Installation Guide

TIPS AND HINTS FOR PEAK PERFORMANCE FROM SOLARTRAK TRACKERS

FOR CONSTRUCTION AND RENTAL EQUIPMENT












Track, Monitor and Manage your Equipment

SolarTrak is created by

SOLARTECH

As Reliable as the Sun

Installation Guide

Welcome!

We're glad you chose the SolarTrak solution.

We also understand that installing the Trackers can be a challenge, especially because so many of our large rental and construction customers' equipment is seldom in the yard or shop.

Take a moment to see some of the installations we've done. Our hope is that this guide will help your installation go quickly and smoothly.

Installation Basics:

SolarTrak Trackers depend on access to cellular towers to transfer data from the equipment to our servers, then on to your pc or smartphone. Proper installation and use will ensure that data is sent and received without interruption.

1. **Install Tracker** with label down (towards the ground) Drill holes if necessary. Do not mount the tracker to the unit using zip ties. Tracker should be secure against the wall or roof of the unit in a location where it will not be bumped.

2. **Connect to battery**: Run the white wire to the equipment's battery and attach the wire with the fuse holder to the Positive (+) battery terminal.

3. If using a Tracker with an external antenna, **install the antenna** with constant access to the sky for best reception.

4. Connect the Tracker and power wires using the gray **waterproof connector**... and you're done!

The mounting aids below are shipped with the Tracker

Four anchor ties, cable ties (2 sizes), two mounting bolts and washers, and Installation Instructions

Tracker installed on skid steer light support.

Tracker installed on metal frame of roller.

TIPS AND HINTS from our Install Crew:

Be creative! Take a moment to consider your options for various wiring paths. You can install the battery connection, then the Tracker, and plug them together as the final step.

You can pass wires through pipe openings, vents, door crevices, and other grooves and indents to protect the wiring. Look for existing brackets to install the Tracker (or antenna). We've mounted a few Trackers on the roof brackets for lights on top of equipment.

Creating a metal plate and attaching the Tracker to it may be easier than drilling through the roof or your equipment. A metal plate may also be the easiest mounting option when mounting a magnetic antenna to fiberglass or plastic.

Need advice? **Call us at 484-223-4994**.

We've installed SolarTrak trackers on lots of different equipment. We'd be glad to help!

Tracker installed on shovel cab roof.

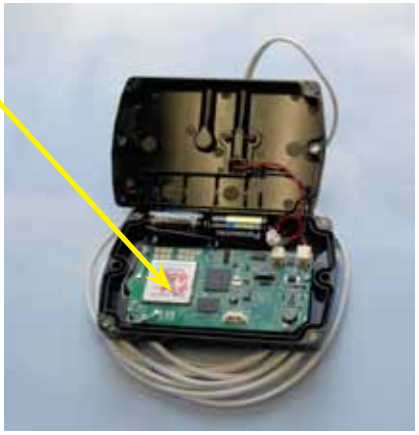
Tracker installed on a dump truck cab.

Installing trackers with
Internal Antenna

Diagram of how SolarTrak works is on the back cover

Chip for GPS and Cellular Reception.

Antennas are mounted underneath the circuit board.



Ensure that the unit has clear view of the sky and the label with the serial number is facing down for proper GPS reception.

Installing the Tracker

The Tracker should be attached to your equipment with provided hardware, or another similar method to ensure a secure mounting.

Start by keeping the Tracker and the power cord separate until after install is complete.

1. **Install the Tracker** – label down and within reach of the battery connection.

2. **Connect to the battery**. Use the tracker's power wires to connect to the equipment's battery to provide 12 to 24 VDC to SolarTrak. The wire with the fuse holder MUST be attached to the Positive (+) battery terminal.

3. Lastly, connect the tracker to the battery using the gray **waterproof connector**.

Download Install Guide.. Follow the "After Installation" instructions to start using the SolarTrak software.

After Installation – for both internal and external antenna

To ensure that the installation went smoothly, check the Install App (see page 15)

Once the installation has been checked by the app, tell your company's SolarTrak Administrator which SolarTrak Tracker (using the Tracker's serial number) has been installed on which piece of equipment. Tell your administrator the following:

Manufacturer	Model number
Number of Engine Hours	Maintenance issues you'd like to schedule

