


# User Guide

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## Mobile GoPOD Secure Fueling System




10 Controls Drive, Shelton CT 06484  
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[www.oemdd.com](http://www.oemdd.com)

 **WARNING:** It is the purchaser's responsibility to determine the suitability of any OEM Controls, Inc. product for an intended application and to ensure that it is installed and guarded in accordance with all federal, state, local and private safety and health regulations, codes and standards.

We can advise you of the various features that are available, but we believe that our customer's engineering departments should be qualified experts in their own product field. If the product will be used in a safety critical application, the customer must undertake appropriate testing and evaluation to prevent injury to the ultimate user.

Should you have any questions or if any of the above warning is unclear, please contact OEM Controls, Inc. at 10 Controls Drive, Shelton, CT, 06484, FAX: 203.929.3867, TEL: 203.929.8431

 **WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.



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## Document Revision History

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Disclaimer and Limitation of Liability

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About this guide:

This guide provides basic instruction on the installation and use of the Mobile GoPOD Secure Fueling System.

# Overview of the Mobile GoPOD Secure Fueling System

This document will serve the user of this equipment as a Manual of Operations and basic troubleshooting guide, thereby allowing for the proper installation and use of the of Mobile GoPOD Secure Fueling System.

The Mobile GoPOD system contains a group of stand- alone modules built by OEM Data Delivery, Inc. that have been combined and engineered to provide the user with complete system of mobile product delivery and information gathering.

In addition to controlled product dispensing, the system records information on location, equipment being maintained, date/time, type of work and the specific task or reason for service.

The heart of system is the STI GoPOD CPU module. It operates wireless and hands-free to collect information passively, via drive-by, within a range of 200 ft. line of site, and transmits data via secure radio link. It is then formatted, downloaded into a web report each night, and made available on a password-protected website.

The system will track disposition of equipment and indirect costs and can be configured for data management to generate e-mail alerts for specific events or benchmarks i.e. maintenance is due, warranty is about to expire.

There is a Secure Fuel software option, visible to the operator at the ST-542 (HMI) (*Human Machine Interface*) display. This Password required option is designed for real-time tracking of dispensed product and will prevent theft or unauthorized use of the system.

The By-Pass Key Controller module, in this system, is a hardwired option that serves as a failsafe measure in the case of a computer failure, or system miscue by switching to the system to battery power directly and allowing the operator to complete the required transaction.

The system was designed to allow for user flexibility at the installation process.

Modules that make up the system can be placed in the most convenient location, for the user, due to the flexible interconnecting wiring scheme and design philosophy.

The system will allow for additional information gathering pieces or dispensing modules without compromising the basic design.

This document provides coverage for the following components: ST-542 (HMI), STI GoPOD Assembly, ST-511 Radio Antenna, ST-560 GPS Antenna, and the Automated Ball Valve.



Mobile GoPOD Secure Fueling System Assembly			
PIN #	Description	OEM Part Number	Qty
1	HUMAN MACHINE INTERFACE (HMI) ST-542	ST-542-103	1
2	GPS ANTENNA WITH CABLE ASSEMBLY	ST-560-GPS	1
3	GPRS CELLULAR ANNTENA	CBA-3KT	1
4	RADIO ANNTENA	ST-511	1
5	GoPOD CPU ASSEMBLY	STI	1
6	SECURE BY-PASS CONTROLLER	STOB-100	1
7	AUTOMATED BALL VALVE & ACTUATOR	DE305H	1

Figure 1.- Mobile GoPOD Secure Fueling Modules

## The ST-542 Human Machine Interface (HMI)



- Display Type QVGA TFT LCD
- Colors 18 bits (256 k)
- Resolution 320 x 240
- Size (diagonal) 5.87” (4:3)
- View Angle (H°, V°) H: 140°, V: 120°
- Brightness 320 nits by LED backlight
- Touchscreen 4-wire resistive
- Contrast Ratio 500

The ST-542-200 is a rugged LCD touch screen display that allows the operator to directly interface, in real time with the operating Serial Pump Tracker GoPOD CPU, through an OEM Data Delivery, Inc. design feature called the *Human Machine Interface* (HMI).

This four (4) line- twenty (20) character LCD display, built by OEM Data Delivery, Inc., is configured by the software and hardware links, to allow the operator to directly input to and view all of the processes’ for the selected pump, as they are happening, in real time.

This rugged LCD display must be hardwired to its GoPOD CPU. It should be mounted as recommended, no more than 35 feet from the STI-GoPOD CPU with the harness supplied by OEM Data Delivery, Inc., at a height convenient for the operator. *See the Block Diagram at Figure (2) for installation placement recommendations.*

Figure 2.- ST-542(HMI)

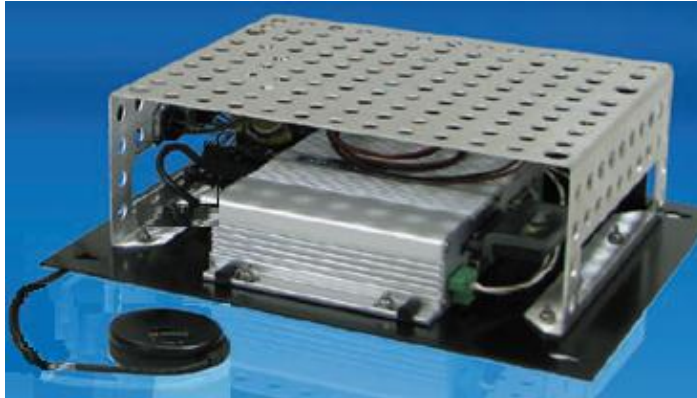
## The Mobile STI GoPOD Assembly

This STI-GoPOD unit is the control center of the Serial Pump Tracker System. The GoPOD assembly houses a ruggedized CPU configured with 512 MB Memory, 1 GB CF, Windows XP Embedded for ease of use. The fan-less housing was designed to be installed in the cab of a lube or fuel truck, low boy truck, mechanics’ truck, or supervisor’s vehicle. It is easily installed under the dash in the cab or on the passenger side firewall or behind any seat. STI GoPOD is equipped with a GPS antenna, and a radio antenna. Information is collected passively, and “hands-free”. GPS coordinates are automatically stamped into the record as hourly data is collected. Information is collected via drive-by, within a range of 300 ft. line of site, and transmitted via that secure radio link.

From its external modem data is then downloaded into a web report each night, via cellular WIFI connectivity and made available on a password-protected website. Information easily integrates with any major back office management system and

with dedicated ports on the CPU, for communication, there is never an interruption of equipment operation.

At the GoPOD core is an Intel Celeron microprocessor that is equipped with (2x) RS-232/422/485 ports by BIOS selectable, and (4x) USB ports. The 600MHz CPU allows for real time updates when the operator is dispensing or capturing product.



### Technical Specifications

#### Environment

- **Temperature:** -40 to +70°C operating

#### Weather Resistance

- Sealed and tested for dust and water resistance to IP-65 or greater

#### GoPOD

- **Power Consumption:** Typical wattage when operating 13.5W
- **Input Voltage:** DC 9V ~ 35V

#### Data Format

- Comma-Separated Value (CSV), Extensible Markup Language (XML), Open Database Connectivity (ODBC), and others.

