

# Slow The Load

Improve The Braking Of Your 6.7L  
With The LoadLeash From Pacbrake

BY TRENT RIDDLE  
PHOTOS BY TRENT RIDDLE  
& COURTESY OF THE MANUFACTURER



**O**wners of the Ram truck equipped with the ISB 6.7L Cummins engine have been blessed with a factory exhaust brake from the beginning. This exhaust brake uses the variable geometry turbo on these engines to increase back pressure and thus improve engine braking, when the OEM unit is engaged. While this OEM setup is a vast improvement over wheel brakes alone, it does have some limitations, and with larger trailers you want all the braking you can get when hauling a heavy load.

The answer to even better braking with your late model diesel-powered Ram truck is the P-67 LoadLeash from Pacbrake. The LoadLeash complements the factory system and improves braking when needed, and can be turned off

when you're hauling empty. In fact, it won't even engage when the OEM system is in the off mode.

Better braking, no matter your load, improves your towing performance, increases safety, and saves you money by re-

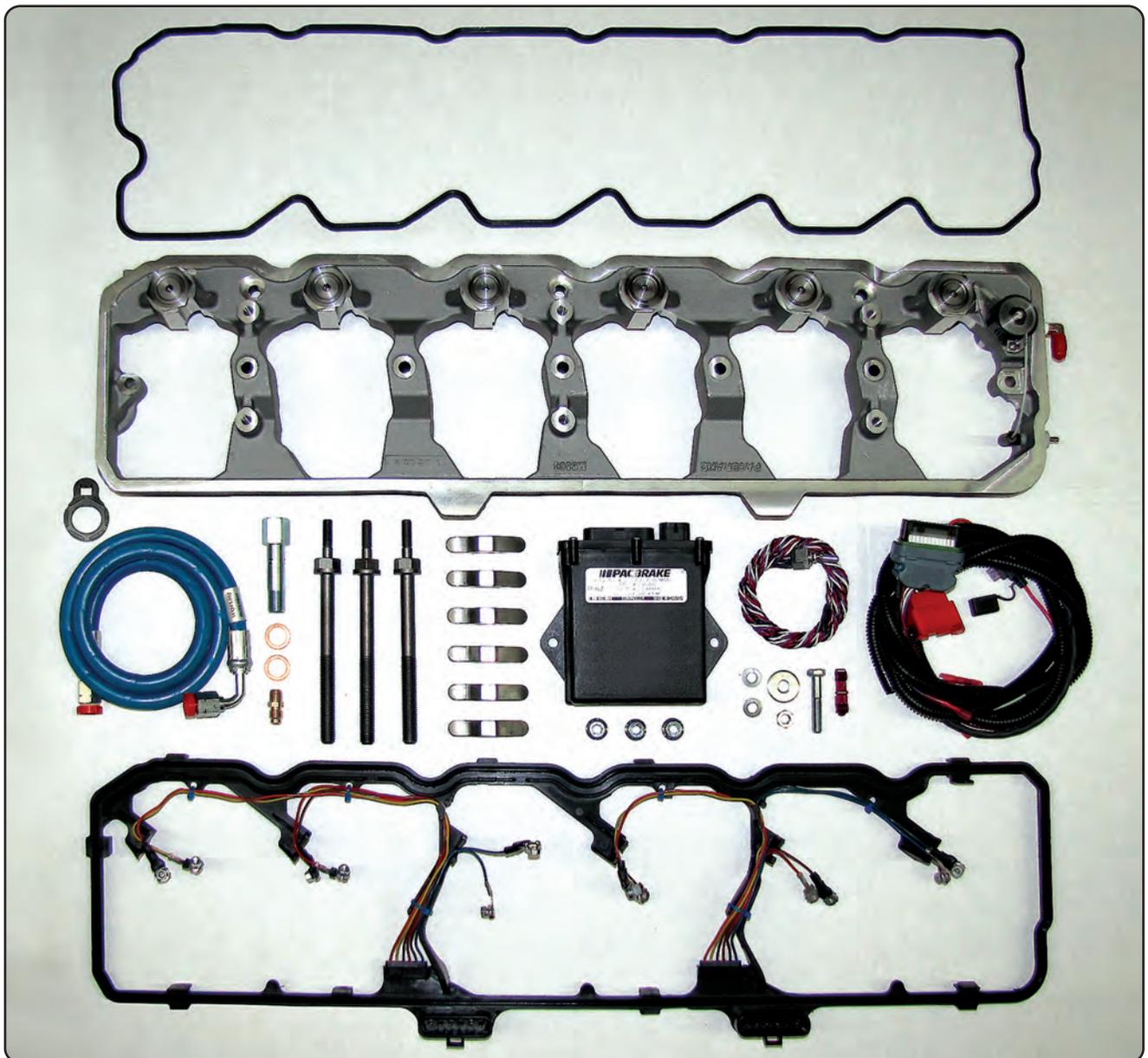


ducing brake wear and thus extending the life of your friction brake components. In addition, unlike the in-exhaust-style restrictor exhaust brakes, the LoadLeash is quiet and can be used in any area, even those posted "No Jake Brake" due to local noise ordinances.

