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# Slow the Load

## Adding Load Control With a Banks SpeedBrake

BY CHRIS TOBIN  
PHOTOGRAPHY: CHRIS TOBIN

Using a diesel truck as a tow rig is one of the reasons you bought it in the first place. Those towing duties include work and play.

A case in point is Jereme Miltier, at RPM Offroad, in Bristol, Tennessee. He frequently uses his '07.5 GMC Sierra 2500 HD to tow trail rigs or even one of the shop's many championship-winning desert race trucks or buggies. The truck has a factory-installed electronic brake controller, but additional help is always welcome in the braking department—especially when towing 15,000-plus pounds of race truck and trailer up and down steep mountain grades.

To enhance the towing capability and safety of his LMM Duramax-powered GMC, Miltier opted to install the Banks SpeedBrake and iQ interface. He invited us up to the shop, just a



The Banks Power SpeedBrake system includes everything you need to improve the towing performance of your truck.



Towing a heavy load down a steep grade can often be a white-knuckle experience, but with a Banks SpeedBrake installed on your truck, you can rest easy, letting the engine and transmission help with braking.



**1** Michael Powell starts the installation by laying out the new wiring harness under the hood in the general area it will be installed. Then, he runs the transmission intercepting harness down to the transmission, following the factory harness routing.



**2** Using a hoist, Powell lifts the truck into the air to run the transmission portion of the harness, but you could do this on the floor of your garage.



**3** To keep the harness out of harm's way, he passes it over the top of the transmission housing to get it to the connector on the rear passenger's side of the transmission housing. The harness from Banks Power uses connectors that plug directly into the factory connectors for an easy installation and without slicing up the factory harness.



**4** Simply unplug the transmission connector and plug the Banks harness connector into the transmission. Then plug the transmission connector into the Banks harness. Be sure to secure the harness with the supplied zip ties to keep it away from hot and moving parts.

few miles down the road from the famous Bristol Motor Speedway, to follow along with the installation and testing of the system.

The SpeedBrake from Banks is considered one of the best exhaust brakes on the market for newer Ford and GM diesel trucks with variable geometry turbos. When paired with the Banks iQ interface, the iQ not only controls the functions and settings of the SpeedBrake, it also has five virtual gauge fields that can be displayed in digital or analog formats to monitor vital engine and truck stats.

On the '07.5 LMM Duramax engine, the display can show boost, SpeedBrake application percentage, engine load, fuel level, intake pressure, intake temperature, rpm, speed, throttle percentage, gear, grade, fuel pressure, elevation, DPF regeneration status, direction, barometric pressure, ambient temperature, instant economy, soot, time, transmission temp and engine temp.

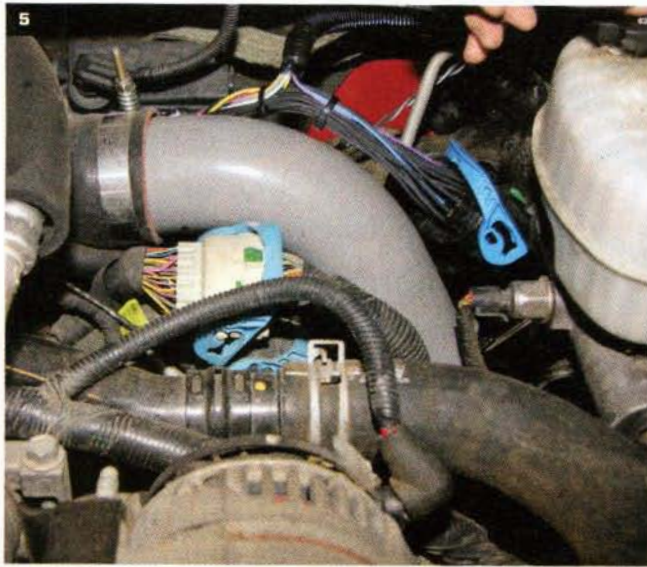
The iQ can also function as an OBD-II scan tool that will allow you to read and reset trouble codes from your truck. On top of that, Banks has included an economy display that helps you keep track of your fuel expenses and efficiency, as well as trip calculations. It

is also battery powered and can be used outside the truck to play games, listen to music, view pictures, watch movies or even view Office documents with its Windows CE-based software.

