

2015 Ford F-150 Earns 5-Star Crash Safety Rating; Features 31 New Safety Innovations

Already touted as the toughest, smartest and most-capable truck Ford has ever built, the all-new 2015 F-150 has further enhanced its credentials by earning the National Highway Traffic Safety Administration's (NHTSA) highest overall crash safety ratings for all cab configurations—SuperCrew, SuperCab and Regular Cab.

"The 5-star safety rating is a terrific example of One Ford collaboration and innovation," said Raj Nair, Ford group vice president, Global Product Development. "Our truck team worked together for years to deliver this accomplishment, using an unprecedented combination of advanced materials throughout the all-new F-150. The 2015 model is engineered to be the safest F-150 ever, which matters to customers who depend on this truck to not only get the job done, but also get them safely home."

A cross-functional group comprised of Ford truck product development veterans and researchers worked to optimize the vehicle's 700-pound weight savings—attained by the use of high-strength steel in the frame and high-strength, military-grade aluminum alloy in the truck's body—and manufacturing design to deliver improved durability, capability, fuel economy and crashworthiness.

The team created 31 new safety-related innovations, including structures, materials and joining methods that were tested virtually with supercomputer simulations, and then re-tested in Ford's advanced laboratories to engineer the safest F-150 ever.



The fully-boxed frame of the new 2015 Ford F-150 helped play a big role in the truck earning an overall 5-Star crash safety rating. Engineers increased the amount of high-strength steel from 23 percent to 77 percent, which not only increased the material's stiffness but allowed it to be up to 60 pounds lighter. The frame, seen here with its separately serviceable parts highlighted in yellow, has front-third (PN# FL3Z5019H) and rear-third (PN# FL3Z17N775D) sections available to repairers.

Safety Starts with the Frame

Safety for the 2015 F-150 begins with its foundation—the truck's signature, fully-boxed frame. Engineers added an extra cross-member and increased the use of 70,000-psi steel from 23 percent to 77 percent to

improve stiffness, durability and safety while also helping reduce the frame's weight by up to 60 pounds.

"The team had to invent new ways to manage crash energy, because advanced materials like high-strength

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2015 F-150: Driver-Assist Features

The 2015 F-150 is packed with all-new cutting-edge technology and 11 new class-exclusive features, including 360-degree camera view, integrated loading ramps stowed in the pickup

bed, 400-watt power outlets inside the cab, LED headlights and side-view mirror spotlights, and remote tailgate release. The truck also introduces all-new driver-assist and semi-autonomous technologies, including:

- **Adaptive cruise control and collision warning with brake support** use radar in the front of the truck to measure the distance and speed of vehicles ahead. Using this information, F-150 can automatically slow to keep a consistent following distance set by the driver. Collision warning triggers visual and audio alerts if the system detects the following distance is diminishing too quickly and a collision may occur. It also pre-charges the brakes if the driver needs to stop suddenly.
- **Active park assist** uses two ultrasonic sensors and electric power-assisted steering to

help drivers parallel park. The sensors measure the gap between two vehicles to determine if there is enough room for the truck. After confirming the F-150 can fit, active park assist automatically steers the truck into the space, while the driver operates the accelerator and brake pedals.

- **Lane-keeping system** is designed to help prevent a driver from drifting out of the intended driving lane. The system detects the left- or right-hand road lane markings using a camera mounted between the windshield and interior rearview mirror. A warning vibration in the steering wheel is used to alert the driver that the vehicle is drifting out of the lines. Semi-autonomous lane-keeping aid then can provide steering torque to help guide the vehicle back into the lane if needed.

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F-150 Earns NHTSA's 5-Star Rating

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steel behave differently," said Matt Niesluchowski, Ford truck safety manager. "We found that changing certain shapes led to a weight reduction, while also improving crash performance."

Safety engineers also developed a patented 12-corner front crush horn to dissipate more energy in a front impact. The uniquely shaped structure helps manage crash forces so the frame buckles predictably to keep those forces away from occupants in the cabin.

Safety Improvements to the Aluminum-Alloy Body

Ford's advanced research and safety teams worked together to engineer F-150's high-strength, military-grade, aluminum-alloy body structure to manage what happens to the body in the event of a crash.

