INSTALLATION GUIDE

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Welcome

It is very important that you **familiarize yourself with these installation instructions before attempting to install your device**. Basic knowledge of automotive electrical systems and functional components are needed in order to successfully install your FleetHawk device. If you are not a qualified automotive electrical technician or do not feel comfortable performing this installation, we strongly recommend that you work with a trusted automotive professional in your area to install FleetHawk according to your needs. The instructions provided are only a guide and do not necessarily apply to your particular vehicle.

Component List

- Installation Guide
- FleetHawk Pro device
- GPS/RF combination antenna, *OR*
  - GPS antenna, *AND*
  - Radio (RF) antenna
- Installation Kit:
  - (1) In Line Fuse Holder
  - (2) 3 amp Fuses
  - (4) Butt Connectors
  - (2) Female Quick Disconnects
  - (1) Blade Style Connectors
  - (2) Mini Fuse Taps
  - (2) ATO Blade Type Fuse Taps
  - (4) Nylon Cable Ties

- Extension Power cable (if purchased)
- One of the following (if purchased):
  - Power cable (from device to accessory or cigarette lighter power outlet in vehicle)
  - Power cable with 16 loose wires for connectivity to systems for control and monitoring (advanced installation).
  - Power cable with 16 loose wires and two DB9 (serial) connectors for control, monitoring and connectivity to other intelligent hardware (advanced installation).

Cautions

Only persons experienced with automotive electrical installations should attempt to hardwire power to the FleetHawk device. Improper installation of electrical components and any resulting damage may impact your vehicle warranty. **SkyTel will not be responsible or liable for any damage, injury or other loss suffered as a result of installations covered by these instructions**.

- Using pull ties, fastener screws, or Velcro, install or store the FleetHawk device inside the vehicle passenger cab or trunk. **Do not install or store the device inside the engine compartment.**
- Exposure to excessive moisture or extreme heat can damage the FleetHawk device. The optimum operating temperature range for the device is -10º to 160º F.
- All excess wiring should be neatly coiled and stored so that it is not crimped or rubbing against other parts of the vehicle or interfering with use of the vehicle.
- Any unused wires should be properly taped or capped so that they do not come into contact with one another or with other vehicular electrical sources.

Power Sources for the FleetHawk Device

1. **Constant Power:** Locate a suitable 12- or 24-volt constant power source on the vehicle's fuse block. Acceptable sources for power are: The vehicle's battery; the fuse block; or wiring under the dash of the vehicle
   - The installation hardware kit shipped with your device includes an in line fuse holder that must be used to feed power to the device. A 3-amp fuse is also included but **do not install the fuse until everything else has been installed, the cable is connected to the device, and you are ready to use the device**. Installing the fuse should be your last step in completing the installation.
   - If you choose to get power from the fuse block on your vehicle, you can use a fuse tap and a female quick disconnect. The fuse tap must be installed on the hot side of the fuse. To find the hot side of the fuse, remove the existing fuse from the fuse block and use a test light to probe the fuse socket. The side that lights the test probe is the hot side of the fuse where you should insert the fuse tap.
   - If you choose to get power directly from the battery or another wire on the vehicle be sure to use a suitable connector or splice method (such as soldering) to ensure a permanent connection. The device will not work without power.
2. **Ground:** Locate a suitable area to **ground the device** that is free from dirt and grease. Fasten the black wire from the cable to the ground source. Be sure the ground wire is securely fastened to the ground source.
3. **Key On**: Locate a "key on" power source using a test light. Connect the white wire marked with the number 1 (one) to the 'key on' power source.

In most vehicles, there will be a number of sources for Constant Power, Ground, and Key On located under the dash. It is up to the installer to choose the best sources for their particular vehicle.

It is impossible to cover wiring scenarios for all makes and models of vehicles in this installation guide. If you have questions please contact a trusted automotive electrical professional to assist in the installation.

Mounting the Antenna

Depending on the type of antenna provided, locate a suitable place on your vehicle for the antenna to be installed.

For optimal performance, both antennas should be mounted on the outside of the vehicle, on the windshield, roof, hood, or trunk. While you can mount the antennas elsewhere, performance may suffer as a result.

- For the GPS/RF combination antenna, see the instruction sheet provided by the antenna manufacturer.
- The GPS antenna will need an unobstructed sky view.
- The RF antenna can be mounted in the interior of the vehicle, if necessary.

