

2016 Ford F-150 to Debut Next-Generation Aluminum Alloy

Alcoa Micromill™
Innovating High Tech Metal
The fastest, most productive aluminum casting and rolling system in the world.

MOLTEN METAL TO FULL COIL
20 MINUTES VS 20 DAYS
CONVENTIONAL ROLLING MILL

Small and Powerful
Just one-quarter the size of a conventional mill

Fast and Flexible
Designed to meet growing demand for automotive aluminum sheet, flexible enough to shift product mix at the press of a button.

40% GREATER FORMABILITY

30% STRONGER

UNIQUE ALLOY MICRO STRUCTURE

In addition to its increased formability and greater strength, Alcoa's Micromill® is also the fastest, most productive aluminum casting and rolling system in the world, allowing for a remarkable reduction in the amount of time it takes to turn molten metal into coil: a traditional rolling mill takes around 20 days but Micromill is able to accomplish it in just 20 minutes.

In yet another first for the F-150, Ford Motor Company has announced the 2016 model will begin using Alcoa's new Micromill® aluminum alloy. It's the commercial

automotive debut of the advanced material, which is 40 percent more formable and 30 percent stronger than today's automotive aluminum.

Introduced in December 2014, the next-generation technology dramatically changes the microstructure of
Continued on page 2

Ford Launches Enhanced Consumer Collision Repair Website

Ford Motor Company's [Take A Good Look](#) website—a key element of its ongoing consumer collision campaign—has been re-launched with significant improvements intended to boost

customer awareness of the collision repair process while allowing them to share the new content through social media.

the repair of their vehicles, so they're better prepared to handle what can be a nerve-wracking experience," said Mark Mandl, collision marketing manager for Ford Customer Service Division. "We also thought it was important that the new site offer engaging content that our vehicle owners appreciate and want to share socially."

The site was unveiled in November 2014 as a convenient resource for body shops interested in helping their customers navigate the often-complicated process of repairing their collision-damaged vehicles, with important information on "Your Parts," "Your Repairs" and "Your Insurance." The revamped site retains that same focus, but also offers improved navigation, great new visuals, and dynamic new content—such as videos and current news stories—that can be shared and viewed socially.

One piece of that new content that created a buzz this summer was an "airplane" commercial produced by Ford (also available on [YouTube](#)), while another video offers an eye-opening crash test comparison between aftermarket and OEM bumper reinforcements.

"We wanted the improved TakeAGoodLook.com to provide consumers all the information they need regarding the different types of repair parts and how their auto insurance policies can impact

Additional upgrades include a highly interactive feature that lets visitors "repair" a damaged 2015 F-150 with the scroll of a mouse, important tips for new drivers and for dealing with inclement

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F-150 to Use Micromill Aluminum Alloy

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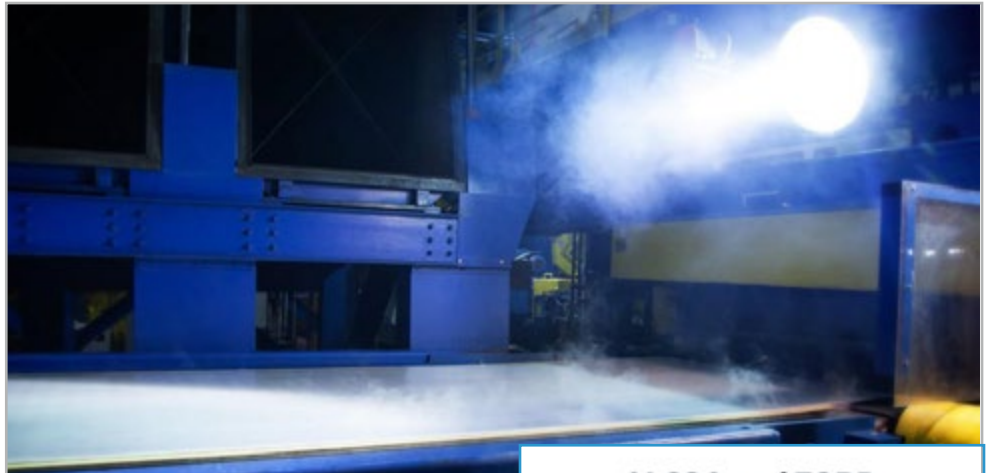
the metal, making it easier to shape the aluminum into intricate forms such as fenders and inside door panels, and allowing for the use of thinner aluminum sheet without compromising dent resistance.

