

# **OLYMPUS HYDRAULIC** Control System Manual



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## **SYSTEM COMPONENTS OVERVIEW**

### JOYSTICK

- Type: 2-axis Can-Bus joystick.
- Features:
  - → 6 Colored Thumb Buttons: Four buttons are designated for selecting between various implements (Plow, Body, Wing Plow, Belly Plow). The remaining two buttons are used for Spreader Pause and Spreader Blast.
  - → Dead-Man Trigger: Ensures deliberate operation of all functions.
  - ⇒ Trim Values: Adjustable via the touchscreen to fine-tune joystick and implement control.

### TOUCHSCREEN

• Size & Resolution: 12.1 inches with a resolution of 1280 x 800.

### • Features:

- → Ambient Light Sensor: Automatically adjusts screen brightness.
- → Camera Inputs: Four integrated camera inputs for real-time viewing.
- Spreader Controller: Includes both automatic and manual spreading options, with trim settings for function speed adjustment and calibration.
- → Security: Password lockout to prevent unauthorized access.
- ➔ Indicators: Displays Oil Level Gauge, Oil Temperature Gauge, and Filter Pressure Gauge on the home screen.
- → Controls: Buttons for managing lights, tarp, and plow lights.

### TTC-50 (MAIN COMPUTER) / TTC-48 (SLAVE COMPUTER)

- Functionality:
- **Customizable Outputs:** Based on specified features such as wing plow, body plow, and multiple strobe outputs.
  - GAN-Bus Connectivity: Interfaces with the truck's CAN-Bus to obtain ground speed and temperatures; does not rely on GPS or external speed sensors.
  - → Error Detection: Continuously monitors outputs for open circuits and shorts to ground. Detected errors are displayed on the touchscreen.

### WAVE MODULE

### Functionality:

- → System Monitoring: Tracks and reports system data to the cloud.
- → Data Access: Allows remote viewing of data, including tracking and historical location information.
- → Integration: Provides insights into location versus spreader output, with most data visible on the homepage for quick status updates on truck and system health, as well as system settings.

### **PTO OPERATION**

To engage the Power Take-Off (PTO), simply select the PTO button located in the top-left corner of the screen. When the PTO is engaged, the button will illuminate green. Should the system detect a problem with the pressure switch on the PTO, the button's lettering will turn red. This indicator serves to alert the driver to a potential issue, though it will not prevent PTO operation.

The system includes a hydraulic oil level sensor and an oil temperature sensor. Should the hydraulic oil level become critically low or the temperature exceed safe limits, the system will automatically disable the PTO to protect the hydraulic pump. In such cases, the PTO button's background will turn red, and the Low Oil Over-Ride button will become active. The driver may press the Low Oil Over-Ride button to temporarily engage the PTO, allowing for essential operations such as raising the plow, lowering the body, and safely returning the vehicle to the garage.

The hydraulic oil level is shown to the right of the filter pressure gauge. The bar turning yellow indicated the truck is low on hydraulic fluid, however the truck will continue to run. Once the bar turns red, the hydraulic level is considered dangerously low, the PTO will be disabled.

### **BODY AND PLOW OPERATIONS**

Upon startup, the system defaults to Dump Body control, as indicated by the blinking red "Body" label at the top of the home screen.

Functionality is managed via the joystick, with each function corresponding to a colored button on the joystick. To select a function, ensure the joystick is centered and press the desired colored button. The selected function will be highlighted by a blinking colored background.

To operate a function, first select it, then engage the dead-man switch, and move the joystick in the desired direction. Pull the joystick toward the rear of the truck to raise the plows or body. Push the joystick toward the front of the truck to lower them.

PTO Engage Low Oil **Over-Ride** SELECT THE PTO BUTTON PTO t Engage ↑ THE BUTTON WILL ILLUMINATE 20 ↑ THE HYDRAULIC OIL LEVEL Joystick Mode Body Plow Win Spinner Pre-Auger PRESS THE DESIRED COLOURED **BUTTON ON THE JOYSTICK** 

### **PLOW FLOAT OPERATION**

To engage the Plow Float mode, please follow these steps:

- **1 Arm the System:** On the home screen, press the Power Float button. The button will illuminate red, indicating that the Plow Float system is armed.
- 2 Activate Plow Mode: Press the yellow button on the joystick to enter plow mode.
- 3 Engage Plow Float: Hold the dead-man switch and move the joystick forward to lower the plow. Maintain this position for at least 5 seconds.
- Confirmation: The Plow Float button will turn green, signaling that the plow is now in float mode.



