



## TRAILER TOWING SELECTOR

### E-SERIES CUTAWAY & STRIPPED CHASSIS

**Maximum Trailer Weight = GCWR – Vehicle GVW or 10,000 pounds, whichever is less.**

**E-350 Super Duty Cutaway SRW GCWRs:**

- 6.2L V8/6R140 – 13,000 lbs.
- 6.8L V10/6R140 – 18,500 lbs.

**E-450 Super Duty Cutaway GCWRs:**

- 6.2L V8/6R140 – 18,000 lbs.
- 6.8L V10/6R140 – 22,000 lbs.

**E-450 Super Duty Stripped Chassis GCWRs:**

- 6.2L V8/6R140 – 18,000 lbs.
- 6.8L V10/6R140 – 22,000 lbs.

**E-350 Super Duty Cutaway DRW GCWRs:**

- 6.2L V8/6R140 – 17,000 lbs.
- 6.8L V10/6R140 – 18,500 lbs.

**E-350 Super Duty Stripped Chassis GCWRs:**

- 6.2L V8/6R140 – 17,000 lbs.
- 6.8L V10/6R140 – 18,500 lbs.

### Frontal Area Considerations

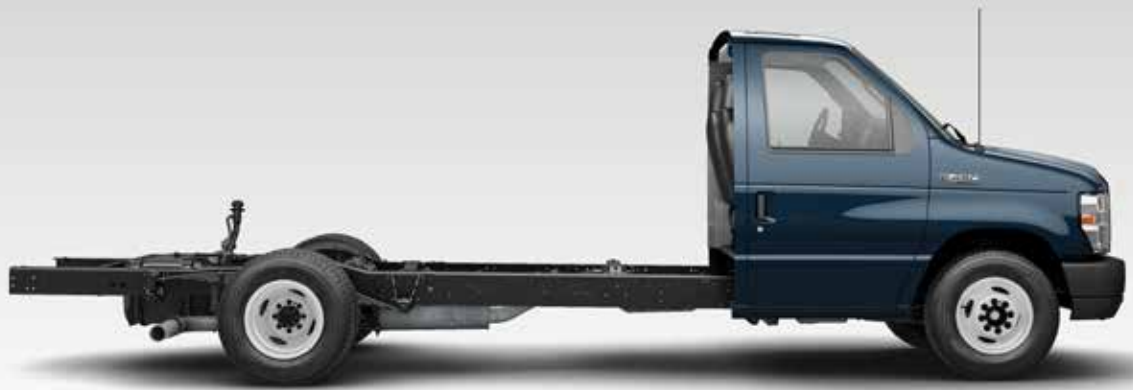
Vehicle	Frontal Area Limitations/ Considerations	With
<b>E-Series Cutaway</b>	60 sq. ft.	All Applications

**Frontal Area** is the total area in square feet that a moving vehicle and trailer exposes to air resistance. The chart above shows the maximum trailer frontal area that must be considered for a vehicle/trailer combination. Exceeding these limitations may significantly reduce the performance of your towing vehicle.

### Rear Axle Ratio Codes

If you do not know the axle ratio of your vehicle, check its Truck Safety Compliance Certification Label (located on the left front door lock facing or the door latch post pillar). Below the bar code, you will see the word AXLE and a two-digit code. Use this chart to find the axle ratio that corresponds to that code:

Vehicle	Rear Axle Ratio	Non-Limited Slip	Limited Slip
<b>E-Series Cutaway</b>	4.10	52/56	E2/E6
	4.56	58/83/85	E8/F3/F5



# KNOW BEFORE YOU TOW

## BEFORE YOU BUY

If you are selecting a vehicle that will be used for towing, you should determine the approximate weight of the trailer you intend to tow, including the weight of any additional cargo and fluids that you will be carrying in the trailer. Also, be sure the vehicle has the proper optional equipment. Keep in mind that performance can be severely affected in hilly terrain when the minimum acceptable powertrain combination is selected. Consider purchasing a vehicle with a more powerful engine.