"Alcoa's breakthrough Micromill™ technology offers highly differentiated automotive material with strength, weight, formability and surface quality combinations previously impossible," said Klaus Kleinfeld, Alcoa chairman and chief executive officer. "This high-tech aluminum will give Ford a true material edge, enabling greater design flexibility and better vehicle performance—making the concept cars of tomorrow a reality."

The Micromill process has been validated by Ford engineers to ensure it meets the stringent requirements for producing high-quality parts, in particular the kinds of complex structures in the F-150, and while the new aluminum alloy will be stronger and more formable—with formability characteristics comparable to mild steels—both Ford and Alcoa stress that the repair procedures, training and tooling introduced with the 2015 F-150 will not change for the new model.

The advanced alloys offer the formability and strength required for greater flexibility in designing vehicles using complex parts. That means parts constructed of multiple pieces can be manufactured as a single part, thus reducing complexity and assembly time. Target applications for the material include critical-strength structural parts as well as exterior panels that must meet strict surface quality requirements.

Ford—which collaborated with Alcoa on the development of the Micromill aluminum and has exclusive North American use rights for an undisclosed number of years—will begin using the new material in



The innovative new Micromill technology produces an aluminum alloy that is 40 percent more formable than today's automotive aluminum, making it easier to shape into intricate forms, such as the inside panels of automobile doors and external fenders. The increased material strength allows for the use of thinner aluminum sheets without compromising dent resistance. While the new alloy is stronger and more formable, Ford and Alcoa both stressed that the repair procedures developed specifically for the 2015 F-150 will not change.

multiple components on the 2016 F-150, starting in the fourth quarter of this year. The company expects its use of Micromill will more than double from 2016 to 2017, and plans to continue to increase its use over the next several years on a range of vehicle components and future platforms.

ALCOA and FORD

team up to perfect aluminum alloy for F-150

Micromill technology from Alcoa is a more efficient way to make aluminum, as it is well suited to meeting the demands of high-volume automotive manufacturing. The technology enhances the manufacturing capability of existing aluminum alloy. Further development of future alloy grades will enable new innovations in automotive design.

The new F-150 is the toughest, smartest most capable ever and for 2016 we're adding improved aluminum alloy structural parts created with Micromill technology.

Real-World Consumer Needs	
Laboratory	
Formability Simulation	
Part Design	
Stamping Trial	

2015 2016 2017 2018 2019

Launch New Alloy

F-Series Super Duty Switches to Aluminum

Following in the footsteps of the F-150, Ford Motor Company has announced the all-new 2017 Ford F-Series Super Duty® will utilize a segment-first, high-strength, military-grade aluminum alloy body and an all-new high-strength steel frame. Equipped with 16 class-exclusive new features, Ford calls it the toughest, smartest, most capable Super Duty truck lineup ever.

The switch from the outgoing steel body to aluminum means the new Super Duty will be more dent-and-ding resistant, and not subject to red rust corrosion, while the fully-boxed frame comprised of more than 95 percent high-strength steel is up to 24 times stiffer than the previous frame. The use of high-strength aluminum alloy and high-strength steel will help reduce the weight of the upcoming truck by up to 350 pounds, while enabling the most towing and hauling capability ever delivered by Super Duty.

The 2017 Ford F-Series Super Duty is expected to go on sale late next year. Stay tuned to upcoming issues of *On Target* for repair information and additional details.



