FleetLocate by Spireon

# FL12™, 12HP/EQ™

## GPS Tracking Device

**KIT CONTENTS:**
· FL12/12HD Tracking Device (w/ internal antenna & integrated harness)
· Power Harness

**MOUNTING HARDWARE:**
• Plate Mounted Covert:
(1x) FL12 mounting plate (3-1177)
(2x) Serrated flange nuts
(4x) Countersunk screws
• Nose Mount
(2x) #10 x ¾" TEK self-drilling screws

**ADDITIONAL REQUIRED HARDWARE (NOT INCLUDED):**
• (3x) 16-22ga. ring terminals
• 6" zip-ties

**IMPORTANT NOTE:**
The switched power source should read 0v with the key in the off position and 11-14v in the on position. For EQ installations, a 5-wire relay (not included) must be installed

**CAUTION:**
Us the vehicle's factory service manual and a digital voltmeter to be sure that you've located the appropriate wires.

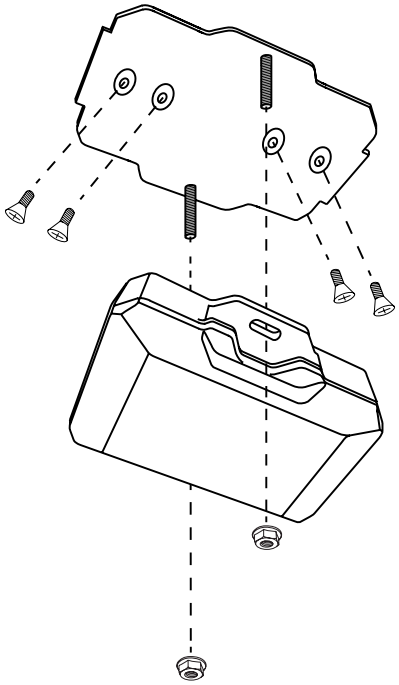
**REMEMBER:**
When properly installed there must be an unobstructed line of sight between the device's antenna and the sky. Any metallic objects that are positioned above the device could interfere with GPS reception.

| WIRE DESCRIPTION |
|---|
| DEVICE HARNESS: |
| Black – Power Harness (Black) |
| Red – Power Harness (Red) |
| Blue – Input 1 (-trigger) |
| Orange – Input 2 (-trigger) |
| POWER HARNESS: |
| Brown – J560 Pin #6 |
| Blue – J560 Pin #7 |
| White – J560 Pin #1 |

FleetLocate by Spireon

# FL12/12HP Installation

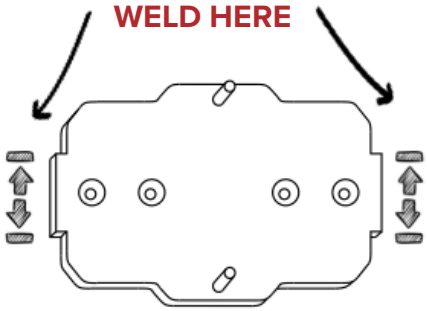
## Dry Van Mounting



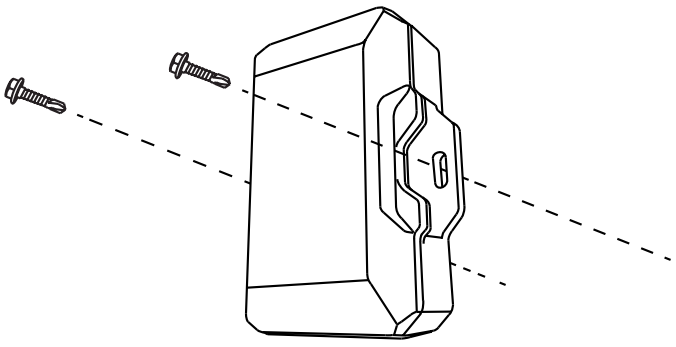
**MOUNT LOCATIONS:**
- Covert Mount: Inside a forward access hole in the trailer's 5th wheel coupler plate
- Nose Mount: On the forward facing bulkhead, directly above the J560

