

PRO spreaders



PRO1500 & PRO1500CH

PRO2000 & PRO2000CH

PRO2500 & PRO2500CH

PRO3000 & PRO3000CH

A. CONTROLLER

3058918

1 Error codes

- A **"Feed NC"** (Connection issue in auger / chain feed)
 - 1 Inspect the pins in the connector where the controller connects to the wire harness and make sure that it is not bent, broken or corroded.
 - 2 Inspect the pins in the connector where the conveyor gear box connects to the wire harness and make sure that it is not bent, broken or corroded.
- B **"Spin NC"** (Connection issue with the spinner motor)
 - 1 Inspect the pins in the connector where the controller connects to the wire harness and make sure that it is not bent, broken or corroded.
 - 2 Inspect the pins in the connector where the spinner motor connects to the wire harness and make sure that it is not bent, broken or corroded.
- C **"Vibr NC"** (Connection issue with the vibrator motor)
 - 1 Inspect the pins in the connector where the controller connects to the wire harness and make sure that it is not bent, broken or corroded.
 - 2 Inspect the pins in the connector where the vibrator connects to the wire harness and make sure that it is not bent, broken or corroded.
- D **"Feed jam"**
 - 1 Lower the inverted vee inside of the hopper to reduce the motor load
- E **"Spin jam"**
 - 1 This is a spinner motor overload. Reduce the amount of material to the spinner by reducing the speed of the auger or chain.
 - 2 Verify that the spinner is not rubbing against anything.
- F **"Feed short"**
 - 1 There is a short circuit in the electrical system. Inspect all wiring starting at the controller, then the wire harness and then to the conveyor gearbox.
- G **"Spin short"**
 - 1 There is a short circuit in the electrical system. Inspect all wiring starting at the controller, then the wire harness and then to the spinner motor.
- H **"Vibr short"**
 - 1 There is a short circuit in the electrical system. Inspect all wiring starting at the controller, then the wire harness and then to the vibrator.
- I **"Over temp"**
 - 1 This is the internal temperature of the controller. Do not locate the controller under the heat vent. Turn off the controller for a short period of time to reduce the temperature. Lower the speed to reduce the controller load.
- J **"High voltage"**
 - 1 The voltage is higher than 16VDC. Turn the controller off. Check the trucks electrical system to ensure that it is providing the spreader with the proper voltage.
- K **"Low volt"**
 - 1 The voltage is near 10VDC. Check and correct the trucks electrical system.

L "Serv vibr"

- 1 To activate this code, you will have to program the controller to detect an error with the vibrator. Below are the steps on how to program the controller to acknowledge any future issues.
 - A Make sure that the spreader is secured in the trucks bed. Then you will need to inspect and tighten the spreader tie downs.
 - B Inspect and retighten the vibrator if necessary
 - C With the spreader empty, start the controller and turn the vibrator on.
 - D Hold the AUX button down for five seconds until the display shows "V-LEARN". Press the vibrator button until the "V-LEARN" message disappears.
- 2 If the vibrator would become loose or the electrical current rises above the normal value, the "SERV VIBR" message will appear. If this message appears:
 - A Retighten the vibrator
 - B Inspect the connectors
 - C Replace the connectors if necessary

2 Color codes

A Two pin connector

- 1 Lead to the battery
 - A Red: Positive
 - B Black: Negative

B Four pin connector

- 1 Lead to the spinner & vibrator
 - A Yellow: Spinner positive
 - B Blue: Spinner negative
 - C White: Vibrator positive
 - D Black: Vibrator negative

C Single leads

- 1 Lead to the auger or chain
 - A Red: Positive
 - B Green: Negative

B. AUGER

1 If the auger is not rotating

A Bearing

- 1 Rusted bearing: The auger bearing is located on the cab side of the hopper. This needs to be greased every 7-10 hours of operation. At the back of the spreader on the drivers side of the hopper, is a grease tube that runs the entire length of the hopper so you can grease the bearing from the back instead of reaching down into the bed to do this. Grease becomes dried out in the lines and does not flow. Ensure that the grease is flowing out of the bearing.
- 2 Set screw: Ensure that the set screw is tight and not allowing the auger to rotate within the bearing.