The truck's cab features hydroformed roof rails that constitute a cage-like structure around the doors, extruded roof bows to provide lateral strength across the top of the cab, and extruded rocker rails near the bottom to reinforce lower-body strength.

How various parts of the truck were joined also yielded safety improvements. In many cases, welding was not the most effective way to join parts, so the team developed and patented methods to connect parts using high-strength adhesives, resulting in a structural strength equal to or greater than that of traditional welds.

In addition to the strong frame and body, other safety features on the 2015 F-150 include:



Every component seen in the image of the 2015 F-150 above is made of high-strength, military-grade aluminum alloy. The orange-colored parts are hydroformed aluminum, with the roof rails creating a cage-like structure around the doors. The red-colored rocker panel—seen here on Super Crew Cab—is an extrusion, which provides increased lower-body strength.

- New, advanced restraint system that includes an adaptive steering column that adjusts energy management depending on occupant size and safety belt usage; dual-stage airbags and side-curtain airbags are included
- Safety belt pretensioners added to the belt-anchor side that further tighten the lap belt around front seat occupants, keeping them in a more secure spot early in the event of a crash

- Curve Control, a technology that will slow the vehicle when it senses the truck is going too fast for a particular curve
- Available inflatable rear safety belts for Super Crew—a segment-first feature

Engineered to be the safest F-150 ever, with 31 new safety innovations and now NHTSA's 5-star overall rating, the 2015 model is proving to be the toughest, smartest, most-capable F-150 ever as well.

2015 NORTHEAST® Show



Ford once again proudly displayed its 2,000-square-foot booth at the 2015 NORTHEAST® Automotive Services Show in Secaucus, New Jersey, this past spring. Representatives from Ford Service Engineering Operations, Ford Customer Service Division Collision Marketing and Assured Performance were on-hand to meet with show attendees—including dealer and independent collision repairers and shop owners, other industry insiders and consumers—with the focus being the unique repair characteristics of the high-strength, military-grade, aluminum-alloy-equipped 2015 F-150 and Ford's National Body Shop Program.



Also at the 2015 NORTHEAST® Show, Ford engineer Larry Coan led several well-attended presentations on the repairability options on the 2015 F-150. The presentations detailed the primary 6000-series aluminum alloys that the truck is made from, specifically 6111 and 6022 aluminum alloys—high-strength, military-grade aluminum alloys that are unique to the vehicle. The approved repair procedures for the truck were also highlighted, including the availability of the 51 instruction sheets, which come packaged with any part that needs to be installed with rivets and/or adhesives, and provide highly-detailed information for repairers.

Shop Locators Play Key Role in Ford National Body Shop Program

The Ford National Body Shop program, developed in conjunction with Assured Performance, is designed to not only set high standards for quality collision repairs, but also to provide shops that have invested in having the right tools, equipment, training, and facility the ability to differentiate themselves from the masses of other repair facilities.

In today's online world, one of the best ways to do that is by improving visibility with both owners and insurers through listings on multiple auto body locators, including FordCertifiedShop.com. Better than a basic Internet search, which will pull up any collision shop that pays for search results regardless of the quality of their repair work, potential Ford National Body Shop network customers know that shops found on any of these specialized search engines—both Ford dealer shops and independent collision repairers—have made the commitments needed to properly repair their vehicle with regard to fit, finish, durability, safety and value.

With auto body locators tailored for the specific needs of both consumers and insurers, participating network collision shops get personalized micro-sites on each, allowing customers to make appointments, look at pictures of the facility and get other pertinent information about the shop.

For insurers working with their customers on a claim, the introduction earlier this year of the Advanced Repair Capable (ARC) Certified Shop Locator (CertifiedBodyShop.info) provides them with a secure portal that addresses their particular needs, listing body shops that are certified by Assured Performance and officially

certified-recognized by the various participating auto manufacturers, including Ford Motor Company.

“With the mass introduction of aluminum alloy and other advanced materials in the designs of the new vehicle models, it is critical to assist both insurers and consumers with identifying the shops that have the technical ability,” said Aaron Clark, vice president of technical compliance for Assured Performance. “We’ve already seen evidence of what can happen when an untrained and ill-equipped shop is selected.”

