

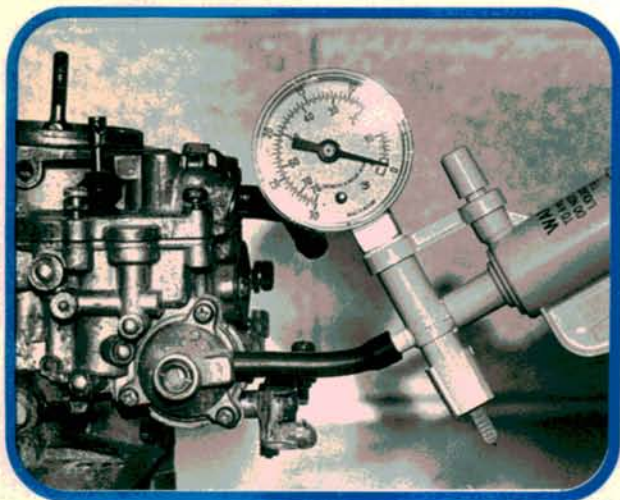
AISAN 2•BARREL

This Aisan carb appears on 1981-86 Toyota Tercels. Although many technicians consider this unit to be bulletproof, some problems do occur with it. Probably the most common breakdown on this carb is auxiliary accelerator pump (AAP) failure. Some techs argue that as long as the AAP holds vacuum, it's okay. Others say that any sign of fuel residue in its vacuum nipple or vacuum line is reason for replacement. Experience has shown that a good-working AAP may have some fuel residue present. Usually, it pays just to replace it to prevent a potential comeback.

Remember that due to the way its vacuum supply is controlled, the AAP only works when the engine's cold. But a leaking AAP diaphragm can cause the engine to load up fairly quickly and often fouls out number one spark plug.

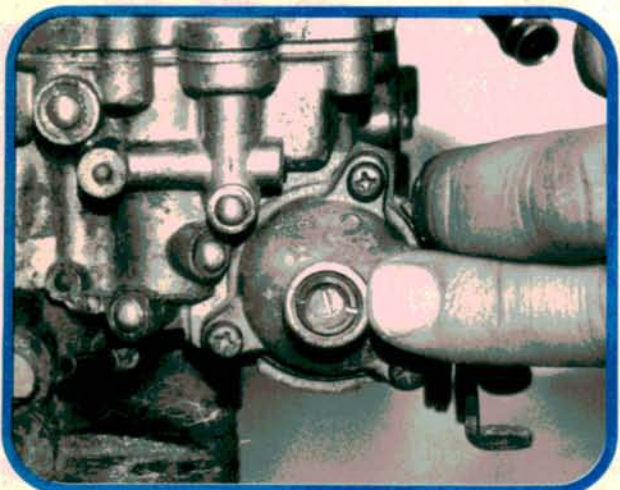
You may also encounter hesitation problems, erratic hesitation problems, an erratic idle, or a slightly rougher-than-normal idle on a Tercel. If you do, check the vacuum modulator valve next to the EGR valve. This valve helps control EGR operation.

—By Dan Marinucci



1 AAP DIAPHRAGM FAILURE

If the auxiliary accelerator pump (AAP) diaphragm fails, the engine sucks fuel through it and loads up when cold. AAP failure usually causes a fuel-diluted crankcase, so plan on changing the oil and filter too. Toyota does sell the AAP separately.



2 YELLOW MEANS HANDS OFF!

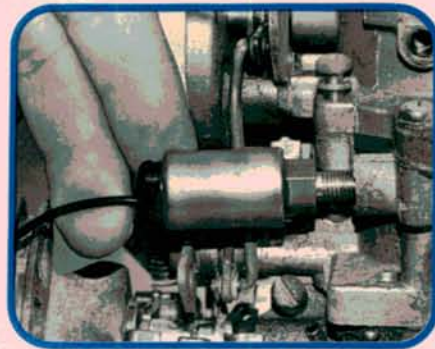
See the daub of yellow paint on the screw in the AAP cover? Whenever you find yellow paint on part of an Aisan carb, it means it's a factory-set adjustment. Disturb such an adjustment at your own risk!