#### Connectivity

- Cellular
- WiFi

Figure 3.- STI GoPOD Assembly

## Secure Fuel Bypass Controller STOB-100

This key operated electro-mechanical controller option allows the user a second degree of security, when wired between the GoPOD CPU and the Automated Ball Valve. (See Figure 7.- Installation Guidelines)

The Secure Fuel Bypass Controller sits in a passive state until the key switch is activated. At that point power is applied directly to the Automated Ball Valve, in this system, and the operator is able to complete the delivery manually.



The controller serves as a failsafe measure in the case of a computer failure, or system miscue by switching to the battery power directly and allowing the operator to complete the required transaction.

It should not be used as a convenient method of product delivery, from battery to pump, without computer control. This override system will not record the transaction; it only serves to complete the delivery in a timely manner.

It allows for convenient testing of the system, when time allows and without the GoPOD CPU, without the stress of delivery schedules.



## Automated Ball Valve

The Automated Ball Valve in the Service Tracker Pump System operates as the computer driven, electronic controller between the product pump and the GoPOD CPU. It operates as a secure fueling station when used in conjunction with the Secure Fuel Bypass Controller. As configured in this system it operates with (+) 12VDC input voltage.



### Modulating Controls

Accepts 0 - 5 VDC , or 0 - 12 VDC control signal to position the valve at various degrees of open/close.

### Fail-Safe Backup

Battery backup system that allows normal operation of actuator with 120 Volt AC but converts battery DC to AC upon incoming AC power failure.

### Spring-Return Fail-Safe

Fail-safe spring back-up system within the electric actuator takes over upon loss of power.

This actuator can be mounted in any direction without consequence, however, determine that the actuator, open or closed, matches the position of the equipment to which it is mounted. Use the manual override to change the position, if necessary.

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**Note:** Wiring power to terminals 1 & 2 will cause the camshaft to rotate counter - clockwise. Rotating counter-clockwise opens the valve.  
Wiring power to terminals 1 & 3 will cause the camshaft to rotate clockwise.  
Rotating clockwise closes the valve.

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1. Install the ball valve and actuator to a valve bracket or damper, ensuring that the base of the actuator is flush with the top plate.
2. Insert bolts but do not tighten.
3. Use the manual override to move the stem of the valve or damper slightly to correct for side thrust or misalignment.
4. Manually place the valve to either full travel positions and tighten the bolts using a cross pattern scheme and equally draw the bolts down to finish.

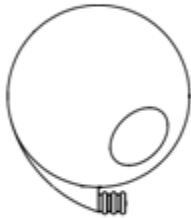
*Figure 4.- Automated Ball Valve*

## The Mobile GoPOD Secure Fueling Antennas



### Radio Antenna - 2.4/5 GHz dual band ST-511

Specifications: Access Bandwidth	
Center Frequency	1575.42+/- 3MHz
VSWR: 1.5	1
Bandwidth	+/- 5MHz
Impedance:	50 ohms
Polarization:	RHCP
LNA gain W/O cable	28+/-2dB
Noise	1.5dB
DC Voltage	2.2 to 5V
DC Current	5-15mA
Max Power-W	100



### GPS Antenna ST-560

Specifications: Access Position		
Model	CA-P2005	
Frequency Range-MHz	2400~2483	5150~5850
Gain-dB <sub>i</sub>	12	15
Vertical Beam width	48°	20°
Horizontal Beam width	45°	20°
VSWR	≤1.5	
Polarization	Vertical	
Nominal Impedance-Ω	50	
F/B Ratio-dB	≥20	
Max Power-W	100	



### Raven X External Modem Internet Antenna CBA-3KT

Specifications: Access Internet	
EDGE	384Kbps downlink 177Kbps uplink
GPRS/GSM	115.2 Kbps downlink 57.6Kbps uplink
32bits	Windows 2000 sp4, XP sp2, Vista, Win7
Model MBD-100EU	Portable high speed EDGE/GPRS/GSM Wireless modem
USB	2.0 interface

Figure 5.- The Mobile GoPOD Secure Fueling Antennas

## Mobile GoPOD Complimentary Equipment



**1. ST-550 Radio Service Tracker:** In the operation mode, an ST-550 mounted on the dash board or on the top of a vehicle, has been logging in CMH (*Cumulative Machine Hours*), and compiling maintenance service times on the vehicle. Each maintenance procedure is assigned a Service Tracker number (up to seven different procedures can be tracked). The maintenance issues are displayed as service alerts. Each service alert has a designated identifier number (one through seven) that display on the “Power Box” of the ST-550. The number indicates that a particular maintenance procedure should be completed. When the service alert is satisfied the counter is reset with any supporting PDA (*Personal Data Assistant*). Retrieving the ST-550 data, such as the profile, service alerts, work/ idle/ run/ count/duration logs is accomplished with a supporting PDA.

**2. ST-900 Service Tracker:** is designed with GPS and cellular communications. It tracks equipment activity at utility construction sites and during service calls, so that PTO (Power Take-Off) credits can be obtained quickly for fuel used at the work site. The unit generates a range of customized data logs, including machine hours, location and idling vs. work. It also generates dump-load logs, seat belt logs, travel logs. It fully integrates with a fuel management system, and can be used for allocating equipment between jobsites and for job estimating. It is designed to communicate from remote areas to a drive by, line of sight cellular device or by using the OEM Data Delivery manufactured mobile CPU called GoPOD.

**3. ST-570 Radio Frequency Identification Device (RFID)** is mounted to a specific piece of equipment and is profiled with an equipment serial number that identifies that equipment piece. Transmitting data is accomplished via radio to a supporting PDA, or by using the OEM Data Delivery manufactured mobile CPU called GoPOD. It only requires the operator push the red transmit button.

**4. Radio Pump Tracker:** Is designed to work in conjunction with a supporting pulse flow-meter to tally fuel or consumables. It is profiled to identify and display the equipment piece to which it is mounted- with its location, specific equipment serial number and the amount of consumable dispensed to it. After the transaction is complete, data is retrieved and stored at the OEM Data Delivery mobile CPU called GoPOD , or to a hand-held supporting PDA device that captures equipment hours, mileage and gallons dispensed.