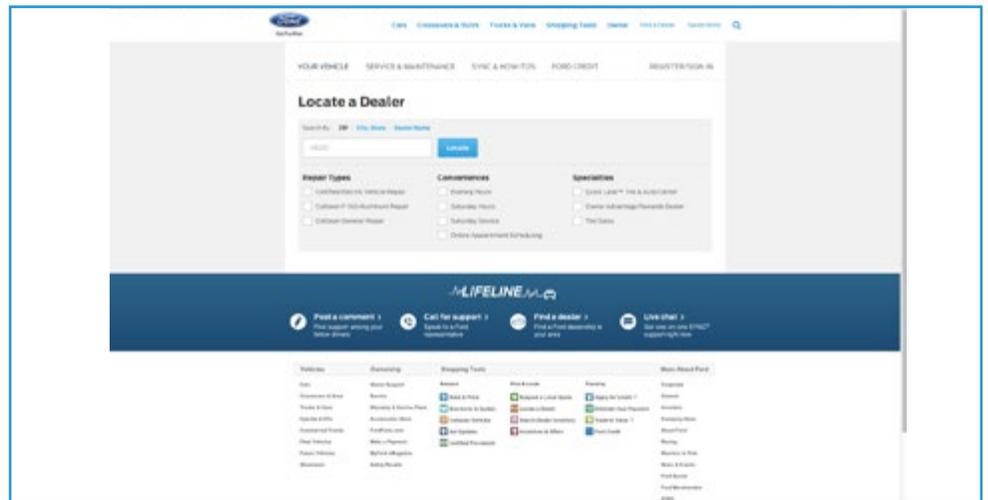
Along with placement on the auto body locators, participating Ford National Body Shop network locations receive official Ford signage, press releases provided to their local media outlets and several other tools aimed at helping them market

themselves to potential customers.

For more information on the program, visit CertifyMyShop.com or call (949) 221-0010.

Ford National Body Shop Program Locators

- www.fordcertifiedshop.com
- www.autobodylocator.com
- www.bodyshoplocator.com
- www.certifiedbodyshop.info
 - Insurer site
- www.owner.ford.com
 - Ford owners' site



INSIDE THE INDUSTRY

Legislative Updates – Class A Shops & Counterfeit Airbags

A bill in **Rhode Island** creating **two levels of collision repair shop** has become law. The measure (SB 783 / HB 5491) establishes “Class A” and “Class B” shops, with Class A shops required to be certified to repair and refinish “aluminum, high strength steel, and other metal or alloy” by at least one OEM. The bill also requires insurers to conduct labor rate surveys for each level, but doesn’t bind insurers to those survey rates.

In **New Mexico**, the governor has signed a bill (HB 328) into law making it a crime to import, manufacture, sell or install a **counterfeit airbag** in a vehicle. The state becomes the seventh to enact such legislation.

NTSB Renews Call for Collision-Avoidance Systems

The National Transportation Safety Board has once again asked the National Highway Traffic Safety Administration to mandate that vehicle manufacturers include collision-avoidance systems as standard equipment on all new vehicles. The NTSB recommends that requirement start with collision warning systems, and that automatic emergency braking should be added once NHTSA completes standards for those systems.

The NTSB says about 87 percent of the deaths and injuries suffered in rear-end crashes each year could be prevented or lessened if the vehicles had collision-avoidance systems. The report shows only four of 684 passenger vehicles included a collision-avoidance system as standard equipment in 2014.

DOT Accelerates V2V Rules

U.S. Transportation Secretary Anthony Foxx has announced the government is speeding up

development of its proposed regulations for vehicle-to-vehicle (V2V) communications, saying a proposal will go to the White House by the end of this year, and that a final regulation could be in place by the end of 2017. The federal government believes V2V technology could eventually reduce vehicle crash deaths by up to 80 percent.

Acquisitions for ABRA and Berkshire Hathaway

ABRA Auto Body & Glass has announced the acquisition of Kadel's Auto Body, with 23 locations in Oregon, Washington and Idaho. The purchase will push ABRA to more than 300 shops in 23 states.

Elsewhere, Berkshire Hathaway—parent company of insurance giant GEICO—has completed its purchase of the Van Tuyl Group, the nation's largest privately held dealership group and second-largest dealer collision shop operator. The dealership group boasts over 100 franchises in 10 states and will now be known as Berkshire Hathaway Automotive.

