

Compression Test Log

One reading tells you little. Four over a year tell you whether the engine is going backwards, and how fast.

BEFORE YOU START

Petrol vapour ignites, batteries produce hydrogen, ignition coils carry thousands of volts and a machine on a stand can fall. Work outdoors or with the door open, disconnect the battery before probing wiring you are not deliberately measuring live, and never run an engine in a closed space. This sheet helps you observe and record. It is not a repair manual.

TAKING A READING THAT MEANS SOMETHING

1. Warm the engine up if it runs. A cold engine reads low and the number will not compare with a warm one taken later.
2. Remove the plug. Earth the plug lead so the ignition is not firing into open air.
3. Hold the throttle wide open. A closed throttle restricts the air the cylinder can draw and gives a low reading.
4. Crank on a fully charged battery until the gauge stops climbing, and count the compression strokes it took.
5. Record the number, the gauge you used, and how many strokes. All three matter for the comparison.

COMPRESSION FIGURES, AND THE ONE SOURCE THEY COME FROM

The 49ccScoot FAQ gives roughly 90 to 100 psi of cranking compression as the minimum for an engine to start at all, and around 150 psi or above as typical of a strong-running one. We could not find a second independent source for either figure, so treat them as one experienced author's benchmarks rather than a specification. The more useful comparison is against your own earlier reading on the same engine with the same gauge.

THE WET TEST — THE ONE THAT NEEDS NO REFERENCE FIGURE

Take the dry reading, put a small amount of engine oil into the cylinder, and take another.

WHAT HAPPENS TO THE READING	WHAT THAT MEANS
Rises substantially	The oil temporarily sealed worn rings or a worn bore. The leak is past the piston
Barely moves	The leak is somewhere oil cannot seal — a valve not seating, a head gasket, or worse
Was already healthy and stays healthy	Compression is not your problem. Look elsewhere

A SMALL AMOUNT OF OIL

A teaspoon is plenty. Too much oil cannot be compressed and can damage the engine or give a wildly false reading. And remember the engine will smoke for a while afterwards — that is the oil burning off, not a new fault.

THE LOG

DATE	MILES	HOT OR COLD	DRY PSI	WET PSI	STROKES	GAUGE USED, AND NOTES

TAKE A BASELINE WHILE IT IS HEALTHY
The best time to take a compression reading is when nothing is wrong. That number is the one every future reading gets compared against, and it costs twenty minutes on a machine you are already servicing. Almost nobody does it, which is why almost every compression test ends in an argument about what the number should be.

WHAT THE TREND IS TELLING YOU

Need to work out what you actually own?
The Scooter Parts Registry is a free public record of the Chinese factories behind US-market scooters, ATVs and go-karts — brand, engine family, VIN prefix, factory and related machines. No account, no email.
thescooterparts.com/identify