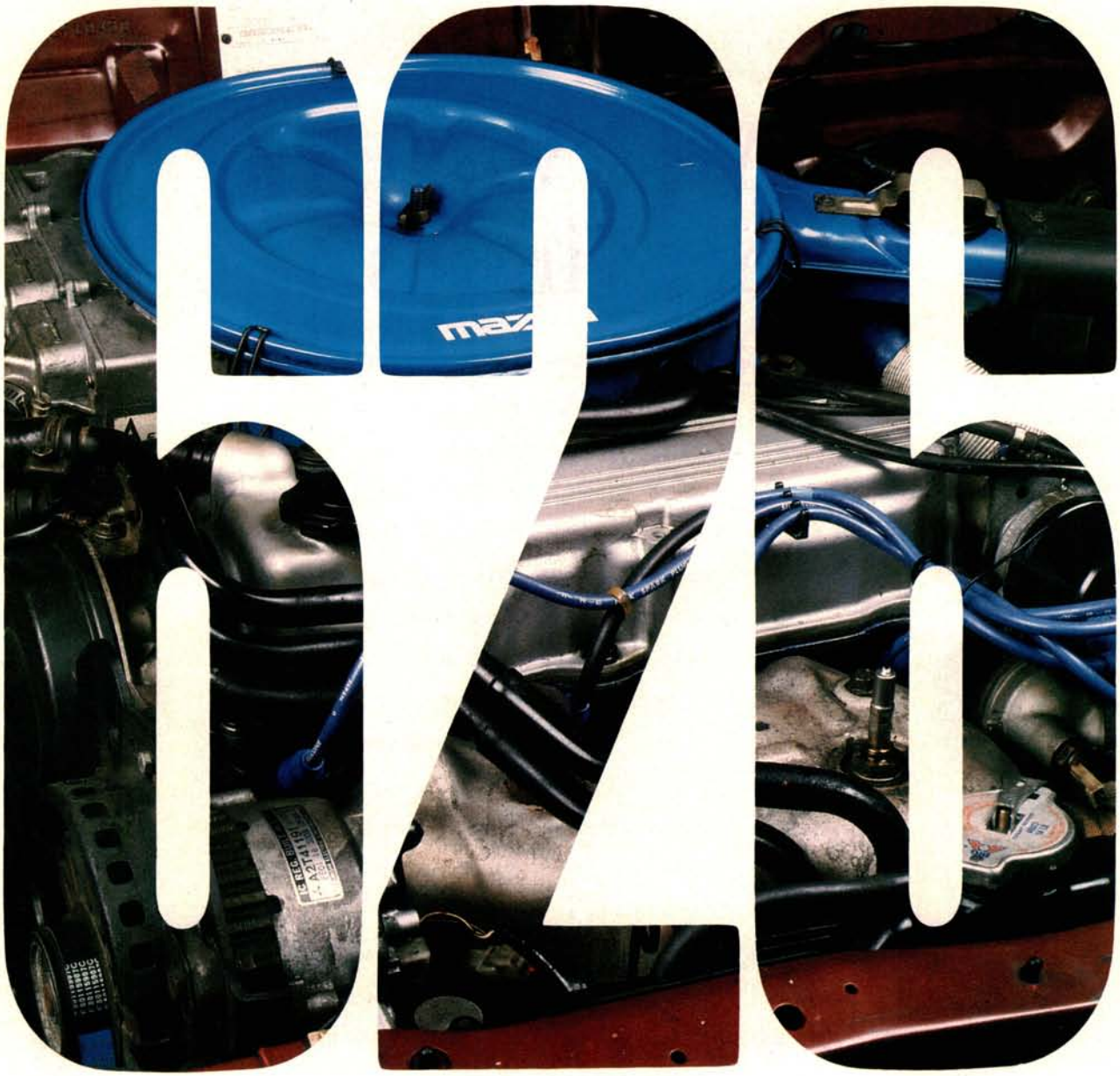
626



Mazda's front wheel drive version of the 626 has been with us since the 1983 model year with various changes and modifications since its introduction. This article will concentrate on some common repair procedures and focus on a real 1985 model with an assortment of problems. Among the repairs and adjustments needed on this particular car were several items which fall into a category which might have a heading of "common" or "frequent."

