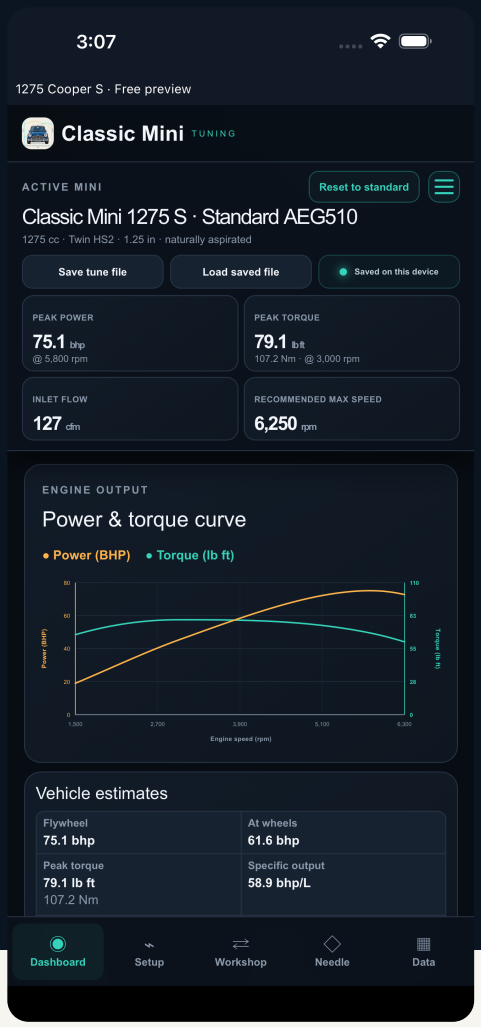
CLASSIC MINI TUNING

ENGINE POWER & BUILD PLANNER

Your build. Step by step.

An illustrated guide to planning an A-series engine, comparing upgrades and exploring SU needle options.



iPhone • iPad • Browser preview

Version 1.0 / build 1004.9.1
26 October 2026

ILLUSTRATED USER GUIDE

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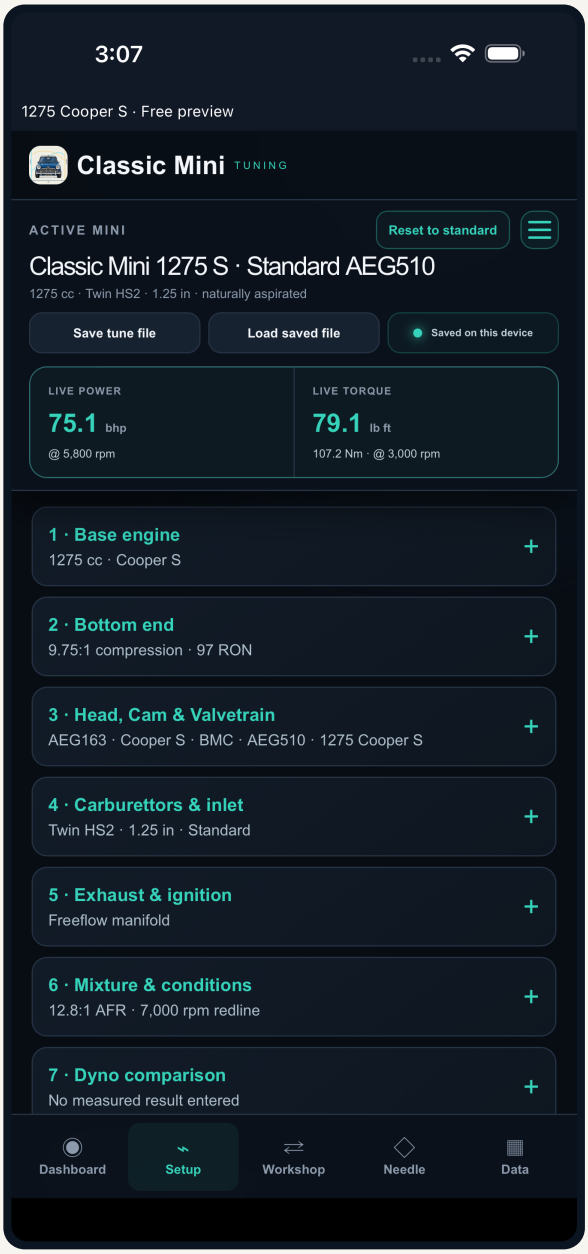
12 Quick reference & help

Screenshots show the real iPhone and iPad interface. Free preview screens display the factory 1275 Cooper S; changing settings and using tune files requires the app unlock.

