

Table of Contents

Introduction	2
F-150 SVT Raptor-specific features	4
Engine/Transmission	7
Driving	10
Off-road mode	10
Hill descent mode	13
Upfitter controls	14
Driving your F-150 SVT Raptor off-road	18
Roadside Emergencies	26
Wrecker towing	26
Cleaning	27
Washing your vehicle	27
Maintenance	28
Tire Information	32
Warranty coverage	35
Index	36

All rights reserved. Reproduction by any means, electronic or mechanical including photocopying, recording or by any information storage and retrieval system or translation in whole or part is not permitted without written authorization from Ford Motor Company. Ford may change the contents without notice and without incurring obligation.

Copyright © 2011 Ford Motor Company

Introduction

WELCOME

Congratulations on your decision to purchase or lease the latest from Ford SVT — the F-150 SVT Raptor. If you've owned or leased an SVT product in the past, we're glad you're back. If this is your first SVT vehicle, welcome to the SVT family! We are confident that our dedication to performance, quality, craftsmanship and customer service will ensure many miles of exhilarating, safe and comfortable driving in your new F-150 SVT Raptor.

Your choice of an SVT product is an intelligent and informed one. SVT strives to build engaging vehicles that involve the driver in every aspect of the driving experience. Although performance is at the heart of every SVT vehicle, we go much further. Our goal is to deliver a comprehensive, complete vehicle, sweating the details such as the sound of the exhaust, the quality of the interior materials, and the functionality and the comfort of the seats, to ensure that the driver enjoys not only exceptional performance but an outstanding *driving environment* as well. In the F-150 SVT Raptor, that philosophy is expressed by a sophisticated powertrain, outstanding chassis dynamics and significant interior and exterior enhancements.

This supplement complements your F-150 Owner's Guide and provides information specific to SVT and the Raptor. By referring to the pages listed in this supplement, you can identify those features, recommendations and specifications unique to your new SVT vehicle. If there are any discrepancies between this supplement and the F-150 Owner's Guide, this supplement shall supersede the information found in the Owner Guide.

SVT HISTORY

The Ford Special Vehicle Team (SVT) was established in 1991 to "Polish the Ford Oval" by creating low-volume, factory-produced vehicles designed for those select few whose idea of driving is a high-powered, passionate experience — not just a means of getting from point A to point B.

In a move to support this spirited enthusiasm, Ford Motor Company carefully integrated the wide array of talent in the company into a small, cross-functional group of engineers and product planners, housed together under one roof with a common mission: to create vehicles specifically designed to meet the unique needs and desires of the knowledgeable driving enthusiast.

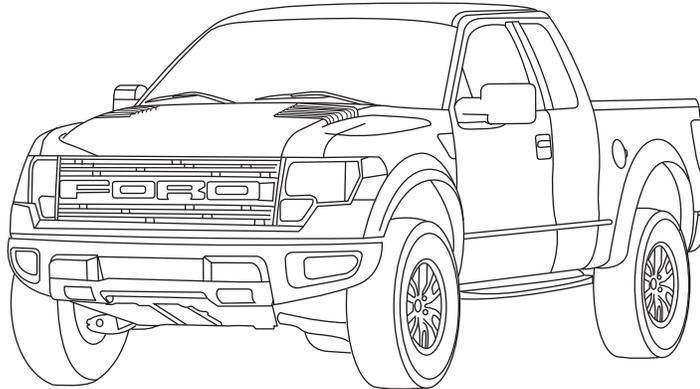
Introduction

Each of nearly 150,000 SVT vehicles produced since the 1993 model year has been designed and developed with the four SVT Hallmarks in mind: Performance, Substance, Exclusivity and Value. These hallmarks have driven the SVT Mustang Cobra and the Cobra R, the SVT F-150 Lightning, the SVT Contour, the SVT Focus, Ford GT, Shelby GT500, GT500KR and the F-150 SVT Raptor.

We are proud and passionate about what we do, and we're glad you have made us your choice.

F-150 SVT Raptor-specific features

UNIQUE FEATURES

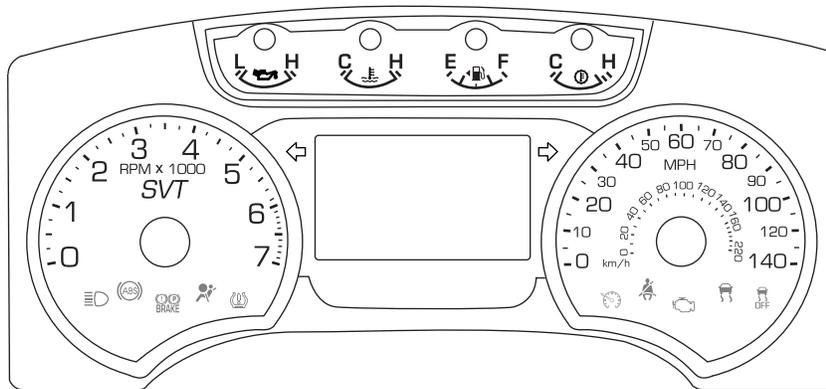


- 6.2L Boss V8 engine
- 6R80 6-speed automatic transmission
- 4x4 electronic shift-on-the-fly transfer case
- Modified rear differential capable of locking in 2H, 4H and 4L
- Torsen helical front differential for increased capability
- 4.10 front and rear axle ratios
- Rear axle with upgraded 35 tooth spline axle shafts
- Super Cab or Crew Cab – 5.5' box with unique outer box
- Box graphics
- Hood with functional air extractors
- Hood graphics
- Unique grille
- Front off-road camera
- Front camera washer
- Dual exhaust, 3.5" exhaust tips
- Modified rear bumper with integrated rear tow hooks
- Heavy duty front skid plate and engine skid plate, and front tow hooks
- Cast aluminum running board/sill protector with Durabed® protection

4

F-150 SVT Raptor-specific features

- Front fenders with functional air extractors
- Seats with increased bolstering and unique covers
- Front and rear LED marker lamps
- Switch pack with “off-road mode” and “hill descent” buttons, and four auxiliary switches
- Longer, cast aluminum lower control arms
- Longer, forged steel upper control arms
- Front coil springs and rear leaf springs
- Fox Racing 47 mm piston internal bypass front shocks
- Fox Racing 47 mm pistons, internal bypass, remote reservoir rear shocks
- Micro-cellular urethane jounce bumpers (front and rear)
- Raptor navigation welcome screen
- 17” cast aluminum wheels and 315/70-17 BFGoodrich® all-terrain tires
- Full-size all-terrain spare tire
- Off-road specific calibrations for engine, transmission and AdvanceTrac® system