Most of the parts we needed were on the shelf at several local dealers. If a dealer's parts inventory is a fair indication of demand, our donkey car is a good representative of the types of repair you may see.

You might remember the 1985 model currently sitting in our stall from an earlier article on top end repairs. It still runs well, but as it approaches 150,000 miles, it becomes a likely candidate for a thorough overall inspection.

The ruthless assault of several northern Ohio winters has the 626 a little ragged around the edges. I know some of you in balmier climates may tire of our mentioning Ohio winters, but this is definitely Hell's testing ground. Many problems which show up later in the Sun Belt, show up sooner here. Road salt and other forms of grime have coated many of the electrical connections. The owner has a list which includes an occasional knocking in the front end during acceleration, an occasional no-crank, and an antenna which stays at full mast even though we can hear the antenna mast drive motor running.

Remember, this is a manual transmission car. There are some significant differences between this car and cars with automatic transmissions.

—By Ralph Birnbaum

1

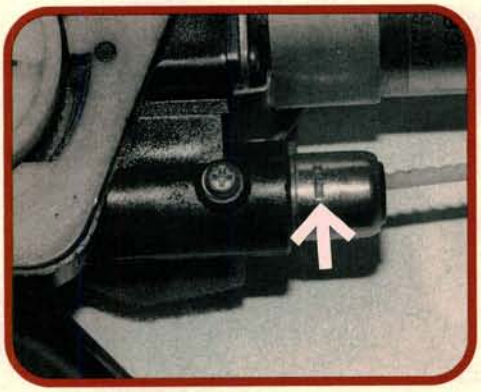
The occasional "no crank" is doing what any self-respecting intermittent problem does—it's laying low. For us, the car cranks first time, every time. We clean and service the battery, check, clean, inspect, and test the main cable and solenoid wire. As you'll see later, there's more to this story, however.

2

Let's move on to the broken mast on the power antenna. On this model, the mast is located in the right A pillar, and the motor is well hidden behind the blower motor housing. Later models put the mast in the left A pillar. To replace the mast, start by removing the glove box (four screws) and the underdash panel.

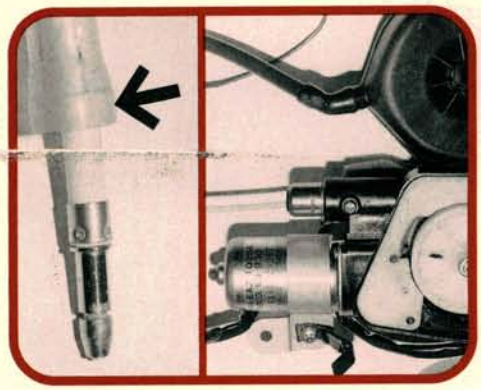
3

Loosen the screw on the rectangular strap connecting the blower motor housing to the evaporator. Disconnect the wiring to the blower housing, and then remove the four bolts holding the motor housing to the studs in the firewall. Disconnect the cable at the air intake flap. Slide the blower motor down and out.



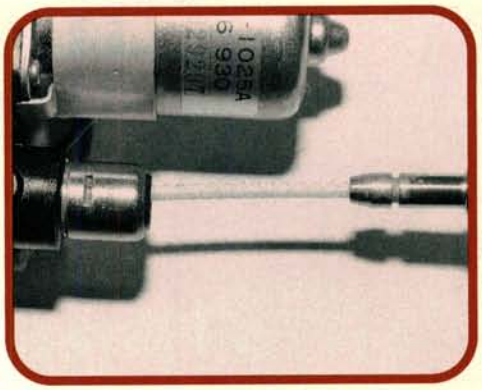
4

Now unbolt the antenna motor, and remove the screws holding the mast to the A pillar. Then take a thin screwdriver and press it into this slot to unlock the mast tube from the motor. Disconnect the antenna lead at the base of the mast. The mast's nylon rope is broken. We slide the mast up and out of the A pillar.