3

FREE THE WIRES

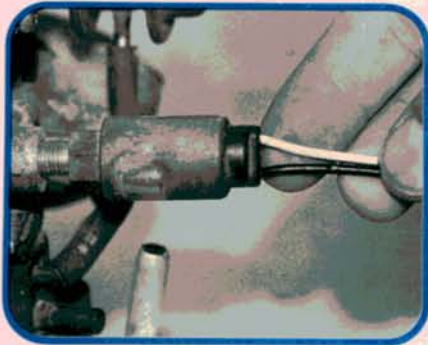
I've found it's worth a few extra minutes to remove these wires from the harness connector. That way, you don't twist them up or break a connection when you're removing or reinstalling a solenoid. Who wants to risk an intermittent connection here?



4

IDLE SOLENOID HERE

Remember that the single-wire solenoid on the choke-spring side of the carb is the idle cut-off solenoid. When the engine won't idle, check this solenoid and its circuit first.



5

SECONDARY SOLENOID OPERATION

The secondary solenoid on this carburetor shuts off the fuel to the secondary fuel transfer circuit during deceleration. This reduces decel emissions. If this solenoid fails to open, you'll feel a lag or hesitation when the secondary opens up.



6

LITTLE STUD, BIG TROUBLE

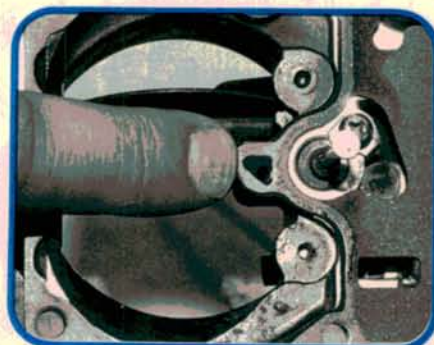
Note that the air cleaner stud only threads into the air horn. The stud's threads never reach the carburetor bowl casting. So if some musclehead overtightens the air cleaner wing nut, he *could* warp the air horn.



7

CHOKE BLADE BINDUP

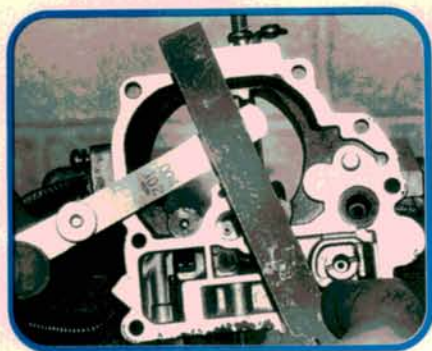
Whenever you have a hard-start or cold-driveability complaint on a Tercel, be sure the choke blade moves freely. If cleaning the choke shaft with carb cleaner spray doesn't free up a sticking choke, you know the air horn's probably warped.



8

POWER CIRCUIT VACUUM LEAK

If the air horn's warped, it can cause a vacuum leak at this power circuit vacuum passage. The lower-than-normal vacuum signal to the power piston causes a rich condition because it allows the power valve to open too early and too often.



9

GOOD AND FLAT HERE

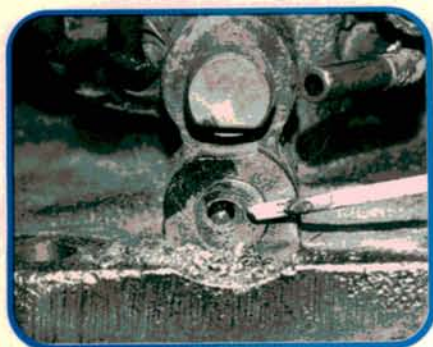
When in doubt, straightedge this area of the air horn. If the air horn's warped more than a few thousandths here—and the engine has warped air horn-related symptoms—it's time for a new air horn or a new carburetor.



10

DRILL HERE!

Don't be fooled by that big aluminum plug. The anti-tampering plug covering the idle mixture screw is directly below the big aluminum D-shaped plug. Hold the carb steady and carefully center-punch this plug before you begin drilling.



11

CLOSE QUARTERS

See the mark I made near the end of this rod? That's all the space you have (about $\frac{3}{16}$ inch) between the plug and the idle mixture screw. Stop drilling as soon as you feel the bit go through the plug or you'll drill right into the mixture screw!