New-and-Improved TakeAGoodLook.com

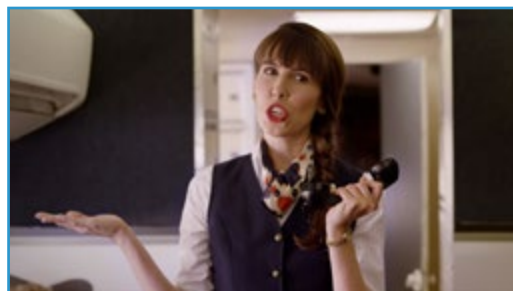
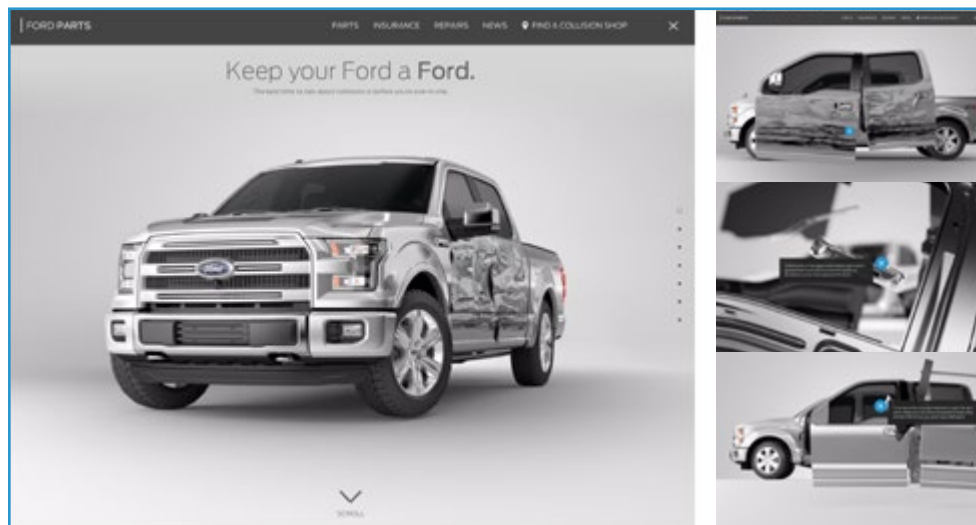
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weather, and a downloadable glove box brochure. With these enhancements, Ford is continuing to help empower consumers by arming them with important information they'll need to know when their vehicle is in need of collision repair.

Be sure to check out the new TakeAGoodLook.com, recommend it to your customers, and check back often for new content throughout the year.

(Top right) A new interactive addition to the site allows users to "repair" a damaged 2015 F-150 with the scroll of a mouse.

(Bottom) One of the new videos added to the site includes the Ford-produced "airplane" commercial that debuted over the summer.



INSIDE THE INDUSTRY

Q2 LOR Ticks Up

The average length of rental (LOR) in the U.S.—used as a measure of repair cycle time—rose slightly during the second quarter of this year, to 11.0 days. That's according to Enterprise Rent-A-Car, which reports the nationwide figure was 0.3 days higher than the same quarter a year ago, and 0.5 days above the five-year average. By region, the shortest LOR was reported in the Northwest, at 9.4 days, while the Northeast experienced the longest, at 12.3 days.

Average Vehicle Age Climbs Slowly

The average age of all cars and light trucks on the road in the U.S. has reached 11.5 years, up from 11.4 the last two years. The IHS Automotive report indicates the rapid increase that followed the 2008 recession has ended, however, and the forecast now calls for the average age to hit 11.6 in 2016 and 11.7 in 2018.

Meanwhile, IHS reports the number of vehicles in operation in the U.S. hit a new record high of 257.9 million at the start of this year, up 5.3 million from a year ago, while the average length of ownership for new vehicles also reached a new high of 77.8 months, a jump of 26 months over the last nine years.

Another VMT Record

Vehicle miles traveled (VMT) in the U.S. reached a record 275.1 billion miles in June, as all five regions experienced growth. The U.S. Department of Transportation reports VMT was up 3.9 percent for the month, while the total for the 12 months ending in June hit 3.09 trillion, an increase of 1.3 percent from the same time a year ago.

Deer Crash Likelihood Unchanged

The chances of motorists in the U.S. colliding with a deer, elk or moose this year remain at 1 of out 169. That's according to State Farm, which says the likelihood of such a collision is unchanged from 2014, but that those chances more than double during October, November and December. West

Virginia tops the list of states where such crashes are most likely to occur for the ninth year in a row, though the odds there are actually down slightly, from 1 in 39 last year to 1 in 44 in 2015. Montana, Iowa, Pennsylvania and South Dakota round out the top five states for likely deer/elk/moose collisions.

El Niño to Impact Winter Weather

Forecasters at the National Oceanic and Atmospheric Administration are predicting a strong El Niño will significantly impact weather around the U.S. this winter, with wetter-than-average conditions expected throughout the Southern Tier and the East Coast, while parts of the Pacific Northwest and much of the Great Lakes and Ohio Valley are likely to be drier-than-average. The temperature outlook calls for above-average figures across much of the West Coast and northern U.S., while the Southeast and southern Plains are more likely to see below-average conditions.

