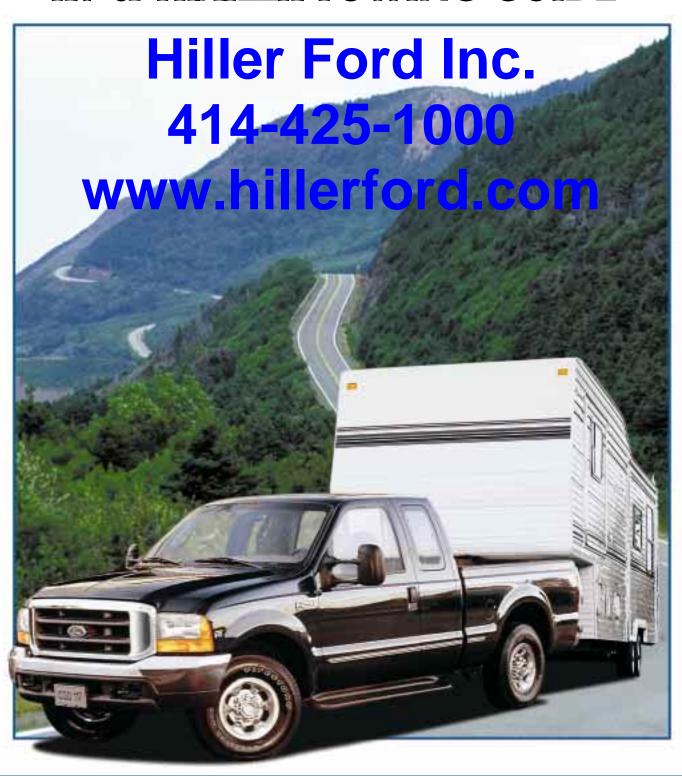


# 1-9-9-9-

# RV & TRAILER TOWING GUIDE



# FORD PRODUCTS

**Available for All Major RV Categories** 

## **CONTENTS**

F-Series Pickups	3
Super Duty F-Series Class A Motorhome Chassis	4
Class C Motorhome Chassis/Service & Support	5
"Four-Wheel-Down" Towing	6
Van Conversions	7
Slide-In Campers	8
On/Off-Highway RV Fun	9
Things to Know Before You Tow	10-12
Trailer Classes and Maximum Weights	13
Trailer Towing Selector	
Car and Compact Truck	14
• Compact Van, Expedition and F-Series	15
• F-Series Fifth-Wheel	16-17
• Full-Size Van	17
Trailer Types & Frontal Area Considerations	18
Required/Recommended Trailer Towing Equipment .	19
Trailering Tips	20

## Ford — a Leader in RV and Trailer Towing!

There are many reasons Ford is considered a leader in RV and trailer towing:

- Outstanding Selection Whatever your need, there's a Ford vehicle or chassis to fill it.
- Exceptional Towing Capabilities The Super Duty F-Series pickups and chassis cabs can pull exceptionally heavy trailers. In fact, when equipped with the Triton<sup>TM</sup> 6.8L V10, they can handle trailer weights up to 14,600 pounds with the pickup and 18,800 pounds with the chassis cab.
- Experience Many years of RV and towing experience back all Ford vehicles.
- Quality and Reliability Ford has earned a reputation for providing quality and reliable RV products.

### **Class A Motorhomes**



Self-contained RV camping/travel vehicles with a living unit constructed on a specially designed vehicle chassis. Ford offers Super Duty F-Series Class A Motorhome Chassis.

### **Class C Motorhomes**



Built on a cutaway chassis includes van cab section. Ford chassis entries are Econoline *E-350 Super Duty* and *E-450* Super Duty RV Cutaway Chassis.

### Van Conversions/Van Campers



Van converters use a full-size van chassis to create travel/camping units with special equipment and comfort features. Ford offers Econoline Van.

## **Slide-In Truck Campers**



Designed for carrying in a pickup truck bed, these units can be easily removed to use the truck for other purposes. Ford F-Series pickups are ideal for slide-in camper use.

#### **Trailers**



A wide range of trailer types are in RV use: folding campers, conventional travel trailers, boat/ATV/snowmobile haulers, and fifth-wheel travel units - in a broad range of sizes, floor plans and furnishing levels. F-Series pickups and chassis cab models provide exceptional towing capabilities.

# F-SERIES PICKUPS KEEP FORD ON TOP

## SUPER DUTY MODELS OFFER CAPABILITIES UNMATCHED BY THE COMPETITION

Few vehicles have impacted the trailer towing industry like the Ford Super Duty F-Series Pickups. For diesel power, roominess, and model configurations – they are <u>THE</u> vehicles for serious RV enthusiasts.

