

SOLEX 4 • BARREL

The Solex four-barrel carburetor was used on some Mercedes 2.8 L twin-cam sixes—alias the 110 engines.

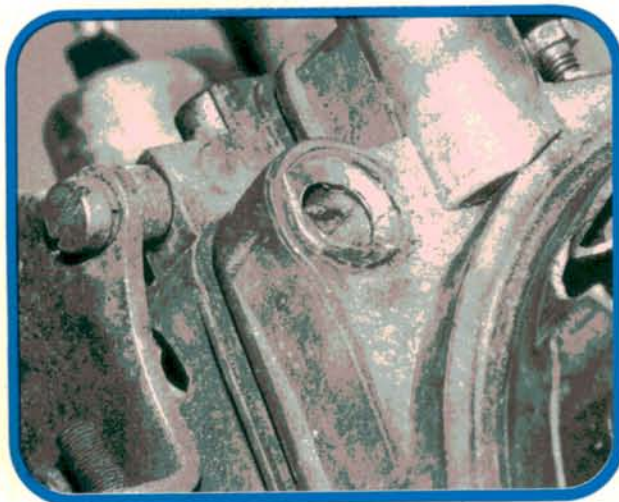
If you've done any domestic carburetor overhauls, you'll understand why some guys call this carb the German Quadrajets. And any Quadrajets experience you happen to have will serve you well on this Solex!

In this installment, I'll concentrate on the details that tell you if this very expensive carburetor is rebuildable. In the next **Carb Clinic**, I'll cover

assembly and adjustments—as well as some replacement options.

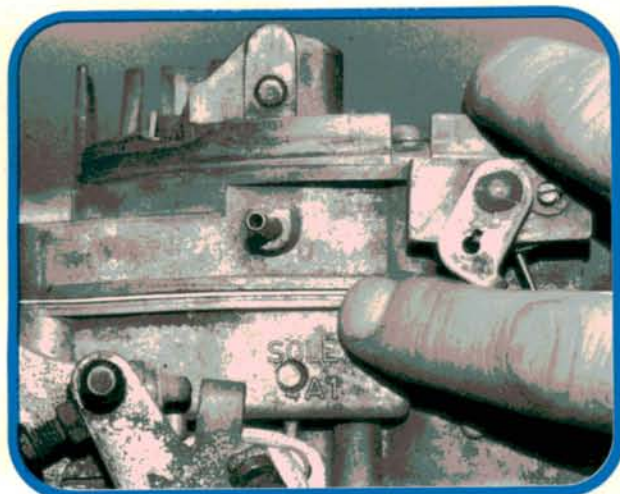
Instead of offering a traditional kind of overhaul “kit” for this Solex, Mercedes—and some Benz parts specialists—sell the parts separately. Check with the local Benz expert before you do order an aftermarket kit. Sources say that the completeness of the kits for the Solex varies a great deal.

—By Dan Marinucci



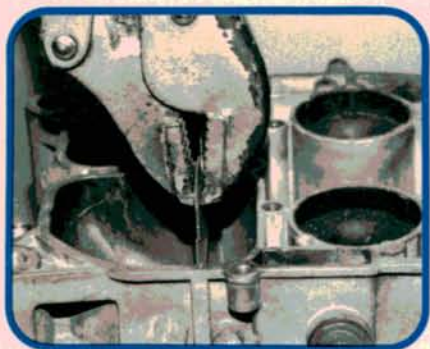
1 GOUGED AGAIN

When the metal around the bolt holes is gouged this badly, the carb is probably warped. Instead of replacing leaking gaskets, some guys just tighten the carb bolts. By the time they realize that this isn't stopping the vacuum leak, the damage is done.

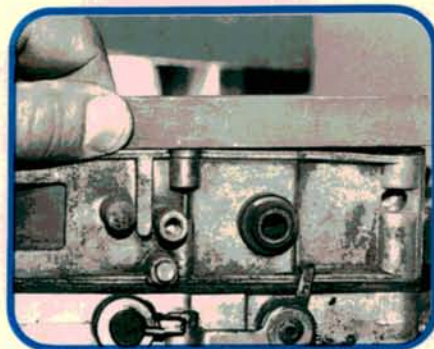


2 EYEBALL THIS

Sometimes, you can sight along the air horn gasket and see carburetor warpage. The sequence seems to be that: 1) heat and vibration loosen the Solex' hardware; 2) vacuum leaks occur; and 3) big hands try to tighten away the vacuum leaks.