What makes the LoadLeash different, you ask? Well, first off, the unit replaces your OEM valve cover spacer, rather than being inserted into the exhaust pipe. Second, it provides braking action on both the compression and exhaust strokes of the engine. Third, it works in conjunction with your factory VGT turbo and exhaust brake. With the LoadLeash activated, the exhaust valves are held a little off the valve seats during the entire two-rotation cycle of your four-stroke diesel. This means you get two braking strokes from the engine per cycle and delete the expansion stroke, which also takes away unwanted power that aids in faster braking.

We contacted the experts at Redlands Truck and RV in Redlands, California, and were invited to come see an installation of a Pacbrake LoadLeash and then take a ride and see the difference one makes in braking performance. Since Redland Truck and RV specializes in all things diesel, they're used to installing all types of braking systems, and repairing and upgrading OEM setups. Our installation took just over a day, but this was partially due to the fact that the install was on a 2013 Ram 3500 and the factory had made a few changes that had to be addressed for the first time. The Redlands crew did this with ease and got it right the first time.

We can tell you from experience that the large trailer we towed had a dramatic effect on braking over the unburdened and empty truck alone. In our towing tests, the Ram truck braking was okay with just the factory hydraulic brakes, and better with the OEM ex-



1 Here you see the LoadLeash kit laid out for inspection. Note that this kit is for the 2012 and older Ram trucks, and that due to some slight changes on the 2013 Ram a few components are different. (A photo of that kit was not available at press time.)



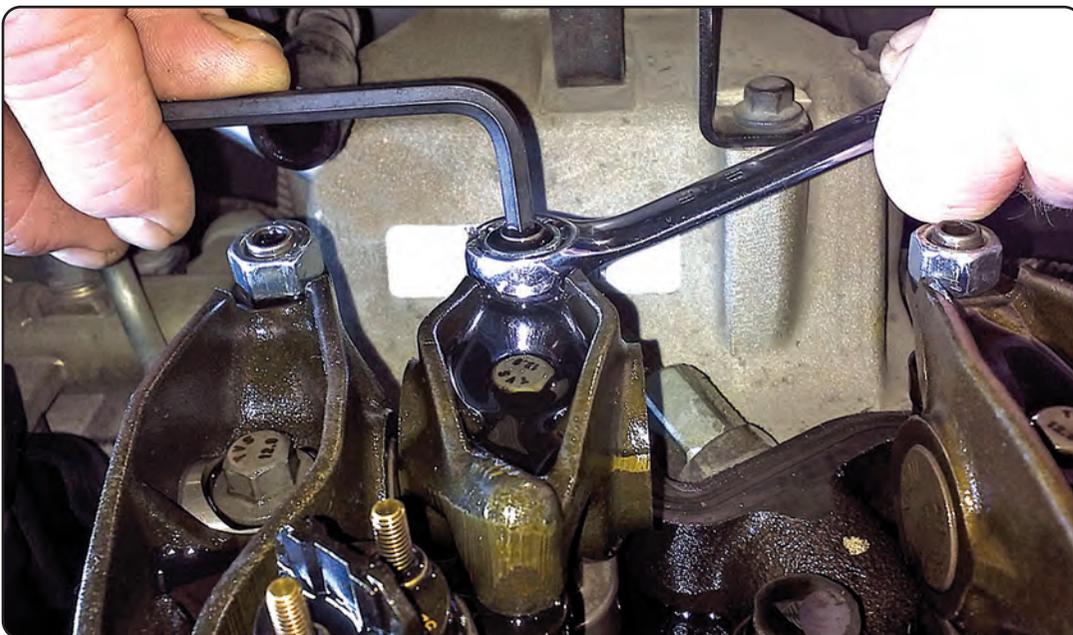
**2** The OEM head bolts are removed in three locations to install double-ended ARP head bolts used to secure the Pacbrake girdle. Don't worry, there are 26 bolt-ins total and removing these will not affect head gasket sealing.