**PLATE MOUNT, COVERT(DRILLED & TAPPED):**
- Using the FL12 Mounting Plate as a template, mark four mounting holes with a pencile or marker
- Drill the mounting holes using a #29 drill bit
- Carefully tap each hole with an 8/32" tap on a t-handle
- Secure the plate to the chassis using the supplied countersunk screws
- Secure the FL12 to the FL12 Mounting Plate using the supplied serrated flange nuts

**PLATE MOUNT, COVERT(WELDED):**
- Weld the FL12 Mounting Plate into place
- Weld the full length of the weld tab
- **DO NOT** weld the entire plate




**NOSE MOUNT:**
- Place the FL12 on the forward facing bulkhead, harness-side down, directly above the J560 receptacle
- Secure the FL12 using two self-tapping screws



FleetLocate by Spireon

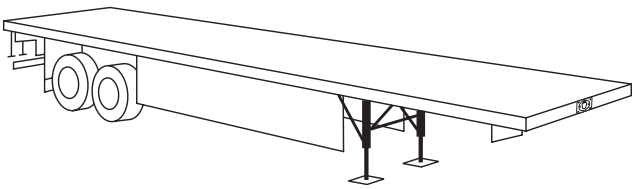
# FL12/12HP Installation

## Additional Trailer Type Mounting

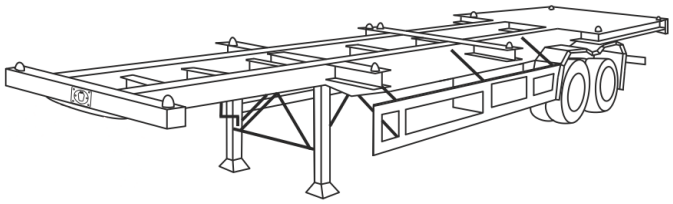
**MOUNT LOCATIONS:**
FLATBED: Inside a forward frame rail or under the trailer roof, with the harness side facing the J560
CHASSIS: Inside a forward frame rail with the harness side facing the J560, or under a gusset with the harness side facing the trailer harness
TANKER: For most tankers, the optimal mounting location for an FL12 will be behind the plate that the trailer's J560 receptacle is mounted on

**CAUTION:**
Never drill into or weld on a tanker. If your tanker is not equipped with a J560 plate that can be accessed from the rear, please contact Spireon technical support, toll-free, at: 877.819.0015 before proceeding.

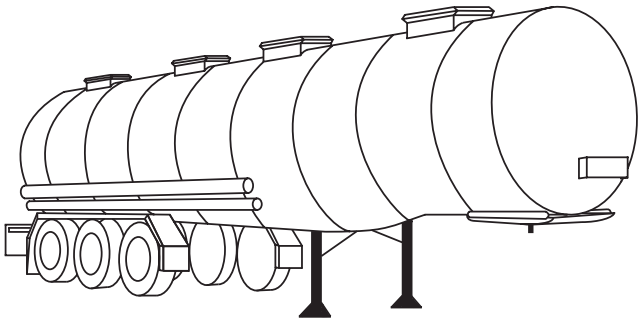
**FLATBED MOUNT:**
· Find a mounting location in a frame rail or under the trailer floor, with wire routing access that will allow the FL12's device harness to reach the J560
· Use either of the plate mounting methods mentioned on the previous page (welded, drilled & tapped) to secure the FL12 to the trailer
· Alternatively, two #10 x 1" wood screws can be used to mount the FL12 directly to the flatbed's wood floor



**CHASSIS MOUNT:**
· Find a mounting location under a gusset on the driver's side frame rail, with wire routing access that will allow the FL12's device harness to reach the J560
· Use either of the plate mounting methods mentioned on the previous page (weld, drilled & tapped) to secure the FL12 to the trailer
· Position the harness side of the FL12 toward the trailer harness on the driver's side frame rail