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GET FAMILIAR IN FIVE MINUTES

Start here



Tap Setup, then a numbered section to reveal its controls.

1. Open the app

The first screen is **Dashboard**. The example is a factory 1275 Cooper S with the AEG510 camshaft. Your saved setup is restored when available.

2. Find your way around

Use the bottom tabs: **Dashboard** for results, **Setup** for inputs, **Workshop** for comparisons, **Needle** for SU options and **Data** for RPM figures.

3. Inspect, then edit

You can browse all screens and open menus in free preview. Changing a setting or using Save/Load opens the purchase sheet. The native app uses one full-app purchase, with no subscription.

4. Unlock or restore

Choose **Unlock full app** and follow Apple's prompts. If you already own it, choose **Restore purchases** inside that sheet. TestFlight purchases are sandbox tests.

5. Make your first build

Open **Setup → 1 · Base engine**. Choose the family and specification first, then configure components. Results update as you make changes.

Using Safari

Open the browser preview link on page 12. It shares the main controls, but does not reproduce Apple purchase screens. Allow the page to load before using it.

UNDERSTAND THE OUTPUT

Read the Dashboard



The displayed 75.1 bhp and 79.1 lb ft are predictions for this example setup.

Start with the headline figures

Peak power is shown in bhp, with its engine speed. **Peak torque** is shown in lb ft, with Nm alongside. These peaks can occur at different RPM.

Read the curve across the range

Amber shows power; teal shows torque. The horizontal axis is engine speed. Compare the shape and the RPM you expect to use, as well as the peak numbers.

Understand the other cards

Inlet flow is expressed in cfm. **Recommended max speed** is an engine-speed estimate in rpm, not the car's road speed.

Scroll to Vehicle estimates

See flywheel and wheel power, bhp per litre, predicted maximum speed, gearing limit, mph per 1,000 rpm, 0-60 mph and quarter-mile time. Set the car inputs on page 7.

Compare consistently

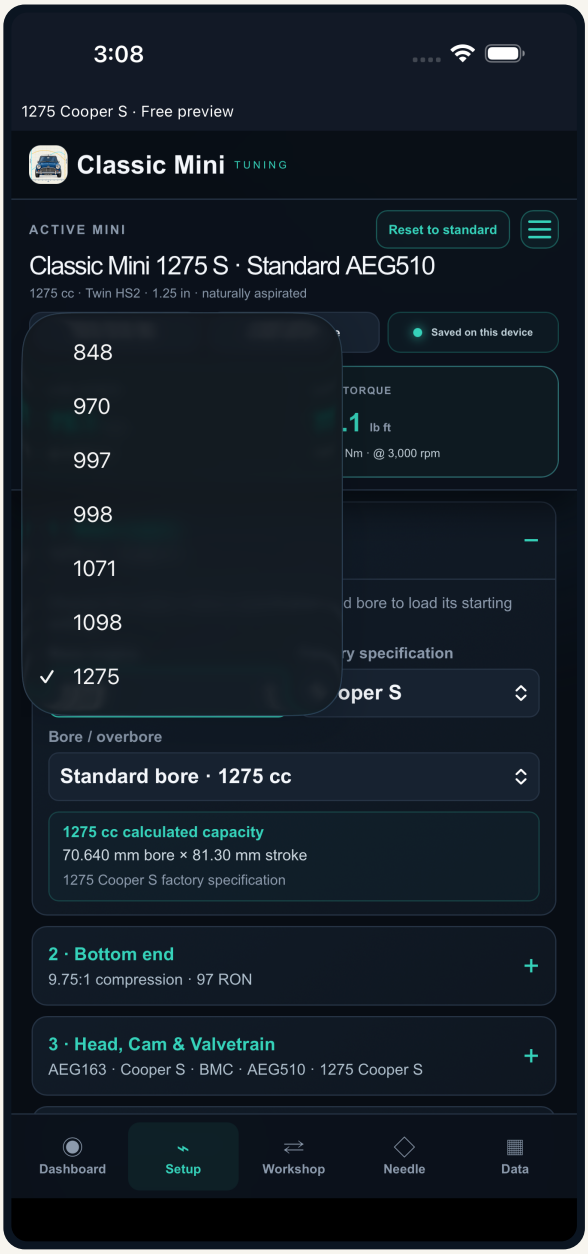
Use the same power basis, vehicle settings and conditions when comparing alternatives. The curve can extend beyond your selected redline; that section is marked.

