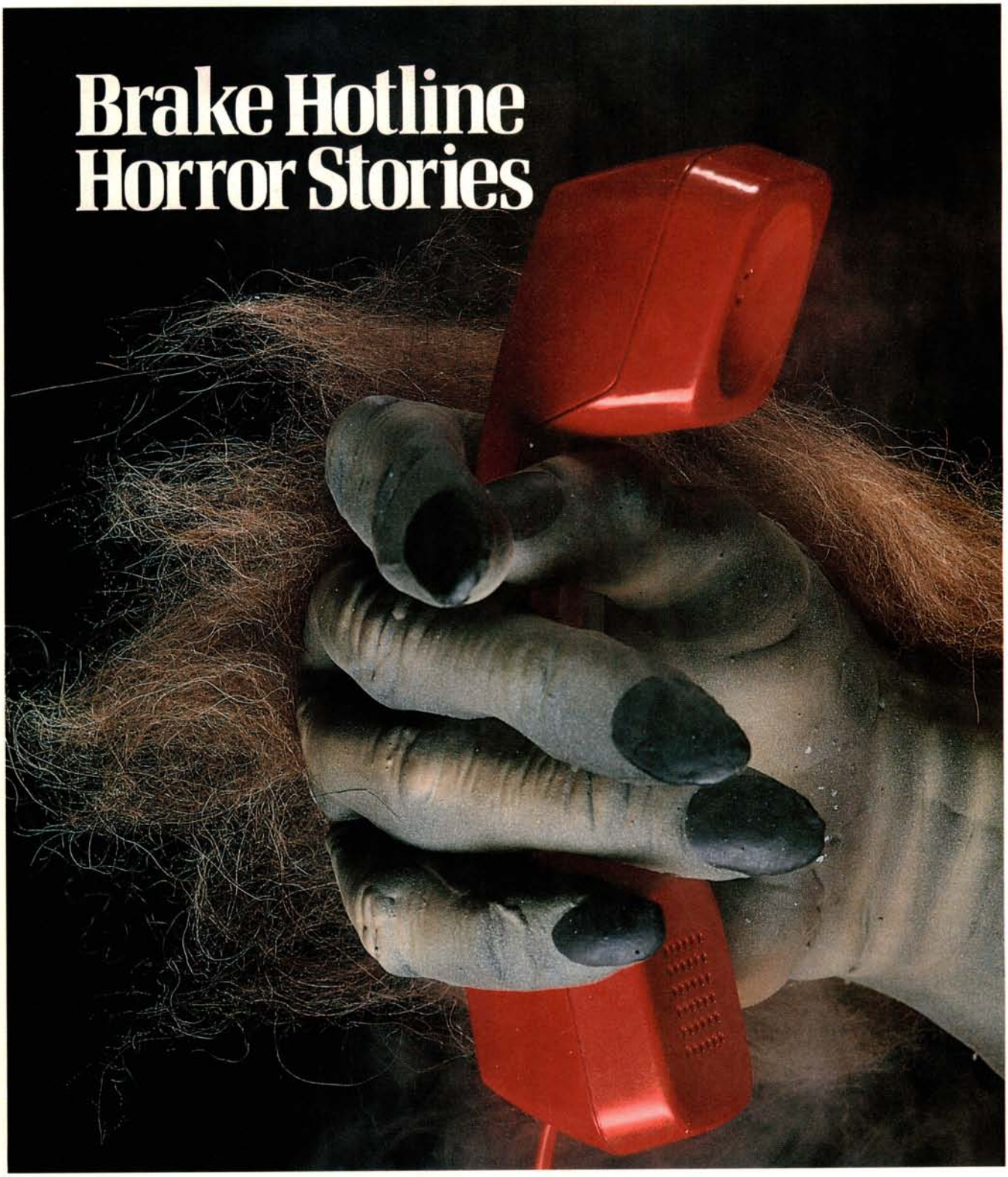
Brake Hotline Horror Stories



Day in and day out, they man the hotlines. They're the seldom thanked hotline technicians who represent various manufacturers of brake friction linings and hardware components. Their job is to help technicians deal with specific brake repair problems. Some are fielding over 200 calls each and every day of the week.

It's a tough job, trying to fix cars over the phone, especially when you're completely dependent on the caller to provide you with enough good information to make an accurate diagnosis. Some calls are straightforward requests for information. Some callers are potential straightjacket candidates after a long after-

noon of frustration over a brake job that simply refuses to cooperate! It's tough, but seldom boring.

But most of these folks agreed that even in an age of technical complexity, the basics are still the basics when it comes to handling brake problems. If you were a good brake technician 15 years ago, odds are you won't suffer through many of the problems encountered by some folks less skilled in the fundamentals of brake diagnosis and repair.

