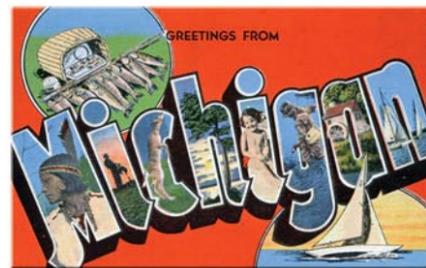


The school of hard knocks

PICKUPS TAKE A POUNDING AT FORD'S MICHIGAN PROVING GROUNDS

By Joe Sage



Proving grounds are where a company tests their engineering and determines proof of concept or proof of product. It's also a great place to gather some automotive media and some competing products, when they are pretty proud about proving their point.

This is what brought us to Ford's Michigan Proving Grounds, near Romeo (north of Detroit) for what was billed as an F-150 Built Ford Tough Durability Forum. Joining us were key Ford engineers, including the top dog of the F-150 (and Expedition) lineup, chief engineer Jackie DiMarco, who provided us with a detailed introduction to her most prized product and our day ahead.

THE STAR OF THE SHOW

Born in 1948, the Ford F-Series hit age 65 in 2013—ready for retirement if it were human. The end of its work days, however, are nowhere in sight. In fact, the F-Series is about as hard-working as they come. Despite Chevrolet and GMC always nipping at their heels, impressive growth from RAM, and consistent increases from the Toyota Tundra, Ford massively dominates work categories—from mining to construction to ranching to law enforcement—at market shares from over 50 percent to as high as 77 percent.

During its six and a half decades on the planet, over 33 million F-Series have been sold. For the past 31 years, the brand has been the best-selling vehicle—of any type, not just pickup truck—in the US. And there are more F-Series still on the road with 250,000-plus miles on the odometer than any other vehicle.

At this event, Ford announced a 22 percent increase in F-Series sales for August, year over year, with one new pickup selling every 38 seconds. The Kansas City truck plant had just added a third shift, capable of building an additional 90,000 units. Their lead sounds secure.

DiMarco rattles off specific improvements from just the past few years (the current generation), from high-strength steel in 2009, to four new powertrains in 2011, to advancements and competitive leads in towing, power, torque, payload



and fuel economy, including best-in-class payload of 3120 pounds and 11,300-pound tow capacity.

Ford technical innovation within this category includes first introduction of an integrated trailer brake in 2005, rear camera and fully boxed frame in 2008, EcoBoost engines, trailer sway and hill descent controls, and more.

THE CAST OF CHARACTERS

If there is any doubt that Ford is confident they are ahead of the curve, for this event we drove 2013 model F-150s (this was in September), but 2014 models from RAM, Chevrolet and Toyota. Even more significantly, Ford put its 3.5-liter EcoBoost V6 up against V8 engines from the other three. (Available Ford engines also include 5.0L, 5.7L and 6.2L V8s.) Fuel economy is important to most shoppers, but Ford has statistics: overall, it's the number 14 reason; for F-150 shoppers, it's number six; and for Ford EcoBoost engine buyers, it is their number one basis for choosing.

For both Toyota and Chevy, these are new third-generation trucks. RAM for 2014 is a (considerable) refresh. The current F-Series—its twelfth generation—launched for 2009 and is entering its final year for 2014, with an all-new 2015 model on the horizon (something to compete with the sizeable buzz of an all-new Mustang).

Trim levels varied from one course to another (F-150 XLT on some, Lariat on others; RAM Big Horn on some, Express on others; Chevy LT on some, LTZ on others; Toyota SR5 on all).

Engines were the same across the board, with in each brand: Ford with its 3.5L EcoBoost V6, Chevrolet with its 5.3L Ecotec3 V8, RAM with its 5.7L HEMI V8 and Toyota with its 5.7L DOHC V8.

The F-150s had different rear ends in all three phases: a 3.31 on the torture track, 3.55 for the trailer tow and 3.73 for the wet pad. (We might have expected that highest-ratio 3.31 on the hill-climb with tow load, but the durability torture tracks also showed off torque.) Ford supplied comparable ratios in the competitors. The Chevys came with two rear ends, including a much higher 3.08



on the durability track. Tundras were all the same at a low 4.30. And RAM had 3.21 for the durability and trailer sessions, but 3.55 on the wet pad.

