This document includes two AI prompts that help you prepare a complete and structured request.

Prompt #1

I am preparing a request for Jigs and Fixtures Design by the EnCata team and want to make sure my input contains enough information to start the work without delays or major redesign later.

Here is my current input:

"<<<INSERT YOUR INPUT HERE>>>"

At EnCata, a request for Jigs and Fixtures Design should clarify the following areas:

1. Product overview

- What type of product or device the fixtures are for
- What stage the product is currently at: concept, prototype, validation prototype, or pre-production
- Whether any fixture, jig, or manual workaround already exists

2. Fixture type and purpose

- Which job the fixture should support: assembly, welding, or testing
- Which step is slow, error-prone, or hard to repeat today
- What a good result looks like in plain terms, such as fewer mistakes or faster handling

3. The part or product

- Which parts the fixture must hold, with sizes, weights, and materials
- Which areas are thin, fragile, or easy to damage
- Whether parts vary from batch to batch

4. Production volume and schedule

- How many units are made per batch and how many batches per year
- When the first batch should start
- Whether the part design may still change

5. Operators and workplace

- Who will use the fixture and how much training they have
- How many shifts or people will use it
- What space, bench height, tools, and lifting limits apply

6. Accuracy and repeatability

- Which dimensions or positions matter most
- What tolerances (allowed size variation) the drawings call for
- How parts are checked today

7. Welding needs (if applicable)

- Which materials and thicknesses are welded
- Which welding method is used
- Where parts bend or shift during welding today

8. Testing needs (if applicable)

- What is being tested and which connection points are available
- What counts as pass or fail
- How many units are tested at the same time
- Whether results need to be shown or saved

9. Electronics and controls

- Whether sensors, indicators, or buttons are needed
- What power is available at the workplace
- Whether software or firmware is needed on the fixture

10. Environment, safety, and compliance

- Whether the fixture uses power, air pressure, or moving parts
- Whether protection from static electricity is needed
- Which safety rules apply in the country where it will be used

11. Build, delivery, and support

- Where the fixture will be used and shipped to
- Which files and documents you need at handover
- Who will maintain it and replace worn parts

12. Existing materials and project inputs

- Available files: part drawings, 3D models, sample parts, photos, test reports
- Known design decisions that should not be changed

13. Risks and open questions

- What is still unclear or undecided
- Known concerns related to operator errors, part variation, or test coverage

Your task:

- Identify missing, unclear, or weakly defined areas in my input
- Structure your answer by the categories above
- For each gap, briefly explain why it matters for jig, fixture, test stand, or semi-automated equipment development
- Separate critical gaps from information that can reasonably be clarified during development
- Flag requirements that are too vague to define the equipment concept or acceptance criteria
- Identify where the required automation level is still unclear
- Point out where sensing, controls, electronics, or firmware may be needed but have not yet been defined
- Flag part variation, operator interaction, safety, or measurement requirements that may affect the concept
- Do not assume that a higher level of automation is better
- Do not invent cycle times, tolerances, forces, sensors, safety requirements, or technical solutions that I have not provided
- Do not rewrite my request. Focus only on identifying gaps and questions

Important instructions for your response:

- Use clear and practical language
- Keep clarification questions short and easy to answer
- Avoid unexplained engineering terminology
- If technical wording is necessary, briefly explain it in simple terms
- Focus on helping a non-engineering person understand what information is needed to define the right equipment scope

Prompt #2

I am continuing preparation of my Jigs and Fixtures Design request based on your previous analysis.

Here is my initial input:

"<<<INSERT INITIAL INPUT HERE>>>"

Here is the additional information I have provided to fill the gaps:

"<<<INSERT ADDITIONAL INFORMATION HERE>>>"

At EnCata, Jigs and Fixtures Design requires clarity in the following areas:

1. Product overview
2. Fixture type and purpose
3. The part or product
4. Production volume and schedule
5. Operators and workplace
6. Accuracy and repeatability
7. Welding needs (if applicable)
8. Testing needs (if applicable)
9. Electronics and controls
10. Environment, safety, and compliance
11. Build, delivery, and support
12. Existing materials and project inputs
13. Risks and open questions

Your task:

- Clearly distinguish fixed requirements from assumptions
- Preserve measurable targets such as throughput, cycle time, defect rate, tolerance, or test accuracy where provided
- Keep the automation level as low as practical while still meeting the stated targets
- Indicate where sensing or powered automation may need to be evaluated
- Preserve any requirements related to part variation, operator access, safety, maintenance, and measurement integrity
- Clearly state whether the expected scope includes design only, equipment build, testing, documentation, or handover

If some information is missing, make reasonable assumptions and clearly mark them as assumptions.

Structure the final request as follows:

1. Project overview
2. Fixture type and purpose
3. The part or product
4. Production volume and schedule
5. Operators and workplace
6. Accuracy and repeatability
7. Welding and testing needs
8. Electronics and controls
9. Environment, safety, and compliance
10. Build, delivery, and support
11. Existing materials, risks, and open questions
12. Expected development outcome

Output requirements:

- A structured draft request for EnCata
- Clearly mark assumptions or missing data
- Keep the response clear and structured
- Do not include explanations outside of this output