What the figures mean

These are calculated estimates for planning and comparison. They do not measure your engine or verify the suitability of a physical component combination.

SETUP / 1 · BASE ENGINE

Choose your starting engine



The open Base engine menu lists the available engine families.

1. Choose the family

Select **848, 970, 997, 998, 1071, 1098 or 1275**. Changing the family loads its default factory starting specification.

2. Choose the specification

Use **Factory specification** to select the available Standard, Cooper or Cooper S starting point. The choices depend on the engine family.

3. Set the bore

Choose **Bore / overbore**. Check the calculated capacity and the bore × stroke figures below the selectors. Capacity can differ from the nominal family name.

4. Continue through Setup

Open each numbered section by tapping its heading. The three-line settings menu near **Reset to standard** also jumps straight to a section.

Start over deliberately

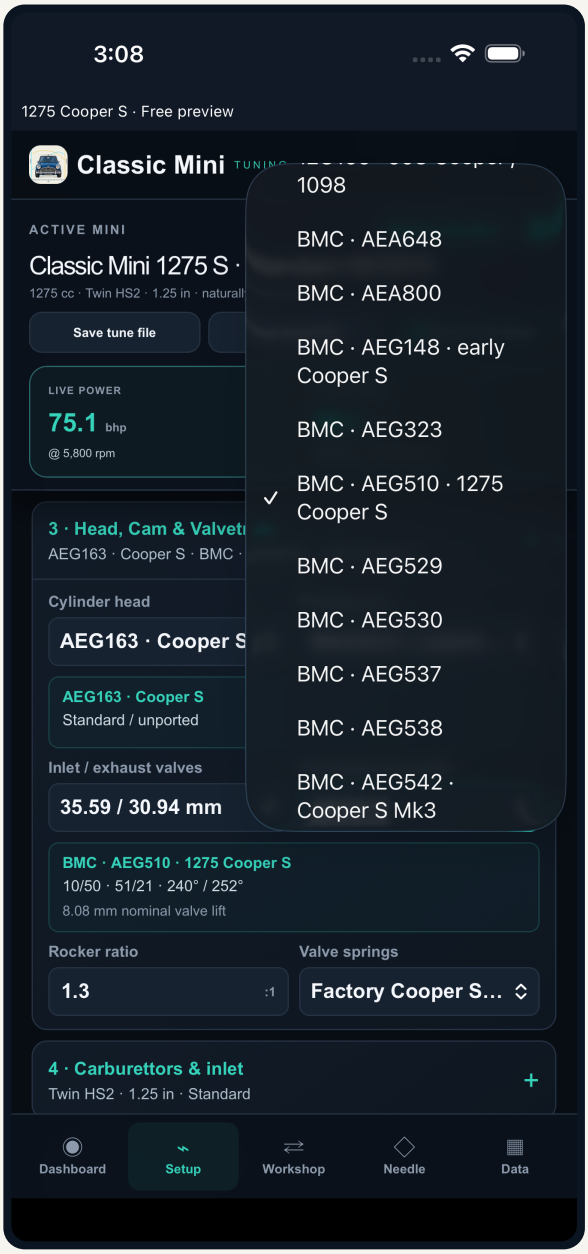
Reset to standard reloads the selected factory preset and replaces the active setup. Save a tune file first if you want to keep your modifications.

Choose the base before the upgrades

Loading another engine family or factory specification replaces component starting values. Set these first, then work through the remaining sections.

SETUP / BOTTOM END AND HEAD, CAM & VALVETRAIN

Build the engine combination



Scroll the Camshaft and profile menu to see further options.

2 · Bottom end

Enter **Compression ratio** and **Fuel octane** in RON. Choose the flywheel and crank/rods/pistons option, and indicate whether the complete assembly is dynamically balanced.

3 · Head, Cam & Valvetrain

Choose **Cylinder head**, **Porting level** and **Inlet / exhaust valves**. Selecting a different head resets its porting to Standard and loads its listed valve specification.