12

SOFT SLOT

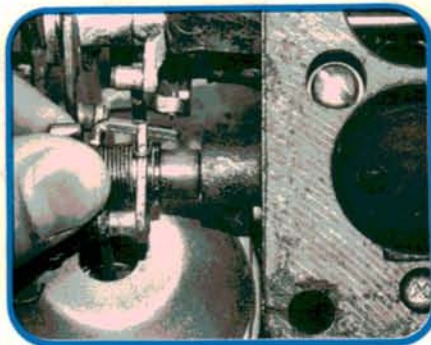
The slot in this brass idle mixture screw will distort and open up easier than you think. Be sure your screwdriver fits snugly in the slot. Also, the quicker you complete your mixture adjustment, the less chance you have of distorting the slot.



13

A DIRTY JET IS AN IDLE JET

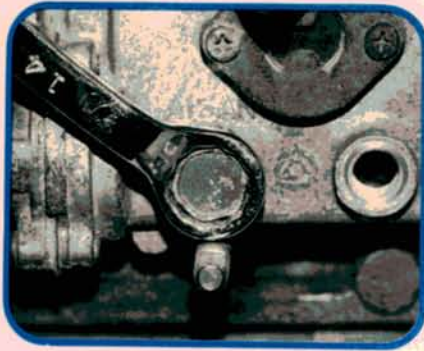
Yes, the Aisan's idle jet resembles the idle jet in lots of other Japanese carburetors. Treat it the same way you treat the others. Remove it, flush it out, and flush out its passage too.



14

SMOOTH SECONDARY MOVEMENT

Always check for smooth, free secondary throttle shaft movement. Sometimes, the secondary shaft rusts up and sticks. Soak the shaft in penetrating oil until you free it up.



15

REMOVE LINKAGE FIRST

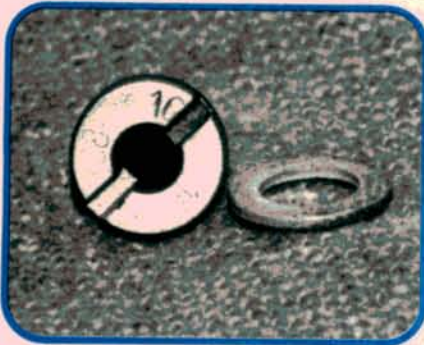
You can't cheat here. Before you can get a wrench or a socket onto this jet access plug, you have to remove the linkage from this side of the primary throttle shaft.



16

ONLY CABINET TIPS WILL FIT

A standard screwdriver such as this one won't fit through the jet access holes. You need a screwdriver with a tip that's the same size as its shank. Tool companies call these cabinet-type, cabinet-tip, or carburetor-tip screwdrivers.



17

REMEMBER THE JET GASKETS

Whether you're removing or installing the main jets in this Aisan carb, it's easy to overlook these little gaskets or sealing washers. There's one gasket on the primary main jet and one on the secondary main jet.



18

PUMP DISCHARGE SEAL

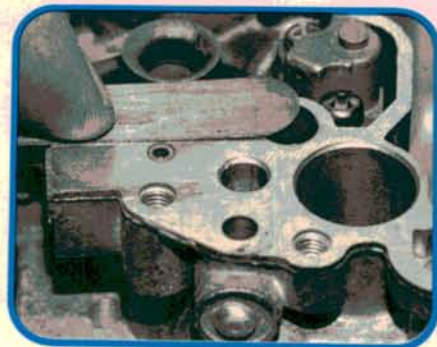
If you want the accelerator pump circuit to work properly, remember to install this seal on top of the weight in the discharge passage. Otherwise, you'll have a heckuva leak in that circuit when the pump tries to pump fuel through it.



19

AAP CHECK BALL SPRING

This spring and threaded plug hold the AAP check ball in place. If you mix this spring up with the one in the main accelerator pump passage, just remember that the AAP circuit's spring is the shorter of the two.



20

SEAL INSTALLATION TIP

If you want to be sure that this accelerator pump seal doesn't pop out on you, hold it down with a thin feeler gauge. After you install the air horn, just pull the feeler gauge out and start the air horn screws.