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2015 Ford F-150 Aluminum Tool Spotlight: HENROB Self-Pierce Riveting (SPR) Repair Kit

While the all-new Ford F-150 was built with repairers in mind to allow for a smooth transition in terms of overall repairability, 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, include the ProSpot PR-5 Riveter and the HENROB Mark V RivLite Self-Pierce Riveting Tool.

The HENROB Mark V RivLite (Rotunda Part # 380-10192-006)—a portable, battery-powered version of the equipment Ford utilizes in production of the truck—uses a cold-joining process to fasten two or more sheets of material by driving a rivet through the top sheet(s) and upsetting the rivet, under the influence of a die, into the lower sheet without piercing it.

The tool accepts HENROB SPRs, which come on a handy cassette-tape reel in which rivets are

collated on a tape and fed through the nose of the tool, reducing the time and effort needed to install each rivet. The tool also cleanly removes rivets without producing shavings or metal flakes.

Key Features:

- 360-degree rotating C-frame for joint-access convenience
- Accepts HENROB belt-collated self-pierce rivets
- 18-volt lithium-ion battery provides about 200 actuations per charge and a 30% faster cycle time than nickel-cadmium batteries
- Battery charges in approximately 20 minutes
- Automatic retraction once set force is obtained
- Sets and removes HENROB self-pierce rivets (SPRs)
- Operator-adjustable force from 20kN (14,750 ft. lbs.) to 50kN (36,800 ft. lbs.)

- LED indicator provides the operator with battery charge and tool maintenance alerts

Kit Contains:

- Padded case with foam inserts
- 120-volt battery charger
- Spare 18-volt battery
- Two #40 Spanner wrenches
- Three Allen wrenches (2.5mm, 3mm and 5mm)
- Operation and instruction manual
- Custom 2015 F-150 die set
- Shoulder strap
- Insertion tooling
- Removal tooling (removal nose assembly and push-out removal die)

For more information, visit onerotunda.com or henrob.com. *On Target* will feature the ProSpot PR-5 Riveter in its next issue.

CLARIFICATION

In the last issue of *On Target* (2015 – Vol. 1), we included a story entitled, “Ford Updates Refinish Information,” detailing the updated supplementary information for refinish paint systems approved by Ford Motor Company.

It has come to our attention that PPG's approved paint systems were listed incorrectly. They should have been listed as follows:

PPG Paint Systems

- PPG
- Nexa Autocolor

We apologize for any confusion and have subsequently corrected that volume of *On Target*. For more information, visit FMCDealer.com or PPG.com.

Ford Updates Truckload Program and CPHelp Hotline

Ford Customer Service Division (FCSD) has added 77 new parts to its Collision Parts Truckload Program, including parts for the popular F-series, Focus, Fiesta and Flex vehicle lines. List prices were reduced on the new parts by an average of 14 percent. The long-running program has been instrumental in helping collision repairers deliver high-quality, cost-effective repairs to their customers for almost 20 years.

“We created the program to assist everyone involved in the collision repair process—insurance companies, body shops, and Ford consumers,” said George Gilbert, Truckload Program manager for FCSD.

The 77 part additions include seven wheels, two radiators, 19 grilles, eight exterior lights, four

brackets, 12 fender shields, six mirrors, three steel bumpers, four bumper bars, three isolators, five step pads, and four fascias.

“The Truckload Program has grown substantially over the years, currently numbering over 500 of the most in-demand Ford original equipment collision replacement parts, all at competitive prices,” said Gilbert.

Another recent change is a new e-mail address for the Ford Collision Parts Hotline—cphelp@fordcrashparts.com. The Hotline is available to anyone looking for information about genuine Ford parts, the Collision Parts Truckload Program—including a complete list of the parts currently available—or any other Ford collision parts program.

INSIDE THE INDUSTRY

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Dealers with Body Shops on the Rise

The National Automobile Dealers Association reports the number of dealers operating on-site body shops increased to approximately 39 percent last year, up from 36 percent in 2013. NADA says those shops accounted for \$7.53 billion in collision repair work, up from \$7.03 billion the year before.

Meanwhile, according to the U.S. Bureau of Labor Statistics, the number of independent collision repair shops stood at 33,770 in 2013, an increase of only seven from 2012.