Choose the camshaft

Open **Camshaft and profile**. After selecting a profile, review the timing, duration and nominal valve lift displayed below it.

Complete the valvetrain

Set **Rocker ratio** and **Valve springs**. Use settings that represent the combination you intend to compare.

Review the change

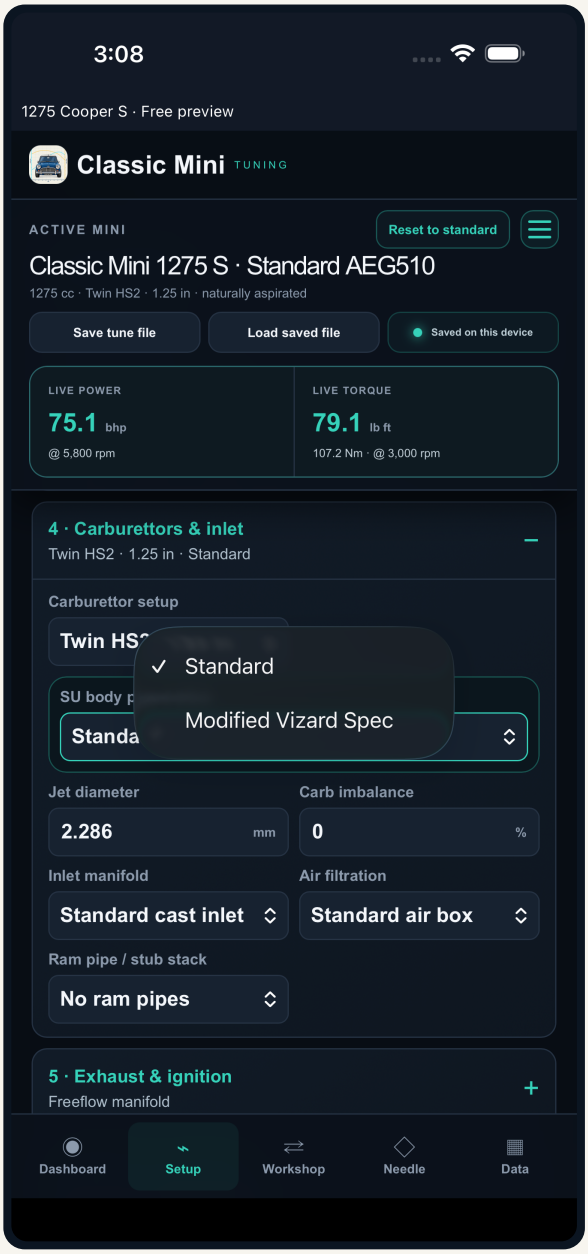
The live power and torque cards update with the setup. Further down Setup, **What your changes add or lose** compares modifications with the selected factory specification.

A useful comparison habit

Change one component or closely related group at a time. Save a file before a larger revision so you can return to a known specification.

SETUP / CARBURETTORS, INLET, EXHAUST AND IGNITION

Configure the SU installation



SU body preparation offers Standard and Modified Vizard Spec.

4 · Carburettors & inlet

Choose **Carburettor setup**, then set **SU body preparation**. The two preparation options are Standard and Modified Vizard Spec.

Check linked settings

Selecting Modified Vizard Spec also selects a short ram-pipe option. Review **Ram pipe / stub stack** afterwards. Switching back to Standard does not automatically restore the previous ram-pipe choice.

Set the rest of the inlet

Check **Jet diameter**, **Inlet manifold**, **Air filtration** and **Ram pipe / stub stack**. Twin-carb setups also show **Carb imbalance**.

5 · Exhaust & ignition

Choose the **Exhaust manifold**, **Exhaust system** and **Ignition** options. Then review the overall output and compare the build in Workshop.

Revisit the needles

Carburettor, jet and engine changes can change the suggested SU needle matches. Open the Needle tab after you have finished the specification.

Read the effect for this build

Preparation gains depend on the selected engine and surrounding components. Treat the displayed net effect as part of this particular combination.

SETUP / SECTIONS 6, 7 AND 8

Set conditions and the car

6 · Mixture & conditions

Set **Target full-load AFR**, intake temperature in °C, air pressure in kPa and the redline in rpm. The section shows the calculated effect on the current engine.