- Instrument panel cluster graphics
- High line LCD cluster with unique SVT off-road screen
- Steering wheel - unique wrap with on-center marker, thumb pads, and improved grip contour

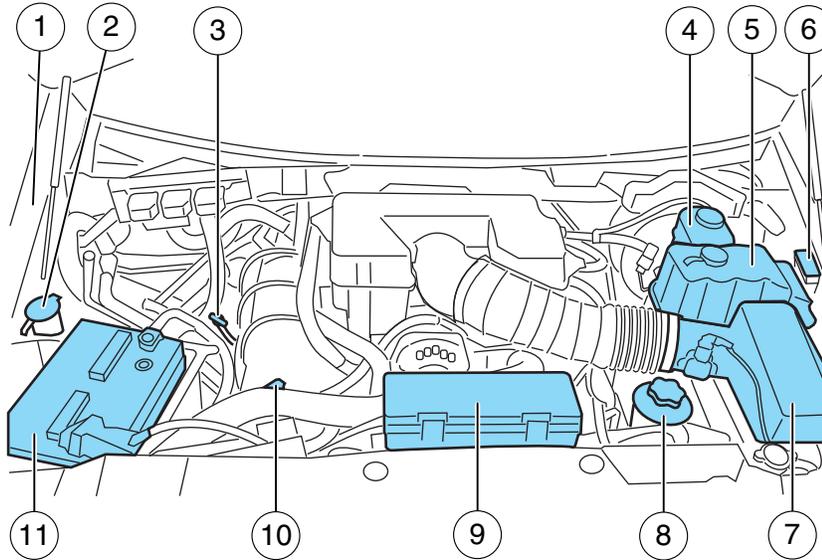
F-150 SVT Raptor-specific features

- Door trim inserts and center stack trim
- Off-road style floor mats with SVT logo

Note: Your F-150 SVT Raptor is equipped with unique front and rear high-performance Fox shock absorbers designed for severe off-road use. Due to the hydraulic motion of the shock fluid in the unique internal bypass system, some noise during on-road driving including boom, chirp, or clunk noises can be expected over small, sharp bumps such as frost heaves, potholes, or expansion joints. This is a normal characteristic of the shock absorbers and repairs should not be attempted.

Engine/Transmission

6.2L V8 ENGINE



1. Auxiliary switch circuit pass through circuits
2. Windshield washer fluid reservoir
3. Engine oil dipstick
4. Brake fluid reservoir
5. Engine coolant reservoir
6. Auxiliary power distribution box
7. Air filter assembly
8. Power steering fluid reservoir
9. Power distribution box
10. Engine oil filler cap
11. Battery

Engine/Transmission

ENGINE INFORMATION

	6.2L V8 engine
Bore x Stroke	102 x 95 mm (4.01 x 3.74 in.)
Displacement	6.2L (6207 cc)
Compression ratio	9.8:1
Horsepower (SAE net)	401 hp @ 5500 rpm on 87 octane 411 hp @ 5500 rpm on 91 octane
Torque	434 lb-ft @ 4500 rpm on 87 octane 434 lb-ft @ 4500 rpm on 91 octane
Redline	6000 rpm
Specific output	64.6 hp/l on 87 octane 66.2 hp/l on 91 octane
Valvetrain	Single overhead cam, roller rocker shaft with hydraulic lash adjustment, inverted-tooth chain drive, ovate-wire valve springs, two valves per cylinder
Fuel system	Sequential electronic fuel injection, returnless fuel system
Ignition system	Coil-on-plug electronic ignition with secondary wire and dual-plug
Throttle body	Single 80 mm (3.15 in)
Exhaust manifolds	Cast-iron high silicon, molybdenum (HiSiMo)

TOWING CAPACITY

The maximum weight the SuperCab vehicle can tow is limited to 6,000 lb. (2721 kg). The Gross Combination Weight Rating (GCWR) is 12,400 lb. (5624 kg).

The maximum weight the SuperCrew vehicle can tow is limited to 8,000 lb. (3629 kg). The Gross Combination Weight Rating (GCWR) is 14,700 lb. (6668 kg).

Refer to *Trailer towing* in the *Tires, Wheels and Loading* chapter of your *Owner's Guide* for additional towing information.

Engine/Transmission

DRIVETRAIN

Rear axle	Modified rear axle for track width, 4.10 ratio	
Driveshaft	Aluminum with hardened yoke	
Gear ratios	<i>Gear</i>	<i>Ratio</i>
	1st	4.17
	2nd	2.34
	3rd	1.52
	4th	1.14
	5th	0.87
	6th	0.69
	Reverse	3.40

Driving

OFF-ROAD MODE

Off-road mode allows you to change the operating characteristics of the following features to allow for better off-road performance:

- Transmission shifting and response
- Electronic locking differential
- AdvanceTrac® (ABS, RSC, Traction Control)

Enabling off-road mode

With the vehicle traveling less than 5 mph (8 km/h) and your foot off of the accelerator pedal, press this button to turn on off-road mode. A chime will sound and a message will display indicating that off-road mode is active. If any of the conditions are not met, the message center will display the appropriate messages to guide the driver through the proper operating procedures. See *Message center* in your *Owner's Guide* for more information.



Press the button again to turn it off.



WARNING: Off-road mode is specifically calibrated for off-road driving conditions and should never be used on pavement.

With this mode enabled, the operating characteristics of the following features will be altered:

- **Transmission shifting and response**– Transmission upshifts are delayed and occur less frequently. This ensures the best possible vehicle response and acceleration if the driver needs to briefly lift off of the throttle to negotiate an obstacle or corner.
- **Electronic locking differential (ELD)**– If engaged, the ELD will remain locked until the operator manually disengages it with the control knob, or disengages off-road mode and exceeds the standard ELD speed thresholds. Refer to *Electronic locking differential* in the *Driving* chapter of your *Owner's Guide* for more information.
- **AdvanceTrac®**– When off-road mode is engaged, the AdvanceTrac® settings are altered for optimized off-road performance.
- **Tow/haul mode** – If tow/haul mode is active, it will be disabled. Also, you cannot select tow/haul mode when off-road mode is on. As the SVT Raptor is primarily a performance vehicle, off-road mode takes priority over tow/haul mode.