With multiple operation modes and settings, the driver can tailor the SpeedBrake engine braking to suit his driving style and vehicle load. In Manual mode, the system can be set for low, medium or high braking force that can be activated whenever the driver is off the throttle or when the vehicle brakes are applied. When the system is put in the Auto mode, the driver can set the desired descent speed in 1- or 5-mph increments—much like a cruise control for downhill use. The Auto mode can also be set to activate when off the throttle or when the brakes are applied.

Conventional exhaust brake systems rely on a butterfly valve or similar restriction in the exhaust system to create backpressure on the engine and provide additional engine braking. The engineers at Banks Power used comparable methods with the SpeedBrake but took it a very big step further.

It uses a harness that integrates with the factory ECU to control the variable geometry turbocharger to act as an exhaust brake. But



5 Moving back to the engine bay, locate the engine harness connectors on the driver's side of the engine near the boost tube. Disconnect the white connector to make it easier to get to the black connector below it.

beyond that, it also controls the torque converter and transmission. By locking the torque converter and downshifting the transmission, the SpeedBrake delivers improved braking performance, as compared to a traditional exhaust brake.

The SpeedBrake is available for '04.5-'10 GM Duramax 6.6L diesel trucks, '03-'07 6.0L Ford Power Stroke diesel trucks and '08-'10 6.4L Power Stroke diesel trucks. To take full advantage of the SpeedBrake capabilities, you'll want to spring for the optional 5-inch touch screen iQ interface controller, but the system can also be installed with a rotary switch control that offers the low-, medium- and high-strength braking options, as well as foot brake operation; but it does not offer the Auto mode speed setting capability.

Operating the SpeedBrake system is very simple, and while the iQ has an astounding amount of capabilities, it is still easy to use. The low setting is best used for an unloaded truck or when hauling light loads, while the medium setting is good for moderately loaded trucks. The high setting works best when the truck is heavily loaded. Of course, the Auto mode and speed setting for downhill operate just like a cruise control and will probably be the most-used mode when towing heavy loads.

## Driving Impressions

Miltier loaded the Cummins-powered Dodge 2500 HD that the RPM Offroad team built and won a SCORE Stock-Full Class Championship with a flatbed gooseneck trailer and took us out for a ride through the hills and valleys surrounding Bristol, Tennessee. With a tuned Duramax under the hood of his GMC, he had no problems pulling up the grades; and thanks to the SpeedBrake, going down was a stress-free ride, too.

He made multiple trips down a 6.9 percent grade, trying the system out on different settings. With the SpeedBrake set to the high setting, the truck and the 15,000-plus-pound trailer gently eased down the grade, reaching the 15mph low speed limit before the bottom of the hill—without touching the brakes on the truck or trailer.

The medium setting was similarly under control with a little more speed, as expected, while the low setting was a little too light for such a heavy load on a steep grade. It would be perfect for towing with lighter loads. When Miltier used the Auto mode on the SpeedBrake and dialed the desired speed to 40 mph, the system took over as soon as he let off the throttle and slowed the truck to 40 mph. He then maintained that speed the rest of the way down the grade.

Speaking about the SpeedBrake operation, Miltier said, "The touch screen is easy to read and easy to use, thanks to the large screen size. It makes towing much easier on the truck's brakes with the SpeedBrake, since I was able to keep the truck safely under control on steep grades without even touching the brakes—even with the race truck on the trailer. For the money, the SpeedBrake is worth it, versus other exhaust brakes, because you get so much more with it, and it works so well."



The GMC 2500 HD has big brakes, but with the SpeedBrake activated, you can keep them cool and ready for action while letting the engine and transmission provide the braking.



The 5-inch touch screen is easy to read and use. It can be configured to match your truck's gauges while displaying up to five parameters.

The SpeedBrake system comes with everything needed to install it in your truck and could easily be installed by most DIYers in probably under two hours. RPM Offroad installation technician Michael Powell installed the system on Miltier's GMC in an hour and 15 minutes (this included the typical photography slow-downs involved with documenting the installation for an article).