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2015 Ford F-150 Aluminum Tool Spotlight: Pro Spot PR-5 Riveter

While the all-new Ford F-150 was built with repairers in mind to allow for a smooth transition in terms of overall reparability, some of the truck's unique characteristics called for the use of specialized tools. Two such tools, both of which are Ford-approved for use on the truck, are the HENROB Mark V RivLite Self-Piercing Rivet Tool and the Pro Spot PR-5 SPR Riveter.

Designed specifically for aluminum vehicles, the Pro Spot Riveter (Rotunda Part # 254-PR-5) is an electro-hydraulic rivet gun that utilizes a cold-joining process to apply and remove rivets from heat-sensitive materials, such as aluminum. The PR-5 Riveter joins two or more pieces of material together using extreme pressure in tandem with precision-machined punch-and-die sets. The punch begins the process and pierces through the first layer of material, while the specially designed dies complete the process and prevent the rivet from punching through the last layer of material, allowing you to join different materials, including aluminum, steel, plastic and more.

The portable, battery-operated riveter comes equipped with a variety of punch-and-die sets for applying SPR and solid rivets, removing rivets

and flattening. With such a variety in today's vehicles, and with many different size rivets used in the vehicle repair process, the PR-5 uses magnetic dies to assist in quick rivet changes, making operation fast and easy.

To avoid downtime, the PR-5 Riveter comes with two lithium rechargeable batteries and a charging dock, making it a one-stop tool fully capable of self-piercing, riveting, clinching, pressing and removing rivets.

Kit Contains:

- Padded case with foam inserts
- 110V – 220V auto-switching power supply
- (2) 18V lithium-ion rechargeable batteries
- 2.5 mm Allen wrench
- Battery charging dock
- Standard C-arm
- Assortment of rivets and punch-and-die sets.

For more information on this riveter and other Ford-approved equipment, visit www.onerotunda.com or www.prospot.com.

For details on the HENROB Mark V, see *On Target* Volume 2 2015.



Ford Adds 141 Parts to Truckload Program

Ford Customer Service Division (FCSD) has added 141 new parts to its Collision Parts Truckload Program, while reducing list prices on those parts by an average of 15 percent. The additions include parts for the popular F-series, Focus, Fusion, Mustang and Explorer vehicle lines.

"The Truckload Program has provided a competitive environment for wholesaling dealers, body shops, insurance companies, and our customers for nearly 20 years," said George Gilbert, Truckload Program manager for FCSD. "More importantly, the program continues to be instrumental in helping collision repairers deliver the high-quality repairs using genuine Ford collision parts our vehicle owners expect and deserve."

The 141 part additions include: 10 wheels, 44 grilles/GORs/GOPs, 42 exterior lights, five brackets, 12 mirrors, three steel bumpers, seven bumper bars, one isolator, six step pads, eight fascias and three valances.

For more information on FCSD's Collision Parts Truckload Program, or for a list of the parts currently available, contact your local Ford or Lincoln collision parts wholesaling dealer or the Ford Collision Parts Hotline at the new e-mail address: cphelp@fordcrashparts.com.

The Hotline is available to anyone looking for information about genuine Ford parts, the Collision Parts Truckload Program, or any other Ford collision parts program.

INSIDE THE INDUSTRY

Continued from page 3

Automakers Commit to AEB

Ten automakers have pledged to make automatic emergency braking (AEB) a standard feature on all new vehicles, though a timeline for that to occur has not yet been established. Ford Motor Company, along with Audi, BMW, General Motors, Mazda, Mercedes-Benz, Tesla, Toyota, Volkswagen and Volvo, made the commitment recently, and will be working with the National Highway Transportation Safety Administration and the Insurance Institute for Highway Safety to finalize the details.

A recent IIHS study found AEB technology—which uses RADAR, lasers and cameras to detect an imminent crash, warn the driver and apply the brakes if necessary—can reduce insurance injury claims by up to 35 percent.

NABC Uses New F-150 for FREE Program

Firefighters were able to practice extrication techniques on a 2015 Ford F-150 recently, as part of the National Auto Body Council's First Responder Emergency Extrication (FREE) program. The vehicle was donated by the IIHS after it was used for a light-barrier crash test, giving firefighters the opportunity to practice their life-saving skills on the latest vehicle materials and technology. The event was the first of 13 FREE events NABC has scheduled around the country this fall. Visit NationalAutoBodyCouncil.org for more information.

