

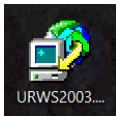
# MT4400 Unit Rig Payload Troubleshooting Guide

## Setup:

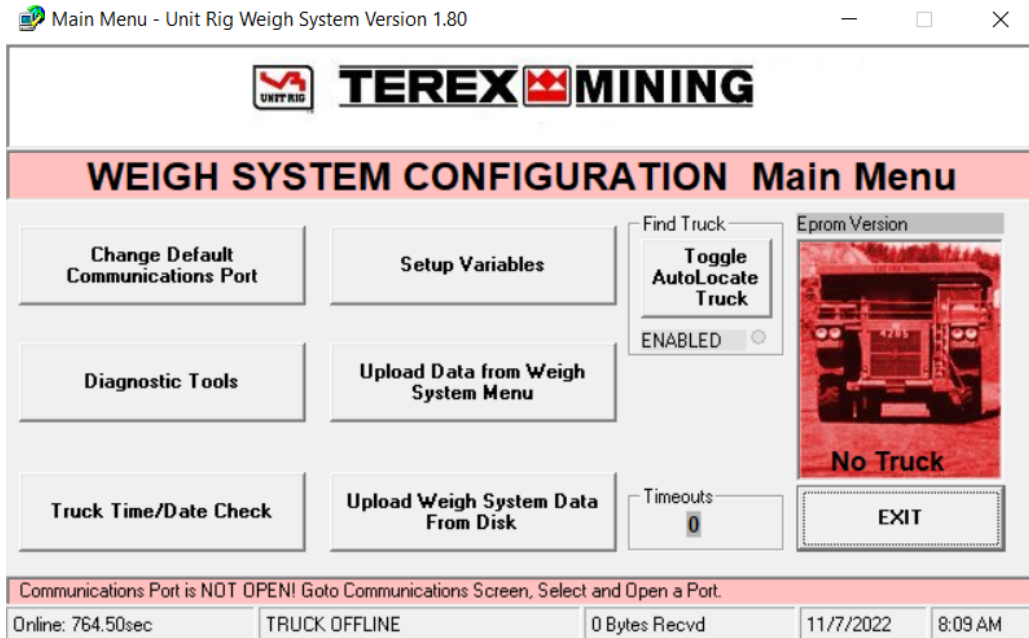
- Begin by accessing the payload control panel on the driver's side of the high voltage cabinet. After opening the panel there is a toggle switch in the lower right corner that has two modes. Modular and Laptop. Switch it to laptop so that the data from the payload computer flows to the serial port in the cab. **Make sure to switch it back to Modular after troubleshooting.**
- Using a USB to Serial cable plug the laptop into the diagnostic port in the CAB.



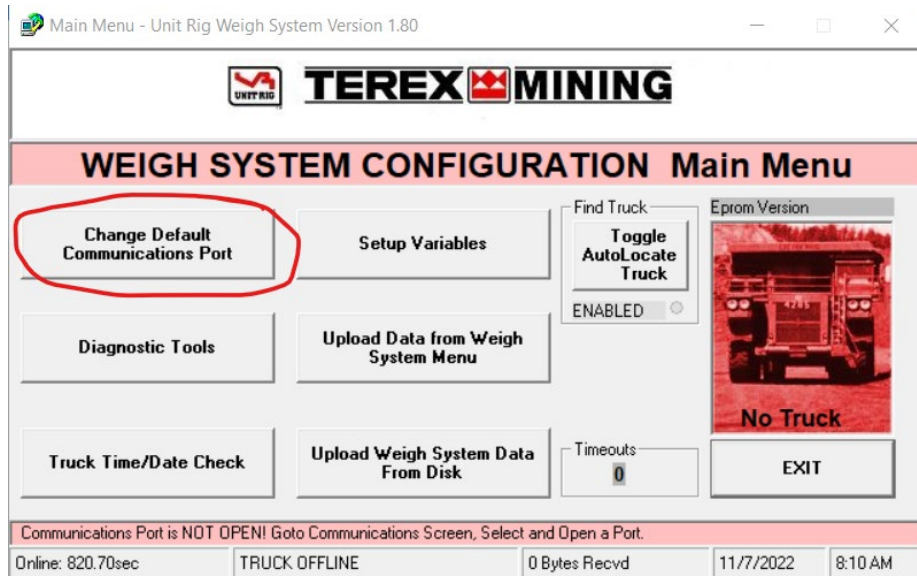
- On the laptop open the payload program. It should be on the desktop in a folder called "Payload"



