All-New Ford F-150 Offers Added Protection Against Fading, Damage and Glare from the Sun

• Ford specially developed parts and extensively tested the 2015 Ford F-150 to ensure the truck resists fading and damage from harsh sunlight

• F-150 interior designed with brims and brows to minimize glare and shield gauges in the instrument panel while adding lighting for easier viewing of recessed areas

• Advanced computer modeling and testing in Ford labs helped ensure sunlight reflecting off interior surfaces of the vehicle will not wash out gauge and screen displays

When the all-new 2015 Ford F-150 has its day in the sun, it will be better prepared than ever for damaging rays both inside and out.

Much of the glare and fade testing was performed in the company’s Central Lab – where Ford engineers focus on making individual parts stronger and more durable. A device known as a Thermatron simulates damaging UV sunrays, and can be used over long periods of time on prototype parts to help identify the best design for production.

Antiglare testing took place in the Visual Performance Evaluation Lab, also known as the Ford lighting lab. The facility can replicate almost any sunlight conditions from dawn to dusk, as well as changes to natural light caused by weather conditions.

“Built Ford Tough means more than surviving dirt, rocks and mud, or towing heavy trailers,” said Cindy McComb, materials engineer in the Central Lab. “We like to think our work on this truck has given it the kind of sun protection Built Ford Tough trucks require to look as good after five years of exposure to sun, wind and rain as they do when they leave the showroom floor.”

Even the F-150 badge is tough-tested for exposure. Both the iconic Blue Oval and F-150 badges endured 3,000 hours of sun-like conditions – the equivalent of five years. The three-piece badge was exposed to temperatures as cold as 40 degrees below Celsius followed by blasts of 100-degree Celsius steam to help ensure chrome plating adheres so individual pieces of the badge won’t warp or crack.

In Ford Central Lab facilities in Florida – also home to NASA test facilities – engineers place individual exterior and interior parts on outside racks for six months at a time to look for fading and other signs of degradation. The parts are examined under a special xenon light to reveal damage invisible to the human eye. Parts are approved for production only when they meet rigorous fade-resistance standards.

Direct sunlight does more than fade vehicle parts over time – it can also make it hard to see information displayed on gauges and screens used for navigation and entertainment systems. Ford engineers used advanced computer-aided design software to identify the least reflective materials to use, and incorporated shaded gauges on the instrument panel of the all-new truck designed to minimize glare.

In some cases, gauges and instruments shaded from glare are enhanced with supplemental lighting throughout the Ford F-150 interior to make them readable in their recessed positions.
Indirect glare from general daylight brightness can wash out navigation and entertainment screen displays, too. Engineers tested various colors for the new F-150, ultimately choosing those that are easy to see under bright conditions.

“By reducing indirect glare, the driver should practically never see a sun spot in the center screen or instrument cluster,” said Cary Diehl, Ford human factors engineer. “In addition to testing gauges and screens under these conditions, we looked at the amount of light given off by LEDs in window and steering wheel control switches to ensure they would not be distracting to the driver when lit.”

During antiglare evaluations in the Ford lighting lab, which boasts 6,000 watts of light and a planetarium-like dome, Ford tested prototype F-150s under a variety of simulated lighting conditions.

Because many F-150 customers use their trucks for work at job sites, they don’t have the time or the patience to deal with hard-to-read gauges or controls inside the truck.

“Our work in the lighting lab ensures that despite almost any weather outside, customers will find it easy to read controls inside the truck today and years down the road,” said Mahendra Dassanayake, Ford lighting technical specialist.

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