Deactivation: To cancel Plow Float mode, move the joystick backward to raise the plow. The system will remain armed. To re-engage Plow Float mode, move the joystick forward for 5 seconds. To completely disable the Plow Float system, press the Power Float button on the home screen again. The button's background will change to grey, indicating that the Plow Float mode is turned off.



### **AUTOMATIC SPREADING**

Automatic spreader operation enables precise control by setting specific parameters for pounds per mile and gallons per ton. The spreader controller will adjust the output based on the truck's groundspeed to maintain these setpoints. Note that all functions will cease at a groundspeed of 0. For optimal performance, ensure the spreader is properly calibrated, as detailed in a subsequent section of this manual.

- Set Lanes: Use the up and down arrows under the spinner section to select the number of lanes.
- 2 Adjust Pounds per Mile: Use the arrows under the Auger section to set the desired pounds per mile.

- 3 Configure Pre-Wet: If applicable, set the desired gallons per ton of salt using the arrows under the Pre-Wet section. If not applicable, leave this value at 0.
- Start Spreading: To activate the spreading operation, start the system by pressing the pause button on the screen (shown on the right). Alternatively, you can use the joystick shortcut by pressing the black button on the joystick. Note that the colored buttons on the joystick correspond to their respective functions.
- **5 Stop Spreading:** To pause the spreading operation, press the pause button again either on-screen or via the joystick shortcut.
- **6** Use Blast Function: To initiate the blast function, press the blast button on the screen or use the joystick shortcut by pressing the white button. The duration of the blast can be configured; instructions for configuring this setting are provided later in this manual.

<image><text><image><image>



### MANUAL SPREADING

Manual spreading mode allows you to set specific values for spinner, auger, and pre-wet between 0 and 10. The spreader controller will utilize the truck's ground speed to automatically start and stop the auger and pre-wet functions when the groundspeed reaches 0. The spinner will continue operating to prevent the accumulation of salt on the spinner disk at stops.

### Set Parameters:

- ⇒ Spinner: Adjust the spinner setpoint using the up and down arrows provided.
- → Auger: Set the desired value for the auger using the corresponding up and down arrows.
- → Pre-Wet: If applicable, set the pre-wet value using the arrows. If pre-wet is not used, leave this value at 0.
- 2 Start Spreading: To begin manual spreading, unpause the system by pressing the pause button on the screen (located on the right). Alternatively, you can use the joystick shortcut by pressing the black button on the joystick. The colored buttons on the joystick correspond to their respective functions.
- **3 Stop Spreading:** To stop spreading, press the pause button again, either on the screen or using the joystick shortcut.
- **4** Use Blast Function: To activate the blast function, press the blast button on the screen or use the joystick shortcut by pressing the white button. The duration of the blast can be configured; further instructions for this configuration are provided later in this manual.

### **BASIC OUTPUTS**

Strobe Lights, Auxiliary Strobes, Tailgate Unlock, and Spinner Light can be controlled via the corresponding buttons on the home screen. When a function is active, the button background will turn green. If an error is detected, the button background will turn red.

### • Plow Lights:

- → To activate plow lights, press the "Plow Lights On/Off" button located at the bottom left of the screen. The button will turn green, indicating that the low beam plow lights are active.
- → To switch to high beam, press the button below the "Plow Lights On/Off" button. The background of this button will turn blue to signify that high beams are engaged. Pressing the "Plow Lights On/Off" button will turn off the lights; when powered on again, they will default to low beam.



### • Tarp Operation:

→ To operate the tarp, press the corresponding button based on the desired direction. The buttons are momentary; the tarp will stop moving once the button is released.

### **MISCELLANEOUS SETTINGS**

### **Brightness:**

- To enable automatic brightness control, press the "Misc Settings" button at the top right of the screen. On the Misc Settings page, activate automatic brightness using the Enable/Disable button located at the top left.
- In manual brightness mode, the arrow keys will become available, allowing you to adjust the screen brightness as needed.