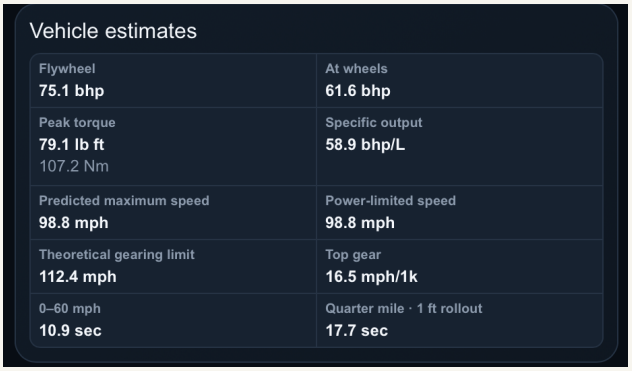
7 · Dyno comparison

Enter measured peak power in bhp and the RPM where it occurs. Read the calculated difference below the fields. This is a comparison with your measured result; entering it does not force the prediction to equal that result.

8 · Car & drivetrain

Choose body style, kerb weight and occupant mass. Check gearbox ratios, final drive, top gear, transmission loss, tyre dimensions and drag area. Kerb weight plus occupants gives the running mass.

VEHICLE RESULTS ON iPAD



Enlarged detail from the iPad Dashboard. These figures belong to the example build shown.

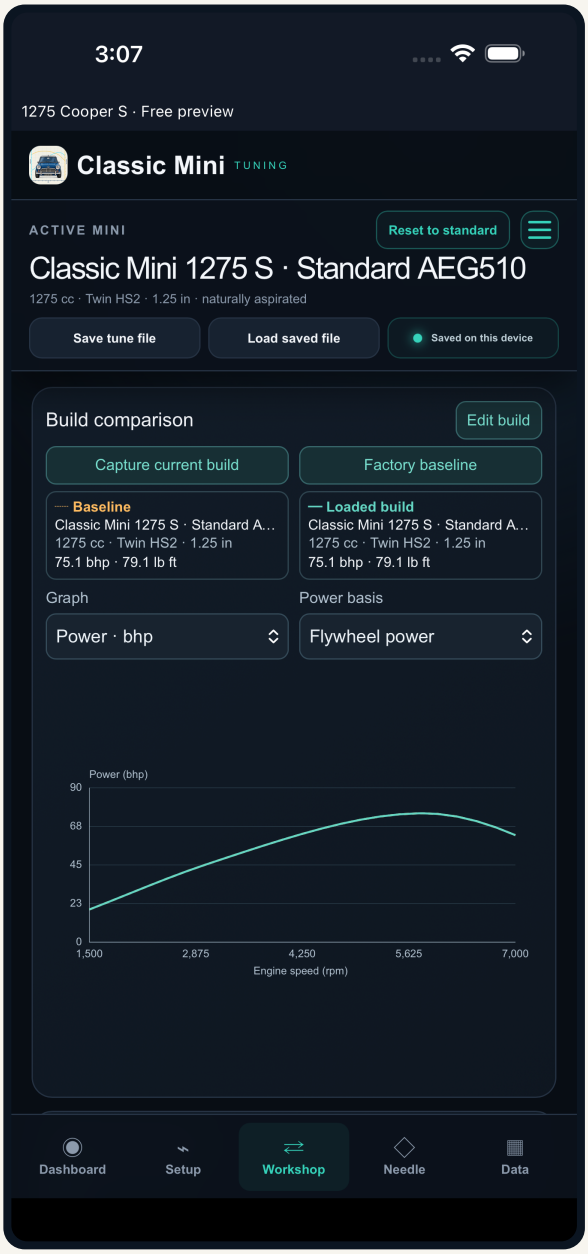
Where to see the result
Return to Dashboard and scroll to Vehicle estimates. Workshop also compares acceleration and maximum-speed estimates against the baseline.

Keep inputs realistic

Use comparable measured power figures and the correct units. Road-speed and acceleration estimates depend on the vehicle, gearing, tyres, losses and conditions you enter.

WORKSHOP / BASELINE AND LOADED BUILD

Compare two builds



Baseline and loaded build overlap when both specifications are the same.

1. Choose your reference

Tap **Factory baseline** to compare with the factory specification. Or load your first setup and tap **Capture current build** to use it as the reference.