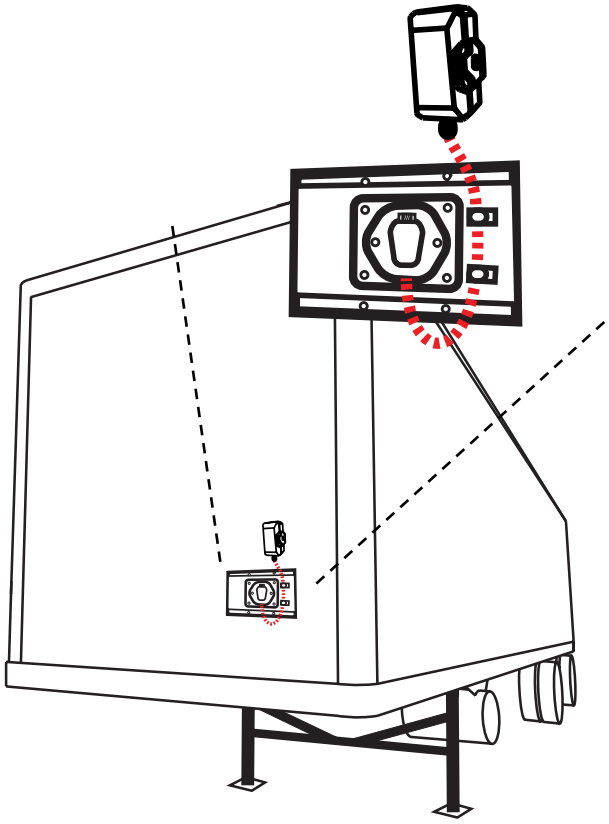
**TANKER MOUNT:**
· Using the FL12 itself as a template, mark two mounting holes on the J560 plate
· Drill both holes using a 5⁄16" drill bit
· Secure the FL12 to the J560 plate, with the harness side down, using two #10 screws and two serrated flange nuts