## **IMPRESSIVE LINEUP OF MODELS**

- 44 available configurations, including:
  - SuperCabs with four doors standard
  - Numerous Crew Cab models
  - Many four-wheel-drive applications
  - 4x4 Regular Cab, SuperCab and Crew Cab DRW (Dualie) pickups and chassis cabs
- Exceptionally high GVWRs/payloads and trailer towing up to 10,000 lbs. (conventional) or 14,600 lbs. (fifth-wheel)

### HARD-WORKING IMAGE

All three cabs – Regular, Super and Crew – are the roomiest in their class. Their dominant grille opening and standard Super Cooling help cool the big, powerful engines, which are designed to satisfy one of this truck's primary work uses – trailer towing!

### **SAFETY FEATURES**

Standard driver and passenger-side airbags\*, combined with 4-wheel ABS (standard on all models over 10,000 pounds GVWR; optional on all others) are just a few of the many safety features. In addition, the available trailer tow mirrors provide excellent visibility.



#### **POWERFUL ENGINES**

- Triton<sup>TM</sup> 5.4L V8 (235 hp/335 lbs.-ft. torque)
- Triton<sup>TM</sup> 6.8L V10 (275 hp/410 lbs.-ft. torque)
- 7.3L Power-Stroke<sup>™</sup> Turbo Diesel V8 with intercooler and wastegated turbocharger (235 hp/500 lbs.-ft. torque)
  - Includes standard 6-speed manual overdrive transmission

With all these outstanding features, it's no wonder why Ford Super Duty F-Series is a "must-have" for RV customers.

\*Always wear your safety belt and secure children in rear seat.

## F-150/250 MODELS ALSO OFFER OUTSTANDING TOWING CAPABILITIES



The great-looking, Built Ford Tough F-150 and F-250 models continue to make F-Series Pickups the top-selling vehicle line in America. And for 1999, they offer

numerous improvements, including a new standard 4th door on all SuperCab models, refined interiors, and several functional upgrades.

They're plenty rugged too, with engines ranging from a 205 hp 4.2L V6, to two Triton™ V8s, including a 5.4L engine with increased horsepower (260) and torque (345 lbs.-ft.). That means the F-150 and F-250 models offer loads of low-end torque; in fact, enough to let them handle trailers all the way up to 8,700 pounds, properly equipped. If you've got a job bigger than that, you better check out the Super Duty F-Series models above.

# SUPER DUTY F-SERIES CLASS A MOTORHOME CHASSIS OFFERS ENORMOUS VALUE AND TOUGHNESS



The Ford Super Duty F-Series Class A Motorhome Chassis is the industry sales leader.<sup>a</sup> Its advanced features and outstanding performance provide the ideal basis for the unmatched luxury and convenience of the finest Class A motorhomes.

#### **Outstanding Features:**

- Triton™ V10 engine the only V10 in a Class A motorhome application (275 hp/410 lbs.-ft. torque)
- 4-wheel-disc anti-lock braking system (ABS) for consistent, responsive braking performance
- Three Gross Vehicle Weight Ratings (GVWRs):
  - 15,700 pounds
  - 18,000 pounds
  - 20,500 pounds
- Big 19.5-inch wheels and tires
- 26,000-lb. Gross Combination Weight Rating (GCWR) for excellent towing capabilities (8,000-lb. maximum trailer weight at 18,000-lb. GVWR)

- Electronically controlled 4-speed automatic overdrive transmission (4R100)
- 81-inch front tread width contributes to handling and lateral stability

#### **Additional Features Include:**

- Rugged ladder-type frame
- 75-gallon fuel tank with turbine fuel pump for extended cruising range
- Tapered multi-leaf springs for smooth ride
- Large-diameter, gas-pressurized front and rear shock absorbers and stabilizer bars for ride control



More Motorhomes Are Built on



<sup>&</sup>lt;sup>a</sup> Based on Class A calendar year registrations (through May 1998).

# A SMART CHOICE IN A CLASS C MOTORHOME

The Econoline E-350 Super Duty and E-450 Super Duty RV Cutaway Chassis remain the overwhelming sales leaders for Class C motorhomes.<sup>b</sup> Functional features include:

- Up to 14,050-lb. GVWR and 20,000-lb. GCWR (both largest in a cutaway chassis)
- Powerful 5.4L Triton<sup>™</sup> V8, 6.8L Triton<sup>™</sup> V10 and 7.3L
   Power Stroke<sup>®</sup> DI Turbo Diesel V8 engines
- 100,000-mile scheduled tune-up interval on gasoline engines<sup>c</sup>
- Electronically controlled 4-speed automatic overdrive transmission
- Driver and front passenger airbags<sup>d</sup>
- Out-front engine design provides spacious cab with access to "living area" and ease of ingress/egress
- 4-wheel-disc anti-lock brakes
- Twin-I-Beam independent front suspension (with caster/camber adjustment), front stabilizer bar and gas-pressurized shock absorbers contribute to a smooth, comfortable ride
- Steel ladder-type frame with six crossmembers
- 37-gallon fuel tank (E-350); 55-gallon tank (E-450; optional E-350)
- Van-like driver position with ergonomic instrument panel and controls



## Service & Support

Class A & C Motorhome Customer Assistance Center

This 24-hour, seven-days-a-week Hotline was designed to serve both motorhome owners and RV dealers. Simply by calling **1-800-444-3311**, the caller has access to:

- The nearest appropriate service location.
- Assistance in scheduling a service appointment.
- Service assistance for motorhome customers and RV dealers in resolving Ford chassis-related concerns.