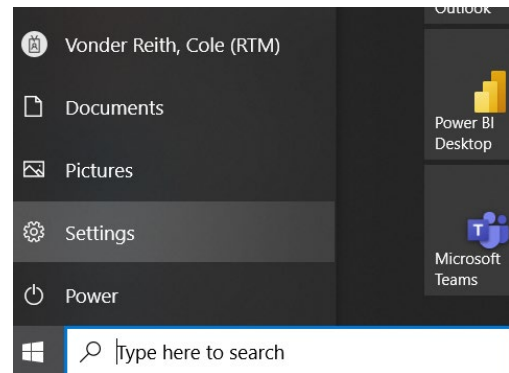
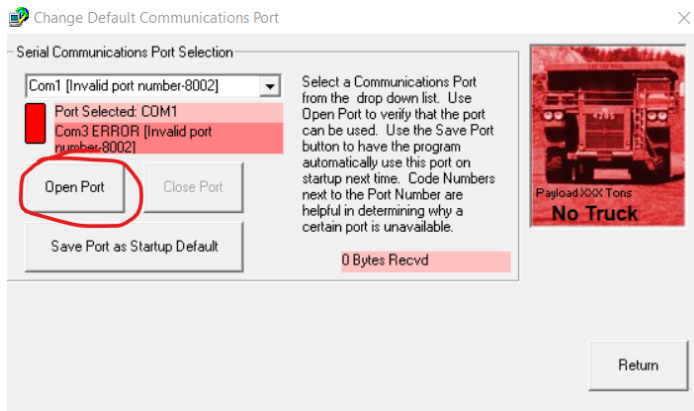
- You'll see this screen after opening the program. If all goes well the red will change to green and show the truck number. If this takes place skip to troubleshooting.



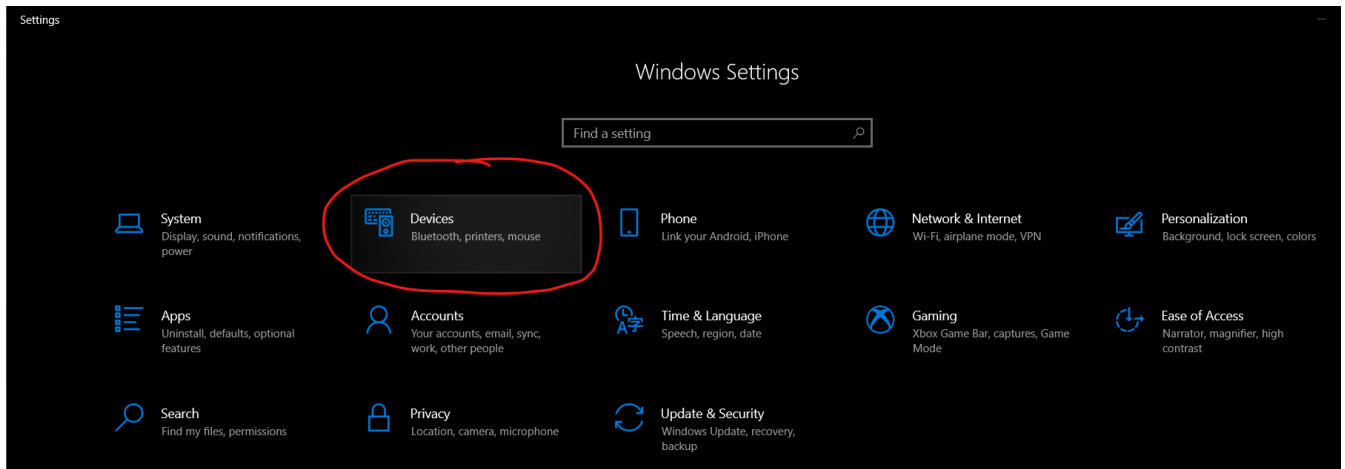
- If it doesn't change to green you may need to change the default communications port.