# Installation Guidelines

## Mobile GoPOD Secure Fueling System

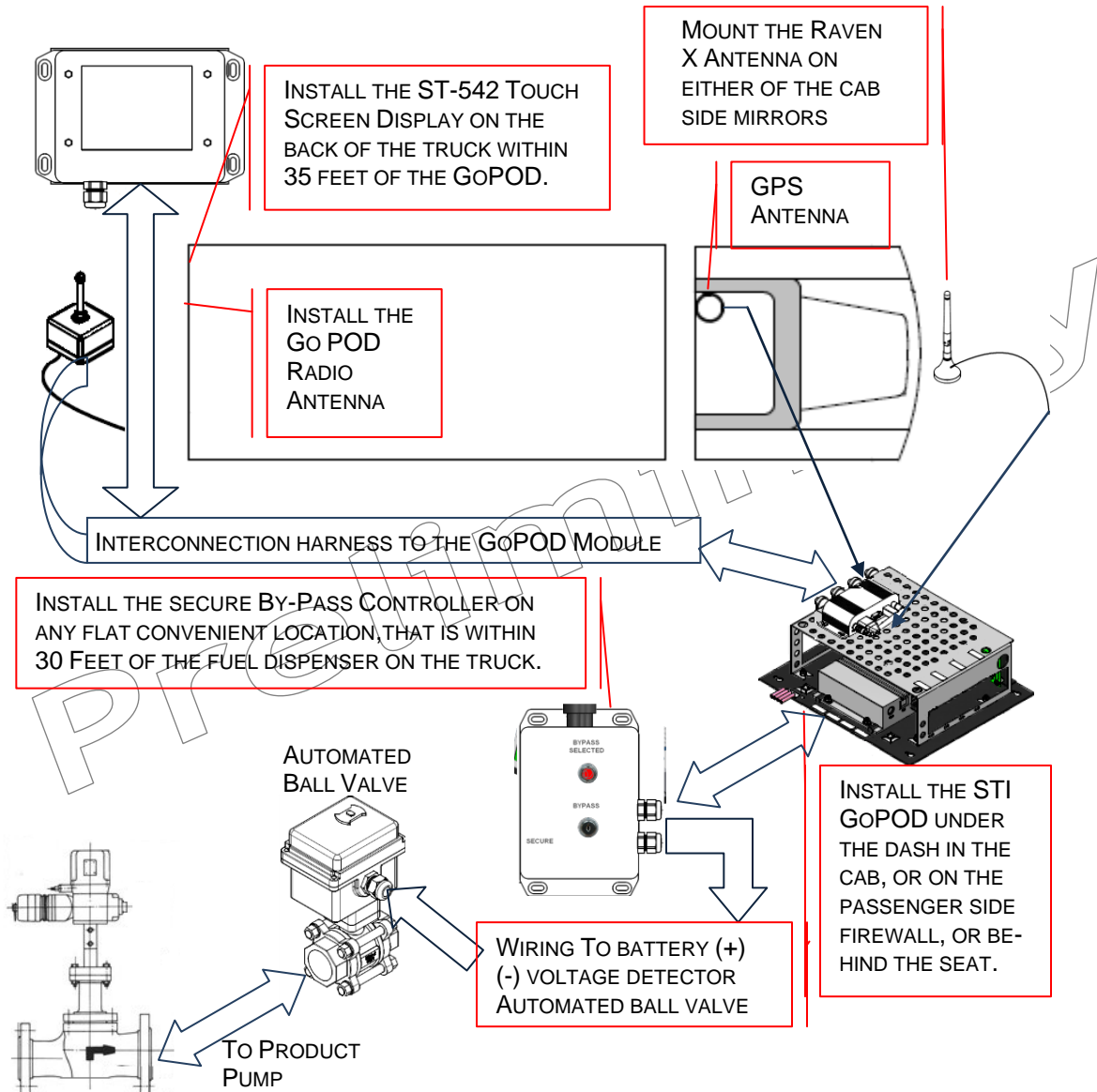


Figure 6.- Installation Guidelines

# Mobile GoPOD System Wiring Configuration

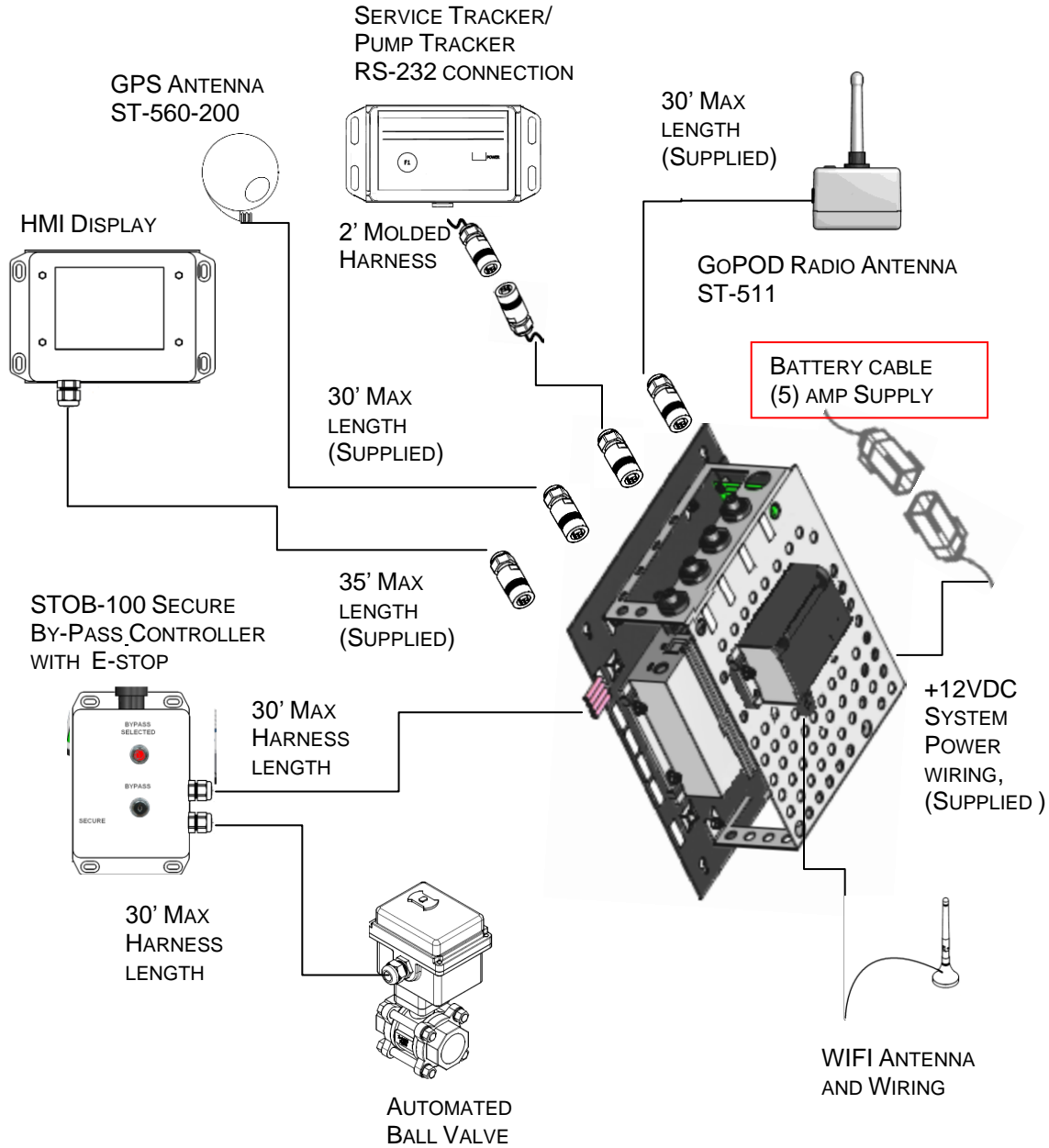


Figure 7.- Mobile GoPOD System Harness Installation

## The GoPOD Electrical Connections

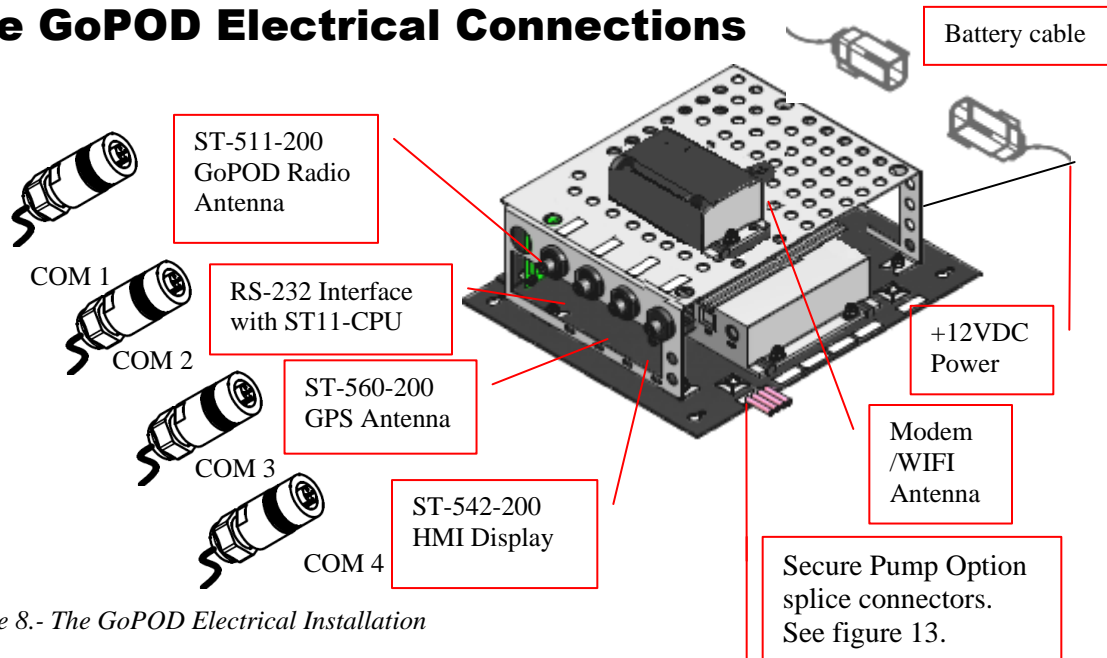
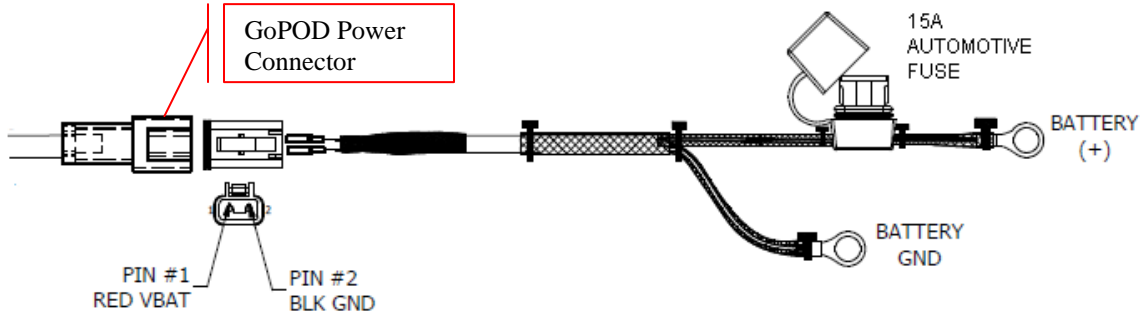


Figure 8.- The GoPOD Electrical Installation

<b>ST-511-200</b>	<b>SIGNAL NAME -RADIO ANTENNA</b>	<b>COM1 AT GoPOD</b>
RED	+12VDC	1
BLUE	TO RX1	2
WHITE	FROM TXD	3
BLACK	-12VDC	4
<b>STI CPU</b>	<b>SIGNAL NAME –RS-232 WITH I/O</b>	<b>COM 2 AT GoPOD</b>
RED	+12VDC	1
J2-33	RS 232 TXO	2
J2-22	RS 232 RXO	3
BLACK	-12VDC	4
<b>ST-560-200</b>	<b>SIGNAL NAME – GPS ANTENNA</b>	<b>COM3 AT GoPOD</b>
BROWN	+12VDC	1
BLUE	TO GPS RX1	2
WHITE	FROM GPS TXD	3
