

[A.] Vacuum Gauge Test Record

Cranking	Idle	Stabilized Idle	Part Throttle	Throttle Snap - Minimum
inHg	inHg	inHg	inHg	inHg

Gauge: ☐ Steady ☐ Fluctuating ☐ Regular needle drop ☐ Intermittent needle drop ☐ Sustained low ☐ Other

[B.] Reading Patterns → Likely Causes / Interpretation

Gauge Pattern	Interpretation
Steady 17–21 inHg at idle	Normal engine pattern.
Throttle opened briefly: drops, then returns	Normal response; rings/valves generally responding.
Steady but lower than normal (10–15 inHg)	Possible poor rings / oiling issue.
Rapid throttle: needle pulls down near zero	Possible poor rings / oil condition.
Occasional drop about 4 divisions	Possible sticky valve.
Regular drop several divisions	Possible burnt valve.
Drops 2+ divisions when valve should close	Possible leaky valve.
Fast vibration 14–19 inHg	Possible loose valve guides.
Wide swing 10–22, worse with RPM	Possible weak valve guides.
Steady 8–15 inHg	Possible late valve timing.
Steady 14–17 inHg	Possible late ignition timing.
Slow float 14–16 inHg	Possible plug gap / synchronization issue on applicable systems.
Below 5 inHg at idle	Possible intake/carburetor gasket leak.
Regular float 5–19 inHg	Possible head-gasket leak between cylinders.
High at first → 0 → builds toward ~16	Possible restricted/choked exhaust.
Slow float 13–17 inHg	Possible carburetor adjustment issue.

[C.] Verification Path

Do not diagnose from the gauge pattern alone. Compare the measured pattern with compression, cylinder leak-down, fuel/air, ignition, and exhaust-backpressure results.

If mechanical sealing is suspected → [1042.1] Compression Test and [1036.3] Cylinder Leak Down Test.