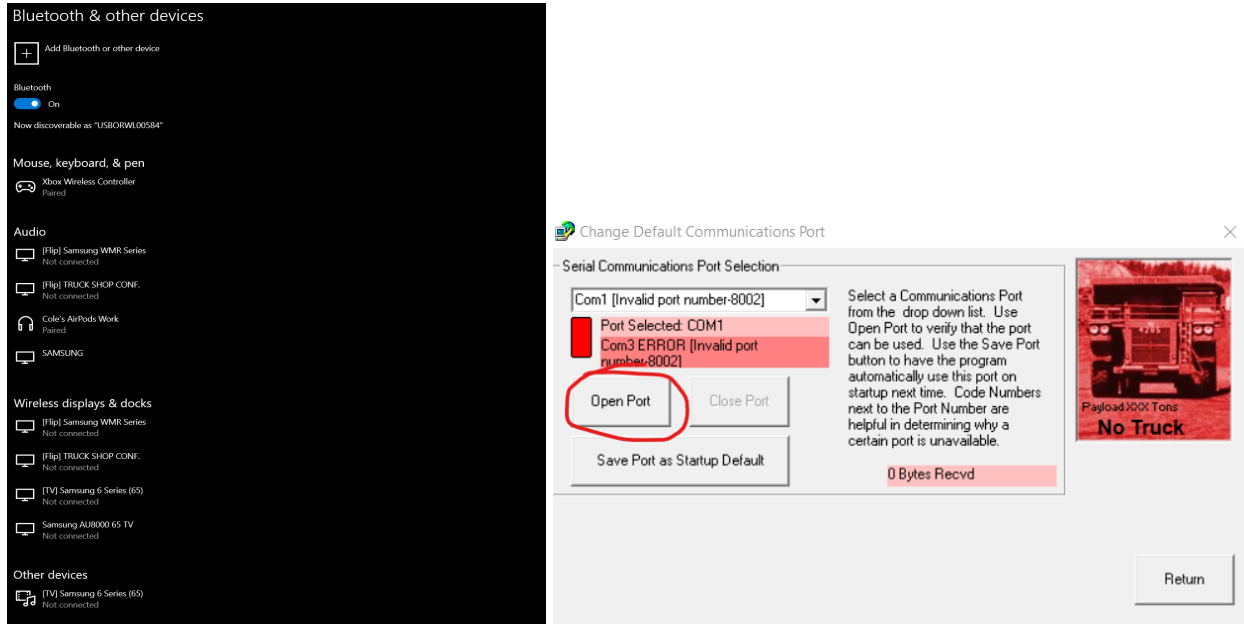
- In this menu you can cycle through different COM Ports that are available. To see what COM port the USB to Serial cable is using in windows go to settings.



