

## 6-Section Boom Control Module Installation Instructions

These installation instructions describe installing model number BCM, 6-section Boom Control Module, part number 46688-0020S1, into a sprayer control system. The BCM is mounted inside the vehicle cab with a U-bracket. A harness assembly connects the BCM to the boom shutoff valves to control the on/off status of each valve. An optional harness assembly is available to deliver valve status information to a DICKEY-john Controller for regulating the product application rate. Before beginning, check that all the necessary items are present. Items included with this kit are as follows;

- (1) BCM - 46688-0020.
- (2) U-bracket mounting kit - 46688-0180.
  - (a) U-bracket 46688-0170.
  - (b) Two  $\frac{1}{4}$  - 20 x  $\frac{1}{2}$  bolts with serrated flange.
  - (c) Two .26 - 1 x .09 rubber washers - 46639-0900.
  - (d) Two  $\frac{1}{4}$  - 20 x  $\frac{1}{2}$  bolts.
  - (d) Two  $\frac{1}{4}$  inch split lockwashers.
  - (e) Two  $\frac{1}{4}$  -  $\frac{9}{16}$  x  $\frac{1}{32}$  flat washers.
  - (f) Two  $\frac{1}{4}$  - 20 hex nut.
- (3) Connecting Harness - Either 46688-0140 (10 ft./3.05m) or 46688-0150 (40 ft./12.2m)
- (4) Optional Dj Controller Interface adaptor harness.

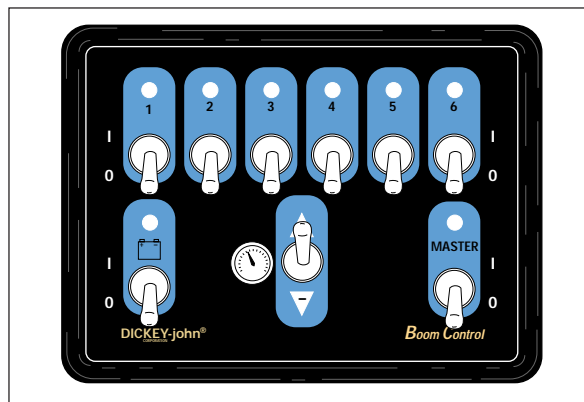


Figure 1. BCM - Boom Control Module

### BASIC OPERATION OF BCM

The operator has manual control of six boom shutoff switches, a power switch, an Increase/Decrease pressure switch and a MASTER shutoff switch (See Figure 1).

**Boom Section Shutoff Switches** – Each switch controls the On/Off condition (I/O) of a single boom section solenoid (up to six). In the up position, a green light indicates an active boom whenever the MASTER switch is on.

**Power Switch** – The power source to the BCM is derived from the +12V vehicle battery system. When placed in the up position, a yellow indicator light indicates power is applied to the module. If self-closing solenoids are used (TeeJet or Tecnomax), this switch becomes the MASTER shutoff switch to remove power from all solenoids.

**Manual Increase/Decrease Switch** – The Manual switch (spring loaded) is a three position switch with the center OFF position. Switching from the up position to the down position reverses the polarity at the output. Holding the switch in either position causes the actuator valve to open or close relative to the time the switch is held. The switch is “bumped” to make small adjustments in pressure. The Manual Pressure Adjustment Switch functions with Dj’s Actuator and Linear Driver Module.

**MASTER Switch** – The MASTER switch controls the main (general) boom shutoff/solenoid. This switch overrides the power to all boom section shutoff switches making possible to control all active booms with one switch.

#### SELECTING A MOUNTING LOCATION

The BCM is mounted inside the vehicle’s cab near the operator for easy viewing and access. A desirable location may be on or below the dash or any location that meets the above criteria. Do not mount the module in a location that obstructs the operator’s driving view or interferes with the operation of the vehicle.

All the following instructions should be carefully read before proceeding. These instructions assume a sprayer system is already in place and operational.