BLACK	-12VDC	4
<b>ST-542Q</b>	<b>HMI DISPLAY</b>	<b>COM4 AT GoPOD</b>
BROWN	+12VDC	1
BLUE	RS232 TXO	2
WHITE	RS232 RXO	3
BLACK	-12VDC	4

## The Battery Cable for GoPOD



1. Connect the battery harness ring terminal “RED” wire to the battery positive 12VDC or 24VDC post.
2. Connect the battery harness ring terminal “BLACK” wire to the ground source on the battery.
3. Run the battery cable back to the GoPOD enclosure and connect it to the power connector installed on the perforated cover.
4. Put a 15 Amp Fuse in the fuse holder and close the cap. A (Green) LED should be visible on the GoPOD CPU



Figure 9.- Battery Cable Connection Instructions

## Power Supply Requirements

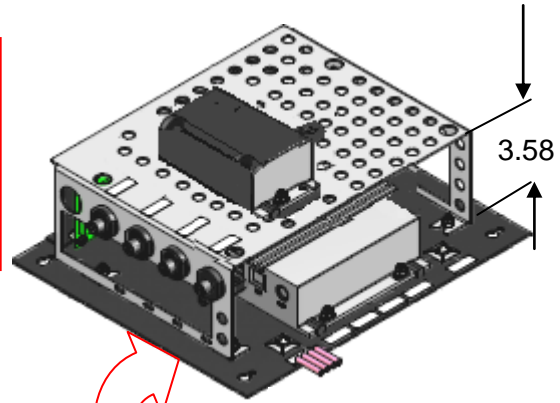
Typical Supply Voltage: 8-15 VDC

The OCI Modules can withstand the following conditions without any permanent damage;