FleetLocate by Spireon

# FL12/12HP Installation

## Dry Van Device Harness Running

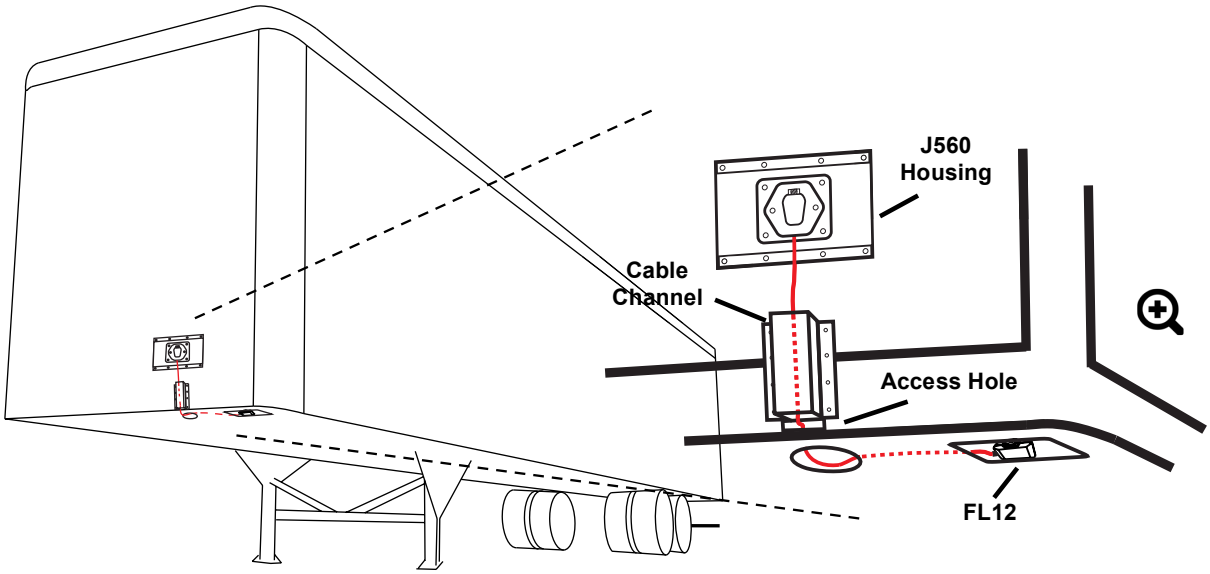


**PART 1 - NOSE MOUNT:**

- Remove the bolts that secure the J560 housing's cover and gently pull the cover away from the housing
- Choose the best of the following device harness routing options for your application:
  - a) Drill a hole in the trailer, close to the J560, and run to the back of the J560 housing
  - b) Run alongside the trailer harness through the J560 housing's stock cable grommet
- Install cable clamps to secure the harness to the trailer

**PART 1 - COVERT MOUNT:**

- Remove the bolts that secure the J560 housing's cover and gently pull the cover away from the housing
- Place the device harness between the coupler plate and the floor of the trailer through the front, driver-side access hole
- Feed the black device harness through the access hole directly under the J560
- Tie a fish line to the end of the device harness and pull it through the access hole under the cable channel below the J560
- Cut the zip-ties from the trailer harness, insert the device harness into the existing split loom and add new zip-ties



