MERIDIAN™

OFFLINE MISSION PLANNING

Quick Start, Beta

Mission planning for time, fuel, and darkness. · Version 0.3.0 · 22 Sep 2026 · tip 7904d5a

Meridian is offline flight planning for phone, tablet, or laptop.

Build your route leg by leg, enter your aircraft numbers, and Meridian gives you planning for the whole flight: wind-corrected headings, leg times, fuel, and gross weight. It stays live once you are airborne. Update time or fuel at a checkpoint, or change the route, and the rest of the plan updates with it.

The aviation database is already loaded. Terrain elevation is optional from Databases. This guide covers access, install, databases, a profile, and a short plan.

First session checklist

1. **Access.** Open https://beta.meridianav.ai. Enter the admitted email. Enter the one-time PIN emailed after that. Access lasts about a month after the PIN.
2. **Install / Add to Home Screen** (device steps below).
3. **Open Databases** while online and confirm the aviation database is present (and any terrain you want).
4. **Create an aircraft profile.**
5. **Build a short plan** on Flight Plan. Use the Route Card for a cockpit-usable view. **Flight plan import/export** is on that screen.
6. **Save PDF** if you want paper: under the Route Card masthead, **Save PDF · Portrait** or **Save PDF · Landscape**.

Getting Meridian on your device

Beta install (not the final method)

Meridian will ship as an installed application. For the beta it is a Progressive Web App (PWA) at **https://beta.meridianav.ai**, behind Cloudflare Access. It is not on the App Store or Google Play yet. These steps are temporary and will be replaced when real installers exist.

Access

Open **https://beta.meridianav.ai** in a browser on the device you intend to use.

1. Enter the email admitted for beta.
2. A one-time PIN is emailed to that address.
3. Enter the PIN to open Meridian.

- Only the admitted email works.
- The PIN is single use. Ask for another if it expires.
- Access lasts about a month after you enter the PIN. You may be asked again sooner if you clear site data or cookies, use a different browser or profile, or Access ends the session early.

Install (Add to Home Screen)

Installing gives you a normal app icon. Meridian then opens without the browser address bar and tabs. Prefer the installed icon over a loose browser tab.

iPhone / iPad	Open in Safari. Chrome cannot install a PWA on iOS. Tap the three dots beside the address bar, then Share → Add to Home Screen → Add.
Android	Open in Chrome. Take the Install prompt if it appears, or browser menu (three dots) → Install app or Add to Home screen.
Windows	Open in Chrome or Edge. Look for an install icon in the address bar, or browser menu → Install Meridian / Install app. It launches from the Start menu.
Mac	Chrome or Edge: same install icon in the address bar, or menu → Install Meridian / Install app. Safari: File → Add to Dock.

Offline after install

Once installed, planning and data already on the device work offline. When you are online again, Meridian itself may update. Close the app after each use so the next open can pick up those updates when online.

Build ID, updates, and local data

A short build line sits at the bottom of the screen. Example:

v0.9.0-beta · 7904d5a · 2026-09-22

Include that line when you report a problem.

If the app does not seem to be working correctly, try these in order and stop when it is fixed:

1. Close and reopen the app.
2. **Settings → Check for updates**.
3. **Settings → Repair**.
4. **Report issue**.

Reinstall last. If you must reinstall, export Aircraft Profiles and User Waypoints CSV first.

Plans, profiles, and waypoints live in browser site storage for **beta.meridianav.ai**. Clearing cookies or site data for that site can wipe local work. Export CSV from Aircraft Profiles and User Waypoints first if you clear browsing data often.

Tour of the top of the screen

- **Report issue**: opens the in-app report form (details at the end of this guide).
- Display modes: **Light**, **Dark**, **Night Red**, **NVG Mode**.
  - **Night Red** preserves natural night vision (software dimming).
  - **NVG Mode** uses an NVG-friendly software palette. Meridian is not certified NVG compatible. Phone and OS system bars belong to the device; Meridian cannot control them.

Main screens

Six screens sit along the top:

- **Flight Plan:** mission/callsign, date, profile, tail, **Reverse flight plan**, **Flight plan import/export**, PLAN SETUP (including **Speed basis** TAS|GS), Route Summary (including point of no return (PNR)), TDH table (with **Cruise ft** / **Cruise m** on destination legs), Route Card, **Save PDF · Portrait** / **Save PDF · Landscape**, HARD TIME, flight log and timers, Fuel consumption checks, Reset TDH.
- **Aircraft Profiles:** Add, Import, Export, Delete.
- **User Waypoints:** Add, Import, Export, Edit, Delete.
- **Tools:** unit converters and **Point from bearing and distance**. Tools do not change the flight plan.
- **Databases:** airport/navaid lookup, Update Database, magnetic variation, terrain map and downloads, Replace all elevations.
- **Settings:** Communications Policy, Check for updates, Repair, Timezone, Primary coordinate, Secondary coordinate, Altitude default, default units, RESET AND CLEAR. Display modes live at the top of the screen.

Databases

Open **Databases** while online to update or verify what you need.

- **Airport / aviation database.** A baseline set ships with the app. Online, use **Update Database** for the FAA NASR cycle (US airports and navaids). Without it you cannot look up airports. Settings → Check for updates refreshes the app itself.
- **Magnetic variation.** Ships with the app. If something is missing, open Databases while online.
- **Terrain.** See Terrain below.
- **Currency.** The app still works with an outdated database. NOTAMS, the aircraft flight manual, current charts, and your judgment still govern.
- **Read-only.** Database records are not editable. For a name that collides with a database identifier, save a **User Waypoint**.