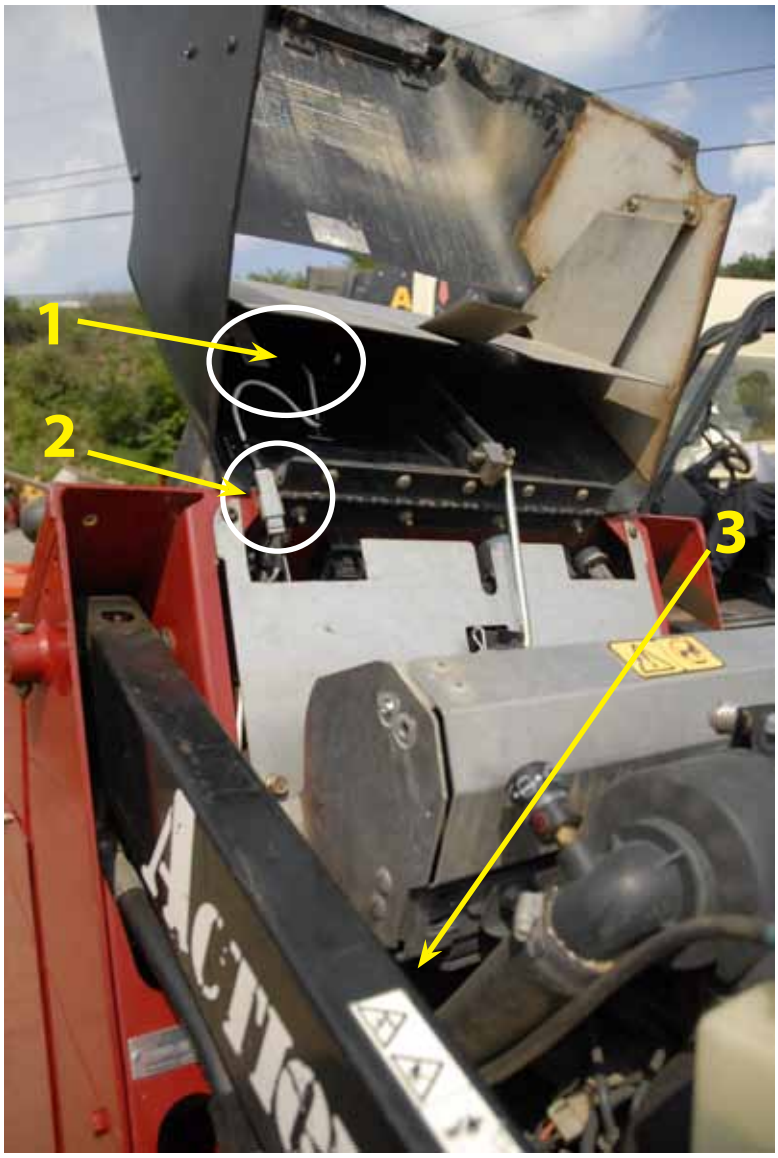
Company identifier (like your inventory number)

Download the Tracker Assignment Worksheet template from solar-trak.com or use the worksheet on the last page of this manual.

Once installation is completed, the equipment will appear in SolarTrak online in the "Trackers" view as "Unassigned".

Once your company's SolarTrak Administrator assigns a specific SolarTrak Tracker to a certain piece of equipment, the equipment will appear online in the Map View and List View and can be tracked.

Dingo Shovel Installation
Tracker with internal antenna

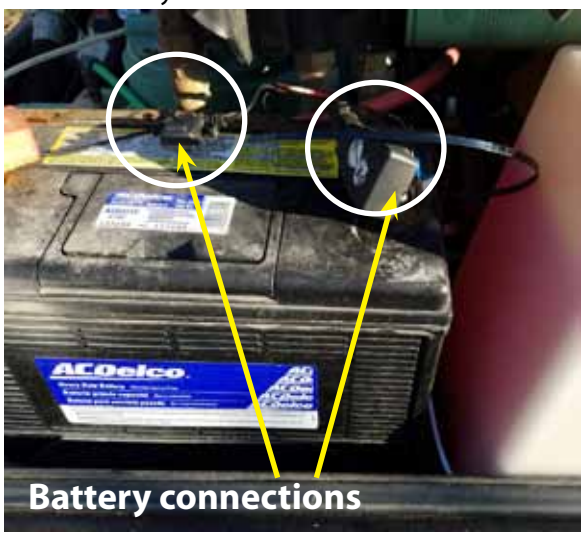


1. Tracker installed under a plastic shield. The shield is plastic and will not interfere with cellular and GPS reception
2. Waterproof connector
3. Battery hidden behind side bar

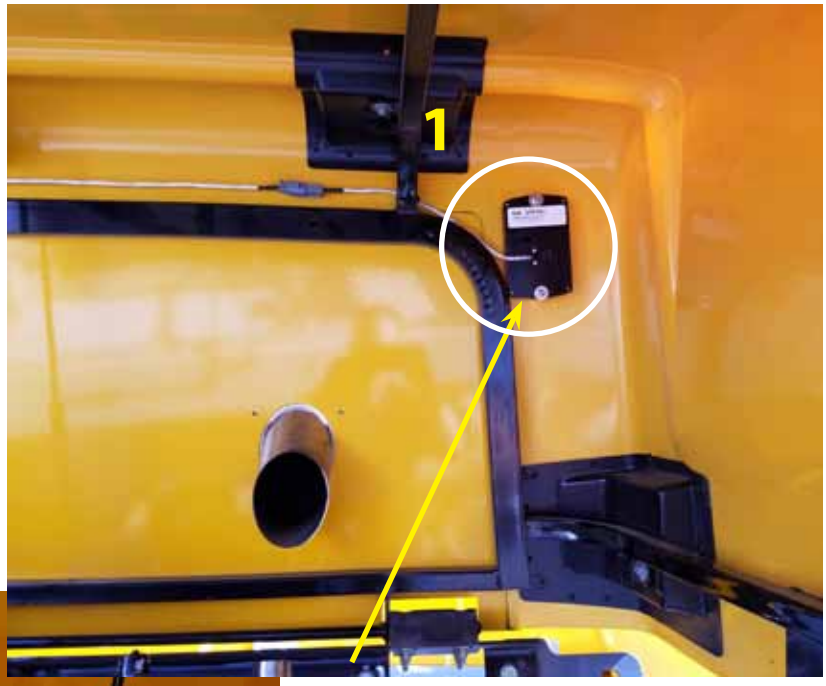
Air Compressor Installations
Trackers with internal antenna

Simple installs - Tracked mounted on roof using existing holes

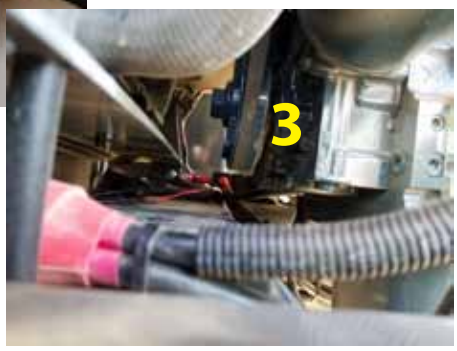
For best cellular and GPS reception, simply install the tracker on the top of the unit, label side down.
If necessary, drill a small hole to connect the Tracker to the unit's battery.