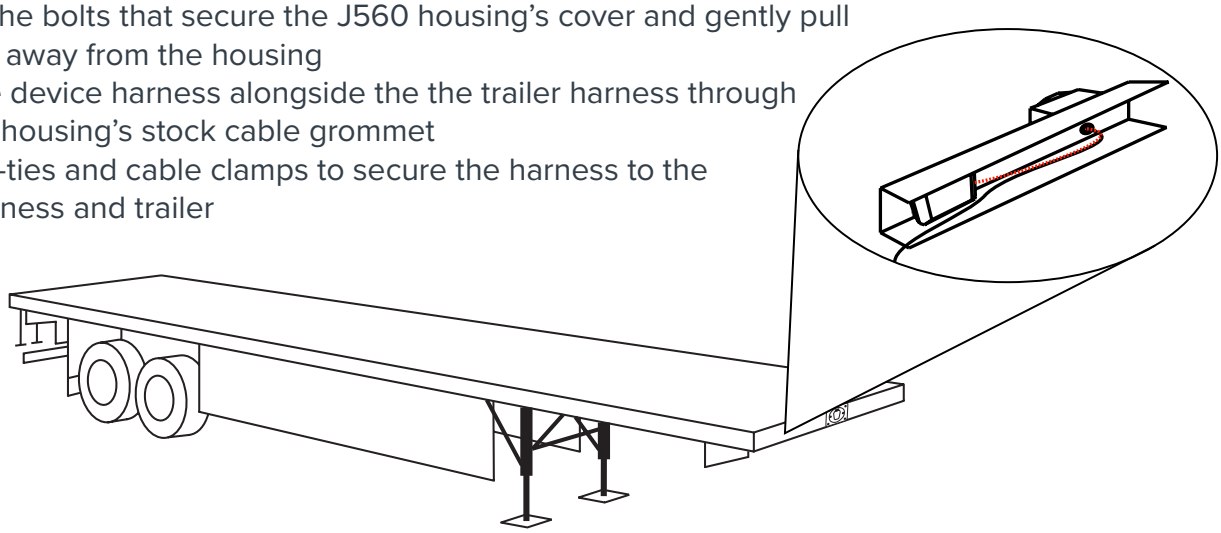
FleetLocate by Spireon

# FL12/12HP Installation

## Additional Trailer Types Device Harness Running

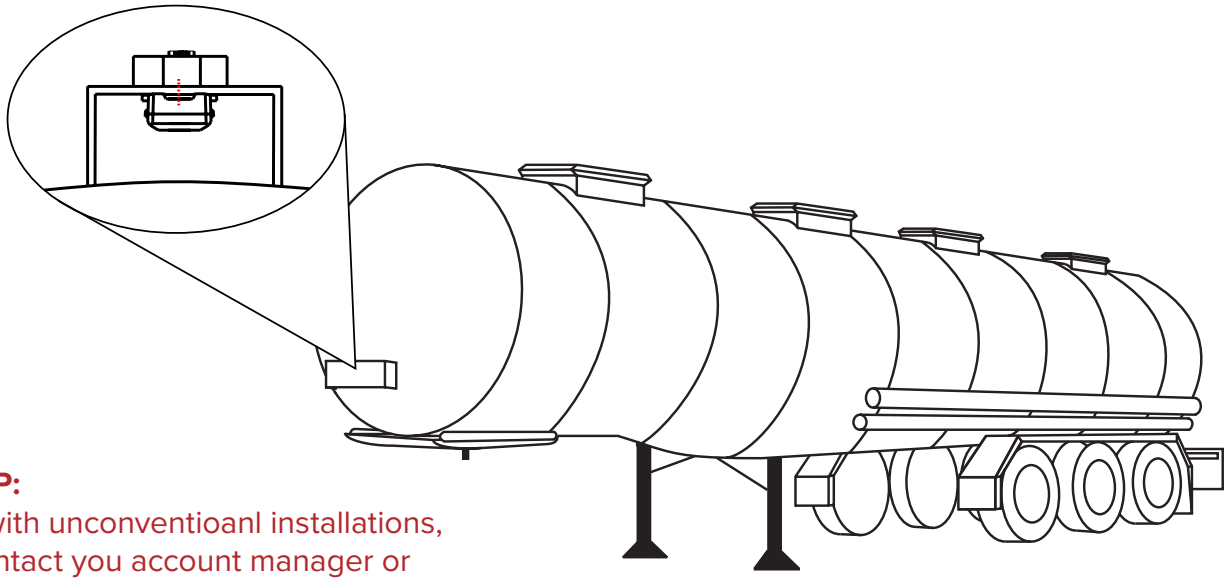
**PART 1 - FLATBED/CHASSIS:**

- Remove the bolts that secure the J560 housing's cover and gently pull the cover away from the housing
- Route the device harness alongside the the trailer harness through the J560 housing's stock cable grommet
- Install zip-ties and cable clamps to secure the harness to the trailer harness and trailer



**PART 1 - TANKER:**

- Remove the bolts that secure the J560 housing's cover and gently pull the cover away from the housing
- Feed the device harness throught the J560 housing's cover stock cable grommet



**QUICK TIP:**

For help with unconventioanl installations, please contact you account manager or call Spireon technical support, toll-free, at: 877.819.0015.

FleetLocate by Spireon

FL12/12HP Installation

# Additional Trailer Types Device Harness Running (cont.)

**PART 2**:

- Trim any excess length of wire in the device harness; do not just coil it in the housing
- Pull the red and black wires to the side
- Fold the remaining wires over the outside of the wire harness and wrap them with electrical tape making sure all ends are completely covered
- Connect the red and black wires from the device harness to the corresponding wires in the power harness

**CONNECTING TO POWER AND GROUND:**

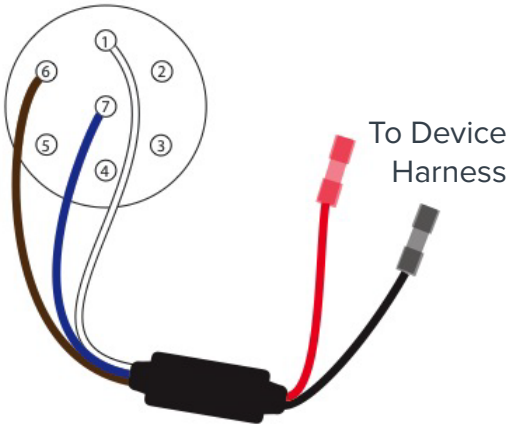
- Using the pre-attached butt connector, connect the red wire from the power harness to the red wire from the device harness
- With the other butt connector, connect the black wire from the power harness to the black wire from the device harness
- Strip the ends of the blue, brown and white wires in the power harness and crimp a ring terminal onto each of them
- Remove the nut on the terminal for pin #1 in the j560 (ground terminal) and connect the ring terminal from the power harness' white wire
- Remove the nut on the terminal for pin #6 in the j560 (tail/license plate lamps) and connect the ring terminal from the power harness' brown wire
- Remove the nut on the terminal for pin #7 in the j560 (AUX/ABS) and connect the ring terminal from the power harness' blue wire