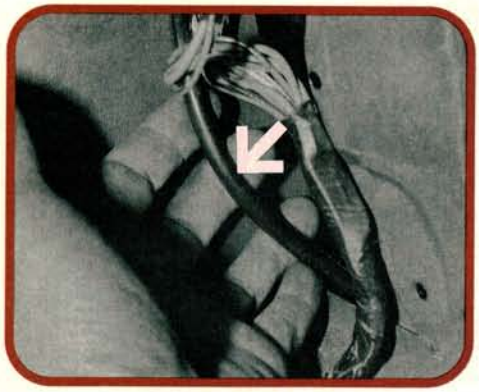
5

Don't lose the protective sleeve (arrow) which seals between the mast and motor. Open the motor and remove the broken nylon rope, checking for signs of water or dirt inside the drive mechanism. Clean and lube the covers and drive gear, checking the gear for missing teeth. After reassembling the motor, we're ready to install a new mast. Reconnect all wires to the motor.



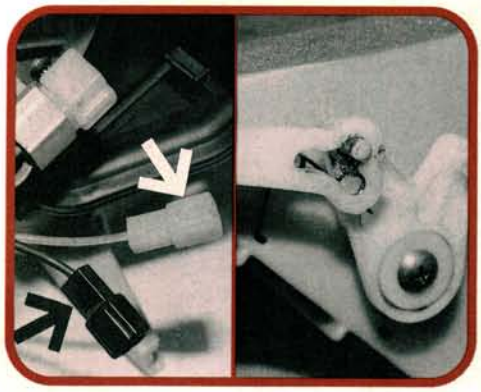
6

Tape the antenna lead to the mast tube, and fish the mast back down the A pillar. (For now, slide the protective boot up the mast a few inches.) Insert the new drive rope so the teeth are in line with the motor's drive gear. Run the motor, by turning the ignition ON and the radio OFF. This will wind the rope into the reel.



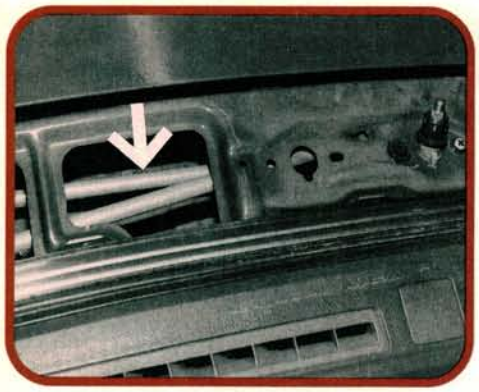
7

Snap the mast into the motor until it locks, and slide the protective boot into place. Refasten the top of the mast. Run the motor's drain tube to the hole in the rocker panel. Operate the motor several times to adjust the rope. Now we can replace the blower motor housing, keeping two things in mind as we do.



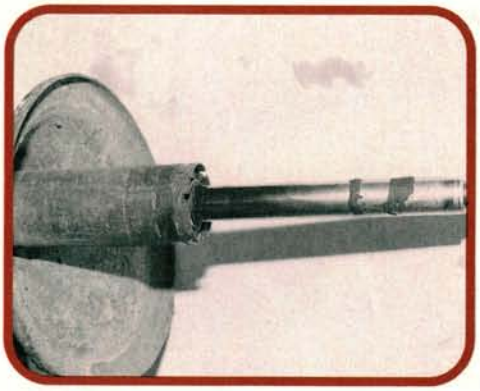
8

First, there are two connectors (one black, one white) coming FROM the blower. There is only one car side connector (black). If the car has A/C use the black motor connector. No A/C? Use the white one. Second, adjust the air inlet cable so the door snaps into the lock position when the lever is pulled to "recirculation."



