

PAUSE



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GARMIN®

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Section 3: MORryde Air2 Independent Suspension

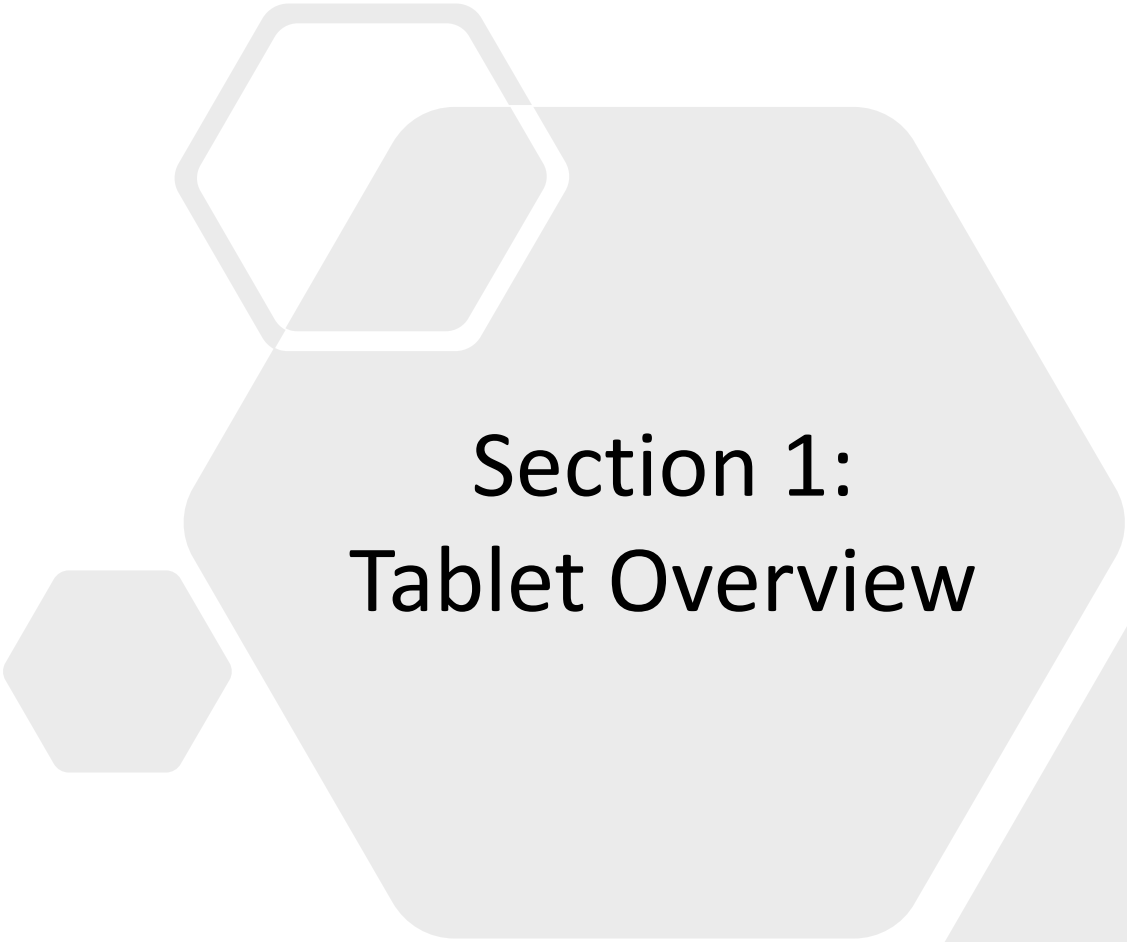
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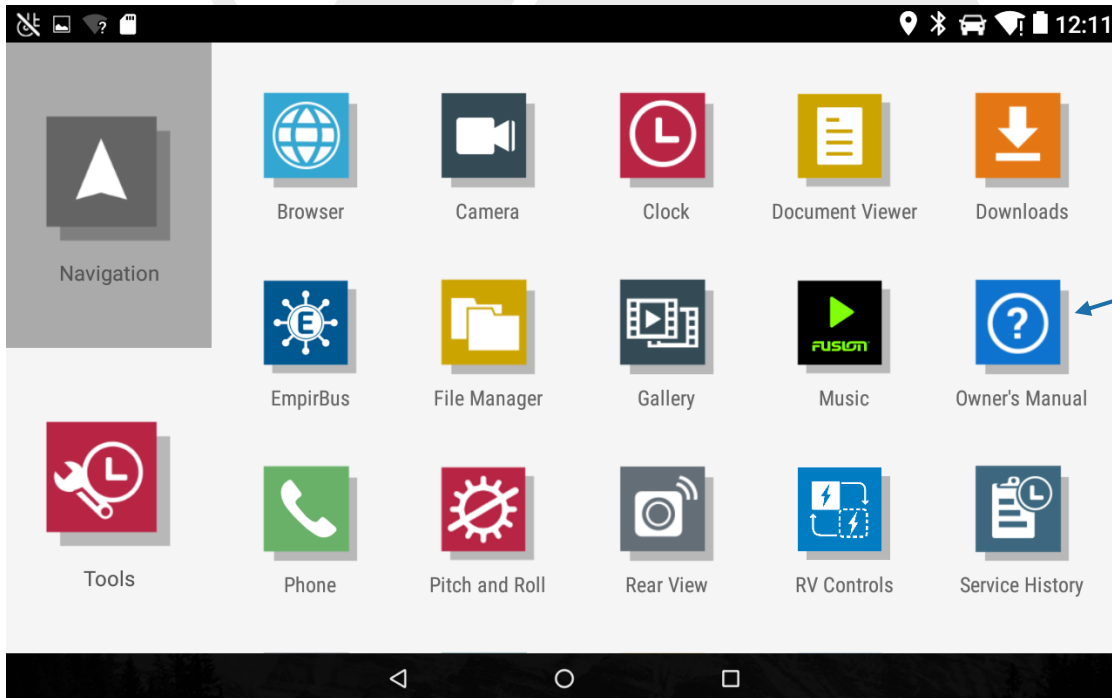
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Section 1: Tablet Overview

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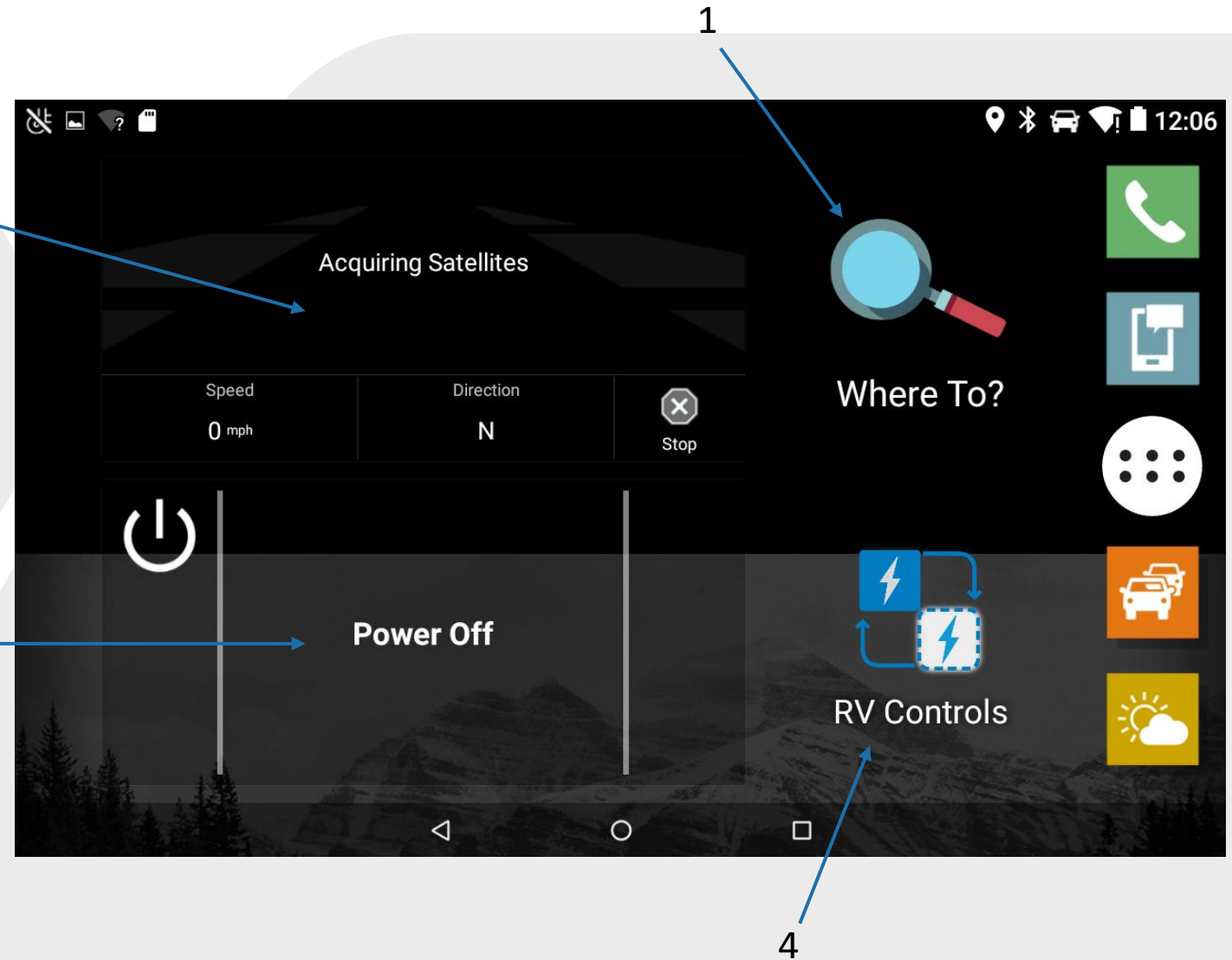


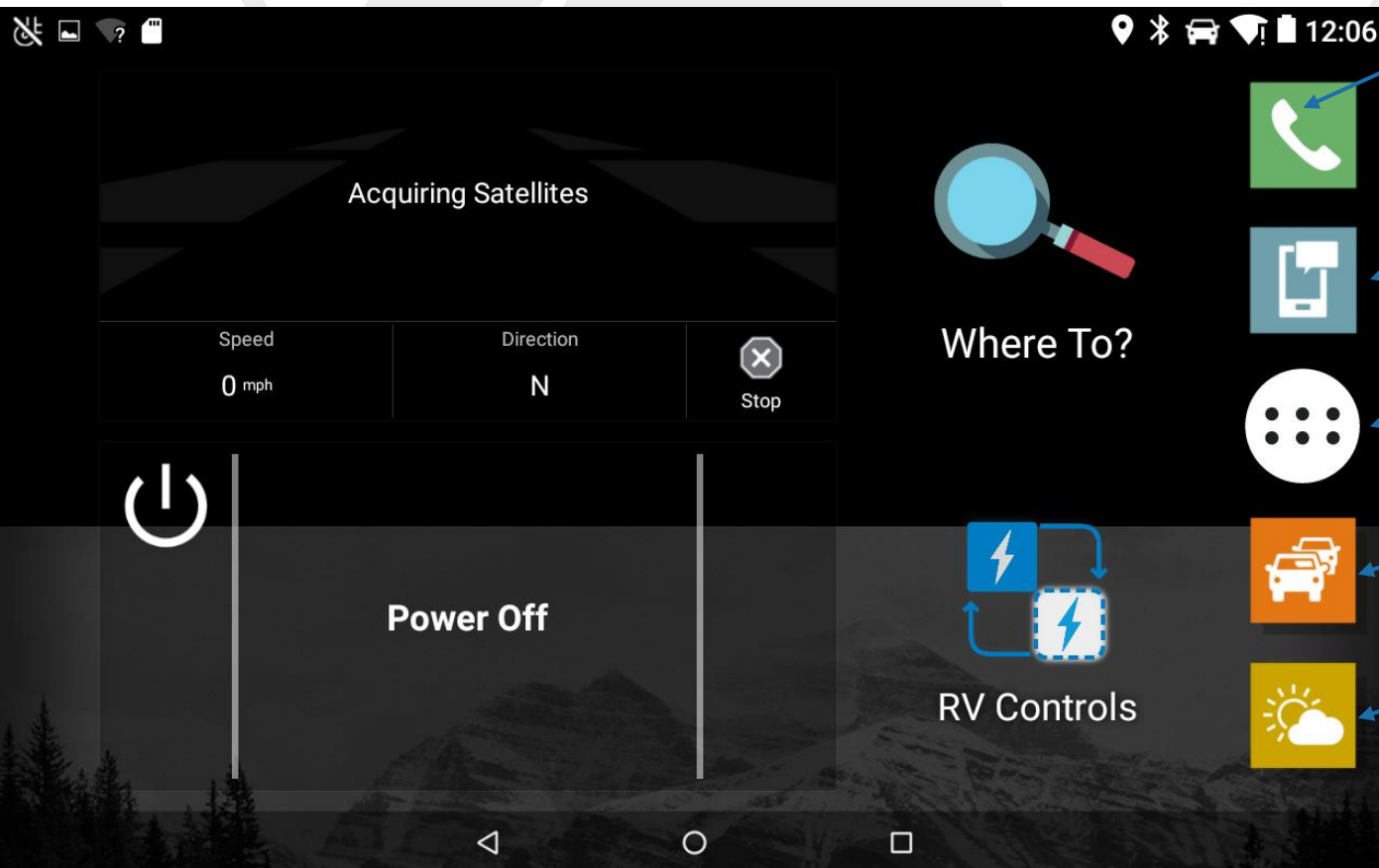
From the tablet's home screen press:

- White Circle with 6 dots 
- Tools (wrench w/ clock on left side of screen) 
- Owner's Manual (blue icon with question mark)

Inside this “Owner’s Manual” icon you will find pre-loaded documents and instructional videos specific to the capabilities of this tablet. This collection of material will walk the user through every aspect of the device, excluding “RV Controls”.

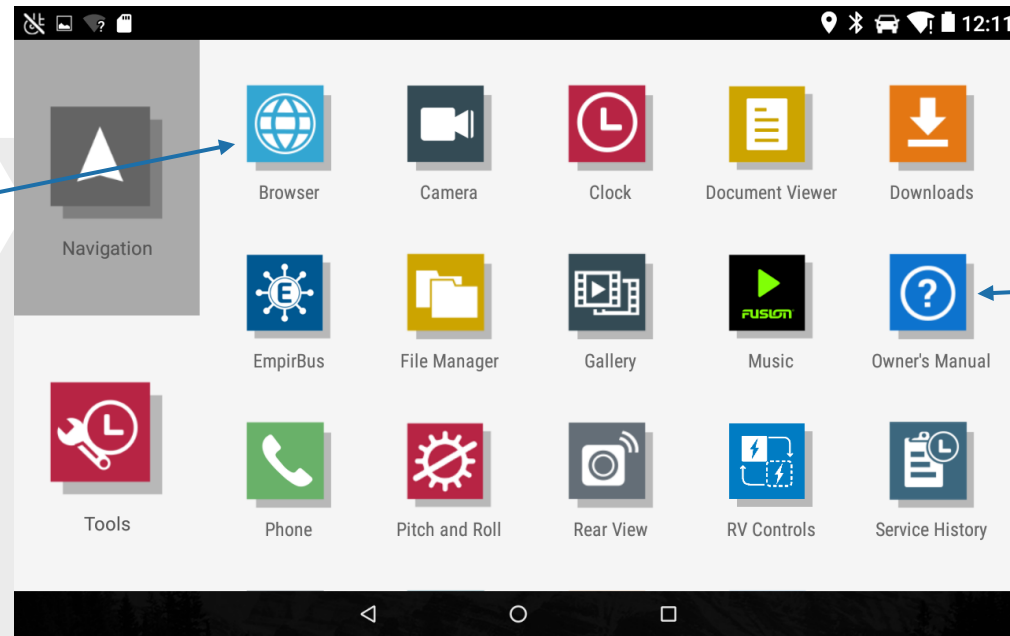
1. Navigation Address Input
2. Current Driving Directions
3. Radio Display & Controls
4. "Pause" Specific Controls





1. Phone Pairing Icon
2. Smart Notifications
3. Applications Menu
4. Traffic Information
5. Weather Information

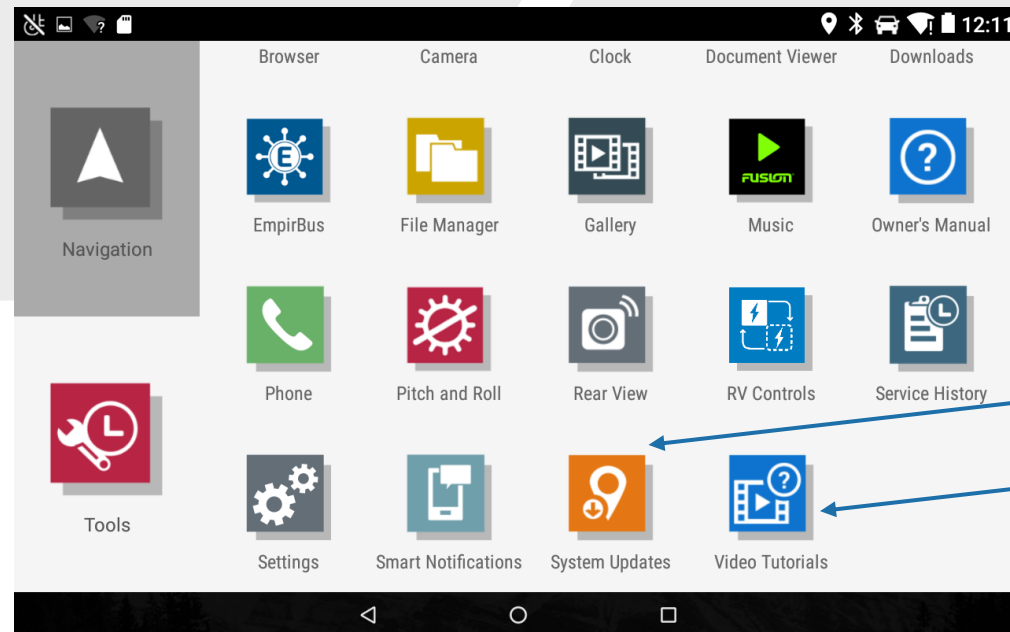
Garmin Drive App needed to utilize options 2, 4, & 5



From the tablet's home screen press:

- White Circle with 6 dots 
- Tools (wrench w/ clock on left side of screen) 

1. Internet Browser
2. Owner's Manual
3. System Updates (tablet only)
4. Video Tutorials



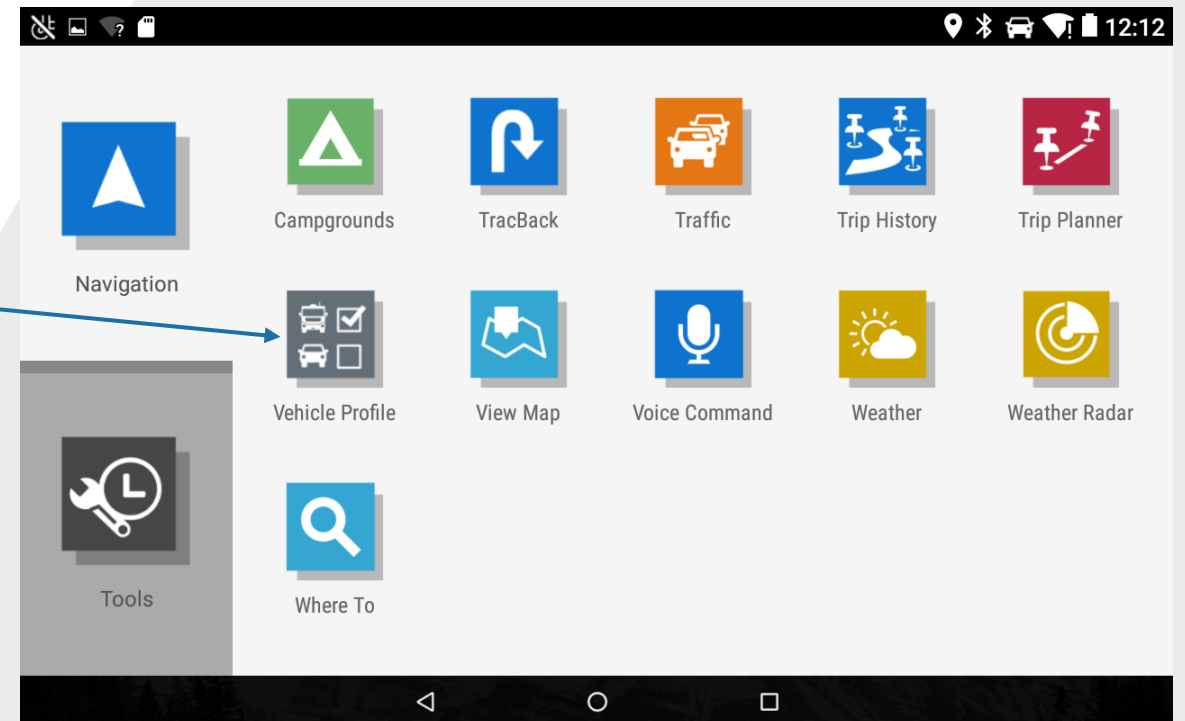
Tools

Any icon can be dropped onto main screen by pressing and holding icon then moving it to desired location

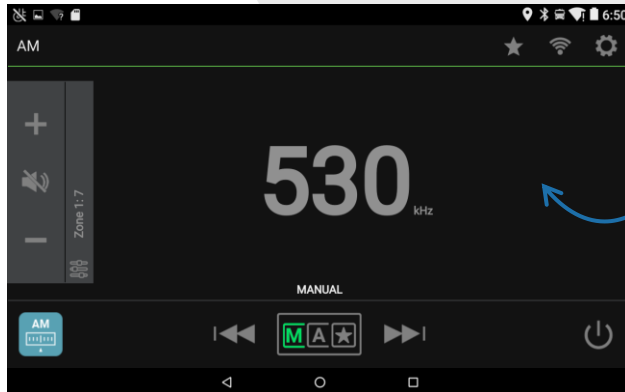
From the tablet's home screen press:

- White Circle with 6 dots 
- Navigation (blue icon with white arrow) 

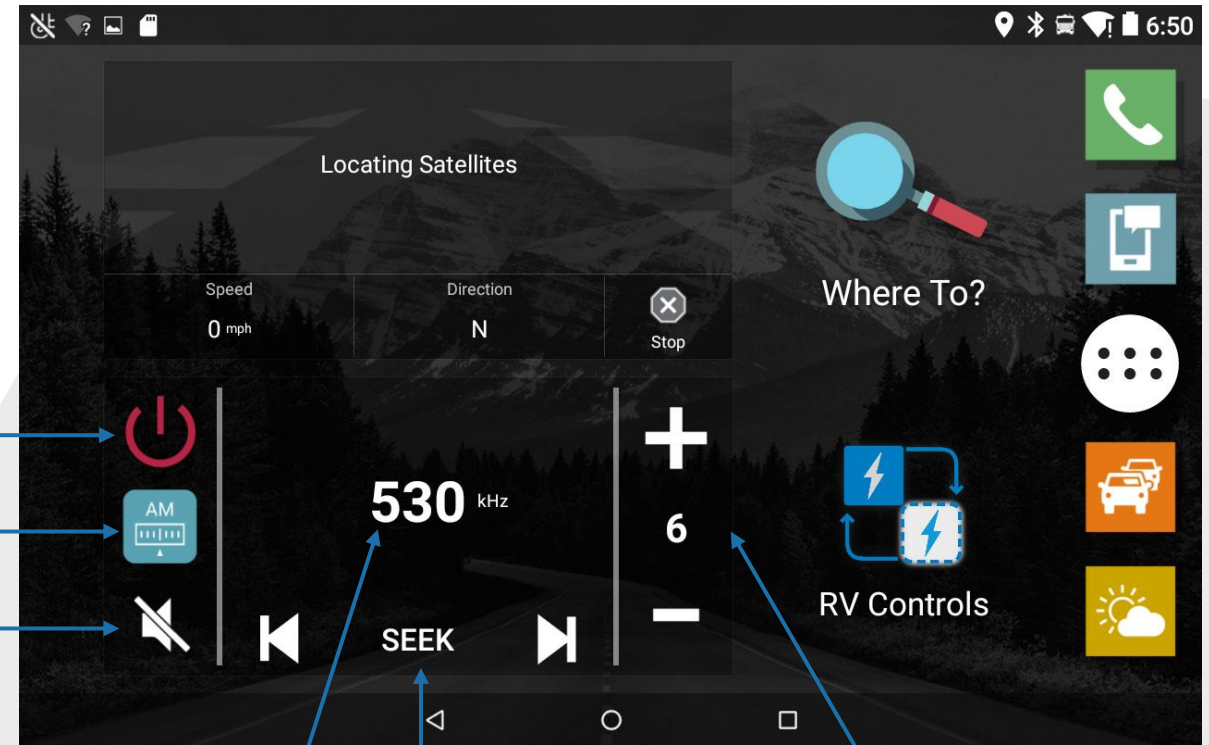
*All the options in this menu are self-explanatory except for Vehicle Profile. **Before utilizing the Navigation feature on this device, ensure you have entered your vehicle parameters and have the appropriate vehicle and camper selected.** This feature will assist the operator during navigation by avoiding areas where there may be a height, width, or weight restriction that could result in damage to your vehicle or camper*

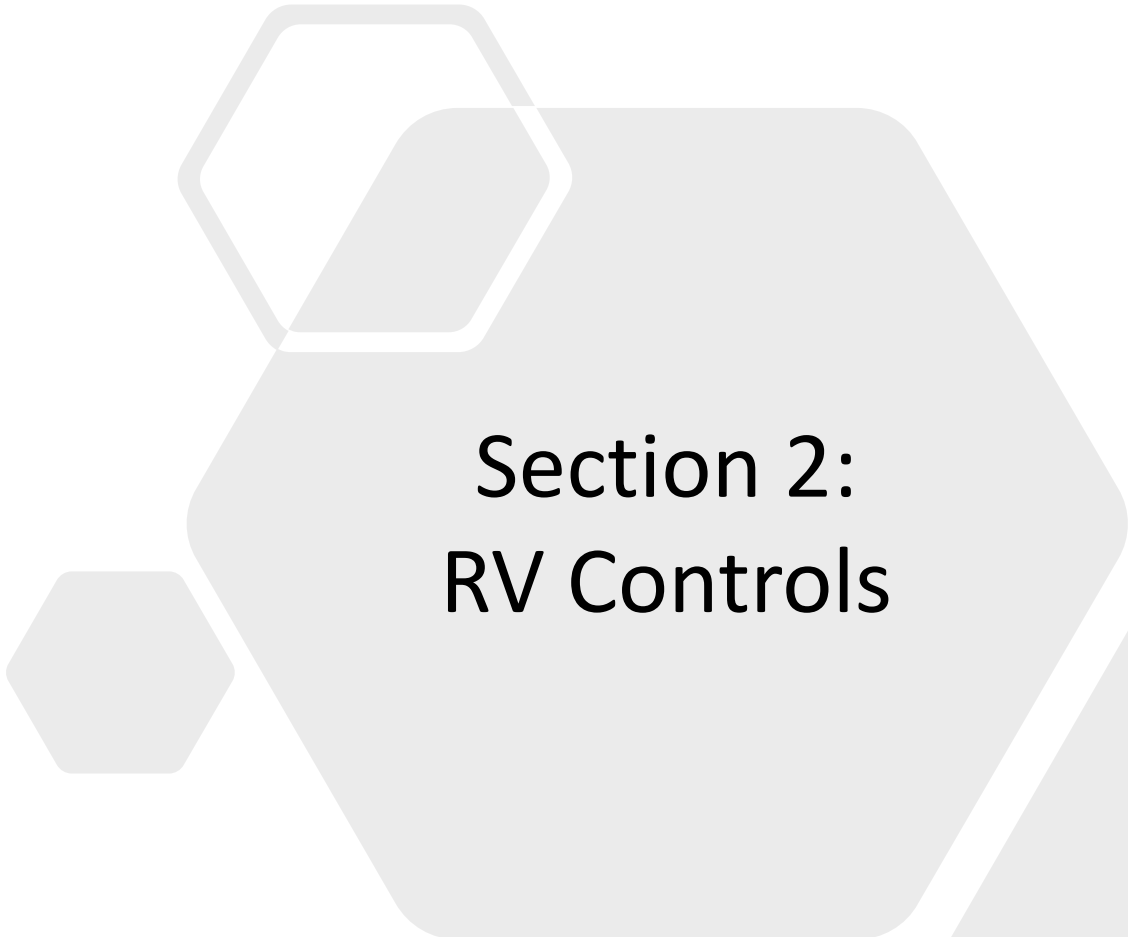


1. On/Off
2. Source Selected
 - Can be switched by tapping icon
 - Toggle between AM, FM, Bluetooth, USB Audio, and Aux1
3. Mute/Unmute
4. Current Radio Channel
 - Pressing this field will produce this screen.
 - This provides the ability to choose manual search, auto search, or star as a favorite
5. Channel Search
6. Volume Controls



Located on the tablet's home screen in the bottom left corner



The background features several overlapping hexagonal shapes in light gray. One hexagon in the upper left has a white outline. The main title is centered within a larger, rounded hexagonal area.

Section 2: RV Controls

PAUSE

Operating the trailer's systems has the potential to cause bodily harm to bystanders/occupants and/or physical damage to the trailer and components when performed incorrectly. Proper operation and supervision there of rests solely on the operator(s)

1. Tank Level Overview
 - Read in 1/3 increments
2. Outside Ambient Temperature
3. Lockable Storage Access
 - Only displayed on XC20.2 Models
4. Battery Level and Voltage
 - Outline of battery will change between green, yellow, and red based on battery level
5. Commonly Used Controls
6. Climate Control Center
7. Available Screens in RV Controls application



1. The system takes tank readings once every 5 minutes and will update those readings once complete.

- The readings displayed on this screen only serve as a “quick glance” and SHOULD NOT be used if intentionally filling tanks.
- **Page 22** of this document details the most accurate way to monitor tanks when filling

1



1. Lockable Storage Access

- Pressing this Safe icon will populate this screen

2. To unlock, press and release this icon and enter 4 digit code. When the button on the door turns green, depress and door will open.