Alcoa Expands Aluminum Capacity Again

Alcoa has completed a \$300 million expansion of its automotive aluminum sheet facility in Tennessee. The project followed a similar expansion at the company's facility in Davenport, Iowa, where Alcoa reports automotive aluminum sheet shipments were up 200 percent in the second quarter of this year. An elevenfold jump in the automotive use of

aluminum is expected by 2025, when compared to 2012, according to Ducker Worldwide.

Video Appraisals Repealed in Massachusetts; Used Parts Advisory Issued

The Massachusetts Auto Damage Appraiser Licensing Board has repealed an advisory it issued last year that allowed the use of videos and photos in the collision appraisal process, in lieu of physical inspections. The Board cited concerns about inaccurate and incomplete estimates using only videos and photos.

Meanwhile, the MADALB has also issued a recent advisory ruling that cautions appraisers on the specification of used parts, while informing insurers they will be responsible and liable for the use of used parts they mandate. The Board says it's particularly concerned about the use of parts that could be subject to wear, such as suspension components.

Repair Procedure: 2015 F-150 Front Door-Skin Panel Removal

As part of our ongoing effort to help repairers make the proper repair the first time, we're presenting certain repairs straight from the official **Ford Workshop Manual**. This time we look at removal of the front door-skin panel for the 2015 F-150.

For more in-depth repair information, for this and other Ford vehicles, please consult the *Ford Workshop Manual*, Section 501-29: Side Panel Sheet Metal Repairs, located at Motorcraftservice.com.

Special Tools / General Equipment and Materials

- Scraper for straight edges
- Grinder
- Self-Piercing Rivet (SPR) remover/installer
- Belt sander
- Hot air gun
- Knife

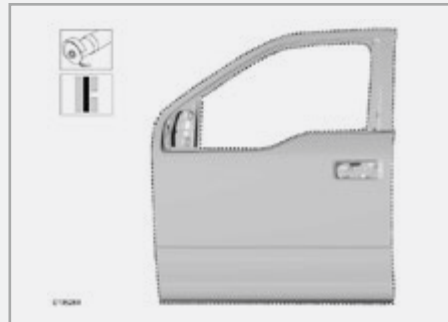
Left-hand side of repair shown; right-hand side similar. Regular Cab shown in diagrams; SuperCab and SuperCrew similar.

1. Inspect the door hinges for excessive wear or damage and, if necessary, install new hinges or rebuild existing ones.
2. Remove the exterior door handles (refer to Exterior Front Door Handles, Section 501-14: Handles, Locks, Latches and Entry Systems, Removal and Installation).
3. Remove the door window glass (refer to Front Door Window Glass, Section 501-11: Glass, Frames and Mechanisms, Removal and Installation).
4. Remove the outside mirror assembly (refer to Exterior Mirror – Vehicles with Long Arm Mirrors and Vehicles with Short Arm Mirrors, Section 501-09: Rear-view Mirrors, Removal and Installation).
5. Remove the door (refer to Front Door – Regular Cab/SuperCrew, Section 501-03: Body Closures, Removal and Installation or Front Door Alignment – SuperCab, Section 501-03: Body Closures, General Procedures).
6. Remove the door trim (refer to Front Door Upper Moulding, Section 501-08: Exterior Trim and Ornamentation, Removal and Installation).
7. Remove all door assembly weather stripping.
8. Remove the seam sealer from the door hem flange using the hot air gun and scraper for straight edges.
9. Remove the SPR fasteners as indicated, using the Self-Piercing Rivet (SPR) remover/installer. (See Below)
10. Carefully grind the **outer layer only** of the door skin hem flange as indicated, using the grinder. (See Below)
11. Remove the door skin outer panel. The use of heat may help in door skin removal.
12. Remove the remaining portion of the door outer panel hem flange using a knife and the hot air gun. (See Below)

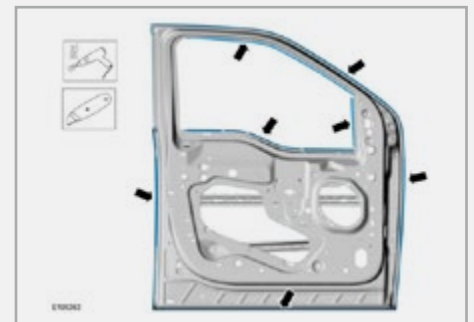
Please note that the illustrations are intended as a general guideline and are not all-inclusive. Be sure to look for the next issue of *On Target*, which will cover the second part of this process: the installation of the front door-skin panel.



