Mercedes Valve ADJUSTMENT

For technicians who haven't worked on any Mercedes-Benz cars, the sight of the three-pointed star may evoke a feeling of awe. For others, the feeling may range from awe to respect to downright intimidation.

Truth is, the Benz has pretty much the same moving parts other cars have. And when the maintenance on these moving parts is neglected, needless and expensive damage occurs. Take the twin-cam, 2.8 L six we cover here. When its valves go out of adjustment, it sounds like a sewing machine. Reset the valves, and the engine purrs again.

If you ever quizzed some Benz owners, you'd probably discover that they're similar to other folks you've already converted to your flock. Like many of your other customers, they may have overlooked or totally ignored critical maintenance such as oil changes and valve adjustments on their cars. If you can catch the sloppy valves in time and adjust them, the owner says "Wow, the car hasn't run that well since it was new." You're a hero. Fail to catch the sloppy valves in time, and there's a big repair bill for replacing damaged valve train parts. You aren't quite the same hero, but the customer's still glad that his car's running right again. This valve adjustment is another service opportunity for those who want to take advantage of it.

Don't let the three-pointed star intimidate you. Adjusting the valves on this engine is simple, easy, and profitable. And you don't need any special tools for the task, either!

Adjustment Intervals

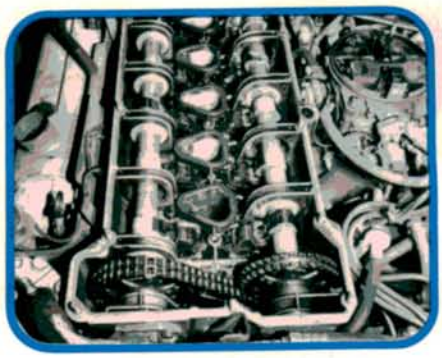
The procedure described in this article applies to 1972-81 twin-cam sixes. To your buddies at the local Benz shop, this engine's known as the 110 engine. Mercedes recommends that you set the valves cold and that you check them every 15,000 miles.

If you have a problem reaching the starter with your remote starter switch, look under the battery tray below the positive battery post. You can connect a remote switch onto the starter's wiring harness there.

—By Dan Marinucci

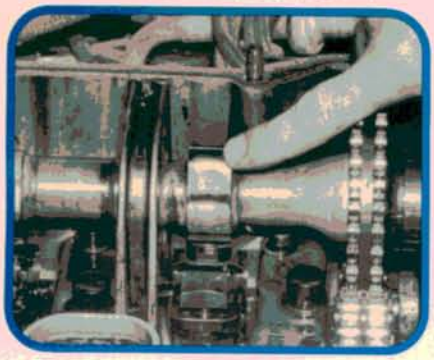
1

Before you can lift the valve cover off the carbureted engine, you have to remove the air cleaner, the plug wires, and this piece of throttle linkage. On injected engines, all you have to remove are the plug wires.



2

The driver-side or carburetor-side cam is the intake cam. Some guys prefer to adjust the valves one camshaft at a time. They say this minimizes the chances of you making a mistake. Mercedes recommends that you set the valves cold.



3

On the Benz six, it's easy to see when the valves are closed. Just bump the engine over until the lobe points as straight up as you can get it. If you use a remote starter switch, look for the starter on the right side of the engine buried under the exhaust manifold.

4

Slide a feeler gauge under the heel or base circle of the cam. Feel for the customary slight drag on the gauge. If you set the valves cold, the lash is .004 inch (.10 mm) for intakes and .010 inch (.25 mm) for exhausts. If the engine's already hot, set all valves .002 inch (.050 mm) looser.

5

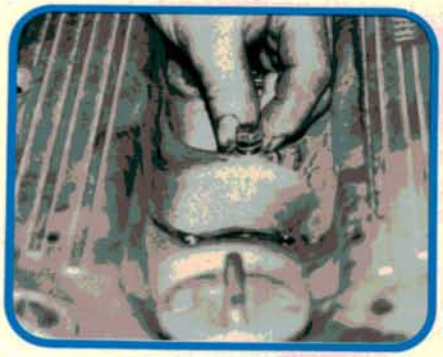
To set the valves, turn the self-locking nut under this anti-rattle clip. Different technicians have different tool preferences here, but a 17 mm crowfoot wrench seems to work fine. The self-locking nuts are right-hand thread.

6

Worn camshafts are not uncommon on these twin-cam sixes—particularly when oil changes have been neglected. Inspect each and every lobe for wear. If the customer gives you any grief, show him the wear and note your findings on the work order.

7

Always replace these seals that seal the valve cover to the top of the spark plug wells. The seals tend to dry out and crack. Then the plug wells fill up with oil. Check with your supplier beforehand, because all valve cover gasket kits do *not* include these seals.



8

Don't forget these little sealing washers that go under each of the center valve cover bolts. Your gasket set *should* include a new set of these washers. Remember to snug up the center bolts first, then tighten the outer valve cover bolts in a criss-cross pattern.