Terrain

Elevation downloads are optional. The app works without them. Beside **TERRAIN DATA**, **?** explains downloads, how an elevation is chosen, and the clearance limit.

Base tiles are the worldwide elevation download (**Worldwide → Add → Download**). **Detail tiles** use finer post spacing where Meridian offers them. Open the area you fly and see what is available. Meridian is building Detail coverage around the clock. If you need coverage sooner, **Report issue** with the area and we will see if we can squeeze it in.

Post spacing is the publisher's stated horizontal spacing. Base: USGS GMTED2010, 30 arc-seconds (about 1 km). Detail where available: Copernicus GLO-30, 1 arc-second (about 30 m); US USGS 3DEP, 1/3 arc-second (about 10 m).

Download while you have internet. Lookups use only what is stored on this device. Elevations you type stay until you run **Replace all elevations**.

General altitude awareness only. Not obstacle clearance. The pilot in command is responsible for terrain clearance and for using an elevation that is suitable for performance planning.

User Waypoints

Save points that are not in the aviation database, or points that differ from a database entry.

You cannot use an identifier that already exists in the aviation database. If the name you want matches a database identifier, modify it (for example, .KBNA or KBNA1). Identifiers accept letters, digits, and . - _ /, max 10 characters, forced uppercase.

A user waypoint whose identifier matches an aviation-database identifier stays in your list. Flight Plan does not offer that waypoint when you pick a point for the plan. That protects the integrity of aviation-database airport and navaid waypoints and the expected plan output.

Import and export as CSV from the User Waypoints screen.

Aircraft Profiles

A profile stores planning parameters: fuel type and density, usable fuel, reserve, burn rate, and zero-fuel weight. Applying a profile pre-fills the plan. Import and export as CSV from the Aircraft Profiles screen.

Flight Plan / TDH

Open **Flight Plan**. You will see:

- Mission/callsign block: mission/callsign, date, profile, tail, and **Reverse flight plan**.
- **Flight plan import/export**, with **?**.
- **PLAN SETUP**: overrides the applied profile for this flight only. **Speed basis** is **TAS** or **GS** (TAS default).
- **Route Summary**: totals for the current plan, including PNR.
- **TDH table**: Time, Distance, Heading. On each destination leg, **Cruise ft** or **Cruise m** sits above TAS or GS (label from **Settings → Altitude default**). Elevation and cruise display as whole numbers.
- **Route Card**: More like a traditional kneeboard TDH for cockpit use. Cruise altitude shows in the same column, above TAS or GS.
- **Flight log and timers**, **Fuel consumption checks**, and **Reset TDH**.

Everything calculates live. Blank fields are valid. There is no Calculate button.

Flight plan import/export

Buttons: **Export .fpl**, **Export .fpl (zipped)**, **Export .kml**, and **Import flight plan**. **?** lists compatibility notes.

.fpl files are known to be compatible with Garmin products that import FlightPlan v1 .fpl, ForeFlight Mobile, and other apps that open .fpl (for example SkyDemon). **Export .fpl (zipped)** is the same .fpl inside a zip; unzip before opening in ForeFlight Mobile.

.kml files are known to be compatible with Google Earth, ATAK / WinTAK, and other mapping or EFB apps that import KML.

Cruise altitude on a destination leg is written into the .fpl as a Meridian extension. Some apps do not import cruise altitudes, speeds, or step-climb from .fpl. A .kml does not carry Meridian cruise altitudes.

Import flight plan reads a .fpl, a zip with one .fpl, or a .kml. Importing a .kml leaves cruise altitude blank. If the plan already has content, choose **Replace** or **Cancel**. A file that cannot be read is not applied.

HARD TIME

Tick **Hard time?** on one destination. Meridian back-plans **Required ETD** and required ETAs. HARD TIME does not change TAS or GS to meet the time.

Point of no return (PNR)

PNR is the decision point past which the aircraft cannot return to departure with fuel reserve intact. It appears on Route Summary, the Route Card masthead, and in the **Leg #** column when it can be computed.

Save PDF

Under the Route Card masthead: **Print**, **Save PDF · Portrait**, and **Save PDF · Landscape**. For paper in this beta, use the Save PDF buttons. Portrait is one card per Letter sheet. Landscape places two cards side by side.

Fuel

Fuel consumption checks is a standalone math aid from numbers you enter. Plan fuel advisories use the plan and the applied profile. If **reserve** is blank, no below-reserve advisory appears. A fuel exhaustion warning can still appear when projected fuel runs out.

Worth knowing

- **On-device.** No telemetry. Planning data stays on your device.
- **Blank is valid.** Where a result depends on something you have not entered, it tells you what it is waiting on.
- **Garbage in, garbage out.** Wrong or incomplete inputs produce wrong planning results.

On the way

- Custom identifier and manual point on the route
- Max gross weight
- Illumination, BMNT, and EENT
- Stick map
- Weight and balance
- In-app manual
- Leg types beyond cruise
- Phone share sheet (AirDrop, Near Share), parked
- Typing a route in as text
- Moving the Reverse flight plan button
- GPX export

Report issue

Tap **Report issue** at the top of the screen. Write a short description (required). Optionally attach one screenshot or photo. Email is optional. Submit. Reports are one-way.

The report includes your build identifier when possible. Omit or blur sensitive tails, profiles, waypoints, or locations if needed.

If something looks off, use the recovery steps under **Build ID, updates, and local data**, then **Report issue**.

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