10

AdvanceTrac® modes

The AdvanceTrac® system, when used with off-road mode, provides the SVT Raptor with alternative AdvanceTrac® calibrations which improve off-road performance.

With off-road mode on, the following changes to AdvanceTrac® will occur:

- **Pressing the stability control off button once**– This places the vehicle in the off-road sport mode with the ESC, TCS and ABS active. TCS and ESC are altered to allow for more tire spin and vehicle slip. It also puts the ABS in a unique off-road mode calibration. RSC is disabled in this mode.
Note: Operating the vehicle in this mode does not guarantee that the vehicle will not become stuck in sand, snow or mud, etc. It is the driver's responsibility to assess off-road situations and determine if the terrain is passable.
- **Pressing and holding the stability control off button**– This places the vehicle in the off-road sport mode with the ESC, RSC, and TCS disabled. While in 4X4 Hi and Lo, the steering efforts will seem slightly higher due to the addition of the Torsen Helical front differential.

Driving

AdvanceTrac with RSC features when using Off-road mode								
Off-road mode	Button functions	"Sliding car" icon	Message center display		RSC	ESC	TCS	ABS
			AdvanceTrac	Off-road mode				
-	Default at start-up	Off	Enabled	Off	On	On	On	Street
Off	Button pressed momentarily	On	Sport	Off	On	Sport	Sport	Street
Off	Button pressed and held for more than 5 seconds while traveling under 35 mph (56 km/h)	Flashes, then stays on	Disabled	Off	Off	Off	Off*	Street
Off	Vehicle speed exceeds 35 mph (56 km/h) while/after button is pressed and held for more than 5 seconds	On	Disabled	Off	On	Sport	On	Street
On	Button pressed momentarily	On	Sport	On	Off	Sport	Sport	Off-Road
On	Button pressed and held for more than 5 seconds	Flashes, then stays on	Disabled	On	Off	Off	Off*	Off-Road

*While in 4X4 Hi and Lo, the steering efforts will seem slightly higher due to the addition of the Torsen Helical front differential.

Note: When off-road mode is on, pressing the stability control off button will change the ABS to an off-road specific calibration. The ABS off-road mode desensitizes the ABS. The ABS calibration in off-road mode is optimized for performance on off-road surfaces. This helps on very rough terrain/adverse driving conditions where the standard ABS calibration may become too active and hinder the type of driving required in off-road conditions.

For more information on the AdvanceTrac® and its operation, refer to *AdvanceTrac® with Roll Stability Control™ (RSC®) stability enhancement system* in the *Driving* chapter of your *Owner's Guide*.

Hill descent mode

Hill descent allows the driver to set and maintain vehicle speed while descending steep grades regardless of surface conditions. Refer to *Message center* in the *Instrument Cluster* chapter of your *Owner's Guide* for hill-descent related messages.

Hill descent control can maintain vehicle speeds on downhill grades between 2 and 20 mph (3 and 32 km/h). Between 20 and 40 mph (32 and 64 km/h), the system remains enabled, but descent speed cannot be set or maintained. If vehicle speed is above 40 mph (64 km/h), the system is disabled. After this point, vehicle speed must drop below 40 mph (64 km/h), and the hill descent control button must be pressed again to engage the feature.

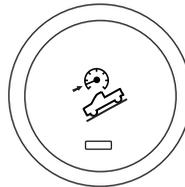


WARNING: Hill descent mode does not provide hill hold at zero mph (0 km/h). When stopped, the parking brake must be applied and/or the vehicle must be placed in P (Park) or it may roll away.

Hill descent control requires a cooling down interval after a period of sustained use. The amount of time that the feature can remain active before cooling varies with conditions. The system will provide a warning in the message center and a chime will sound when the system is about to disengage for cooling. At this time, manually apply the brakes as needed to maintain descent speed.

Enabling hill descent control and setting the descent speed

1. Press and release the hill descent button located on the floor console. A light on the button will illuminate and a one second chime will sound when this feature is activated.



2. To increase descent speed, press the accelerator pedal until the desired speed is reached.
3. To decrease descent speed, press the brake pedal until the desired speed is reached.

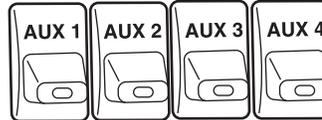
Whether accelerating or decelerating, once the desired descent speed is reached, remove your feet from the pedals and the chosen vehicle speed will be maintained.

See *Message center* in the *Instrument Cluster* chapter of your *Owner's Guide* for hill descent mode messages.

Driving

Upfitter controls

The auxiliary switch board on the center console makes aftermarket customization easier, with four prewired switches attached to the power distribution box for electrical accessories.



These switches are labeled AUX 1, AUX 2, AUX 3 and AUX 4. They will only operate while the ignition is in the on position, whether the engine is running or not. It is, however, recommended that the engine remain running to maintain battery charge when using the switches for extended duration or higher current draws. When switched on by the operator they provide 10 amps, 15 amps or 30 amps of electrical battery power for a variety of uses.

The switches control relays and fuses that are located under the hood in the auxiliary power distribution box. Refer to the *Roadside Emergencies* chapter of your Owner's Guide for information on fuse and relay locations. See your authorized dealer for service.

There will also be one power lead for each switch found as a blunt-cut and sealed wire located to the right of the glove box door and just above the passenger side kick panel.

Additional pass through circuits that run through the dash panel to under the hood are located in the same location.

The relays are coded as follows:

Switch	Circuit number	Wire color	Fuse
AUX 1	CAC05	Yellow	30A
AUX 2	CAC06	Green with Brown Trace	30A
AUX 3	CAC07	Violet with Green Trace	15A
AUX 4	CAC08	Brown	10 A

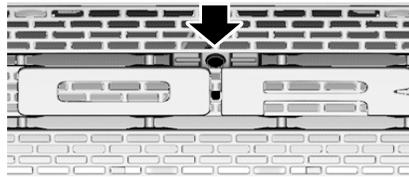
FRONT OFF-ROAD CAMERA SYSTEM (IF EQUIPPED)

The front view camera is designed to be used as an aid in off-road conditions, such as rock-climbing, slow-speed maneuvering, and cresting hills when the front view may otherwise be obstructed through the windshield. This feature adds front imaging off-road assistance to the driver at vehicle speeds less than 15 mph (25 km/h).