3. To change code, press this button and follow the prompts



*Door lock will automatically resecure after opening, allowing the operator to immediately shut/lock door. There is a key provided for external manual unlocking and an internal safety pull strap, for manual override, installed inside the compartment's door

1. Temperature set point & Adjustment Arrows
2. Actual temperature inside
3. Heat or A/C selection icon
4. Fan mode speed setting
5. MAXXAir fan speed setting
6. Air In / Air Out setting for MAXXAir fan
7. Open / Close setting for MAXXAir fan cover
8. MAXXAir Fan Rain Sensor Indicator



1. Four settings available

- When set to AUTO, the system will turn on/off the furnace and/or A/C based on temperature set point and actual temperature
- When set to HEAT, furnace will turn on/off as needed
- When set to COOL, A/C will turn on/off as needed
- When set to DEHUMIDIFY, A/C will run appropriately until humidity levels are achieved
- When system loses power, and restarts, system will default to **AUTO** mode

2. Fan Mode

- This icon will control the Fan only on the A/C

3. Snowflake or flame symbol will turn blue when either A/C of furnace is selected



1. MAXXAir Fan Rain Sensor Indicator

- When the fan senses rain it will automatically close the cover. The cover can then be re-opened by pressing the OPEN icon
- The raindrop icon will turn blue when the rain sensor is activated

2. MAXXAIR Fan cover OPEN / CLOSE

3. MAXXAIR Fan rotation selection for fan

- AIR OUT removes air from inside the trailer
- AIR IN brings air inside from outside the trailer

4. MAXXAIR Fan speed selection

- When the fan is turned on by pressing MODE, the system defaults to OPEN and AIR OUT



Avoid pressing icons when "Fan Transitioning. Please Wait." is displayed above the "OPEN" and "AIR OUT" buttons

1. Light

- All lights depicted on this screen can be turned on/off by either simply tapping the light itself, or utilizing its “Light Control Icon”

2. Light Control Icon

- This icon can turn its respected lights on/off as well as providing a “Dimming” option by sliding the bar after the light name is tapped
- Only Front Living Room, Rear Living Room, and Bathroom lights can be dimmed

3. “All” Lights Icon

- This feature provides the user with the ability to control all lights, interior and exterior, with the touch of one button

Rear Storage, Porch, Kitchen, Bathroom, Front and Rear Living lights can also be controlled with a manual light switch located on an interior wall



1. Driver Side Stabilizer Jacks

- Can raise/lower jack by pressing appropriate icon
- Down arrow will lower the jack
- Up arrow will retract the jack
- Can simultaneously operate more than one jack at a time

2. Passenger Side Stabilizer Jacks

- Can raise/lower jack by pressing appropriate icon
- Down arrow will lower the jack
- Up arrow will retract the jack
- Can simultaneously operate more than one jack at a time

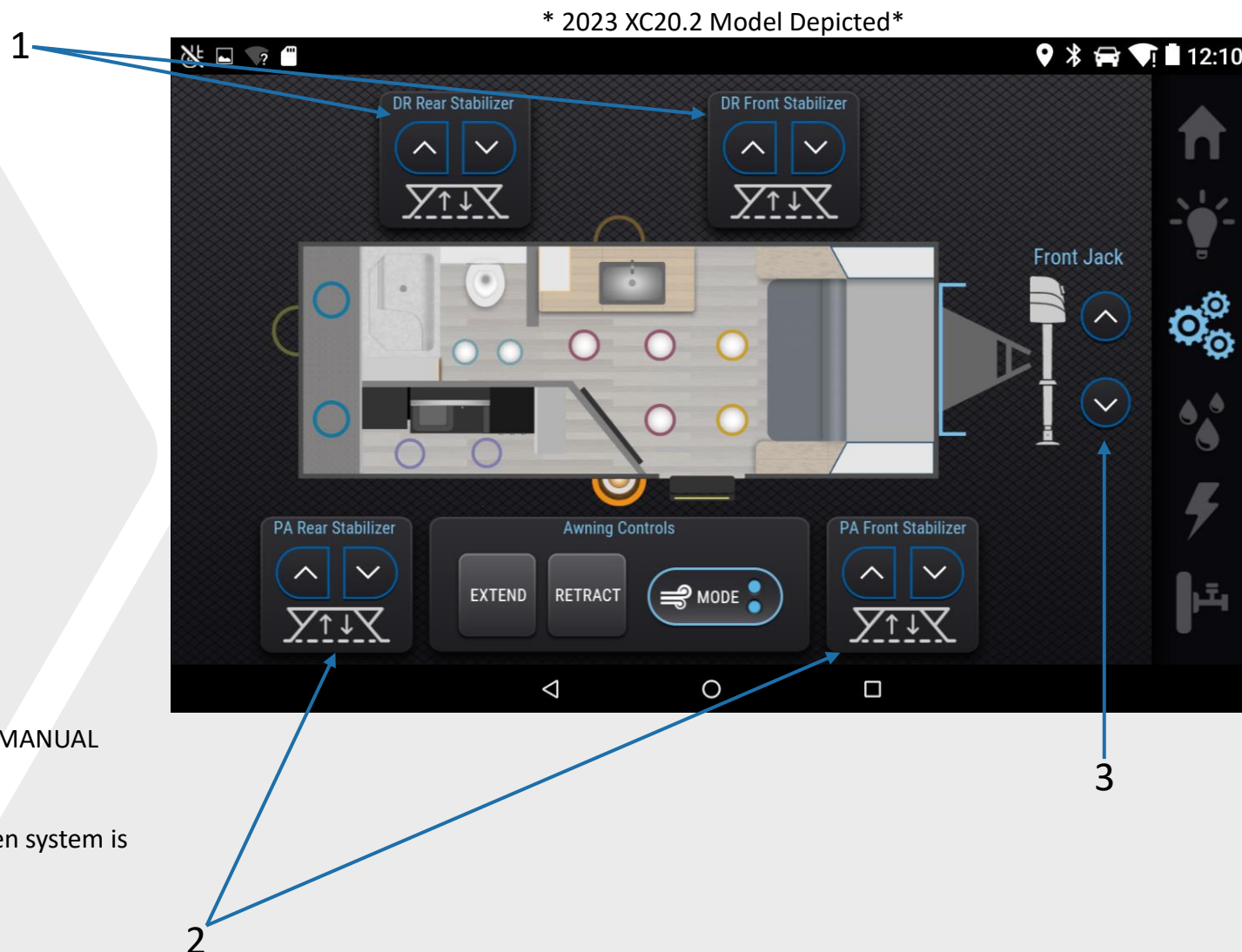
3. Tongue Jack

- Down arrow will lower tongue
- Up arrow will raise tongue

*Stabilizer jacks and front jack only function from this page when AUTO/MANUAL icon on CAMPING MODE SCREEN is set to MANUAL (Page 29)

*Stabilizer jacks and front jack cannot be controlled from this screen when system is in **TOW MODE**

*All lights displayed can be turned on/off from this screen



1. Awning EXTEND / RETRACT

- A quick tap of the **EXTEND** icon will run awning out to $\frac{3}{4}$. A second tap will run it all the way out
- Press / Hold **EXTEND** icon will run awning out until the **EXTEND** icon is released. Once icon is released the awning will stop at current location
- A quick tap of the **RETRACT** icon will run awning in $\frac{1}{2}$ way, a second tap will take it $\frac{3}{4}$ way in, and a third tap will run it all the way in
- Press / Hold **RETRACT** icon will run awning in until the **RETRACT** icon is released. Once icon is released the awning will stop at current location

2. Wind Sensor Control

- This awning is equipped with a wind sensor that will automatically retract awning (if extended) when a pre-designed amount of external movement is registered. This is to assist in preventing accidental damages to the awning and its components
- There are 2 “sensitivity” settings for this feature. Pushing the **MODE** icon will cycle through these settings. **ONE blue dot is the setting to close automatically for weaker wind. TWO blue dots is the setting to close automatically for stronger wind**



1

2

It is recommended to never leave the awning out while camper is unattended or when occupants are unable to monitor weather conditions. The Wind Sensor only aids in equipment protection and cannot be solely relied upon to prevent damages

1. “Check Tanks” Icon

- A quick press of this icon will update tank level readings displayed on this page and the HOME SCREEN
- Press / hold to receive “real time” levels. This is the preferred method to use when actively filling tanks to ensure water source can be shut off prior to damaging tank

2. Tank Level Display

- Displays tank level in 1/3 increments
- This display is also available on the HOME SCREEN

3. Water Pump on/off Icon

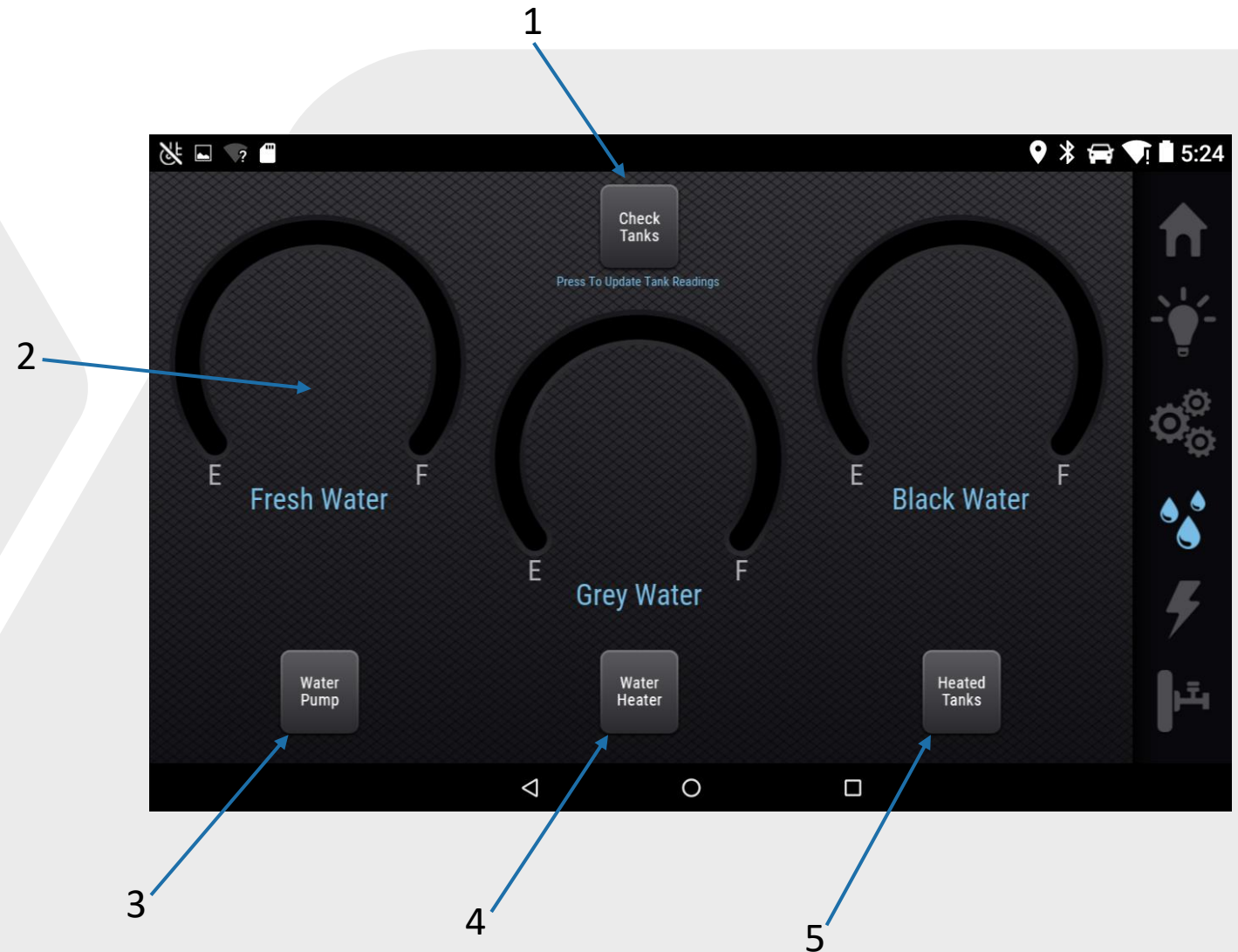
- Allows power to be sent to water pump. Water pump will only turn on when a plumbing fixture is opened
- Water pump can also be turned on/off from HOME SCREEN

4. Water Heater on/off Icon

- Allows power to be sent to water heater. Water heater settings to be controlled from wall mounted display.
- Water Heater can also be turned on/off from HOME SCREEN

5. Tank Heater Pad on/off Icon

- Pressing this icon will provide power to all heat pads.
- Tank heater pads are thermostatically controlled and will not provide heat, even with **HEATED TANKS** icon ON, until they record a temperature of 45 degrees or less.
- Water line / drain line heater pads are not thermostatically controlled and will only turn on or off by operating **HEATED TANKS** icon



1. FUSE MANAGER Icon

- Controls “resettable fuses” in the Garmin Empirbus
- Pressing icon will take user to “Garmin WDU Settings” page where fuses can then be reset

2. A/C LOAD Display

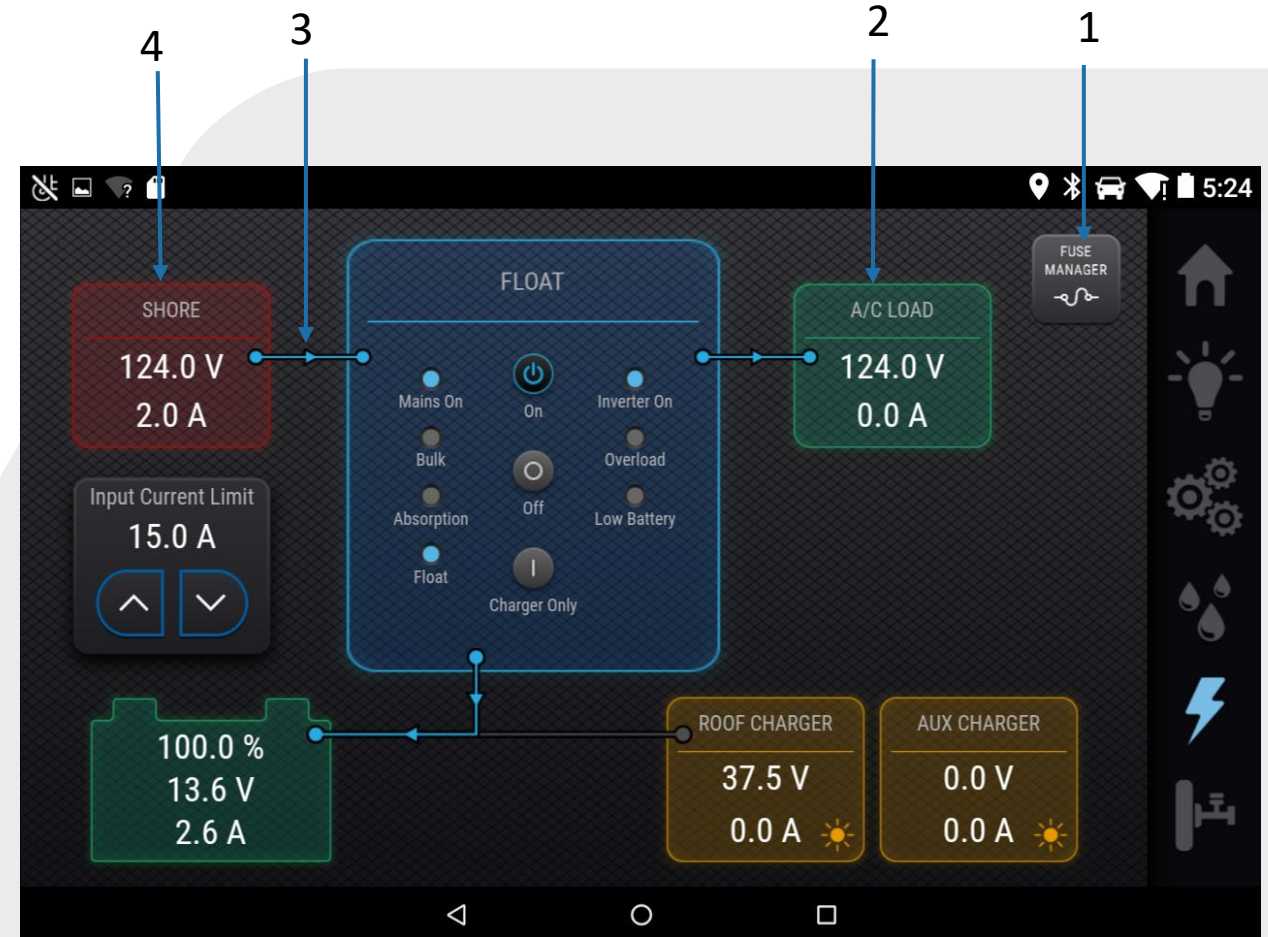
- Displays provided voltage and consumed amperage by various components & receptacles

3. Present Electrical Flow Display Line

- Connecting blue lines with directional arrows delineates which direction, and to what component, energy is being provided / consumed

4. SHORE Line Display

- Displays provided voltage and consumed amperage to system via 30/50 amp receptacle



← Last six of trailer's VIN

← Tech support for Victron components supplied with trailer

← Located in rear storage on solar component mounting board

5. Input Current Limit Selector

- Provides ability to set input current limit for system based on electrical circuit used
- Adjust this setting to reflect **80%** of total load capacity for designated circuit connected to trailer's power inlet

6. Battery Level Display

- Displays batteries' charged percentage, present voltage, and current amp draw from batteries

7. Inverter / Charger Display

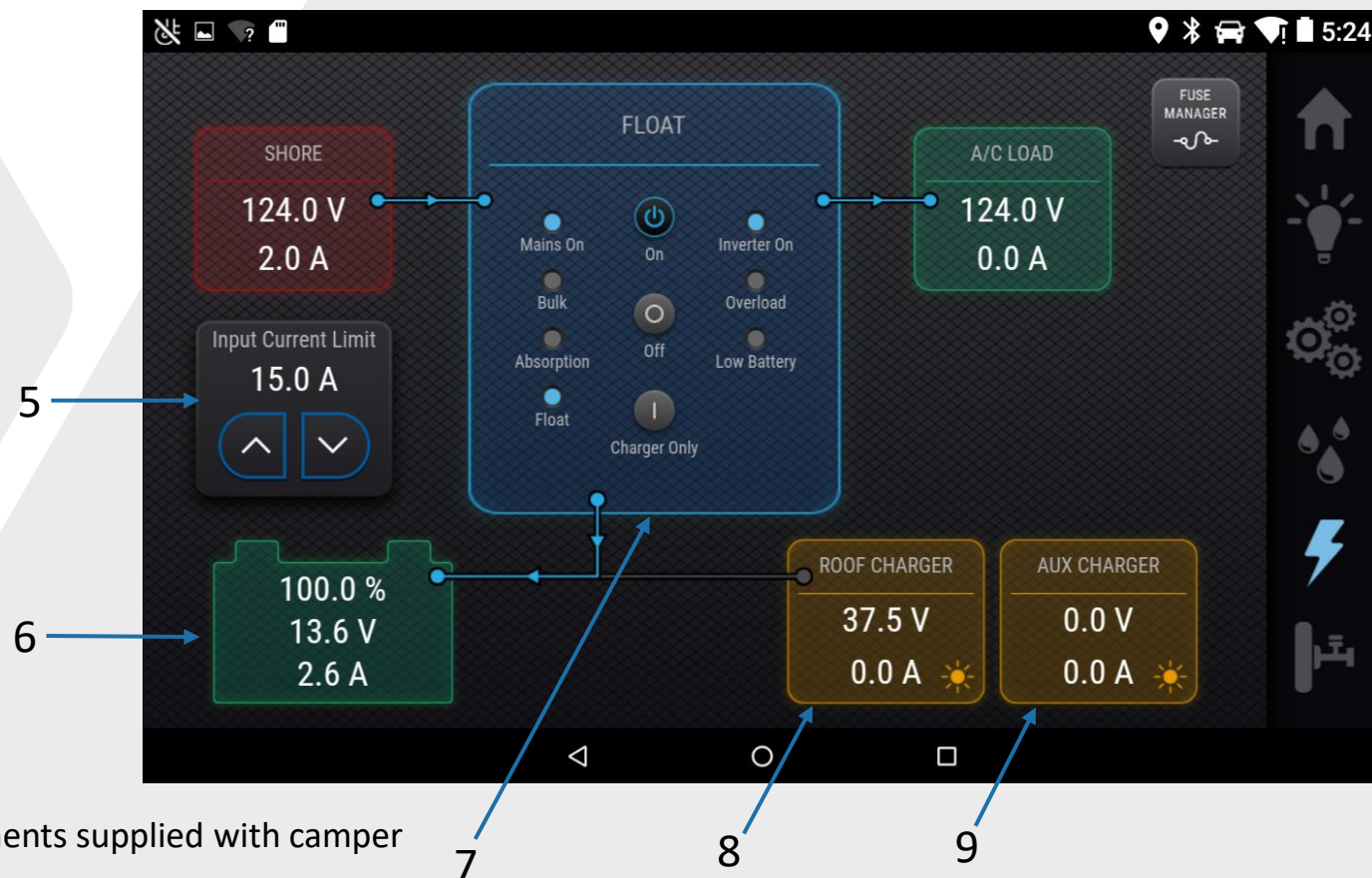
- On – Inverter / Charger on
- Off – Inverter / Charger off
- Charger Only
- Refer to Victron Energy Component Manual for additional information regarding indicators on this display

8. Roof Solar Controller Display

- Voltage and amperage produced from designated solar panels

9. Auxiliary Solar Controller Display

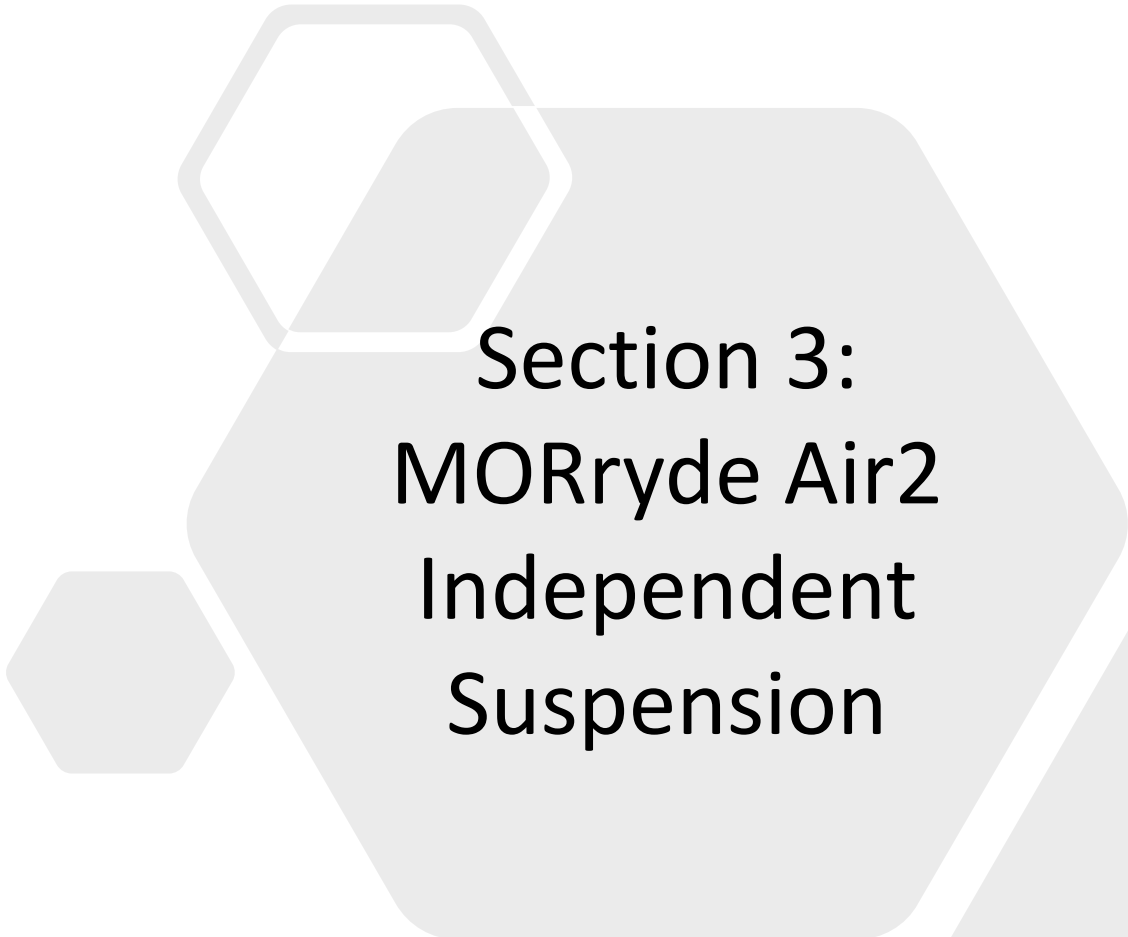
- Voltage and amperage produced from designated solar panels



← Last six of camper's VIN

← Tech support for Victron components supplied with camper

← Located in rear storage on solar component mounting board

A decorative graphic on the left side of the slide consisting of several overlapping hexagons in light gray and white. The central hexagon is the largest and contains the section title.

Section 3: MORryde Air2 Independent Suspension

PAUSE

Operating the trailer's systems has the potential to cause bodily harm to bystanders/occupants and/or physical damage to the trailer and components when performed incorrectly. Proper operation and supervision there of rests solely on the operator(s)

1. Travel Mode

- Prepares, adjusts, and maintains the trailer suspension for travel

2. Camping Mode

- Prepares, adjusts, and maintains the trailer suspension to occupied/camped in

3. Settings

- Allows the operator to set/re-set “Level” once the pitch and roll of the trailer have been leveled

4. System Alert Display

- Displays a list of alert(s) that could be triggered when the normal operation of the suspension has been impeded, degraded, or is not functioning appropriately

5. Override

- Allows the user to access, otherwise unavailable features, while in **TOW MODE**

6. Motion Stop

- Stops any/all activated suspension motion/function(s)



1. Pitch & Roll

- Display provides current **PITCH** (front to back level) and **ROLL** (side to side level) of the trailer, in degrees, to the nearest tenth of a degree

2. Suspension Presets

- Provides user with the ability to save up to 3 air bag travel pressure settings
- To set a travel pressure preset, set driver and passenger side air bag pressures to desired pressures, then push & hold a preset (1, 2, or 3) icon for 3 seconds. Air bag pressure saved to a preset will then reflect Measured Air Bag Pressures
- Best practice for traveling is to select a PRESET that has been customized, by the owner, for their tow vehicle.** It is not advised to “manually” set suspension levels using **DRIVER/PASSENGER SIDE AIR BAG ADJUSTMENT ARROWS** when traveling. Select appropriate **PRESET** first and from that point adjust the suspension as needed, when traveling, with Adjustment Arrows

3. Max Height

- Pressing this icon will inflate the air bags to 100 psi (system max)
- This icon will be unavailable when **AUTO** is selected in **CAMPING MODE**

4. Kneel

- Pressing this icon will deflate air bags to 10 psi or lower (system low)
- System will not attempt to maintain 10 psi if dropped below
- This icon will be unavailable when **AUTO** is selected in **CAMPING MODE**

5. Auxiliary Air Port & Tank Pressure

- The pressure displayed reflects current available air pressure in the pressure tank and at the Auxiliary Ports



Display screens within RV Controls are not customizable

6. Driver/Passenger Side Air Bag Pressure Adjustment Arrow

- The Up/Down arrows are used to increase or decrease desired air bag pressure on Driver and/or Passenger side

7. Measured Air Bag Pressure

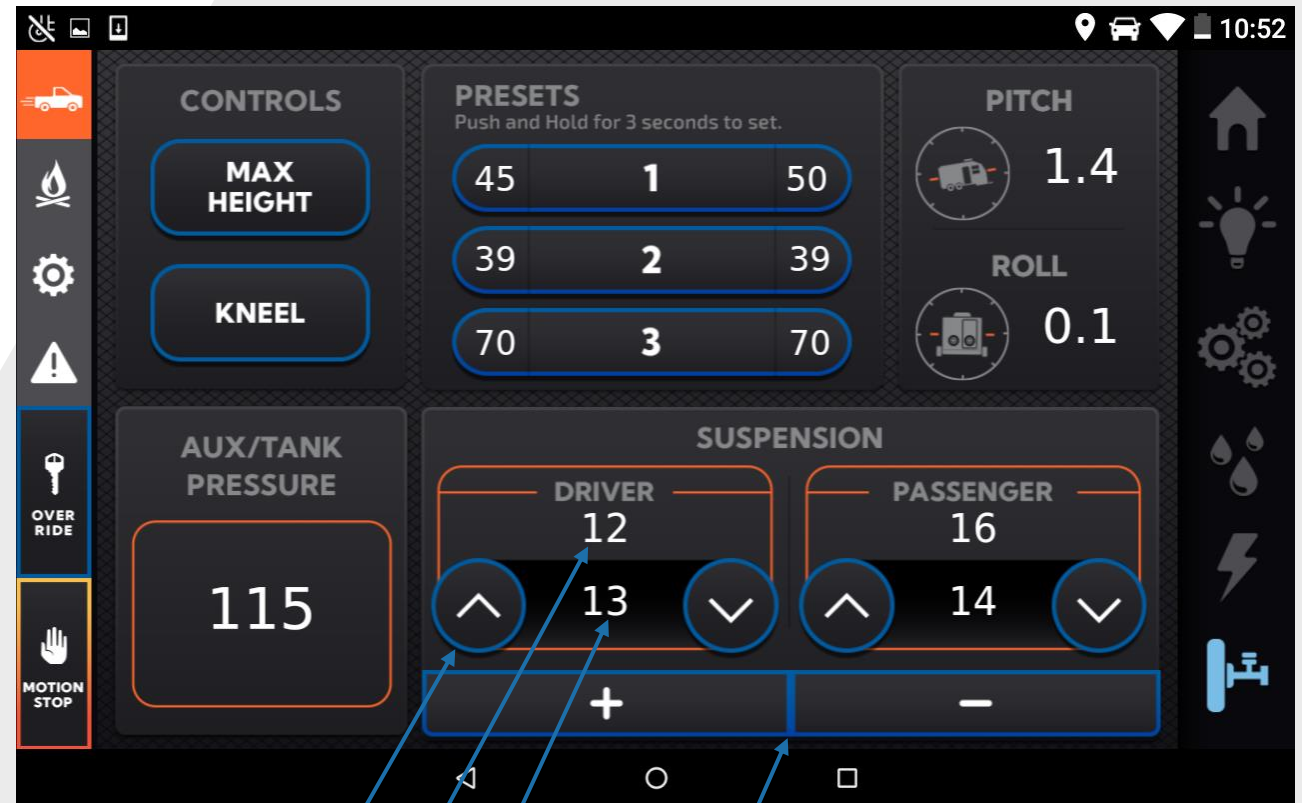
- The number displayed reflects actual current air bag pressure measured by system

8. Desired Air Bag Pressure

- The number displayed reflects air bag pressure desired for Driver/Passenger side air bags

9. ALL Air Bag Pressure Adjustment

- The + and – buttons will simultaneously increase or decrease desired air bag pressures for both the Driver and Passenger side air bags



1. Pitch & Roll

- Display provides current pitch (front to rear) and roll (left to right) of the trailer, in degrees, to the nearest tenth of a degree