**3****BAFFLED**

Are you going to straightedge that Solex fuel bowl casting? If so, carefully grab this secondary baffle plate with locking pliers and remove it. A warped carb will usually suffer from a variety of lean mixture-related driveability problems.

**4****EDGE OF DARKNESS**

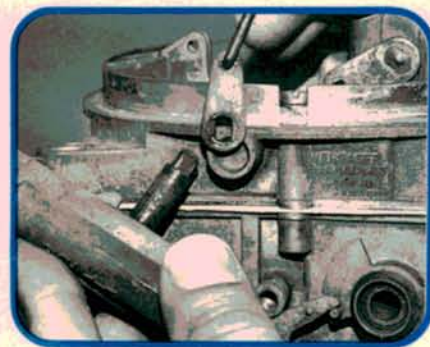
You don't need a feeler gauge to confirm this warpage! When the air horn's distorted, the bowl casting is usually distorted too. Some guys try sanding/filing these castings and/or doubling up air horn gaskets. Neither are foolproof fixes.

**5****EIGHT'S ENOUGH**

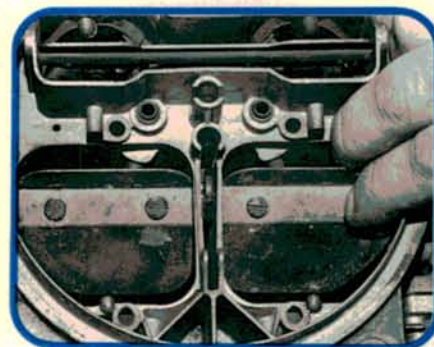
If that carb's really filthy, you may not see this screw in the front choke-side area of the air horn. Then you might try (unsuccessfully) to persuade the air horn from the bowl casting. You have to remove eight screws in order to remove the air horn.

**6****GIMME A LIFT**

Before you get too far into the overhaul, inspect this cam closely. This cam, which lifts the secondary metering rods, isn't available separately. If the cam is worn or cracked, you'll have to replace an extremely expensive air horn assembly.

**7****PLEASE RELEASE ME**

This choke rod/arm can be a nuisance. To release it, remove the entire choke assembly. After you remove the lone choke assembly retaining screw, firmly pull the assembly outward. Do not dunk the choke spring unit in the carb cleaner solution.

**8****THAT'S A FLAP, JACK**

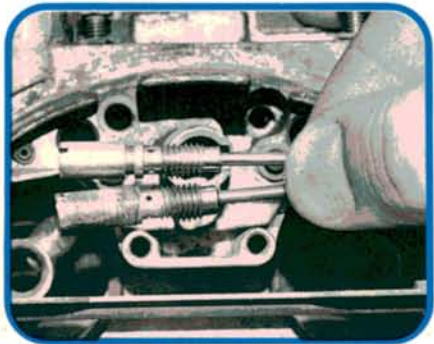
This secondary air valve absolutely, positively has to spring open and closed smoothly and freely. Gum, varnish, or rust can make this air valve stick open, stick closed, or open slowly. Use penetrating oil to free up rusted air valve shafts.

**9****GLIDE 'N SLIDE**

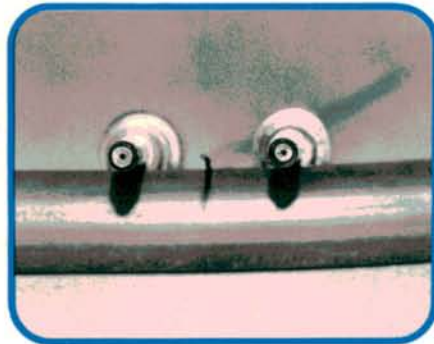
While you're inspecting the secondary side of the air horn, be sure this metering rod guide piston isn't corroded, carboned, or varnished. When you move the secondary air valve, this piston has to *glide* up and down in its bore!

**10****HIDDEN DIRT**

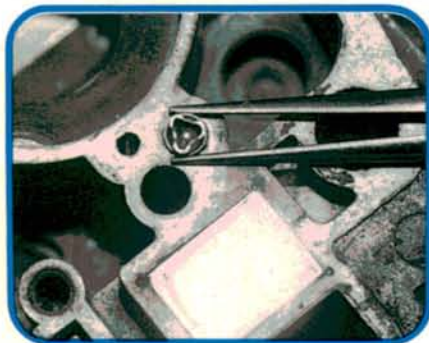
See the deposits inside these main jets? Remember to remove these primary jets and flush the jets and their passages thoroughly. Just because the jet isn't plugged doesn't mean you can ignore the passage behind it.

