CAPTURING A USEFUL DATALOG

A good log gets you a good answer. Here's what to log and how to drive it so we can see what the engine is actually doing.

CHANNELS TO LOG

CHANNEL	WHY
RPM, MAP / boost, TPS	Where the engine is in the map
Wideband AFR / lambda	Required — fueling accuracy
Target AFR / lambda	How far off target you are
Ignition timing	Timing in each cell
Injector duty / pulse width	Fuel system headroom
IAT and coolant temp	Temperature corrections
Fuel pressure	Supply health under load
Knock level (if equipped)	Safety margin
Ethanol content (flex)	Blend corrections
Battery voltage	Injector and coil behavior

LOG RATE

Use at least 20–50 Hz for drivability logs and the highest rate your ECU allows for full-load pulls. Start logging before the car starts and stop after it shuts off.

THE DRIVE

- [ ] Cold start and two minutes of idle
- [ ] Light cruise at steady throttle in a few gears
- [ ] Gentle tip-in and tip-out
- [ ] Load and boost only on a dyno, track, or closed course
- [ ] Note anything odd and the time it happened

BEFORE YOU SEND IT

- [ ] Send the log file and the exact map that was running
- [ ] Tell us the fuel in the tank and the outside temperature
- [ ] Name files with the date, e.g. 2026-11-09_idle_cruise

Ignition House · hello@ignitionhouse.co · General guidance only. Follow your ECU manufacturer's documentation, and get qualified help for anything you're unsure about.