2. Air Bag Pressure Controls

- This display reflects Measured vs Desired Air Bag Pressures along with directional arrows to increase / decrease Desired Air Bag Pressures for each side of suspension

3. Auto/Manual Switch

- Provides ability to toggle between **AUTO** and **MANUAL** Camping / Travel mode(s)
- **AUTO** mode provides ability to **LEVEL** and **RETRACT** system's suspension and stabilizer jacks, and allows **SUSPENSION PRESET** options to become available on the **TRAVEL MODE** screen
- **MANUAL** mode provides ability to take suspension to **KNEEL**, **MAX HEIGHT**, and allows **SUSPENSION PRESET** options to become available on the **TRAVEL MODE** screen

4. Suspension Level Icon

- Pressing this icon will level trailer by utilizing the tongue jack and suspension. Once level, system will extend stabilizer jacks for additional support

5. Suspension/Stabilizer Retract Icon

- Pressing this icon will retract the stabilizer jacks and position trailer's suspension (including the front tongue jack) into its last known position prior to leveling the trailer

6. Stabilizer/Tongue Jack Individual Controls

- Gives operator the ability to manually control individual stabilizers and tongue jack



1. Pitch & Roll

- Display provides current PITCH (front to back) and ROLL (left to right) of the trailer, in degrees, to the nearest tenth of a degree

2. Air Bag Pressure Controls

- This display reflects Measured vs Desired Air Bag Pressures, along with directional arrows to increase/decrease air bag pressure for each side of the suspension

3. TOW SIGNAL ACTIVE

- This icon illuminates when the trailer is electrically connected to the tow vehicle

4. HITCH JACK ACTIVE

- This icon illuminates when the tongue jack is in motion

5. Stabilizer/Tongue Jack Individual Controls

- Gives operator the ability to individually control stabilizers and tongue jack



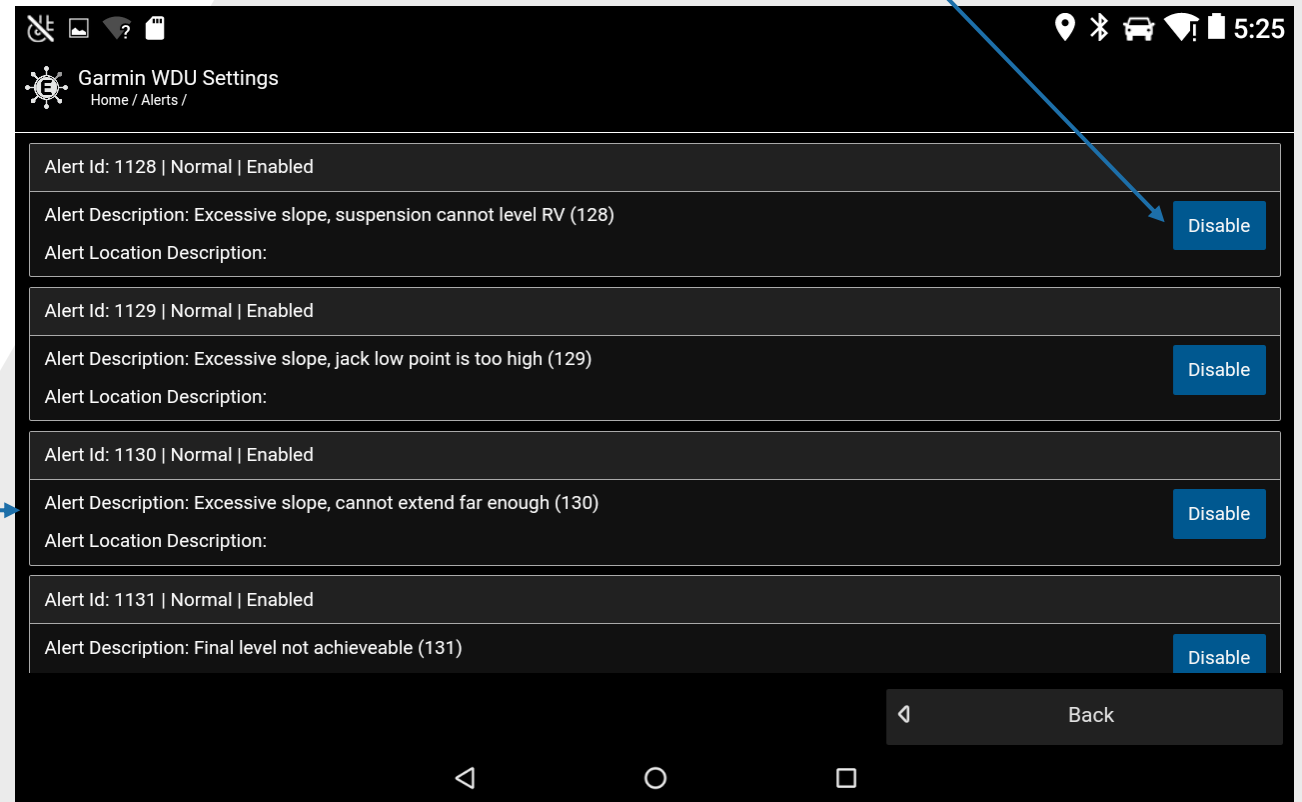
1. Alert Disable

- This icon will disable an alert from popping up on the user interface screen

2. Alert Information

- Displays a list of alert(s) that could be triggered when the normal operation of the trailer has been impeded, degraded, or is not functioning appropriately

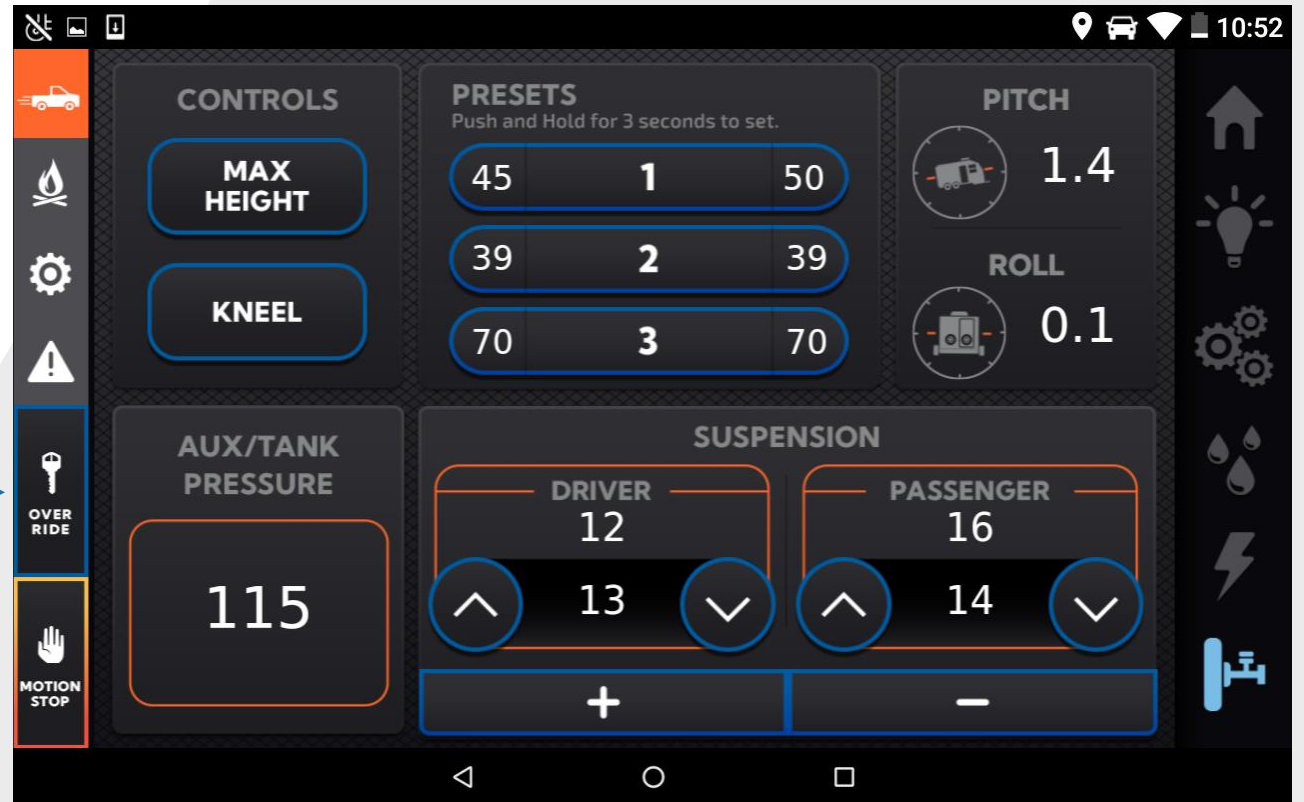
This screen can be found by pressing the triangle icon with an exclamation mark located on the left side of the suspension screens



1. Override

- Allows the operator to access/operate all suspension functions, that would otherwise be unavailable, while the trailer is in **TOW MODE**
- Able to be used as an option when the trailer is plugged into a tow vehicle, thus de-activating Tow Mode

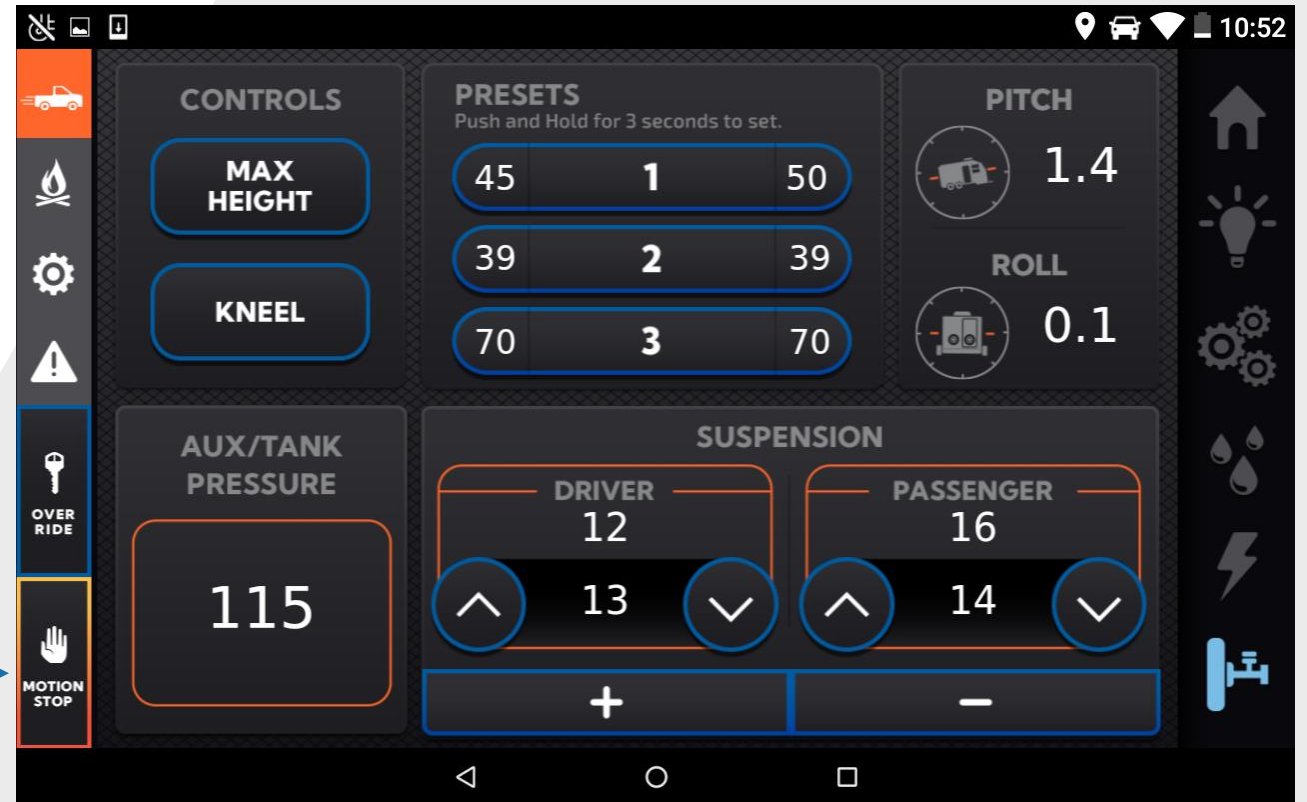
1



1. Motion Stop

- Pressing this icon will stop any suspension action/motion that has been initiated (Ex. leveling/retracting sequence, inflating air bags, etc...)
- Once **MOTION STOP** is activated, the system's compressor will shut off and will no longer attempt to maintain suspension's air pressures
- To de-activate **MOTION STOP**, toggle **AUTO/MANUAL** icon on **CAMPING MODE** screen
- This feature is especially useful when setting the trailer up to camp, after the trailer has been leveled. Activating **MOTION STOP** during sleeping hours will prevent unnecessary noise from the compressor as it will no longer attempt to maintain suspension's air pressure. **It is recommended to leave the compressor active during all other hours of operation to prevent unnecessary strain on the stabilizing jacks in the event there is an air leak**

1 →



1. Air Bag Pressure Controls
2. Set Level Icon

Step-by-Step

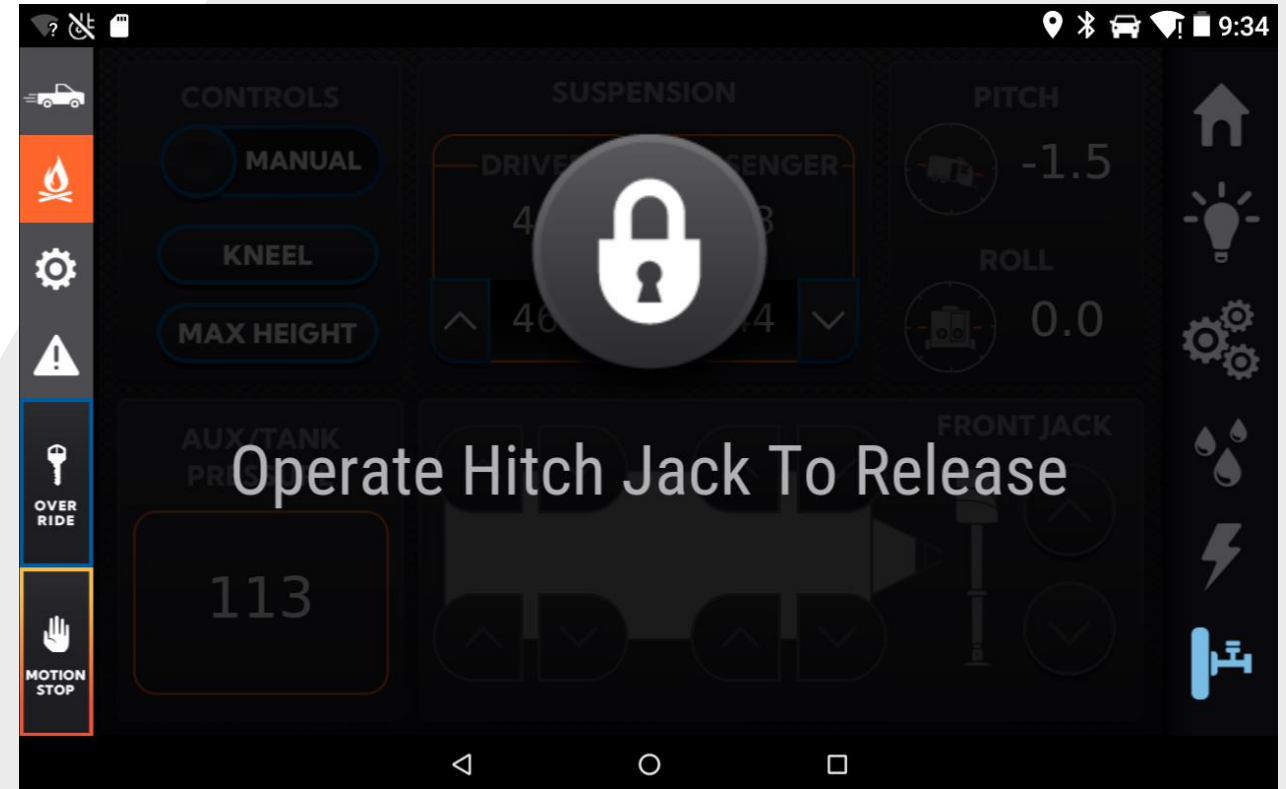
- Adjust tongue jack up or down until PITCH of camper is at or near 0.0
- Using Driver/Passenger Side Air Bag Pressure Adjustment Arrows, inflate/deflate air bags until ROLL of camper is at or near 0.0
- Using a level, verify the trailer is level front to back and left to right. Adjust as necessary
- Once camper is leveled front to back and left to right, press **SET LEVEL** icon and hold until the numbers displayed for PITCH and ROLL change to zero (5 seconds)

This will be done at the manufacturing facility and will not need to be repeated unless malfunction occurs and level needs re-set



1. Tow Mode

- **TOW MODE** is a safety feature built into the Garmin O.N.E. system to prevent the operator from inadvertently initiating a leveling sequence while electrically connected to the tow vehicle and traveling
- The system enters **TOW MODE** when the trailer is electrically connected to the tow vehicle and the tow vehicle's brakes are applied. Once **TOW MODE** is entered, the system will remain in **TOW MODE** until the operator overrides/exits it.
- 1. Once trailer is electrically disconnected from tow vehicle, the system will not automatically exit **TOW MODE**. To exit **TOW MODE**, press the manual **SWITCH** for the tongue jack (located on the A-Frame storage box) then cycle the **AUTO/MANUAL** icon on the **CAMPING SCREEN**, once **TOW MODE** is exited, to allow the tongue jack to be operational
- If **TOW MODE** is exited while still electrically connected to tow vehicle, the system WILL re-enter **TOW MODE** once the tow vehicle's brakes are re-applied.
- While trailer is in **TOW MODE**, the operator will still have access to the suspension functions found on the **TRAVEL MODE** screen



It is the operator's sole responsibility to ensure the trailer is in TOW MODE and suspension is set to a safe travel height, based on the TRAVEL HEIGHT INDICATORS, prior to traveling

1. Walk Around

1. Inspect trailer's interior and exterior to ensure everything is stowed, secured/latched, leveling system is retracted, and unit is clear of all debris.

2. Travel Height

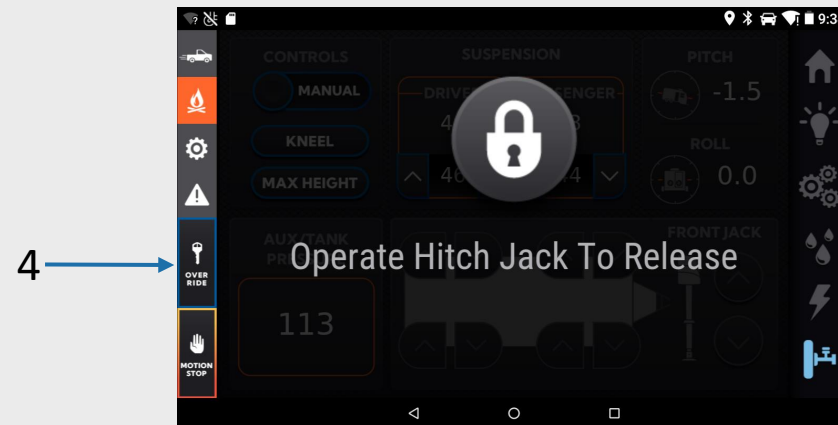
1. Set trailer's suspension to appropriate travel height. Observe **TRAVEL HEIGHT INDICATORS** located on both Driver / Passenger side axles
2. **TRAVEL HEIGHT INDICATORS** must be as close to the center of **GREEN** as possible
3. Verify **PITCH** of trailer once complete. Adjust if necessary

3. Hook Up

1. Position tow vehicle appropriately and lower hitch of trailer onto receiver of tow vehicle
2. Retract tongue jack fully and raise jack pad to highest setting available.
3. Hook up safety chains and breakaway safety cable to tow vehicle
4. Electrically connect to tow vehicle
5. Verify travel height indicators are still in **GREEN**. Adjust if necessary

4. Tow Mode

1. Tow mode will be entered once trailer is electrically connected to tow vehicle and the tow vehicle's brakes are applied. If **TOW MODE** is exited during / after rigging trailer for tow, ensure trailer is electrically connected to the tow vehicle, and re-apply the brakes. This will re-activate **TOW MODE**. To verify if trailer is in **TOW MODE**, press **CAMPING SCREEN** icon. Screen will say "Operate Hitch Jack to Release" if trailer is in **TOW MODE**



It is the operator's sole responsibility to ensure the trailer is in TOW MODE and suspension is set to a safe travel height, based on the TRAVEL HEIGHT INDICATORS, prior to traveling

Setting up Camp

1. Walk Around

1. Inspect trailer's interior and exterior to ensure everything is stowed, secured/latched, leveling system is retracted, and unit is clear of all debris.
2. Chalk trailer tires

2. Disconnect Trailer

1. Disconnect safety chains and breakaway safety cable from tow vehicle.
2. Lower tongue jack pad to appropriate notch
3. Electrically disconnect trailer from tow vehicle

3. Exiting TOW MODE

1. To exit **TOW MODE**, press the manual **SWITCH** for the tongue jack (located on the A-Frame storage box) then cycle the **AUTO/MANUAL** icon on the **CAMPING SCREEN** once **TOW MODE** is exited to allow the tongue jack to be operational
2. Raise trailer hitch off tow vehicle's receiver using switch on A-Frame storage box or by utilizing the tablet

4. Leveling Trailer

1. Ensure tow vehicle, bystanders, and potential obstructions are clear of trailer prior to operating leveling system
2. Ensure the sand pad for the front tongue jack is secured in appropriate position and the ground surface under each jack pad is firm and level
3. Put the suspension system in **AUTO** mode on the **CAMPING MODE SCREEN**
4. Press the **LEVEL** icon and observe system as it performs the leveling process

Breaking down Camp

1. Walk Around

1. Inspect trailer's interior and exterior to ensure everything is stowed, secured/latched, leveling system is retracted, and unit is clear of all debris.

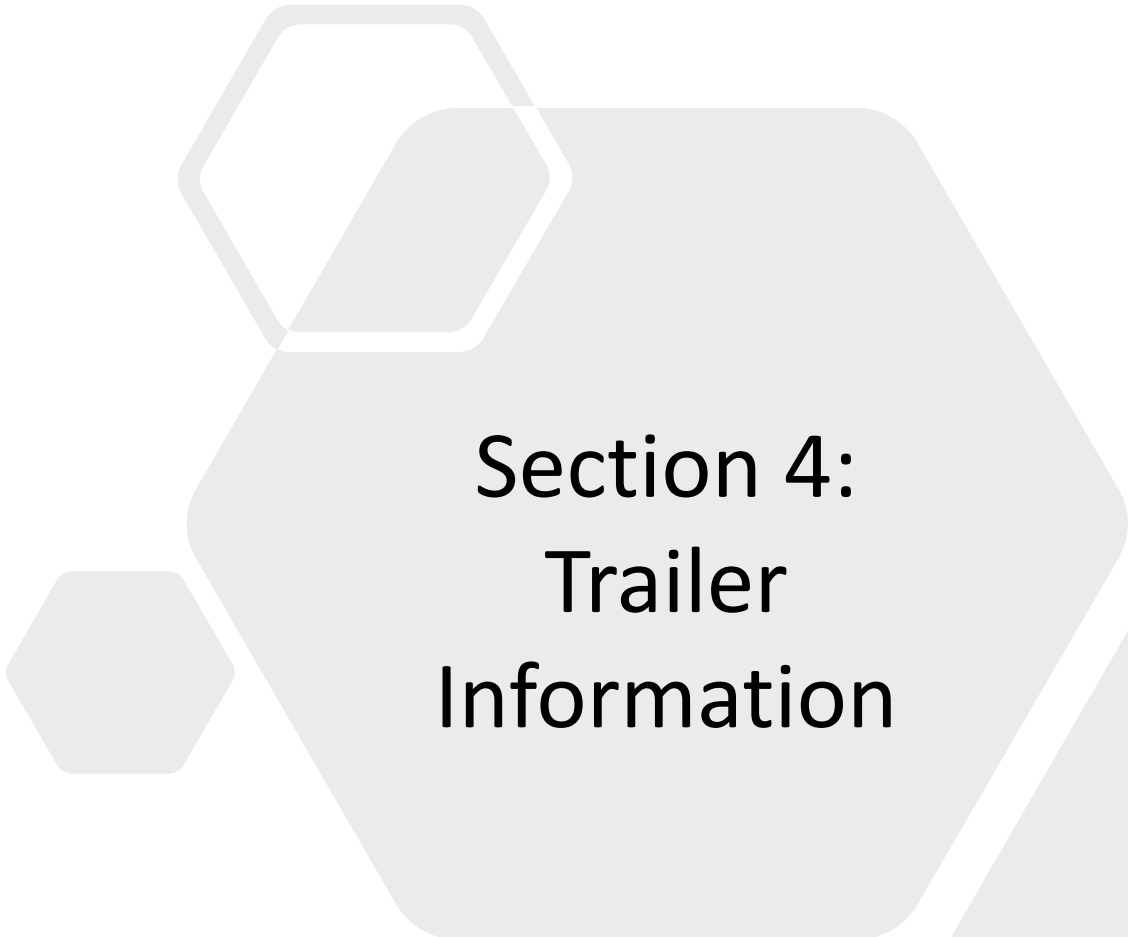
2. RETRACT leveling system

1. Retract leveling system by pressing the **RETRACT** icon on the **CAMPING MODE SCREEN**
2. System will retract stabilizer jacks and set tongue jack/suspension at last know setting prior to initiating leveling sequence

3. Rig for Tow

1. Follow steps on Page 36

It is the operator's sole responsibility to ensure the trailer is in TOW MODE and suspension is set to a safe travel height, based on the TRAVEL HEIGHT INDICATORS, prior to traveling

The background features several overlapping hexagonal shapes in light gray. One hexagon in the upper left has a white outline. The main title is centered within a larger, rounded hexagonal area.

Section 4: Trailer Information

PAUSE

Operating the trailer's systems has the potential to cause bodily harm to bystanders/occupants and/or physical damage to the trailer and components when performed incorrectly. Proper operation and supervision there of rests solely on the operator(s)

1. Garmin Tablet Update

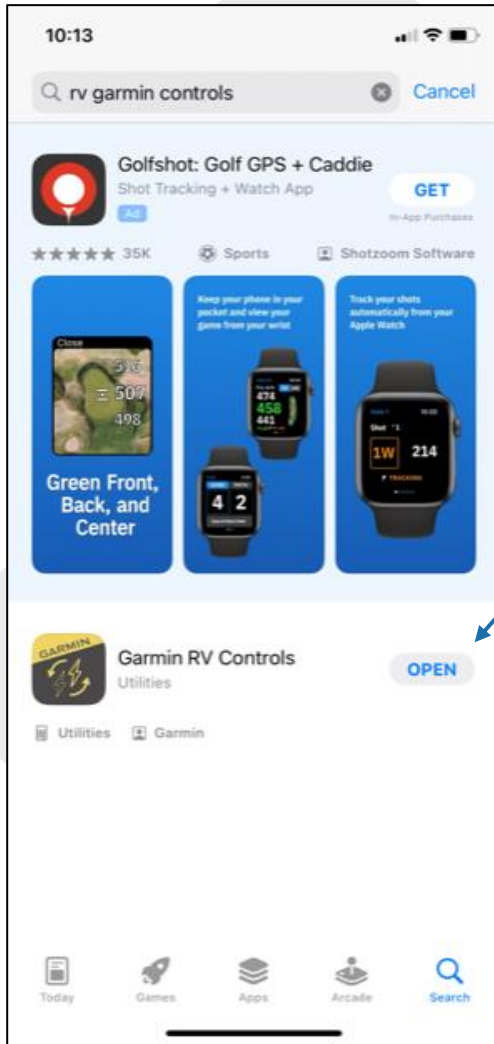
- The Garmin tablet provided with all XC20.2 and XC20.3 Pause models is an Android device. Updates for this device are put out by Garmin periodically to address potential issues and/or make the system more user friendly.
- It is up to the user to periodically check for update availability and download the latest update if one is available.
- It is important to leave the tablet on the tablet's docking station while performing these updates as some of the content pertains to the docking station itself

2. Step by Step

1. Connect tablet to external WiFi source (home, campground, etc...)
2. Place tablet on the docking station located inside the Pause trailer
3. From the tablet's home screen press the white circle with 6 black dots 
4. Press the TOOLS icon
5. Scroll down to the bottom of that screen and select SYSTEM UPDATES
6. From there, there will be 2 options available
 - Map Updates (takes a few hours to complete)
 - Software Updates (takes roughly 30 minutes to complete)

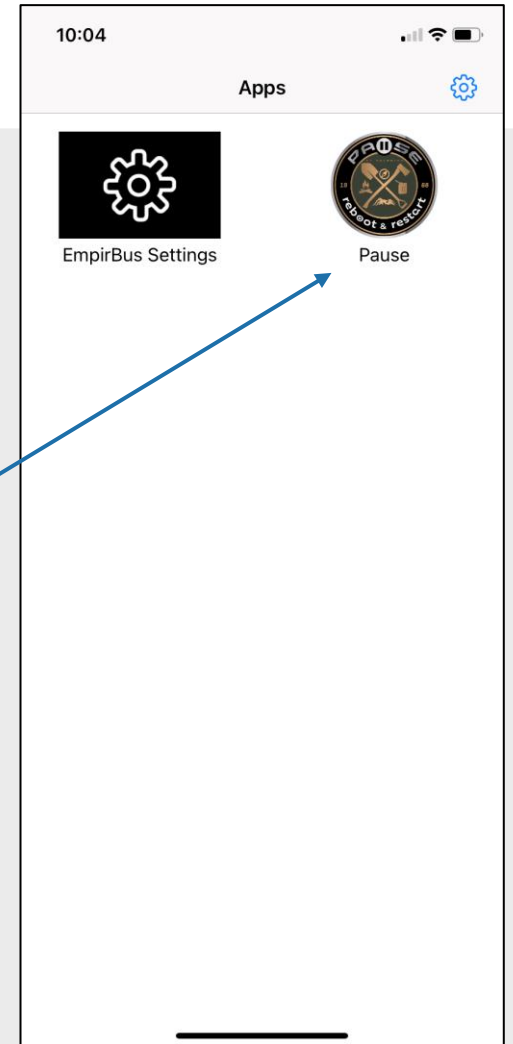


The updates performed as described above only pertain to the Android portion of the Garmin tablet and are separate from the RV Controls portion of the tablet



1. Garmin RV Controls

- Controlling the functions of the Pause trailer can also be accomplished by installing the GARMIN RV CONTROLS app onto a smart device.
- Once the app is installed on your device, connect that device to the internally broadcasted WiFi network for your trailer. The network name will be Pause000XXX, with the X's representing the last 3 digits of the trailer's VIN.
- Once connected to your trailer's internal WiFi network, open up the GARMIN RV CONTROLS app and select the PAUSE logo. At this point, the trailer can be controlled in the same manner as previously described.