All were crew cabs. Prices ranged from the mid-to-upper \$40s for Ford, mid-\$40s to mid-\$50s for Chevy, \$40k to mid-\$40s for RAM, and mid-\$30s to \$40k for Toyota. (The top Chevrolet cost 47 percent more than the least expensive Tundra.)

SO LET'S BEAT 'EM UP

Ford's Michigan Proving Grounds cover 4000 acres—that's six square miles. There are 110 miles of roads, of which over half are specialized test surfaces—sand washes, salt spray, hills of varying steepness and length, wet pad, a squeak and rattle facility, and more.

We spent three hours in the field: one hour on a series of four durability tracks, testing suspension, body and driveline strength, rigidity, power and comfort; next on a specially built steep incline in the form of a typical two-lane public highway; and finally on a wet pad where we could compare vehicle dynamics, in particular the ability to turn and to stop.

At the durability tracks, we first watched from a high bank as all four brands were driven by, before driving them all ourselves. We were advised to watch chassis, body and wheel travel, and we noted some remarkable differences. The Tundra had the most box movement—not such a good thing—while the RAM had significant movement from its rear suspension—for good reasons, as their suspension has been highly redone for 2014 (more on this in our next issue). The Silverado seemed to emit noticeable squeaks from the chassis and considerable wheel

• Above: Already shrouded in secrecy, Ford's Michigan Proving Grounds were also shrouded in fog as we arrived. • F-150 chief engineer Jackie DiMarco has advanced engineering and business degrees from Ohio State and the University of Michigan. This 100,000-plus-mile Grimmway Farms F-150 is one of dozens owned and operated by this California agricultural producer. A video showed just how hard that operation beats up their F-150s, but this one looked no worse for wear. We then proceeded to beat them up, ourselves, on Ford's dedicated series of durability test courses.

• Below: Not every manufacturer wants to see photos of the competition on the same page as their featured product. But a major point of this event was to pit the Ford F-150 against the RAM 1500, Toyota Tundra and Chevrolet Silverado 1500. (The Fords were 2013 models; others were all new for 2014.)



KEEP RIGHT >>

Top to bottom: • We lined up repeatedly for a series of pounding durability courses—Silver Creek 1 and 2, and Accelerated Durability North and South (also shown on prior pages). • The hill route involved towing a 9000-pound trailer up a steep paved road. • Ford engineers on one section of high-bank racetrack reminded us that it was not for speed, but merely the path we were taking to our vehicle dynamics wet pad. Yeah, well. • Even on a foggy morning, the coned course made its own rain.

hop. Toyota and Chevy both seemed to demonstrate a bit of fishtailing (yaw). All of these are observations of eye and ear, not instruments.

During our torture drive time, the Ford was not yaw-absent, but seemed to have the least—comforting while holding tight and strong to a straight line against great odds. There was considerable noise from the Toyota, as its box slapped against the cab, as well as its doors against jams. Some competitors hit their suspension stops hard.

It's tough to fly to Michigan for a few hours and state a definitive comparative on all the major pickup trucks. Although the torture goes deep, the overall session was relatively brief and our conclusions fairly superficial. But it's also hard to deny that we could experience differences on the courses Ford presented. Granted it's their own track and their own regimen, and you might think it's optimized for their vehicles. And you might conclude that everybody else has a similar track, optimized for their vehicles. On the other hand, this track has been established for a long time, and they really build the trucks to the track. It represents, in literally concrete form, exactly the types of real world challenges they engineer to conquer. Bottom line, their trucks on their track were impressive indeed.

F-150 FOR 2014

The torture track is not the only way to make the tough decision on which tough truck to buy. The fastest growing segment of the market is in under-\$30,000 light duty trucks, though most sales are in the \$30-40,000 range. Ford also boasts having pioneered the above-\$40k pickup market with their King Ranch, Harley-Davidson, Limited and other posh offerings.

For 2014, Ford F-150 will add SuperCrew to the STX lineup, plus an STX Sport Package with 20-inch wheels. The F-150 Tremor has already made waves as the world's first EcoBoost-powered on-road sport truck. And Raptor enters its fifth year as the hottest stock off-roader. (Ford proudly has "never spent a single penny" on Raptor incentives, moving inventory on an especially fast 20-day cycle.) Also for 2014, Ford will deliver a CNG/LPG half-ton F-150, featuring a 3.7L V6 with gaseous prep package, offering 750 miles of range per tank (and an estimated 24-to-36-month payback in fuel savings). Lots of choices. ■