### **In-Dealership Service Support**

- Over 500 Ford dealerships in the U.S. and Canada.
- Certified service technicians backed by computerized diagnostics and national technical hotline support.
- Verification of available owner notification and recall information affecting motorhomes.



## Ford Chassis Than Any Other Make<sup>e</sup>

- <sup>b</sup> Based on Class C calendar year registrations (through May 1998).
- c Under normal driving conditions with routine fluid/filter changes.
- <sup>d</sup>To supplement safety belts. Always wear your safety belt and secure children in rear seat.
- e Based on combined Class A and Class C calendar year registrations (through May 1998).

# TOWING A FORD VEHICLE BEHIND YOUR MOTORHOME WITH ALL FOUR WHEELS DOWN



Many motorhome owners prefer the practicality of having another vehicle along when they travel. In fact, towing another vehicle behind the motorhome has become more and more popular in recent years. For safe operation, towed vehicles (or dollies or trailers carrying them), should be equipped with a separate functional brake system. See the Trailer Towing Selector (pages 14-17) and Trailering Tips (back cover) for more information. Furthermore, many of those who want to tow another vehicle prefer one that can be easily towed without a dolly or trailer. The Ford car and truck models shown in the chart below can be towed with all four wheels down.

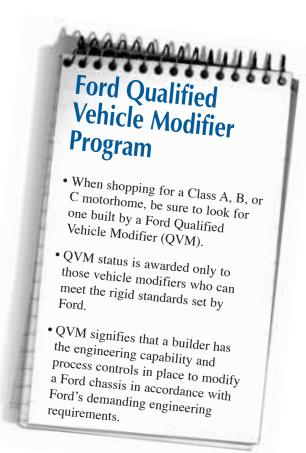
NOTE: Some aftermarket camper centers offer kits which may allow vehicles with automatic transmissions to be flat-towed.

# Ford Cars and Trucks Suitable for "Four-Wheel-Down" Towing

Ford Cars	Manual Transmission	Automatic Transmission
Escort/ZX2	Yes	No
Mustang	Yes	No
Contour	Yes (a)	No
Ford Trucks		
Ranger 4x2	Yes	No
Ranger 4x4	Yes	No
Explorer 4x2	Yes	No
Explorer 4x4	Yes	Yes (c)
F-150/250 4x4	Yes (b)(d)	Yes (b)(d)
Super Duty F-250/350 4x4	4 Yes (b)	Yes (b)

- (a) To be towed only in forward position, and not faster than 55 mph.
- (b) Manual transfer case only (not Electronic Shift-on-the-Fly 4x4).
- (c) On vehicles with 4.0L engine and dealer-installed Neutral Tow Kit.
- (d) Requires that the center disconnect be locked-out by capping off one of the front axle vacuum motor lines. See your Ford Dealer for assistance.

Note: Different vehicles have different restrictions and towing procedures. Contact your Ford Dealer or refer to the specific vehicle Owner Guide for complete details.





## **VAN CONVERSIONS**



## Econoline Van Conversions 1/

Econoline has been the full-size van segment sales leader since 1979. Built to meet customer needs, the 1999 models include standard Second Generation driver and passenger airbags.\* They also offer aerodynamic styling, contemporary front interior components, advanced functional features, and a lineup of advanced engines. Here are some of the features that make it so popular:

- Sturdy body-on-frame construction
- Three engine choices on E-150 vans . . . 195 hp
   4.2L V6, 215 hp 4.6L and 235 hp 5.4L overheadcam Triton™ V8s, all with standard 4-speed automatic transmission and fail-safe cooling
- 100,000-mile scheduled tune-up interval†
- Excellent towing capabilities . . . up to 6,900 pounds on E-150 when properly equipped
- Out-front engine design for convenient underhood servicing and ease of ingress/egress
- Exclusive Twin-I-Beam independent front suspension for both ruggedness and smooth ride
   plus adjustable caster and camber
- Standard four-wheel anti-lock brakes
- 1/ Completed by authorized converters.
- \* To supplement safety belts. Always wear your safety belt and secure children in rear seat.
- † Under normal driving conditions with routine fluid/filter changes.