Driving

Note: The Front camera must be enabled in the *instrument cluster* under truck apps to operate. Off-road mode along with the electronic locking differential or 4L must be activated in order for the front camera system to function.

The front camera system is located on the front grille. It provides a video image of the area in front of the vehicle, which appears on the navigation system screen.



To use the front off-road camera system

With the off-road mode on and the electronic locking differential or 4L activated, you can now enable the front camera system. See *Off-road mode* in the *Driving* chapter of this supplement and *Electronic locking differential (ELD)* in the *Driving* chapter of your owner's guide to activate these systems. Place the gearshift lever into D (Drive) to see the image on the screen. The area displayed on the screen may vary according to the vehicle orientation and road conditions.

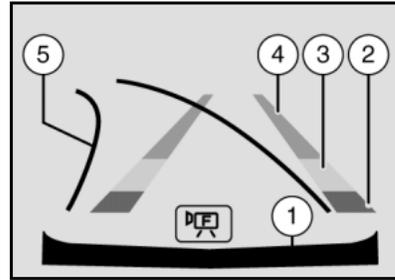
Note: The *Front Off-Road Camera System* is a convenience feature and is not a substitute for your front windshield. Always be aware of the environment around you.

The front off-road video camera includes the following features that will assist the driver at speeds less than 15 mph (25 km/h).

Note: Traveling above 15 mph (25 km/hr) while the camera is active will cause the camera to shut off, it will not turn back on until the vehicle goes below 13 mph (21 km/hr).

Driving

- (1) Front bumper
- (2) Red zone
- (3) Yellow zone
- (4) Green zone
- (5) Active guidelines (will appear in blue)



Active and fixed guidelines

The active guidelines show the path of intended forward motion of the vehicle while in D (Drive). The fixed guidelines assist a driver to align with an object in front of the vehicle.

To use active guidelines, turn the steering wheel and point the active guidelines towards an intended path. If the steering wheel position is changed, the vehicle might deviate from the original intended path.

The fixed and active guidelines will fade in and out depending on the steering wheel position. When the steering wheel position is straight, the active guidelines will be covered by the static guidelines and will not be shown.

Always use caution while moving forward. Objects in the red zone (2) are closest to your vehicle and objects in the green zone (4) are further away. Objects are getting closer to your vehicle as they move from the green zone (4) to the yellow (3) or red zones (2). Use your forward vision to get better coverage of the front the vehicle.

Note: Adjusting the brightness and contrast of the screen may help the image on the screen become more clear. These settings can be adjusted by pressing the "Settings" menu when the front camera is active.

The camera lens is located on the front grille. Keep the lens clean so the video image remains clear and undistorted. Clean with the front camera washer system, or with a soft, lint-free cloth and non-abrasive cleaner.

Note: If the front off-road mode camera system image is not clear or seems distorted, it may be covered with water droplets, snow, mud or any other substance. If this occurs, clean the camera lens before using the camera system.

Driving

 **WARNING:** The off-road mode camera system is an off-road aid supplement device that still requires the driver to use it in conjunction with viewing the front of the vehicle.

 **WARNING:** Objects that are close to either corner of the bumper might not be seen on the screen due to the limited coverage of the camera system.

 **WARNING:** Drive forward as slowly as possible since higher speeds might limit your reaction time to stop the vehicle.

 **WARNING:** Do not use the camera system with the hood open. If the hood is open, the camera will be out of position and the video image may be incorrect.

 **WARNING:** Use caution when turning ON or OFF the front camera features while in D (Drive). Make sure the vehicle is not moving.

If the front grille of the vehicle is hit or damaged, check with your authorized dealer to have your front off-road video system checked for proper coverage and operation.

Night time and dark area use

At night time or in dark areas, the camera system relies on the front headlamps' lighting to produce an image. Therefore, it is necessary that both headlamps are operating in order to get a clear image in the dark. If either of the lamps are not operating, stop using the camera system, at least in the dark, until the lamp(s) are replaced and functioning.

Servicing

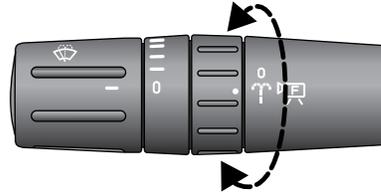
- If your front camera comes on at any time other than when the vehicle is in D (Drive), and you are in off-road mode with the ELD or 4L turned on, have your system inspected by an authorized dealer.
- If the image is not clear, then check if there is anything covering the lens such as dirt, mud, ice, snow, etc. If the image is still not clear after cleaning, have your system inspected by your authorized dealer.

Driving

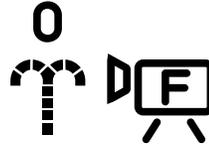
FRONT CAMERA WASHER CONTROL

For front camera washer operation, rotate the front washer control to the desired position.

O (off) - Front camera washer off.



For front camera wash cycle, rotate (and hold as desired) the front washer control to this position.



DRIVING YOUR F-150 SVT RAPTOR OFF-ROAD

In addition to providing an excellent on-road driving experience, the F-150 SVT Raptor excels at all types of off-road driving. The truck has been designed and equipped to allow you to explore those places where the road doesn't take you whether it's a forest trail or the open desert. Before going off-roading, consult with your local governmental agencies to determine designated off-road trails and recreation areas. Also, be sure to understand any off-road vehicle registration requirements for the area in which you plan on driving.

"Tread Lightly" is an educational program designed to increase public awareness of land-use regulations and responsibilities in our nation's wilderness areas. Ford joins the U.S. Forest Service and Bureau of Land Management in encouraging you to help preserve our national forest and other public and private lands by "treading lightly".

Before taking your F-150 SVT Raptor off-roading, a basic vehicle inspection should be done to ensure that the vehicle is in top working condition.

It is always recommended that at least two vehicles are used while off-roading. The "buddy system" helps ensure that help is close at hand should a vehicle become stuck or damaged. It is also wise to take supplies such as a first aid kit, supply of water, tow strap, cell or satellite phone with you any time an off-road excursion is planned.