### Cameras:

- The system supports four camera inputs, with cables located at the base of the center console. Access these cables by removing the access panel. The camera inputs have specific functions:
  - → Camera 1: Reverse/Reverse Right
  - → Camera 2: Reverse Left/Left Turn
  - → Camera 3: Dump Body/Right Turn/Left Turn
  - → Camera 4: Dump Body/Left Turn/Right Turn
- To activate a camera, press the corresponding enable button next to the camera number. Note: Camera 1 must be enabled to activate other cameras.
- The trigger column indicates if a trigger is enabled for a specific camera. If enabled, the camera view will appear on the homepage when the trigger occurs. Triggers are based on the camera functions, which are detailed in the third column. A typical setup may look like this:
  - → Camera 1: Reverse
  - → Camera 2: Left Turn
  - → Camera 3: Right Turn
  - → Camera 4: Dog House



### **1 PRESS THE REQUIRED BUTTON**



### **1** ADJUST THE BRIGHTNESS



### **1** ENABLE CAMERA SETTINGS



**1 CAMERA VIEW DISPLAY** 

 Once cameras are enabled and triggers are configured, you can adjust each view. Go to the homepage and press the "Camera View" button at the top left to view each camera. To access flip/mirror options, touch any camera view. Flip/mirror buttons will appear beside each camera view; touch these buttons to adjust the view and touch the camera view again to hide the buttons. These settings will also apply to home screen views triggered by turn signals or reverse.

### UNLOADING PROCEDURES

To initiate unloading using the spinner and auger, follow these steps:

- **1 Adjust Settings:** Set the Auger output to 50% and the Spinner output to 35%.
- 2 Start Unloading: Press the "Unload" button to commence the unloading process.
- **3 Monitor and Adjust:** Adjust the rates as needed during the unloading process.
- **4 Stop Unloading:** Press the "Unload" button again to stop.
- 5 Settings Storage: The current settings will be saved for future use.
- 6 Camera View: If a doghouse camera is enabled, its view will be displayed during the unloading process.

### TIME AND DATE CONFIGURATION

- 1 Navigate to the "Miscellaneous Settings" page.
- 2 Select the button labeled "Time and Date" located at the top left.
- **3** Follow the on-screen prompts to set the current time and date.

### **ON-SCREEN JOYSTICK**

In the event of joystick failure, an on-screen joystick is available to control the system and safely maneuver the truck back to the garage:

- 1 Access the "Miscellaneous Settings" page.
- 2 Press the "On-Screen Joystick" button.
- 3 Use the on-screen joystick and arrow keys to operate the required functions.



### **MACHINE STATISTICS**

To view machine statistics:

- Navigate to the "Miscellaneous Settings" page.
- **2** Press the "Machine Statistics" button.
- **3** Review the following data:
  - → Oil Filter Hours
  - ➔ Maximum Filter Pressure
  - → PTO Hours
  - → Spreader and Prewet Output Totals (Note: These totals are recorded only when the spreader is in automatic mode.)
  - → Maximum Oil Temperature Recorded

**Resetting Totals:** When logged in as an administrator, you have the option to reset the output totals.

### LOGGING IN TO ACCESS ADMIN SETTINGS

### **1** Access the Login Screen:

### **2** Enter Credentials:

- → You will be directed to a login screen. Input "admin" as the username.
- → Enter "1234" as the password. Note: This is the default password, which can be changed once you are logged in.
- → Press the "Login" button.

### Access Admin Settings:

- → If the username and password are correct, a new button labeled "System Settings" will appear.
- → When the system is unlocked, the black key icon will turn green.

### 4 Forgotten Password:

### 6 Logging Out:

→ To log out, press the "Logout" button or cycle the key. The system will automatically log out upon shutdown.

### **OPTIONS / SYSTEM CONFIGURATION**

All trucks are pre-wired for the following base options:

- Tarp Control
- Plow Light Control
- Auxiliary Strobe Control
- Plow Float Control

These options can be enabled and wired by TruckCorp during initial setup or by the end user based on their requirements.



### **1 ACCESS THE LOGIN SCREEN**



### IF THE USERNAME AND PASSWORD ARE CORRECT, A NEW BUTTON LABELED "SYSTEM SETTINGS" WILL APPEAR.



### Wing Plow and Belly Plow Options:

• Enabling Wing Plow and Belly Plow functionalities requires additional hydraulic components. For complete installation and configuration details, please contact the TruckCorp service line.