We'd like to look at some real life problems encountered by these hotline technicians. We've included the obvious and the obscure, the hazardous and the humorous, the rational and the ridiculous. At least you'll know you're not alone when a Monday morning brake job turns into a Friday the thirteenth nightmare.

Fill 'er Up

One of the most common stories we heard had to do with the introduction of certain mystery fluids into the brake master cylinder reservoir. This seems to happen when certain good-intentioned people top off fluid levels during oil changes.

Both do-it-yourselfers and inexperienced employees working in lube and oil change bays have been found guilty of this crime. Some of these fluids can cause the rubber seals in hydraulic components to swell and grow in the darkness of the cylinder bores. Unfortunately, since they can't grow larger than the bore diameter, they begin to creep down the walls of the bore, shutting off fluid inlets and compensating ports.

There have been reports of automatic transmission fluid, kerosene, engine oil, anti-freeze, and even lacquer thinner in master cylinder reservoirs.

One fellow said that he hadn't heard of evaporated milk being used yet, but figures it's just a matter of time.

If the master cylinder seals have been ruined by swelling, you can be sure that all the rubber in the entire system is ruined and must be replaced. Even small amounts of residual mystery fluid can ruin the new components and their seals as well. Any system overhaul under these circumstances should include a complete flushing of all lines with denatured alcohol.

One source informed us that it takes all of 24 hours for ATF to totally ruin every piece of rubber in a brake's hydraulic system.

Ride Height and Bleeding

Height sensing proportioning valves are another source of problems. You know these. The valve is attached to the body of the vehicle and connected to the rear axle by a rod. During hard braking, when the nose of the vehicle dives, and the rear of the body goes skyward, the rod between the body and the axle closes the valve and limits fluid pressure to the rear brakes. This prevents premature rear brake lock-up.

So now you raise the vehicle on a frame contact lift and allow the rear axle to hang down. The valve doesn't know the difference and shuts down the rear circuit.

The effect? Just as it would during hard braking when the distance between the body and rear axle increases, the proportioning valve limits the flow of pressure to the rear brakes to prevent premature rear brake lock-up. And here you are, trying to bleed those brakes.

The solution? Support the rear axle to keep it at normal down-the-road ride height, use a drive-on-ramp style lift, or crawl under the car while it sits on the floor to bleed the brakes. Letting the axle hang will make you crazy.

Height Sensing, Part II

If a manufacturer suggests a specific procedure for bleeding brakes, follow it. Don't just shrug your shoulders and look at the procedure as a needless annoyance.

Some height sensing systems are so sensitive that the manufacturer will request that you have a certain amount of gas in the tank. He may also suggest that you have a certain amount of weight in the car. Failure to observe these instructions usually means a call to a hotline when all else fails.

Ride height is one of the most ignored specifications in the automotive repair industry. In addition to affecting ride quality, handling, and alignment, we now add braking to the list of potential problems.

Emergency Breaks

Some of you call them parking brake cables, some of you call them emergency brake cables. Either way, they seem to be one of the most neglected brake components. These cables are especially apt to seize on cars with automatic transmissions. The customer throws the lever into Park day after day until cables and their guide tubes are permanently wedded in rusted bliss.

Cables that are stuck part of the way between on and off can drive self-adjusters on rear drum brakes crazy and keep them from doing their job. Some rear disc systems won't adjust either unless the cables are applied at least once in a while.

And it's just about guaranteed that sooner or later, a customer who has never in his entire life used the hand brake will try it out after a simple reline to see if it works.

One customer in particular was informed that the cables on his car were seized. While he chose to have other work done on the brake system, he refused to spend the additional money to have the cables replaced. He was informed that the situation existed, both verbally, and in writing.

Incredibly, he did not believe the technicians who diagnosed the job. Even though he had never before applied the hand brakes, he left the shop and used the hand brake at his next stop. With great effort, he lifted the brake handle to apply the brakes.

His satisfaction at finding he could apply the brakes, in spite of what he'd been told, was short-lived. He lowered the handle, placed the car in drive, and drove away dragging the rear wheels across a snow-covered parking lot. Live and learn, I guess.

Topsy-Turvy

Some techs insist on installing things upside down. Some calipers and wheel cylinders marked left and right for installation will still bolt to the wrong side of the car. Looks good. Feels good. Why doesn't it work?

The reason is that the bleeder has been installed at the bottom of the cylinder. You can bleed the darn thing until Congress balances the budget and there's still going to be trapped air inside.

This is especially annoying when there's only one bleeder for both rear brakes on a rear axle. These systems have an equalizer line running between the wheel cylinders. Installing the wheel cylinder with the bleeder upside down means that you've trapped air in both rear cylinders.

One tech advisor suggested, tongue-in-cheek, that you could eliminate this problem by turning the car over and setting it on its roof. "Put a soft cloth on the floor, however, so you don't scratch the paint," he added with a chuckle.