**11****RELUCTANT AIR BLEEDS**

If these primary air bleeds don't come out easily, corrosion and/or dried o-rings may be the problem. Soak them with penetrating oil. Back each one out until you can't feel it unthreading anymore. Then use needle-nose pliers to pull it straight upward.

**12****LET 'EM BLEED**

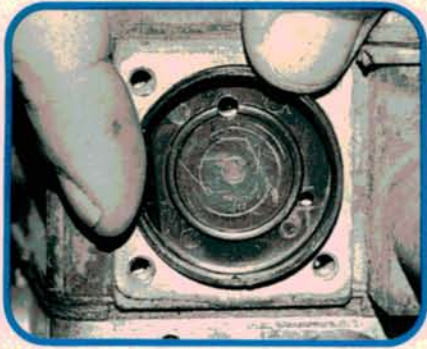
See how small these primary air bleed orifices are? For perspective, I put a piece of 0.018-inch (0.45 mm) tag wire between the air bleeds. It doesn't take a heckuva lot of dirt to clog these, so remember to flush them with carb cleaner.

**13****HELD CAPTIVE**

Each accelerator pump circuit check ball is held captive in a little cup-shaped insert such as this one. To do a thorough carb cleanup, carefully remove each of these inserts with needle-nose pliers before you dip the carb in the cleaner.

**14****SMALLER END OUT**

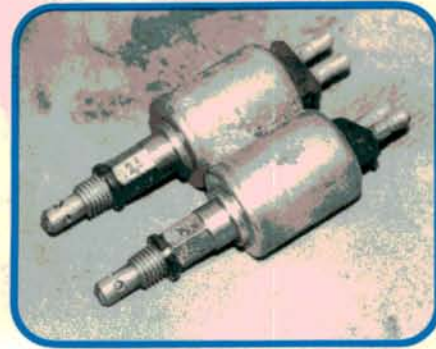
When you're tearing the carb apart, note that the smaller end of the accelerator pump spring points outward against the pump diaphragm. It's easy to overlook this detail.



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WATCH FOR THIS INSERT

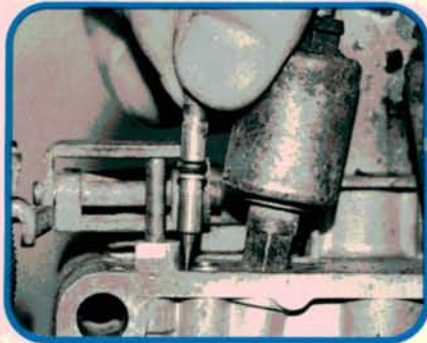
If the inside of the carb is particularly muddy and murky, you may not even notice this black plastic part inside the accelerator pump cavity. Remove this plastic piece so you can flush the pump circuit passages thoroughly.



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DOUBLE TROUBLE

The Solex has two idle shut off solenoids. If one of them fails, the engine will continue running but it'll idle roughly. Be sure both solenoids are getting power and are grounded.



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STUBBORN MIXTURE SCREWS

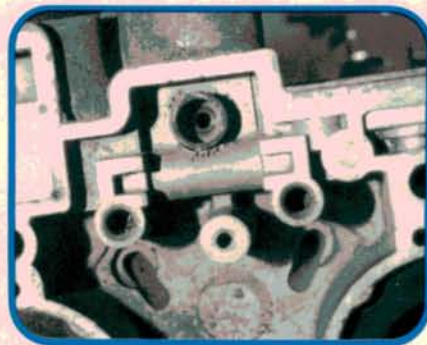
You keep turning and turning but an idle mixture screw won't come out. If that happens, the o-ring on the mixture screw is holding it in the throttle base. Just grab the end of the mixture screw with needle-nose pliers and pull it out.



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TO FLOAT OR NOT TO FLOAT

Sources disagree on the need for replacing this float. Although the float may not be gas-logged, you may opt to replace it for insurance' sake. For your reference, the new float we weighed tipped the scale at six grams.



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LOOSE SEAT?

Sometimes this inlet seat, which is pressed into the bowl casting, works loose. It can move upward far enough to cause fuel starvation at wide-open throttle. Mercedes offers two different oversize inlet seats (P/N 0000710194 and P/N 0000710294).



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WATCH THE PULL CLIP POSITION!

Maybe you dumped all the parts out of carb bowl without noting this. This is the correct place to hang the inlet needle pull clip. If you try to hook the clip elsewhere, you're asking for flooding problems.