**IMPORTANT NOTE:**
**J560 pins #6 and #7 must be live and both wires in the power harness must be connected.**

**CAUTION:**
**The j560 pinout in the power harness diagram is a front view. Be sure the terminals you connect to correspond to the correct pins.**

**REMEMBER:**
**When covert mounting an FL12, it is important that the antenna side of the device has a clear view of the ground, with no metallic obstructions in its line of sight.**

**POWER HARNESS DIAGRAM:**



FleetLocate by Spireon

# FL12/12HP Installation

## Equipment Tracking Installation (FL12EQ)

**MOUNTING THE FL12EQ:**

· When mounting an FL12EQ to an asset's exterior surface, be sure that the mounting location is secure and is free of any metallic obstructions from above

· If the device is installed on equipment with a cockpit, place the FL12 far forward, high up under the dashboard, above the steering column and as close to the windshield as possible

· Secure the FL12EQ to the asset by drilling mounting holes with a #5 drill bit and fastening with #10-32 nuts and bolts, or using self-tapping screws

· Secure the ignition input relay and socket to the asset using a self-tapping

**IMPORTANT NOTE:**

When installing an equipment tracker on assets with both drive and accessory engines, the white ignition sense wire in the device harness should be connected to the ignition circuit of the drive engine instead of the accessory engine

**WARNING:**

It is necessary to use a 5-wire relay to connect the positive-triggered ignition input to the negative triggered input on an FL12EQ

**RUNNING THE WIRE HARNESS:**

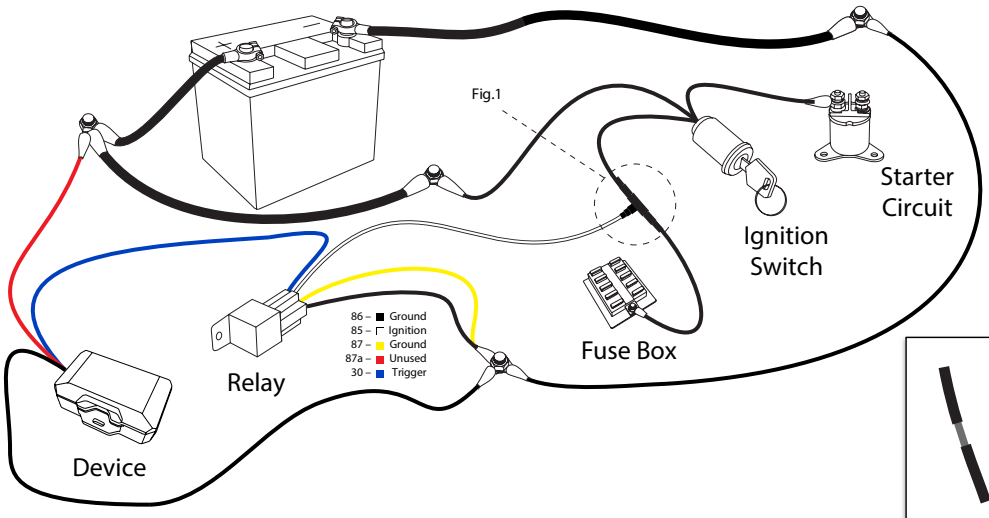
· Connect to power and ground using the instructions on the previous page

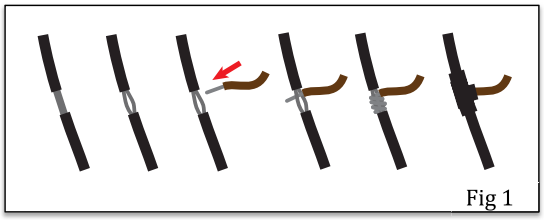
· Use the vehicle's service manual and a digital voltmeter to locate a switched 12v power source running from the ignition switch to the ignition circuit (12v w/ key 'on', 0v w/ key 'off')