Step 9



Step 10



Step 12

Ford Adds OPS to Collision Conquest

Ford has expanded its Collision Conquest Program, with the recent addition of Overall Parts Solutions (OPS). Ford made the OPS Technology Suite available for dealer enrollment in September. It includes OPSTRAX/VALUTRAX, the web-based parts procurement system that identifies Conquest-eligible parts sourced as non-OE in the estimate, and the option to enroll in DELIVERYTRAX, which provides real-time delivery tracking information.

"The OPS Software Suite delivers a technology solution to efficiently connect dealers with their collision shop customers with not only a procurement tool, but delivery and logistics solution that can reduce costs and improve ordering efficiency," said Mark Mandl, collision marketing manager for Ford Customer Service Division.

The addition of OPS will supplement OEConnection's CollisionLink and CollisionLink Plus programs, which will continue to be integral to the Collision Conquest efforts.



NACE 2015



Ford brought its 2,400-square-foot display to the 2015 International Autobody Congress & Exposition (NACE) show held in July in Detroit for the second year in a row. Representatives from Ford Service Engineering Operations, Ford Customer Service Division Collision Marketing and OEConnection were on-hand throughout, including Body and Chassis Commodity Manager Tom Green (white shirt, with badge), who takes time to answer some repair questions regarding the new F-150.

Next year's NACE moves west, making its first appearance in Anaheim, California, August 9 – 13. More information can be found at

www.naceexpo.com.

Get it right.



From the source.

Ford and Lincoln Dealers are the one-stop source for all of your collision repair needs.

Not only are they a great source for technical and repair information, their Ford Motor Company Genuine Parts can help your body shop reduce cycle time, improve relationships with insurance companies and satisfy customers. So call your local Ford or Lincoln Wholesaling Dealership today for all your Genuine Parts needs.



FORD PARTS

SHARE YOUR THOUGHTS

The purpose of **On Target** is to provide Ford and Lincoln dealership parts departments and independent collision repair shops with the general and technical information needed to deliver efficient, high-quality repairs to Ford, Lincoln and Mercury vehicle owners. In addition, information on parts wholesaling policies and procedures, and collision repair industry activities will also be featured.

On Target is scheduled to be published three times a year.

Your comments and article ideas are welcome. You can contact **On Target** through e-mail at: cphelp@fordcrashparts.com.

Additional copies of **On Target** are available through Ad Creator or FMCDDealer.com. Independent collision repair shops should contact their Ford or Lincoln wholesaling dealer. **On Target** is also available free of charge at Motorcraft.com under technical resources / quick guides.

On Target

Produced for Ford and Lincoln wholesaling dealers and their collision repair customers.

Editor

George Gilbert

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FORD PARTS

Dealership Information

Crash Parts Order Form

Use this form to provide us with the information necessary to make certain we deliver the right parts on time ... the first time!

The information below can be found on the certification label located on the driver's-side door jamb.

If the vehicle is damaged in this area provide us with the Vehicle ID# located on the driver's-side front corner of the dashboard.

VEHICLE ID#	(Need all 17 Digits)				
TRIM CODE		YEAR		DAMAGE AREA (Circle)	
MLDG. CODE		MAKE		FRONT	REAR
BODY CODE		PHONE:	()	LEFT SIDE	RIGHT SIDE
CONTACT:		SHOP:		UNDERBODY	LEFT / RIGHT