- Then Devices

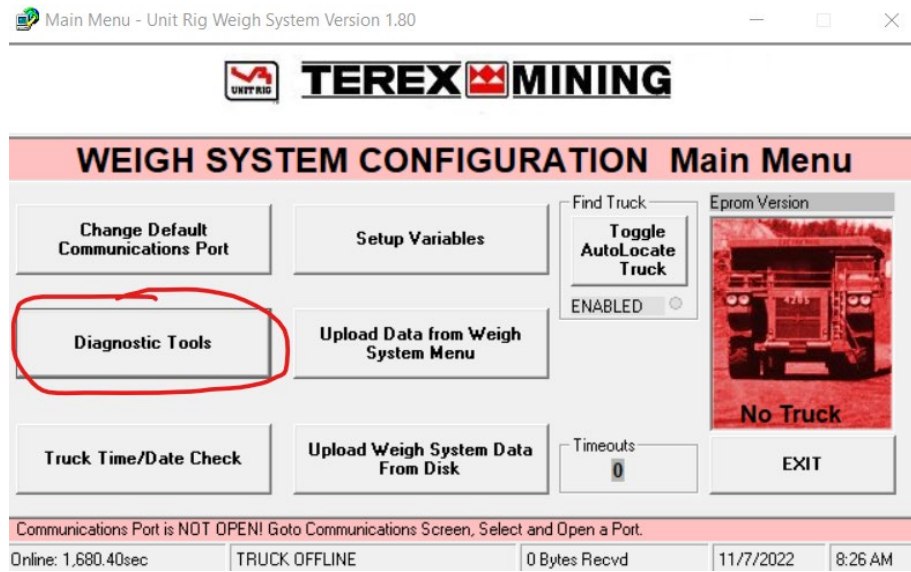


- Here you will see a list of all the devices setup for the laptop. You should see one called “prolific USB SERIAL” and it will show what “COM #” it is using. Go back to the payload program and make sure the same COM PORT is selected and then hit “OPEN PORT”. The Red should turn to green and display the Truck number where it says “No Truck”.



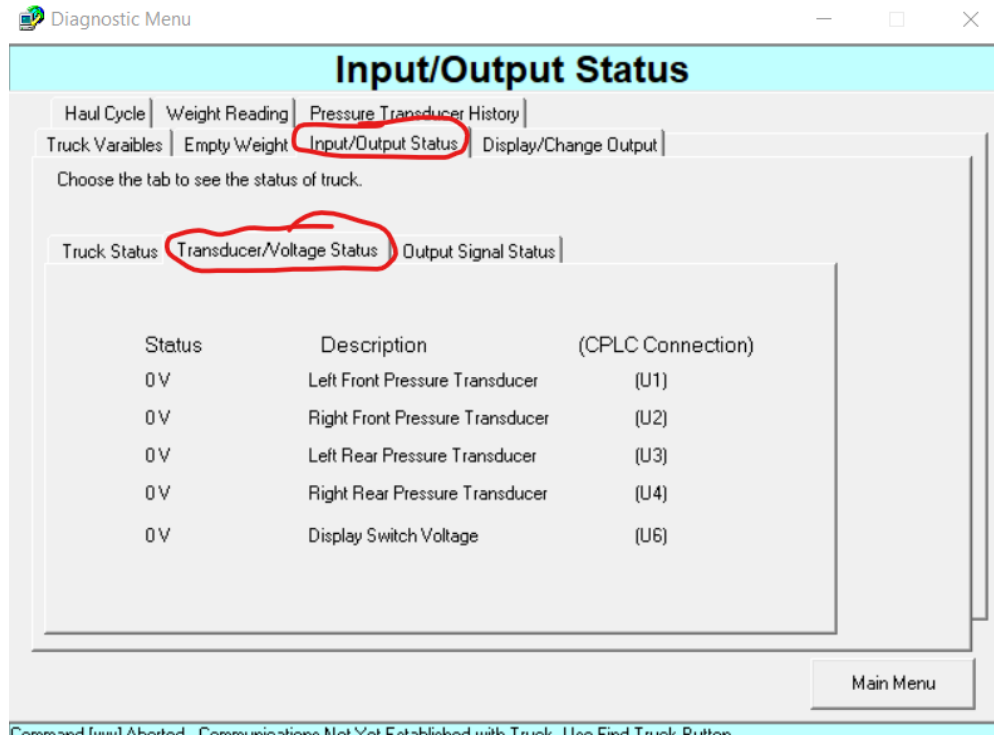
## Troubleshooting:

- With everything communicating go to “Diagnostic Tools”.