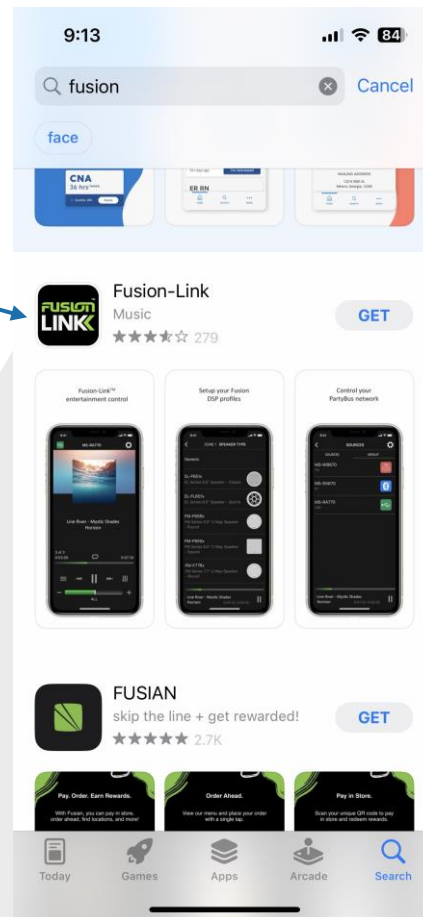
Operating the trailer's systems simultaneously from more than one device has the potential to cause bodily harm to bystanders/occupants and/or physical damage to the trailer and components. Proper operation and supervision there of rests solely on the operator(s)



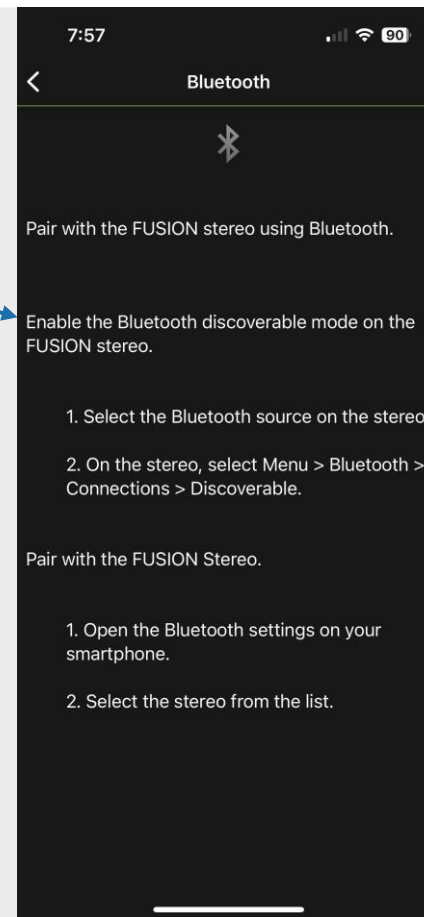
Fusion-Link

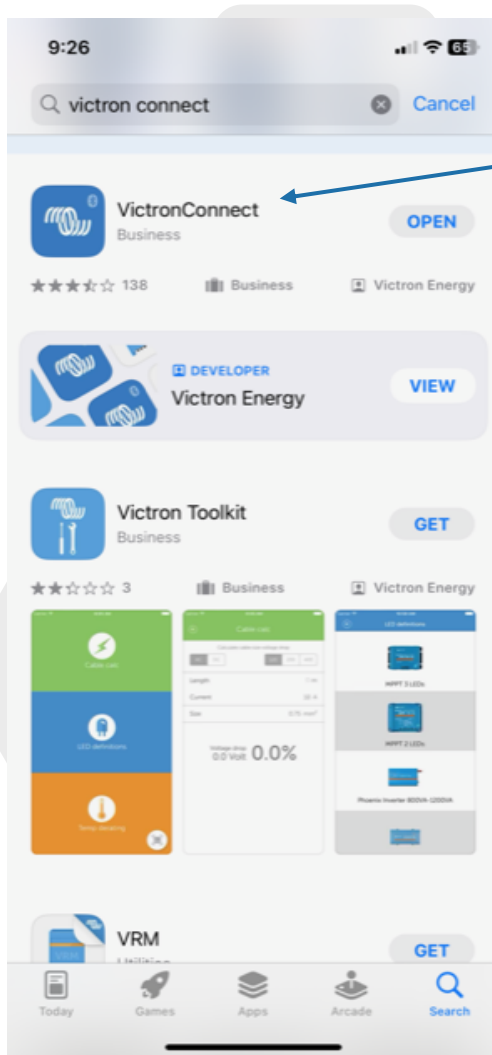
1. The radio that comes standard in the XC20.2 & XC20.3 models can be controlled via Bluetooth once this app is downloaded.
2. After downloading, connect your smart device to the radio by following these instructions

1



2

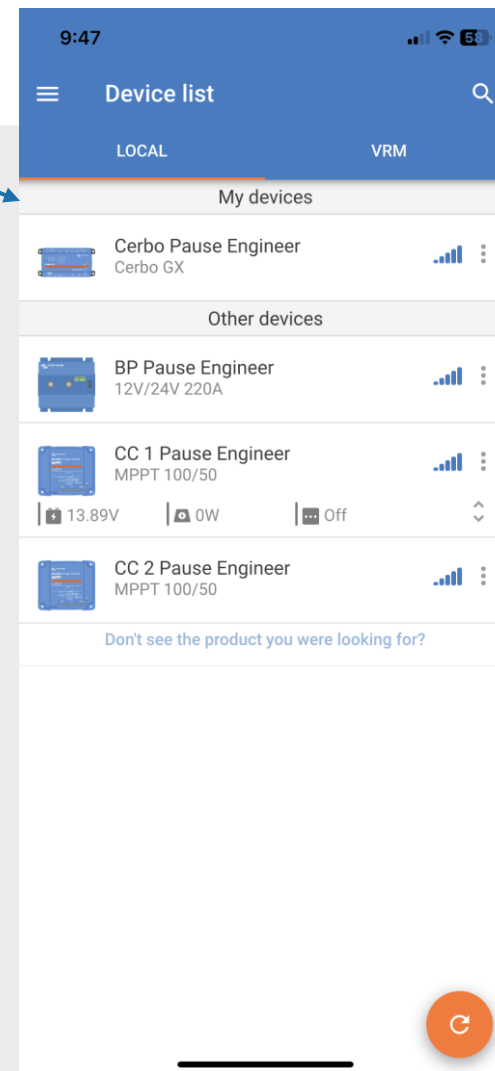




1. VictronConnect App

1. Search “VictronConnect” in your device’s App Store and download
2. Once the setup is completed, and the user has gone through the appropriate steps necessary to view their devices, the user will then have the ability to monitor the system’s performance and control certain aspects of the components
3. This application provides a few more details/history about the system than what is displayed on the **SOLAR** page of the **RV CONTROLS** app on the Garmin tablet
4. This application is an added benefit to the user and is not necessary for the system to perform it’s duties within the Pause trailer

In the event there are system difficulties, it is advised to get the Victron Cerbo connected to an external WiFi source and call the tech-support number located on the Victron components board in the rear storage area. The technician will then be able to view the entire system and attempt to determine what the issue may be.



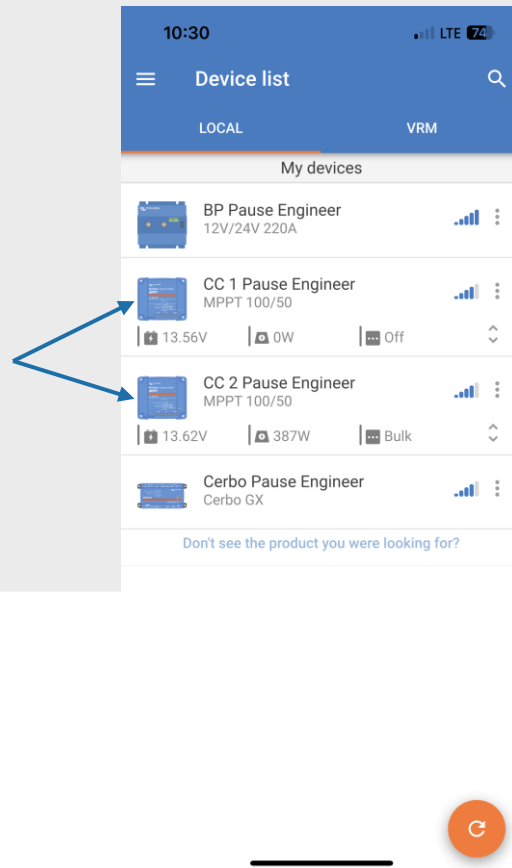
Turning ON/OFF the Charge Controllers

- Model year 2023 XC20.2 & XC20.3 do not have manual disconnects for the roof and auxiliary port Charge Controllers
- Utilizing the VictronConnect App, the user can disable the Charge Controllers. The following are instructions on how to perform this task

Turning off the Charge Controllers in this manner is intended for maintenance purposes

Step 1:

Once the VictronConnect is open, choose the Charge Controller (CC1 / CC2) that you wish to disable



Step 2:

Once the appropriate Charge Controller is selected, click on the “settings” icon in the top right of the screen

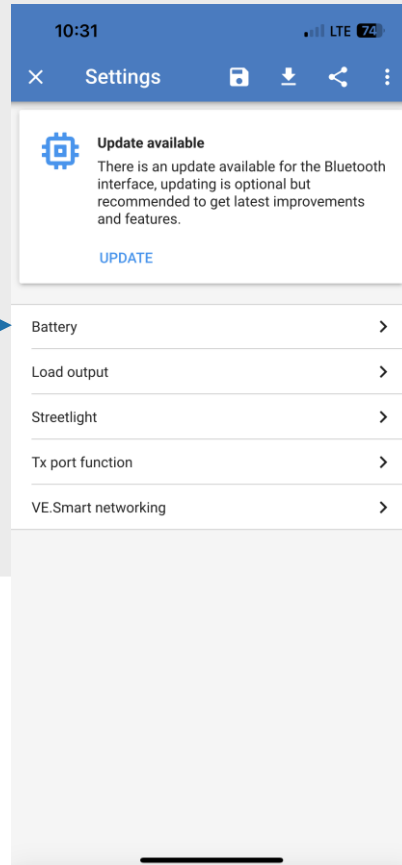


Turning ON/OFF the Charge Controllers

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 - ***Turning off the Charge Controllers in this manner is intended for maintenance purposes only***

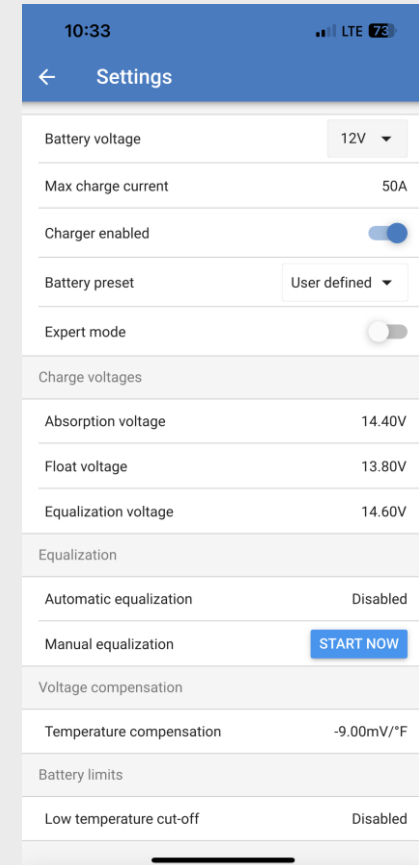
Step 3:

From the settings screen, select Battery.



Step 4:

Toggle the icon next to Charger Enabled.

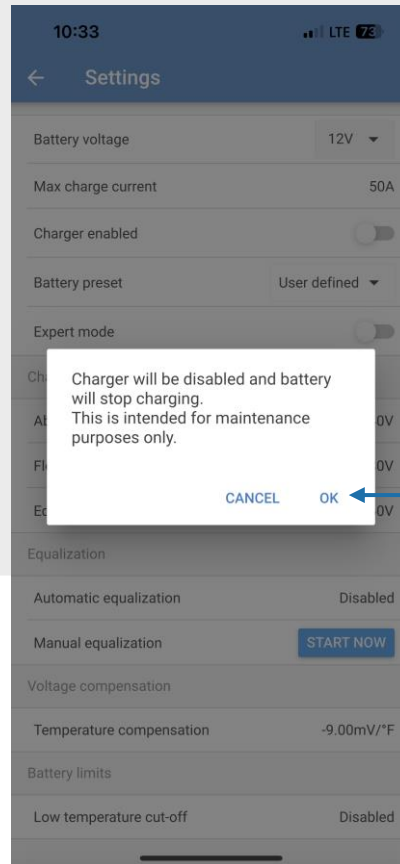


Turning ON/OFF the Charge Controllers

- Model year 2023 XC20.2 & XC20.3 do not have manual disconnects for the roof and auxiliary port Charge Controllers
- Utilizing the VictronConnect App, the user can disable the Charge Controllers. The following are instructions on how to perform this task
 - ***Turning off the Charge Controllers in this manner is intended for maintenance purposes only***

Step 5:

Select OK when asked for confirmation of the command. At this point, the selected Charge Controller will be disabled. To re-enable the Charge Controller, simply follow steps 1-4.



Solar Component Information

- Listed below is a quick snapshot of the component information for each Victron/Solar component found on the 2023 XC20.2 & XC20.3. In depth information can be found in the individual component's owners manual

- Victron Energy MultiPlus Inverter/Charger
 - 12 V, 3,000 VA, 120 amp
- Victron Energy SmartSolar Charge Controller
 - 2 per trailer (roof & auxiliary port)
- Victron Energy Cerbo GX
- Victron Energy Lynx Shunt
- Victron Energy Lynx Distributor
- Victron Energy Smart Battery Protect
- 100w Renogy Fixed Solar Panel
- 300w Renogy Portable Solar Panel (option)
- Battleborn Lithium Ion Battery
 - 270Ah, 12V
 - 2 batteries standard (up to 4 with options)

MultiPlus

MultiPlus	12/3000/120-50 120V	24/3000/70-50 120V
PowerControl / PowerAssist	Yes	
AC input	Input voltage range: 95-140VAC; Input frequency: 45 – 65Hz; Power factor: 1	
Maximum feed through current (A)	50	
Minimum AC supply current capacity for PowerAssist (A)	7,5	
INVERTER		
Input voltage range (V DC)	9,5 – 17	19 – 33
Output (1)	Output voltage: 120 VAC ± 2% Frequency: 60 Hz ± 0,1%	
Cont. output power at 25°C / 77°F (VA)	3000	3000
Cont. output power at 25°C / 77°F (W)	2400	2400
Cont. output power at 40°C / 104°F (W)	2200	2200
Cont. output power at 65°C / 150°F (W)	1700	1700
Peak power (W)	6000	6000
Maximum efficiency (%)	93	94
Zero-load power (W)	20	20
Zero-load power in AES mode (W)	15	15
Zero-load power in Search mode (W)	8	10
CHARGER		
AC Input	Input voltage range: 95-140VAC Input frequency: 45 – 65Hz Power factor: 1	
Charge voltage 'absorption' (V DC)	14,4	28,8
Charge voltage 'float' (V DC)	13,8	27,6
Storage mode (V DC)	13,2	26,4
Charge current house battery (A) (4)	120	70
Charge current starter battery (A)	4	
Battery temperature sensor	Yes	
GENERAL		
Auxiliary output	Max. 32A Switches off when no external AC source available	
Programmable relay (5)	Yes, 3x	
Protection (2)	a - g	
VE.Bus communication port	For parallel and three phase operation, remote monitoring and system integration	
General purpose comm. port	Yes, 2x	
Common Characteristics	Operating temp.: -40 to +65°C/ -40 - 150°F (fan assisted cooling) Humidity (non condensing) : max 95%	
ENCLOSURE		
Common Characteristics	Material & Colour: aluminium (blue RAL 5012) Protection category: IP 21	
Battery-connection	M8 bolts (2 plus and 2 minus connections)	
120V AC-connections	Screw terminals 13mm² (6 AWG)	
Weight (kg)	19	
Dimensions (hwxwd in mm)	362 x 258 x 218	
STANDARDS		
Safety	UL1741, UL458, EN 60335-1, EN 60335-2-29	
Emission / Immunity	EN 55014-1, EN 55014-2, EN 61000-3-3	
Automotive Directive	2004/104/EC	

1) Can be adjusted to 50Hz;

2) Protection

- a. Output short circuit
- b. Overload
- c. Battery voltage too high
- d. Battery voltage too low
- e. Temperature too high
- f. 120VAC on inverter output
- g. Input voltage ripple too high

3) Non linear load, crest factor 3:1

4) At 25°C ambient

5) Programmable relay which can be set for general alarm, DC undervoltage or genset start/stop function

Charge Controller

	MPPT 100/30	MPPT 100/50
Battery voltage (auto select)	12V or 24V	
Rated charge current	30A	50A
Nominal PV power, 12V ^{1a,b}	440W	700W
Nominal PV power, 24V ^{1a,b}	880W	1400W
Maximum PV open circuit voltage	100V	100V
Max. PV short circuit current ²	35A	60A
Maximum efficiency	98%	
Self-consumption	12V: 30mA / 24V: 20mA	
Charge algorithm	Multi-stage adaptive (eight pre-programmed algorithms) or user defined algorithm	
Charge voltage 'absorption'	14.4V / 28.8V (adjustable)	
Charge voltage 'float'	13.8V / 27.6V (adjustable)	
Charge voltage 'equalization' ³	16.2V / 28.8V (adjustable)	
Temperature compensation	12V: -16mV/°C / 24V: -32mV/°C	
Protection	Output short circuit, over temperature	
Operating temperature	-30°C to +60°C (full rated output up to 40°C)	
Humidity	95%, non-condensing	
Maximum altitude	5000m (full rated output up to 2000m)	
Environmental condition	Indoor type 1, unconditioned	
Pollution degree	PD3	
Data communication	VE.Direct port ⁴ Bluetooth, via the VictronConnect app	
ENCLOSURE		
Colour	Blue (RAL 5012)	
Power terminals	16 mm² / AWG6	
Protection category	IP43 (electronic components), IP22 (connection area)	
Weight	1.3 kg	
Dimensions h x w x d	130 x 186 x 70 mm	
STANDARDS		
Safety	EN/IEC 62109-1, UL 1741, CSA C22.2	

1a) The solar charger will limit input power if more PV power is connected.

1b) The PV voltage must exceed Vbat + 5V for the controller to start. Thereafter the minimum PV voltage is Vbat + 1V.

2) A higher short circuit current may damage the solar charger in case of reverse polarity connection of the PV array.

3) Equalization is by default disabled.

4) For more information on data communication see the [data communication paper](#) in the [Technical information section](#) on our website.

Cerbo

	Cerbo GX	Cerbo-S GX
Supply voltage	8 – 70 VDC	
Mounting	Wall or DIN rail (35 mm) ⁽¹⁾	
Communication ports		
VE.Direct ports (always isolated)	3 (max. possible VE.Direct devices: 15) ⁽²⁾	
VE.Bus (always isolated)	2 paralleled RJ45 sockets	
VE.Can	yes - non isolated	
BMS-Can port	Yes	No
Bluetooth	Yes ⁽⁴⁾	
IO		
Resistive tank level inputs	4	0
Temperature sense inputs	4	0
Digital Inputs	4	4
Relays ⁽⁵⁾	2 x NO/NC DC up to 30 VDC: 6 A DC up to 70 VDC: 1 A AC: 6 A, 125 VAC	
Other		
Outer dimensions (h x w x d)	78 x 154 x 48 mm	
Operating temperature range	-20 to +50 °C	
IP Rating	IP20	
Standards		
Safety	IEC 62368-1	
EMC	EN 301489-1, EN 301489-17	
Automotive	ECE R10-6	
GX Touch 50 / GX Touch 70		
Mounting	With included mounting accessories	
Protection cover	Included with every GX Touch from serial number HQ2242 Can also be purchased individually: Part # BPP900462050: GX Touch 50 protection cover Part # BPP900462070: GX Touch 70 protection cover	
Display Resolution	GX Touch 50: 800 x 480 GX Touch 70: 1024 x 600	
IP Rating	IP54 (without connectors)	
Other		
Outer dimensions (h x w x d)	GX Touch 50: 87 x 128 x 12.4 mm GX Touch 70: 113 x 176 x 13.5 mm	
Cable length	2 meter	
Notes		
1.	For more detailed information about the Cerbo GX and the GX Touch, please visit the Victron GX product range page at Victron live: www.victronenergy.com/live/gx-product-range	
2.	DIN rail mounting requires additional accessory - DIN35 Adapter.	
3.	The listed maximum in above table is the total connected VE.Direct devices such as MPPT Solar Charge controllers. Total means all directly connected devices plus the devices connected over USB. The limit is mostly bound by CPU processing power. Note that there is also a limit to the other type of devices of which often multiple are connected: PV inverters. Up to three or four three phase inverters can typically be monitored on a CCGX. Higher power CPU devices can monitor more.	
4.	Bluetooth functionality is intended to be used to assist with initial connection and networking configuration. You cannot use Bluetooth to connect to other Victron products (e.g. SmartSolar charge controllers).	
5.	In Cerbo GX hardware there are two relays. Currently, Relay 1 can be used for programming as an alarm relay, generator start/stop, tank pump, temperature-controlled relay or manual operation. Relay 2 is available for programming as a temperature-controlled relay or manual operation in the Relay menu of the GX (requires firmware 2.80 or higher).	

Lynx Shunt

Power	
Supply voltage range	9 - 70 Vdc
Supported system voltages	12, 24 or 48V
Reverse polarity protection	No
Current rating	1000A dc continuous
Power consumption	60mA @ 12V
	33mA @ 24V
	20mA @ 48V
Potential free alarm contact	3A, 30Vdc, 250Vac

Connections	
Busbar	M8
Fuse	M8
VE.Can	RJ45 and RJ45 terminator
Power supply connection to Lynx Distributor	RJ10 (a RJ10 cable ships with each Lynx Distributor)
Temperature sensor	Screw terminal
Relay	Screw terminal

Physical	
Enclosure material	ABS
Enclosure dimensions (hwxwd)	190 x 180 x 80mm
Unit weight	1.4 kg
Busbar material	Tinned copper
Busbar dimensions (hwxw)	8 x 30mm

Environmental	
Operating temperature range	-40°C to +60°
Storage temperature range	-40°C to +60°
Humidity	Max. 95% (non-condensing)
Protection class	IP22

Lynx Distributor

Power	
Voltage range	9 - 60Vdc
Supported system voltages	12, 24 or 48V
Reverse polarity protection	Yes ⁽¹⁾
Current rating	1000A
Power consumption ⁽²⁾	Maximum 100mA (with all LEDs illuminated)

(1) The RJ10 cable connection is not protected against reverse polarity

(2) Powered from Lynx Shunt VE.Can or Lynx Smart BMS

Connections	
Busbar	M8
Fuses	M8
Power ⁽³⁾ and data ⁽⁴⁾	40 cm RJ10 cable (included)

(3) Powered from Lynx Shunt VE.Can or Lynx Smart BMS

(4) Data can only be received by a Lynx Smart BMS

Physical	
Enclosure material	ABS
Enclosure dimensions (hxlxw)	290 x 170 x 80 mm
Unit weight	2.2 kg
Busbar material	Tinned copper
Busbar material (hwxw)	8 x 30mm

Environmental	
Operating temperature range	-40°C to +60°
Storage temperature range	-40°C to +60°
Humidity	Max. 95% (non-condensing)
Protection class	IP22

Smart Battery Protect

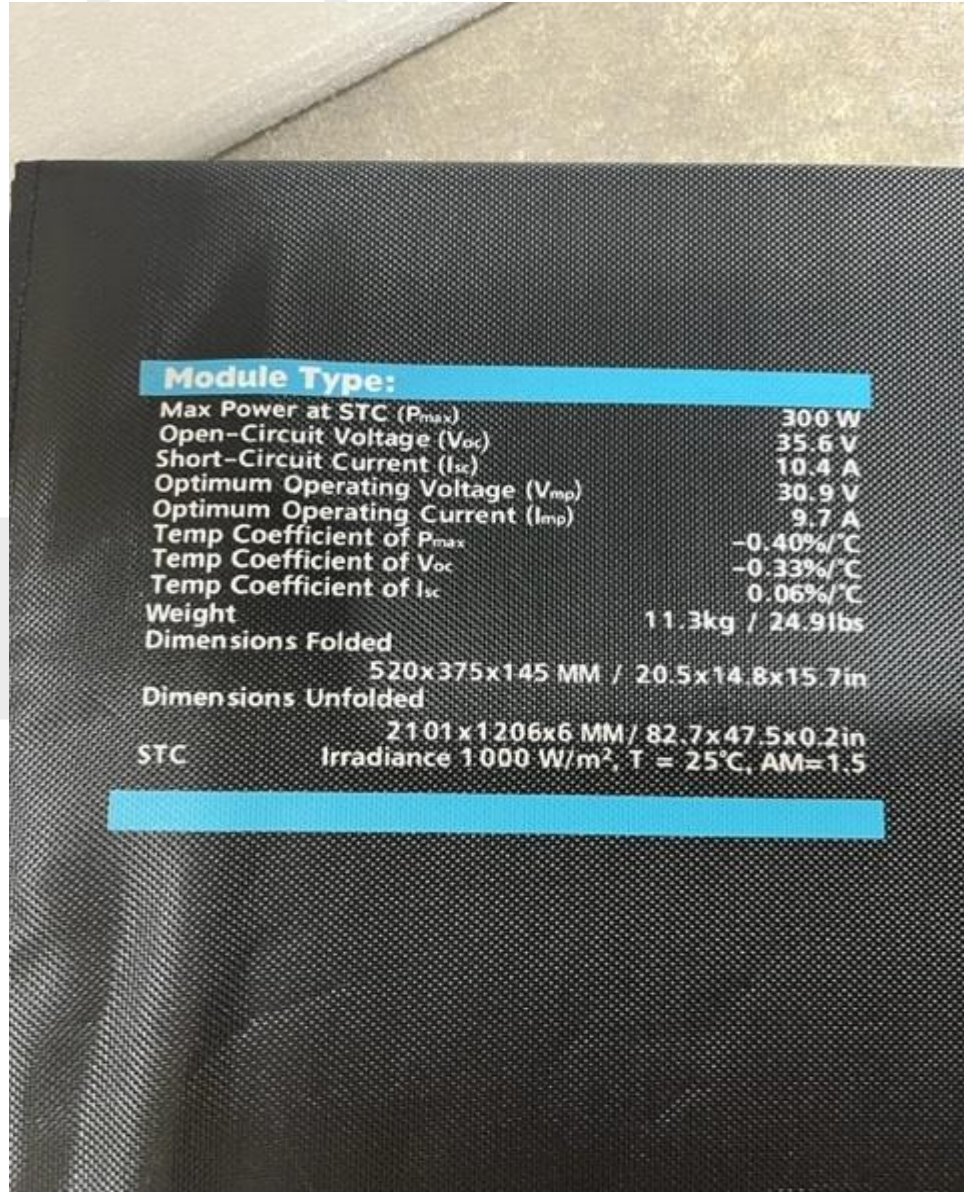
Smart BatteryProtect		Smart BP-65	Smart BP-100	Smart BP-220
Maximum continuous load current*		65 A	100 A	220 A
Peak current (during 30 seconds)		250 A	600 A	600 A
Operating voltage range		6 – 35 V		
Current consumption	BLE On	When on: 1,4 mA When off or low voltage shutdown: 0,9 mA		
	BLE Off	When on: 1,2 mA When off or low voltage shutdown: 0,7 mA		
Alarm output delay		12 seconds		
Maximum load on alarm output		50 mA (short circuit proof)		
Load disconnect delay		90 seconds (immediate if triggered by the VE.Bus BMS)		
Load reconnect delay		30 seconds		
Default thresholds		Disengage: 10,5 V or 21 V Engage: 12 V or 24 V		
Operating temperature range		Full load: -40°C to +40°C (up to 60% of nominal load at 50°C)		
IP rating		Electronics: IP67 (potted) Connections: IP00		
Connection		M6	M8	M8
Mounting Torque		5 Nm	9 Nm	9 Nm
Weight		0,2 kg 0.5 lbs	0,5 kg 0.6 lbs	0,8 kg 1.8 lbs
Dimensions (h x w x d)		48 x 55 x 106 mm	61 x 41 x 164 mm	60 x 123 x 121 mm
		1.9 x 2.2 x 4.2 inch	2.4 x 1.6 x 6.5 inch	2.4 x 4.8 x 4.8 inch

* The BatteryProtect is not designed for reverse currents from charging sources

100w Renogy Fixed Solar Panel



300w Renogy Portable Solar Panel (option)



The image shows a black, textured solar panel with a white label containing technical specifications. The label is divided into sections by blue horizontal bars. The top section is titled 'Module Type:'. Below this, a list of specifications is provided in two columns. The bottom section is titled 'STC' and includes irradiance and temperature information. The panel is shown against a light-colored background.