## AFTER YOU BUY

Before heading out on a trip, check your vehicle's Owner's Manual for break-in and severe-duty maintenance schedules (do not tow a trailer until your vehicle has been driven at least 1,000 miles). Be sure to have your fully-loaded vehicle (including passengers) and trailer weighed so as not to exceed critical weight limits. If any of these limits are exceeded, cargo should be removed from the vehicle and/or trailer until all weights are within the specified limits.

## Brakes

Many states require a separate braking system on trailers with a loaded weight of more than 1,500 pounds. For your safety, Ford Motor Company recommends that a separate functional brake system be used on any towed vehicle, including those dolly-towed or towbar-towed. There are several basic types of brake systems designed to activate trailer brakes:

- 1. Electronically Controlled Brakes** usually provide automatic and manual control of trailer brakes. They require that the tow vehicle be equipped with a controlling device and additional wiring for electrical power. These brakes typically have a control box installed within reach of the driver and can be applied manually or automatically.
- 2. Electric-Over-Hydraulic (EOH) Trailer Brakes** are operated by an electrically powered pump that pressurizes a hydraulic fluid reservoir built into the trailer's brake system. Many of the available EOH trailer brake models are compatible with the Ford factory installed, dash-integrated Trailer Brake Controller (TBC).
- 3. Surge Brakes** are independent hydraulic brakes activated by a master cylinder at the junction of the hitch and trailer tongue. They are not controlled by the hydraulic fluid in the tow vehicle's brake system, and the tow vehicle's hydraulic system should never be connected directly to the trailer's hydraulic system.

Be sure your trailer brakes conform to all applicable state regulations. *See Towing Safely for All Vehicles on the next page for additional braking information.*

## Trailer Lamps

Make sure the trailer is equipped with lights that conform to all applicable government regulations. The trailer lighting system should not be connected directly to the lighting system of the vehicle. See a local recreational vehicle dealer or rental trailer agency for correct wiring and relays for the trailer and heavy-duty flashers.

## Safety Chains

- Always use safety chains when towing. Safety chains are used to retain connection between the towing and towed vehicle in the event of separation of the trailer coupling or ball
- Cross chains under the trailer tongue to prevent the tongue from contacting the ground if a separation occurs. Allow only enough slack to permit full turning – be sure they do not drag on the pavement
- When using a frame-mounted trailer hitch, attach the safety chains to the frame-mounted hitch using the recommendations supplied by the hitch manufacturer
- See your vehicle's Owner's Manual for safety chain attachment information
- For rental trailers, follow rental agency instructions for hookup of safety chains

## Trailer Wiring Harness

- Some vehicles equipped with a factory-installed Trailer Tow Package include a trailer wiring harness and a wiring kit
- This kit includes one or more jumper harnesses (to connect to your trailer wiring connector) and installation instructions

# TOWING SAFELY FOR ALL VEHICLES

Towing a trailer is demanding on your vehicle, your trailer and your personal driving skills. Follow some basic rules that will help you tow safely and have a lot more fun.

## Weight Distribution

For optimum handling and braking, the load must be properly distributed

Keep center of gravity low for best handling

Approximately 60% of the allowable cargo weight should be in the front half of the trailer and 40% in the rear (within limits of tongue load or king pin weight)

Load should be balanced from side-to-side to optimize handling and tire wear

Load must be firmly secured to prevent shifting during cornering or braking, which could result in a sudden loss of control

## Before Starting

Before setting out on a trip, practice turning, stopping and backing up your trailer in an area away from heavy traffic

Know clearance required for trailer roof

Check equipment (make a checklist)

## Backing Up

Back up slowly, with someone spotting near the rear of the trailer to guide you

Place one hand at bottom of steering wheel and move it in the direction you want the trailer to go

Make small steering inputs – slight movement of steering wheel results in much greater movement in rear of trailer

## Turning

When turning, be sure to swing wide enough to allow trailer to avoid curbs and other obstructions.