Haulotte Boom Lift
Tracker with internal antenna



1. Tracker with internal antenna is mounted inside engine compartment. The cab is plastic, which will not interfere with the GPS and cellular reception. The Tracker is installed with white label towards the ground.
2. White wiring to the battery.
3. Connection to the battery.



Haulotte Towable Boom Lift
Tracker with internal antenna

1. Tracker with internal antenna is mounted inside engine compartment. The gray plastic cab will not interfere with satellite or cell tower reception. When the hood is shut, the white label is towards the ground.
2. White wiring to the battery.
3. Connection to the battery.

Installing trackers with
External Antenna

Diagram of how SolarTrak works is on the back cover

Magnetic Antenna

There are two types of external antenna: choose from **magnetic** or **screw mount**.

When installing a tracker with an external antenna, you can mount the tracker sideways, upside down, under cover… only the antenna needs to have access to the sky.

Screw-Mount Antenna

Installing the Tracker

The Tracker should be attached to equipment with provided hardware, or another similar method to ensure a secure mounting.
Start by keeping the Tracker and the power cord separate until after install is complete.

1. Choose a location and **attach the Tracker**. Make sure it will be within reach of the battery connection.

2. **Install the antenna** with clear access to the sky. Coil any excess wire loosely and secure the coil to the equipment.

3. **Connect to Battery**: Use the Tracker's power wires to connect to the equipment's battery to provide 12 to 24 VDC to SolarTrak. The wire with the fuse holder MUST be attached to the Positive (+) battery terminal.

4. Lastly, connect the Tracker to the battery using the gray **waterproof connector.**

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Large Truck Installation
Tracker with external antenna

The battery for this model truck is installed in the step to cab.