Smartphone Behavior While Driving

The percentage of crashes involving cell phones is up for the third straight year. That's according to an estimate by the National Safety Council, which puts the figure at 27 percent, up one percentage point

from last year. The NSC says 21 percent of crashes involve talking on the phone, while texting accounts for six percent.

A new survey by AT&T, meanwhile, finds 28 percent of drivers between the ages of 16 and 65 use their smartphones to surf the internet while driving, 27 percent visit Facebook, 17 percent take selfies, 14 percent use Twitter and 10 percent use Skype or another video chat app. Among those using Twitter, 30 percent report they tweet while driving “all the time.”

VMT Reaches New Record

Spurred by low gas prices, Americans hit the road more than ever before early this year. Travel for April reached a record 267.9 billion miles—the highest number ever recorded for that month, according to figures from the U.S. Department of Transportation. For the first four months of the year, the total vehicle miles traveled hit a new record of 987.8 billion miles, topping the previous record holder of 965.5 billion vehicle miles set in April 2007.

NABC's Recycled Rides Going Strong

The National Auto Body Council says its Recycled Rides program donated 200 vehicles to worthy individuals and families in 2014, including more than 100 that went to military service members and veterans. NABC says the program has donated nearly 1,000 vehicles since its inception in 2007. Visit NABC/RecycledRides for more information.

New Record for Collision Industry Donations

The Collision Repair Education Foundation reports it was able to provide more than \$13 million in support to high school and college collision repair programs last year. The new record pushes CREF's total past \$30 million in donations since 2008.

NDABA Joins SCRS

The North Dakota Auto Body Association has announced a state-level affiliation with the Society of Collision Repair Specialists. The NDABA was founded in 1983 and becomes SCRS' 46th affiliate association.

Feature Vehicle: 2015 F-150

The all-new Ford F-150 continues to lead and innovate. Built with high-strength, military-grade aluminum alloy in the body and an improved, high-strength steel frame, it's proving to be the toughest, smartest, most-capable F-150 yet. Here are some vital details for the truck, followed by valuable repair information on how to properly section the vehicle.

Engines:

- 2.7L EcoBoost 4x2; EPA-estimated rating of 19 city/26 hwy/22 combined mpg.*
– Horsepower: 325; Torque: 375 lb.-ft.; Max. Towing: 8,500 lbs.; Max. Payload: 2,250 lbs.
- 3.5L V6 Ti-VCT 4x2; EPA-estimated rating of 18 city/25 hwy/20 combined mpg.*
– Horsepower: 282; Torque: 253 lb.-ft.; Max. Towing: 7,600 lbs.; Max. Payload: 1,910 lbs.

- 5.0L V8 Ti-VCT 4x2; EPA-estimated rating of 15 city/22 hwy/18 combined mpg.*
– Horsepower: 385; Torque: 387 lb.-ft.; Max. Towing: 11,100 lbs.; Max. Payload: 3,300 lbs.
- 3.5L EcoBoost 4x2; EPA-estimated rating of 17 city/24 hwy/20 combined mpg.*
– Horsepower: 365; Torque: 420 lb.-ft.; Max. Towing: 12,200 lbs.; Max. Payload: 3,270 lbs.

Transmissions:

- Electronic six-speed automatic with tow/haul mode
- Six-speed SelectShift® Automatic with progressive range select

Trims:

XL, XLT, Lariat, King Ranch, Platinum

Body Structure Components:

- High-strength, military-grade, aluminum alloy
- Extruded aluminum rocker panel reinforcement on SuperCrew Cab
- Steel hood hinges
- Body-side outer panels constructed of aluminum alloys
- Bolted, removable front fenders, hinged doors and hood
- Bonded and riveted aluminum-alloy body panels
- Mastic pads used on floor pan for sound deadening

*actual mileage will vary

2015 F-150 Body Panel Sectioning Guidelines

Below is an outline for common sectioning procedures for all cab variations of the 2015 F-150. *Please note that the illustrations below are intended as a general guideline and are not all-inclusive.* For more in-depth repair information, for this and other Ford vehicles, please consult the Ford Workshop Manual, Section 501-26: Body Repairs—Vehicle-Specific Information and Tolerance Checks, located at Motorcraftservice.com.