Van conversions are a popular choice for recreation use – from camping to simply traveling in enhanced comfort and style. Converters offer an extensive selection of styles, designs and luxury furnishings, including:

- Large vista windows
- Luxurious seating and interior trim
- Rear seat/bed combination
- Unique exterior paint/tape treatment

## **Quality Conversions**

Ford and authorized converters work together to continuously improve van conversion quality and customer satisfaction. Converters must meet specific Ford quality standards and process controls.



## **Class B Van Campers**

Econoline vans also provide an excellent base unit for Class B campers. Converters offer models equipped with sleeping, kitchen and bathroom facilities, as well as 110-volt hookup, fresh water storage and/or city water hookup. They typically include a high roof that provides greater comfort by allowing occupants to stand up inside.

## SLIDE-IN CAMPERS FOR F-SERIES PICKUPS



## **Slide-in Camper Installation**

- Ford Motor Company recommends consulting your camper manufacturer/dealer for details regarding proper installation of your slide-in camper.
- A dimensionally stable block spacer is recommended between the headboard of the pickup box and the forward edge of the camper floor. Resting the spacer on the pickup box bed prevents movement and contact of the fully installed camper with the pickup box headboard or taillight rear pillars.

### **Camper Center-of-Gravity Information**

- All Styleside pickups that are qualified for slide-in camper bodies will have the camper center-of-gravity included on the Consumer Information Sheet, which is placed in the vehicle's glovebox.
- Data are calculated for each individual truck, based on vehicle options.
- If the vehicle is not qualified for camper usage, the Consumer Information Sheet will state that the vehicle is not recommended for camper usage, and no center-of-gravity data will be shown.

## Super Duty F-Series Camper Package (F-250/350)

- Heavy-duty battery (78 AH gas engines only)
- Heavy-duty alternator (115-amp. gas engines only)
- Auxiliary rear springs
- Front stabilizer bar
- Rear stabilizer bar

**Note**: Because the distance between the truck bed and the top of the cab was increased on the 1999 Super Duty F-Series Pickups, be sure to measure your slide-in camper before attempting to install it onto the bed of the truck. Some campers may require a platform in the bed of the truck to make sure the cabover portion of the camper clears the roof of the truck cab.

# For the convenience of a camper, and the functional capabilities of a full-size pickup, a slide-in camper may be ideal for your RV needs.

Use the chart below to select the proper F-Series Pickup/Camper Combination:

- Combined weight of vehicle, camper body, occupants and cargo must not exceed Gross Vehicle Weight Rating (GVWR).
- Camper Package (Option Code 532) required with Super Duty F-250/350 models.
- Cargo Weight Rating shown in the chart is the maximum allowable, assuming the weight of a base vehicle with the required camper option content and a passenger (150-lbs. per) at each available seating position (7.3L Diesel ratings also assume the weight of the engine and standard transmission). The Cargo Weight Rating shown must be further reduced by the weight of powertrain upgrades and any other options. Option weights and center-of-gravity information are available in the Ford Pickup Truck Consumer Information Sheet.
- If you intend to pull a trailer in addition to carrying your camper, see the F-Series Trailer Towing Selector on page 15.