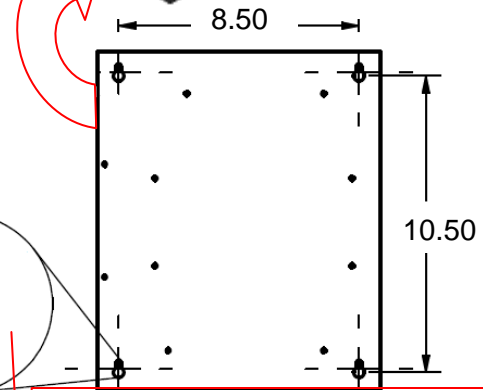
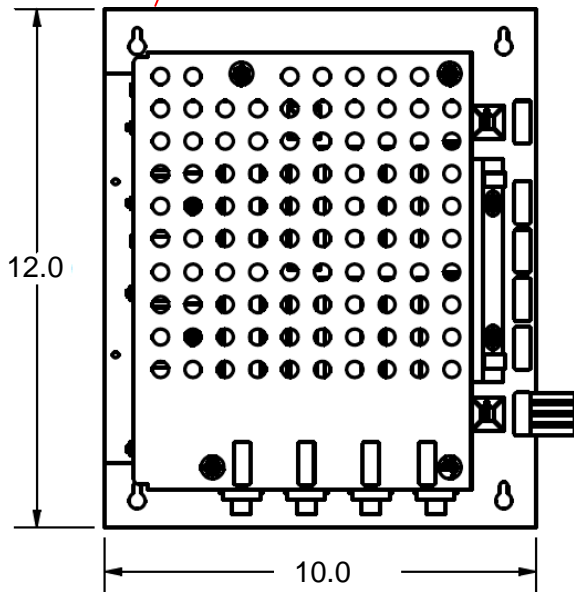
- **Reverse Polarity:** The V-Bat and Ground terminals can be INTERCHANGED
- **Short Circuit:** Any Input or Output from the system can be shorted to V-Bat or Ground.

## Installing the GoPOD CPU

**Note:** For proper ventilation of system heat, the GoPOD module must be mounted in a place where its perforated cover is open to air movement.  
 Recommend: Bulkhead mounting that will support at least 15 LBS.

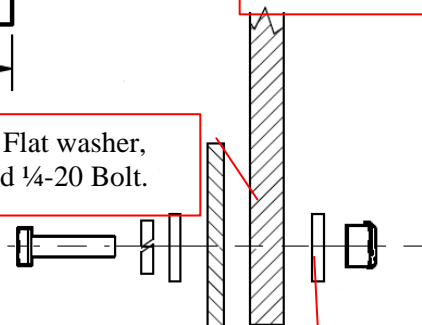


Mount with this End Up



Slide the Mounting Plate's keyholes onto the pre-existing mounting hardware and tighten bolts

Mounting Plate, Flat washer, Lock washer, and 1/4-20 Bolt.



Bulkhead, Flat washer and 1/4-20 Nut.

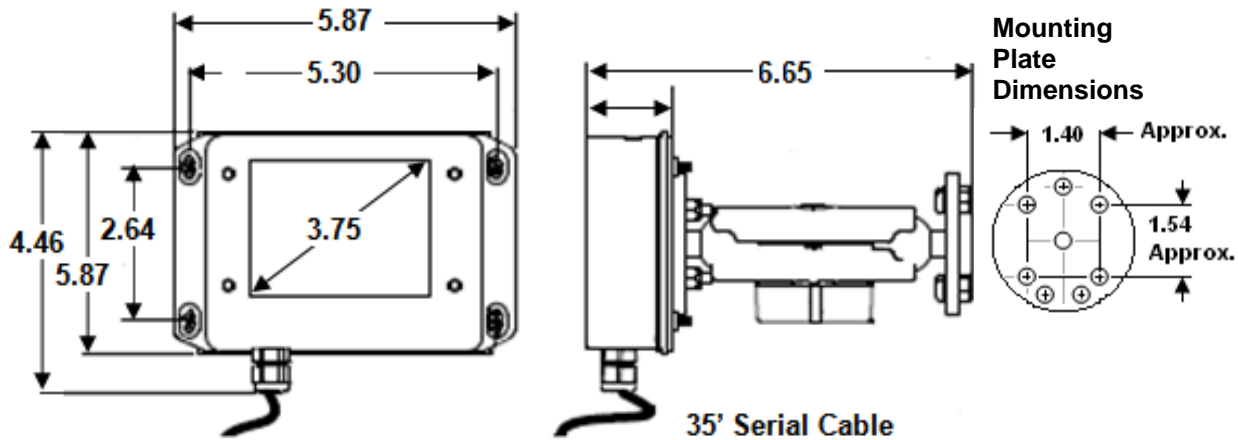
Secure the GoPOD module as shown using the mounting plate's pre-drilled keyholes as a template to position the mounting hardware properly.

Figure 10.- Installing the GoPOD Assembly



## ST-542 Outline Dimensions and Interface Connectors

Mount the ST-542 with four (4) 8-32 Pan Head or Round Head screws to a flat surface, usually on the back of a fuel truck with easy access for the equipment operator, using the mounting holes provided.



ALIGN MATING CONNECTOR KEYWAYS, BEFORE STARTING TO MATE CONNECTORS.

Figure 11.- ST-542 Outline and Dimensions

ST-542-200 MECHANICAL SPECIFICATIONS	
ITEM	DESCRIPTION
MATERIAL	ZINC IP67
MOUNTING HARDWARE	8-32 x LG (RECOMMENDED)
VIEWING ANGLE	H: 140°, V: 120°
DISPLAY TYPE	QVGA TFT LCD
ENVIRONMENTAL TEMPERATURE	-40°C +70°C
OPERATING VOLTAGE	8 VDC to 24 VDC

**Note:** All dimensions are in inches.

## Mounting the ST-542 (HMI)



### Before starting:

- Installing the ST-542 harness: Be aware of moving parts, provide adequate slack for wires around moving parts. Do not have unsecured or hanging wires.
- When mounting the ST-542 (HMI), beware of compartments that open; *Example:* Where a radiator assembly lifts up, as in a bob cat or other skid steers. Choosing a secure location will prevent damaging the ST-542.
- Before drilling check for obstructions and sensitive equipment (*e.g. radiators, hydraulic tanks, fuse boxes etc.*).



Record the **ST-542 SERIAL NUMBER**, located on the side of the HMI and the **MACHINE NUMBER** that you are installing the equipment on, for reference purposes. This information must be reported back to OEM Data Delivery for tracking purposes.

1. Turn off the engine and the master switch.
2. Visualize how to run the wires from the battery box and the engine to the GoPOD CPU.
3. Mount the ST-542 on a flat surface convenient to the operator's reach and visibility.
4. If the ST-542 is mounted outside the vehicle, drill a hole (3) three inches below the ST-542, and 1/2inch in diameter.
5. Pull the pigtail harness through this hole and route the cable to the GoPOD CPU. This will protect the harness from the elements and road hazards.
6. Plug the connector (J1) from the pigtail on the ST-542 and push the cable through the 1/2 inch drilled hole.



Recommended: Plug the drilled hole with a recognized caulking compound (such as RTV) after routing the ST-542 harness through the opening.

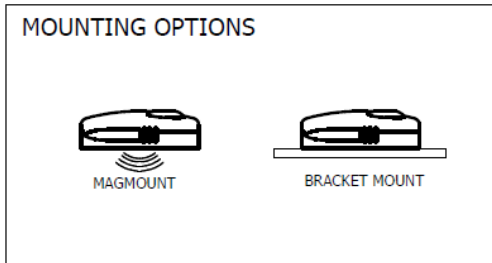
7. Secure the harness using cable-ties, leaving adequate slack in the wires.