Special Tools / General Equipment and Materials

- Self-Piercing Rivet (SPR) Remover/Installer
- Belt Sander
- Blind Rivet Gun
- Air Body Saw
- MIG/MAG Welding Equipment
- Seam Sealer TA-2-B

Do not begin removal of the vehicle body-side until the replacement panel is available for reference.

NOTE: Do not carry out body-side sectioning repairs in areas of door hinge, safety restraints or striker anchoring points. Welding within 50 mm (1.96 in.) of door hinge or striker locations may compromise structural integrity during a collision.

1. Restore the vehicle dimensionally to pre-damage condition. (Refer to Ford Workshop Manual, Body and Frame, Section 501-26 Body Repairs—Vehicle Specific Information and Tolerance Checks, Description and Operation).

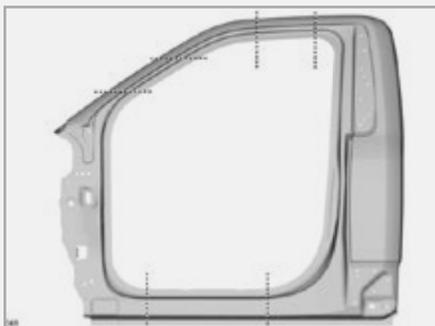
NOTE: As a general rule, sectioning cut points should be chosen to result in the smallest repair area possible.

2. De-trim the vehicle as necessary and remove any SPR or FDS from the area to be repaired, using the self-piercing rivet (SPR) remover/installer and belt sander.

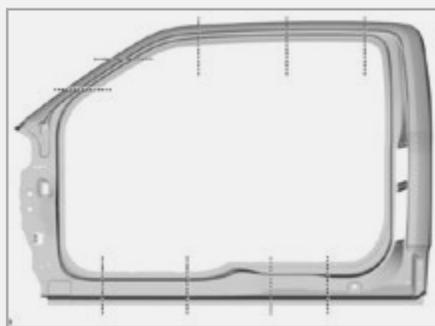
NOTE: During assembly, use an SPR where possible. This will produce a higher-quality repair.

3. Using the air body saw, remove only as much of the *outer* body-side as necessary.

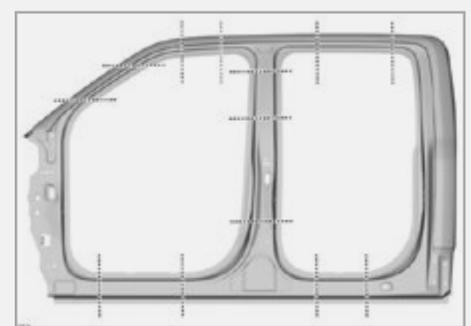
4. Where possible, create a lap-joint backer plate from an unused portion of the old or replacement panel. This will create a stronger joint. Use the SPR remover/installer, the blind rivet gun and MIG/MAG welding equipment. (Refer to Ford Workshop Manual, Joining Techniques, Section 501-25 Body Repairs—General Information, General Procedures).
5. Rough finish all sectioning joints with fibre-based body filler; final finish sectioning joints and plug welds with conventional body filler.
6. Properly seal all joints to prevent moisture intrusion, using seam sealer TA-2-B. Water and moisture migrate toward horizontal joints and corrosion tends to occur more rapidly in these areas.
7. Proceed with the refinishing process using a Ford-approved paint system and manufacturers' recommendations.
8. Restore corrosion protection. (Refer to Ford Workshop Manual, Corrosion Prevention, Section 501-25 Body Repairs—General Information, General Procedures).
9. Reinstall vehicle trim as necessary.



Regular Cab



SuperCab



SuperCrew® Cab

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.

