



# TURBO DIESEL

## REGISTER



**JAMES GOES TO SEMA 2014**

by James Langan

For several years I have wanted to attend the industry-only SEMA Show, but using a week of precious vacation to attend was not a priority. Four years ago my automotive-centric journalism and photography work became my primary profession, so attending the SEMA Show each November is now an annual pilgrimage. With my return to the TDR as regular columnist, this year I was on the lookout for a few TDR-related developments.

**BD Performance**

TDR readers know BD Performance as one of the anchors in the diesel performance industry. Brian Roth and his crew have been offering a diverse selection of diesel truck products for decades. During a brief interview, Brian ran down the list of a few of his products for the TDR audience.

Cast in two-pieces to allow for heat expansion, BD's stainless steel exhaust manifold for the 6.7 is offered for both stock trucks and higher-horsepower T4 applications. The stainless steel not only handles higher heat, but also will retain more heat than cast iron, thereby providing for better exhaust velocity and performance.



**The BD stainless steel exhaust manifold.**

For the 6.7 Turbo Diesels two new turbochargers designed for the increased velocity of T3 manifolds.

On the left: Super 600, with a 66 mm intake compressor wheel. On the right: Super 650 has a 67 mm intake compressor wheel.

Both have an 80 turbine and 0.8 A/R (area over radius) turbine housing with a wastegate. The wastegate is important with the 6.7, as the engine is relatively easy to over-spin and blowup with the wrong turbo mounted. Brian said you should really have a 471 turbo on the 6.7 if you're going to run without a wastegate.



**BD's 600 and 650 turbos.**

Designed for the 5.9 or 6.7 Cummins engines, T4 and T6 ported exhaust manifolds, the smaller T4 on top and the T6 on the bottom. These manifolds are *ported to gasket size*, to match the head porting that guys do when running these larger components.



**The T4 and T6 manifolds.**

Stepping into the replacement differential-cover market, an item that is both a functional and dress-up piece, BD's cover is baffled inside at the bottom to retain the additional oil capacity where it's desirable, letting the oil at the top flow and get out of that area as quickly as possible.



**BD differential cover.**

**Legacy Classic Trucks**

In a small shop in near Jackson, Wyoming, craftsmen have been restoring and modifying vintage Power Wagons with painstaking attention to detail. They customize the trucks with functional, modern drivetrains making them much better, more comfortable, and drivable than they ever were. Regular cab, extended cab, and four-door models are offered—and they're all expensive. Legacy Classic Trucks had a Dodge Carryall on display that many attendees were lusting after and an equally interesting Jeep Scrambler pickup next to it.



**Legacy Classic Dodge Carryall.**

Under the hood of the Jeep sat a 3.0-liter VM Motori diesel engine prepped by Gale Banks Engineering. The legendary Gale Banks himself was inspecting this Jeep while I was at the Legacy Classic Trucks booth, accompanied by Raffaele De Vivo of VM North America. I had the pleasure of meeting both men and chatting with Gale about this and other platforms for several minutes.  
*legacypowerwagon.com*



**De Vivo and Banks inspect the Jeep.**

**McLeod**

From the McLeod Workhorse line, a new replacement clutch and single-mass flywheel for the '98-'02 Turbo Diesels was introduced at this SEMA event. It's available in 12.5 and 13-inch sizes, with either a high-clamp or standard pressure plate, with an organic or ceramic disc. With the 13-inch ceramic disc and high-clamp pressure plate options, it's rated to hold up to 1,200 pound-feet of torque.  
*mcleodracing.com*



**McLeod Workhorse clutch.**

**Cooper Discoverer A/TW**

The Cooper Tire and Rubber Discoverer A/TW expands on Cooper's popular Discoverer A/T3. Where the A/T3 is a 5-rib, all-around, all-terrain light-truck tire that is M+S-rated and does well in winter conditions, the design here is focused on cut-and-chip resistance and use in warmer temperatures and southern states. The new A/TW is aimed at the Northern states, still offering some cut and chip resistance but geared toward winter performance. The A/TW is rated for severe winter weather conditions and displays the mountain/snowflake symbol; it doesn't just meet the test standards, it far exceeds them.



**Cooper A/TW tire.**

To earn the severe weather rating a product must surpass a benchmark tire's snow spin-up performance by 10 percent. The Discoverer A/TW is 30 percent better than the benchmark, making the performance equal to that of some dedicated winter tires. Most winter tires should be removed during the drier, warmer months because they will wear too quickly, but the A/TW is engineered for year-round use. Cooper is so confident about the 12-month performance of the A/TW that all sizes carry a 50,000-mile treadwear warranty. Depending on the retail outlet and whether in the US or Canada, stores will sell the A/TW or the very similar X/T4. Presently there are 13 light-truck and 10 P-rated SUV sizes offered. [coopertire.com](http://coopertire.com)

### Dick Cepek Extreme Country

The new *Extreme Country* tire will replace the existing Dick Cepek (DC) *Mud Country* and *Crusher* tread designs. It will arrive in the second quarter of 2015. Despite the name, this tread is not a super high void-ratio mud tire. The new *Extreme Country* is similar to an aggressive commercial traction light-truck tire, a good thing, with higher-void outer lugs and a lower-void interior tread pattern. The tighter center lug spacing is good for on-pavement traction and wear, while the more aggressive outer lugs feature either angled shoulder scallops, or unique stair-steps that provide both flex and lug stability. The *Extreme Country* has 10 percent more void than the similar Dick Cepek *Fun Country*, most of it between the outer tread lugs. Just like the *Fun Country*, the *Extreme Country* has practical and functional seagull-shaped sipes, *in every tread block*, a feature missing from many higher-void traction tires. The Dick Cepek representatives emphasized that the *Extreme Country* tread compound is very similar to the impressively long-wearing, proven, and recently superseded F-C II design, with 18–21/32 of tread depth also contributing to long life. A high-denier 2-ply sidewall helps keep heat, weight, and rolling-resistance to a minimum. Twenty-one LT sizes will be offered including two relatively narrow, yet tall, dually- and older-truck-friendly sizes, the LT255/85R16E and LT235/85R16E. [dickcepek.com](http://dickcepek.com)

### AEV Ram

American Expedition Vehicles (AEV) has made a name for themselves making extremely functional suspensions, vehicle armor, and accessories, besides doing V8 and diesel engine swaps for Jeep Wranglers. Recently they have turned their attention to full-size Ram trucks. These guys are Ram/Cummins Turbo Diesel enthusiasts; they pull big, heavy trailers loaded with modified Jeeps to events like the *Easter Jeep Safari* each spring in Moab, Utah.

At the 2013 SEMA Show AEV introduced their original Ram Concept, which featured their prototype modular, 3/16-inch stamped-steel front bumper, a mere three-inch suspension lift with fender flares, which allows the fitting of huge 40-inch tires on their own 17-inch aluminum wheels. For their sophomore effort at the 2014 SEMA Show they unveiled their second AEV concept, the regular cab, flatbed, manual transmission truck you see here. They had a small brochure featuring these Ram truck items plus their new raised-intake snorkel system.



The AEV Turbo Diesel.

Off-highway travel capability is always a part of my project trucks, though 40-inch tires are a bit much for my style. Do watch my *Still Plays With Trucks* column for some AEV products on my 2500 build. [aev-conversions.com](http://aev-conversions.com)

James Langan  
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Cepek Extreme Country tire.