Module Type:	
Max Power at STC (P_{max})	300 W
Open-Circuit Voltage (V_{oc})	35.6 V
Short-Circuit Current (I_{sc})	10.4 A
Optimum Operating Voltage (V_{mp})	30.9 V
Optimum Operating Current (I_{mp})	9.7 A
Temp Coefficient of P_{max}	-0.40%/°C
Temp Coefficient of V_{oc}	-0.33%/°C
Temp Coefficient of I_{sc}	0.06%/°C
Weight	11.3kg / 24.9lbs
Dimensions Folded	520x375x145 MM / 20.5x14.8x15.7in
Dimensions Unfolded	2101x1206x6 MM / 82.7x47.5x0.2in
STC	Irradiance 1000 W/m ² , T = 25°C, AM=1.5

Appliance Energy Needs/Consumption

- The list provided on this page is a consolidation of each component's information obtained from their respective owner's manuals.
- After taking in some considerations of the trailer's individual set up (battery bank capacity, battery charge level, solar input, and energy consumption), doing some quick math will provide the operator with data regarding how long each appliance will run utilizing the trailer's current battery state
- Also noted on this page is the energy consumption, in BTU/hr, for each gas consuming appliance

Amps x Volts = Watts

Amp Hours = Watt Hours / Voltage

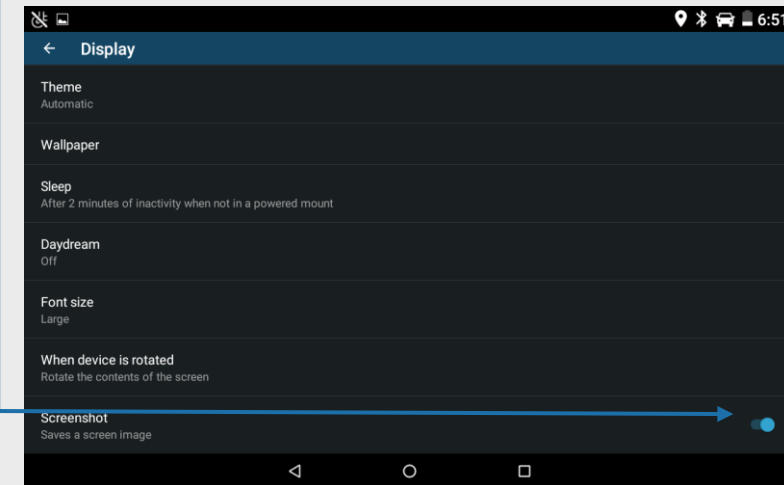
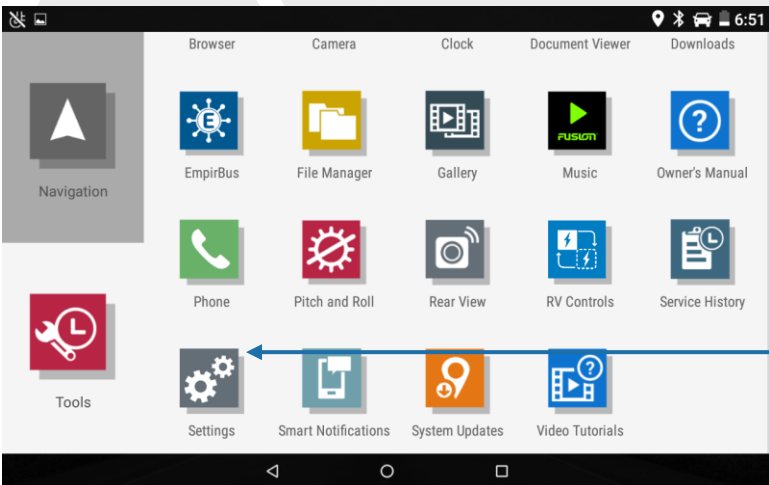
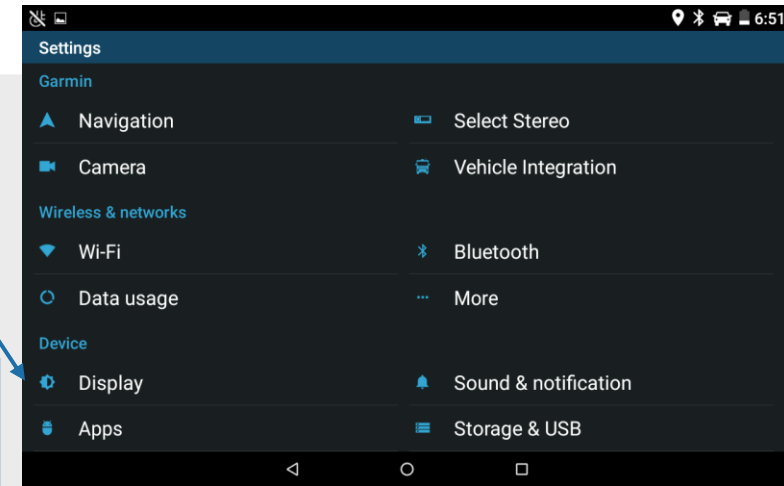
Each pound of LP contains 21,548 BTUs of potential heat

	<u>Voltage</u>	<u>Amperage</u>	<u>Watts</u>	<u>BTU/hr</u>
Furrion 1.3 Microwave	120	12.5	1,500	
Truma Aventa ECO	120	8.8 (compressor) 2.9 (fan)	1,400 total	13,500
Suburban Furnace	12	2.7	50	19,000
				14,400
32" Electric Fireplace	120	12.5	1,500	
Electric Cooktop	120	15	1,800	
Furrion 15.6 cu Refrigerator	12	19	190 (input) 210 (defrost)	
Everchill 1.7 cu Refrigerator	120	1.5		
Everchill 4.3 cu Refrigerator	12	6 (start up) < 1 operating		
C69DZ Truma Cooler	12	6.3		Cooling Range: -8° to 50°
	120	0.63		
Fogatti Tankless Water Heater	12	< 10	+31	42,000 (max)
water temp 95°-123°				20,000 (min)
MAXXAir Fan	12	5		
MAXX Fan Dome	12	2		
SeaFlo Water Pump	12	8 (max)		
3.0 GPM / 45 PSI				
Side by Side Griddle				3,300
Furrion Oven	12	< 2		9,000
Furrion Cooktop				7,500
14' Thule Awning	12			
Dirt Devil Central Vacuum	120	10.5		



1. Taking a Screen Shot

- From tablet's home screen, select the white circle on right side of screen
- After selecting the **TOOLS** icon on the left, scroll down and select the **SETTINGS** icon
- Select the **DISPLAY** icon
- Scroll down to the bottom and toggle the **SCREENSHOT** icon on the right
- Once this setting is selected, there will be a white circle with a partial square that appears on the far left of the screen (**CAPTURE SCREENSHOT** icon) To take a screenshot of a selected screen, press this icon. The screenshot will be saved in the tablet's **GALLERY**, which can be found by selecting the **TOOLS** icon then **GALLERY**.
- The **CAPTURE SCREENSHOT** icon will remain visible on all screens until the user toggles the **SCREENSHOT** icon to turn it off.
- Screenshots can be emailed
- This feature provides the trailer's operator the ability to send screenshots of "real time" information to the Dealer/Technical Support team in the event an unexpected error occurs.



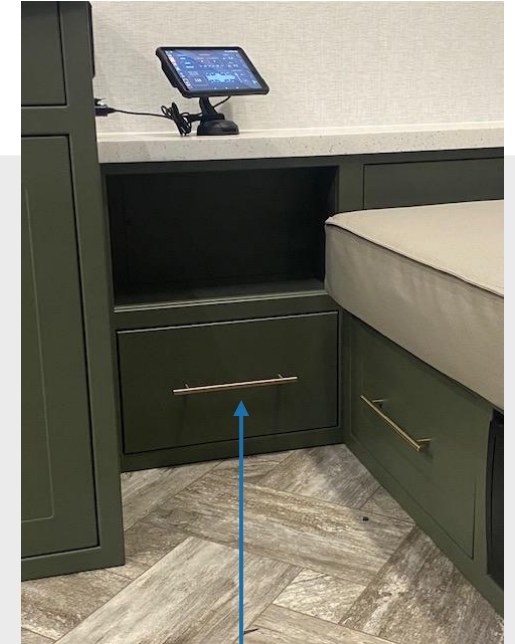
1. In the event the Garmin tablet gets mishandled and/or broken, there is a way to manually switch certain components ON/OFF in the Pause Trailer that would otherwise be controlled by the tablet
2. In both the XC20.2 & XC20.3 models there are two devices (Connect 50 V2/HPR), located to the right of the sofa when seated, inside the removable cabinet panel, that allow the operator to manually control certain aspects of the **RV CONTROLS** application
3. Each of those devices have a series of indicator lights and 4 operational touch buttons that:
 4. Select the appropriate circuit/PIN # (LEFT/RIGHT Arrows)
 5. Turn that circuit/PIN ON or OFF (MAN ON/MAN OFF press 2s)
 6. RESET that circuit (RESET / AUTO)
 7. Circuit Selected Display
 8. Circuit Status Indicator Light

This function is still available if Garmin tablet loses connection with Spruce modem

2 →



XC20.2



XC20.3

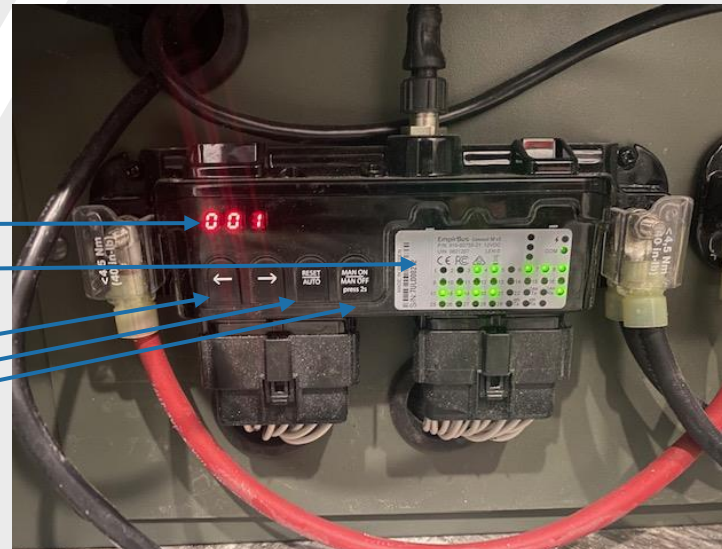
7 →

8 →

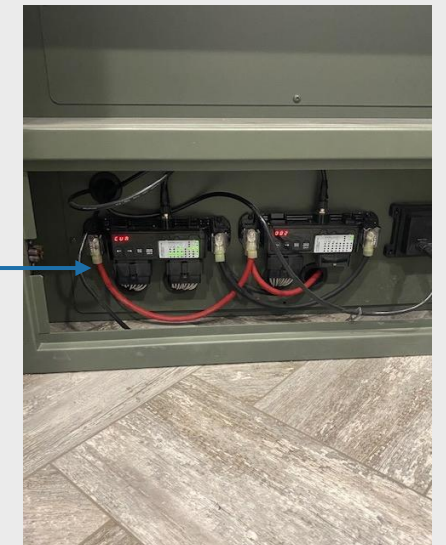
4 →

6 →

5 →



3 →



1. Although there are many displayed circuits between the Connect 50 V2 and HPR devices, only a select group of circuits are “outputs” that can be manually switched with these devices.
2. Using the arrows on the Connect 50 V2 or HPR, scroll through the selectable circuits until the desired circuit is reached.
3. Using the **MANUAL ON/OFF** button, press and hold for **2 seconds** to turn the circuit on/off.
 - When a circuit is turned on/off using the **MANUAL ON/OFF** button, the green light will blink rapidly. This will continue until that circuit is turned OFF using the **MANUAL ON/OFF** button, and the circuit is reset using the **RESET/AUTO** button.
 - Steady green light indicates circuit is ON
 - No light indicates circuit is OFF

Connect 50 V2 XC20.2

Ch No 1. Awning Wind Sensor #1
 Ch No 2. Awning Wind Sensor #2
 Ch No 5. Water Pump
 Ch No 10. Awning Light
 Ch No 11. Output to Safe Latch (Unlock)
 Ch No 12. Kitchen Lights
 Ch No 13. Water Heater Gas on Signal
 Ch No 17. Front Livingroom Lights
 Ch No 18. Rear Livingroom Lights
 Ch No 19. Bathroom Lights
 Ch No 20. Rear Storage Lights
 Ch No 25. Security Lights (Driver Side)
 Ch No 26. Security Lights (Rear)
 Ch No 28. Amber Porch Light
 Ch No 29. White Porch Light

HPR XC20.2

Ch No 1. Light Bar
 Ch No 2. Awning IN
 Ch No 3. Awning OUT
 Ch No 10. Tank Heaters (x3)



Connect 50 V2 XC20.3

Ch No 1. Awning Wind Sensor #1
 Ch No 2. Awning Wind Sensor #2
 Ch No 5. Water Pump
 Ch No 10. Awning Light
 Ch No 12. Kitchen Lights
 Ch No 13. Water Heater Gas on Signal
 Ch No 17. Front Livingroom Lights
 Ch No 18. Rear Livingroom Lights
 Ch No 19. Bathroom Lights
 Ch No 20. Rear Storage Lights
 Ch No 25. Security Lights (Driver Side)
 Ch No 26. Security Lights (Rear)
 Ch No 28. Amber Porch Light
 Ch No 29. White Porch Light

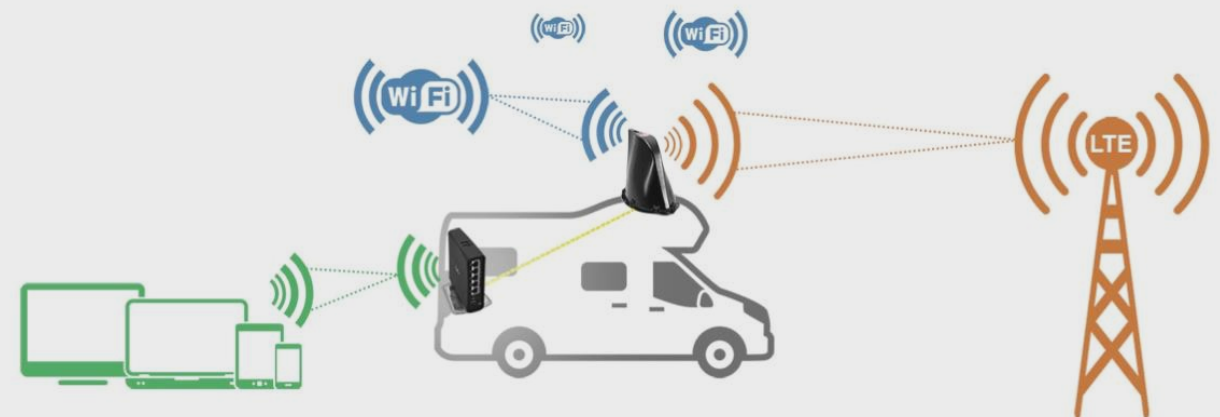
HPR XC20.3

Ch No 1. Light Bar
 Ch No 2. Awning IN
 Ch No 3. Awning OUT
 Ch No 10. Tank Heaters (x3)

1. Each Pause Model XC20.3 & XC20.2 is equipped with a WiFi Ranger system that includes a Spruce (indoor router) and a Teton (outdoor router)
2. This system broadcasts an internal WiFi signal that allows the Garmin tablet to connect to the Spruce in order to control the functions of the **RV CONTROLS** portion of the tablet
 - If the Garmin tablet is not connected to this internal network, the operator will not have access to the **RV CONTROLS** for the trailer and will not be able to control the trailer from the tablet.
 - The internal WiFi signal broadcasted by the Spruce is named Pause000XXX, with the X's representing the last 3 digits of the trailer's VIN #.
 - Changing the password or network name is not advised as this will cause connectivity issues between the Garmin, Victron, and WiFi Ranger systems. The router's IP address, along with network name and password, are configured at the factory so effective communication is achieved between these three systems.
 - When the Garmin tablet is connected to the internal WiFi signal (Pause000XXX), that means the internal connection has been made between the Garmin tablet and the WiFi Ranger. It does not mean that the operator now has access to an external WiFi source.

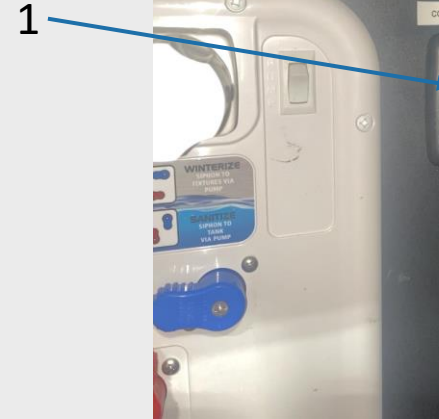
WIFIRANGER

A WINEGARD COMPANY



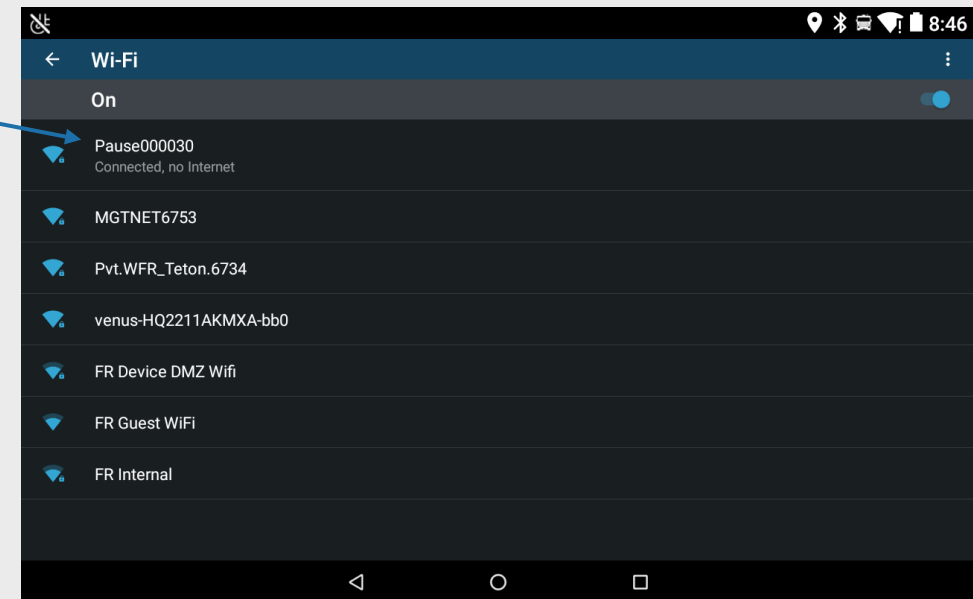
1. Communications Switch

- Controls power to the Garmin docking station and WiFi router. This switch, when turned off, allows the operator to limit the “background noise” that would otherwise deplete battery levels when not in use.
- This will make the functions of the RV Controls portion of the Garmin non-functional, when switched to the OFF position, due to the lose of internal WiFi signal and will not allow the docking station to charge the Garmin tablet.
- This feature is most practical when storing the trailer for an extended period of time while still needing the battery disconnect to be left on.



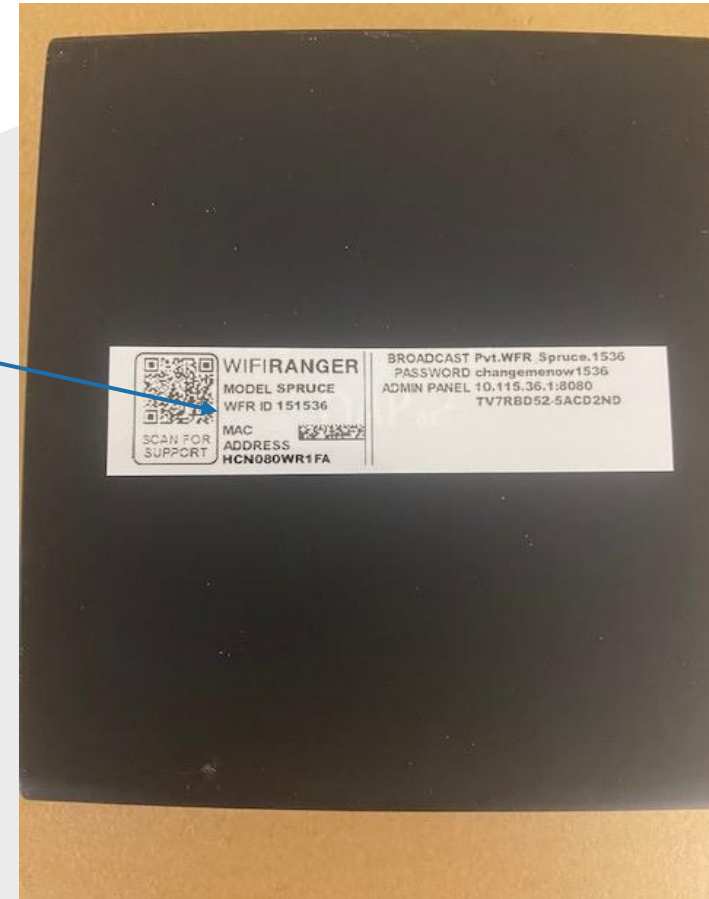
2. Connecting Tablet to Internal WiFi

- From the tablet's home screen, click  on the right side of the screen
- Select the TOOLS icon, then SETTINGS
- Select the WiFi icon on the left side of the screen
- A list of viable WiFi signals will then be displayed. To connect the Garmin tablet to the internal WiFi signal, select the signal with the broadcast name “Pause000XXX”, with the X’s representing the last 3 digits of the trailer’s VIN #.



1. Spruce Control Panel

- There are 3 ways to access the Spruce's (internal router) control panel (must be connected to the internal PauseXXXX signal first)
 - From the tablet, open up a web browser and go to mywifiranger.com
 - From the tablet, open up a web browser and go to <http://10.1.XX.XX.1:8080/>. X's represent the last 4 digits of the WFR ID # located on the Spruce router.
 - Using a laptop, connect an ethernet cable from the computer to PORT 3 on the Spruce router and enter the previously stated web address.



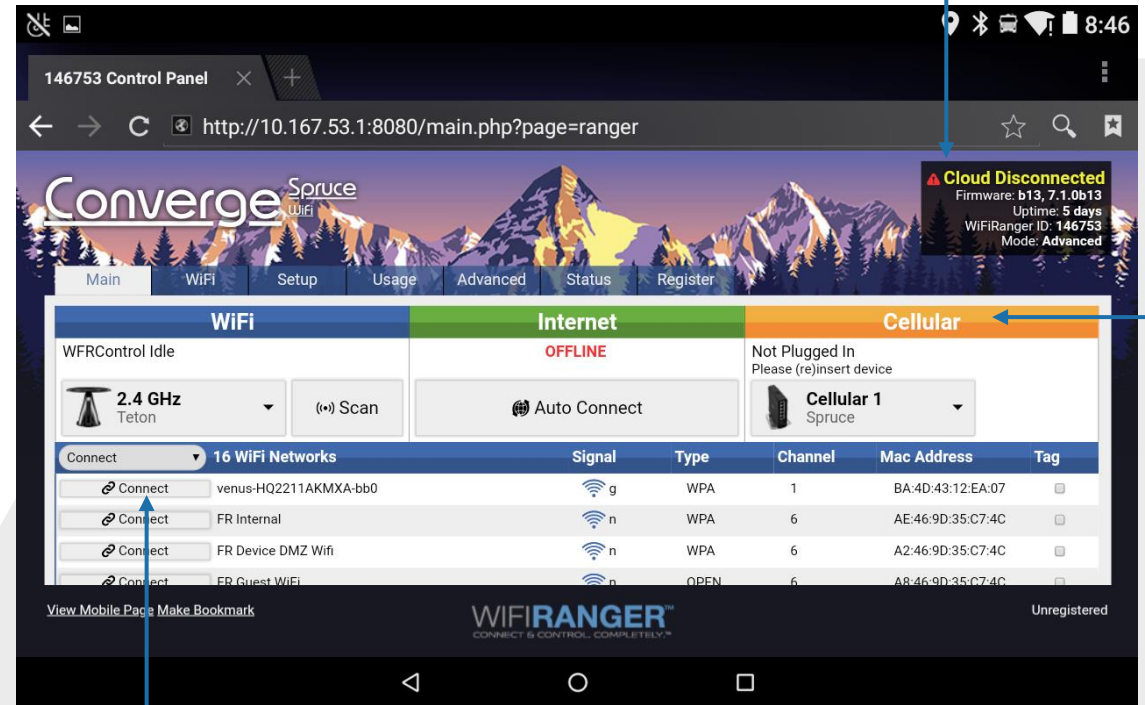
*The reset button is a press/release **not press/hold**. If the reset button is held, a factory reset of the WiFi Ranger will need to be completed*

1. Spruce Control Panel

1. Once the control panel is accessed, the operator can then get the WiFi Ranger system connected to an external WiFi source.
 - WiFi sources are listed in order of signal strength, with the best signal at the top of the list
 - Identify the WiFi source you would like to connect to, and press the **CONNECT** icon on the left
2. Displays information for your Spruce. If there are updates available for the system, there will be a **CHECK FOR UPDATES** option in this area.
3. The control panel is where the operator can manipulate nearly every aspect of the WiFi Ranger system. The WiFi Ranger **USER GUIDE** goes into great detail about all the functions/options this system has to offer and how to utilize them.
4. <https://wifiranger.com/support/#documents> is an excellent source for information about the specifics of the system, manual & setup guides, tutorials, FAQ's, and troubleshooting guides.
5. Connecting the Spruce to an external WiFi source will allow the operator to have access to the internet on the tablet without dropping the internal PauseXXXX connection
 - Watch this video for further explanation
<https://www.youtube.com/watch?v=D6V0fyBjIW&t=64s>

2. Connecting Cellular Hot Spot to Spruce

5. Use the Spruce's **USB** port, located on the side, to connect to the cellular hot spot device
6. Under the Cellular tab on the right side of the control panel, click **CONNECT**
7. Once the hotspot has successfully been connected to the Spruce, the text in the Cellular box will read "Data Connection-Using Cellular Data"



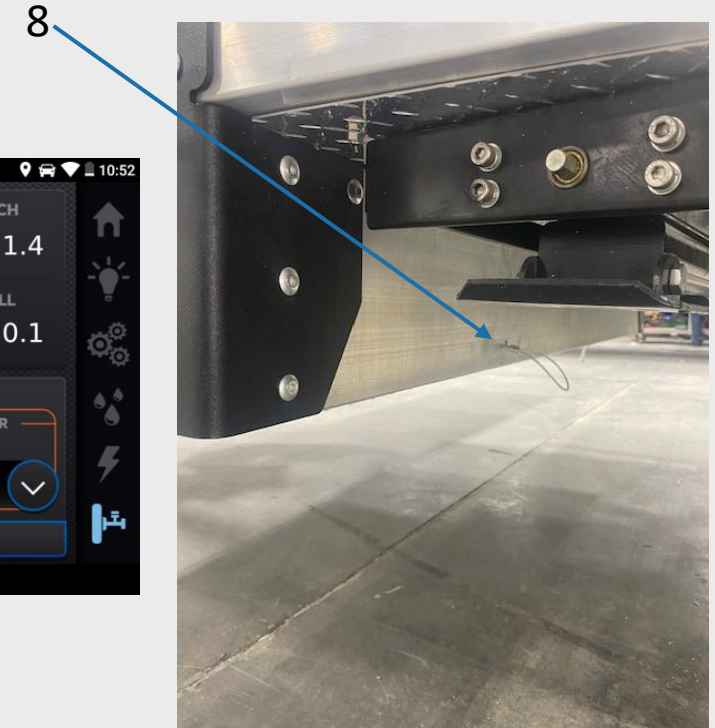
1. Auxiliary Air Tank

1. Each XC20.2 and XC20.3 is equipped with an Auxiliary Air Tank
2. 12 Gallon Capacity
3. Air Dryer equipped with a **MAX PRESSURE** of 150 psi
4. Manual pressure relief valve actuated via pull cable
5. Air tank serves to assist in the performance of MorRyde's Independent Air Suspension as well as a holding tank for needed pressurized air from **AUXILIARY AIR PORT**
6. Auxiliary Air Tank is located in the drop-down portion of the frame, above **UNDERBELLY PLATE 1 (R.S. DROP FRONT)** and is secured to the frame with (4) mounting bolts



2. Draining the Auxiliary Air Tank

7. Activate **MOTION STOP** on the Garmin tablet
8. Locate **PULL CABLE** under the trailer just in front of the forward stabilizer jacks
9. Pull cable and hold until all air has escaped
10. Deactivate **MOTION STOP** (if applicable) by toggling **AUTO/MANUAL** icon on **CAMPING MODE** screen
11. It is recommended to drain the Auxiliary Air Tank monthly and during the **WINTERIZATION** process



1. Manually Inflating/Deflating Suspension

- In the event of compressor/electrical failure, the MORryde Air2 Independent Suspension can be operated manually
- **DO NOT** exceed **80 PSI** for **MEASURED AIR BAG PRESSURES** when manually filling
- If able, it is recommended to inflate/deflate the suspension so that both **TRAVEL HEIGHT INDICATORS** are in the center (GREEN) of the travel height sticker located on each side of the suspension
- Operating/transporting the trailer while the suspension is resting on the bump stops/bumpers increases the potential for suspension damage and an unsafe towing environment
- If transporting the trailer after manually operating suspension, it is recommended to maintain constant visibility of trailer's **PITCH** and **ROLL** as well as manually checking air levels/**TRAVEL HEIGHT INDICATORS**, utilizing **SUSPENSION SCHRADER PORTS**, every 45-60 minutes
- Electrical circuit powering suspension's air compressor **MUST** be **DISABLED** prior to Manual Operation of suspension
- It is advised, when checking PSI levels utilizing the **SUSPENSION SCHRADER PORTS**, that a digital pressure gauge be utilized if available

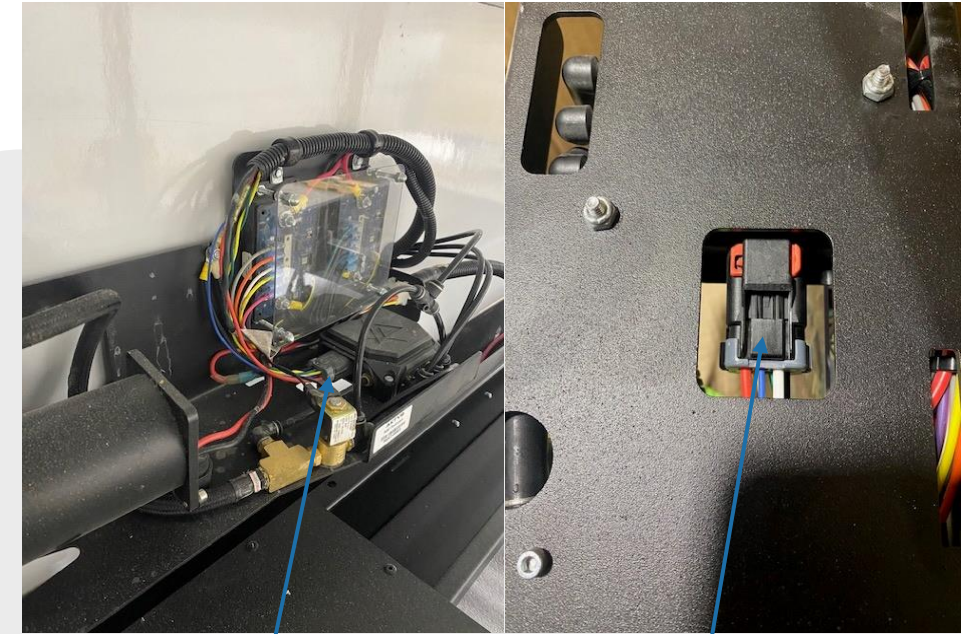
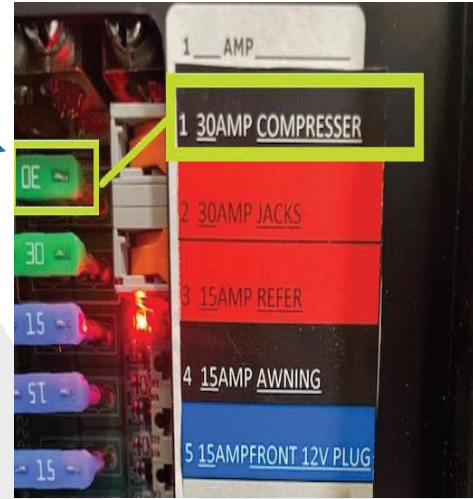


Operating the suspension in this manner serves to provide the operator with the ability to temporarily manually set suspension levels and IS NOT meant to be utilized as the primary method to manipulate the suspension components

2. Step-by-Step Instructions

1. Remove 30 amp Compressor fuse located in the trailer's Distribution Panel (XC20.2). Disconnect plug to suspension module box located next to the compressor (XC20.3)
 - To disconnect plug on module box, access red clip from the bottom of the Power Pack tray and slide it over. Depress release button and pull plug out
2. Locate **SUSPENSION SCHRADER PORTS** on passenger side of trailer directly in front of wheel well.
 - Rear most port is for the Passenger Side Air Bags
 - Forward most port is for the Driver Side Air Bags
3. Utilizing appropriate air compressor, inflate/deflate the suspension's air bags until desired levels are reached
4. When manually setting air bag pressures for travel, alternate between both Driver and Passenger sides, inflating/deflating one side at a time in small increments, until both **TRAVEL HEIGHT INDICATORS** are as close to the center of the **GREEN** as possible.
 - Based on the difference in trailer weight from one side to the other, or loadout inside trailer, measured PSI may not match when comparing Driver side to Passenger side. **TRAVEL HEIGHT INDICATORS** and visual inspection of the **ROLL** of trailer override **MEASURED AIR BAG PRESSURES** if they differ.
 - Document **MEASURED AIR BAG PRESSURES** for each side, when complete, to provide baseline for inspections performed during travel

1



1

1



2



4

Operating the suspension in this manner serves to provide the operator with the ability to temporarily manually set suspension levels and IS NOT meant to be utilized as the primary method to manipulate the suspension components

Manually Inflating/Deflating Suspension

1. There are 5 Jacks in total on the Pause XC20.2 & XC20.3 Models

1. Front Tongue Jack Manual Override Nut
2. Front Stabilizer Jack(s) Manual Override Nut
 - One located on each side of trailer
3. Rear Stabilizer Jack(s) Manual Override Nut
 - One located on each side of trailer

2. Step-by-Step Instructions

4. Place suspension system in **MOTION STOP** and disconnect electrical circuit for jacks by removing the 30 amp JACKS fuse from the distribution panel
5. Utilizing 7/16" socket, or manual override handle provided, rotate clockwise/counterclockwise until jack is in desired position
6. To access rear stabilizing jacks manual override nut, remove the black rubber grommet located on the exterior of the frame next to desired stabilizer jack

- If electrical operation becomes available, restore power to JACKS circuit and utilize the STABILIZER/TONGUE JACK INDIVIDUAL CONTROLS on the CAMPING MODE screen to individually retract jacks prior to further operation
- The gears within each jack can be stripped if the jack is retracted/extended to it's fullest potential and the operator continues to rotate the manual override handle.
- DO NOT use a power tool to manually operate jacks



Water Heater Operation

1. Pause Models XC20.2 & XC20.3 are equipped with a Fogatti, 42,000 BTU, Tankless Water Heater
2. Confirm the **POWER SWITCH** to the water heater is turned on
3. Ensure LP tanks are open
4. To operate water heater, go to the **TANK LEVELS & PLUMBING OPERATION** screen on the Garmin tablet and press the **WATER HEATER ON/OFF** icon. (Page 22)
5. Once the **WATER HEATER ON/OFF** icon is activated, the water heater **REMOTE CONTROLLER** will then power up and the user can view current water temperature and set discharge water temperature to desired level
 - When setting the discharge water temperature, the set temperature will flash 5 times, then it will automatically switch to display the current water temperature
6. Refer to product's Instruction Manual for guidance with product maintenance, troubleshooting, and in-depth operation instructions.
 - Manual can be found in document bag inside the trailer, or online at www.fogattiliving.com

If the knobs on the Nautilus panel's outside shower spigot or the knobs on the XC20.3's outside kitchen spigot are open, with or without a detachable hose attached, it will allow cold water to mix with the hot. This will affect water temperature, water heater operation, and water pressure.

