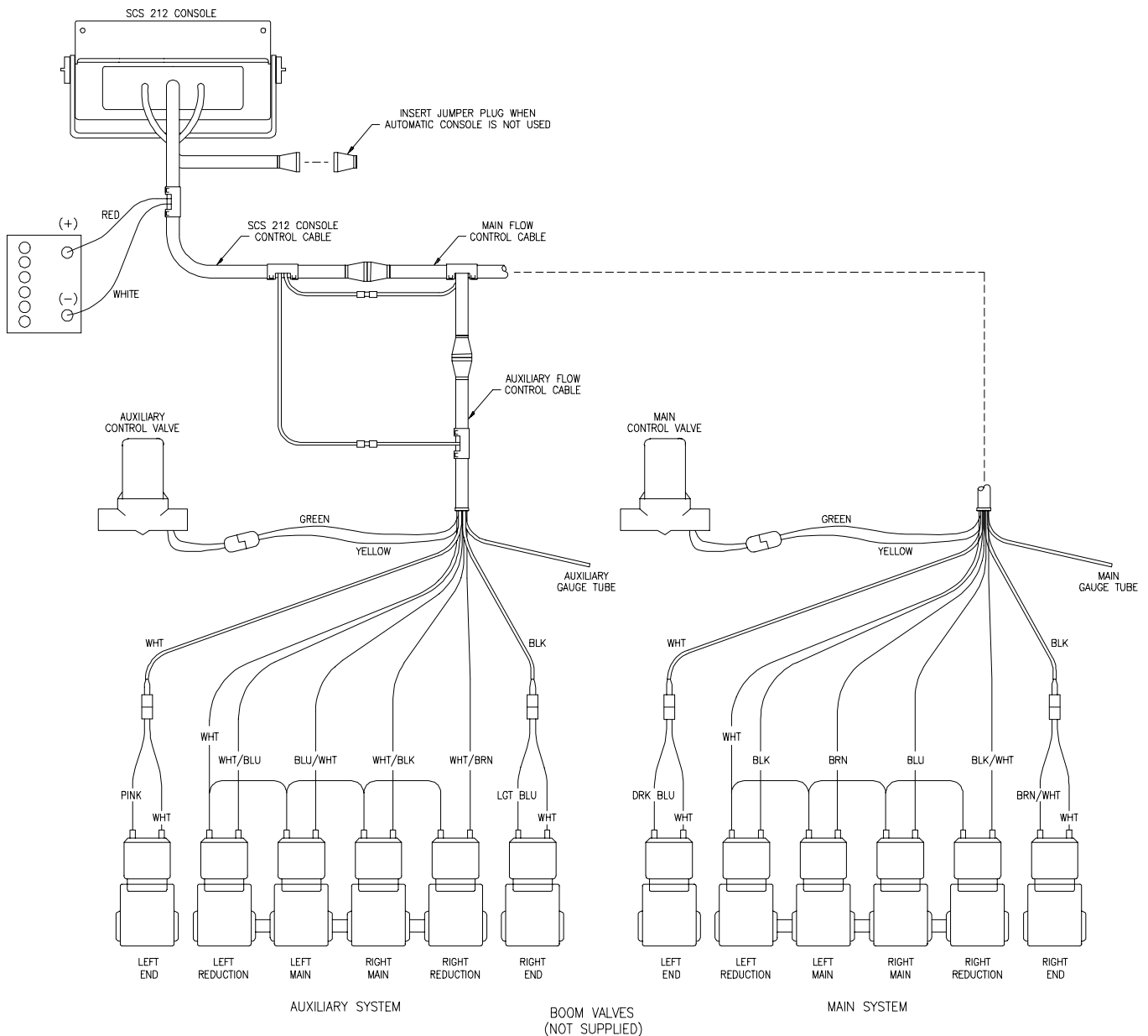


**SPRAYER PLUMBING DIAGRAM  
(USING POSITIVE DISPLACEMENT PUMP)**



### 3. WIRING DIAGRAM FOR SCS 212 SERIES

1) Turn POWER ON/OFF switch OFF and route the Red and White battery wires to a 12-volt battery. Attach the White battery wires to the **NEGATIVE** (-) terminal and the Red battery wire directly to the **POSITIVE** (+) battery terminal. **(DO NOT CONNECT RED AND WHITE WIRES TO THE STARTER)**. Secure the battery wires with plastic cable ties. **DO NOT** tie the battery wires close to the existing battery leads or any other electrical wiring.