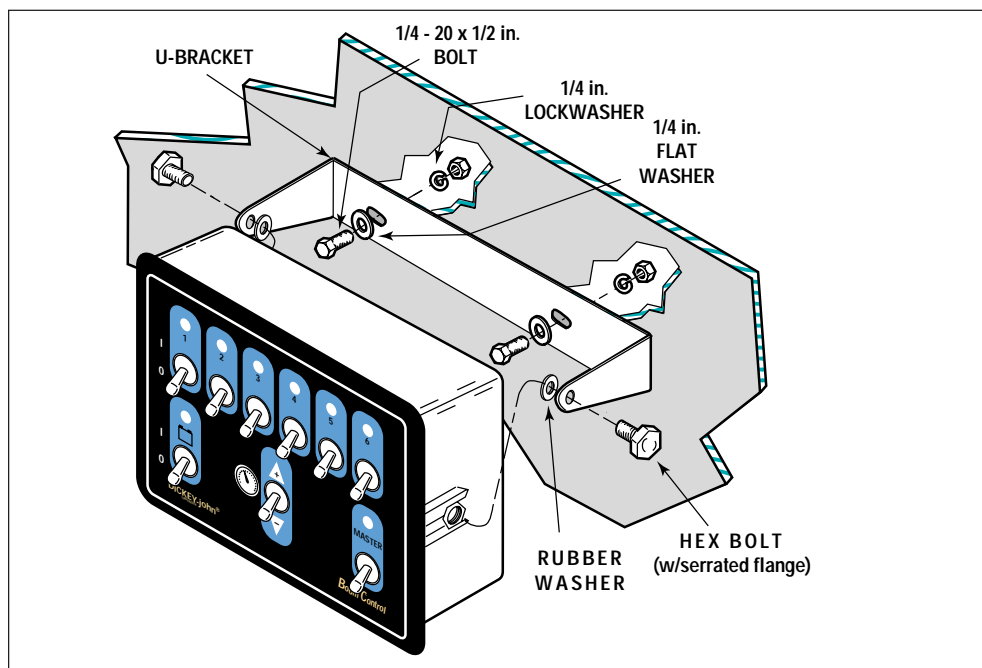


Figure 2. BCM Basic Mounting

#### U-BRACKET MOUNTING

Select a suitable open area as described above. Be certain space is available to reach behind and install the mounting hardware. The bracket may be oriented up, down, or to the rear of the module to accommodate available space (See Figure 2).

1. Position the Mounting Bracket - Place the U-bracket into the exact location for mounting. Select and mark the two mounting holes with a pencil or scribe.
2. Drill the Mounting Holes - Before drilling, ensure the opposite side of the panel is free and clear of obstructions such as wiring, etc. that may interfere with the drilling process. Drill two  $\frac{9}{32}$  inch mounting holes.
3. Mount the Bracket - Align the U-shaped bracket over the mounting holes. Insert the two  $\frac{1}{4}$  - 20 x  $\frac{1}{2}$  inch bolts through the flat washers, U-shaped bracket, and mounting holes as illustrated. Install the lockwashers and nuts; tighten nuts.
4. Mount the BCM - Secure the module to the bracket using the two  $\frac{1}{4}$  - 20 x  $\frac{1}{2}$  inch bolts with serrated flange. The rubber washer goes between the console and bracket. Pivot the module for the best viewing angle; tighten just enough to prevent tilting.

