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# DS12 Dual Motor Salt Spreader Control

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## Application:

The MD12D is a two motor control for salt spreaders with an auger/conveyor motor (up to 3/4 h.p. tag rating) and a spinner motor (up to 1/2 h.p tag rating). Both motors being 12V PMDC (Permanent Magnet DC) motors.

**Mounting the Motor Control:** The Motor Control Box must be mounted, under the cover near the conveyor/auger motor. Motor cables are pluggable. You only have to run the battery positive and negative cable to the Battery, Solenoid, and connect the Circuit Breaker.

**Poor battery, solenoid, circuit breaker, or battery negative connections** will result in the overload LED to blink and the control will shutdown the motors because of the voltage drop across your poor connections, crimps, etc.

**Mounting the Incab Operator Control:** 20 feet of pluggable, loomed signal wires are provided to run from the incab operator control box to the motor control box. You may extend the wires paying attention to matching the wire color code.

**Operation:** Turning on the lighted On/Off switch will activate your solenoid. A quality 80 Amp Continuous Duty Solenoid must be used, or equivalent solenoid. When the Conveyor speed adjust knob is turned on, the Conveyor motor will Blast (full speed) for 1 second, then will rotate at the speed you have set for the Conveyor motor. The Spinner speed adjust knob will Blast the Spinner motor for 1 seconds and will rotate at the speed you have set.

## Overload Auto Shutdown Protection:

**If you overload and connect the black motor bypass wire without correcting your problem, you risk smoking your wires or the controls internal wires.** So, correct your problem. If the overload light is blinking slowly while running, you must correct the problem (corroded, or loose, battery, or solenoid connections, poor terminal crimps, no dielectric grease on all your connections, bad, or poor solenoid, bad, or poor circuit breaker, or your motor is old and it is time for a new motor. If the motor turns off and the LED light is blinking fast, then one of the above problems is severe and must be corrected. If the motor turns off and your overload LED is on solid, then you must correct your frozen conveyor problem, solidified salt left in the hopper, a bearing problem, or replace the motor.

## Do's and Don'ts

**1) The incab control's Black wire must be connected to the Battery Negative Terminal along with the Motor Control's 6 gauge Black Negative Power cable.**

2) Assure a quality 80 to 100A solenoid and circuit breaker. Assure all connections are "zero" resistance, high quality connection to the breaker, solenoid, and battery. If the controller senses a poor connection, or bad component, the high resistance will cause a large voltage drop under the motor current load. The control will blink the overload LED and shut the motors off until your problem is "fixed".

3) Never connect anything else to the controls motor wires. No light, etc.

4) Never connect a battery to the motor unless the control's motor wires are disconnected from the motor.

5) You can swap control's motor wires on the motor if the motor is not turning in the correct direction.

6) Never leave your hopper filled with salt if not in use. Empty the hopper. We will shutdown if we sense the conveyor/auger is frozen.

**On most all spreaders, the controls non striped wire must connect to the Motor's + stud and the controls's Red or Grey striped wire must connect to the Motor's - stud for the conveyor rotate in the correct direction.**

**If the conveyor direction is not correct, turn off the control immediately before you destroy the conveyor. Swap the motor wires on the conveyor motor's studs.**

**For the spinner motor, the salt should be thrown towards the driver's side of the vehicle. If this is not correct, swap the control's motor wires at the spinner motor studs.**

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