B Shear pin

- 1 There is a pin that attaches the auger gearbox to the auger. This will break to protect the gearbox from getting overloaded.
- 2 There may be a broken internal shear pin in the gearbox (not servicable). Remove the motor and/or gearbox and verify.

C Auger motor

- 1 Weak motor: Apply power directly to the pigtail of the motor with a secondary power source such as a battery and verify if the motor is weak.

D Material bogging

- 1 If too much material or if wet material is in the trough, the auger motor will feel that weight and may prematurely burn that motor out.

2 Addition auger issues

A Auger rubbing: If the auger is out of round, it may be rubbing or grinding on the trough wall. This auger would need to be replaced.

B If the auger appears to be running backwards, and not pulling the material to the back of the hopper, then verify that the connection where the harness connects to motor is not connected backwards.

C. CHAIN

1 If the chain is not moving material back to the chute

A Sprocket

- 1 Verify that the set screw is still attached to the sprocket. These are driven by a captive key. Verify that the key is intact.

B Drive shaft

- 1 On the conveyor gear box there is a drive shaft, and there are two keys. Look to make sure that those are still intact.

C Bent pin in the harness

- 1 Verify that there is no corrosion or damaged terminals on the wire harness or controller.

D Bearing

- 1 There are three bearings on this spreader, two on the cab side of the hopper and one on the chute side of the spreader. These need to be greased every 7-10 hours of operation. At the back of the spreader, on the drivers side of the hopper, is a grease tube that runs the entire length of the hopper so you can grease the bearings from the back instead of reaching down into the bed to do this.

E Weak conveyor motor

- 1 The motor may be weak from getting salt or water inside of the unit. Verify that the motor is indeed the issue by putting power to the pigtail of the motor with a secondary power source, such as a battery and verify that the motor is weak.

F Broken link

- 1 Each pintle chain has over hundred links per assembly. Ensure that each link is attached to the next link. If this is found to be broken, we do sell replacement links, which will contain a link and two pins to reassemble it. In order to get the correct link for that spreader, look at one of the links to find the stamping on the face. One of the following markings will be on there:
 - 662: 1401100RL (Used on PRO / SCH / Mid size)
 - 667H: 1401101RL (Used on older spreaders)
 - 667X: 1401102RL (Used on Muni spreaders)
 - 667XH: 1401103RL (Used on older spreaders)

2 Addition chain issues

A Tension of the chain

- 1 The tension should be checked periodically. To check the tension, measure in 21" - 25" from the rear edge of the gear box mount. Push on the chain with your hand. The conveyor chain should lift up 2" - 3" off the conveyor chain guide or cross angles. The chain should not contact the bottom of the sills for the first 21" - 25". The chain should also not be tight enough to NOT be touching the sills past the 21" - 25" mark.

B Running backwards

- 1 Observe the pintle chain is moving in the proper direction. If the direction is wrong, reverse the wires between the motor and the wire harness.

D. CHUTE

1 Spread pattern adjustment points

- A The spread pattern can be controlled by repositioning of the baffles on the chute.

2 Chute height or length

- A The chute height can be adjusted to accommodate different vehicle heights.

3 Spinner shield

- A This can be rotated to control the direction that the spinner will spread

4 Adjustable spinner (optional piece)

- A We offer an adjustable spinner, part number 3053051. This is a 14" disk with six loose fins that can be placed anywhere on the disk to accommodate any type of material, and improve the consistent distribution of the salt from the spreader.

