

CARBURETOR CLINIC

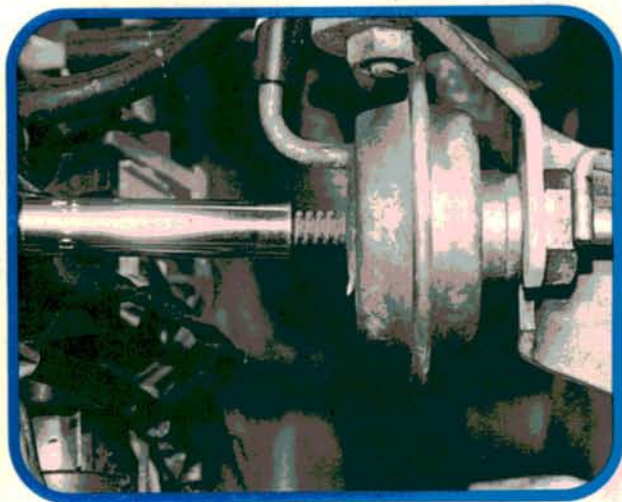
FEEDBACK HITACHI 2-BARREL

This carb appears on feedback-equipped front wheel drive Mazda GLCs. It's just one of several updated versions you'll see of the basic Hitachi carb we covered in the November/December 1987 **Carb Clinic**. When you overhaul this carb, remember the following points:

- preferred average (midpoint) dwell is 36 degrees, but

any average dwell between 20 and 70 degrees is okay by Mazda.

- check your idle switch adjustment at least three times. If it doesn't consistently cut in and out at the same points, it's dirty or worn out.
- bubbles in the fuel bowl sightglass and/or a rich condition can be signs of a damaged air/fuel solenoid o-ring.



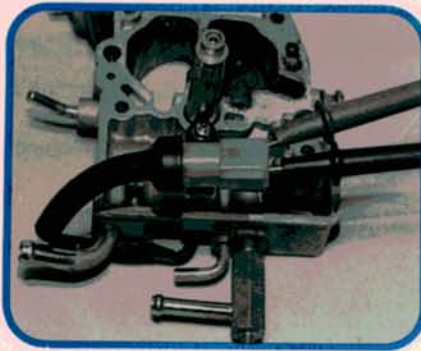
1 I'M THE WANDERER

When a GLC's idle speed wanders or the car bucks and surges, check this throttle positioner diaphragm on the intake's left side. Device maintains idle speed when the air's on. It also cracks open the throttle to reduce deceleration HC emissions.



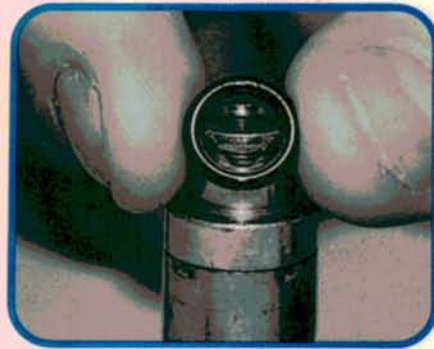
2 DWELL ON IT

Okay, everything warmed up? The ideal idle air/fuel solenoid dwell should average 36 degrees. Dwell should range about five degrees up and down from the midpoint or average reading. Lean problems drive dwell down, rich problems drive it up.

**3**

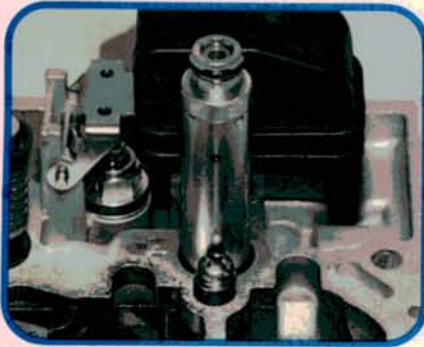
SOLENOID BENCH TEST

The safest bench test you can make on the air/fuel solenoid is to check it with an accurate ohmmeter. Use the low scale. Cold resistance reading on ours was 35 ohms.