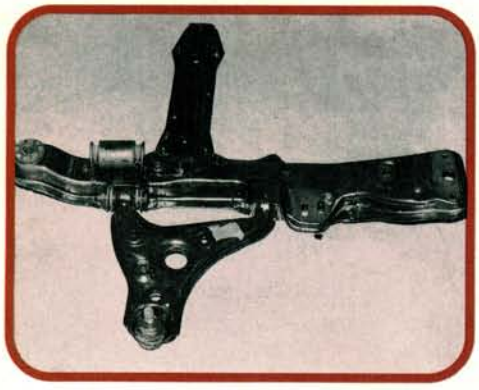
9

Wiper motors and transmissions seem to be pretty reliable, but ball sockets on the relay rods will wear out and fall off. Replacement is easy. Unfasten the cowl cover and slide it forward and remove the air inlet grilles. This will expose the rods and bolts securing the wiper arm transmissions.



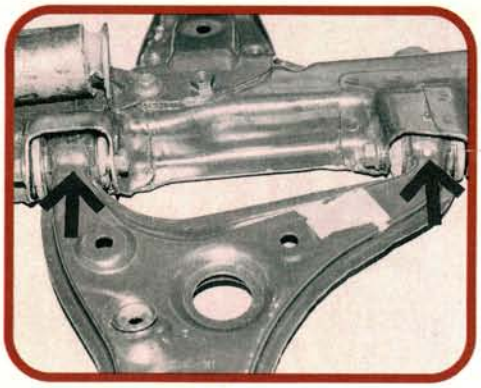
10

That nasty clunk in the front end when accelerating from a stop is our next project. A visual inspection shows us three possible causes, all on the right side: (1) a loose ball joint, (2) a torn axle boot, and (3) play in the strut between the bushing and shaft. Looks like a case of terminal "chuckhole syndrome."



11

The new ball joint comes as part of an entire control arm assembly. Removal of the old arm wouldn't be so bad, but the steel sleeves in the control arm bushings love to rust and become one with the bolts. We support the engine and remove the entire right side support member (the support is also the right motor mount perch).



12

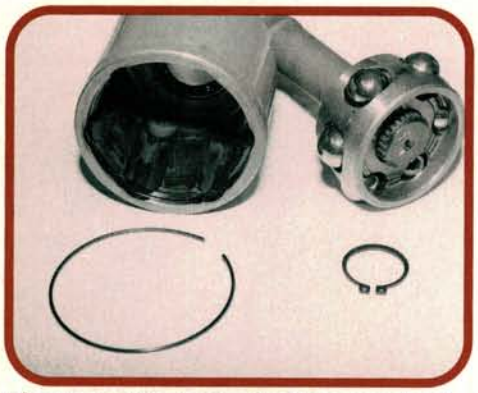
We use a muffler cutter (a torch will work if you like the smell of burning rubber) to split the control arm eyes (arrows), and dig out the old bushings. Then we heat and lube the old sleeves to free and remove the bolts. With the new arm installed on the support we replace the assembly. Let's move on to the torn axle boot.

13

The right axle is driven by a splined intermediate shaft which spins in a pillow block mounted on the engine. The inner CV joint is held on the shaft by an internal snap ring. A large pry bar and a whack with a mallet separate them. Check the seal and bearing at the pillow block and clean the snap ring groove. Install a new ring.

14

Mazda's replacement outer joint comes with a new axle shaft attached. This might lead you to suspect that you can't remove the outer joint from the axle for cleaning. But once again, an internal snap ring is all that holds them together. Using a brass drift, we drive the joint off the shaft. Again, replace the snap ring.

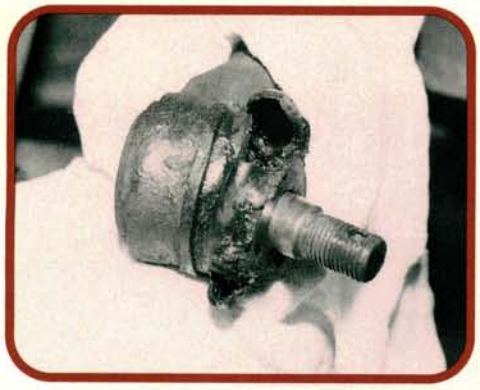


15

The inner joint can also be completely disassembled for cleaning. Remove the large snap ring retainer and slide the housing off the ball cage. Then remove the snap ring holding the joint to the shaft. Both the inner and outer joints are still in great shape. A good cleaning, fresh grease, and new boots are all we need.