E. MOTORS

1 Replacement motors

- A PRO1500, PRO2000 & PRO2500
 - 1 Auger - 3014778
 - 2 Spinner - 3030907
- B PRO3000
 - 1 Auger - 3013821
 - 2 Spinner - 3030907
- C PRO1500CH, PRO2000CH, PRO2500CH & PRO3000CH
 - 1 Conveyor gearbox - 3013821
 - 2 Spinner - 3030907

2 Motor specs

- A 3014778
 - NORMAL LOAD
 - Power: 0.75 HP
 - Current: 50 Amps
 - RPM: 23
- B 3013821
 - NORMAL LOAD
 - Power: 0.75 HP
 - Current: 50 Amps
 - RPM: 23
- C 3030907
 - NORMAL LOAD
 - Power: 360 W
 - Current: 54 Amps
 - RPM: 620

F. INVERTED VEE

1 Height adjustment

- A There are four holes which will allow you to adjust the height of the inverted vee.
 - 1 Higher position: If the material is lighter and flowing fine
 - 2 Lower position: Position it here if the material is heavy and you want to keep the weight off of the chain or auger.

G. VIBRATOR

1 Function

- A DO NOT RUN THE VIBRATOR CONSTANTLY because it will run the risk of compacting the material and making it difficult to feed through the auger or chain. Running this constantly also prematurely will wear the vibrator motor out. The best practice is a 2/1 ratio, such as two minutes on and one minute off.

2 Maintenance

- A Check every ten hours of use to ensure that the bolts attaching the vibrator and the vibrator plate to the hopper are firmly secure. Without this being tight, you run the risk of punching a hole in the poly hopper.

3 Add an additional vibrator

- A If you decide to add a second vibrator, you should mount this towards the top of the hopper. If it is mounted in the middle or lower, it will run the risk of packing the material tight and not accomplish what the vibrator is designed for. An additional vibrator should be run from an auxiliary solenoid triggered by the controller and not run directly from the controller.

H. MATERIAL

1 Types of material to use

- A Bagged rock salt, bulk salt or a 50/50 of a sand/salt mixture. Straight sand or anything with a higher concentrate of sand will be a challenge to get that material to feed for the spreaders with an auger. For sand, you could use the chain version of this spreader.

2 Material related issues

- A Always use the provided tarp to cover the hopper and keep the moisture out of the hopper. This will reduce the risk of the material freezing while in the hopper.
- B Materials such as a 50/50 sand/salt mixture or damp salt can overload the spreader. With this material being used, you want to adjust the inverted vee down to the lowest setting. Refer to F.1.A.2 for adjustment suggestions.

3 Size variation

- A Larger material will bridge a lot easier. Running the vibrator would help keep this material moving.

4 Material not flowing

- A If the spreader is "starving" for material the material could be sticking to the side wall and using the vibrator would allow this to flow better.

5 Adjustable spinner

- A Buyers offers an adjustable spinner for those materials that are difficult to spread evenly. The fins are adjustable on the spinner to be positioned in any orientation that will allow you to get a spread that produces an even distribution. The part number of this spinner is 3053051.

I. WIRE HARNESS

1 Repair ends

- A Auger: 3054943
- B Spinner: 3054945
- C Vibrator: 3054942

2 Replacement ornage weather plugs

- A Drive motor: 3068867
- A Spinner motor: 3065467

3 Color codes

- A Brown: Light
- B Red: Auger positive
- C Green/Black: Auger negative
- D White: Vibrator positive
- E Black: Vibrator negative
- F Yellow: Spinner positive
- G Blue: Spinner negative

J. Truck

1 Voltage

- A This spreader is a wire ground electrical system. There is no need for connections to the trucks frame or body. Always disconnect the battery before attempting to install the electrical components.
- B To insure good performance of your spreader, check the condition of the trucks electrical system. Using a digital voltmeter, check the alternator and battery voltage. The voltage reading should be between 13.5 and 15.3 volts with the engine running, headlights and heater fan turned on. If the voltage reading falls out of this range, check and adjust your electrical system.

2 Diesel trucks

- A For diesel trucks there are two batteries. All connections for the salt spreader should be connected to the primary battery.