1. Antenna is mounted on light bracket on cab roof.

2 The Tracker secured on back wall of step.

3 Wiring to antenna is fed through this hole, then up cab body to roof.

4. Connection to battery.

Truck Installations
Trackers with external antenna

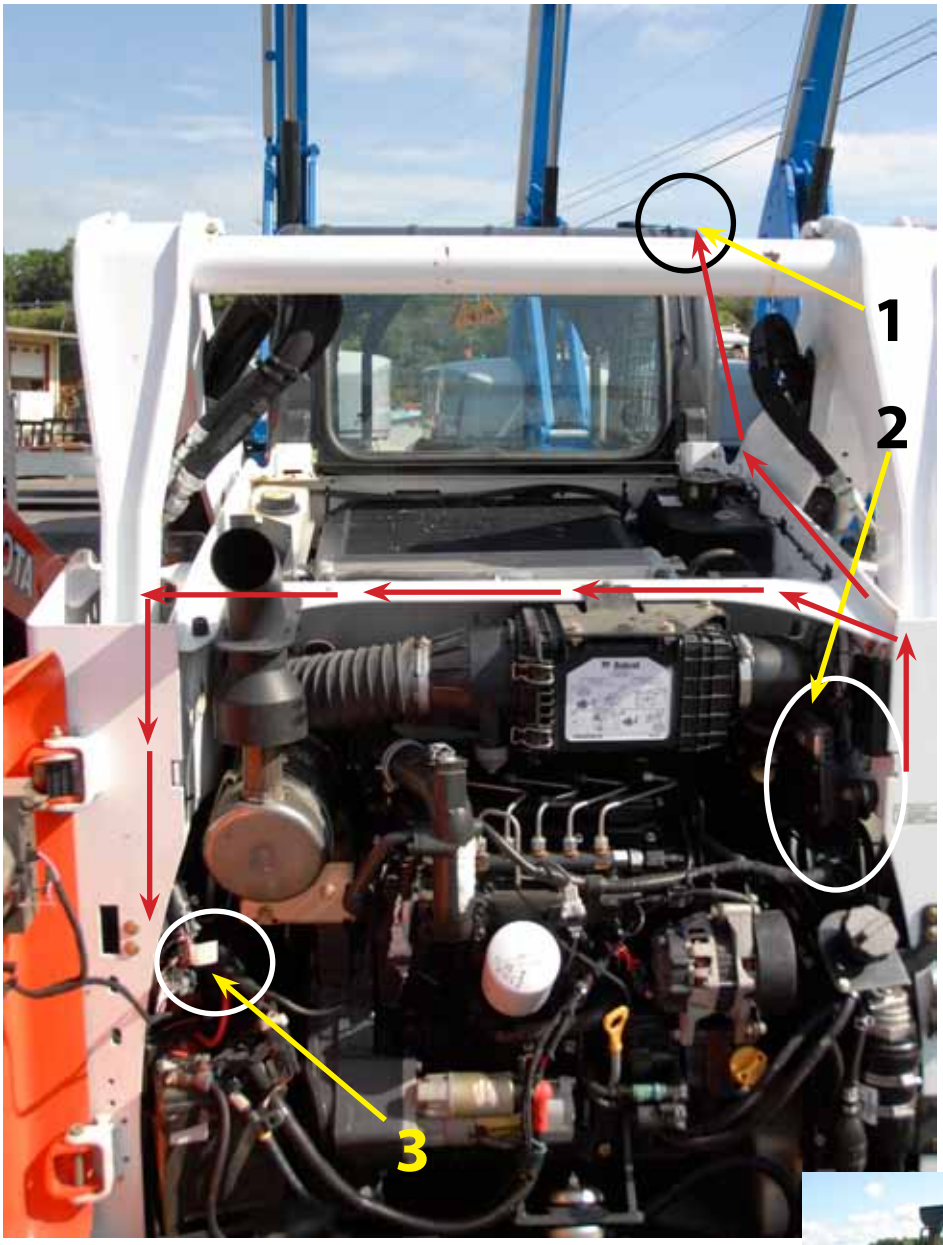
Ford F550 Stake Body

1. Antenna is mounted om cab roof. Wiring is hidden in channel
2. Unit is installed inside the cowl - the area below the windshield wipers

International Truck

Tracker is installed under the wind shield

Bobcat S 530 Skid Steer
Tracker with external antenna



1. External magnetic antenna mounted on cab roof.

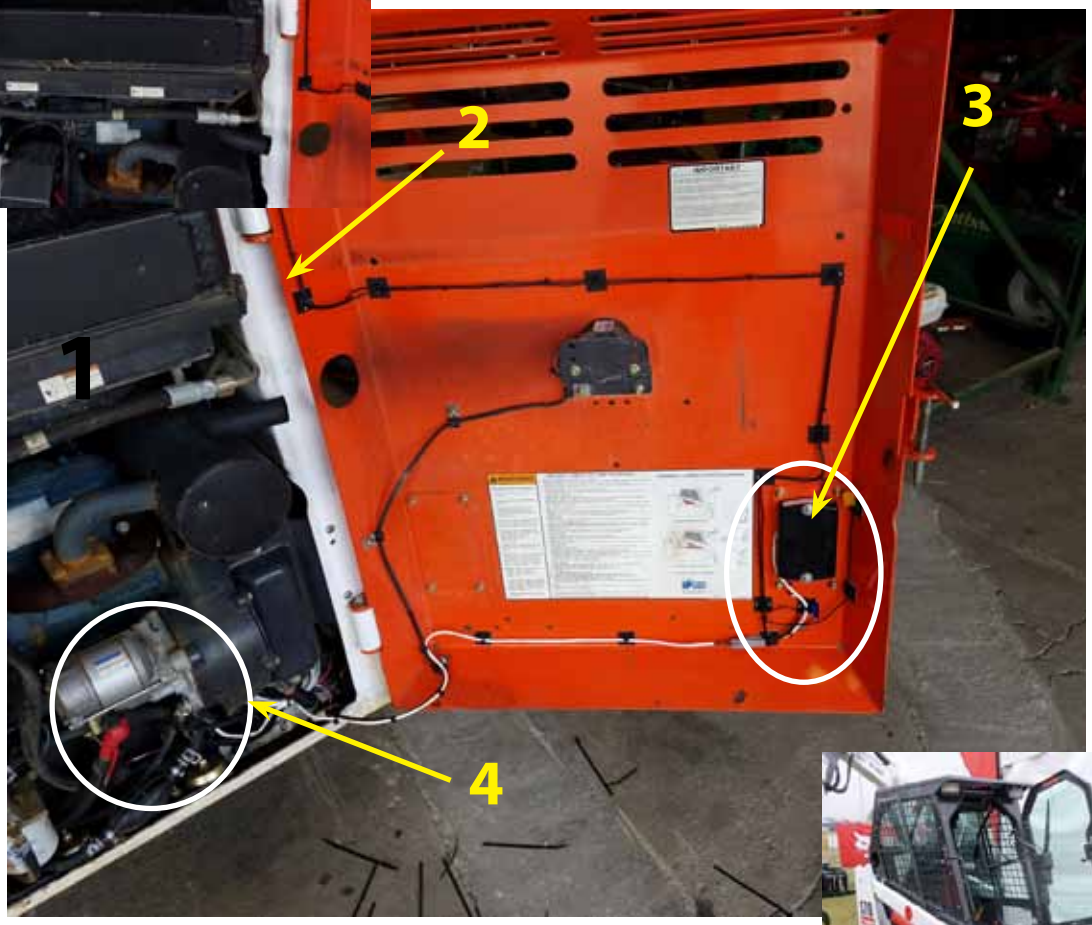
2. Tracker is mounted on side wall.