18

Driving



WARNING: Off-roading can be extremely dangerous and carries inherent risks that may not be preventable even with the best precautions. Ford strongly recommends driving within your ability and taking every safety precaution, including those found here and at other off-road driving organizations such as the Best in the Desert Racing (www.bitd.com) and SCORE International Off-Road Racing.

Off-road screen

The real-time status of the Raptor's off-road systems can be continuously monitored using the first off-road screen found under the Truck Apps menu in the message center.

See *Message center* in the *Instrument Cluster* chapter of your Owner's Guide for more information.

Basic off-road driving techniques

- Grip the steering wheel with thumbs on the outside of the rim. This will reduce the risk of injury due to abrupt steering wheel motions that occur when negotiating rough terrain. Do not grip the steering wheel with thumbs inside the rim.
- Throttle, brake and steering inputs should be made in a smooth and controlled manner. Sudden inputs to the controls can cause loss of traction or “upset” the vehicle, especially while on sloped terrain or while crossing obstacles such as rocks or logs.
- Look ahead on your route noting upcoming obstacles, surface texture or color changes or any other factors which may indicate a change in available traction, and adjust the vehicle speed and route accordingly. During pre-run, mark obstacles with GPS markers to ensure appropriate speeds are used to avoid potential vehicle damage.
- When driving off-road, if the front or rear suspension is bottoming-out and/or excessive contact with the skid-plates is encountered, reduce vehicle speed to avoid potential damage to the vehicle.
- When running with other vehicles, it is recommended that communication is used, and the lead vehicle notify other vehicles of obstacles that could cause potential vehicle damage.
- Always keep available ground clearance in mind and pick a route that minimizes the risk of catching the underside of the vehicle on an obstacle.

Driving

- When negotiating low speed obstacles, applying light brake pressure in conjunction with the throttle will help prevent the vehicle from jerking and will allow you to negotiate the obstacle in a more controlled manner. Using 4L will also help with this.
- Use and equip supplemental safety equipment as discussed later in this chapter.
- Please consult your local off-road group for other helpful tips.
- Off-roading requires a high degree of concentration. Even if your local law does not prohibit alcohol use while driving off-road, Ford strongly recommends against drinking if you plan to off-road.

Driving in mud

- Deep mud should be approached with caution especially if you are driving in an unfamiliar area.
- If possible, test the depth of a mud hole before entering with the vehicle.
- Keep in mind that obstacles and deep ruts may be hidden beneath the surface of the mud.
- Proceed in a steady, controlled manner through deep mud while maintaining momentum.
- If momentum is lost and you feel the vehicle becoming stuck, turning the steering wheel back and forth (“sawing the wheel”) ¼ turn in each direction may give the traction you need to clear the muddy area.
- In higher speed areas with shallow mud, directional control will be reduced in the muddy area much like on snow or ice. When approaching such an area, be sure to slow to a speed which allows you to maneuver as required by the conditions.

Driving in sand



WARNING: Tires must be returned to normal recommended tire pressures before driving on pavement or hard surfaces. Failure to properly maintain your tire pressure could increase the risk of tire failure, loss of control, vehicle rollover and personal injury.

Driving

Soft sand and dunes present a very unique driving challenge. Before going on such a drive, some research is advised regarding proven techniques and pitfalls inherent in driving in deep sand. Some general points to consider:

- It is very difficult and in many cases impossible to navigate deep sand with tire pressures which are appropriate for on-road driving. If you decide to “air down” your tires, be advised that the tire pressure monitoring light will illuminate. The tires must be returned to normal recommended tire pressures before driving on pavement or hard surfaces.
- Lower tire pressures are more likely to cause a debanding of the tire during cornering. Avoid sharp or abrupt turns when you have extremely low tire pressures.
- To help prevent becoming stuck in deep sand, avoid spinning the tires or making abrupt maneuvers. Proceed in a controlled manner while maintaining vehicle momentum.
- Avoid stopping or parking on inclines as this makes it more difficult to resume driving.

Driving in deep snow

- Maintain vehicle momentum.
- Apply the throttle very gently to avoid spinning the tires. Spinning the tires will potentially dig the vehicle deeper into the snow.
- Drive in a controlled manner, avoiding aggressive steering wheel movements, and keep braking to a minimum.
- Extremely deep snow may cause the vehicle to “high center” causing the vehicle to become stuck. Test the depth of the snow before trying to drive through it.

Crossing obstacles

- Review the path ahead before attempting to cross any obstacle. It is best if the obstacle is reviewed from outside the vehicle so that there is a good understanding of terrain condition both in, front of, and behind the obstacle.
- Approach obstacles slowly and slowly inch the vehicle over.
- If a large obstacle such as a rock cannot be avoided, choose a path that places the rock directly under the tire rather than the undercarriage of the vehicle. This will help prevent damage to the vehicle.
- Ditches and washouts should be crossed at a 45 degree angle, allowing each wheel to independently cross the obstacle.

Driving

Hill climbing

- Always attempt to climb a steep hill along the fall line of the slope and not diagonally.
- If the vehicle is unable to make it up the hill, DO NOT attempt to turn back down the slope. Place the vehicle in low range and slowly back down in reverse. Note that hill descent control is functional in reverse and should be used in this situation.



WARNING: Extreme care should be used when steering the vehicle in reverse down a slope so as not to cause the vehicle to swerve out of control.

- When descending a steep slope, select low gear and engage hill descent control. Use the throttle and brake pedals to control your descent speed as described earlier in this section using hill descent control.

Water wading

Your vehicle is designed to operate in water depths up to 30 inches. However, as the water depth increases, vehicle speed must be reduced to avoid potential vehicle damage.

- Always determine the depth before attempting a water crossing.
- Proceed slowly and avoid splashing water any more than is necessary.
- Be aware that obstacles and debris may be beneath the water's surface.
- Keep the doors fully closed during the water crossing.
- Upon completion of the water crossing, slowly drive a short distance and check the brakes for full effectiveness.

Driving

Refer to chart below for the maximum allowable speeds when driving through water.