**4**

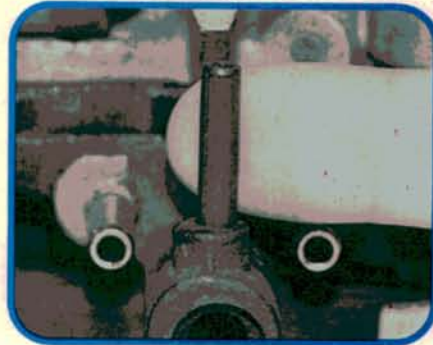
LUBRICATE ME FIRST

Air/fuel solenoid o-ring fits snugly in the floor of the fuel bowl. Liberally lube it with motor oil before you slip it onto the solenoid. Then take your time reinstalling the air horn. If you don't, you may cut this o-ring and cause a rich condition.

**5**

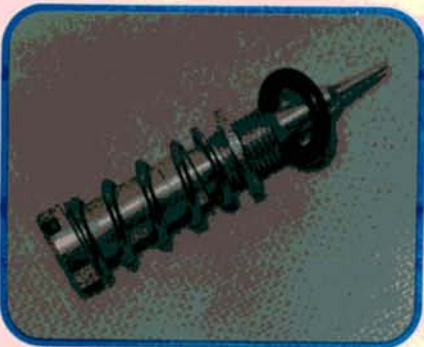
TREAT ME RIGHT

As of press time, no one offers this air/fuel solenoid separately. Don't dunk it in the carb cleaner. Damage one and you'll have to replace the entire air horn assembly!

**6**

REMOVE THIS ROLL PIN

To get at the idle mixture screw on this Hitachi, drive out this roll pin with a $\frac{1}{8}$ punch. If you have to remove the pin with the carb on the engine, remove the EGR valve first. Carefully drive out the pin and then reinstall the EGR valve.

**7**

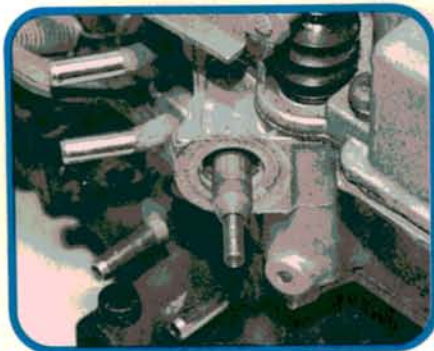
WHAT O-RING?

When you remove the idle mixture screw, be sure you retrieve the little washer and o-ring from the hole in the throttle base. Lube the new idle screw o-ring and be sure that the rounded-corner side of this little washer faces the o-ring.

**8**

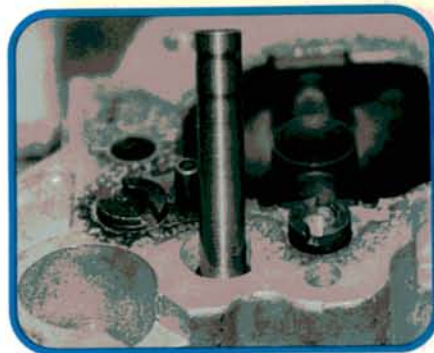
IN CLEAN WE TRUST

See how tiny this primary slow jet orifice is? If this orifice clogs up, you can adjust the mixture screw until Nixon's re-elected and the idle won't change! It's essential that you thoroughly flush out all the carb circuits.

**9**

MYSTERIOUS DIESELING?

Rather than replace the bad slow fuel cut solenoid, some guys just discard this spring and valve and reinstall the bad solenoid. Then the customer wants to know why the engine tries to keep running when he turns the ignition off.

**10**

WEIGHT FOR ME!

Okay, you carefully shook all the small parts out of the bowl casting, right? Then you realized you had one steel check ball, one teflon ball, and this weight. The weight and the teflon ball both go into this channel next to the accelerator pump well.

**11**

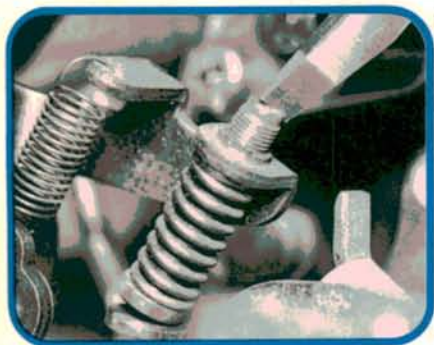
FLOAT WEIGHT

For the record, this float should weigh seven or eight grams. This one's over 10! Usually, the safest, most cost-effective measure is to just order a new float when you order the overhaul kit.