3. Connection to the battery.

Red arrows show path for connections to battery and antenna

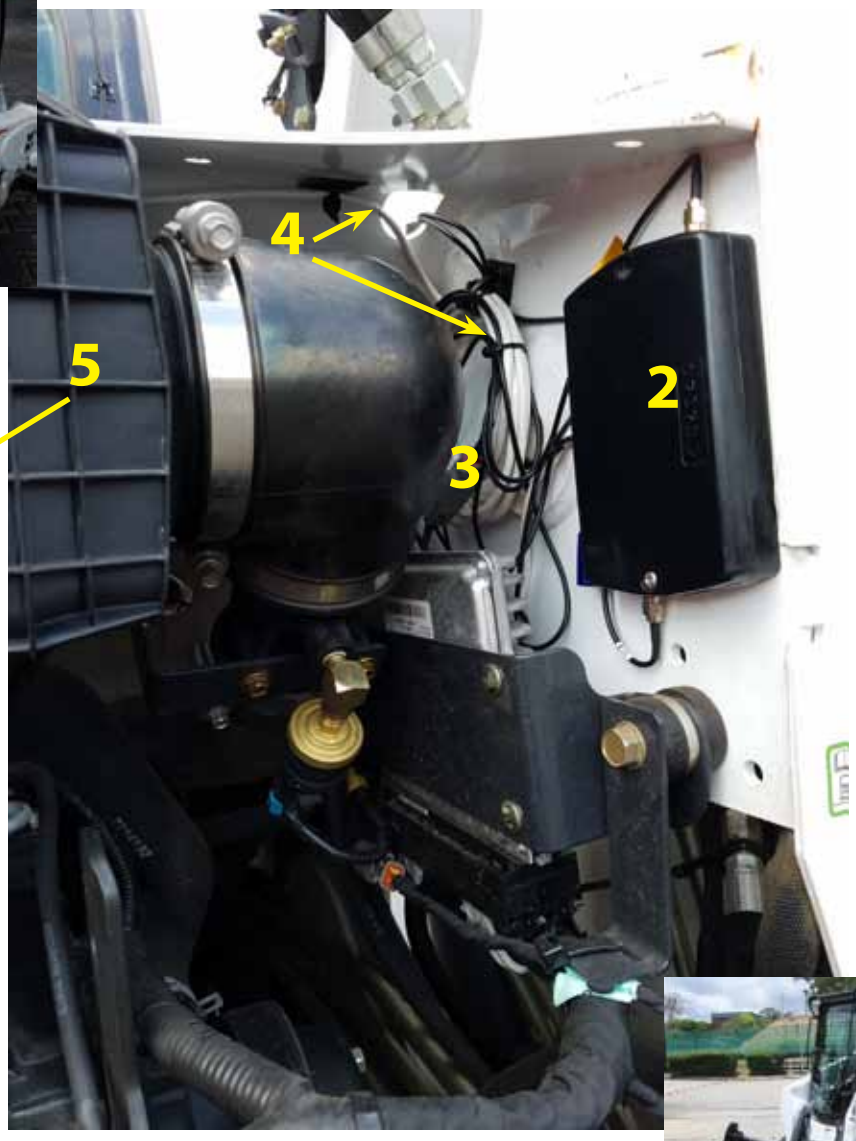
Mini BobCat Skid Steer
Tracker with magnetic external antenna

1. Antenna mounted on top of cab.
2. Black antenna wire continues down cab into engine compartment.
3. Tracker mounted bolted onto the access door to engine compartment.
4. Connect the white wire to alternator. All wiring is secured by cable anchors.

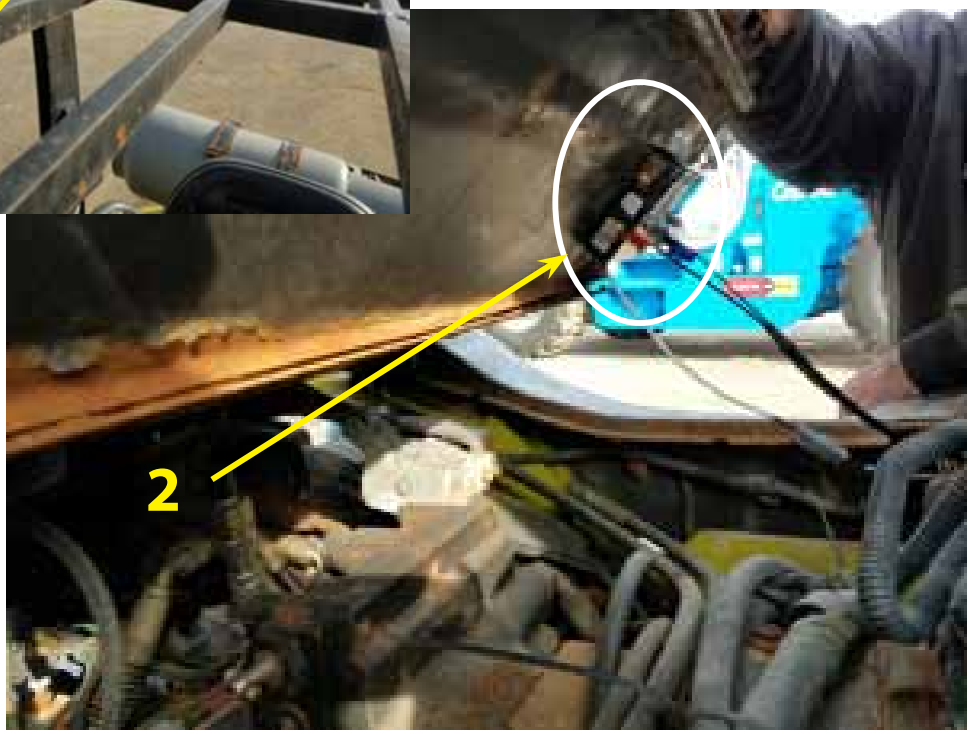


Bobcat T590 Skid Steer
Tracker with external antenna

1. External antenna mounted on cab roof. Wiring is concealed in door jamb.
2. The Tracker installed inside the engine compartment.
3. Excess wiring to antenna and battery is coiled loosely, zip tied, and tucked out of the way. A loose coil ensures good cellular reception.
4. White wiring is connected to the battery.
5. Black antenna wire.