Water Depth	Maximum Allowable Vehicle Speed
6 inches (150 mm)	40 mph (65 kph)
8 inches (200 mm)	31 mph (50 kph)
10 inches (250 mm)	19 mph (30 kph)
12 inches (300 mm)	8 mph (12 kph)
18 to 30 inches (450 mm to 760 mm)	4 mph (7 kph)
Reverse – up to 30 inches (760 mm)	Less than 6 mph (10 kph)

Note: Failure to follow the recommended speeds may result in vehicle damage.

High speed off-roading

The off-road driving discussed thus far has focused on the type of events typically encountered during slow speed off-road driving conditions. The F-150 SVT Raptor provides excellent performance in a full size pick-up truck during these slower speed conditions, but truly excels at higher speed “baja style” off-road driving. High speed off-roading presents a unique challenge, but extra care and caution should be taken before engaging in this type of driving. If you plan on using the truck for severe, high speed off-road use, the following is recommended:

- Equip your truck with the safety equipment used for the Stock-Full Class as defined in the rule books for the Best in the Desert Racing (www.bitd.com) and SCORE International Off-Road Racing (www.score-international.com).
- Use personal safety equipment including a SNELL SA certified helmet and approved neck restraint device.
- Before venturing off-road in unfamiliar areas at high speeds, do a low speed reconnaissance run (“prerun”) to become aware of any obstacles that you will encounter.

Ford SVT has engineered your F-150 Raptor for off-road use beyond what is normal for a F-150. However, it can incur damage if driven beyond its capabilities. Skid plates, shock guards and running boards were designed to help limit damage to vital components and exterior finishes, but cannot prevent all damage if driven in extreme off-road conditions. Damage to skid plates, shock guards, running boards and exterior finishes as well as bent, cracked or broken body, frame and chassis components may not be covered by warranty.

Driving

It is important that you take the time to become familiar with the controls and dynamics of your vehicle before attempting higher speed off-roading. Some points to consider:

- Build up speed slowly. Initially, drive at a pace which allows ample time to fully assess the terrain around you and to understand how the vehicle is responding to both the terrain and driver inputs. Increase pace as comfort increases while always being mindful of how the vehicle is responding to various events at different speeds.
- Find a wide open place to experiment with different functions on the truck. Try a given maneuver with different vehicle settings (4H vs. 4L), (differential locked vs. unlocked), (AdvanceTrac in key-on vs. single press vs. press and hold modes) and see how the truck responds. Start slowly and build pace as comfort increases.
- Similarly, in a wide open space, experiment with different driving techniques. For example, if the vehicle is tending to push straight ahead when trying to negotiate a turn (understeering or plowing), a light application of the brake while turning may help rotate the truck. A wider entry to the corner or entering the corner more slowly may help the truck turn and allow you to apply the throttle sooner after negotiating the turn.
- Remember the phrase "smooth is fast". This refers to your steering, throttle, and brake movements. Smooth decisive movements will yield improved results while helping to increase safety.
- As speed increases, it is wise to look farther ahead of the vehicle so that there is time to react to oncoming obstacles. Remember that in many off-road environments, obstacles will be hard to see until they are relatively near. A good strategy is to alternate between looking far ahead and up closer to the front of the vehicle as you're driving.
- Also remember to "drive what you can see". This refers to not driving faster than you are able to negotiate unforeseen upcoming obstacles. This could refer to obstacles over a brow, in a ravine, in brush, in dusty conditions, and in the darkness among others.
- If you are driving in a dusty area. Be sure to leave ample distance between you and any other vehicles to ensure adequate vision.
- Always remember that you may not be the only one in a particular recreational area, always be cognizant of others in your area. This is especially true of motorcycles and ATV's which may be more difficult to spot than a full-sized vehicle.
- If driving in desert conditions, it is advised that you always drive with your headlights on to help other drivers more easily see you.

24

Driving

- While driving in desert conditions, the midpoint of the day is the most difficult time to see many of the small ridges and dips due to "flat shadows" from the sun being at its highest point. Extreme care should be taken at these times to not inadvertently run into these obstacles.
- It is highly encouraged that you switch to off-road mode and perform an "AdvanceTrac single press" to ensure improved off-road braking performance under these conditions. Be sure to disengage the "off-road mode" and switch back to "AdvanceTrac key-on mode" before performing any street driving. Please see the Off-road mode section of this supplement for more details.

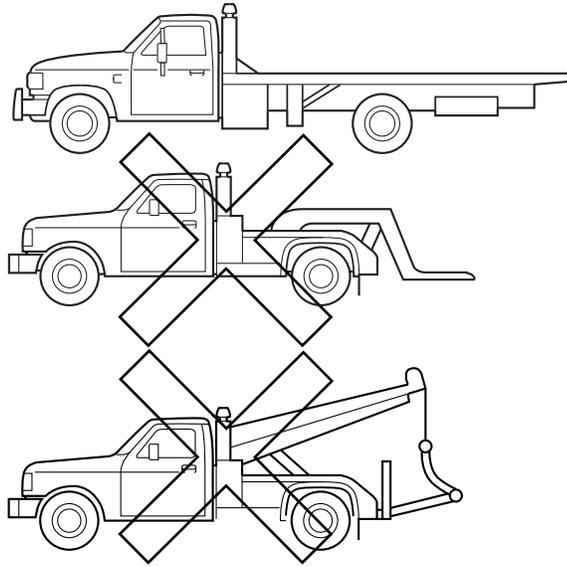
After off-road driving

It is important to complete a full vehicle inspection after off-road driving. Some items to check include:

- Ensure that tires are inflated to proper tire pressure as indicated on the tire placard.
- Check the wheels and undercarriage for built up mud or debris which can cause vehicle vibration.
- Ensure that the grille and radiator are clear of any obstructions that may affect cooling.
- Ensure that the brakes are in proper working order and free of any mud, stones etc., which can become trapped around the brake rotor, backing plate and caliper.
- Check that the air filter is clean and dry.
- Inspect for torn or punctured boots on ball joints, half shafts, steering gears.
- Inspect exhaust system for damage or looseness.
- Inspect undercarriage fasteners. If any are loose or damaged, tighten or replace ensuring that the proper torque specification is used.
- Inspect the tires for any cuts in the tread or sidewall area. Also inspect the sidewall for any bulge indicating damage to the tire.
- Inspect the wheels for dents, cracks, or other damage.

Roadside Emergencies

WRECKER TOWING



If you need to have your vehicle towed, contact your roadside assistance center or a professional towing service.