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George Gilbert

Contributors

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Steven Lubinski Andrea Presnell



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

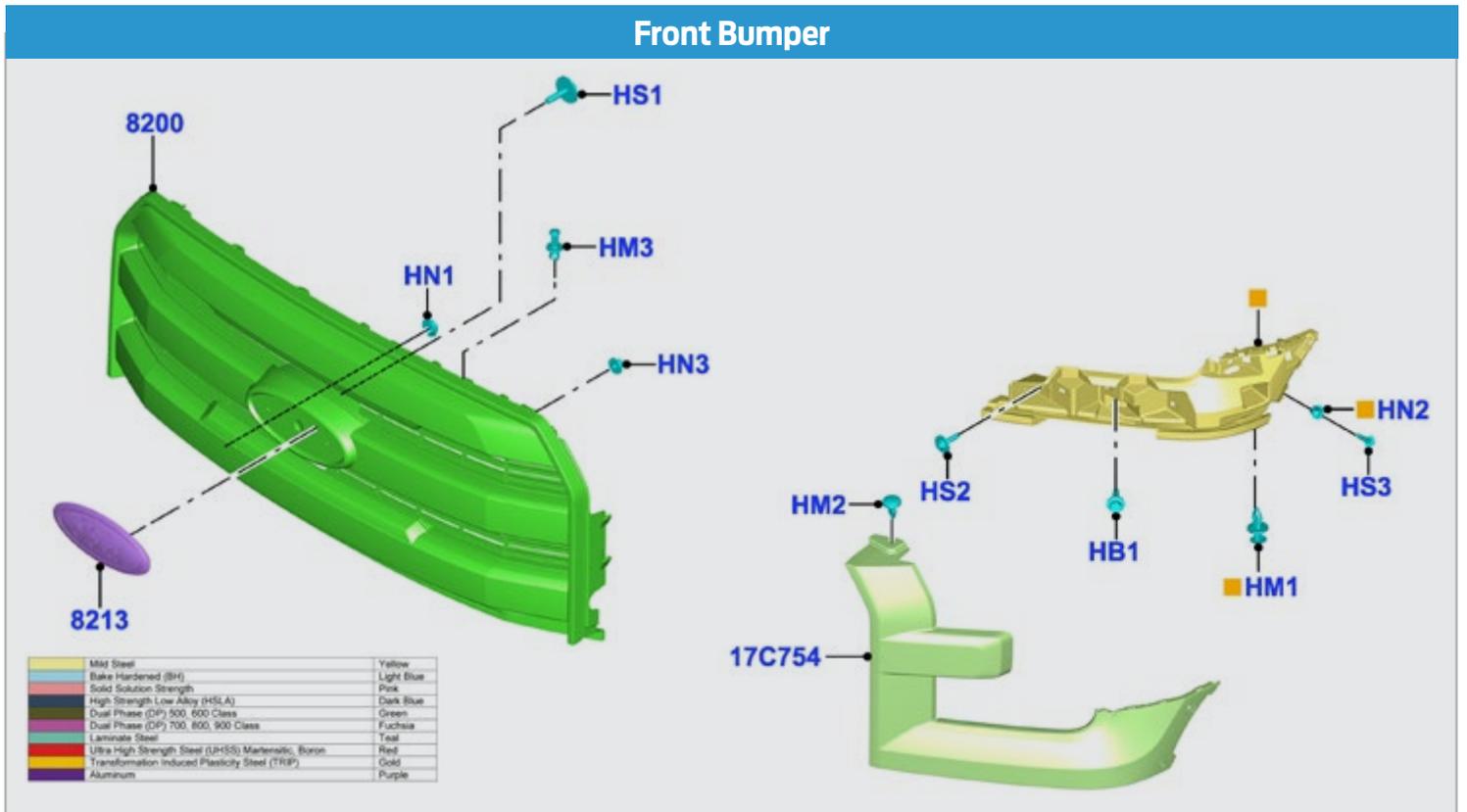
2015 FORD F-150

