Case Step 2 – Diagnostic Vectors

getting started · https://www.diagnostic-assistance.com/docs/case-step-2-selecting-confidence-factors/

Step 1	▶ Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8

FIND IT

Cases → open your case → **Step 2, Diagnostic Vectors**

TL;DR

Each diagnostic vector is one avenue of investigation under your observation. Pick the avenue you want to pursue.

QUICK TIP

This step used to be called *Selecting Confidence Indicators*. It is now **Diagnostic Vectors**, and recording your confidence has moved to the top of Step 3. The thinking has not changed, the naming is just clearer about what you are actually choosing.

What a diagnostic vector is

Step 1 captured the symptom. A symptom rarely points at one thing, and a vector is one of the several reasonable directions you could take from it.

Take the observation **AdBlue consumption too high**. There is more than one explanation, and they lead to genuinely different work:

Vector	The avenue it opens
SCR NOx conversion efficiency	The catalyst is not converting properly, so the system doses more to compensate
AdBlue dosing delivery	The dosing system itself is delivering more fluid than it should

Both are consistent with the symptom. They are not consistent with each other, and that is the point. Step 2 is where you commit to one line of enquiry so Step 3 can narrow it to a specific fault.

Choosing an avenue

You will usually have formed a view during your initial inspection. Lean on that, and on three practical questions:

- **What has the vehicle already told you?** A stored code, a live data reading, something you saw or heard.
- **What can you check quickly?** An avenue you can eliminate in ten minutes is worth taking first, even if it is not your favourite theory.
- **What would each result tell you?** Prefer the avenue where both a pass and a fail move you forward.

Recording your confidence

Confidence is recorded at the **top of Step 3**, once you have chosen your vector. You match what you are actually seeing on the vehicle against the descriptions authored for that vector, and pick the one that fits.

The levels describe **how directly your evidence points at this avenue**:

Level	What it means	Example
High	This avenue's own test, or a stored code, confirms it	An AdBlue quality code is stored, or a refractometer reading is out of range
Medium	The evidence fits this avenue but is not conclusive	Dosing is confirmed working, but conversion efficiency is low
Low	Nothing tested yet, you are inferring it from the symptom	Fluid not tested, inferred from the NOx symptom alone

Most vectors carry three descriptions. Some carry two, where the avenue is genuinely binary.

What confidence is not

CRITICAL CONCEPT

A low confidence rating does **not** mean a low chance of success. Confidence ranks avenues by how directly the evidence points at them. It does not forecast the outcome. Cheaply eliminating a low confidence vector is a success, because it is how the diagnosis narrows.

Two further things it is not, both worth keeping straight:

Not this	Because
How often the fault appears	Whether a fault is constant or intermittent belongs to the *observation*, not the vector. It is the same for every avenue, so it cannot tell them apart.
How serious the fault is	Severity is a separate question. A minor fault can be confirmed by direct evidence, and a serious one can be a hunch.

The test is simple: if a confidence description could be pasted under a different vector and still read as true, it is not doing its job. Good descriptions name the evidence that distinguishes *this* avenue from its rivals.

➡ DO THIS

1. Review the diagnostic vectors listed for your observation.
2. Read each one as a question: "what would I be investigating if I took this?"
3. Choose the avenue you want to pursue.
4. Continue to Step 3, where you record your confidence and then pick the specific fault.

STUCK?

The vector list is empty. Go back to Step 1 and confirm an observation is actually selected.
None of the avenues matches your theory. Your theory may sit at a different grain, or under a different observation. Go back to Step 1 and check whether another observation describes the symptom more precisely.

Two avenues look equally plausible. Take the one you can eliminate faster. You can return to the other with the *Return to* control without losing any work.

Next

→ **Case Step 3, The Hypothesis List:** recording your confidence, then narrowing the avenue to a specific failure mode.