**3** Once the three OEM head bolts are removed, the ARP double-ended units are installed and torqued to spec.



**4** Pacbrake provides new exhaust crossheads in the kit for the exhaust cylinders. These replace the stock units.



**5** The valve lash must be reset after installing the new crossheads on the exhaust valves.



**6** The setting for the valve lash is critical to ensure proper engine and LoadLeash operation. Triple-check the valve lash before moving on to the next step.



**7** Once the valve lash is reset, the LoadLeash valve cover spacer is installed. This unit holds the exhaust valve actuation solenoids. Notice the blue line; it's the oil pressure line on the system. It's connected to a main oil pressure galley port on the block. The system is electric over hydraulic; electrics open the solenoids to allow oil pressure to hold the exhaust valves in the braking position.



**8** The new valve cover spacer gasket incorporates the solenoid harness. These wires are connected to the solenoids and to the Pacbrake LoadLeash ECM harness.



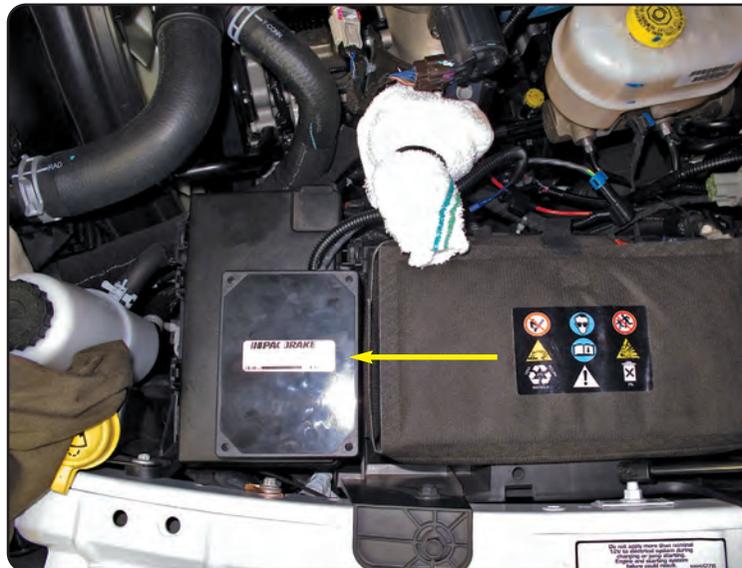
**9** The blue oil pressure line is connected to a main oil pressure galley port on the block.



**10** With the work on the valve train complete, the lower half of the engine valve cover is installed.



**11** Once the lower valve cover half is installed, the filter and upper half can be put in. The under-hood part of the upgrade is almost finished at this point.



**12** The small control module for the LoadLeash is installed behind the dash and a control switch is all you'll see from the cab.

haust brake. However, engaging the LoadLeash brought in a new level of load control and braking advantage. Even with the factory exhaust brake button on, the large load would push the truck a little on steep downhill sections and the foot brakes were needed. However, with the LoadLeash on, the hydraulic brakes were never



**13** The module taps into the EOM harness in a few places and then to the control switch in the cab.



**14** The crank position sensor output must be tapped to ensure proper operation of the LoadLeash system.

needed, during our test, and the accelerator was required to keep up with traffic on the downhill test section.

Follow along and we'll show you the highlights of installing a LoadLeash from Pacbrake. If you're mechanically inclined, you can do this at home. If you prefer, your local Pacbrake distributor/installer can do it for you and you can use your free weekend to tow someplace and have some fun on the trip as well as at your destination.

**NOTE:** Pacbrake's integrated P-67 LoadLeash engine brake for the ISB 6.7L Cummins engine fits 2007-13 Ram 2500-5500 diesel pickup/chassis cab trucks and Sterling chassis cab trucks. Owners of other model and years of diesel trucks can benefit from Pacbrake's PRXB supplemental exhaust brake. This unit installs in the exhaust pipe, and will fit virtually any diesel engine. **DW**



**15** A simple toggle switch controls the on/off function of the LoadLeash. Of course, the OEM exhaust brake must be on first for it to work. This is the only wiring required in the cab.



**16** The LoadLeash comes with a sticker for the engine cover that lets servicers know that the engine is no longer stock.

### SOURCES

**PACBRAKE COMPANY**  
800-663-0096  
[www.pacbrake.com](http://www.pacbrake.com)

**REDLANDS TRUCK AND RV**  
909-792-0314  
[www.redlandstruckservice.com](http://www.redlandstruckservice.com)