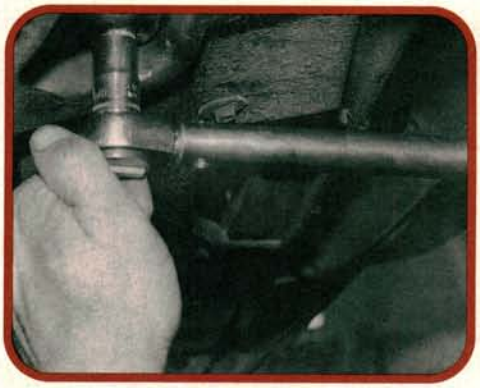
16

Struts are easy to replace. One caution. We don't want to change the alignment, so we mark the strut mounts for index. By rotating the mount in the perch, we can change caster or camber (or both) by a preset amount. If proper adjustment isn't possible within the limits of adjustment look for bent or broken suspension parts.



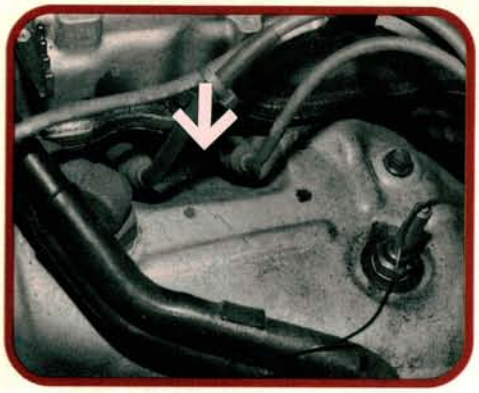
17

As we move over to the left side of the car, we find that the boot for the left tie rod end is totally shot. But the tie rod end itself is just fine. Replacement boots are available. Many ball joints and tie rod ends could be saved if customers had the boots checked more often, and replaced as necessary.



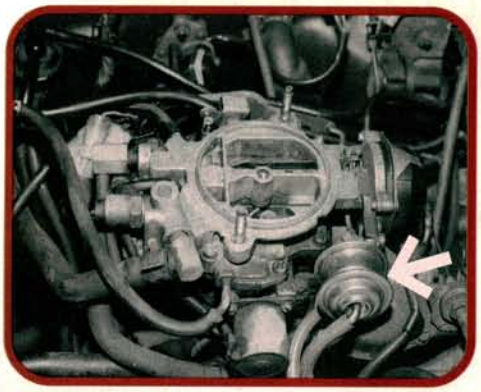
18

Mazda has long stressed the importance of proper torque on all suspension fasteners. We agree. An impact gun can overstress bolts and studs. That's not good from a safety point of view. And undertightened fasteners can cause a wide range of squeaks, moans, and rattles. Let's move on to some underhood items.



19

Spark plug replacement may seem like a no-brainer. But the plugs sit down in wells in the cylinder head, and the heat shield funnels dirt and debris down around the plugs. Clean away the dirt before you remove the plugs. The cylinder walls will thank you, and installing new plugs in clean holes is a lot easier.



20

Compared to many newer cars, the fuel feedback system on the carbureted 626 is fairly simple and very dependable. Bad choke unloaders seem to be a fairly common problem, and the choke plate and choke shaft should be cleaned and lubed at each service to keep the plate from sticking part way open when cold.

21

In most cases, tests and minor adjustments of the feedback carb system can be done with your DVOM and a dwell meter (90 degree scale). Connect the dwell meter to this test connector in the engine (brown and yellow wire) on the firewall. With the engine warm, we run the engine at about 2000 RPM to warm things up.