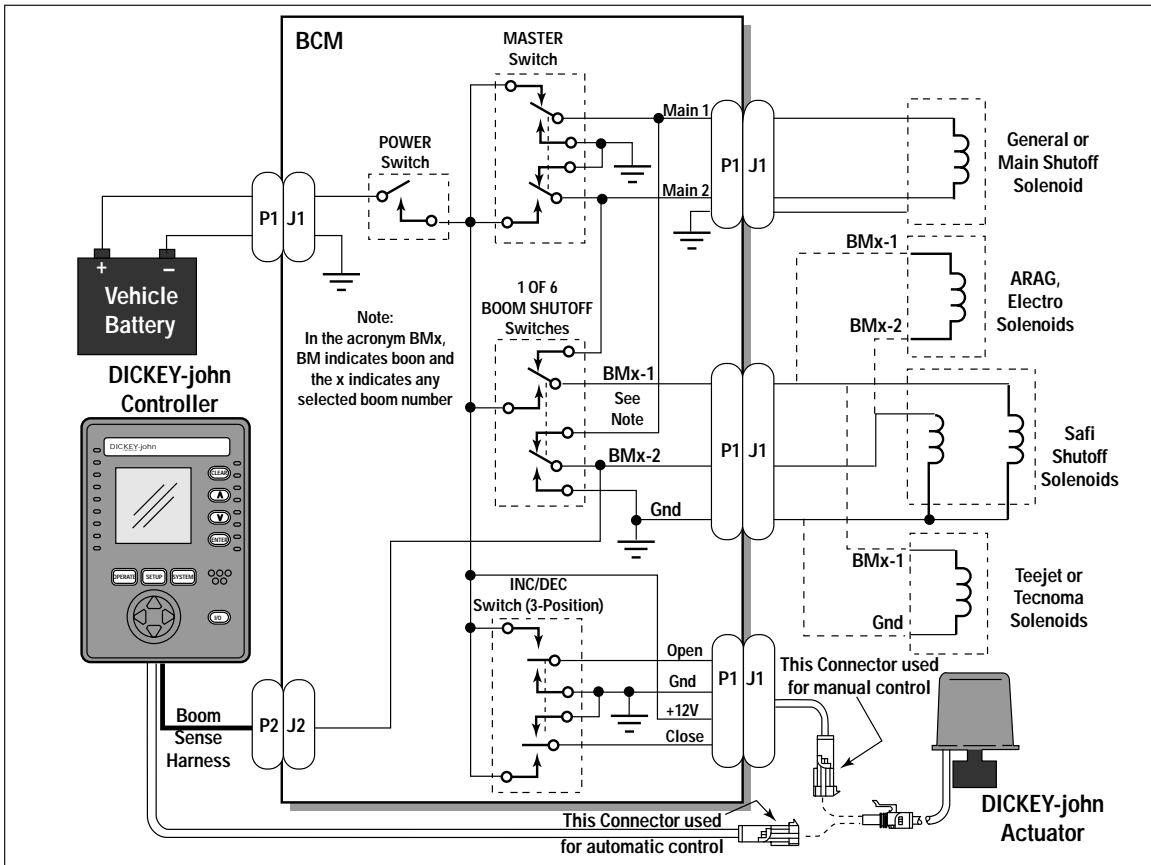


Figure 3. Functional Block Diagram of the BCM

#### ROUTING AND CONNECTING THE MAIN HARNESS

The Main Harness (46688-0140 or -0150) is either 10 ft/3.05m or 40 ft/12.2m (length determined when ordering). Set all switches to the OFF position. Connect the 37-pin connector to J1 on the rear of the console.

