



RECONSTRUCTED LEGACY SUPPORT GUIDE

PAS Compatibility and Installation Guide

Pedal Assist Sensor guide for compatible Hilltopper Horizon and Summit systems

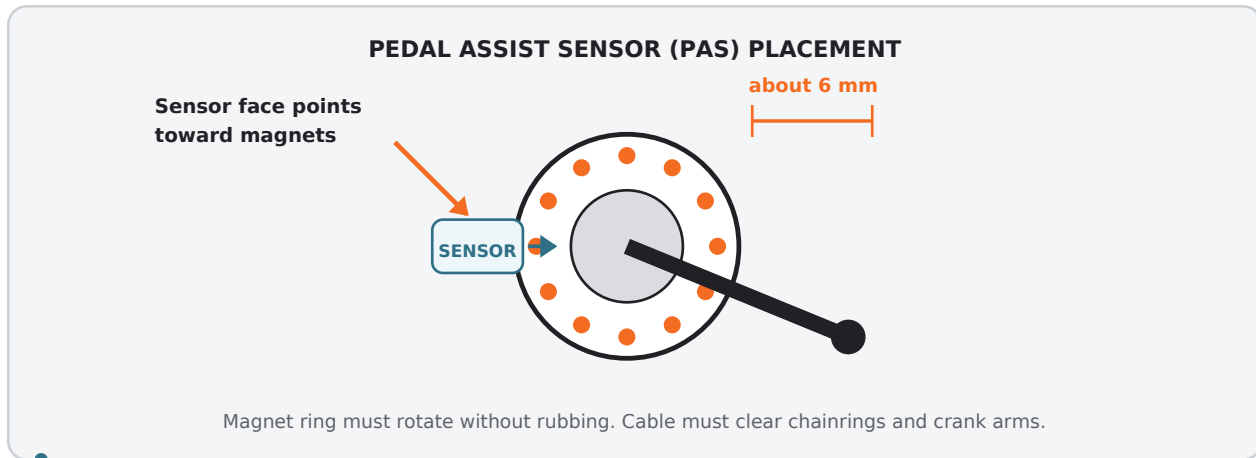
IDENTIFIER	WHAT TO LOOK FOR
DOCUMENT STATUS	Reconstructed from surviving Hilltopper support material. It is not a scan of the missing original PDF.
USE THIS GUIDE WHEN	A Hilltopper controller/harness with a matching PAS connector, split magnet ring and frame-mounted sensor intended for a compatible Horizon or Summit generation.
DO NOT USE WHEN	There is no dedicated matching PAS port, the crank area cannot accept the ring, or parts are from an unrelated system.
SUPPORT	contact@hilltopperbike.com +1 702-510-9027

Component-match rule
Legacy Hilltopper systems changed across production runs. Continue only when the voltage label, battery style, connectors, controls and wheel hardware match this guide. If anything differs, stop and contact Hilltopper support before applying power.

This document restores practical support information formerly linked from the Hilltopper FAQ. Current replacement components may look different from legacy parts.

Will the PAS fit?

IDENTIFIER	WHAT TO LOOK FOR
CONTROLLER	Must have the matching keyed PAS input. Never adapt a similar-looking plug.
CRANK AREA	About 6 mm of usable drive-side space is needed between the innermost chainring/crank area and the frame for the magnet ring.
MAGNET RING	Must fit around the spindle area and rotate with the crank without rubbing.
SENSOR	Must mount rigidly with its sensing face toward the passing magnets.
CABLE ROUTE	Must reach the controller while clearing chainrings, chain and crank arms.



PAS is optional on supported kits
Hilltopper support material describes PAS as optional on compatible Horizon and Summit systems.
The exact controller and harness must support operation without it.

Safety before you begin

Power isolation
Turn the system off, remove the battery from the bicycle and disconnect the charger while installing or adjusting components.

- Support the bicycle securely. Use a work stand or a second person.
- Use only the correct battery and charger voltage. Never cross-connect 24 V, 36 V and 48 V components.
- Never force electrical connectors. Match keys and alignment arrows before pressing plug housings together.
- Retain the motor axle. Install all supplied tab washers and torque-arm parts before operation.
- Verify the brakes before motor testing. The rotor must run inside the caliper and the wheel must stop firmly.
- Get professional help for carbon, damaged, unusually thin or modified forks, or any fork that cannot fully seat the axle flats.

Compatibility test

- 1 Identify the model and voltage. Confirm compatible Horizon or Summit hardware and a dedicated matching PAS connector.

- 2 Inspect the drive-side crank area. Look between the innermost chainring/crank and frame. The reconstructed original guidance calls for about 6 mm of usable space.
- 3 Dry-fit the split ring. With power disconnected, place both halves around the bottom-bracket spindle area and fully join them.
- 4 Turn the crank by hand. The ring must rotate concentrically without touching the frame, chainring, bottom bracket or sensor mount.
- 5 Check the sensor location. A stable frame surface must allow the sensor face to remain parallel to the magnets with a small, even non-contact gap.

Installation

- 1 Remove the battery. Keep the system fully unpowered.
- 2 Install the magnet ring. Join its halves around the spindle. If an arrow or magnet-side marking is present, follow it.
- 3 Mount the sensor. Place it beside the ring so its sensing face is parallel to the magnets. Secure it without crushing the housing.
- 4 Set the gap. Rotate the cranks fully. The ring must pass close enough for detection but never touch the sensor.
- 5 Route and connect. Keep the cable away from chain, chainrings and crank arms. Align the keyed PAS plug and press the housings together.
- 6 Test safely. Raise the driven wheel, install the battery, select the lowest assist level and pedal slowly forward. The motor should start smoothly and stop shortly after pedaling stops.

Pass/fail checklist

CHECK	BEFORE RIDING
[]	Controller has the correct dedicated PAS connector.
[]	About 6 mm of usable drive-side clearance exists.
[]	Ring halves are joined and rotate with the crank.
[]	Ring does not rub the frame, chainring, bottom bracket or sensor.
[]	Sensor face points directly toward passing magnets.
[]	Sensor is rigid and cable is clear of the drivetrain.
[]	Motor starts predictably while pedaling at low assist.
[]	Motor stops after pedaling stops; throttle/brakes still work normally.

Troubleshooting

SYMPTOM	CHECK	ACTION
No PAS response	Plug loose, sensor reversed, gap too large or wrong port.	Power off; reseal exact PAS plug, face sensor toward magnets and reduce gap.
Works backward only	Magnet ring orientation reversed.	Power off and reverse ring orientation if the design permits.
Pulses	Ring wobbles, sensor moves or gap is uneven.	Center ring, reinforce sensor mount and verify no contact.
Ring rubs	Insufficient clearance.	Remove PAS or have a mechanic evaluate a safe spacing solution.
Cable damaged	Routing allowed crank contact.	Disconnect battery and replace damaged PAS wiring before testing.

Do not install PAS when

- No matching PAS connector exists on the controller/harness.
- The ring cannot rotate freely in the available space.
- The sensor cannot be mounted rigidly and aligned with the magnets.
- The cable would cross the chainline or touch a crank arm.
- Any part is cracked, modified, corroded or electrically incompatible.

Reconstructed document

The approximately 6 mm clearance and optional use on Horizon/Summit systems are preserved from missing Hilltopper PAS support material. Support: contact@hilltopperbike.com | +1 702-510-9027