## Transducers:

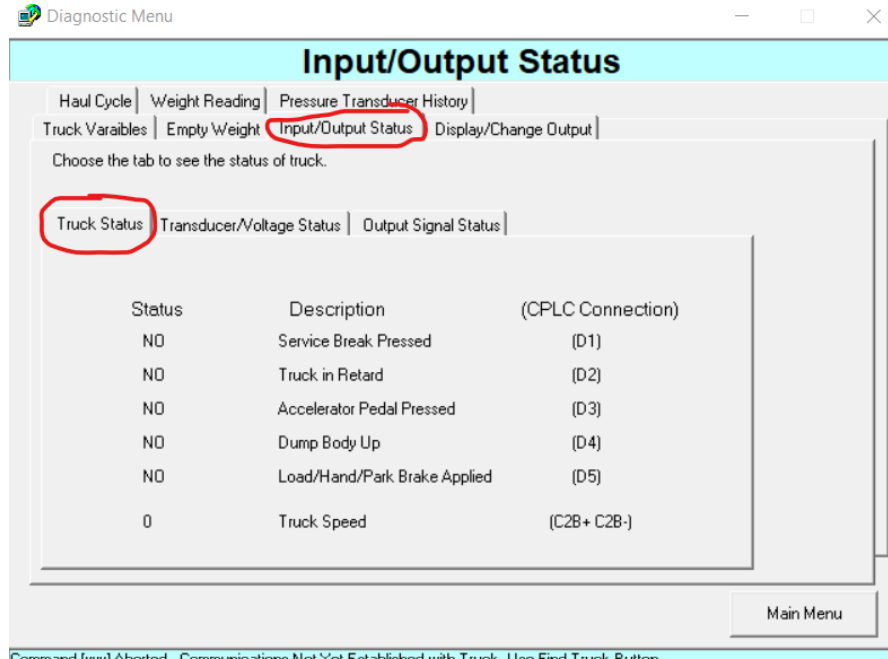
- The most common failure is a transducer malfunctioning. To check go to the “Input/Output Status” tab then the “Transducer/Voltage Status” sub tab.



- On this screen you will see the current transducer voltages. When the truck is empty these voltages should range between 1-2 volts. If they are out of this range, it is likely the transducer has failed. If the reading is zero, then there is a wiring issue.

## Truck Variables:

- If all transducers are functional the next item to check is the truck's status conditions. Go to the "Input/Output Status" tab then the "Truck Status" sub tab.



- These Yes/No conditions is what tells the payload computer what the truck is currently doing. EX: Being loaded, Hauling, Dumping, and Running Empty.
  - If any of these Statuses fail to change then the payload computer will not calculate a payload.
- Testing these inputs is simple. Just do each action and it should change in real time. If it does not, then there is a communication issue to that input.  
EX: broken wire, damaged sensor, etc.
- A full truck wiring diagram of the payload system is available on the Truck Shop Website.

68 Cranes
69&70 Vehicles
71 Rail Equipment
73 Excavators
74 Skid Steers
76 Small Loaders
77 Medium Loaders
79 Large Loaders
84 Rubber Tire Dozers
85 Tractors
86 Service Trucks
87 Shovels
<b>88 Haul Trucks</b>
90 Small Haul Trucks
91 Drills