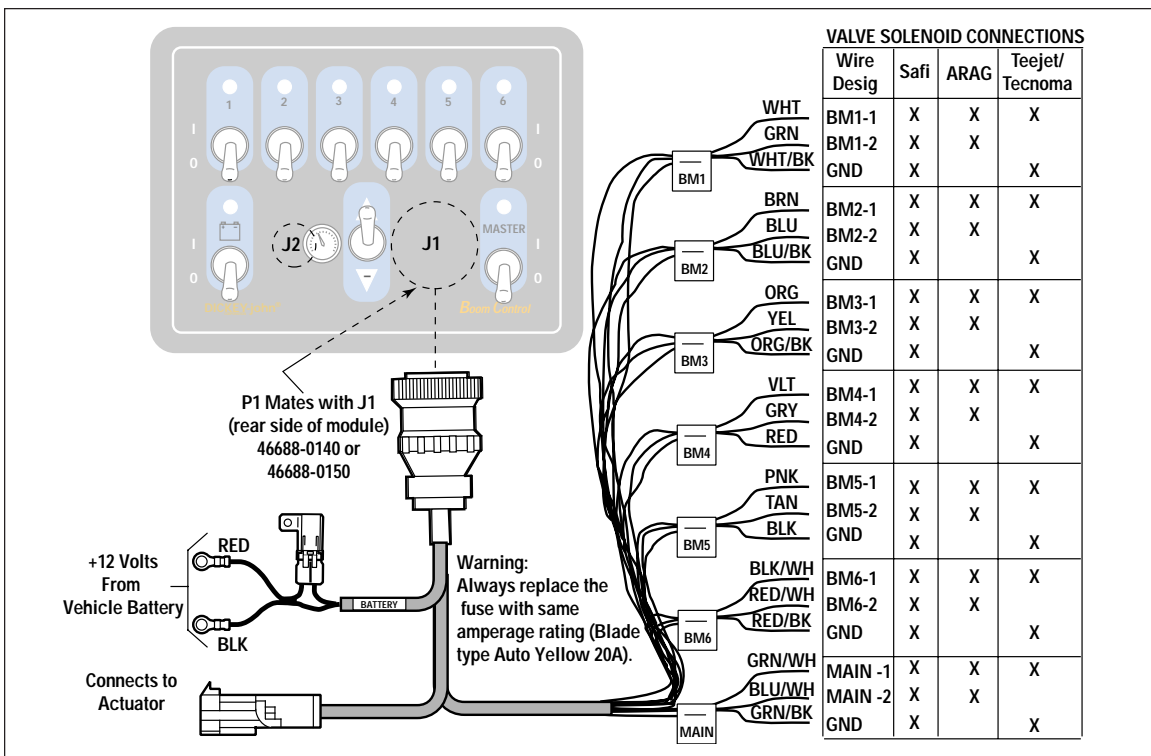


Figure 4. Main Harness Layout and Solenoid Connections

... Route the cable to the boom shutoff solenoids. Note the wires are bundled in seven groups of three (See Figure 4 for color and function). The BCM functions with several types of shutoffs – bidirectional drive, dc motor, and solenoid. Figures 3 and 4 illustrate how to connect to four popular brands (not an endorsement or recommendation). Consult your Dj Service Center for using other shutoffs types.

**Caution: Maximum current of any solenoid/valve must not exceed 3 amps.**

... Usage of the six pin actuator connector is optional. If using the BCM without a Dj controller, connect the 6-pin connector directly to the Dj actuator. If a DICKEY-john controller is used, then this connector is not used. When using this connection, the application rate is manually controlled using the Increase/Decrease switch.

... Run the battery leads to the vehicle battery. Be certain the battery voltage is 12 volts and not 24 volts. Attach the RED wire to the positive battery terminal and the BLACK wire to the negative terminal. A power distribution bus may alternately be used in place of the vehicle battery. Connection to the battery should be made last to ensure no accidental shorts occur during cable handling.

**Warning: Always replace the fuse with same amperage rating (Blade type Auto Yellow 20A).**

#### ROUTING BOOM SENSE HARNESS (OPTIONAL)

A second harness is connected to provide boom section on/off status information to a Dj controller for automatic control of the product application rate. Figure 5 illustrates the connection between the Controller and J2 at the rear of the BCM.

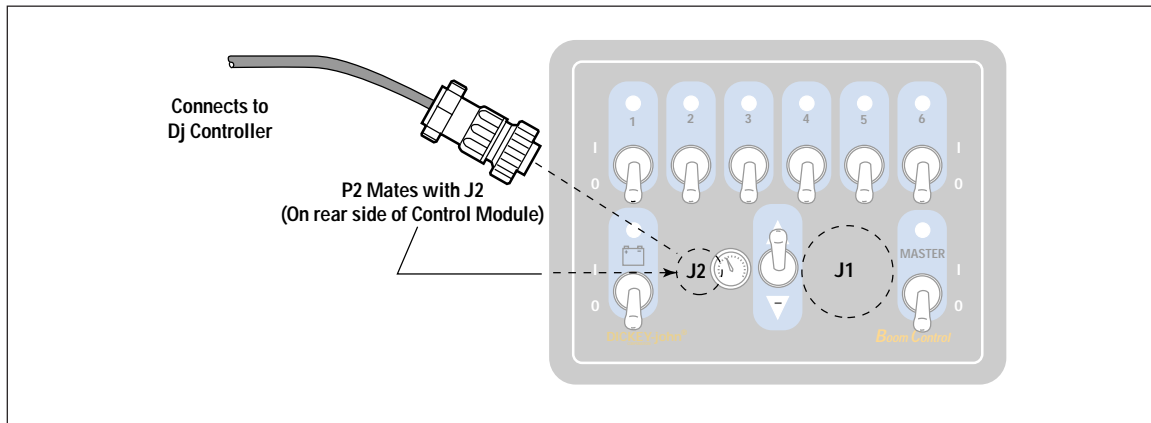


Figure 5. Boom Sense Harness (Optional) Layout

**Note: This BCM is one component of the sprayer system; DICKEY-john assumes no liability for the functionality of the sprayer system.**

DICKEY-john warrants to the original purchaser for use that, if any part of the product proves to be defective in material or workmanship within one year from date of original installation, and is returned to DICKEY-john within 30 days after such defect is discovered, DICKEY-john will (at our option) either replace or repair said part. This warranty does not apply to damage resulting from misuse, neglect, accident or improper installation or maintenance. Said part will not be considered defective if it substantially fulfills the performance specifications. THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES OF MERCHANTABILITY, FITNESS FOR PURPOSE AND OF ANY OTHER TYPE, WHETHER EXPRESS OR IMPLIED. DICKEY-john neither assumes nor authorizes anyone to assume for it any other obligation or liability in connection with said part and will not be liable for consequential damages. Purchaser accepts these terms and warranty limitations unless the product is returned within fifteen days for full refund of purchase price.

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