## MAXIMUM CARGO WEIGHT WITH SLIDE-IN CAMPER (with Minimum Equipment)

Maximum Cargo Woigh

				Recom-		Maximum C Rating	argo Weight ı (lbs.)
Model		Wheelbase	GVWR (lbs.) (49S/Cal.)	mended Axle Ratio	Engine	Gas (49S/Cal.)	Diesel (49S/Cal.)
F-150	4x2 Reg. Cab	119.9"	6,000	3.55	4.2L V6	1,578	_
	4x2 Reg. Cab	138.5"	6,000	3.55	4.2L V6	1,458	_
	4x2 Reg. Cab	138.5"	6,600	3.55	4.6L V8	2,056	_
	4x2 Reg. Cab	138.5"	6,600	3.55	5.4L V8	1,835	_
F-250	4x2 Reg. Cab	138.5"	7,700	3.73	Std.	2,849	_
	4x2 SuperCab	138.5"	7,500	3.73	Std.	2,055	_
	4x4 Reg. Cab	138.8"	7,700	3.73	Std.	2,365	_
	4x4 SuperCab	138.8"	7,700	3.73	Std.	1,745	_
Super	4x2 Reg. Cab	137.0"	8,800	Std.	Std.	3,297	2,497
Duty	4x2 SuperCab	141.8"	8,800	Std.	Std.	3,236	2,456
F-250 (1)	4x2 SuperCab	158.0"	8,800	Std.	Std.	3,018	2,238
	4x2 Crew Cab	156.2"	8,800	Std.	Std.	2,438	1,788
	4x2 Crew Cab	172.4"	8,800	Std.	Std.	2,269	1,519
	4x4 Reg. Cab	137.0"	8,800	Std.	Std.	2,860	2,080
	4x4 SuperCab	141.8"	8,800	Std.	Std.	2,798	2,048
	4x4 SuperCab	158.0"	8,800	Std.	Std.	2,567	1,817
	4x4 Crew Cab	156.2"	8,800	Std.	Std.	1,994	1,234
	4x4 Crew Cab	172.4"	8,800	Std.	Std.	1,858	1,088
Super	4x2 SRW Reg. Cab	137.0"	9,900/9,700	Std.	Std.	4,371/4,168	3,621/3,418
Duty	4x2 DRW Reg. Cab	137.0"	11,200/11,000	Std.	Std.	5,434/5,231	4,684/4,481
F-350 (1)	4x2 SRW SuperCab	141.8"	9,900/9,700	Std.	Std.	4,310/4,091	3,560/3,341
	4x2 SRW SuperCab	158.0"	9,900/9,700	Std.	Std.	4,092/3,889	3,342/3,139
	4x2 DRW SuperCab	158.0"	11,200/11,000	Std.	Std.	5,167/4,964	4,417/4,214
	4x2 SRW Crew Cab	156.2"	9,900/9,700	Std.	Std.	3,512/3,309	2,762/2,559
	4x2 DRW Crew Cab	156.2"	11,200/11,000	Std.	Std.	4,873/4,370	4,123/3,620
	4x2 SRW Crew Cab	172.4"	9,900/9,700	Std.	Std.	3,343/3,140	2,593/2,490
	4x2 DRW Crew Cab	172.4"	11,200/11,000	Std.	Std.	4,414/4,211	3,664/3,461
	4x4 SRW Reg. Cab	137.0"	9,900/9,700	Std.	Std.	3,965/3,762	3,215/3,012
	4x4 DRW Reg. Cab	137.0"	11,200/11,000	Std.	Std.	4,950/4,747	4,200/3,997
	4x4 SRW SuperCab	141.8"	9,900/9,700	Std.	Std.	3,903/3,700	3,153/2,950
	4x4 SRW SuperCab	158.0"	9,900/9,700	Std.	Std.	3,672/3,469	2,922/2,719
	4x4 DRW SuperCab	158.0"	11,200/11,000	Std.	Std.	4,739/3,536	3,989/2,786
	4x4 SRW Crew Cab	156.2"	9,900/9,700	Std.	Std.	3,099/2,896	2,349/2,146
	4x4 DRW Crew Cab	156.2"	11,200/11,000	Std.	Std.	4,460/3,957	3,710/3,207
	4x4 SRW Crew Cab	172.4"	9,900/9,700	Std.	Std.	2,963/2,735	2,213/2,010
	4x4 DRW Crew Cab	172.4"	11,200/11,000	Std.	Std.	3,900/3,697	3,150/2,947
(1) Req	uires Camper Package option.						

(1) Requires Camper Package option.



Metric Conversion – To obtain information in kilograms, multiply the pounds by .45; to obtain information in kilometers, multiply the miles by 1.6; to obtain information in centimeters, multiply the inches by 2.54.

# FORD VEHICLES FOR ON/OFF-HIGHWAY RV FUN

## RANGER

America's best-selling compact pickup for 11 years in a row continues to provide opportunities for all kinds of on- or off-highway driving enjoyment. The big news on Ranger is the 4-door SuperCab which is optional on V6 XLT models. Also new on V6 XLT models is the standard SecuriLock™ anti-theft system and an optional Class III frame-mounted hitch receiver. Other features include:



- Standard Second Generation driver and passenger airbags\* and front outboard adjustable-height lap/shoulder safety belts
- Passenger airbag manual deactivation switch for use with rearfacing infant safety seat
- Regular or SuperCab models with seating for up to five passengers
- Three engine choices from a 119-horsepower 2.5L fuel-injected dual-plug I4 to a 160-horsepower 4.0L fuel-injected V6
- All three engines feature 100,000-mile scheduled tune-up interval†

- Choose from 5-speed manual, electronic 4-speed automatic or 5-speed automatic overdrive transmissions (with 4.0L engine only)
- Can be equipped to tow trailers up to 6,000 pounds
- Standard power rack-and-pinion steering
- Four-wheel anti-lock brakes standard on XLT 4x4; rear-wheel anti-lock brakes standard and four-wheel anti-lock brakes optional on all other models

## EXPEDITION

The 1999 Ford Expedition sets a benchmark in the full-size sport utility segment. With exceptional towing and interior room, as well as an impressive list of safety features, it truly is the "no-compromise full-size sport utility." Its long list of features includes:



- Choice of 4x2 or 4x4 4-door models
- Choice of two Triton<sup>™</sup> overhead-cam V8 engines 4.6L and 5.4L both with increased horsepower for 1999
- Electronic 4-speed automatic overdrive transmission
- Boxed section front and center frame (to rear axle) for greater strength
- Removable 3rd-row seat option for seating up to 9 passengers