## **Payload System Wiring Diagrams**

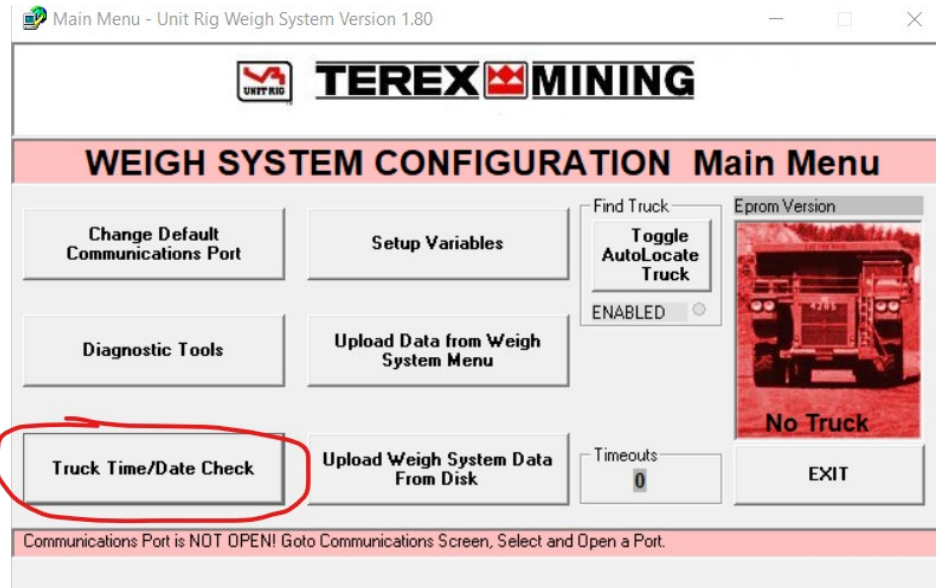
[Truck Wiring Diagram](#)

[Truck-Cabinet-Controller Wiring Diagram](#)

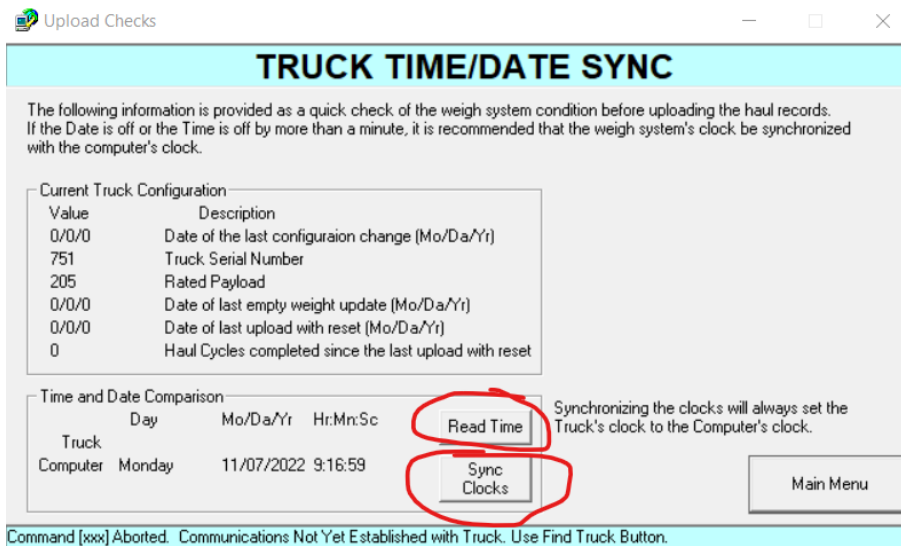
[Modular to Laptop Switch Diagram](#)

## Sync Truck Clock:

- Regardless of any previous issues it is good practice to check/sync the clock to ensure it is correct for accurate reporting. Go to Truck Time/Date Check.



- On this screen click “Read Time” to display what time the payload computer shows. It is normal for the time to be off by a few minutes. Click “Sync Clocks” to sync the payload computer’s clock with the laptop’s current date and time.



- There is a button battery in the payload computer that keeps the time while the truck is off. If this battery goes dead, it can cause issues with the payload computer reporting the incorrect date and time for cycles. From MTS’s perspective in their reports, it will look like the truck’s payload system is not working. If there is a significant time difference replace the button battery.