Make sure there is sufficient cabling to reach from the point of the antenna mount back to the where you have installed the FleetHawk device. Conceal any excess cable under the carpet, trim, or dash where it will not be exposed to wear. Be careful not to crimp or kink the cable as this may damage the antenna or reduce its effectiveness.

FleetHawk Wiring Diagram

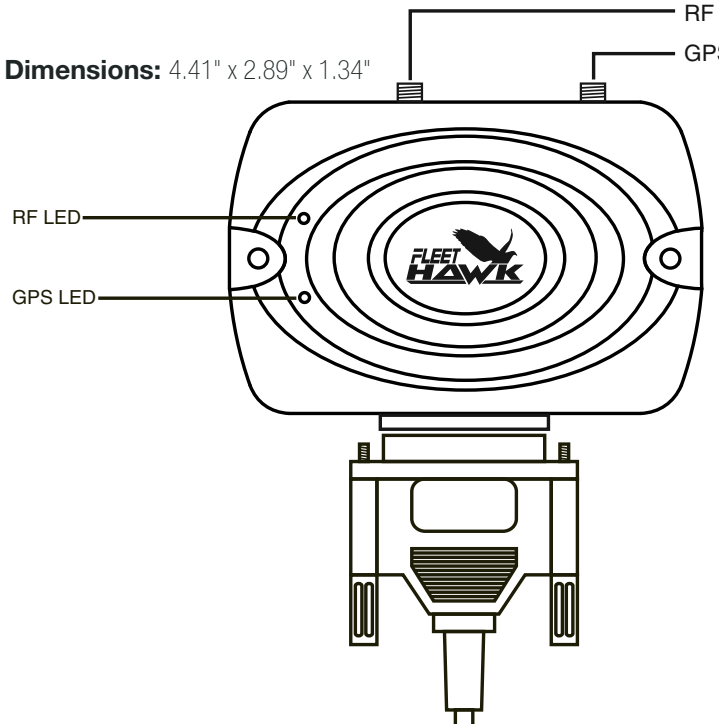
After installing the FleetHawk device into a vehicle, please fill out and provide the wiring information to your system administrator.

FleetHawk Device Serial Number _____

Vehicle Name/Description _____

Fleet Name/Description _____

Dimensions: 4.41" x 2.89" x 1.34"



LED States

RF LED

- **RED solid:** on connection (GPS LED should be red at the same time).
- **ORANGE solid:** Device is out of RF range.
- **GREEN solid:** Device is in RF range, ready for transmission.
- **GREEN blinking:** Device is in RF range, and is sending or receiving data.

GPS LED

- **RED solid:** on connection (RF LED should be red as the same time).
- **ORANGE blinking:** Device is searching for GPS satellite signal.
- **GREEN blinking:** Device is locked to 4 or more GPS satellite signals.

Wire Legend

Red - contant power supply to device
(requires a 12 to 24 volts DC maximum power source)

Black - ground wire

Digital Input Wires

Low voltage range 0 to 3.75 Volts
High voltage range 4.0 to Voltage in

Digital Input 1: **White #1** *Ignition*
High (name) *On* Low (name) *Off*

Digital Input 2: **White #2**
High (name) _____ Low (name) _____

Digital Input 3: **White #3**
High (name) _____ Low (name) _____

Digital Input 4: **White #4**
High (name) _____ Low (name) _____

Digital Output Wires

Max sink current: 350mA
Voltage range: 0 to Voltage in

Digital Output 5: **White #5**
On (name) _____ Off (name) _____
Initialize To (default state) _____

Digital Output 6: **White #6**
On (name) _____ Off (name) _____
Initialize To (default state) _____

Digital Output 7: **White #7**
On (name) _____ Off (name) _____
Initialize To (default state) _____

Digital Output 8: **White #8**
On (name) _____ Off (name) _____
Initialize To (default state) _____

Other Digital Wires

Digital I/O Ground: **White with Black stripe**

I/O Reset Wire for the device: **Yellow**

Analog Wires

For use with any analog sensor
with a range of 0–3 volts DC

Analog I/O ground: **Green w/ Black stripe**

Analog Input 1: **Green w/ Yellow stripe**
Constant: _____
Conversion Factor: _____

Analog Input 2: **Green w/ Red stripe**
Constant: _____
Conversion Factor: _____

Voltage out: **Blue**

NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

"CAUTION: Exposure to Radio Frequency Radiation.
Antenna shall be mounted in such a manner to minimize the potential for human contact during normal operation. The antenna should not be contacted during operation to avoid the possibility of exceeding the FCC radio frequency exposure limit. The minimum separation distance of 20cm from the antenna to the body of user required."