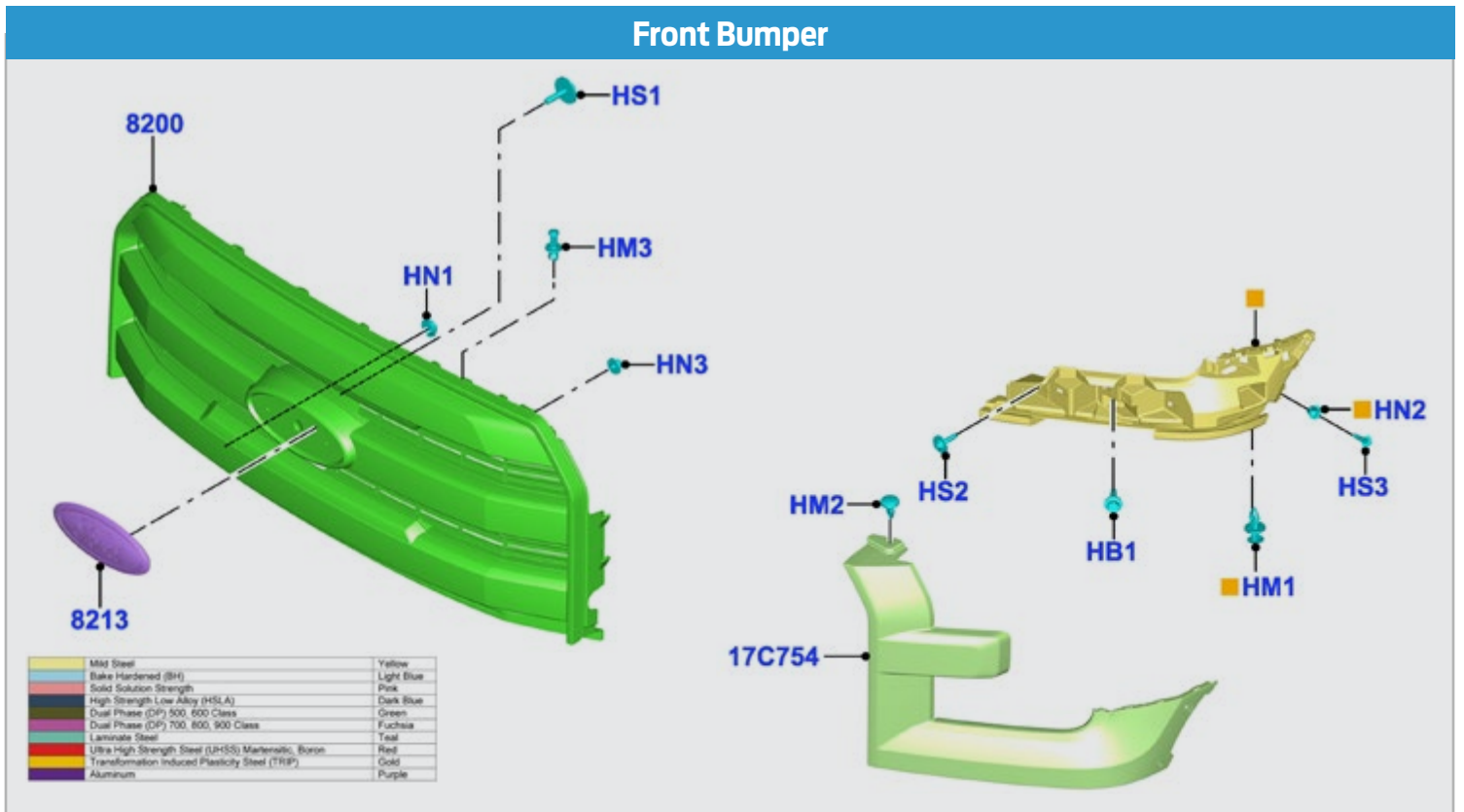
2015 FORD F-150

Date Ordered:	PARTS ORDER	Date Needed:
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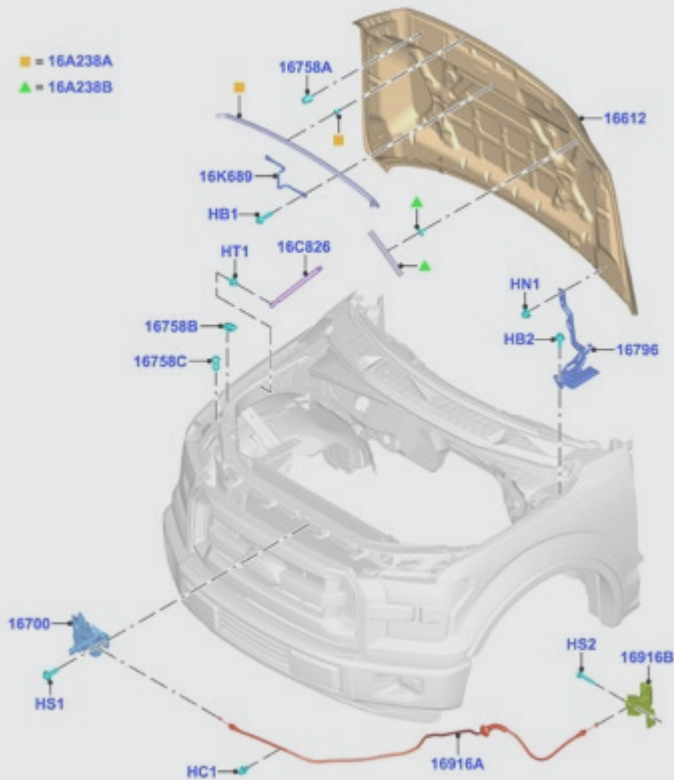
QUANTITY	PART NUMBER / PART DESCRIPTION

