

2017
Module Automation Systems
L.L.C.
Operation & Diagnostic
Manual



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Troubleshooting Index

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- Trumper will not stop packing when stop button pressed
- Tramping cylinder is moving down gradually
- Ram moves up or down when bridge is manually moved to front or back

Caution: DO NOT ENTER PACKING AREA
when hydraulic power source or computer
is in the “ON” position!!!

Please note that system has remote access and may be started
with the hand held remote.

Operation of the Cab Console

Stop button—stops automatic cycle at any time

Step 1 button—begins packing process with long steps and automatically cycles to short steps
Pressing Step 1 button while ram is moving up in long steps will create program to advance to step 2

Step 3 button—skips long packing steps and goes directly to third packing cycle (short steps)
Pressing Step 3 button while ram is moving up in 2nd and 3rd step will send ram back to cab.

Toggle Switch—turns power off to computer

Programming Extra Remotes with 8 Function Remote System

(Requires programming cable)

1. Check for power to the module builder and 9 volt battery of the transmitter.
2. Take back off of the 8 function transmitter
3. Open door of receiver in module builder
4. Plug programming cable into receiver (coding socket) in module builder and into the back of the transmitter.
5. Press and hold button #1 and #2 or top two buttons on the transmitter until led on the transmitter blinks 3 times.
6. After steps 1-5, the new transmitter is now programmed.

Resetting Remote Receiver

(Must be done if remotes will not program because of an electrical field from lightning or power lines.)

1. With power on open the remote receiver box
2. Take a metal tool or supplied jumper and temporarily jump the two terminals labeled cc left of the large black IC chip.
3. Next program all remotes for builder as stated in (Programming Extra Remotes).

Programming 2006 and up System Models with *optional* hand-held programmer

1. Remove front cover to obtain computer control access
2. Plug serial cables into white plug on top center of computer
3. Switch toggle switch to “off” and then back to “on” to enter the programming mode
4. Press “Stop” button to get first variable to edit. Old and new variables will be displayed
5. Press “Step 1” to ADD to variables
6. Press “Step 2” to SUBTRACT from variables.
7. Press “Stop” button to save and move to the next step

NOTE: Down time must always be greater than up time and will determine how long ram will press down on cotton. If up time is lengthened, down time must be lengthened.

8. Program your new variables.

⇒ The display screen will show the following options in this order:

Long Stroke

- Step 1 Tramper Down Stroke Time
- Step 1 Tramper Up Stroke Time
- Step 1 Horizontal Travel Time

Medium Stroke

- Step 2 Tramper Down Stroke Time
- Step 2 Tramper Up Stroke Time
- Step 2 Horizontal Travel Time

Short Stroke

- Step 3 Tramper Down Stroke Time
- Step 3 Tramper Up Stroke Time
- Step 3 Horizontal Travel Time

9. Press “Step 1” to Run the new program variables
10. Unplug programmer or follow prompts on screen as needed.

Operation of the 8 Function Remote System

1st button— manually moves ram up

2nd button-manually moves ram back

3rd button—manually moves ram down

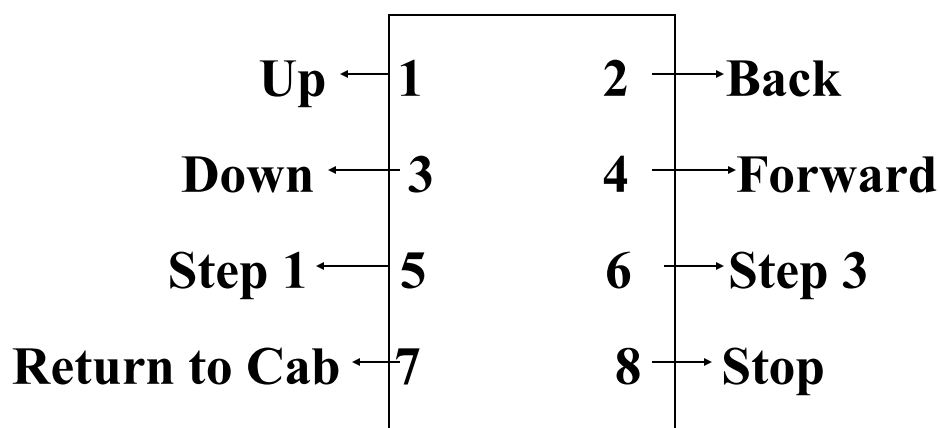
4th button —manually moves ram forward

5th button —begins Step 1 of the automatic packing process. The computer will then cycle to step 2 and step 3 of the packing cycle automatically. Pressing step 1 button while ram is traveling up in step 1 mode will start step 2.

6th button —begins Step 3 of the automatic packing process. This will skip step 1 and step 2. This should only be used if the cotton is packed enough that the ram will lift high enough to go over the cotton. Pressing step 3 button while ram is traveling up in step 3 will return the bridge to the start position.