## Braking

Allow considerably more distance for stopping with trailer attached

Remember, the braking system of the tow vehicle is rated for operation at the GVWR, not GCWR

If your tow vehicle is an F-150, F-Series Super Duty®, Transit or Expedition and your trailer has electric brakes, the optional Integrated Trailer Brake Controller (TBC) assists in smooth and effective trailer braking by powering the trailer's electric or electric-over-hydraulic brakes with proportional output based on the towing vehicle's brake pressure

If your trailer starts to sway, apply brake pedal gradually. The sliding lever on the TBC should be used only for manual activation of trailer brakes when adjusting the gain. Misuse, such as application during trailer sway, could cause instability of trailer and/or tow vehicle

## Towing On Hills

Downshift the transmission to assist braking on steep downgrades and to increase power (reduce lugging) when climbing hills

With TorqShift® transmission, select tow/haul mode to automatically eliminate unwanted gear search when going uphill and help control vehicle speed when going downhill

## Parking With A Trailer

Whenever possible, vehicles with trailers should not be parked on a grade. However, if it is necessary, place wheel chocks under the trailer's wheels, following the instructions below.

Apply the foot service brakes and hold

Have another person place the wheel chocks under the trailer wheels on the downgrade side

Once the chocks are in place, release brake pedal, making sure the chocks will hold the vehicle and trailer

Apply the parking brake

Shift automatic transmission into park, or manual transmission into reverse

With 4-wheel drive, make sure the transfer case is not in neutral (if applicable)

## Starting Out Parked On A Grade

Apply the foot service brake and hold

Start the engine with transmission in park (automatic) or neutral (manual)

Shift the transmission into gear and release the parking brake

Release the brake pedal and move the vehicle uphill to free the chocks

Apply the brake pedal while another person retrieves the chocks

## Acceleration And Passing

The added weight of the trailer can dramatically decrease the acceleration of the towing vehicle – exercise caution.

When passing a slower vehicle, be sure to allow extra distance. Remember, the added length of the trailer must clear the other vehicle before you can pull back in

Signal and make your pass on level terrain with plenty of clearance

If necessary, downshift for improved acceleration

## Driving With An Automatic Overdrive Transmission

With certain automatic overdrive transmissions, towing – especially in hilly areas – may cause excessive shifting between overdrive and the next lower gear.

To eliminate this condition and achieve steadier performance, overdrive can be locked out (see vehicle Owner's Manual)

If excessive shifting does not occur, use overdrive to optimize fuel economy

Overdrive may also be locked out to obtain engine braking on downgrades

When available, select tow/haul mode to automatically eliminate unwanted gear search and help control vehicle speed when going downhill

## Driving With Cruise Control

Turn off the cruise control with heavy loads or in hilly terrain. The cruise control may turn off automatically when you are towing on long, steep grades. Use caution while driving on wet roads and avoid using cruise control in rainy or winter weather conditions.

## Tire Pressure

Underinflated tires get hot and may fail, leading to possible loss of vehicle control

Overinflated tires may wear unevenly and compromise traction and stopping capability

Tires should be checked often for conformance to recommended cold inflation pressures

## Spare Tire Use

A conventional, identical full-size spare tire is required for trailer towing (mini, compact and dissimilar full-size spare tires **should not** be used; always replace the spare tire with a new road tire as soon as possible).

## On The Road

After about 50 miles, stop in a protected location and double-check:

Trailer hitch attachment

Lights and electrical connections

Trailer wheel lug nuts for tightness

Engine oil – check regularly throughout trip

## High Altitude Operation

Gasoline engines lose power by 3-4% per 1,000 ft. elevation. To maintain performance, reduce GVWs and GCWs by 2% per 1,000 ft. elevation starting at the 1,000 ft. elevation point.

## Powertrain/Frontal Area Considerations

The charts in this Guide show the minimum engine size needed to move the GCW of tow vehicle and trailer.

Under certain conditions, however, (e.g., when the trailer has a large frontal area that adds substantial air drag or when trailering in hilly or mountainous terrain) it is wise to choose a larger engine

Selecting a trailer with a low-drag, rounded front design will help optimize performance and fuel economy

**Note: For additional trailering information pertaining to your vehicle, refer to the vehicle Owner's Manual.**

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