**12**

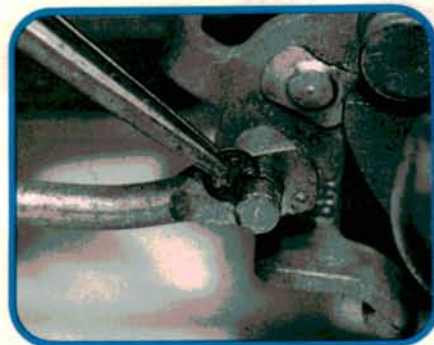
TEST AND LUBE IDLE SWITCH

Connect a self-powered test light or an ohmmeter across this idle switch. Be sure the switch makes and breaks when you move its spring-loaded arm. To help preserve the switch, spray a little penetrating lubricant down inside it.

**13**

CRITICAL ADJUSTMENT

Here's the idle switch adjustment screw. Double-check this adjustment anytime you change idle speed. If the idle switch isn't properly adjusted, it may conspire with the throttle positioner to cause a bucking, surging, or hunting-idle speed problem!

**14**

ITTY-BITTY E-CLIPS

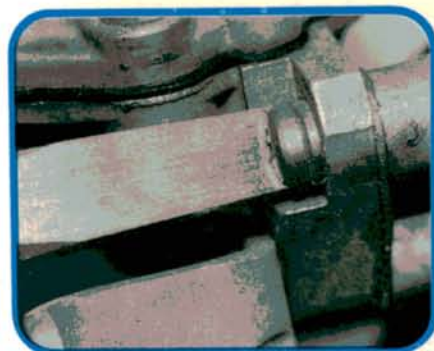
You'll need a good pair of slim needle-nose pliers here, because these tiny E-clips will defy your standard carb pin tool. Take your time, because it's very easy to lose these little clips.



15

SECONDARY DIAPHRAGM

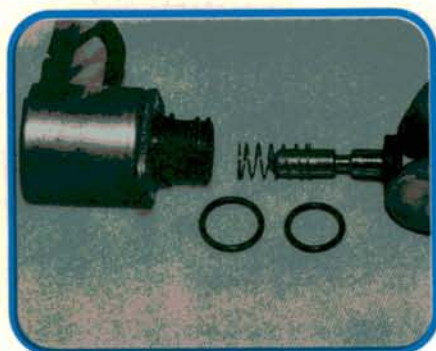
On high-mileage carbs, we recommend that you replace the diaphragm inside this secondary diaphragm unit. After all, your name's on the job and this diaphragm is difficult—if not impossible—to replace on the car. Order one when you order the carb kit.



16

INSTALL THIS FIRST

Always install the secondary diaphragm unit *before* you install the air horn assembly. Otherwise, you won't be able to install this screw. If the secondaries don't work—you guessed it—the diaphragm's bad.



17

BOWL VENT MUST VENT

When a GLC seems to starve for fuel at higher RPM, always check the bowl vent solenoid. Briefly put 12 volts to it and it should click in and out. Be sure the seal on the end of its stem is intact. Smaller o-ring fits on the *inner* solenoid groove.



18

PESKY PLASTIC PIVOTS

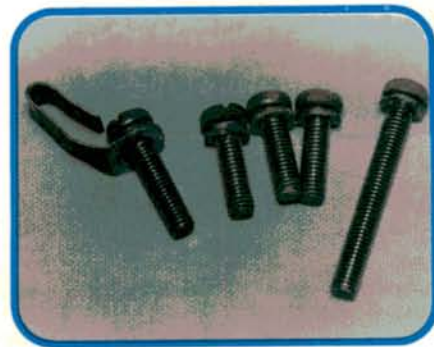
Before you remove this plastic pivot, spray lubricant into it. Get a firm grip on the throttle lever with locking pliers and then pry the pivot off the ball stud very, very carefully. Lightly lubricate the pivot's socket before you reinstall it.



19

CHOKE CONTINUITY

When troubleshooting a cold driveability complaint, check continuity from the choke terminal to ground. Or, do a voltage drop test across the choke while the engine's running.



20

AIR HORN SCREW LOCATION

In case you forget, the oddball-length air horn screw (left) holds down the air fuel solenoid wiring clip. It goes into the passenger-side hole.

—By Dan Marinucci