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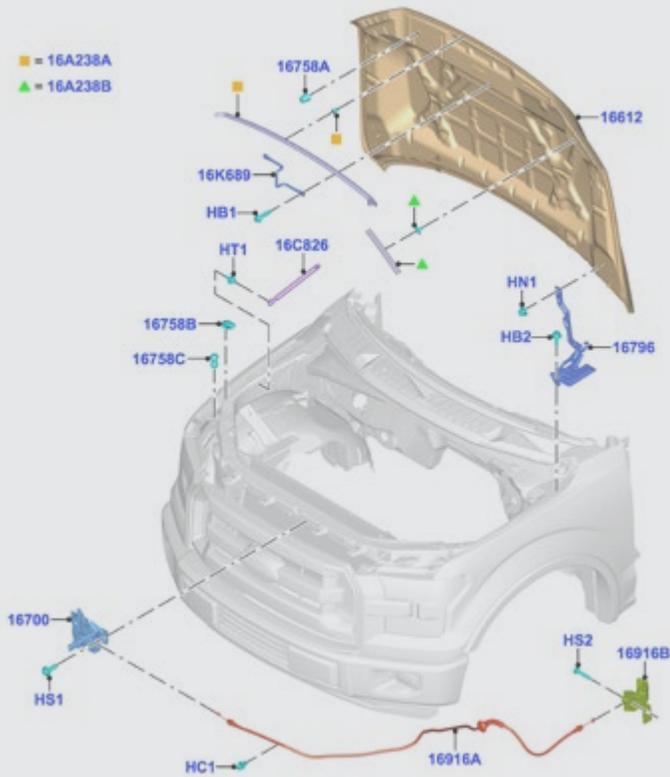
QUANTITY	PART NUMBER / PART DESCRIPTION

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

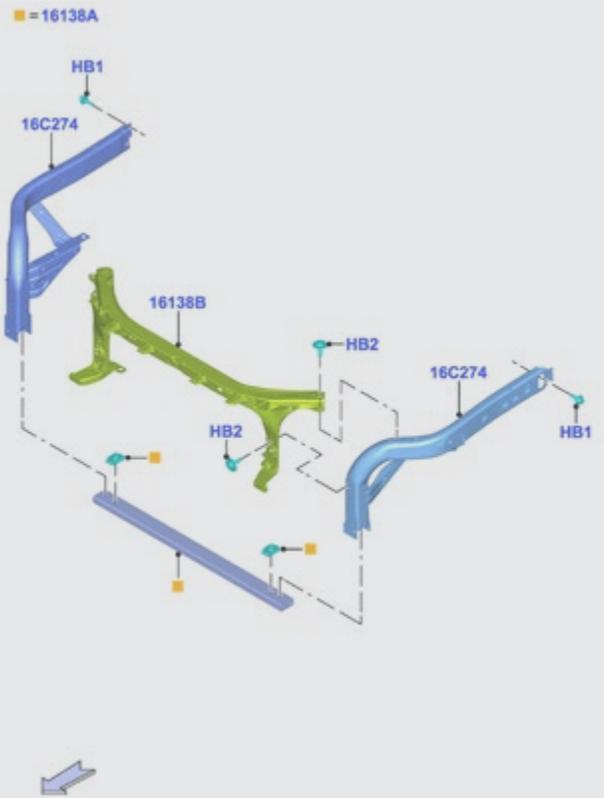
Front Bumper



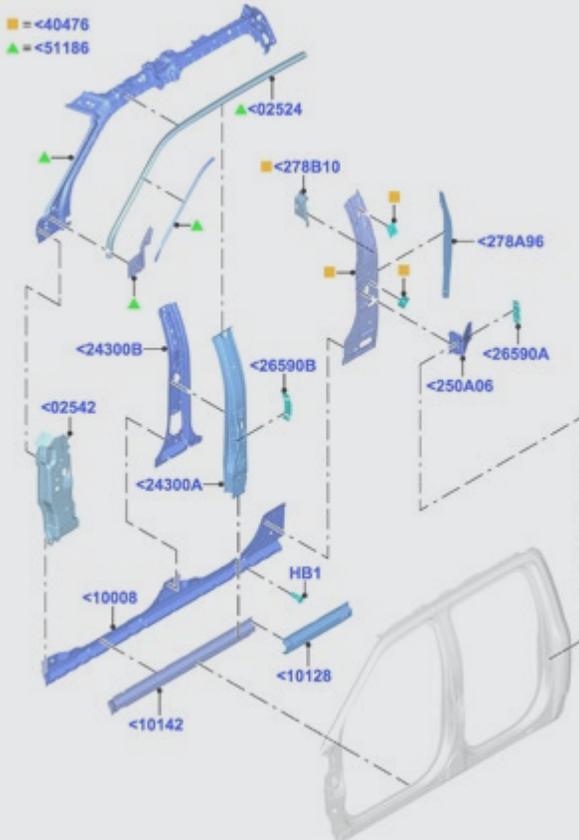
Hood



Front Apron



Inner Panels



Rear Bumper