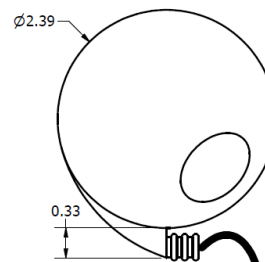
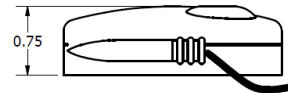
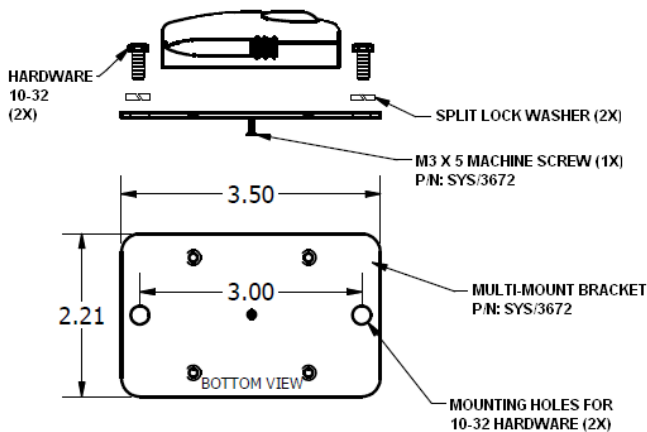
Mobile radios and high power AC equipment or transmission lines are potential sources of interference. If interference is a problem a shielded cable which is connected to chassis ground is advised. Contact OEM Controls for further assistance.

## Installing the GPS Antenna

Mount the Garmin GPS antenna on the roof, or highest flat non-operating surface of the equipment. Be sure the antenna is in a horizontal position, with an unobstructed view to the atmosphere.



**BRACKET MOUNT ASSEMBLY INSTRUCTIONS**  
 (CONSULT OEM FOR MULTI-MOUNT BRACKET KIT.)



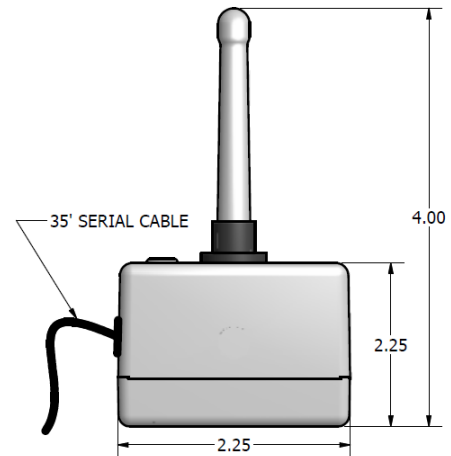
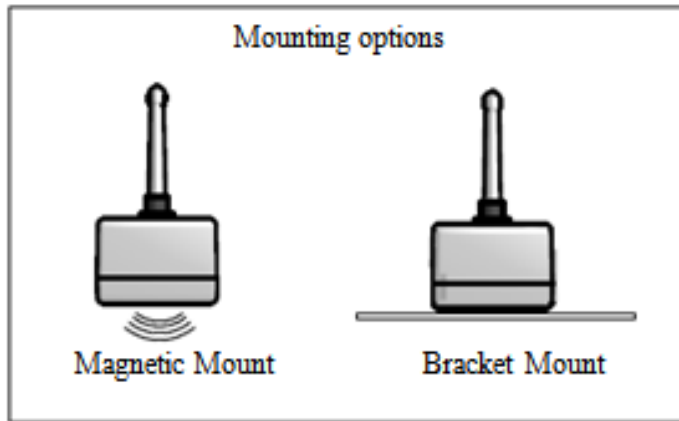
**NOTE: Align keyways of mating connectors before securing contacts**

### Electrical Wiring Termination for GPS Antenna

GPS ANTENNA 30' HARNESS	SIGNAL NAME	GoPOD (M1) P-19779
RED	+12VDC	COM4 -1
GREEN	TO GPS RX1	COM4 -2
WHITE	FROM GPS TXD	COM4 -3
BLACK	-12VDC	COM4 -4

Figure 12.- GPS Antenna Installation Instructions

## The Radio Antenna Installation Guidelines



For bracket mount assembly instructions contact OEM Controls, Inc. for our Multi-Mount Bracket kit

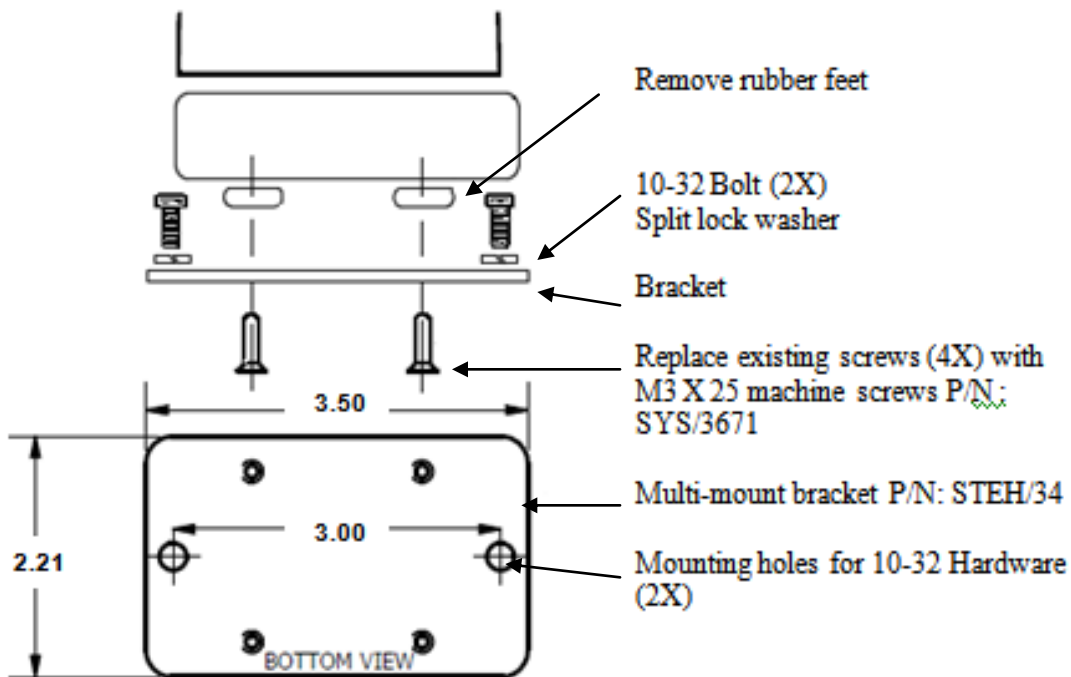
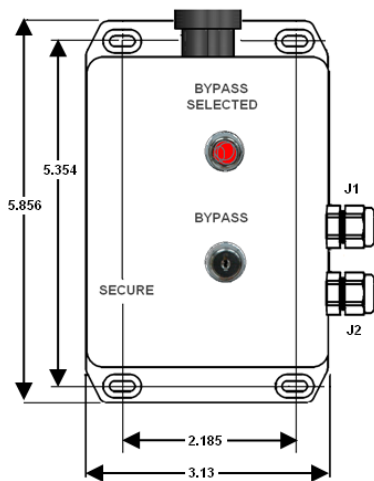


Figure 13.- GoPOD Radio Antenna ST-511 Installation Instructions

## Installing the Secure By-Pass Controller

Turn off the engine and the master switch.