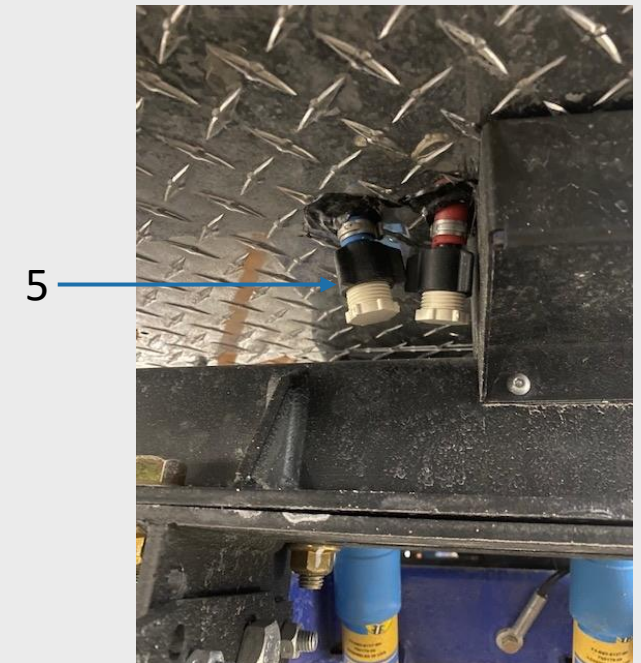
All safety protocols and product guidance provided by the component manufacturer, located in the Instruction Manual, MUST be followed.



Water Heater Operation

Prepping for Antifreeze

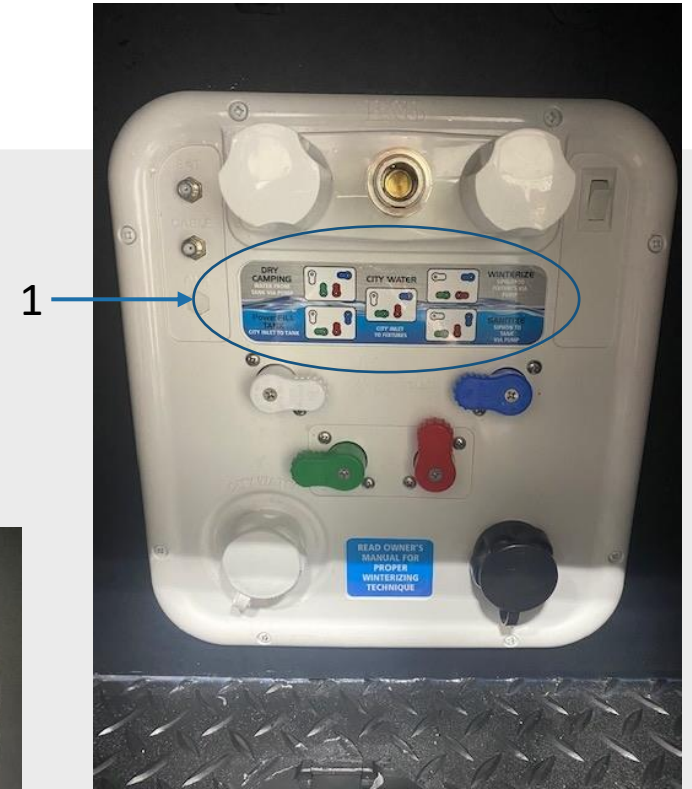
1. Ensure water pump and water heater are turned **OFF** on Garmin tablet
2. Ensure all holding tanks are drained
3. Relieve pressure in water lines by opening both hot and cold faucets inside the trailer
4. Remove in line water filter from housing and resecure filter canister
5. Remove low point drain plugs to allow residual water to exit
 - Protruding through the underbelly on the Driver's Side, just forward of the axles
6. Set Nautilus Panel knobs to **POWERFILL** and allow excess water to drain
7. Once most of the water has been drained from the plumbing lines, turn the knobs on the Nautilus Panel so they are at a 45-degree angle
8. Using the **CITY WATER** inlet, or **LOW POINT DRAIN**, blow out plumbing lines (**40 PSI MAX**) with handles still at a 45-degree angle. This will ensure any trapped water within the plumbing lines is removed
9. Reinstall low point drain plugs



Winterizing

Introducing Antifreeze

1. Set Nautilus Panel to **WINTERIZE**
 - If trailer is equipped with white 4 handle Nautilus panel, set knobs to **WINTERIZE**, with the exception of the **RED** knob. The **RED** knob needs to be set to the vertical position to allow antifreeze fluid to pass through the tankless water heater.
2. Attach a small hose to **CITY WATER** hook-up on the Nautilus Panel and feed other end of hose into antifreeze container
3. With all plumbing fixtures **CLOSED**, turn the water pump **ON**
4. Open each water fixture's hot side until antifreeze comes out
5. Open each water fixture's cold side until antifreeze comes out
6. Ensure all spray ports on the bathroom shower head are done in this manner
7. Ensure this is performed on all outside fixtures and toilet
 - Outside kitchen sink (XC20.2)
 - Outside Kitchen rinse station (XC20.3)
 - Nautilus panel rinse station (All Models)
8. Loosen low point drain plugs until antifreeze drips out of each. Re-tighten to prevent antifreeze leak during storage
9. Turn water pump **OFF** and remove hose from Nautilus Panel.
10. Plumbing system is now winterized
11. Follow procedure, found on page 59 of this manual, to drain the **AUXILIARY AIR TANK** as part of the Winterization Process



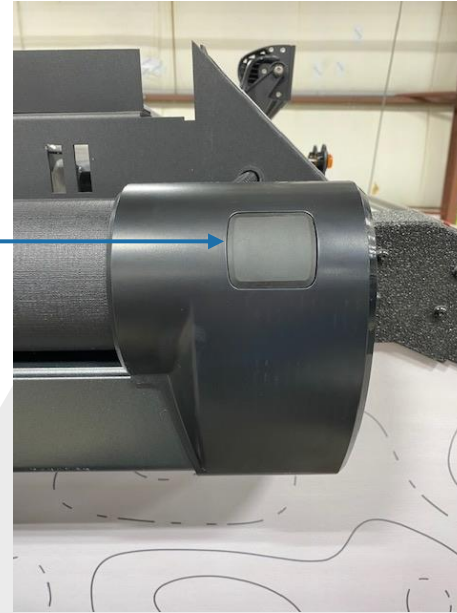
Manual Override

1. Remove the cap found on the right side of the awning
2. Retract the awning manually by turning the $\frac{1}{4}$ " nut counter clockwise
3. Extend the awning manually by turning the $\frac{1}{4}$ " nut clockwise
4. Replace cap when complete

Detailed instructions on how to adjust awning arms and pitch can be found in the product's Instruction Manual

Awning (Manual Extend/Retract)

1



2/3



Plumbing (Water Lines/Drains/Tanks)

1. Drain all holding tanks (Grey, Black, and Fresh Water)
 - Flush Black Tank
2. Complete the Winterization process for all water lines (if applicable)
 - Follow steps provided in this manual on Pages 64-65
3. Shut gas supply off by closing the valves located on the propane cylinders

Suspension

1. Install wheel/tire chock to prevent accidental trailer movement
2. Utilizing the Garmin tablet, set the suspension to the **KNEEL** position
3. Raise the front tongue jack slightly above level so the water collected on the roof during storage will run off to the rear of the trailer
4. Once the suspension is in the **KNEEL** position and the tongue jack is set to the appropriate height, press the **MOTION STOP** icon to prevent any further suspension movement
5. Drain the suspension's **AUXILIARY AIR TANK**

Electrical

1. Turn all lights **OFF**
2. Turn all breakers on the distribution panel **OFF**
3. Turn **COMMUNICATIONS SWITCH** (located next to the **NAUTILUS** panel) to **OFF** (Page 56)
4. On the distribution panel
 1. Remove fuse for outside refrigerator (XC20.2)
 2. Remove fuse for indoor refrigerator (XC20.3)

Exterior/Interior

1. Empty Vacuum Bag
2. Ensure all refrigerators/coolers are empty, clean, and doors are opened slightly
3. Remove all trash and food from trailer
4. Close all night shades for windows/skylights
5. Ensure all exterior doors/windows/vents are properly closed and secured

Pre-Storage Tasks

Solar (3 Suggested Options)

1. Option 1 (Best)
 - Plug trailer in to shore power
 - Leave BATTERY DISCONNECT set to ON
 - Ensure BATTERY HEATER switch is set to ON if storing in cold environment
2. Option 2 (Better)
 - Trailer is not plugged in to shore power
 - Leave BATTERY DISCONNECT set to ON
 - Ensure BATTERY HEATER switch is set to ON if storing in cold environment
3. Option 3 (Good)
 - Trailer is not plugged in to shore power
 - Turn BATTERY DISCONNECT to ON
 - Set Inverter/Charger to CHARGE ONLY

It is advised to power OFF the Garmin tablet while the trailer is being stored or in between use

It is always recommended to store the trailer inside and plug into shore power if able

If storing trailer inside and not plugged in to shore power, there will be no solar activity to maintain the batteries levels

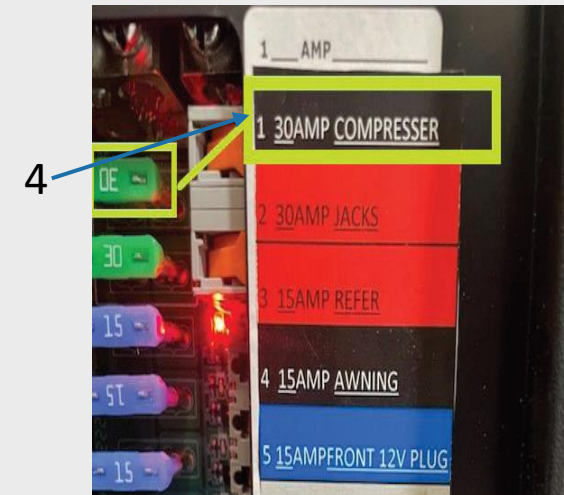
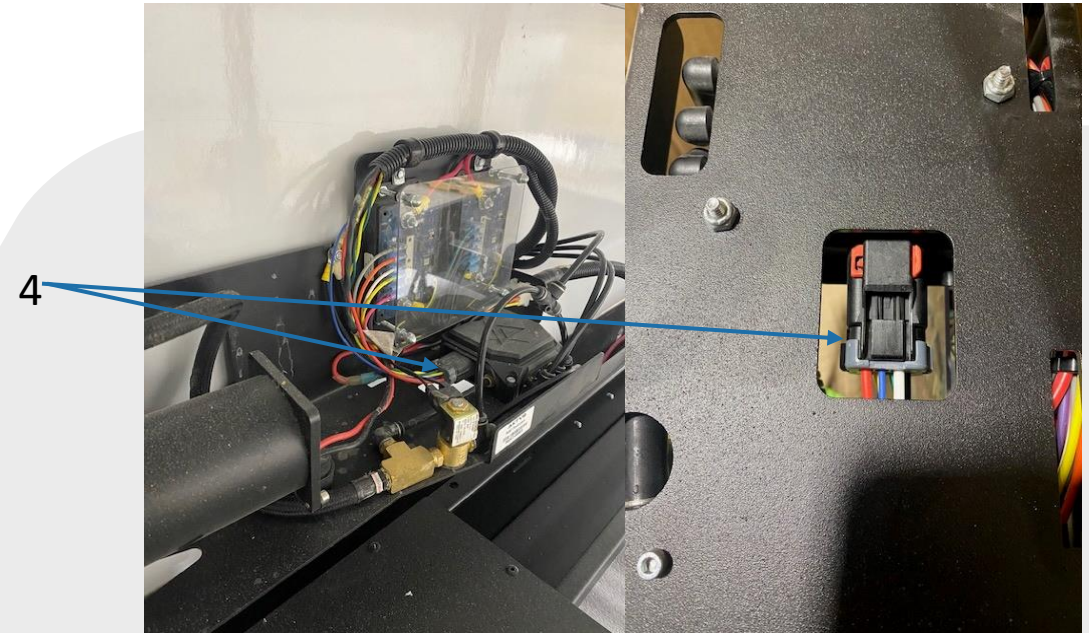
If BATTERY DISCONNECT is set to OFF, this will completely isolate the batteries and no charging will occur while connected to shore power or through the solar panels

It is recommended to check battery levels and cleanliness of solar panels weekly while the trailer is in long term storage

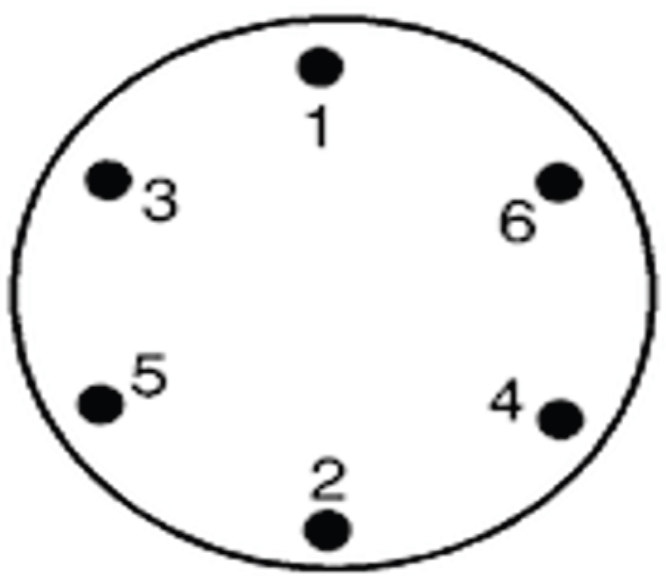
Step-by-Step

1. Ensure trailer is on solid, level ground. If connected to a Tow Vehicle, ensure the Tow Vehicle's emergency brake is engaged
2. Using the Garmin tablet, set the suspension to the KNEEL position
3. Ensure the wheels on the non –affected side of the trailer have been chocked
4. Disable power/communication to the suspension system by
 - XC20.2 – Remove 30 amp COMPRESSOR fuse located on the distribution panel and activating **MOTION STOP**
 - XC20.3 – Disconnect plug to suspension module box located next to the compressor (Page 62) and activating **MOTION STOP**
5. Place appropriately rated (3 ton or equivalent) bottle/floor jack under affected axle on the flat portion of the swing arm
6. Break loose lug nuts on wheel but do not remove
7. Raise jack until the affected wheel is slightly off the ground and freely moves
8. Remove lug nuts and wheel
9. Put center cap into new wheel
10. Reattach the wheels on affected side and tighten (not torque) the lug nuts
11. Lower jack and remove
12. Torque lug nuts to 100 ft lbs consistent with the diagram provided
13. Restore power to the suspension system

While activating MOTION STOP on the Garmin tablet will stop any/all suspension functions, for safety reasons it is advised to manually disconnect the compressor's power source when changing a tire



Changing a Tire

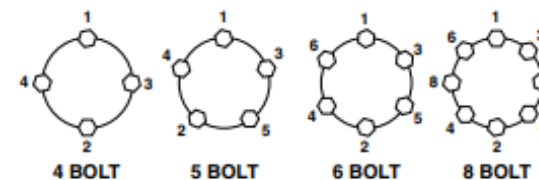


- The tightening of the fasteners should be done in stages. Following the recommended sequence, tighten fasteners per wheel torque requirements diagram.
- Wheel nuts/bolts should be torqued before first road use and after each wheel removal. Check and re-torque after the first 10 miles, 25 miles, and again at 50 miles. Check periodically thereafter.

Wheel Torque Requirements

Wheel Installation Torque Sequence (Ft. Lbs.)

Wheel Size	Stud Size	1st Stage	2nd Stage	Final Torque	Cone Nut Degree
12" - 440 BC	1/2"-20	20-25	35-40	60-75	60° Cone Nut
12" - 545 BC	1/2"-20	20-25	35-40	60-75	60° Cone Nut
13" - 440 BC	1/2"-20	20-25	35-40	60-75	60° Cone Nut
13" - 545 BC	1/2"-20	20-25	35-40	60-75	60° Cone Nut
14" - 545 BC	1/2"-20	20-25	50-60	100-120	60° Cone Nut
15" - 545 BC	1/2"-20	20-25	50-60	100-120	60° Cone Nut
15" - 655 BC	1/2"-20	20-25	50-60	100-120	60° Cone Nut
16" - 655 BC	1/2"-20	20-25	50-60	100-120	60° Cone Nut
16" - 865 BC	9/16"-18	20-25	50-60	140-170	60° Cone Nut
16.5" - 655 BC	1/2"-20	20-25	50-60	100-120	60° Cone Nut
16.5" - 865 BC	9/16"-18	20-25	50-60	140-170	60° Cone Nut
16.5" x 9.75" 865 BC	5/8"-18	50-60	120-125	175-225	Special Stud Piloted With 90° Cone Nuts
17.5" Hub Pilot 865 BC	5/8"-18	50-60	100-120	190-210	Hub Piloted With Clamp Ring, 90° Cone Nuts & Greased Threads
17.5" Hub Pilot 865 BC	5/8"-18	50-60	90-200	275-325	Hub Piloted With Flange Nut
17.5" Hub Pilot 865 BC	5/8"-18	50-60	60-110	150-175	Hub Piloted With Swivel Flange Nut



Maximum Wheel Fastener Torque

The wheel mounting studs used on Dexter axles conform to the SAE standard for grade 8. The maximum torque level that can be safely applied is listed in the following chart:

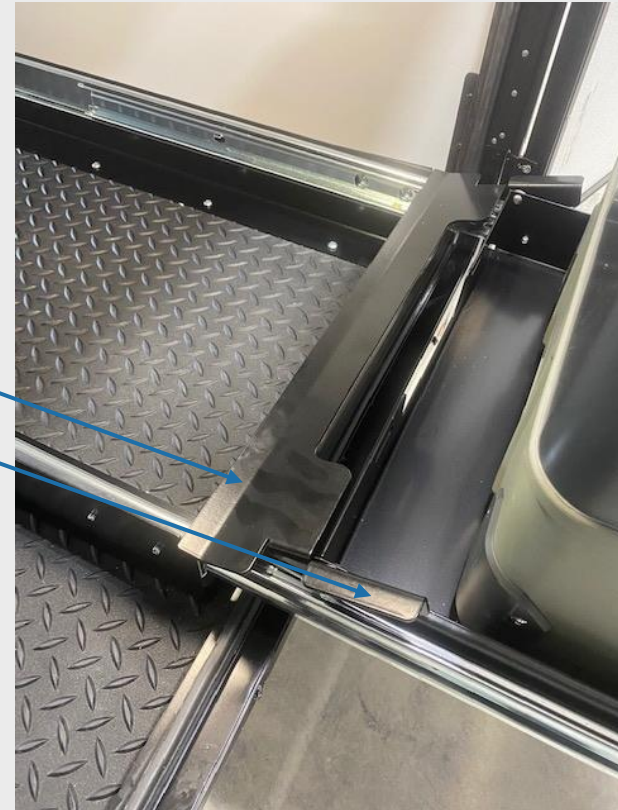
Stud Size	Maximum Torque
1/2"-20 UNF, class 2A	120 Ft. Lbs.
9/16"-18 UNF, class 2A	170 Ft. Lbs.
5/8"-18 UNF, class 2A	325 Ft. Lbs.

XC20.2 Slide Tray

1. Locate tray release latch and lift up
2. Pull tray out to the fullest extent and ensure locking bracket locks in place
3. Push down on locking bracket extension to raise the locking bracket and push to stow slide tray
4. Ensure tray release latch is fully seated behind the lip



1

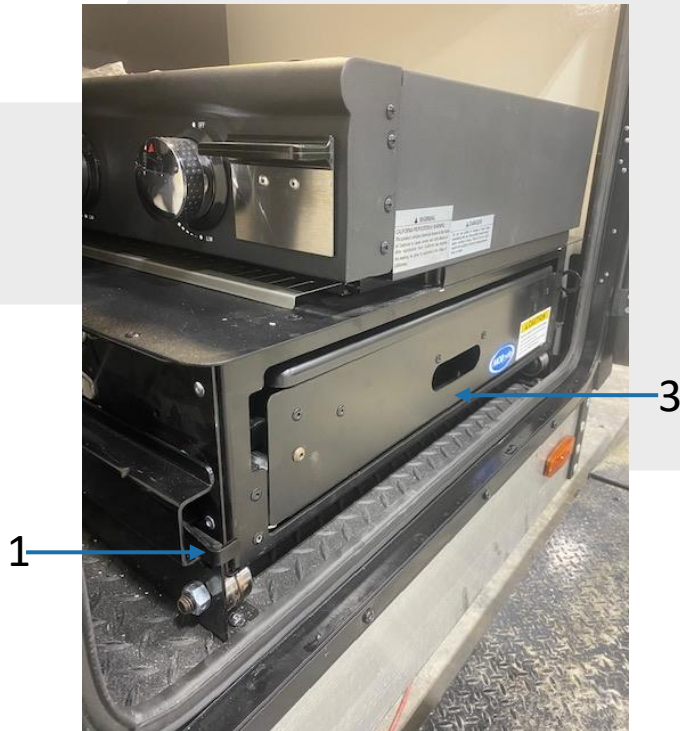


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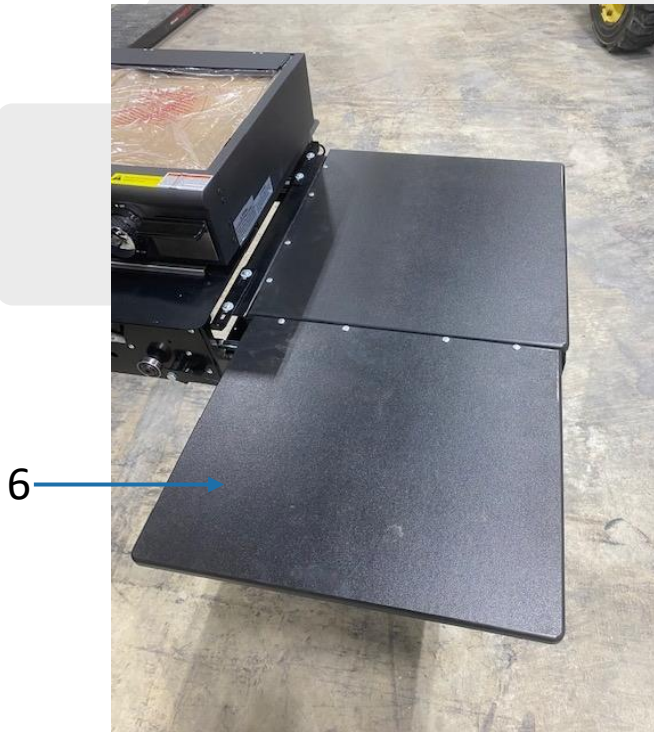
XC20.3 Slide Tray

1. Locate tray release latch and lift up
2. Pull tray out to the fullest extent and ensure locking bracket locks in place
3. Pull storage drawer out to gain access to table-top and storage compartment
4. Ensure locking tabs on storage drawer are set appropriately once drawer is extended (depicted in picture)
5. Slide table-top extension legs out and lift table-top up



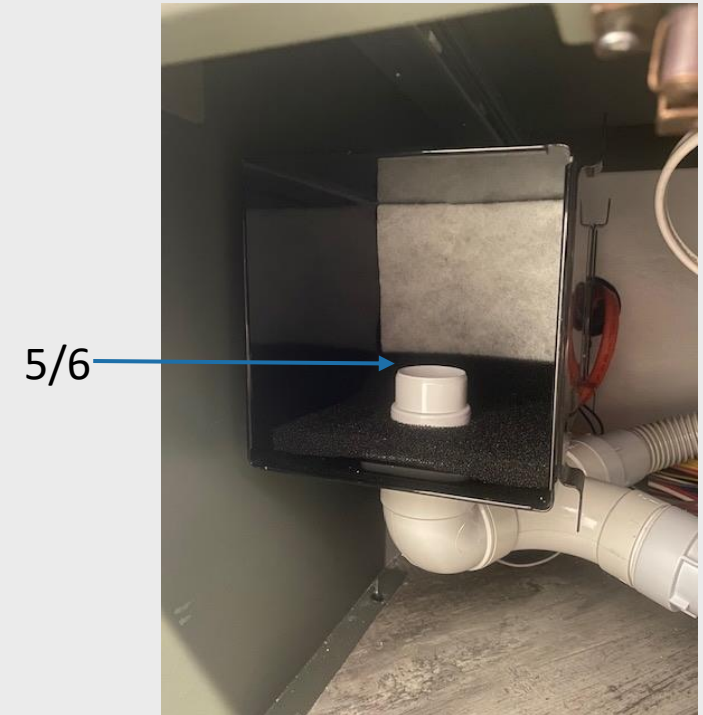
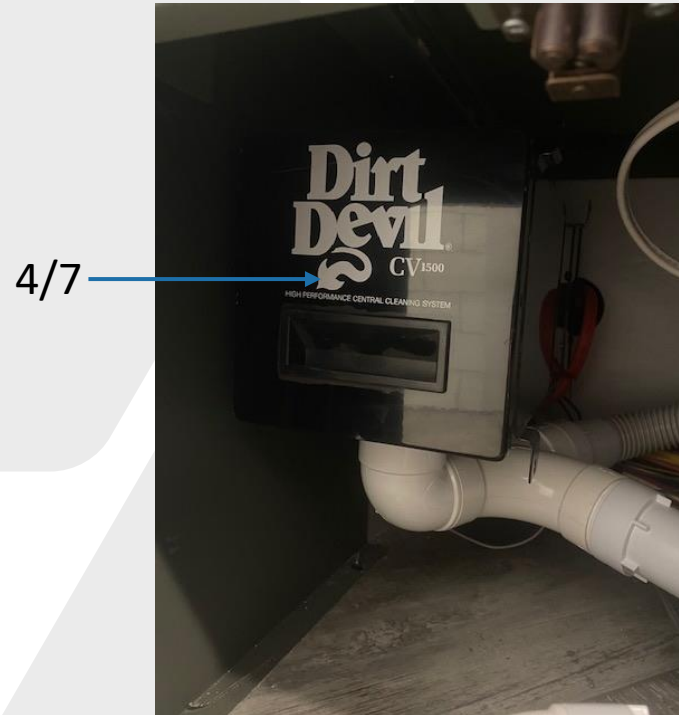
XC20.3 Slide Tray

6. Flip over the second table-top so it is resting on the extension legs
7. Locate collapsible sink and associated bracket and install on provided mounting bracket
8. To close, stow sink and bracket, return the table-tops to their original position, slide the storage compartment drawer in, and locate the locking bracket release lever
9. Engage the locking bracket release lever and push slide tray in until an audible noise is heard indicating the lock engaged. Verify it seated correctly by attempting to extend slide tray without engaging the slide tray release latch



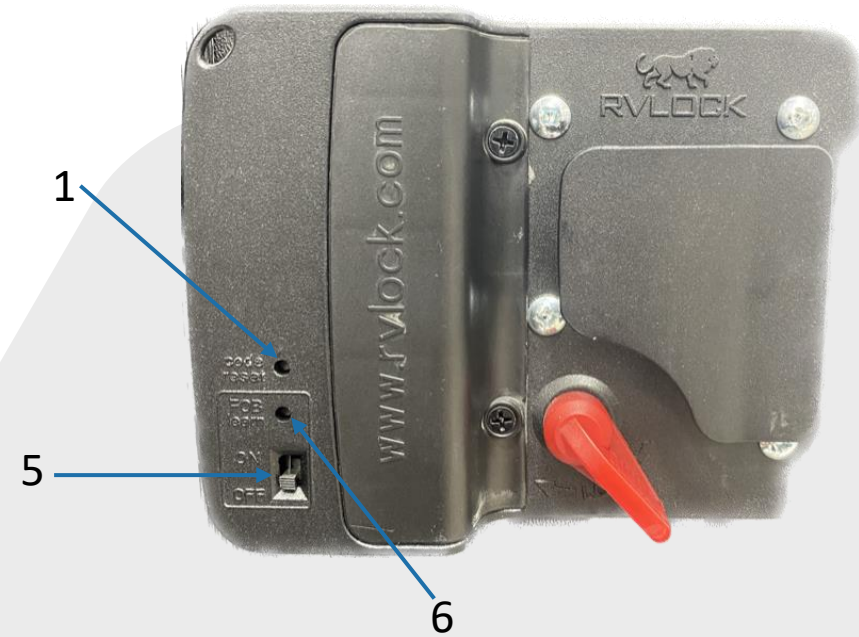
Changing Vacuum Bag

1. Turn off breaker to Vacuum System (breaker labeled GENERAL on distribution panel)
2. Locate Vacuum System and flip up cover
3. Using the center of the port to gain leverage, pull straight out on entire panel
4. Locate and remove Dirt Devil compartment door
5. Locate and remove bag
6. Install new bag
7. Re-install panel
8. Restore power to Vacuum System and verify for proper operation



Entry Door Key Pad

1. Lightly press the CODE RESET button with a paperclip through the pin hole on the interior portion of the handle
 - A beep will confirm you have entered the programming mode
 - Default code for all new keypads is 1234
2. Enter NEW 4 digit code then press the LOCK button located on the exterior portion of the handle
3. Repeat Step 2
4. Lock is now programmed with desired 4 digit code



Key Fob

5. Turn switch to ON position
 - This switch must be in the ON position for the Key Fob to activate/deactivate the lock
6. Lightly press the FOB LEARN button with a paperclip through the pin hole on the interior portion of the handle
 - A beep will confirm you have entered the programming mode
7. Repeatedly press either lock button on the Key Fob until the handle confirms successful programming with a series of rapid beeps
8. Key Fob is now programmed



Programming Entry Door Lock/Key Fob

- Each Pause model comes equipped with tire pressure/temperature sensors installed on all tires including the spare(s) as well as a 507 Series Color TPMS Display.
- When shipped from the factory, the sensors are not programmed to the provided display. This action will need to be performed by the owner upon taking possession of the trailer
- The following page(s) in this manual provide detailed instructions on how to program sensors to the display, manipulate settings within the display, addresses frequently asked questions, and provides TST's Customer Support Information



- DO NOT** leave display plugged in and charging when not in use
- DO NOT** leave display in direct sunlight when not in use
- DO** place display in the console or glove box, out of direct sunlight
- DO** remove charging cord when not in use

QUICK INSTALLATION INSTRUCTIONS

These QUICK INSTALLATION INSTRUCTIONS will get you up and running. Please refer to the index in this manual for complete and detailed instructions and specifications for your TPMS product.