It is required that your vehicle be towed with flatbed equipment. When towing with a flatbed, 4x4 blocks must be used when loading/unloading your vehicle. Do not tow with a slingbelt. Ford Motor Company has not approved a slingbelt towing procedure.

If the vehicle is towed by other means or incorrectly, vehicle damage may occur.

Cleaning

WASHING YOUR F-150 SVT RAPTOR

Do not drive your vehicle through an automated, commercial car wash due to the vehicle's tire width and track. Wash your vehicle by hand, or by using a touchless commercial wash with no mechanical tracks on the floor. Do not use a commercial or high pressure wand on the bed side graphic surface or graphics edges.

Maintenance

MOTORCRAFT PART NUMBERS

Component	6.2L V8 engine
Air filter element	FA-1883
Battery	BTX-59 or BTX-65-650 ¹
Oil filter	FL-820S
Spark plugs	²

¹ Heavy-duty battery, if equipped

² For spark plug replacement, see your authorized dealer. Refer to *scheduled maintenance information* for the appropriate intervals for changing the spark plugs.

Replace the spark plugs with ones that meet Ford material and design specifications for your vehicle, such as Motorcraft or equivalent replacement parts. The customer warranty may be void for any damage to the engine if such spark plugs are not used.

MAINTENANCE PRODUCT SPECIFICATIONS AND CAPACITIES

Item	Capacity	Ford part name or equivalent	Ford part number / Ford Specification
Engine oil (includes filter change) ⁵	7.0 quarts (6.6L)	<ul style="list-style-type: none"> • Motorcraft SAE 5W-20 Premium Synthetic Blend Motor Oil (US) • Motorcraft SAE 5W-20 Full Synthetic Motor Oil (US) • Motorcraft SAE 5W-20 Super Premium Motor Oil (Canada) • Motorcraft SAE 5W-20 Synthetic Motor Oil (Canada) 	<ul style="list-style-type: none"> • XO-5W20-QSP (US) • XO-5W20-QFS (US) • CXO-5W20-LSP12 (Canada) • CXO-5W20-LFS12 (Canada) / WSS-M2C945-A and API Certification Mark
Engine coolant ¹	16.0L (16.9 quarts)	<ul style="list-style-type: none"> • Motorcraft Specialty Orange Engine Coolant with bittering agent (US) / Motorcraft Specialty Orange Engine Coolant (Canada) 	VC-3-B (US) CVC-3-B (Canada) / WSS-M97B44-D
Front axle lubricant	1.7L (3.6 pints)	Motorcraft SAE 80W-90 Premium Rear Axle Lubricant	XY-80W-90-QL / WSP-M2C197-A
Rear axle lubricant	2.6L (5.5 pints) ²	Motorcraft SAE 75W-140 High Performance Synthetic Rear Axle Lubricant	XY-75W140-QL / WSL-M2C192-A

Maintenance

Maintenance

Item	Capacity	Ford part name or equivalent	Ford part number / Ford Specification
Rear axle fluid friction modifier	4 oz. (118 ml)	Additive Friction Modifier	XL-3 EST-M2C118-A
Fuel tank	26 gallons (98.4L)	—	—
Transmission fluid ³	12.4L (13.1 quarts) ⁴	Motorcraft MERCON® LV ATF	XT-10-QLV / MERCON® LV
Transfer case lubricant	1.4-1.5L (2.9-3.1 pints)	Motorcraft Transfer Case Fluid	XL-12 / —

¹Add the coolant type originally equipped in your vehicle.

²Fill 6 mm to 14 mm (1/4 inch to 9/16 inch) below bottom of fill hole.

Your vehicle's rear axle is filled with a synthetic rear axle lubricant and is considered lubricated for life. These lubricants do not need to be checked or changed unless a leak is suspected, service is required or the axle assembly has been submerged in water. The axle lubricant should be changed any time the rear axle has been submerged in water.

³Ensure the correct automatic transmission fluid is used. Transmission fluid requirements are indicated on the dipstick or on the dipstick handle. Check the container to verify the fluid being added is of the correct type. Refer to your *scheduled maintenance information* to determine the correct service interval.

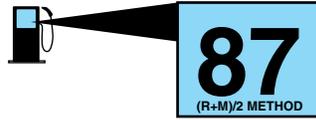
⁴Approximate dry fill capacity including transmission fluid cooling system, actual refill capacities will vary based on vehicle application and transmission fluid cooling system (i.e. cooler size, cooling lines, auxiliary cooler capacities). The amount of transmission fluid and fluid level should be set by the indication on the dipstick's normal operating range.

⁵Use of synthetic or synthetic blend motor oil is not mandatory. Engine oil need only meet the requirements of Ford specification WSS-M2C945-A and the API Certification mark.

Maintenance

OCTANE RECOMMENDATIONS

Regular unleaded gasoline with a pump (R+M)/2 octane rating of 87 is recommended. Some stations offer fuels posted as "Regular" with an octane rating below 87, particularly in high altitude areas. Fuels with octane levels below 87 are not recommended. Premium fuel will provide improved performance and is recommended for severe duty usage such as trailer tow.



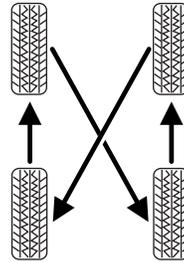
Do not be concerned if your engine sometimes knocks lightly. However, if it knocks heavily under most driving conditions while you are using fuel with the recommended octane rating, see your authorized dealer to prevent any engine damage.

WHEELS AND TIRES

Tires	LT315/70R17 BSW tires
Wheels	SVT-Signature style, 17 in x 8.5 in aluminum 6-spoke wheels

TIRE ROTATION

Because your vehicle's tires perform different jobs, they often wear differently. To make sure your tires wear evenly and last longer, have them rotated. **Note:** The F-150 Raptor requires tire rotations every 5,000 miles (8,000 km). If you notice that the tires wear unevenly, have them checked.



SPARE TIRE AND WHEEL

Your vehicle is equipped with an LT315/70R17 spare tire. The spare tire/wheel assembly has the same capability as the road tire/wheel assembly, but is not equipped with a tire pressure monitoring sensor.

Tire Information

IMPORTANT TIRE INFORMATION

Your SVT vehicle is equipped with unique wheels and tires designed to enhance performance and appearance. To continue providing this performance, extra care must be taken when operating and maintaining your vehicle.