· Using the "poke & wrap" method (figure 1), connect the white wire from the relay socket harness to the switched power source found in the preceding step

· Connect the yellow and black wires from the relay socket harness to ground

· Connect the blue signal wire from the relay socket harness to the blue wire in the device harness



FleetLocate by Spireon

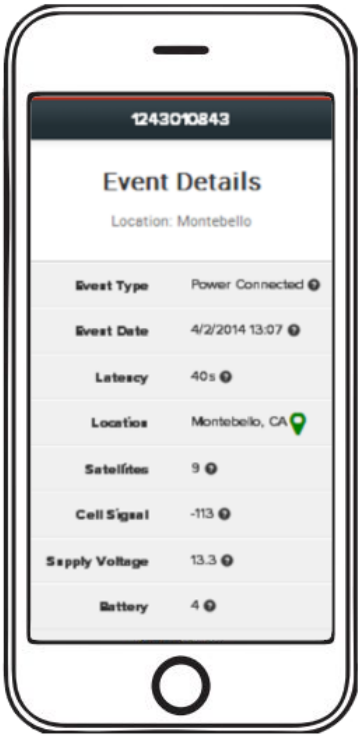
# FL12/12HP Installation

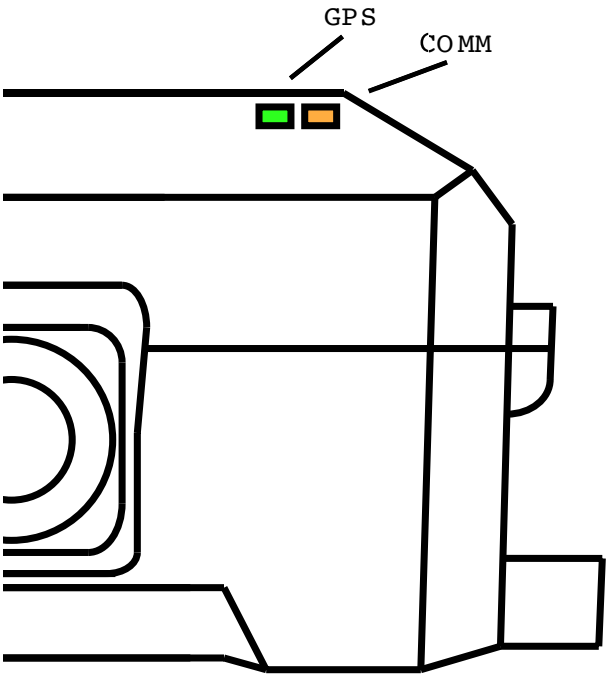
**LED VERIFICATION:**

- Connect an external 12v DC power source to the J560 and power on in order to wake the FL12 from it's shipping hibernation mode
- Once the FL12 is powered, the green (GPS) and amber (COM) LEDs will flash on and off while searching for signals
- When full signal strength is achieved – generally between two and five minutes – both LEDs should stop flashing and light up continuously

**SPIREON MOBILE INSTALLER PORTAL:**

- After verifying the LED patterns, log-on to the Spireon Mobile Installer Portal at install.spireon.com to validate the installation
- Enter your username and password
- Tap sign in
- Search for the FL12 using the last four digits of the serial number
- Select the FL12 from the list to open the events list
- Find the most recent 'power connected' event in the events list and tap it to open the event details page
- Confirm that the event type and event date are correct
- Confirm that the battery voltage is sufficient (~4v)
- Confirm the location is correct by tapping the map icon and viewing the FL12's position on the map




**Led Verification:**

| Condition | COMM LED |
|---|---|
| Modem Off | Off |
| Comm On - Searching | Slow Blinking |
| Network connected w/o acknowledgement by server | Alternates from Solid to Fast Blink every 1s |
| Network connected w/ data, acknowledge by server | Solid |

| Condition | GPS LED |
|---|---|
| GPS Off | Off |
| GPS Searching | Blinking |
| GPS Fix | Solid |