- Can be equipped to tow trailers up to 8,300 pounds
- Standard 4-wheel-disc anti-lock brakes (ABS) and Second Generation driver and right front passenger airbags\*
- Refined Control-Trac system allows automatic 4-wheel drive when required – without driver assistance
- Optional four-corner load-leveling suspension (4x4)

## **EXPLORER**

The best-selling sport utility vehicle for seven years running features a freshened look for its distinctive 2- and 4-door models. Its unique blend of utility vehicle versatility and car-like comfort and convenience is further enhanced by several new features. Major features include:



- 210-horsepower 4.0L single-overhead-cam V6 engine with 5-speed automatic overdrive transmission
- Optional 5.0L V8 engine with 4-speed automatic overdrive transmission (4-door 4x2, 4-door AWD)
- Rugged body-on-frame construction
- Seating for up to six passengers (4-door)
- \* To supplement safety belts. Always wear your safety belt and secure children in rear seat.
- † Under normal driving conditions with routine fluid/filter changes.

- Can be equipped to tow trailers up to 6,740 pounds
- Available Control Trac system automatically engages the 4-wheel drive, as needed, when set in "4WD AUTO" mode
- Standard 4-wheel anti-lock disc brake system (ABS)
- New optional side airbags\*
- New optional reverse sensing system

For More Information on Any of the Ford Vehicle Lines, See the Appropriate Brochure at Your Ford Dealership.

# THINGS TO 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 determine that the vehicle has the proper optional equipment (see page 19).

#### **Brakes**

- Most states require brakes on trailers weighing over 1,500 pounds when loaded. For your safety, Ford Motor Company urges that a separate functional brake system be used on any towed vehicle, including those dolly-towed or towbar-towed.
- There are basically three types of trailer brake activation:

#### 1. Electronically Controlled Electric

- Provides automatic and manual control of electric trailer brakes
- Requires vehicle to be equipped with controlling device and additional wiring for electrical power

### 2. Hydraulically Controlled Electric

- Trailer brakes are applied in proportion to brake pedal pressure
- Should not be connected directly to vehicle's brake system

#### 3. Surge (Hydraulic)

- Independent hydraulic brakes activated by a master cylinder at the junction of the hitch and trailer tongue
- Be sure your trailer brakes conform to all applicable government regulations.

#### **Trailer Lamps**

• Make sure the trailer is equipped with lights that conform to all applicable government regulations. Do not connect a trailer lighting system 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.

#### **After You Buy**

Before heading out on a trip (remember, do not tow a trailer until your vehicle has been driven at least 500 miles), be sure to have your fully loaded vehicle

(including passengers) and trailer weighed so as not to exceed critical weight limits (page 12). 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.

### **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 and allow enough slack for turning corners.
- See your vehicle's Owner Guide for safety chain attachment information.
- When using a frame-mounted trailer hitch, attach the safety chains to the frame-mounted hitch using the recommendations supplied by the hitch manufacturer.
- For rental trailers, follow rental agency instructions for hookup of safety chains.

### **Trailer Wiring Harness**

- Vehicles equipped with a factory-installed Trailer Towing Package include a trailer wiring harness and a wiring kit.
- This kit is packaged in a cardboard box and includes one or more jumper harnesses (to connect to your trailer wiring connector) and installation instructions.
- Expedition and F-Series pickup models include a standard 4-pin trailer wiring harness. Refer to page 19 for wiring harness usage with optional trailer towing packages.





Metric Conversion – To obtain information in kilograms, multiply the pounds by .45; to obtain information in kilometers, multiply the miles by 1.6; to obtain information in centimeters, multiply the inches by 2.54.

## **ABOUT HITCHES**

When towing, it is vital that the proper hitch be used. Here is the hitch information you should know:

- Weight-Carrying Hitch Bolts directly to the vehicle bumper and/or frame. Commonly used to tow small and medium-sized trailers. Ford weight-carrying rear step bumpers are rated for the maximum loads shown in the chart at right.
- Weight-Distributing Hitch Used in conjunction with a hitch platform (receiver), distributes tongue weight to all towing vehicle and trailer wheels. Weight-distributing hitches are only "required" for Class IV applications. They generally are not used for loads under 5,000 pounds unless it is specifically required for a particular vehicle.

Weight-distributing hitch platforms are welded or bolted to vehicle underbody:

- Bolt-on types are recommended because they can be removed.
- Properly installed bolt-on weight-distributing hitch platform will not weaken vehicle or underbody as heat of welding might.

Spring bars are connected from hitch to trailer's A-frame, and are adjusted to provide optimum towing performance. Lengths of chain are pulled up and tightened to bend spring bars upward, which lifts some of the weight from the rear wheels and transfers the weight to other wheels of the vehicle and trailer.