22

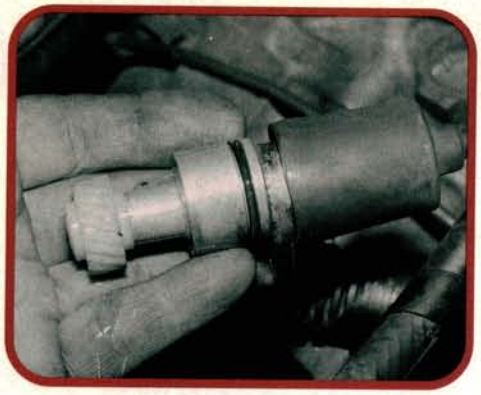
Our dwell is "stuck" at 27 degrees. Before we go any further, we check for vacuum leaks, and find two small leaks. In spite of the fixed duty, the car runs well. We tap into the wire at the O_2 sensor with our DVOM, and find that we have high, fairly steady voltage from the O_2 sensor. The mixture is too rich.

23

We decide to keep things simple. So what are the possible causes of a fixed duty? Vacuum leaks were one possibility. Improper mixture adjustment is another. Someone has already removed (and discarded) the anti-tamper roll pin at the mixture screw. Our guess is that the MAS was turned out to cover those vacuum leaks.

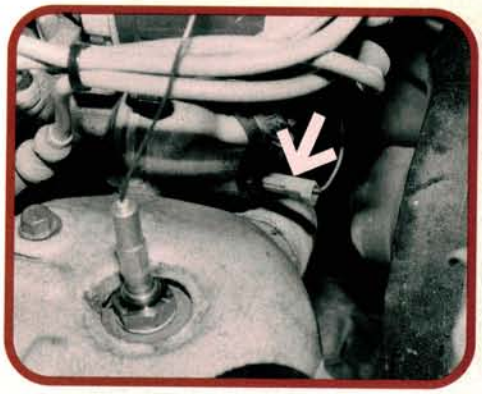
24

Sure enough. We screw the MAS clockwise to lean the mixture, and run the engine at 2000 RPM again. Back at idle, we see that the O_2 sensor is doing its thing. Readings are changing high to low as the sensor responds. The dwell meter begins to fluctuate. The recommended adjustment is 36 degrees of dwell.



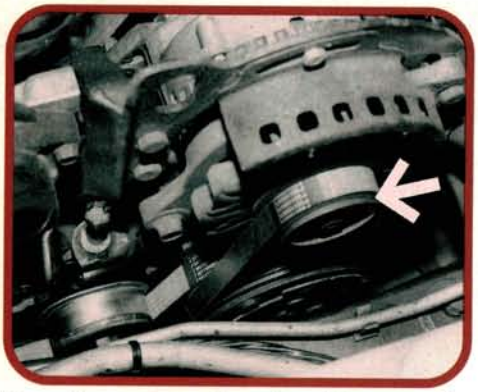
25

The speedometer drive gear is also the dipstick in this manual tranny. These can seize in the transmission, and some tranny cases have been ruined when force was used to free them. You may find either ATF or 80W 90 in these transmissions. They'll take either depending on the climate where they're driven.



26

To test everything in the cooling fan circuit except the thermo switch, simply turn on the ignition, and pull the wire to the sensor. The fan should come on (watch your knuckles). If the fan won't come on when the engine gets hot, you know the switch is the problem, since it's providing ground all the time.



27

The alternator pulley is wide enough to handle the wider belt used on cars without A/C. This car has A/C and uses a narrower alternator belt driven off the compressor pulley. That means there's one more groove in the pulley than there is in the belt. Install the belt as shown, with the open rib away from the alternator.

28

Remember that no-crank problem? We get lucky and it acts up. The wiring diagram points to a likely candidate, a large connector on the left inner fender, right behind the battery. By testing here, we find out that the ignition switch is working. We also find that the connector has become an electrical dead end.

29

The connector is so full of salt, and so badly corroded that it doesn't want to come apart. We flush the connector with spray contact cleaner, and put a slight twist on the male terminal ends to ensure a tight fit. Then we apply silicone grease to all terminals, and we're back in business. That's all.