1. Visualize how to run the wires from the battery box and the engine to the GoPOD CPU. (See figure 8.- for the suggested wiring scheme.)
2. Mount the Secure By-Pass Controller on a flat surface convenient to the operator's reach and visibility.
3. If the By-Pass Controller is mounted outside the vehicle, drill a hole (3) three inches below the Controller, and 15/16 inch in diameter.
4. Pull the pigtail harnesses through this hole and route the bottom cable (J2) to the GoPOD CPU assembly and the top (J1) to the Ball Valve Actuator. This will protect the harnesses from the elements and road hazards.
5. Recommended: Plug the drilled hole with a recognized caulking compound (such as RTV) after routing the (2) harnesses through the opening.
6. Secure each harness using cable ties, leaving adequate slack in the wires.

J1	SIGNAL NAME	BALL VALVE ACTUATOR
BLACK	HOT	1
WHITE	NEUTRAL	2
GROUND	GROUND	3
J2		GOPOD ASSEMBLY SPLICES
WHITE	+12VDC	1-WHITE WIRE SPLICE
GREEN	DIGITAL INPUT	2-GREEN WIRE SPLICE
RED	DIGITAL OUTPUT	3-RED WIRE SPLICE
BLACK	GROUND	4-BLACK WIRE SPLICE

Figure 14.- Secure Fueling Controller STOB-100 Installation Instructions

For technical problems with the installation, contact OEM Data Delivery, and our support team will respond with advice and support.

10 Controls Drive, Shelton CT 06484

203.929.8431 [www.oemdd.com](http://www.oemdd.com)

## Testing and Troubleshooting

### HMI (ST-582) Troubleshooting

Once the installation is complete, either stationary or mobile, and the GoPOD CPU has power, the ST-542 (HMI) screen should have the entry screen visible



with commands for the operator.

If the system is configured as a secure system then a log-on screen will be visible, if it is non-secure then a

Miscellaneous entry screen will be visible. If after the system is powered and the (HMI) remains blank, then a few possible causes need to be checked:

1. Check the HMI connection to the GoPOD assembly at COM 4, making sure the connector has been seated correctly and fastened securely. (See Figure 9. - for installation references)
2. Check for broken or crimped wires in the 35' interconnection harness to the GoPOD CPU.
3. Ensure that software as shipped is correct, check for version number and contact OEM Data Delivery, Inc. for support.
4. Using a voltmeter check for full voltage (+12VDC) to the input side of the CoPOD CPU. The HMI is powered from the GoPOD.

### Quick Check – For the STI GoPOD CPU

The GoPOD CPU is shown without the GoPOD shield assembly. The CPU side shown in the photo is visible and accessible through the opening in the GoPOD perforated cover. *To see how the CPU is mounted in the GoPOD perforated cover: See Figure 3.- in the Overview Section 1.*

If a wiring problem is suspected refer to the GoPOD Wiring Installation, Section (2) for wiring information on this unit. Refer to Figures (7) and (8).



### IF – THEN: Using ST1-CPU LEDs to Diagnose the System

- **IF** - A (Green) LED is visible, marked PWR (See photo above for location).  
**THEN** - Good voltage and ground connections are in place.
- **IF** – No (Green) LED .  
**THEN** – Look for incorrect wiring from power source or improper input voltage source. Voltage must be at least 3VDC at the CPU power.  
 Also check Power Switch for ON/OFF status (See photo above for location).
- **IF** - A flashing (Red) LED is visible marked HDD (See photo above for location).  
**THEN** – Hard disk and compact flash disc status is updating.
- **IF** - No (Red) LED Check for secure connections at COM 1, 2,3 and 4 on the GoPOD perforated cover mounting plate.

## Troubleshooting the Automated Ball Valve

PROBLEM	CAUSE/ CORRECTIVE ACTION
BALL VALVE STOPS WORKING	INTERRUPTED POWER. CHECK FOR BROKEN OR LOOSE WIRES. BLOWN FUSES OR TRIPPED BREAKER. CHECK FOR CORRECT VOLTAGE. ACTUATOR TO VALVE MISALIGNMENT. DAMAGED HOUSING OR MOUNTING HARDWARE. WORN, LOOSE OR SHIFTED PARTS DUE TO SHOCK, VIBRATION, ETC.
BALL VALVE IS OVERHEATING	LOW VOLTAGE; MEASURE LINE VOLTAGE TO INSURE THAT ACTUATOR IS RECEIVING FULL RATED VOLTAGE. AMBIENT TEMPERATURE IS TOO HIGH AND HEAT IS BEING CONDUCTED THROUGH MOUNTING HARDWARE. MOTOR STALL. CHECK FOR FOREIGN OBSTRUCTION/ INCREASED LOAD DUE TO LINE PRESSURE.
LOW TORQUE OUTPUT	LOW VOLTAGE OR CURRENT, OVERHEATING
INCORRECT OPERATION	INCORRECT DURATION CYCLE, CHECK GOPOD SOFTWARE DISPLAY TIME, INCORRECT CAM ADJUSTMENT.

## Using the Secure Fuel Controller to Troubleshoot

Use this controller with the key inserted and Bypass selected to check the system without computer control.

Using the key select will directly link the battery power to the Ball Valve Actuator. If the Valve opens then the GoPOD CPU or the wiring from it is the problem.



**⚠ WARNING:** To perform this test, remove any product from the system piping, and disconnect the ball valve from the product pump.

This feature will also allow the actuator to be set if the operation of the valve is incorrect without use of the GoPOD CPU.

This actuator can be mounted in any direction without consequence, however, determine that the actuator, open or closed, matches the position of the equipment to which it is mounted. Use the manual override to change the position, if necessary.



A CRESCENT WRENCH WILL BE NEEDED TO CHANGE THE FACTORY SETTING ON THE MANUAL OVERRIDE.

**Note:** Wiring power to terminals 1 & 2 will cause the camshaft to rotate counter-clockwise. Rotating counter-clockwise opens the valve.

Wiring power to terminals 1 & 3 will cause the camshaft to rotate clockwise. Rotating clockwise closes the valve.

Figure 15.- Troubleshooting the Secure Fuel Controller and Automated Ball Valve



## Fueling with the HMI Touch Screen

### Selecting or Entering the Equipment Number

If the equipment being serviced is not equipped with any of the complimentary Service Trackers that communicate on command to the GoPOD CPU, then servicing information may be entered manually via the ST-542 (HMI) display.

This unit (ST-542) operates as an adjunct to the GoPOD CPU and servicing information can be entered in the following manner.

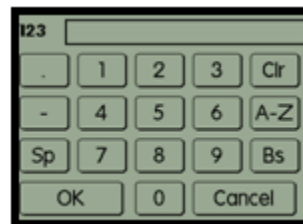
### Using a Secure System Without a Service Tracker

If the system is configured as a secure system, the user will need to enter a password to unlock it.