- Trailer Hitch Receiver Options The following Ford vehicles are available with factory-installed trailer hitch receivers:
- Super Duty F-250/350 Pickups: Class IV (Option Code 86R)
- F-150/250 Pickups: Class III (Included with Class III Trailer Tow Group – Option Code 535)

## WEIGHT COMPUTATIONS

Base Curb Weight

- + Cargo Weight
- + Passenger Weight

Gross Vehicle Weight (GVW)

GVW must not exceed GVWR (obtain from Safety Compliance Certification Label on the left front door lock facing or the door latch post pillar).

**GVW** 

+ Loaded Trailer Weight

Gross Combination Weight (GCW)

GCW must not exceed GCWR (obtain from charts in this section or your vehicle's Owner Guide).



/ehicle	Weight-Carrying Capacity (lbs.)	Max. Tongue Weight (lbs.)	Weight-Distributing Capacity (lbs.)	Max. Tongue Weight (lbs.)
Rear Step Bumper:				
Ranger	2,000	200	-	-
Explorer	3,500	350	-	-
Econoline Van/Wagon	5,000	500	-	-
Expedition	4,000	400	-	-
F-Series	5,000	500	-	-
litch Receiver:				
Ranger	3,500	350	6,000	600
Econoline Van/Wagon	5,000	500	10,000	1,000
Expedition	5,000	500	8,850	885
F-150/250	5,000	500	8,700	870
Super Duty F-Series	5,000	500	10,000	1,000

- Econoline Van/Wagon: Class III (Included with Class II/III/IV Trailer Towing Package – Option Code 535) (Late availability)

 Ranger Pickup: Class III (With V6 only – Option Code 53L)

Depending on the application, the required aftermarket components include: an electric trailer brake controller, the ball mount and ball, the equalizing arms and snapup brackets, the sway control system and all attachments. See your dealer for additional information.

• Fifth-Wheel Hitch — Mounted in the pickup bed to put more of the trailer weight directly over the towing vehicle. The receiver of the hitch should be mounted at least two inches forward of the rear axle of the truck chassis.

See your dealer or fifth-wheel hitch manufacturer/installer for specific instructions. Improper installation can adversely affect the towing vehicle's steering, braking and handling characteristics.

## WEIGHTS TO CHECK

- Base Curb Weight is the weight of the vehicle including a full tank of fuel and all standard equipment. It does not include passengers, cargo or any optional equipment. Your Ford dealership salesperson can give you this number for the vehicle(s) you are considering.
- Cargo Weight includes all weight added to the Base Curb Weight, including cargo and optional equipment (consult salesperson). When towing, trailer tongue weight also is part of the Cargo Weight.
- Payload is the combined, maximum allowable weight of cargo and passengers that the truck is designed to carry. It is Gross Vehicle Weight Rating minus the Base Curb Weight.
- Gross Vehicle Weight (GVW) is the Base Curb Weight *plus* actual Cargo Weight *plus* passengers. It is important to remember that GVW is not a limit or specification . . . it is the actual weight that is obtained when the fully loaded vehicle is driven onto a scale.

(Continued on next page)

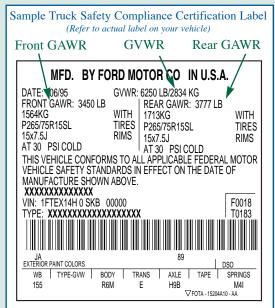
# MORE THINGS TO KNOW BEFORE YOU TOW

Weights to Check (Continued)

- Gross Vehicle Weight Rating (GVWR) is the maximum allowable weight of the fully loaded vehicle (including passengers and cargo). This number along with other weight limits, as well as tire, rim size and inflation pressure data are shown on the vehicle's Safety Compliance Certification Label, located on the left front door lock facing or the door latch post pillar. The GVW must never exceed the GVWR.
- Gross Axle Weight (GAW) is the total weight placed on each axle (front and rear). To determine the Gross Axle Weights for your vehicle and trailer combination, take your loaded vehicle and trailer to a scale. With the trailer attached, place the front wheels of the

vehicle on the scale to get the front GAW. For rear GAW, weigh the towing vehicle with the trailer attached, but with just the four wheels of the vehicle on the scale. You get the rear GAW by subtracting the front GAW from that amount.

- Gross Axle Weight Rating (GAWR) is the maximum weight to be carried by a single axle (front or rear). These numbers also are shown on the Safety Compliance Certification Label. The total load on each axle must never exceed its GAWR.
- Gross Combination Weight (GCW) is the weight of the loaded vehicle (GVW) *plus* the weight of the fully loaded trailer. It is the actual weight obtained when the vehicle and trailer are weighed together on a scale.
- Gross Combination Weight Rating (GCWR) is the maximum allowable weight of the towing vehicle and the loaded trailer including all cargo and passengers that the vehicle can handle without risking costly damage. (Important: The towing vehicle's brake system is rated for operation at the GVWR NOT GCWR. Separate functional brake systems should be used for safe control of towed vehicles and for trailers weighing more than 1,500 lbs. when loaded.) The measured GCW must never exceed the GCWR.