2. Change the loaded build

Tap **Edit build** to return to Setup and make changes, or use **Load saved file** to load a second tune. Return to Workshop to compare it with the captured reference.

3. Choose the graph

Use **Graph** to switch between power and torque. Use **Power basis** to compare flywheel or wheel output. Wheel output uses each build's transmission-loss setting.

4. Inspect the differences

The baseline is dashed and the loaded build is solid. Scroll to **Data summary**, expand **Build settings**, then inspect the metric changes and RPM-by-RPM differences.

Keep the reference safe

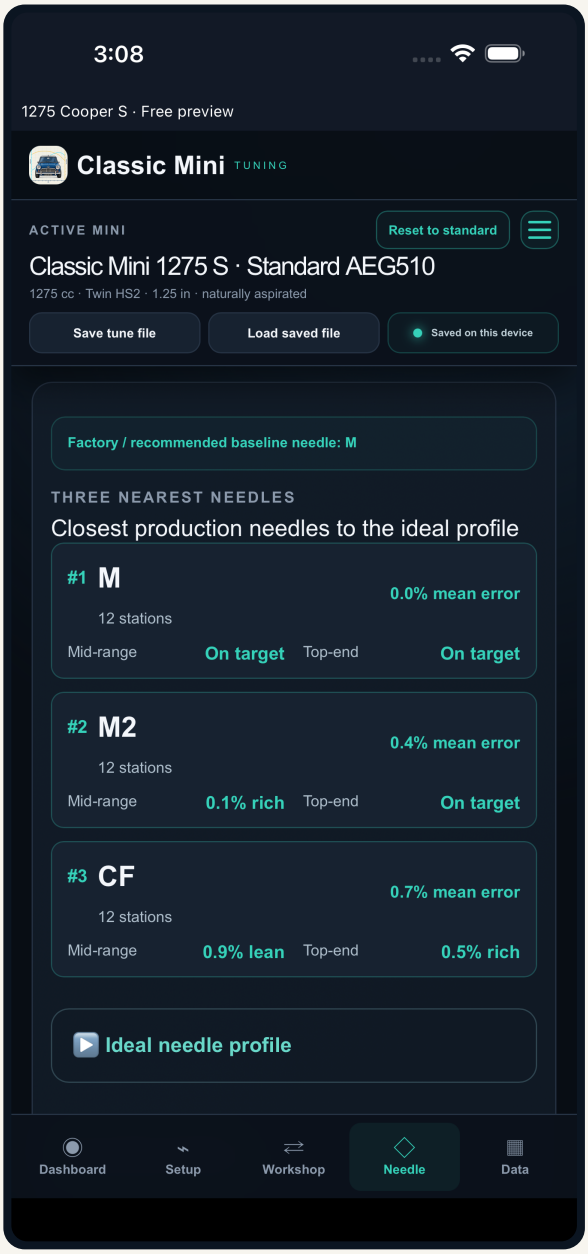
A captured baseline is a comparison held in the current session, not a separate saved tune file. Export both setups if you want to reproduce the comparison later.

Example workflow

Load build A → Capture current build → Load build B → compare power and torque → export build B. For another comparison, capture the reference you want to keep.

NEEDLE / READ THE SHORTLIST AND PROFILE

Explore SU needle options



The example factory setup shows M as the baseline and nearest measured match.

Start with the baseline

Read **Factory / recommended baseline needle**. When a standard application match is unavailable, the app says that no matched standard baseline is available.

Compare the closest matches

Where measured profiles are available, the app lists the three nearest compatible production needles. **Mean error** describes the match to the estimated ideal profile; a lower value is closer within the model.

Read Mid-range and Top-end

These labels describe estimated richness or leanness relative to the target profile. **On target** is a model result, not a measurement from your engine.

Open Ideal needle profile

Expand the row to see station diameters in millimetres and inches. Further down, **Next closest matches** gives additional choices when data is available.

Understand missing data

Some applications offer starting-point codes without measured station profiles. Fewer matches, a dash or a no-profile message means the required compatible data is unavailable.

Use recommendations as starting points

Confirm needle mounting and jet compatibility, then check the actual engine's fuelling. A suggested needle or a low profile error is not a measured air/fuel result.