Set the following BEFORE PAIRING sensors:

PRESSURE UNITS

Note: Default setting is PSI.

To change the Pressure Unit, press and hold **[SET]** until it beeps. Press **[+]** three (3) times and **SET** will appear at the bottom of the screen and **BAR** and **PSI** will be blinking on the screen. Press and release **[SET]** again, then use **[+]** to select **BAR** or **PSI**. Press **[SET]** again to save. Press and release **[BACK]** to go to the Main Screen.

TEMPERATURE UNITS

Note: Default setting is °F.

To change the Temperature Unit, press and hold **[SET]** until it beeps. Press **[+]** four (4) times and **SET** will appear at the bottom of the screen and **°F** and **°C** will be blinking on the screen. Press and release **[SET]** again, then use **[+]** to select **°F** or **°C**. Press and release **[SET]** again to save. Press and release **[BACK]** to go to the Main Screen.

HIGH TEMPERATURE ALARM

Note: Default setting is 158°F (70° C).

We recommend that you do not change the temperature alarm setting.

To set the High Temperature Alarm, press and hold **[SET]** until it beeps. Press **[+]** twice and **HI TEMP SET** will appear. Press and release **[SET]** again, then use **[+]** or **[-]** to adjust the High Temperature Alarm, if desired. Press and release **[SET]** to save. Press and release **[BACK]** to go to the Main Screen.

LOW PRESSURE ALARM

To set up the Low Pressure Alarm, press and hold **[SET]** until it beeps. Press **[+]** once and **LOW PRESSURE SET** will appear. Press and release **[SET]**, then press and release **[GO]** to select the appropriate axle. Press **[+]** or **[-]** to adjust the Low Pressure Alarm 10% below your normal tire pressure for that axle. Press and release **[GO]** to move to the next axle. For a trailer setup, see page 6.*

Note: Follow your tire manufacturers recommended cold tire pressure setting for each tire of your Vehicle/Trailer/RV. Tire pressure data charts are available on your tire manufactures website. The low tire pressure alarm should be set approximately 10% below that setting. The weight on each individual wheel can be determined by fully loading your vehicle/Trailer/RV as it would be for a trip and having each wheel position weighed individually.

TST-Doc-507 WSD-C Insert Manual-Rev J

QUICK INSTALLATION INSTRUCTIONS

HIGH PRESSURE ALARM

To set up the High Pressure Alarm, press and hold **[SET]** until it beeps. **HI PRESSURE SET** will appear at the bottom of the screen. Press and release **[SET]**, then press and release **[GO]** to select the appropriate axle. Press **[+]** or **[-]** to adjust the High Pressure Alarm. Press and release **[GO]** to move to the next axle. When finished setting each axle, press and release **[SET]** to save. Press and release **[BACK]** to go to the Main Screen. For a trailer setup, see below.*

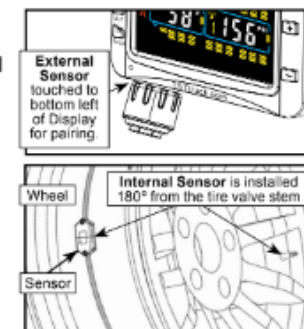
Note: Tire pressure data charts are available on your tire manufactures website.

The high tire pressure alarm should be set approximately 25% above that setting. The weight on each individual wheel can be determined by fully loading your vehicle/Trailer/RV as it would be for a trip and having each wheel position weighed individually. For a trailer setup, see page 6.*

Power ON the display. The ON/OFF switch is on the right side of the display.

PROGRAM SENSORS TO DISPLAY

1. Press and hold **[SET]** until it beeps. Display is now in programming mode. The words **HI PRESSURE SET** will appear at the bottom of the screen. Press **[+]** 5 times to scroll through the parameters until **LEARN ID** appears.
2. Press and release **[SET]**. The first tire on the display will blink. Press **[+]** to move to the desired tire position. Press and release **[SET]** again and **FFF FFF** will blink. **Touch the desired sensor for that tire position to the bottom left side of the Display. For Internal Sensors hold the Display near the sensor for that tire position. See diagrams at right.** Press and release **[GO]**. **ID LF** will appear on the screen, then the 6 digit sensor ID code will appear. Press and release **[SET]** to save the code to that tire position. When coded correctly, a six (6) digit unique code will be displayed (you may record this code by wheel position using the Sensor Code Diagram on Page 3).
3. Use **[+]** to move to the next tire position to be programmed. Repeat Step 2 until all sensors have been programmed.
4. When complete, press and release **[BACK]** twice to return to the main screen. (Flow Thru and RV Cap sensors will begin reading **0** pressure and an alarm will sound. This is part of the normal setup process. Press **[+]** to silence the alarm while continuing the setup. Internal sensors will start to read pressure after coded to display).



TST-Doc-507 WSD-C Insert Manual-Rev J

Frequently Asked Questions

WHAT DO I DO IF MY SENSOR IS NOT READING?

1. If your sensor is not transmitting data to the display, try recoding the sensor to the same tire position using the “PROGRAM SENSORS TO DISPLAY” instructions on the previous page.
2. If after repeated attempts, and you think it may be a sensor issue, contact Customer Support using the information below.

WHY DOES MY DISPLAY SOMETIMES “DROP” SENSOR DATA FROM A TIRE POSITION?

Be aware that an indoor/outdoor thermometer with an external temperature sensor may interfere with the TST TPMS. Temporarily remove all the batteries in the temperature display AND exterior temperature sensor and see if the problem is corrected. A thermometer with a higher frequency (915 MHZ) may be required. Atomic clocks can also cause interference with the sensors.

WHY DOES MY DISPLAY SOMETIMES ALARM WHILE I AM SITTING STILL IN THE EVENING?

As night approaches and outdoor temperatures decrease, your tire pressures may drop below the parameters you have set, thus causing an out of spec alarm. When temperatures drop, turn you display off overnight. As the air temperature rises the next day or as you start driving, the tires will also heat up and come back into your parameters.

WHY CAN'T I SET A LOWER PRESSURE THAN 100 PSI FOR THE HIGH OR LOW-PRESSURE ALARM?

The high-pressure alarm cannot go lower than the low-pressure alarm setting. If your tire pressure settings are below 100 PSI, you must first set the low-pressure alarm settings and then set the axles' high-pressure settings. When done, be sure to press and release the “SET” button to save the parameter settings.

WHAT CONDITIONS CAUSE THE DISPLAY TO ALARM?

1. A rapid leak of 2 psi per minute or greater (FAST LEAK at bottom of screen)
2. A low sensor battery (upper left icon flashes)
3. An overheating tire, increasing the temperature (HIGH TEMP at bottom of screen)
4. A high or low-pressure reading (be sure your parameters are set correctly). In every instance, the tire Pressure and Temperature numbers will also flash when the tire with the problem blinks.

HOW DO I REMOVE MY TRAILER FROM THE DISPLAY SCREEN WHEN I AM NOT USING IT?

1. Momentarily press the GO and – buttons.
2. The trailer section on the display will disappear.
3. To electrically reconnect the trailer section, momentarily press the GO and – buttons again.

Frequently Asked Questions

HOW DO I REMOVE MY TOWING VEHICLE FROM THE DISPLAY SCREEN WHEN IT IS PARKED?

1. Momentarily press and hold the GO and + buttons.
2. The towing vehicle section on the display will disappear
3. To electronically reconnect the towing vehicle section, momentarily press the GO and + buttons again

HOW DO I REMOVE AN UNWANTED TIRE ICON FROM THE DISPLAY

To delete a single sensor code press and hold SET until it beeps (approx. 3 seconds). Press + and scroll through the parameters until LEARN ID appears. Press and release SET. Use + or – to scroll to the tire you wish to remove. Press and release SET to select that tire. It will start flashing. Press and hold BACK for 3 seconds. You will hear 3 beeps. The code will change to FFF FFF which will be flashing. Press and release SET. The flashing will stop and the ID code will be deleted. To cancel the function, press and release BACK 2 times.

HOW DO I DELETE ALL TIRE CODES FOR MY DISPLAY?

To delete all the sensor codes when in the LEARN ID mode, select any tire icon and press SET so the 6 digit code blinks. Press and hold BACK. You will hear 3 quick beeps, a pause, and then 6 beeps. DEL ALL will appear on the screen. Press SET once. FFF FFF will appear on the screen. All the sensor codes and tire icons are not deleted. This does not affect the parameters set in the display. Press BACK 2 times to go to the main screen

Customer Support Information

WEB: www.TSTtruck.com/product-support

EMAIL: support@TSTtruck.com

PHONE: (770)889-9102

HOURS: Monday-Friday 9am-8pm

Do's

1. Wash trailer in the shade or avoid washing while the body is hot or under direct sunlight
2. It's best to wash the trailer once every 2 weeks to maintain surface cleanliness
3. Rinse dirt off trailer with room temperature water using standard, low pressure, garden hose nozzle
4. Dilute mild car wash detergent (non-abrasive, silicone emulsion free) in cold water. Follow manufacturer's recommended ratio.
5. Using soft sponge or non-abrasive cloth, hand wash the trailer with car wash solution
6. Using water, rinse trailer until it is free of soap. Dry using synthetic shammy or low microfiber fabric
7. Gently wiping of sensitive areas such as door handles, moldings, mirrors, and seams is highly recommended
8. Pressure washing is not the best practice for long term vinyl life but may be used if following these rules:
 - Nozzle pressure should not exceed 1300 PSI
 - Water temperature should not exceed 140 F/60 C
 - Nozzle tip should not be closer than 5' from body wrap film
 - Angle of water spray should be no shallower than 60 degrees from perpendicular
9. Post washing, fresh-water rinse, will help maintain the life of the Body Wrap

Don'ts

1. Wash using hot water
2. Use petroleum based, acidic or strong cleaning agent
3. Drive through automatic or mechanical washes with harsh rotated brushes
4. Use abrasive products that could scratch paint or a vinyl surface



When possible, store trailer in a garage or shaded area to reduce extended outdoor exposure

General Information

1. Periodic maintenance and cleaning of your trailer are necessary to retain dependability, safety, and appearance.
2. Keep good records of maintenance functions performed and be sure to follow all owner obligations as may be required to keep your warranty in force.
3. Operating conditions will affect service timetables.
4. Preventative maintenance will pay for itself many times over by catching or preventing problems before they occur.

Seals and Adhesives

5. It is important to maintain the seals and adhesives to prevent moisture from entering and destroying trailer components.
6. When washing your trailer, inspect the seals for signs of drying out and wear.
7. Be aware that weather and road vibration will have an effect on seals, causing them to dry, crack, and/or separate.

Windows and Doors

8. Check the seals around windows regularly (at least every 6 months) to verify if sealant is present and complete.
9. Adjust and lubricate latches hinges, locks, and moving parts annually to ensure windows and doors remain operational

Frame

10. Check the condition of the frame regularly by inspecting for cleanliness, damage, or broken/loose rivets and brackets
11. It is especially important to keep the frame, underbelly, and other exposed components clean and free from road salts when traveling in cold climates where road salt would be used
12. Special aluminum cleaners are available to restore the original luster to aluminum surfaces

Roof

13. Inspection of the roof, and its components, at least every 6 months is very important to ensure seals are not cracked or worn
14. Proper maintenance of seals is necessary to keep moisture from entering the trailer and causing damage
15. If you encounter dry, cracked, or weathered seals, reseal and replace as necessary

Propane System

16. It is important to have your trailer's entire propane system inspected every 6 months by a qualified service technician

Interior

16. Seating can be cleaned by conventional methods using commercial dry-cleaning solvents. This material cannot be machine washed
17. To clean the fiberglass shower stall, use warm water and a liquid detergent. Do not use abrasive cleaners as they may scratch and dull the surface of the shower stall.
18. Countertops can be cleaned with common household cleaners, however, avoid using window cleaners as they dull the surface
19. Sweep floors as necessary with a soft bristle broom. If using a vacuum, do not use one equipped with "beater bars." When necessary, wash floors with a solution of clean water and mild detergent or domestic floor cleaning emulsion. Do not use wire or nylon wool scouring pads, furniture polish, spirit-based polish, powder, liquid abrasive cleaners, bleach, or strong detergents. Always check that the cleaner/polish is suitable for use with vinyl flooring

Perform Before Each Use

1. Verify that loaded weight is evenly distributed and within specifications
2. Verify Garmin tablet is connected to internal WiFi network and operates all components properly (suspension, awning, lights, etc...)
3. Check undercarriage for damage or leaks from holding tanks
4. Verify that solar charging system is operating appropriately
5. Inspect/check that all electrical circuits are operational
6. Verify that all appliances operate correctly
7. Test all safety alarms for operation; replace batteries if necessary
8. Check fire extinguisher pressure/condition
9. Check operation of all clearance lights, brake lights, turn signals, and hazards
10. Check tire pressures (including spares)
11. Inspect tires for dry rot and adequate tread depth
12. Inspect furnace vent for dirt or obstructions
13. Ensure all vents, skylights, windows, and doors are functional and are closed prior to travel
14. Perform walk around inspection of exterior to ensure the trailer's components are in their stowed position prior to departure

Perform Every 3 Months

1. Check tire pressures (including spares)
2. Inspect tires for dry rot and adequate tread depth
3. Inspect furnace vent for dirt or obstructions
4. Wash exterior in accordance with guidance provided on page 79 of this manual
5. Roll unit forward or backward to avoid flat spots on tires

Perform Every 6 Months

1. Clean roof
2. Inspect and repair/replace seals as necessary on roof
3. Inspect and repair/replace seals on exterior of trailer
4. Inspect interior for water leaks
5. Clean window weep holes
6. Inspect window seals for damage and repair/replace as needed
7. Inspect baggage doors for proper closure, adequate seal, and any water leaks
8. Perform any appliance maintenance per manufacturer's instructions
9. Inspect/replace inline water filter as necessary

Perform Every 12 Months

1. Clean and lubricate roof vent mechanisms
2. Adjust and lubricate window latches (if applicable)
3. Clean and lubricate exterior steps, jacks, and jack legs
4. Clean and lubricate exterior locks, gears, and hinges
5. Have qualified service center check propane system's pressure
6. Winterize depending on local conditions
7. Clean all detector and alarm components
8. Inspect frame and exterior components for rust, scratches, dirt, and debris build-up. Clean as necessary
9. Check all wheel lug nut torque values at a certified service center
10. Inspect brake pads and drums for wear at a certified service center

A/C & Bathroom Fan Wiring
Troubleshooting

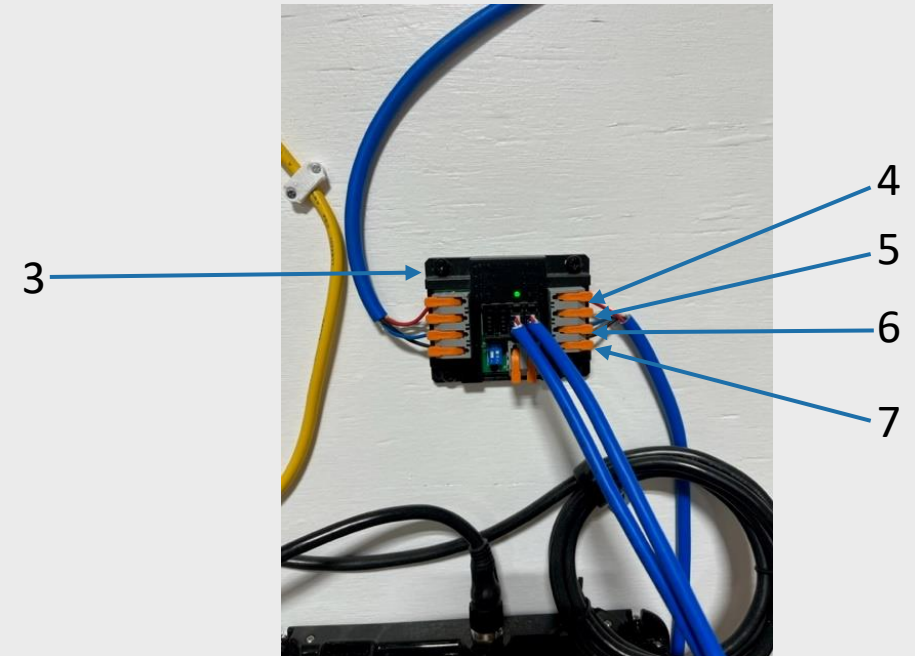
PAUSE



- The Air Conditioner and bathroom exhaust/intake fan are controlled with the Garmin tablet through a series of CAN wires.
- The wiring originates with the Connect50 V2, passes through 2 RV-C Multitaps, and terminates at the component
- The following pages show what the Garmin tablet, RV Controls HOME SCREEN, could look like if there is a connectivity issue with this wiring, along with how everything is connected and where



1. RV Controls HOME SCREEN (normal operation)
2. Connect50 V2 (CAN wire originates)
3. RV-C Multitap
4. RED: 12+ (Wire #3 on Connect50 V2)
5. WHITE: CAN Tx (Wire #23 on Connect50 V2)
6. BLUE: CAN Rx (Wire #24 on Connect50 V2)
7. BLACK: Ground (chassis)



RV-C Multitap #1

Located on the interior of the trailer, behind the access panel, just above the Garmin Connect50 V2 and HPR



The wires that connect the appliance to the RV-C Multitap, must be inserted into connector in this order



RV-C Multitap #2

Located on the interior of the trailer and can be visible once the A/C distributor is removed

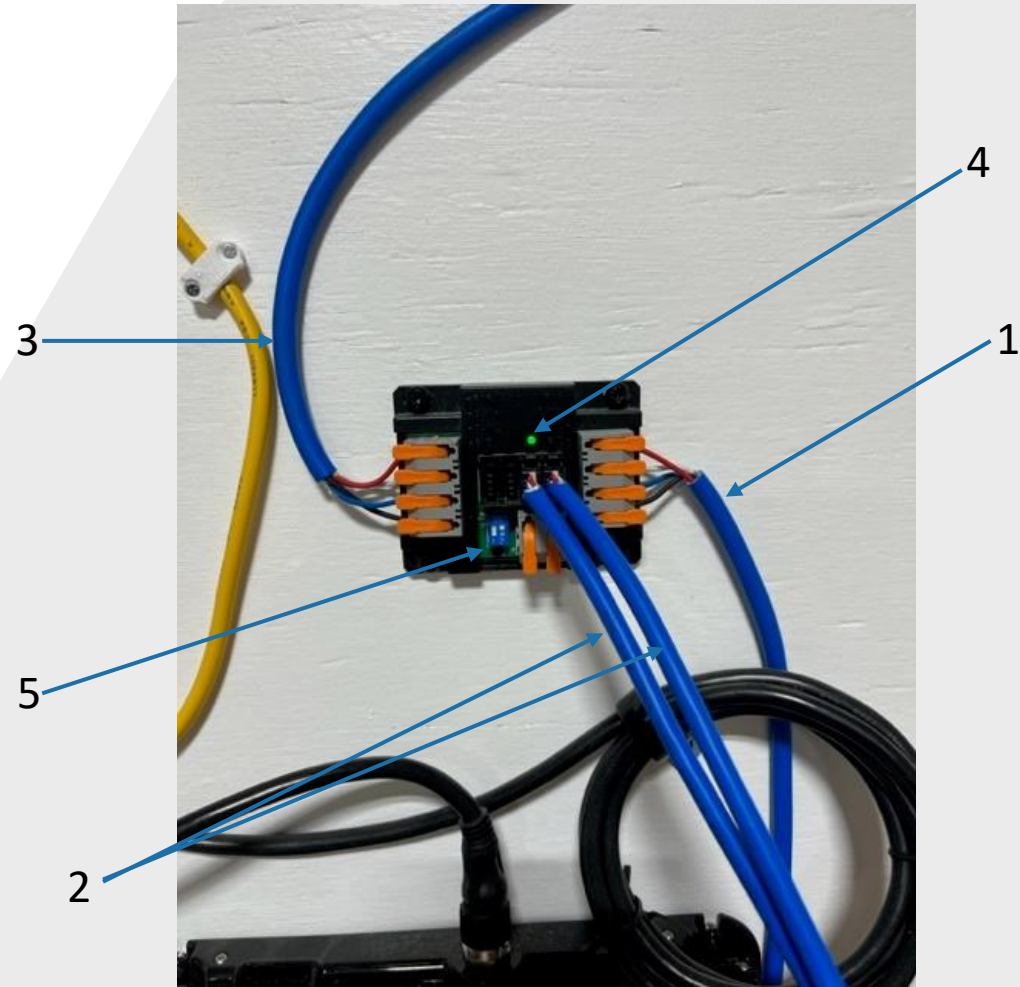


1. From RV-C Multitap #1 to Garmin Connect50 V2
2. From Multitap #1 to MORryde Power Pack
 - It does not matter, for either Multitap, which of the 4 ports are used when plugging these CAN wires in
3. From Multitap #1 to Multitap #2
4. Green light indicated Multitap has power
5. Dip Switches must be set to:
 - 1 – DOWN position
 - 2 – UP position

The CAN wires from the ROOF HARNESS and the CAN wires from the FLOOR HARNESS are connected behind the refrigerator (XC20.3) or directly behind the rear bumper (XC20.2). This can be accessed by removing the exterior cover panel from the bumper.

RV-C Multitap #1

Located on the interior of the trailer, behind the access panel located just above the Garmin Connect50 V2 and HPR

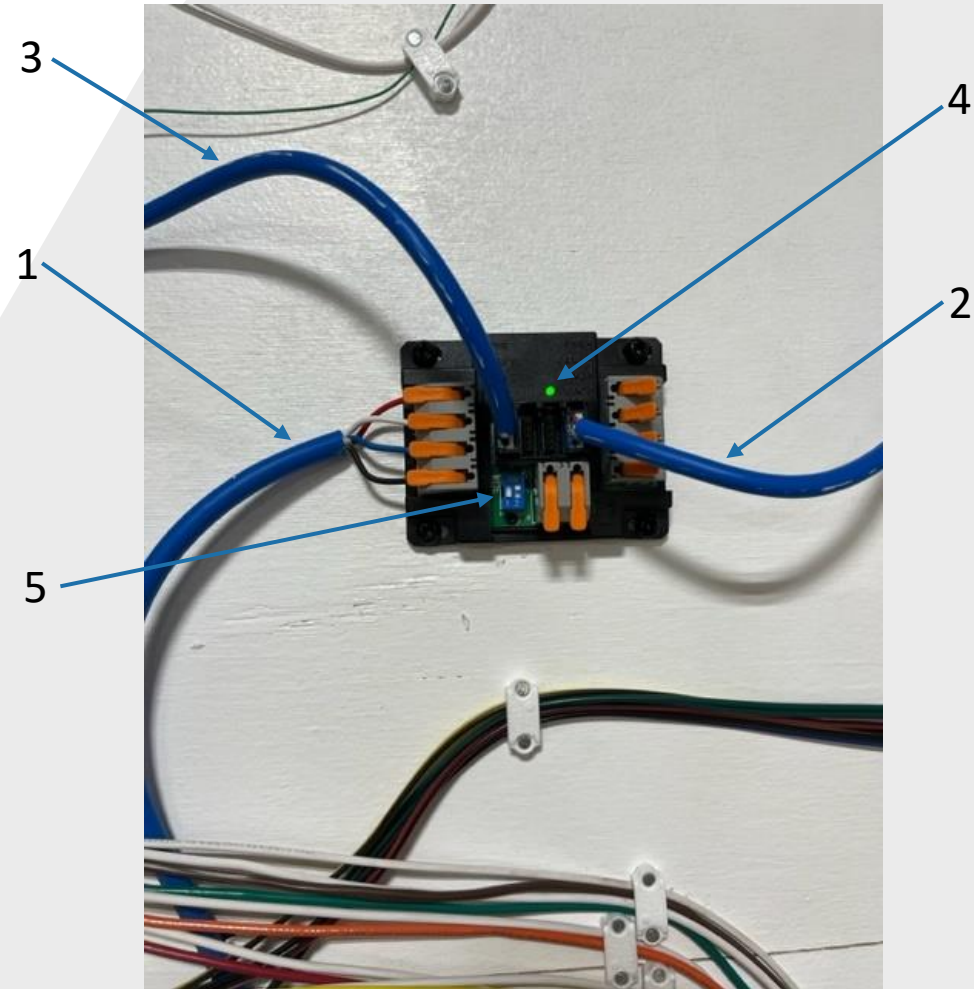


1. From RV-C Multitap #2 to Multitap #1
2. From Multitap #2 to Air Conditioner
 - This CAN wire feeds straight into the A/C
3. From Multitap #2 to Bathroom exhaust/intake fan
 - This wire will feed into the roof wire channel
 - It does not matter, for either Multitap, which of the 4 ports are used when plugging these CAN wires in
4. Green light indicated Multitap has power
5. Dip Switches must be set to:
 - 1 – DOWN position
 - 2 – UP position

The CAN wires from the ROOF HARNESS and the CAN wires from the FLOOR HARNESS are connected behind the refrigerator (XC20.3) or directly behind the rear bumper (XC20.2). This can be accessed by removing the exterior cover panel from the bumper.

RV-C Multitap #2

Located on the interior of the trailer and can be visible once the A/C distributor is removed



Normal Operation



Loss of signal from CAN wire connecting Bathroom fan to Multitap #2



Loss of signal from CAN wire connecting A/C to Multitap #2



Loss of signal from the BLUE wire / WHITE wire, or BOTH, connecting Multitap #1 to Garmin Connect50 V2 or to Multitap #2



The background of the left side of the slide features several overlapping hexagonal shapes in light gray. One hexagon in the upper left has a white outline. The main title is centered within a larger, rounded hexagonal shape.

