

SPEED PARTS



At various times, two cars were undergoing carb mods while the third was preparing to go back on the road for evaluation on the changes. It was a fun day. Innovate also offers a forum where you can ask questions and get help from some very dialed-in enthusiasts.

WE TEST IT INNOVATE MOTORSPORTS' NEW \$200 DIGITAL MTX WIDE-BAND AIR/FUEL RATIO GAUGE

One trickled-down benefit from OE electronic fuel injection was the widespread use of wide-band oxygen sensors. Once the OEs began building these sensors in the millions, the price plummeted, and Innovate Motorsports was one of the first companies to build affordable air/fuel ratio meters. In the beginning, the original LM-1 control box was rather large and clunky, but it got the job done. Innovate just released the Digital MTX-series in-dash air/fuel (A/F) ratio gauge. While gauges themselves are nothing new, Innovate chose to offer this as a complete in-dash package for less than \$200. We decided to put the new gauge to the test on three different cars during a full day of testing we called Carburetion Day.

Our willing test subjects were Eric Schmiege's '65 Bel Air with a 396 sportin' a pair of 0-1850 600-cfm Holleys,

Doug Eisberg's 496ci roller-cammed Nova fitted with a 750-cfm Holley mechanical-secondary carb, and Eric Rosendahl's '77 small-block Corvette running a spread-bore, 650-cfm Holley. The guys had previously equipped their cars with 18mm oxygen sensor bungs, so the installation of the sensor was easy. While the Digital MTX gauge is designed for in-dash installation, we rigged it as a handheld meter to expedite swaps among three cars. The gauge also offers two 0- to 5-volt linear analog outputs so you can use this sensor with closed-loop engine management systems as well, plus it can be easily configured to data-log A/F to Innovate's free LogWorks program to run on your laptop computer. And if you really want to go high tech, you can purchase the Innovate OT-2 that will convert the A/F data from the Digital MTX and transmit the information wirelessly to your iPhone using a LogWorks app.

While the eight-barrel Bel Air appeared to be the most challenging, it turned out to be the easiest to tune. With some slight changes to idle mixture and a secondary metering change, we quickly had the Rat package tuned, eventually pulling high 13:1 A/F at light-throttle cruise. The Corvette was more of a challenge since the idle mixture



This is about as simple as it gets. The Digital MTX system comes with a wide-band sensor, an extension harness, and the digital gauge. Hard-wire the gauge in place, plug in the sensor, and you're ready to go. It's that simple. The sensor is completely compatible with gasoline, E85, diesel, methanol, and LPG.

screws were incredibly sensitive. Eric also told us he had changed the power valve from a 6.5 to an 8.5, which was evident when the A/F would transition very quickly at medium throttle to a very rich mixture, so we returned it to a 6.5 and improved the part-throttle mixture.

Doug's Nova proved to be the most difficult of the three. At light cruise, his A/F indicated high 11:1 ratios and at highway speed the A/F was a still-fat 12.1:1. We returned to the shop and installed 0.015-inch wire restrictors in each idle feed jet to reduce the area and readjusted the idle mixture. We also changed the power valve from an 8.5 to a 6.5. The final results were significant since this put the highway cruise A/F at 13.5:1 and improved the Nova's highway mileage by more than 11 percent from 11 to almost 13 mpg.

We were going to also tune our new 455 Olds engine in our '64 F-85, but the smell of steaks on the barbecue became more enticing than sniffing exhaust, so we hung up our Innovate for the day.

How Much: \$199.95 MSRP, PN 3844

We Say: You can't afford not to own a tool this good.

Learn More: Innovate Motorsports; Huntington Beach, CA; 714/372-5910; InnovateMotorsports.com