### Truck Make:

- The "Truck Make" setting allows the system to interface with specific truck features, such as reverse signals, turn signals, and ground speed. The available options are:
  - → FL/WS Freightliner/Western Star
  - → MA/VOL Mack/Volvo
  - → PB/KW Peterbilt/Kenworth

### V-Box Mode:

• This mode disables control of the truck's body to prevent potential damage to the V-Box.

### **BODY AND PLOW TRIM VALUE SETTING**

### Adjusting Trim Values for Body and Plow

Trim values define the speed range for body and plow movements. Min Trim refers to the slowest movement speed, while Max Trim denotes the fastest. Movement is scaled linearly between these two values.

### • Setting Minimum Trim:

→ Gradually adjust the Min Trim value up or down until the slowest acceptable movement speed is achieved.

### Setting Maximum Trim:

→ Increase the Max Trim value incrementally until you observe no further increase in movement speed.

**Tip:** For optimal performance, set a lower maximum trim value for plow down movements to avoid the plow slamming into the ground.

### Optional Settings - Belly Scraper and Wing Plow:

- Ensure that either option is enabled on the bottom left corner of the main settings screen.
- Adjust trim values for these options using the same method as described above.



### GRADUALLY ADJUST THE MINIMUM TRIM VALUE



ENSURE THAT EITHER OPTION IS ENABLED ON THE BOTTOM LEFT CORNER OF THE MAIN SETTINGS SCREEN

### **POWER FLOAT SETTING**

### **1** Set Plow Holding Pressure:

### 2 Adjust Power Float Lift Percentage:

 → The Power Float Lift Percentage to achieve the desired lift effect. For example, setting this value to 50% will reduce the plow weight by half, while 25% will decrease the weight by 25%.

### Itest Settings:

 → Return to the home screen and engage the plow float mode to test the settings. You can adjust the settings in realtime while the plow float is active by navigating back to the settings page.

### **SPREADER CALIBRATION**

### Adjusting Trim Values for Spinner, Auger, and Pre-Wet (Optional)

**Min Trim** represents the slowest but consistent movement, while **Max Trim** denotes the fastest possible movement. Use a digital tachometer to assist in setting these values accurately. Digital tachometers are available online for approximately \$20. Ensure the truck is free of salt, obstructions, and tools before starting the calibration process.

### 1 Access Calibration Settings:

→ After logging in, navigate to the settings page and select the "Spreader Cal." button located in the top left corner. This will direct you to the Spreader Calibration page.

### **2** Spinner Trim Calibration:

### • Minimum Trim:

 → Set the Spinner Minimum Trim value to 20 and press the "Start" button. Observe the spinner's movement.



### **1** POWER FLOAT SETTINGS



### USE A DIGITAL TACHOMETER TO ASSIST IN SETTING THESE VALUES ACCURATELY



• ACCESS THE SPREADER CALIBRATION PAGE

→ If the spinner is moving too fast, decrease the minimum trim value. If it is too slow, increase the minimum trim value. Adjust until you achieve a slow and consistent spinner movement, typically around 5 to 10 RPM. Stop and start the spinner several times to ensure the movement is steady and consistent.

### • Maximum Trim:

- → Set the Spinner Maximum Trim value to 50. Press the "Start" button to check the spinner's speed.
- → Increase the maximum trim value until the spinner's speed no longer increases. Be cautious, as excessively high speeds could cause damage. Set the maximum trim to the highest value that allows for optimal and safe operation.

### 8 Auger Trim Setting:

### Minimum Trim:

 → Set the Auger Minimum Trim value to 20 and press the "Start" button under Auger Minimum Trim. Adjust until you observe the slowest yet consistent movement.

### Maximum Trim:

→ Set the Auger Maximum Trim value to 50. Increase the value gradually until you reach the maximum speed at which the auger still rotates effectively. The goal is to set the maximum trim as low as possible while ensuring the auger operates at its maximum speed.

### **4** Pre-Wet Calibration (if applicable):

→ Follow a similar process to calibrate the Pre-Wet function if it is used. Adjust the trim values to achieve the desired flow rate and consistency.

### AUGER OUTPUT CALIBRATION

Once you have set the trim values, proceed with calibrating the Auger's minimum and maximum output. This process requires the truck to be filled with salt. Ensure that the truck is parked in a safe area where high-speed salt spread



will not damage surrounding objects. You will also need a standard trash can or a large tarp to collect the spread salt for weighing.