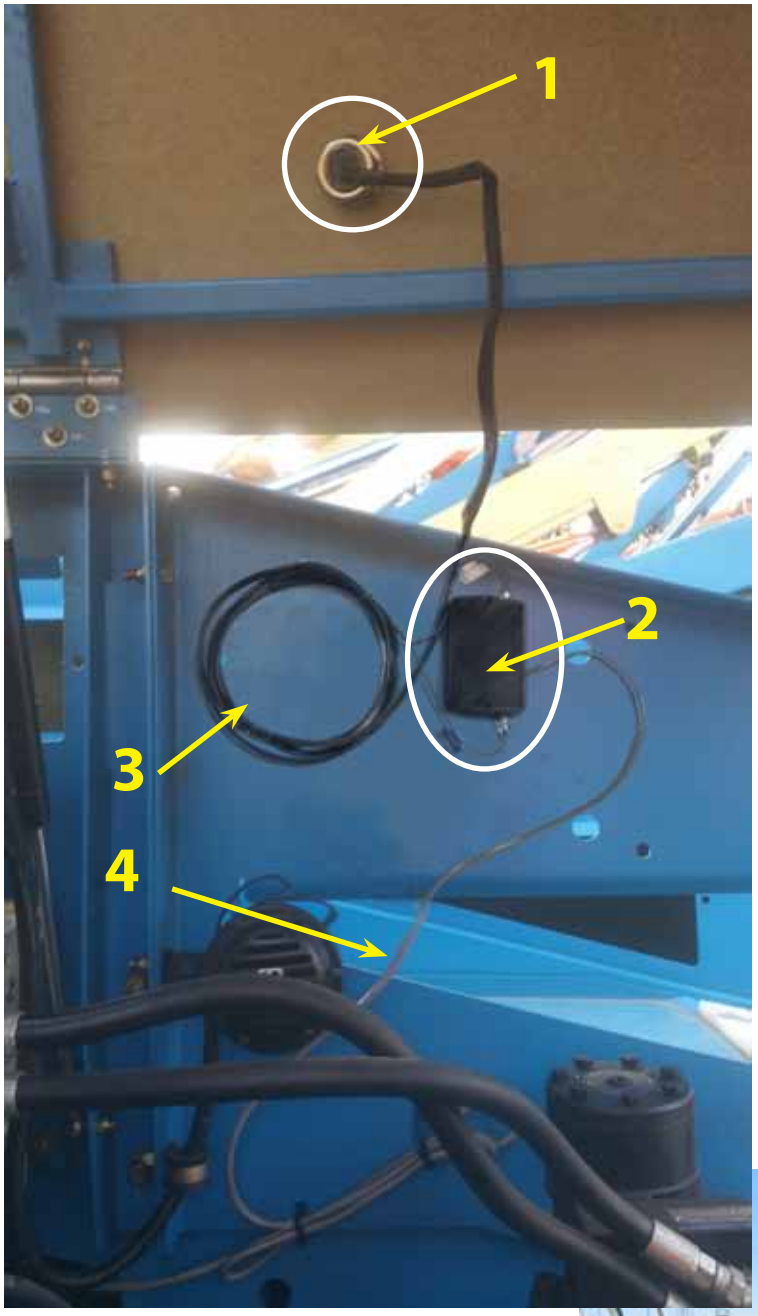
Clark Forklift
Tracker with external antenna



1. Antenna is installed on the steel framework above the driver.

2. Tracker is installed under the driver's seat, right above the battery

Genie Boom Lift S-60
Tracker with external antenna

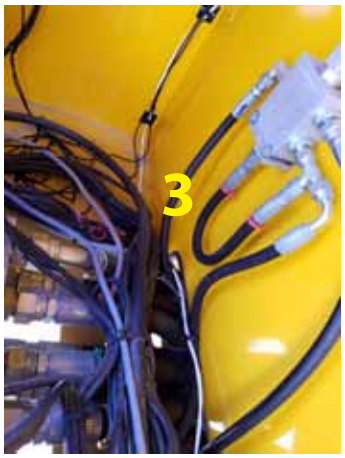


The boom lift is shown with the engine compartment open.

1. The external antenna is installed through the roof.
2. Tracker secured on the side wall of engine compartment.
3. NOTE: excess antenna wire is coiled loosely for best reception.
4. The connection to battery.

Haulotte Scissors Lift
Tracker with magnetic external antenna

1. Magnetic external antenna mounted on metal junction box for charging lift.
2. Tracker installed inside control enclosure.
3. White wiring to battery attached with cable tie anchors and/or zip tied to existing wiring.
4. The connection to battery. Excess wiring is loosely coiled.



Genie GS 2648 Slab Scissor Lift
Tracker with external antenna

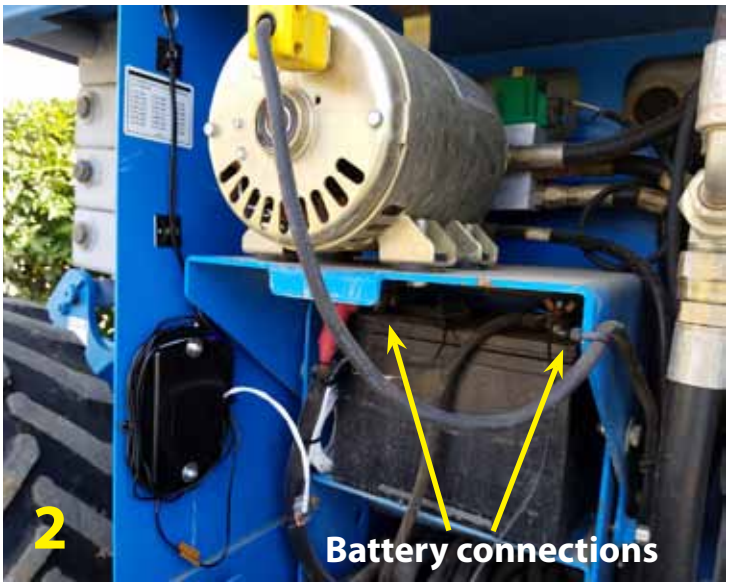
Simple installs - Tracked mounted on roof using existing holes

