

Valve Clearance Record

The check the most experienced owners do first when one of these runs badly — recorded, without a target figure we cannot source.

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.

WHY NO CLEARANCE FIGURE APPEARS ANYWHERE ON THIS SHEET

Published values for these engines disagree between sources, and some are quoted in thousandths of an inch and others in hundredths of a millimetre in ways that do not convert to each other. If we printed one, somebody would set their valves to it. Use the figure from your own manual, record which figure you used and where it came from, and the sheet does the rest.

WHY IT CLOSES UP ON THESE ENGINES

The heads are soft alloy. As the valve and its seat wear, the valve sits deeper in the head, pushing the stem further up and closing the gap at the rocker. Wear on these engines therefore reduces clearance rather than increasing it — the opposite of what many people expect — and the end point is a valve held slightly open, leaking compression, worst when everything is hot and expanded.

What the symptom looks like from the saddle

WHAT YOU NOTICE	WHY ZERO CLEARANCE DOES THAT
Starts fine cold, gets worse as it warms	Metal expands as it heats, closing what little gap remains
Will not idle without the throttle cracked open	Compression is leaking past a valve that never quite closes
Harder and harder to start over months	The clearance has been closing gradually all along
Down on power with no other explanation	Lost compression is lost power, whatever else is right

CONDITIONS THE CHECK HAS TO BE DONE UNDER

- ☐ Engine stone cold
Not warm. Left overnight is ideal
- ☐ At top dead centre on the compression stroke
- ☐ Both valves closed and both rocker arms free
- ☐ Machine level and secure
- ☐ Your own manual's figure to hand, or a note that you do not have one

THE RECORD

DATE	MILES	INLET AS FOUND	EXHAUST AS FOUND	SET TO	FIGURE USED, AND ITS SOURCE

THE AS-FOUND COLUMNS ARE THE ONES THAT MATTER

What you set it to is what the manual said. What you FOUND is data about your engine — how fast the clearance is closing, and therefore how often this needs doing. Two entries give you an interval that is about your machine rather than about somebody else's.

WAS THERE ANY FREE PLAY AT ALL?

WHICH VALVE WAS TIGHTER?

DID IT RUN BETTER AFTERWARDS?

NOTES — WHAT YOU FOUND AND WHAT CHANGED

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