### Preparation:

### Fill the Truck:

→ Load the truck with salt. Ensure that the tailgate is open and securely chained, and that the auger is clear of any tools, bolts, or other obstructions. For ease of calibration, you may consider removing the spinner depending on the spreader configuration.

### 2 Setup Collection:

→ Position your trash can or tarp near the auger's output to capture all the salt spread.

### Minimum Output Calibration:

### Run Test:

→ Press the "Run Test" button next to Auger Min Output. This will operate the auger for 2 minutes at the minimum auger trim value. The test will conclude automatically. You may stop the test at any time, but ensure that no weights from an interrupted test are used.

### 2 Weigh and Record:

After the test completes, weigh the collected salt. Divide this weight by 2 to determine the pounds per minute the auger delivers at the minimum auger trim. Enter this value into the Auger Min Output field. If needed, repeat the test and average the results for greater accuracy.

### Maximum Output Calibration:

### Run Test:

→ The maximum output test will run for 15 seconds at the maximum auger trim value. Ensure that the truck is free of tools, nuts, or bolts, and be prepared to handle a large amount of salt.

### 2 Weigh and Record:

- Ocllect and weigh the salt from this test. Multiply this weight by 4 to obtain the pounds per minute the auger delivers at the maximum trim value. Enter this value into the Auger Max Output field. Multiple tests can be performed and averaged for a more precise measurement.
- If your truck is not equipped with a prewet system, you may proceed directly to the Sim Speed section of the manual.

### Pre-Wet Output Calibration (Optional)

To calibrate the pre-wet output, follow these steps:

### Overify Pre-Wet System Enablement:

• Ensure the Pre-Wet system is enabled by pressing the button next to "Prewet Enable." Advanced settings will appear once enabled.

### Prepare the Truck:

• Fill the pre-wet tank with liquid and ensure all associated valves are open.

### Select Pre-Wet Type:

• For a hydraulically operated pre-wet system, select "TruckCorp Hydraulic" by pressing the pre-wet type button until this option is displayed. Other pre-wet options will be discussed later in this manual.



### 4 Minimum Output Calibration:

- Set the Pre-Wet Minimum Trim to 20 and press "Start." Adjust the trim value up or down until you achieve the smallest, most consistent flow, ideally around 0.2 to 0.3 gallons per minute.
- Start and stop the pre-wet system several times to verify that the flow rate consistently returns to the desired value. Press "Stop" when you are satisfied with the calibration.
- **5** Maximum Output Calibration:
  - Set the Pre-Wet Maximum Trim to 50. Gradually increase this value until the flow rate, displayed in the "Gal/Min" box, no longer increases. The maximum flow rate should not exceed 6.6 gallons per minute.
  - To optimize automatic operation, set the maximum trim value as low as possible while ensuring the pre-wet output maintains its maximum flow rate.

By carefully calibrating the pre-wet output, you ensure precise and efficient application, enhancing the performance of your spreader system

### SIM SPEED

**Purpose:** Sim Speed allows you to test the spreader controller by simulating truck movement. This feature is useful for verifying operation without the need for an actual moving vehicle.

### Instructions:

1 Adjust Simulated Speed:

→ Use the plus and minus buttons to set the desired simulated speed.



### 2 Start Simulation:

Once you have adjusted the speed to your satisfaction, press the Start button to activate the simulation.

### **3** Test Spreader Controller:

 → Return to the home screen and initiate the spreader controller. If operating in Manual mode, the auger and/or pre-wet functions will activate based on your settings.

**Note:** In both Automatic and Manual modes, the spreader controller will stop the auger when the simulated speed reaches 0 MPH.

### **BLAST SETUP**

### **Blast Time:**

• **Definition:** Specifies the duration of the blast in seconds. If set to 0, the system will continue to blast for as long as the button is pressed.



### Auger/Spinner/Pre-Wet (Optional) Blast Trim Percentage:

• **Definition:** Adjust these settings to control the intensity of the blast. Increasing the percentages will result in a higher volume of salt being spread during the blast.

### Instructions:

### Set Blast Time:

- → Input the desired duration for the blast in seconds. To enable continuous blasting while the button is pressed, set the value to 0.
- 1 Adjust Blast Trim Percentages:
  - → Auger Blast Trim Percentage: Adjust to control the auger's output intensity during the blast.
  - → Spinner Blast Trim Percentage: Adjust to control the spinner's output intensity during the blast.
  - → Pre-Wet Blast Trim Percentage (if applicable): Adjust to control the pre-wet system's output intensity during the blast.