1. Antenna was installed one the ledge right above the door shown below

2. Battery connection. Extra wiring was coiled loosely to avoid interfering with cellular and satellite reception.

3. Tracker was installed on access door to the compartment with the lift's battery

Genie GS-2668 Rough Terrain Scissor Lift
Tracker with external antenna



1. The connections to the battery
2. Tracker secured on the side wall of engine compartment. Antenna wire is threaded up the wall and through a drainage hole. White wire leads to battery.
3. Same view with hydraulic manifold re-installed.
4. The external antenna is mounted on the top of the compartment, facing the sky.

Roller
Tracker with external antenna


1


2

1. Positive wire of batter connection is attached to the alternator. Negative wire is attached to the ground strap of the engine block.
2. Battery wires to tracker are zip-tied to hydraulic hose.
3. Top view showing the waterproof connector, which was zip-tied to grate.
4. Tracker is installed underneath metal hood. Extra wire is coiled loosely above.
5. Antenna is installed on top of hood.


5


Similar to this Bomag roller with metal hood

3

4

LayMor Sweeper
Tracker with external antenna

1. Tracker secured on the underneath of engine compartment, right above the battery.

2. Alternate location was considered and rejected because the antenna would face sideways, which would compromise the GPS performance - since it needs to be pointed upright to the sky to see the maximum amount of satellites and get the best results.

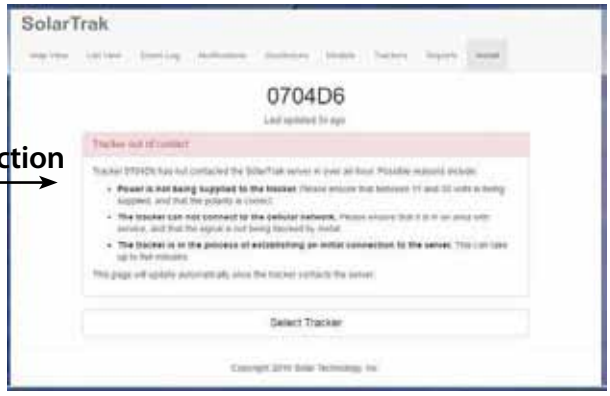
Finished Installing? Check the Connection

with our installation app: **http://app.solar-trak.com/install**

Once you've completed the installation by plugging the Tracker to the power source using the gray connector, you can check your work using this easy app. Simply go to the address above and type in the serial number of the tracker you just installed. The number can be found on the box, or on the label attached to the tracker. Then follow the instructions on the screen.

Type the Tracker serial number

No connection



This screen indicates that the tracker is not getting power from the battery, or is having trouble communicating with the server. Check your connections, and read the suggestions on the screen to correct the issue.

Tracker is connected

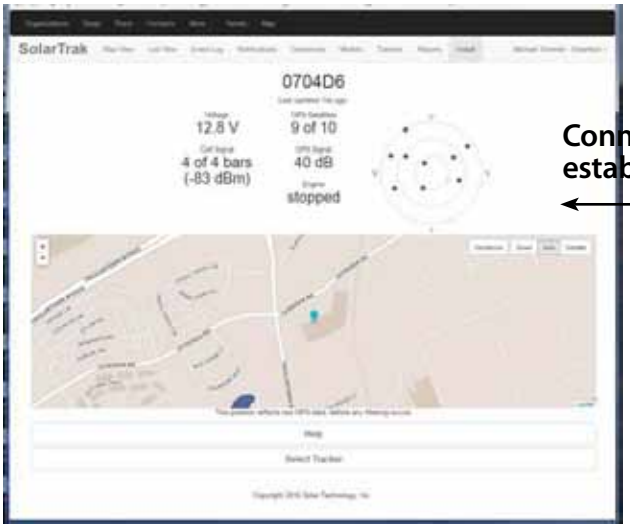
If all is well with your installation, you'll see a screen similar to the one below:

Voltage reading indicates that the tracker is connected properly to the battery.

The other indicators show the strength of the cellular and GPS connections.

If you see the voltage, but not the cellular or GPS readings, wait a few minutes until the unit can completely access the satellites.

Connection is established



This screen indicates that the connection to the battery works and cell reception is good, but there is an issue with the GPS reception. Wait a few minutes to see if the unit can locate the satellites... or move the unit to an area with a better view of the sky - and check the location of the tracker's antenna.

Once the issue is resolved, you will see the screen at left, showing the location of the unit on a map.

NOT RECOMMENDED
Incorrect Installations

Tracker with internal antenna is installed sideways. Sideways installations result in poor satellite and cellular reception. Installed on door frame may also result in damage from door slams and/or bumping.

Incorrect install on a dump truck. Do NOT install on moving parts.

Tracker installed sideways will result in poor satellite and cellular reception.

Magnetic antenna is installed sideways. Not recommended.