2) Route Main Flow Control Cable to Main Control Valve and Main System Boom Valves as illustrated. Connect Main Gauge Tube. Repeat for Auxiliary System if required.

# INITIAL SYSTEM SET-UP

## 1. ADJUSTING THE SYSTEM

- 1) Fill tank with water only.
- 2) Place MASTER ON/OFF Switch to ON, BOOM ON/OFF switches to OFF, and open tank shut off valve.
- 3) With pump not running, totally close agitator line hand valve. (If positive displacement type pump is used, fully open pressure relief valve).
- 4) If centrifugal pump is used, proceed with Step 5. If positive displacement pump is used, proceed as follows:
  - a) Place MASTER ON/OFF switches to OFF.
  - b) Set Pressure Relief Valve to 65 PSI [448 kPa].
  - c) Place MASTER ON/OFF switch to ON.
- 5) Verify that each boom solenoid valve operates by operating BOOM ON/OFF switches and that no nozzles are plugged.
- 6) Place all BOOM ON/OFF switches ON.
- 7) Hold the PRESSURE switch in "+" position until the pressure stops increasing.
- 8) Adjust agitator line hand valve for desired agitation.
- 9) Hold the PRESSURE switch in "-" until the pressure stops decreasing. If desired minimum pressure cannot be obtained, install larger bypass hose.
- 10) Verify the desired maximum pressure of the Sprayer System by repeating Step 7.
- 11) Repeat Steps 1-10 for Auxiliary system.

## 2. CALIBRATING THE PRESSURE GAUGE

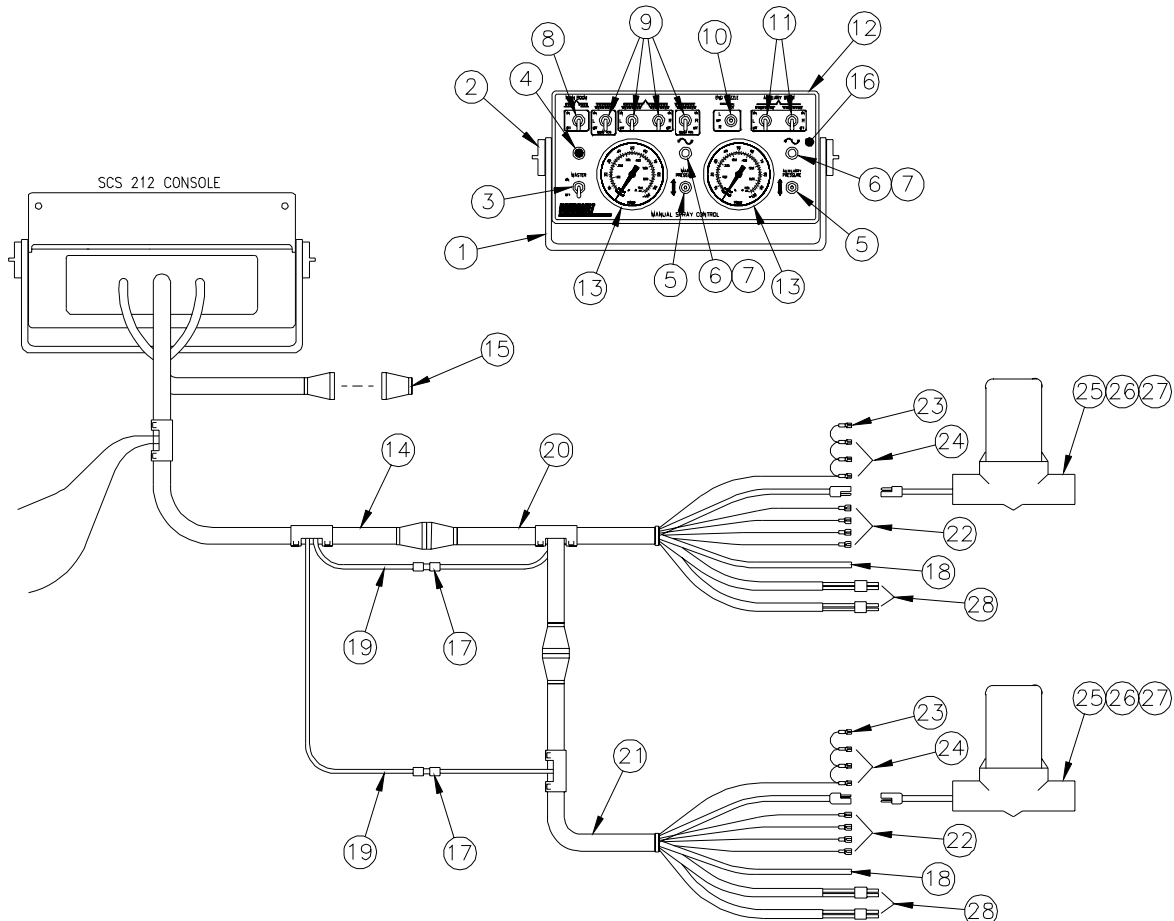
The pressure tap on the Raven Sprayer Control systems is located away from the nozzles, thus, there can be a pressure difference between nozzle pressure and gauge pressure at the Console. Therefore, for best results, we recommend the following procedure:

- 1) When the sprayer is ready and the tank filled with water (**NO CHEMICALS AT THIS TIME**), attach an **accurate** pressure gauge to a nozzle in place of the spray tip.
- 2) Start up the pump, turn on the electric shut-off valves (Boom Valves) and adjust the pressure control valve so that the desired pressure is maintained on the gauge at the nozzle.
- 3) Because of pressure drops through the system, the pressure shown on the gauge in the Console may read slightly higher than the gauge at the nozzle. Use this Console pressure reading as your reference point for maintaining the desired pressure at the nozzle.



# SCS 212 REPLACEMENT PARTS

ITEM	DESCRIPTION	RAVEN PART #
1	Mounting Bracket	106-0159-437
2	Mounting Knob	106-0159-438
3	Master Switch	412-2011-048
4	Light	019-0159-132
5	Switch, Pressure	412-2011-039
6	Fuse Holder	510-2011-003
7	Fuse, 15 Amp.	510-1003-003
8	Switch, Main Boom	412-2011-047
9	Switch	412-2011-043
10	Switch, End Nozzle	412-2011-071
11	Switch, Auxiliary Boom	412-2011-047
12	Console	063-0171-169
13	English PSI Gauge, Female Fitting	117-0159-006
	Metric PSI/KPA Gauge, Female Fitting	117-0159-021
14	Console Control Cable (21 1/2 ft.)	115-0159-748
15	Jumper Plug	115-0159-746
16	Faceplate	116-0159-453
17	Union Fitting	214-0001-008
18	Tubing	214-0001-001
19	Plastic Hose	214-0001-001
20	Main Flow Control Cable (12 ft.)	115-0159-747
21	Auxiliary Flow Control Cable (11 ft.)	115-0159-799
22	18-20 AWG Female Terminal	405-2001-018
23	10-12 AWG Female Terminal	405-2001-008
24	14-16 AWG Female Terminal	405-2001-009
25	3/4" Valve Assembly	063-0159-001
26	1" Valve Assembly	063-0159-447
27	1 1/2" Valve Assembly	063-0159-448
28	2 Way Tower Connector	408-4001-085





# 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.

**R A V E N**

SCS 212  
Installation & Service Manual  
(P/N 016-0159-553 Rev B 2/09)

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



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