TIRES

Your SVT vehicle is equipped with high performance, all-terrain tires that are designed to optimize handling, steering and braking to provide the performance you expect in an SVT vehicle. These tires are optimized for both on and off-road performance, and their ride, noise and wear characteristics are different than other tires. Also, because of their aggressive tread profile, it is important that you maintain your tires properly.

- Always maintain your tire pressures according to the tire information placard located on the driver's door B-pillar, using an accurate gauge.

Note: If tire pressure has been reduced for off-road use, the tire pressure monitoring system (TPMS) warning light will then activate in the instrument panel as a reminder to reinflate the tires before returning to the road.

Remember to be prepared to re-inflate your tires before returning to the road. If a tire filling station is not available, remember to prepare a supplemental means to inflate the tires, such as a portable compressor.



WARNING: Always re-inflate tires to recommended tire pressures before the vehicle is operated on-road. The recommended pressure is located on the tire placard label or safety certification label, located on the B-pillar, inside the driver's door.



WARNING: Always check tires and wheels for damage before returning to the road. Off-road use may cause damage to your tires and wheels that could result in tire failure.

- Tire pressures are specified "cold" and should be checked after the vehicle has been parked for at least three hours. Do not reduce pressure of warm tires.
- Check your tire pressure often to maintain it properly. Tire pressure can diminish over time and fluctuate with temperature.

Tire Information

- Do not overload your vehicle. Maximum vehicle and axle weights are listed on the tire information placard.
- Extra caution should be taken when operating the vehicle near its maximum load, including assuring proper tire pressure and reducing speeds.
- In the event that you encounter an abnormally harsh impact, inspect your tires for damage.
- Inspect your tires for damage on a regular basis. If a tire is damaged, replace it immediately.
- Proper suspension alignment is critical for maximum performance and optimal tire wear. If you notice uneven tire wear, have your alignment checked.
- Your SVT vehicle follows a more stringent tire rotation schedule as compared to the base F-150. Refer to *Tire rotation* in the *Maintenance* chapter for more information.
- When replacing tires, the only way to assure original performance is to use the original equipment tire. If a different tire is used, it should be the same size, speed rating and load rating.

WHEELS

Your SVT vehicle is equipped with unique wheels matched to the tires. To avoid damage to your wheels:

- Maintain proper tire pressure (see “Tires” previously listed).
- Due to extreme tire/wheel width, this vehicle cannot be taken through an automatic car wash that uses mechanical tracks, as wheel damage may result.
- When installing wheels, always torque lug nuts to specification with a torque wrench.
- Inspect your wheels for damage on a regular basis. If a wheel is damaged, replace it immediately.
- In the event that you encounter an abnormally harsh impact, inspect the outer diameter of your wheels, both inside and out, for damage.

Tire Information

OPERATING A PERFORMANCE VEHICLE AT HIGHER THAN NORMAL SPEEDS

Your SVT vehicle is capable of operating at higher than normal off-road speeds and is equipped with tires rated for the vehicles' maximum speed. However, it is important to remember to always drive safely, obey all traffic laws and only operate your SVT vehicle at higher than normal speeds at locations and under conditions where such can be done safely. Also, before operating your vehicle at higher than normal speeds:

- Assure correct tire pressures (see "Tires" previously listed).
- Inspect wheels and tires for wear and damage. Replace any damaged wheels or tires.
- Never operate the vehicle at higher than normal speeds when loaded with passengers/cargo.

WINTER DRIVING

The original equipment tires on your SVT vehicle are designed for maximum performance in all driving conditions. However, they are not designed to be used with snow chains. If you will be operating your vehicle with snow chains, use a smaller tire and wheel combination as recommended in the *Owner's Guide*.

Warranty coverage

WARRANTY COVERAGE

The F-150 Raptor carries the same New Vehicle Limited Warranty as other Ford F-150 models. This information is covered in its entirety in your *Warranty Guide*.

Warranty service for the F-150 Raptor or any SVT vehicle can be obtained at any Ford dealer nationwide.

SVT does not recommend modifying or racing SVT vehicles, as they are designed and built to be driven as delivered from the factory. The *Warranty Guide* discusses vehicle usage and the installation of aftermarket parts and their effect on warranty coverage.

Ford SVT has engineered your F-150 Raptor for off-road use beyond what is normal for a F-150. However, it can incur damage if driven beyond its capabilities. Skid plates, shock guards and running boards were designed to help limit damage to vital components and exterior finishes, but cannot prevent all damage if driven in extreme off-road conditions. Damage to skid plates, shock guards, running boards and exterior finishes as well as bent, cracked or broken body, frame and chassis components may not be covered by warranty.

Vehicle damage caused by driving through deep water at excessive speeds may not be covered under warranty. (See *Driving your F-150 SVT Raptor off-road* in the *Driving* chapter of the supplement for maximum allowable vehicle speeds when driving in deep water conditions).

Please see the *Warranty Guide* for complete information.

Perform Multi-Point Inspection and the inspections outlined in *Scheduled Maintenance Intervals* found in the scheduled maintenance information. Refer to the vehicle's *Workshop Manual* for removal and installation procedures. Replace with genuine Ford and Motorcraft® service parts as needed.

These modifications may not necessarily protect your engine from damage in competition conditions. Subjecting your vehicle to competition conditions even with these proposed modifications may render repairs non-reimbursable under the New Vehicle Limited Warranty.

Index

A		I	
Air cleaner filter	28	Ignition	8
Automatic transmission fluid, refill capacities	29	M	
Axle refill capacities	29	Motorcraft® parts	28
B		O	
Battery replacement, specifications	28	Octane rating	31
C		P	
Capacities for refilling fluids	29	Parts (see Motorcraft® parts) ...	28
Coolant refill capacities	29	S	
E		Spark plugs, specifications	8, 28
Engine	8	T	
refill capacities	29	Tires	
service points	7	changing	31
Engine oil		rotating	31
filter, specifications	28	Towing	
refill capacities	29	wrecker	26
F		Transmission	
Fluid capacities	29	fluid, refill capacities	29
Fuel		U	
capacity	29	Upfitter controls	14
filter, specifications	28	W	
octane rating	8, 31	Wrecker towing	26