NOTE: Don't do this:

Do NOT cut the in-line fuse off the Tracker power cord

Do NOT cut the gray waterproof plug and/or splice the wires

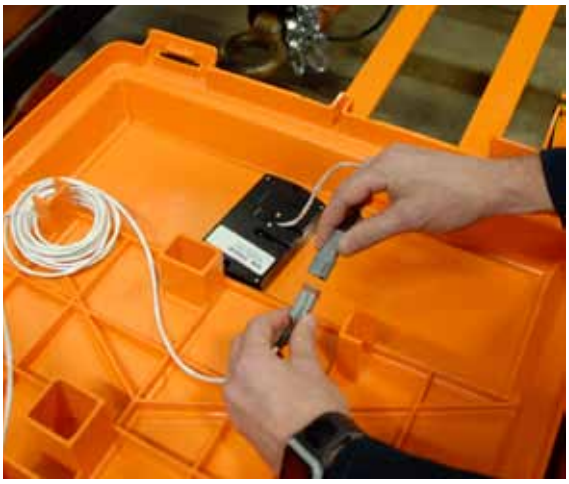
SolarTrak Service Bulletin #1

Procedure for Disconnecting Tracker from Battery Terminals

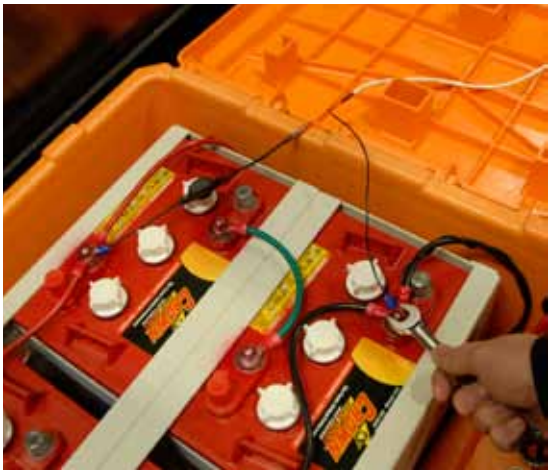
When your equipment comes into your shop for routine maintenance, to replace batteries, or anytime the tracker will be disconnected from the battery terminal.

Please follow this procedure **in this order** - to ensure that the Tracker reconnects correctly once the equipment is powered up, avoiding voltage transience from interfering with the Tracker's boot up process.

1 Disconnect tracker wires from the battery terminals



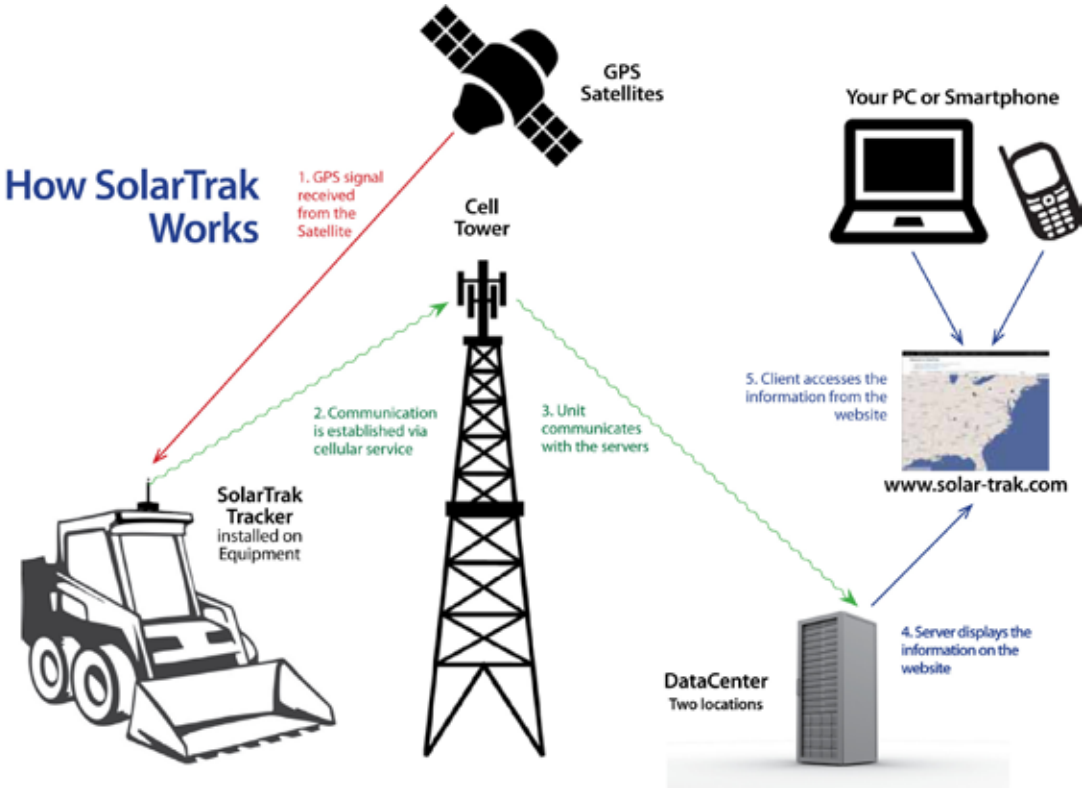
2 Disconnect the gray waterproof connector between the battery wires and the tracker



3 When maintenance is completed, reconnect the tracker's power wires to the battery terminal first

4 **LAST STEP** - Reconnect the gray waterproof connector that links the white power cord to the tracker

Affordable GPS/online Fleet Management solution to Track, Monitor and Manage your fleet



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