NOTE: Refer to vehicle diagrams for part identification and numbers.

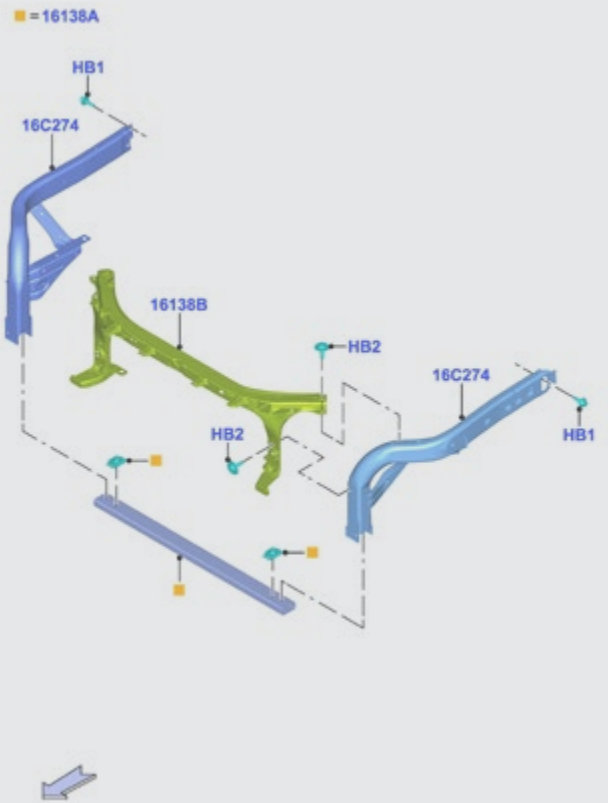
Front Bumper



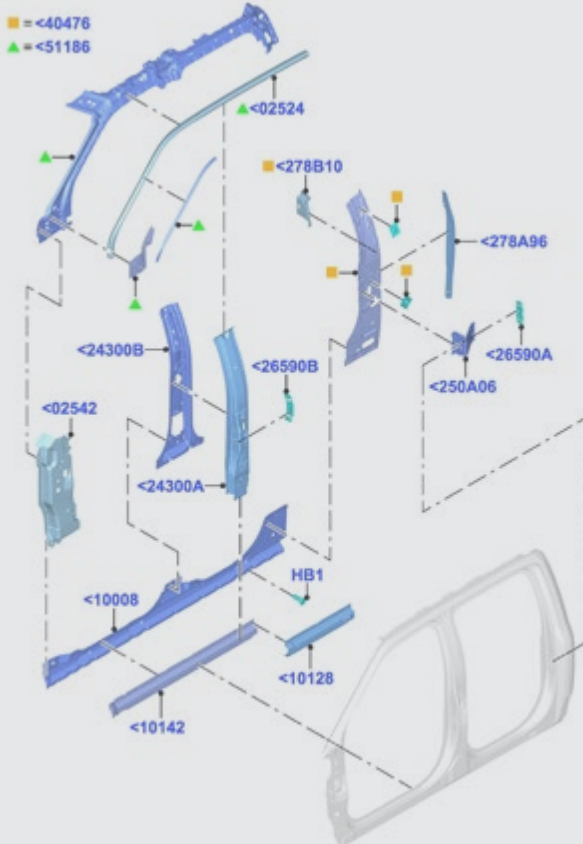
Hood



Front Apron



Inner Panels



Rear Bumper