DATA / POWER AND TORQUE BY RPM

Look beyond the peak numbers



Data presents sampled output. The curve's exact peak can fall between these rows.

Read across a row

Each row gives engine speed in **RPM**, power in **bhp** and torque in both **lb ft** and **Nm**. They describe the same current setup used on Dashboard.

Compare the range you use

Look at lower and middle engine speeds as well as the top end. A build with a higher peak may have a different shape elsewhere in the rev range.

Do not confuse units

bhp measures power. lb ft and Nm are torque units. rpm is engine rotational speed. cfm, shown on Dashboard, expresses inlet airflow.

Use Workshop for differences

The Data tab shows the active build. For a side-by-side reference and calculated changes, use Workshop and expand **Power and torque changes across the rev range**.

Keep the setup with the figures

Export the tune file for results you want to revisit. A screenshot records the visible numbers; the tune file preserves the editable specification.

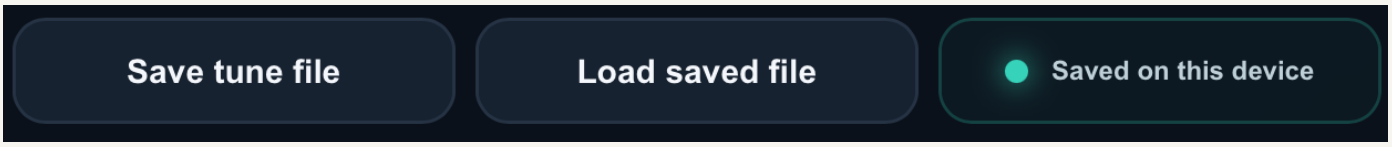
Why a table row may differ from a peak card

The Data table samples engine speeds at intervals. A peak found between those sample points can be slightly higher than the nearest displayed table value.

TUNE FILES / KEEP A RECOVERABLE COPY

Save, load and share your work

THE CONTROLS APPEAR ABOVE EACH TAB



Enlarged screenshot detail: Save tune file, Load saved file and the local-save indicator.

Automatic device save

Saved on this device means the active tune has been stored locally. It is not a library of multiple named files or an automatic cloud backup.

Export a separate copy

Tap **Save tune file**. On iPhone/iPad, use the system sharing options to save to Files or send a copy. In Safari, a supported sharing sheet opens; otherwise a JSON file is downloaded.

Keep versions distinct

Use descriptive file names such as **1275-standard.json** and **1275-cam-option.json**. Rename exported copies in Files if needed.

Load an existing tune

Tap **Load saved file** and select a Classic Mini Tuning JSON tune. Loading replaces the active setup. Check its engine, specification and component selections afterwards.

Keep a copy before resetting

Export your current tune before **Reset to standard**, loading another file, clearing browser data or deleting the app. Local data is separate from copies saved in Files.

Check import messages

If a saved component is no longer supported, the app may substitute an available default and show a notice. Review the affected setting before relying on the new results.

Moving between devices

Export on the first device, transfer the JSON file, then load it on the other. There is no app account or automatic sync. Native-app and Safari storage are separate.

KEEP THIS PAGE HANDY

Quick reference and help

A purchase sheet opens	Changing settings or using Save/Load in the native free preview requires the unlock. Restore an existing purchase from inside that sheet.
A menu option is not visible	Open the relevant Setup section and scroll within the dropdown. Longer camshaft menus show only part of the list at once.
The curves look identical	Check whether the baseline and loaded build are the same. Capture a reference before changing settings, then return to Workshop.
A needle match is missing	Check the carburettor and jet selection. The app can only compare compatible profiles for which measurements are available.
Device save is unavailable	Export a tune file where possible. In Safari, check whether private browsing or storage restrictions are preventing local persistence.
A tune file will not load	Select the original JSON export, not a screenshot, PDF or renamed document. Keep the original file and review any message the app displays.

Open the browser preview

Scan the code with your phone camera or tap this panel.
For help, email **Support@indexiadevelopment.co.uk**.

Before contacting support

Include the app version/build, device model, operating-system version and what you tapped. Add a screenshot and a tune file if they help explain the issue. Do not send passwords or payment details.

Edition: 26 October 2026. Native screenshots: version 1.0, build 1004.9.1. Browser and native system dialogs can differ. The installed native app supports offline calculations; downloads, purchasing, restoring and online sharing require connectivity.