Soft Pedal Syndrome

One of the most common complaints heard has to do with the system that just won't bleed properly. This spongy pedal syndrome seems to originate in countless ways that often have little to do with the

quality of the replacement parts installed. Too often the replacement part is being blamed as the cause of the problem, when in fact it's just fine and has nothing to do with the symptoms being described.

Improper bench bleeding of new master cylinders

is still a source of needless frustration. More than one source informed us that improper bench bleeding of new master cylinders before they're bolted on the car is the cause of many of these complaints.

Sources said they received calls telling them that after the fifth master cylinder, the brakes were still spongy. Well, here are some possibilities to look for in a similar situation.

First of all, the likelihood of receiving five bad master cylinders in a row is slim indeed. Not impossible, mind you. But after five you ought to be looking for some alternative causes.

Loose wheel bearings or suspension parts can be a possible cause. Loose wheel bearings, for example, don't provide a solid support for the brake rotor. The brake caliper has to do the added work of centering the rotor on its wobbly axis as well as applying the brakes. This increases pedal travel and produces that feeling that something just ain't right when you hit the brakes.

One possible technique you can use to help isolate this problem is to remove the master cylinder cover and turn the steering wheel back and forth, stop to stop. Wear eye protection. If there's turbulence in the fluid at the master cylinder, the wheel wobble is causing pressure to backfeed to the master cylinder.

Improperly adjusted steering stops can create a similar situation at steering lock. The steering is moving too far at steering lock. Interference between the caliper and the suspension can actually move a floating caliper, causing it to "work" the caliper housing against the piston.

It A-Noise Me

Even customers who seem unconcerned that it takes more distance to stop their car than it does a commercial jet will find brake noises totally unacceptable. As a result, there have been many approaches to getting rid of the old brake screech.

These have varied from installing anti-squeal shims to the famous blue-glue approach. Silencer in a tube comes in many forms from many sources, and must be correctly applied to make it work. Unfortunately, misuse of these techniques has resulted in more than one true horror story.

One fellow in particular, disgusted with his lack of success when using blue-glue to absorb pad vibration, decided to go all the way and apply the compound to the friction surface of the pads. Reports from the scene of the resulting accident indicated that there was indeed no apparent brake noise as the car dived headlong through the red light at the crowded intersection.

Recognizing aptitude when they see it, the local bakery hired the ex-tech and has him frosting cakes.

The Importance of Clean, Fresh Fluid

Clean, fresh, uncontaminated fluid is essential. We repeat, essential. Manufacturer's recommendations that brake fluid be changed at regular intervals are ignored almost completely by consumers. Brake fluid deteriorates and absorbs moisture. If it'll do that in a seemingly closed system in a car, can you imagine what's going on in that quart of brake fluid standing open on your workbench for the last six months?

And if there's moisture in the system, sooner or later that means rust and corrosion. So you ought to consider flushing brake systems with fresh fluid before you install new hydraulic components. Old fluid and rust in new components can damage them.

What the Customer Won't Tell You

The introduction of ABS systems has resulted in some new problems. The newness of ABS systems has placed them in the classification of dark mystery in some circles, although the most commonly noted problems have had nothing to do with computers or computer-related problems.

Snow tires seem to be a major culprit. Customers go out and buy over-sized snow tires. Since these tires have a larger outside diameter than the tires on the other axle, they turn at a different speed. The computer does its job, sensing the difference between the rotational speeds of the tires. It disables the ABS system, stores a fault code, and turns the ABS warning light on.

All the customer needs to do to correct the problem is to install four tires of the same size (outside diameter). Amazingly, many customers have chosen to ignore the light and do without ABS on slippery winter roads. Talk about snatching defeat from the jaws of victory.

And what about the wiring beneath the dash for the customer's new trip computer or stereo? He didn't mention that his brake problems started right after he installed his new toys, did he?

Since he just stuffed wiring and components up under the dash without properly securing anything (along with two screwdrivers and a pair of pliers missing ever since), the brake pedal arm is now tangled and strangled by this mess.

Even with his foot completely off the brake pedal, it never fully releases. There's no free-play between the brake push rod and the master cylinder primary piston. As a result, the primary piston blocks the compensating port in the master cylinder.

Pretty soon, the pressure in the lines to the wheels will build to a point where the brakes go on auto-pilot and lock-up. Now the customer needs that stereo to keep him company while he waits for the brake system to cool down enough to relax and release him—at least temporarily.

And last, but certainly not least, we have the customer who fixed his own hydraulic leak. It's hard to believe, but he used a length of rubber hose and two clamps to band-aid the leak. Now, every time he steps on the brake pedal, the hose does calisthenics.

His complaint to the repair shop is that the brake pedal is spongy. But he doesn't even mention his patch job, until an alert technician spots the swelling hose during the fourth try at bleeding the brakes.

Fortunately, this customer may now live long enough to tell his grandchildren about his close call, but we doubt he'll ever mention it.

—By Ralph Birnbaum