### **ALTERNATE PRE-WET SETUPS**

### Buyers Hydraulic:

- **Description:** This system utilizes the auger's hydraulic system to power the pre-wet function.
- **Control:** The application rate is set by an adjustment knob located inside the pre-wet enclosure and is fixed.
- **Operation:** Selecting this option provides On/Off control only.

### 2 Buyers Electric:

- **Description:** This system employs an electric motor to pump brine.
- **Control:** The application rate is set by an adjustment knob located inside the pre-wet enclosure and is fixed.
- Operation: Selecting this option provides On/Off control only.

### **Bucher Electric**:

- **Description:** This system operates similarly to the Buyers Electric setup, using an electric motor.
- **Control:** The application rate is set by an adjustment knob located inside the pre-wet enclosure and is fixed.
- Operation: Selecting this option provides On/Off control only.

Each option provides different methods of controlling the pre-wet system, allowing you to select the setup that best meets your needs.

### **ERROR INDICATORS:**

- Basic Output Errors: If the system detects an error with basic outputs (e.g., tarp, strobes), the corresponding button's lettering will turn red. The Errors button at the bottom left of the main screen will also turn red.
- Main Function Errors: Errors related to main functions (e.g., body, plow) will only turn the Errors button text red.

### Accessing Error Details:

- 1 Press the Errors button to navigate to the Errors page.
- 2 This page will display a list of all functions and provide a brief description of any detected errors. If the description field is blank, no error has been identified.

### **COMMON ISSUES:**

- Errors often indicate either an open circuit or a short circuit to ground. If a relay is involved (e.g., for strobes), the error description will mention this.
- Most fuses and relays are located inside the plastic enclosure within the valve enclosure.



### IF THE SYSTEM DETECTS AN ERROR BUTTON LETTERS WILL TURN RED

Error Description
E

### PRESS THE ERRORS BUTTON TO NAVIGATE TO THE ERRORS PAGE

### MAIN SYSTEM FUSES:

CIRCUIT BOARD LABEL	DESCRIPTION	FUSE SIZE
TS BATT	Touchscreen Battery	3 AMP
WAVE BATT	Wave Module Battery	10 AMP
BATT TTC50	TTC-50 Battery Feed	15 AMP
BATT TTC48	TTC-50 Battery Feed	15 AMP
SPINNER FUSE	Spinner Light Fuse	15 AMP
STROBE AUX	Auxiliary Strobe Fuse	7.5 AMP
TTC-50 FUSE	TTC-50 Key On Signal	3 AMP
TTC-48 FUSE	TTC-50 Key On Signal	3 AMP
STROBE FUSE	Main Strobe Fuse	7.5 AMP
WAVE FUSE	Wave Module Key On	3 AMP
PL FUSE	Plow Light Fuse	10 AMP
SENSOR POWER	Key On Power for Sensors	5 AMP
TS FUSE	Touchscreen Key On	3 AMP
XMD/AUX FUSE	Auxiliary Key On Output	5 AMP
POWER FLOAT FUSE	Power Float Fuse	5 AMP
ROAD SENSOR	Road Temperature Sensor Fuse	3 AMP

- Kenworth/Peterbilt: Located in the driver's side kick panel fuse box.
- Western Star/Freightliner: Found in the fuse panel on top of the dash.
- Mack/Volvo: Located in the fuse panel under the instrument panel.
- Battery Box: The main battery system fuse could also be situated in the battery box. Typically, there are two chassis fuses:
- Key-On Power Fuse: Generally fused at 5 amps but may be up to 15 amps if factory-installed.
- Battery Power Fuse: Typically fused at 25 amps.



**1 THE MAIN BATTERY SYSTEM FUSE COULD ALSO BE SITUATED IN THE BATTERY BOX** 



### **CAN-BUS COMMUNICATION**



### **THE CHECK THE INDICATORS THAT DISPLAY THE STATUS OF CAN-BUS CONNECTIONS**

### **CAN-BUS COMMUNICATION:**

- The system uses CAN-BUS to communicate with the truck chassis and link the joystick, touchscreen, and computers (TTC-50/TTC-48).
- Indicators: Check the indicators that display the status of CAN-BUS connections. If any device is not connected properly, the corresponding indicator will turn red. Always check the fuse related to any device that fails to connect to the CAN-BUS network.



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