7th button —lifts the ram to the top and returns it to the cab. If the ram is in an automatic cycle it must be stopped with button 8 before 7 can be used.

8th button—Stop button. Stops automatic packing.



Troubleshooting

Automated System is not operating

1. Check power supply voltage and primary 30 amp fuse
Take cover off computer panel using small Phillips screwdriver. Check two LED's on top left marked 5v and +Vin. If LED's are on, power is supplied to computer and this is not the problem.
⇒ If LED's are *not* on, check source voltage and primary fuse wiring to computer.
⇒ If LED's are on, the stop button could be stuck in the down position which could cause the green LED labeled S4 to stay on at all times. This keeps the system from running as it is the stop button.
2. Check toggle switch on top of computer panel
It may not be making contact. Switch it off and on to see if it will make contact.
3. Check 5 output fuses on computer board. (see instructions in #1 above for removing cover of computer board)
4. Check the Step 1 Button
The step 1 button when depressed should cause the S0 LED to light up if working properly.
⇒ If it is not, check the wiring and button.
5. Check the Step 3 Button
The step 3 button when depressed should cause the S1 LED to light up if working properly.
⇒ If not, check the wiring and button.

All Hydraulic Power to builder is lost or slows

1. Check external cast cross relief valve.
⇒ The relief valve contains contaminants and may be dumping oil back into tank.
⇒ Remove cartridge from relief valve with a 1" wrench and examine it to see if it has metal shavings or chunks lodged into it.
⇒ Examine pump. A worn pump will push metal shavings through the system from it's gears and contaminate the relief valve.
⇒ If the above steps do not work, replace the relief valve. Usually a bad filter or filter housing will allow contaminants to circulate through system.
⇒ Examine bypass valve in filter housing located on hydraulic oil tank which is original to your module builder.

Tramper will go back and forth, but will NOT go up and down

1. Check fuse on OUT 8 (output 8) and OUT 9 (output 9)
2. Check C2 hydraulic valve (the electric/hydraulic valve mounted on big aluminum block)
⇒ The red LED's should be blinking on the C2 valve when the automated system is running showing they are receiving power from the computer. If not, check wiring as the coil or valve could also be bad.

Tramper will go up and down, but will NOT move back and forth

1. Check to see if chain on builder has jumped time and bridge plate is hitting sensors evenly.
2. Check to see if bridge will move manually. Bridge may be in a bind or sprockets could be stripped out.
3. Check Fuses
Check fuse on OUT 10 (output 10) and OUT 11 (output 11) on computer.
4. Check Front and Rear Sensors
⇒ Manually place bridge in center of module builder.
⇒ Check LED S2
S2 should be activated only when bridge is on the back of the module builder or next to the cab.
If LED's are lit at any other time, there is a ground short in the wiring or sensor.
If LED's do not light the sensor wires are broken or sensors are bad.
This can also be caused by a bad ground wire from the tractor to the module builder.
(see "remote will not work and bridge will not reverse" for details.)
5. Check Hydraulic Valves
⇒ Manually place bridge in center of module builder.
⇒ Turn hydraulic pump off, but, leave electrical power on. Hit Step 1 button to start valves cycling. Pull one female spade terminal off of 3 way hydra force valve. If coil is good, it should spark. If spool is good, you will feel it click when the coil is sparked.
6. Check wiring to hydraulic valves
7. Check to see if Red LED is blinking on C4 Spool located on aluminum manifold.

Tramper will not stop packing when stop button pressed

1. Check Step 1 and/or Step 3 buttons as they may be stuck in down position.
⇒ S0 and S1 LED's should only be lit when buttons are pressed.

Tramping cylinder is leaking down gradually

1. Check the tramping cylinder—it is probably an existing problem with the cylinder packing original to the module builder.
⇒ Packing in cylinder is possibly wore or torn and/or piston grooves are cracked causing cylinder to leak down.
2. If the module builder has a regenerative valve it could be stuck open.
- 3.

Ram moves up or down when bridge is manually moved to the front or back

1. Check the cylinder valve (C2 valve on aluminum manifold)
⇒ Pieces or chunks of the cylinder packing or pump may have traveled through the hoses and lodged into the C2 (up and down) cylinder valve.

Ram moves up and/or down without traveling preset length

1. Check led S3 that is controlled by the pressure switch and should only illuminate when preset pressure (around 2000psi) is reached by pressing down on the cotton or hitting the top of the bridge.
2. Running hydraulic pump to fast can cause restrictions and cause pressure switch to trip prematurely.
3. This could also be caused by a faulty pressure switch or wiring.
4. A restricted or blocked hose or regenerative valve can also cause restrictions.
5. This can also be caused by low voltage not allowing valves to fully open.
6. The weather packing on some pressure switches have leaked and moisture has caused some switches to fail. Beginning in 2013 a rubber boot has also been added to keep moisture out.