

[Home](#)[CEO Hotline](#)[Viewpoint](#)[Classified Ads](#)[Archives](#)[Metro.net \(web\)](#)

Resources

[▶ Safety](#)[▶ Pressroom \(web\)](#)[▶ Ask the CEO](#)[▶ CEO Forum](#)[▶ Employee Recognition](#)[▶ Employee Activities](#)[▶ Metro Projects](#)[▶ Facts at a Glance \(web\)](#)[▶ Archives](#)[▶ Events Calendar](#)[▶ Research Center/Library](#)[▶ Metro Classifieds](#)[▶ Bazaar](#)

Metro Info

[▶ 30/10 Initiative](#)[▶ Policies](#)[▶ Training](#)[▶ Help Desk](#)[▶ Intranet Policy](#)

Need e-Help?

Call the Help Desk
at 2-4357

[Contact myMetro.net](#)

The lathe cuts from the inside out. The line in the middle of the disc represents the present position of the cutting tool, which cuts both sides of the rotor simultaneously. As the lathe finishes, the line moves from the center toward the outside edge.

Division 10 Maintenance Puts Extra Effort into Stopping its Buses

- Two separate practices ensure that the brakes on Gateway Division 10's coaches are the safest they can possibly be.

By JIMMY STROUP

(May 8, 2008) Frank Lonyai, the maintenance manager at Division 10, has always been interested in exceeding expectations when it comes to the care of his buses – as have his maintainers. So it should surprise few that Division 10 is on the literal cutting edge in terms of brake maintenance.

Two recent technological additions have greatly improved the brake maintenance at the division: a disc brake lathe and a Hunter brake tester.

Photos by Jimmy Stroup

"One of the unsung success stories of the new buses we're getting, the advanced design buses, is that they all have disc brakes," Lonyai said. "They're safer than standard drum brakes, better performing, smoother and more consistently efficient."

About half of Division 10's coaches are equipped with disc brakes. Disc brakes squeeze a rotor from both sides with pads, giving greater

contact that allows for more efficient stopping.

"We were the first agency in the U.S. to use disc brakes and now there is a great interest by other transit agencies as well," he said. "Besides safety, these brakes are a benefit in labor and parts. It's much cheaper to replace the pads."

Replacing the rotors – the part the pads press against to stop – can be costly and time consuming though. David Klinkenborg, mechanic "A" leader, said it's an eight-hour day to replace the rotors on an axle when the pads have worn them down unevenly.

Using European devices American-style

Fortunately, Division 10 recently acquired a disc brake lathe made in Italy that allows the maintainers to essentially recycle a rotor. Rotors that used to be discarded and replaced are now reground, realigned and returned to service – and in nearly 90 percent less time.

Lonyai said the brake lathe smooths the rotor surface, returning it to a like-new condition. The smoother surface allows the brake pads more contact onto the rotor, which allows for better braking.

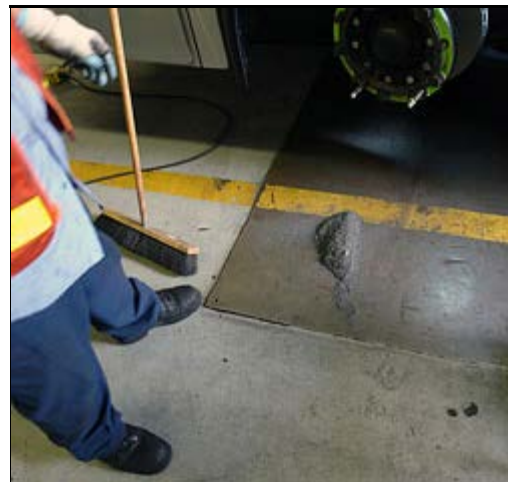
"As a result, the brakes perform better and have a longer life," he said.

The disc brake lathe carves off the top surface of the rotor, creating a new top layer for the pads to contact. It takes about an hour to do both wheels on an axle. Along with the part saved by not having to replace the rotor, the division saves seven hours of labor.

"When the rotor surface is true the brakes are more efficient," Klinkenborg



Mechanic "A" Eddie Cardiel runs the disc brake lathe machine. The lathe cuts a new surface into the rotor so the pads have a smooth surface to press against and stop the bus. Below, these metal flakes are the remnants of a formerly warped disc brake rotor that has now been refinished. Cardiel said it best: "It doesn't look like much when it's coming off, but it's a pretty big pile by the time its done cutting."



said. "And you'll be able to tell that on the sensor."



These four grates cover a network of sensors that measure brakes in action as a bus is driven over them and then stopped. The data they collect is compiled into an easy-to-read pass/fail report that points to problem spots for maintainers to address.

The sensor he's talking about is a Hunter brake tester. Buses are driven over four grates and the brakes are then applied. Sensors in the grates measure the braking and articulates that in a report that passes or fails an axle.

The standards for brakes at Metro – known as the Vericom test – is a visual inspection accompanied with a road test and measurement of stopping distance, which must be lower than 40 feet to pass. But Klinkenberg said he's running across buses that pass the Vericom test but fail on the Hunter tester.

Identifying issues before they become issues

"There was an articulates bus that stopped at 28 feet, which is well within passing, but it felt weird to me," Klinkenberg said. "When I put it on the tester, I could see that the rear left brake was basically non-functioning.

"It wasn't something we would've known until we could see that the rotor and pads weren't wearing down at all. But that could've been months," he said. "So even though there were two fully functional axles and the bus stopped within tolerances, there was a bad brake caliper. This tester allows us to find those issues before they become issues out on the road."



This Hunter brake tester allows maintainers like David Klinkenberg to identify problems that might not even be noticed visually or in operation.

The Hunter tester is versatile enough to measure all the different kinds of buses Metro has. Articulated models have three axles but all the technician testing the buses has to do is tell the machine to be prepared to test an extra axle and it does.

"We still inspect the brakes visually, but this tester allows you to put a real measurement on the efficiency of the braking," Klinkenborg said.

Maintainers at Division 10 use the brake tester at brake repair work or anytime a bus has come in from a road call with problems in service.

Klinkenborg said about 10 coaches go through the tester each day and that, so far, it's been a great tool to identify potential problems before they become real problems. The tester is only four months old so it has a long life ahead of it.

At two months old, the disc brake lathe is also a recent acquisition. Each time it gets used, though, it's saving the agency money. Lonyai isn't afraid to sing the praises of his maintainers for their dedication and of the new devices for their usefulness.

"We needed to find a way to measure the brakes in an objective way and the tester is doing a great job, and the lathe has really come in handy," Lonyai said. "We're trying to use technology to put out a safer, better bus."

| [Home](#) | [Phone Directory](#) | [Forms Online](#) | [FIS Online](#)