6 & 7. Unplug the black connector and install the Banks Power intercept harness between the two ends of the black harness connectors. Don't forget to reconnect the white connectors before moving on to the next step.



The SpeedBrake ground is connected to the ground stud on the firewall near the brake master cylinder, where it will join a factory ground strap.

It is much easier to install than a standard exhaust brake. It offers plug-and-play installation using connectors that mate to the factory connectors in your truck with no modifications to your exhaust system or splicing into your truck's wiring harness.

If you own a late-model diesel with a VVT computer-controlled turbo and are looking for a little more "Whoa!" power heading downhill with a load, the Banks SpeedBrake is worth checking out. **DW**



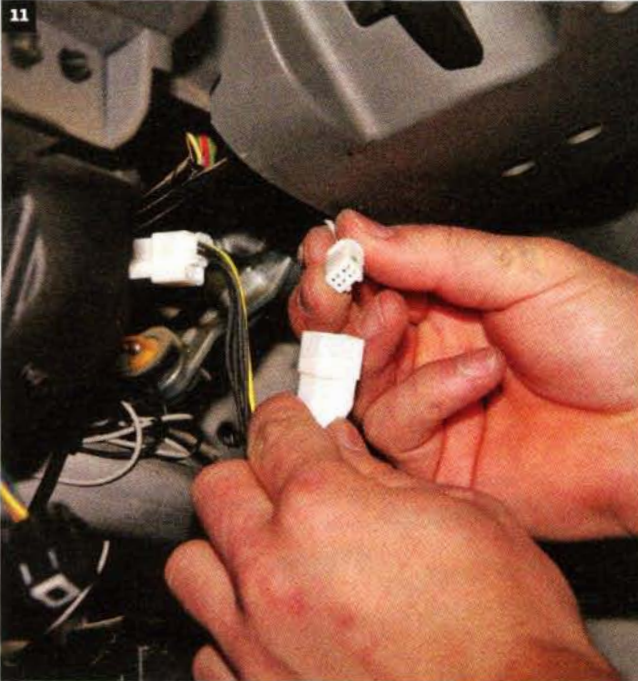
Powell passes the end of the harness into the cab of the truck through a small slit in the factory rubber grommet. Be careful not to cut any wires when cutting the slit in the grommet.



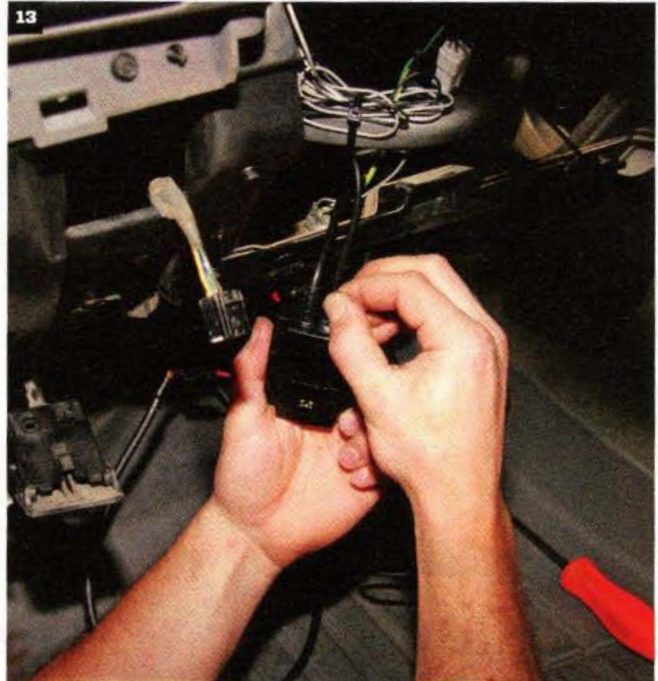
Moving into the cab, Powell removes the fuse panel access cover, as well as the lower dash panel.