Thule Awning Motion/Wind Sensor Replacement

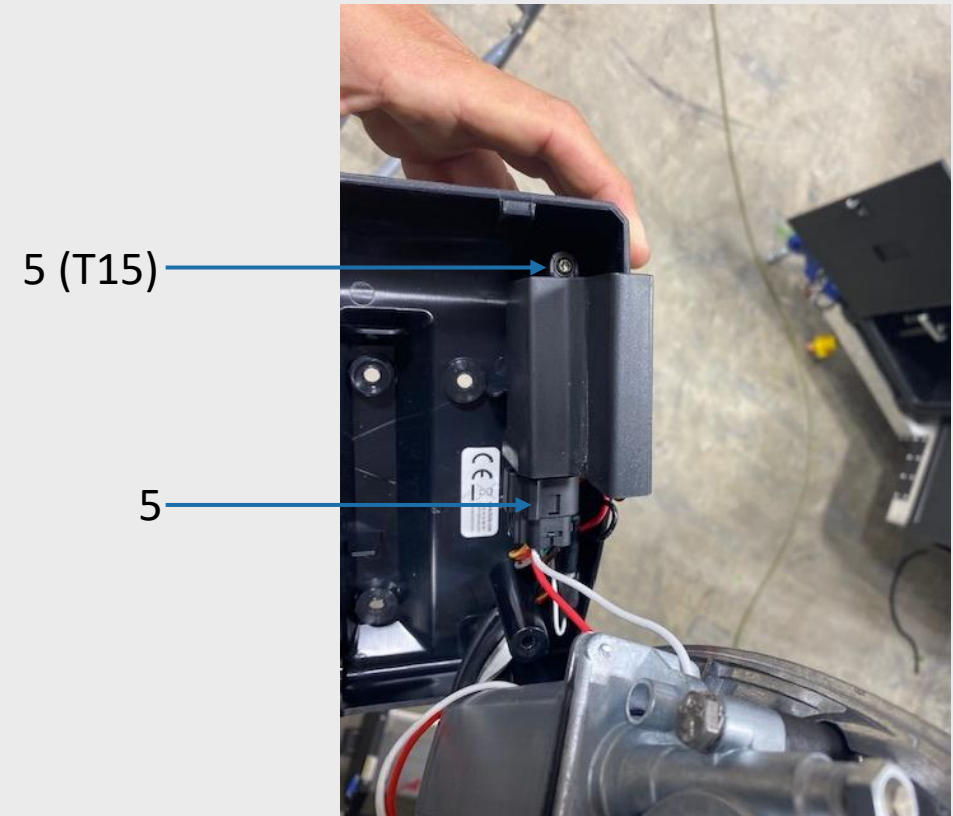
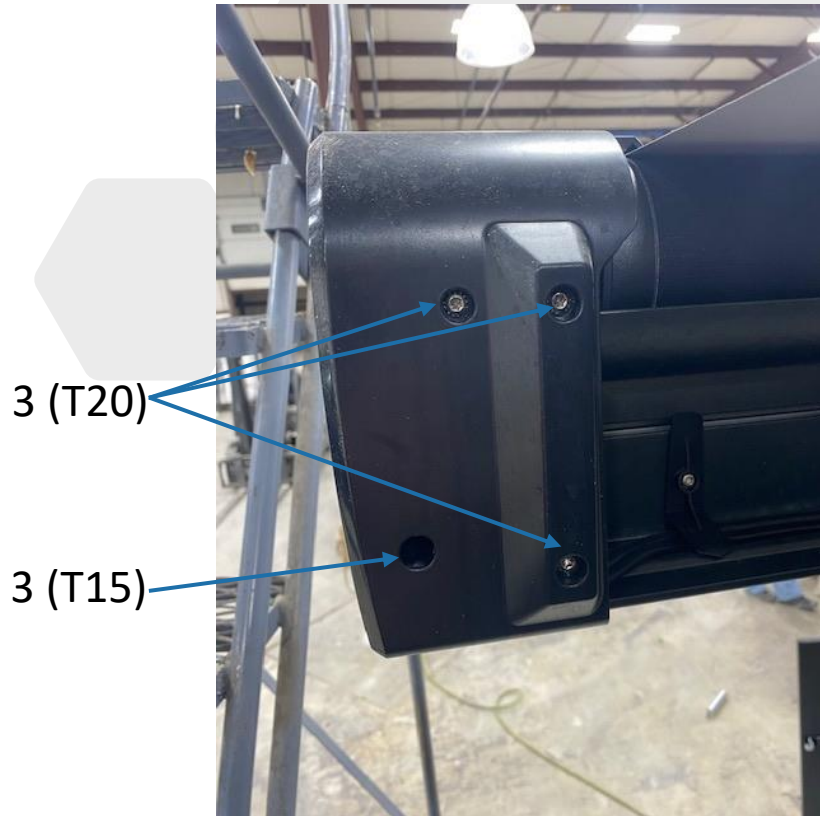
The logo for PAUSE is displayed in a bold, black, sans-serif font. The letter 'O' is replaced by a solid black circle with two vertical white bars inside, resembling a pause symbol.

PAUSE

Supplies Needed

1. Ladder
2. T15 Torx Screwdriver
3. T20 Torx Screwdriver

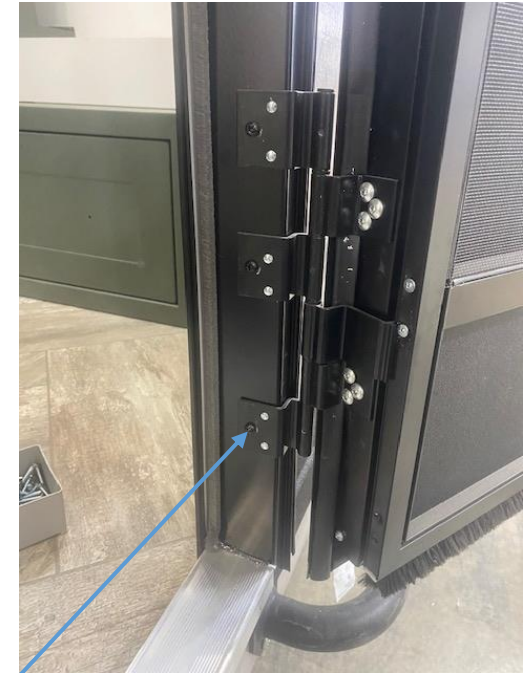
1. Extend awning 3-4 feet
2. Locate forward most awning end cap
3. Remove 4 screws attaching rear cover to front cover
4. Once covers are separated, locate the Motion/Wind sensor
5. Remove mounting screw and electrical connection plug
6. Remove old sensor and replace with new
7. Reinstall mounting screw and electrical connection plug
8. Reinstall end cap covers
9. Test awning for proper operation



Entry Door Removal/Installation Process



1. Remove exterior screw cover and remove all exterior screws



2. Open door and remove all screws located on the inner portion of the door frame (top, middle, and bottom of hinge side and middle of latch side)



Entry Door Removal/Installation Process

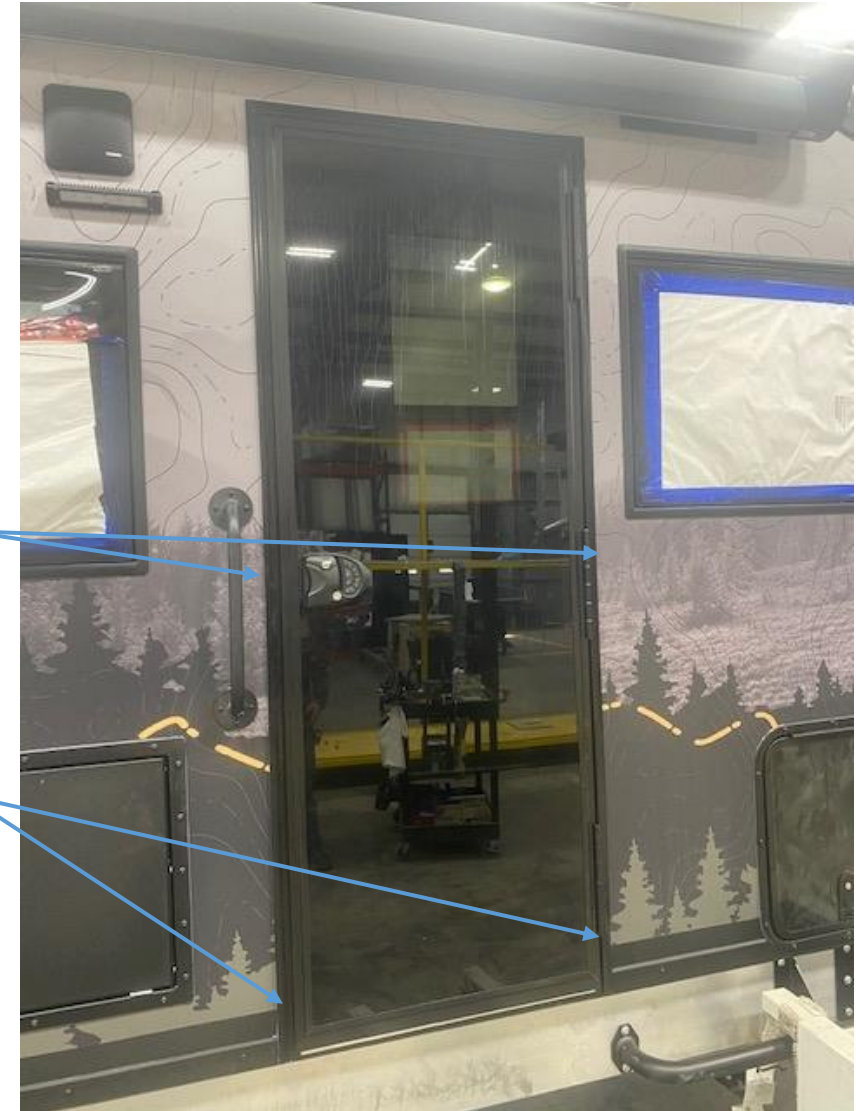


3. Once all screws have been removed and exterior seal has been scored, carefully remove the door from the sidewall by working the weather proofing strip, located behind the exterior screw flange, loose being careful not to tear or damage the body wrap.

Entry Door Removal/Installation Process



4. Clean and prep door opening before installing new door
5. Seat door in opening, making sure that the reveal of the bottom of the door is equal across the bottom plate
6. Once the door is square in the opening, secure the middle portion of the door by installing 1 screw per side in the exterior screw flange
7. Move to the bottom of the screw flange and install 1 screw per side in the exterior screw flange
8. Move to the top of the screw flange and install 1 screw per side in the exterior screw flange



Entry Door Removal/Installation Process

9. Install 3 screws in the top screw flange
10. Working your way down from top to bottom, install screws in screw flange alternating from side to side. Ensure the reveal of the door in relation to the door frame is being observed throughout the process

Bottom Hinge

Entry Door Removal/Installation Process

11. Once all exterior screws have been installed, open the door and install screws at hinges as depicted in the picture. Middle hinge will only require screws to be added as depicted in the picture
12. Ensure these screws go through the interior trim molding as this is what keeps the door from sagging over time

Middle Hinge



Top Hinge



Entry Door Removal/Installation Process



13. Install 2 screws on striker plate side as depicted in the picture
14. Remove all shipping tabs located on the bottom, side, and top of door.
15. Ensure door opens/closes appropriately, adjust screen door latch if necessary, and verify that door was installed square.
16. Install provided weight tags and decal on new door once installed.
17. Install exterior screw cover (will have to cut to length)



Furrion Oven Door/Glass Removal

1. Open oven door and flip the latch lock UP to secure in place
2. Close oven door $\frac{3}{4}$ of the way and gently lift up and out to remove door
3. Remove 4 screws securing outer oven glass and handle



1



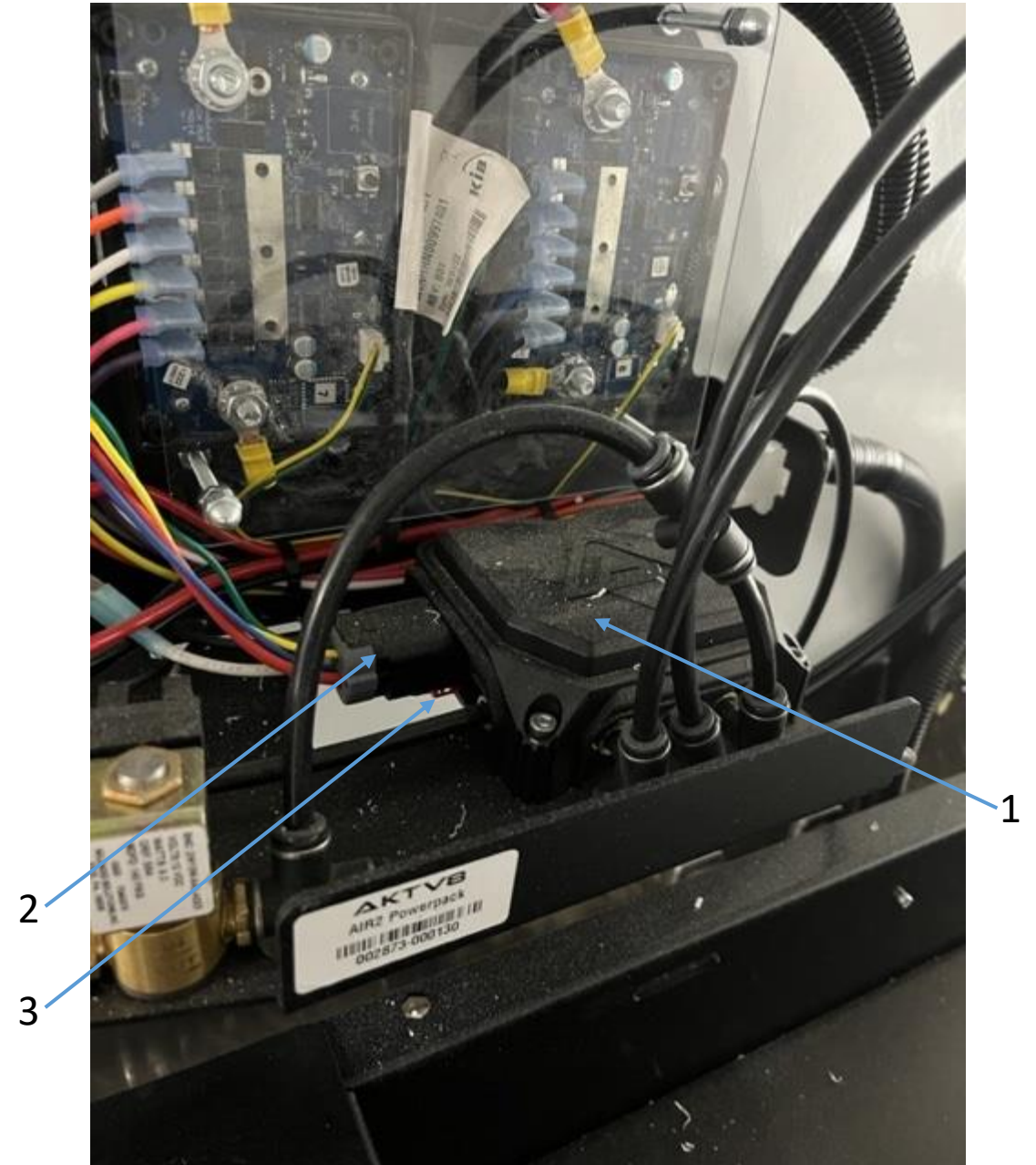
3

Furrion Oven Door/Glass Removal

4. Flip the door so the bottom is visible and remove 4 remaining outer glass screws
5. Remove 3 screws to allow the inner glass to be removed

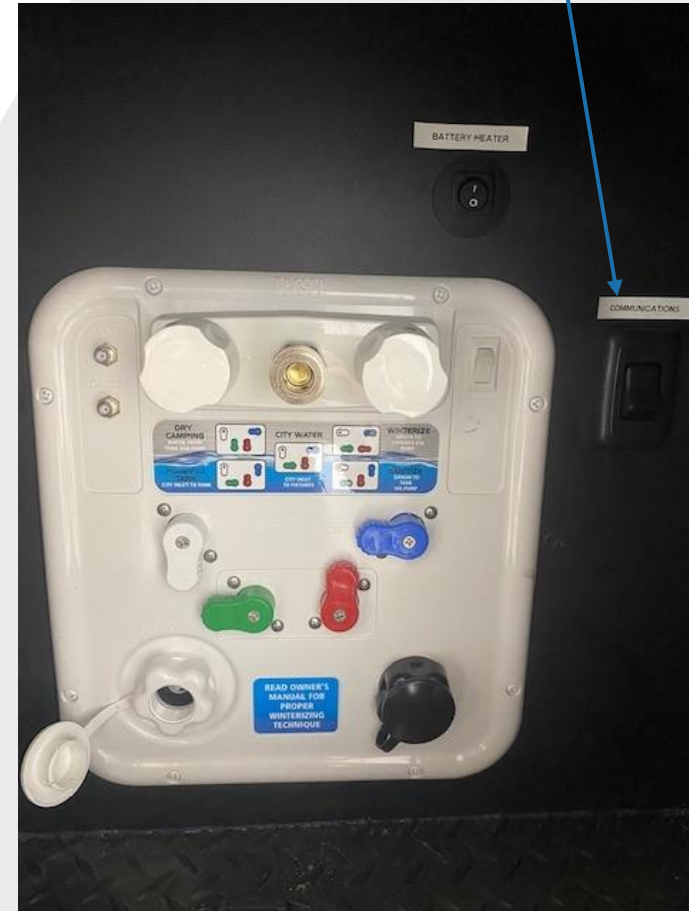


1. The black module box is located on the MORryde power pack next to the compressor
2. The input plug is located on the side of the module box closest to the compressor
3. There is a red retention clip located on the bottom side of the plug that needs moved to the side prior to removal
 1. This can be accessed by sliding the outside kitchen tray out and looking through the access hole on the bottom of the power pack tray
4. After moving the retention clip on the bottom, press the release clip on the bottom of the plug and pull to disconnect.
 - This is a water tight connection so it may seem a bit difficult to remove
5. Leave unplugged for roughly 10 seconds, then re-insert and lock in place with the red retention clip
6. This will power cycle the suspension portion of the MORryde system



1. Communications Switch

- Controls power to the Garmin docking station, Garmin WDU, WIFI router, and WIFI Antenna. This switch is to allow the operator to limit the “background noise” that would otherwise deplete battery levels when not in use.
- When turned OFF, this will make the functions of the RV Controls portion of the Garmin non-functional due to loss of internal WIFI signal and will not allow the docking station to charge the Garmin tablet.
- This feature is most practical when storing the trailer for an extended period of time while still needing the battery disconnect to be left on.



1. Communications Switch

- After the black access panel is removed (located under the batteries in the rear storage area) your will have access to the wiring on the back side of the COMMUNICATIONS SWITCH.

2. Power IN

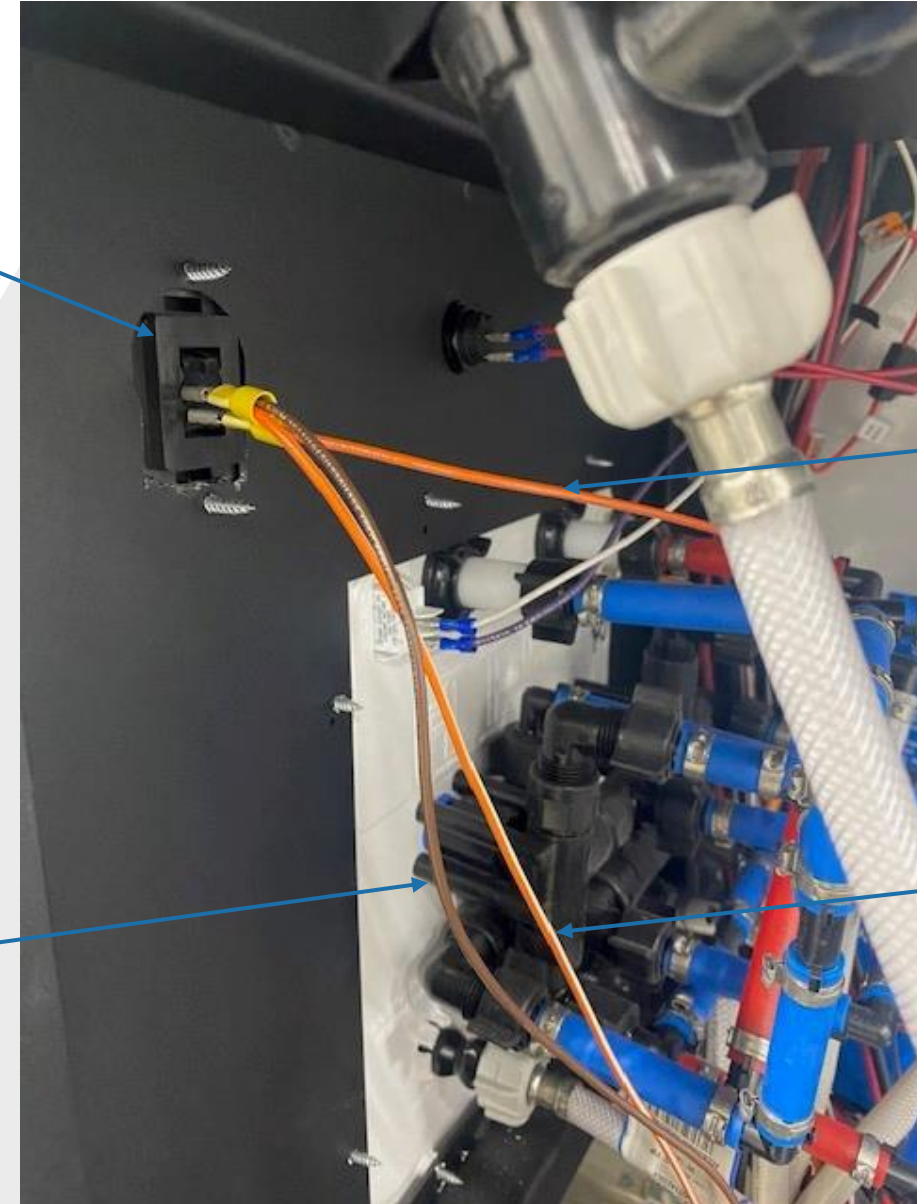
- Feeds from Victron Distributer and has an in-line 6 amp resettable fuse

3. Power OUT to Garmin Docking Station and Garmin WDU

- Runs from this switch, above the trailer floor line, through the cabinets on the driver side of the trailer and drops at the Garmin Docking Station and Garmin WDU

4. Power OUT to WIFI router and Antenna

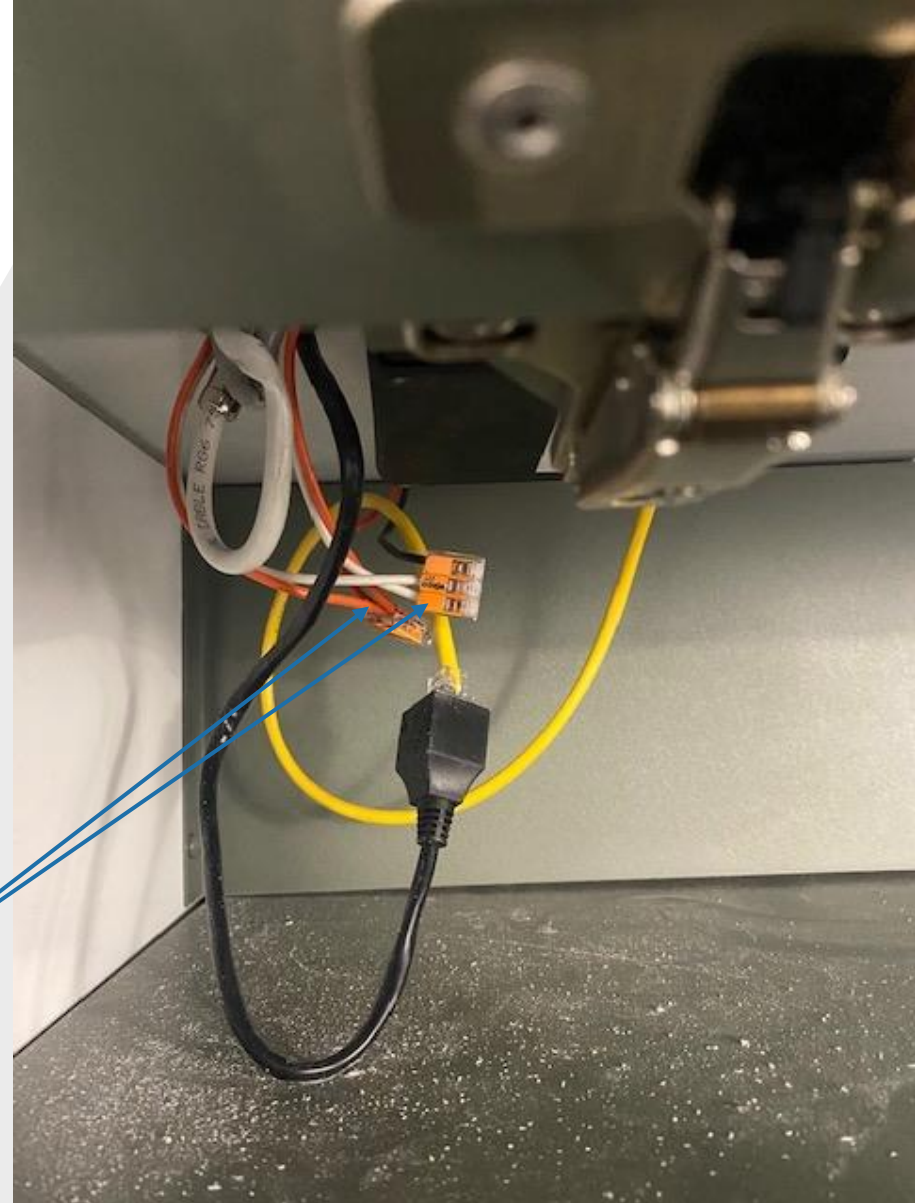
- Runs from the switch and links up with the roof wiring harness behind the refrigerator. From there is loops at the WIFI router and terminates at the WIFI Antenna
- This is an Orange/White Rip cord. The white wire (negative) is tied into the negatives at the Victron component board

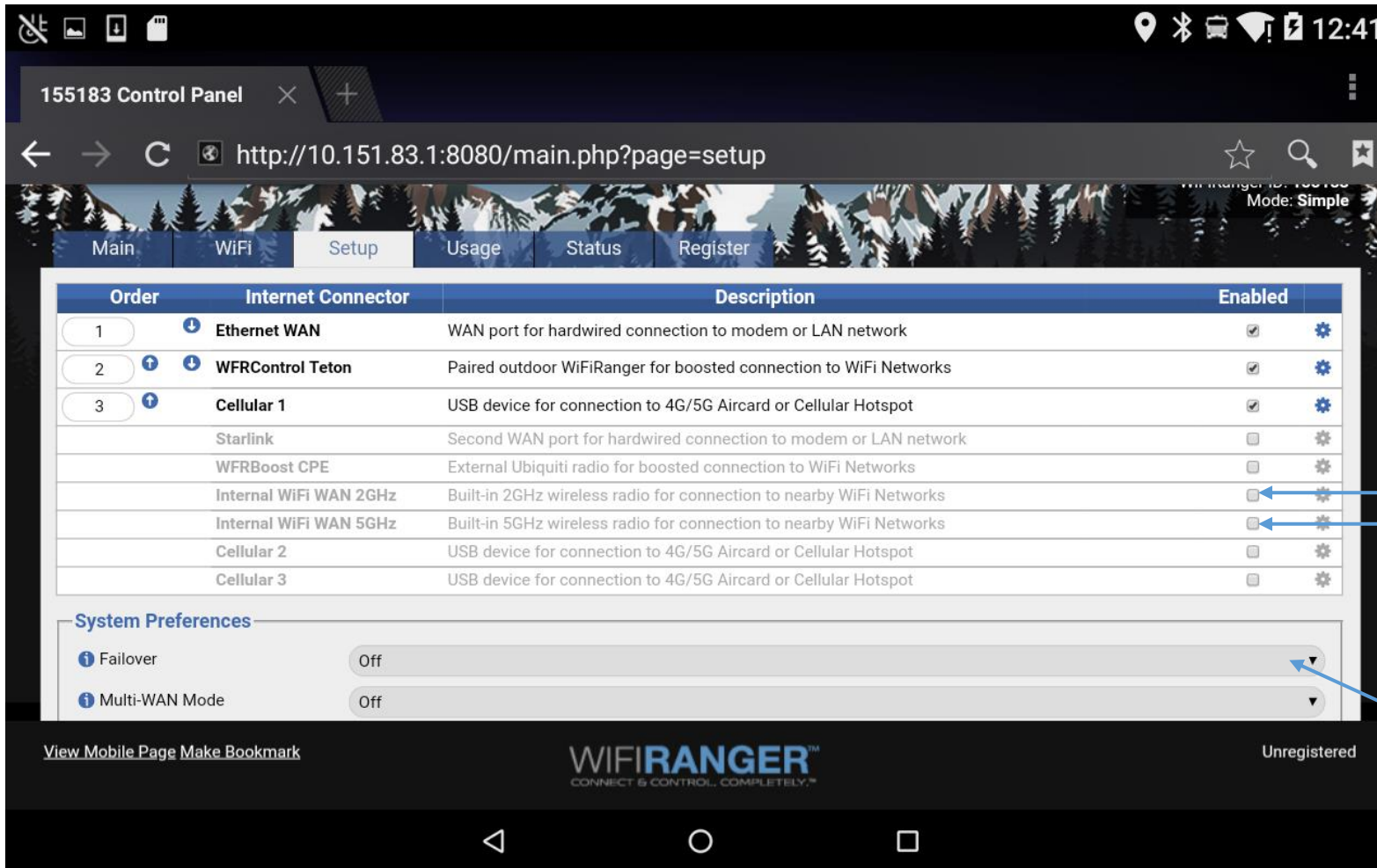


1. Router 12v Connections

- Above the refrigerator you will find the WiFi router.
 - The Orange/White 12v wire previously discussed loops at the router and terminates directly above it at the WiFi Antenna
 - Orange to Red and Black to White
 - You may be able to access the 12v connections to the WiFi Antenna from here, however if you can't, you will need to go on the roof and remove the antenna to access those connections
-
- Based on the fact that you have control of your trailer, meaning the Garmin WDU and WiFi Router have power, that rules out the Communication Switch, the inline fuse, and all associated wiring to those components.
 - My assumption is the problem will be in the wiring for the WiFi Antenna, either where the 12v Orange/White loops at the WiFi router or where it terminates at the WiFi Antenna
 - Check the connections at the WiFi router first
 - Check to see if you can access the connections for the WiFi Antenna from that same spot BEFORE you remove the WiFi Antenna to gain access to those connections

1





Enable both of these options then scroll down to the bottom of the page and click SAVE CHANGES

Ensure Failover is turned OFF

155183 Control Panel

Webpage not available

Webpage not available

← → ↻ http://10.151.83.1:8080/main.php?page=wifi

Main WiFi Setup Usage Status Register

WiFi Network Passwords

Network Name	Password (Key)	Type	Delete
EMPTY			
		WPA(1/2/3) Personal	+ Add

WiFi Tags

WiFi Connectors	Type	Delete
1 venus-HQ2211Y4GX4-657 (F2:B0:40:D5:12:82)	WFRControl	Prefer
	All WiFi Connectors	Prefer
+ Add		

Private Wireless Network

☒ Broadcast ☒ 2GHz ☒ 5GHz

☒ Same Name (SSID) ☐ On ☐ Off

☒ Name (SSID)

☒ Password (WPA Key)

Guest Wireless Network

☐ Broadcast ☐ 2GHz ☐ 5GHz

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Ensure both the 2GHz and 5GHz boxes are checked then scroll down to the bottom of the page and click SAVE CHANGES

155183 Control Panel

http://10.151.83.1:8080/main.php?page=ranger

Converge Spruce Wifi

Cloud Disconnected
Firmware: b13, 7.1.0b13
Uptime: 21 days
WiFi Ranger ID: 155183
Mode: Simple

Main WiFi Setup Usage Status Register

WiFi
WFRControl Idle
2.4 GHz Teton
Scan

Internet
OFFLINE
Auto Connect

Cellular
Not Plugged In
Please (re)insert device
Cellular 1 Spruce

7 WiFi Networks		Signal	Type	Tag
Connect	ESP_CB5711	n	OPEN	
Connect	venus-HQ2211Y4GX4-657	g	WPA	
Connect	FR Internal	n	WPA	
Connect	FR Device DMZ Wifi	n	WPA	

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You should now be able to click on this drop down and select the 5 GHz Spruce option. From what I was told, the 5 GHz option is the one that is best to use for the Starlink