When power is applied to the HMI display, the secure Main Menu screen will launch.

**Step 1.** Tap **UNLOCK** to enter a password at the sign in screen.

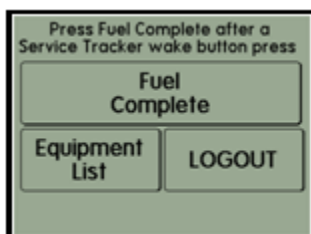
**Step 2.** Enter the assigned PIN number using the 1-2-3 screen and tap OK when complete.



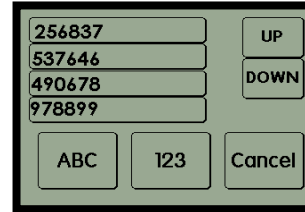
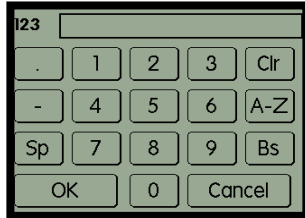
**Step 3.** Fuel the equipment.



Once the password is accepted the Fueling screen will launch with the Equipment List selection box.



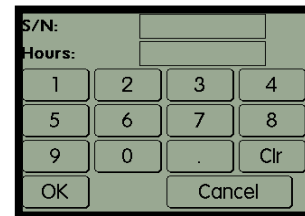
When the product is successfully dispensed, tap the Equipment List Box.



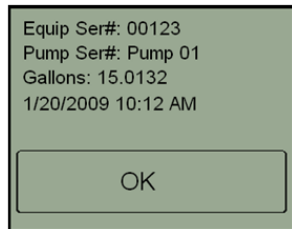
**Step 4.** Enter the Equipment Number using the 123 keypad on the display and tap OK, or if previously entered select the Equipment Number from the list by tapping on it.

The Equipment Number will be automatically entered into the S/N field.

**Step 5.** Enter the Cumulative Machine Hours (CMH) in the Hours field (optional) and tap OK.

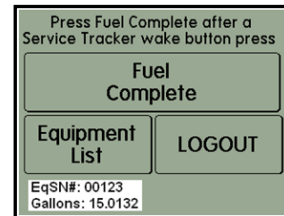


Equipment Number and servicing data will be displayed. This real time data will be requested by GoPOD and transferred via the GoPOD radio antenna RT-511, to the home base as a permanent record of this transaction.



**Step 6.** When the Summary screen launches tap OK

Tap **OK**



The final part to the transaction will display the Equip/SN and the amount of product pumped at the bottom of the screen. When transaction is complete, tap **LOGOUT**. If there is no input to the HMI screen within (5) minutes the system will timeout and return to the **UNLOCK** screen.

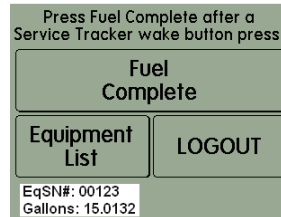
## Entering Data in a Secure System With a Service Tracker

Start with **Steps 1. and 2.** To unlock the GoPOD, Then fuel the equipment piece.



Press and hold the “WAKE” button on the Service Tracker until the **F** appears in the POWER window.

Tap “Fuel Complete” when the product is dispensed. The Equip/SN and gallons pumped will display at the bottom of the screen.



When the product is successfully dispensed the Equipment Number and servicing data will be displayed. This real time data will be requested by GoPOD and transferred via the GoPOD radio antenna RT-511, to Mobile mounted GoPOD. This data will be downloaded via the WIFI connectivity to the home base as a permanent record of this transaction. It is then formatted, downloaded into a web report each night. Information easily integrates with any major back office management system and with dedicated ports on the CPU, for communication, there is never an interruption of equipment operation.

The operator is now free to select a new Equipment Number.

Figure 16.- Using the HMI to Fuel

## Mobile GoPOD Secure Fueling System Block Diagram

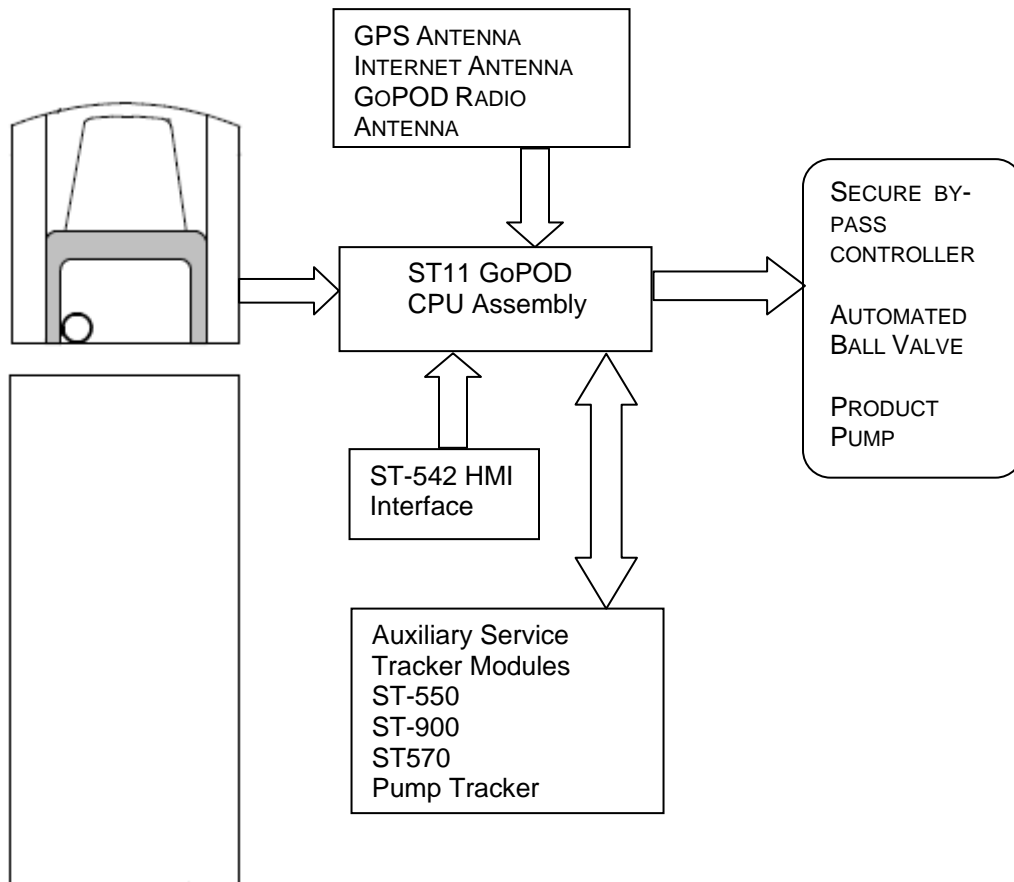


Figure 17.- Mobile GoPOD Secure Fueling System Block Diagram

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If you have any questions regarding this product, we will be happy to assist you.

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