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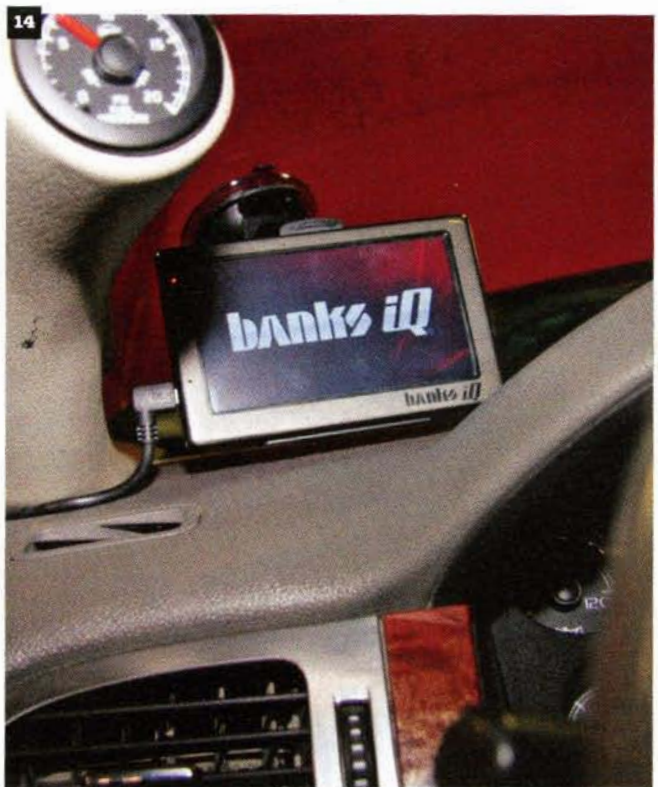
Next, he locates the four-pin plug under the steering column and plugs the SpeedBrake harness plugs into each end of the factory plugs—just as with the transmission and engine harnesses.



The Banks Bridge Module connects between the iQ monitor and the OBD-II port. After making the connections, Powell ties up the wiring under the dash to make sure the wiring will not be damaged.



The OBD-II interface connector plugs directly into the OBD-II port under the dash.



Powell routes the mini USB cable up to the windshield through the A-pillar gap and mounts the iQ to the windshield using the supplied suction-cup mount.

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Now, he reinstalls the lower dash panel and fuse panel to complete the interior part of the installation.



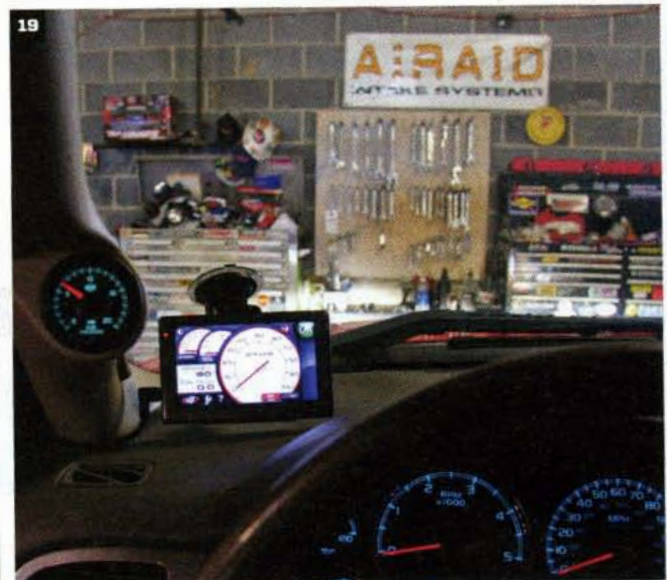
After cleaning the top of the fuse box cover under the hood, Powell mounts the SpeedBrake module using the supplied hook-and-loop strips.



Then, he plugs the harness into the SpeedBrake module.



To finish off the installation, Powell secures the harness to the factory harness using zip ties for a clean and safe installation.



The possibilities for the iQ gauge display are nearly endless, but we're sure you'll be able to set it up to best suit your needs. The great thing is that as those needs change for different driving conditions, you can easily reconfigure the gauges without needing to buy new instruments.

## Sources

**Banks Power**  
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