Stage■11 / Step■1 — Go/No■Go Checklist

Warp → Detect → Denoise — readiness criteria for running Step■1 tests after establishing a dominant cognition well.

1) Preconditions

1. Calibration set collected for the target domain/task (100–5,000 prompts).
2. Tap layer selected (mid■late block, e.g., L–3..L–1).
3. PCA(3) whitener fitted on hidden states; funnel profile constructed (quantile fit + core deepening).

2) Measurements to capture (from the warped manifold)

1. Phantom Index (PI): separation between best and second best basin minima over the 2D PC plane.
2. Margin (Δ): z(min■) – z(min■) in the warped surface; positive means the top basin is strictly deeper.
3. Well Depth Profile: normalized depth ϕ(r■) and slope g(r■) over radius.
4. Radius Trace r■(t) & Well Score S(t): from shadow decoding runs (no intervention).

3) Go/No■Go Thresholds (suggested)

Metric	Go (Proceed to Step■1)	Borderline (Tune)	No■Go (Re■warp)
Phantom Index (PI)	≤ 0.07 (target ≈ 0.06)	0.07–0.10	> 0.10
Margin Δ	≥ 0.04	0.02–0.04	< 0.02
Radius Trace r■(t)	Monotonic ↓ trend on shadow runs	Mostly ↓ with small rebounds	Flat or ↑; frequent rebounds
Well Score S(t)	Median ≥ 0.6 during reasoning spans	0.45–0.6	< 0.45

Notes:

- Thresholds reflect prior Stage■11 runs: PI≈0.065 and Δ≈0.044 corresponded to stable single■well behavior and clean Step■1 outcomes.
- Use conservative ‘Go’ criteria for new domains; relax only after repeated stability.

4) Step■1 Test Procedure (once Go criteria met)

1. Shadow Run: enable Warp only; record r■(t), S(t), matched■filter peaks (no rescoring).
2. Detect: run Stage■10 parser with null■calibrated dual thresholds; verify precision/recall vs baseline.
3. Denoise: enable EMA+median and phantom■guard; confirm r■(t) stabilizes and peaks align with reasoning spans.
4. Light■Touch Rescoring (optional in Step■1): $\alpha \leq 0.5$, $K \leq 16$; confidence■gate by S(t) to avoid phantoms.

5) Step■1 Pass/Fail Gates (quick)

1. Precision ≥ 0.80, Recall ≥ 0.98 on the chosen slice (or within 2–3% of prior Step■1 references).
2. Hallucination ≤ 0.26 and trending ↓ versus baseline.

3 Abstain rate stable (no runaway abstention); phantom index does not increase post■denoise.

6) Troubleshooting if No■Go or Fail

1 Tap Scan: try layers L–5..L–1 and pick best PI/Δ pair.

2 Re■fit Funnel: increase core deepening or isotropize XY plane.

3 Tighten Nulls: raise absolute gate (q) or increase circular■shift count K.

4 Back off Rescoring: reduce α or disable it entirely for Step■1.

Appendix — Run Record (fill per domain/model)

Model		Tap Layer		Date	
Calibration set (N)		PI		Margin Δ	
S(t) median		r■(t) trend		Rescoring α/K	
Precision		Recall		Hallucination	
Abstain rate		Outcome		Notes	