- Maximum Loaded Trailer Weight (as shown in the Trailer Towing Selector charts pgs. 14-17) is the highest possible weight of a fully loaded trailer the vehicle can tow, based on a minimum towing vehicle GVW. It assumes a towing vehicle with any mandatory options, no cargo, and driver (150 pounds) only. Super Duty F-Series chassis cab models also assume a secondunit body weight of 1,000 lbs. Weight of additional options, passengers, cargo and hitch must be deducted from this weight.
- Tongue Weight is another critical measurement that must be made before towing. It refers to the amount of the trailer's weight that presses down on the trailer hitch.

Too much tongue weight can cause suspension/drivetrain damage, and can press the vehicle down in back causing the front wheels to lift to the point where traction, steering response and braking are severely decreased. Too little tongue weight can actually lift the rear of the vehicle, reducing rearwheel traction and causing instability which may result in tail wagging or jackknifing.

For proper handling, tongue loads must meet the following requirements\*:

- For trailers up to 2,000 lbs., not to exceed 200 lbs.
- For trailers over 2,000 lbs., 10 -15% of trailer weight.
- For fifth-wheel trailers, approx. 25% of trailer weight.

To determine the proper tongue load for a 3,000-lb. trailer, for example, multiply 3,000 by .10 and .15 to obtain a tongue load range of 300 to 450 lbs. For a fifth-wheel trailer, multiply 3,000 by .25 to arrive at a tongue load of approx. 750 lbs.

To measure actual tongue load, disconnect the trailer and place only the tongue — with the coupler at hitch ball height — on a scale. If the tongue load exceeds the upper weight limit, move more of the trailer contents rearward to achieve the recommended tongue load. If the tongue load is less than the lower limit, shift the load forward.

Measuring tongue weight with commercial scale



Measuring tongue weight with bathroom scale





# FOUR TRAILER CLASSES

### CLASS I – LIGHT-DUTY

- 2,000-lb. maximum weight (trailer and cargo combined)
- Folding camping trailers and trailers for small boats, motorcycles and snowmobiles
- Many Ford vehicles can handle easily
- Weight-carrying hitch

### CLASS II – MEDIUM-DUTY

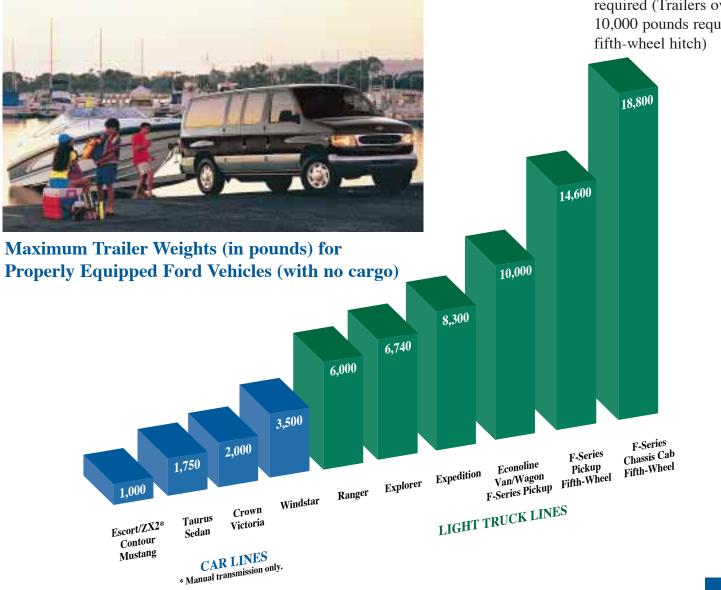
- 2,001-3,500-lb. gross trailer weight
- Single-axle, small- to medium-length (up to 18 ft.) trailers
- Ford trucks can be equipped to tow these trailers
- Weight-distributing hitch not required unless specified for a particular vehicle

#### CLASS III – HEAVY-DUTY

- 3,501-5,000-lb. gross trailer weight
- Dual-axle or large single-axle travel trailers
- Most properly equipped Ford trucks can tow them
- Weight-distributing hitch not required unless specified for a particular vehicle

#### CLASS IV - EXTRA-HEAVY-DUTY

- 5,001-10,000-lb. gross trailer weight
- Largest travel and fifthwheel trailers made for recreation
- Econoline Vans/Wagons, F-Series Pickups/ Chassis Cabs and Expedition can be equipped to handle these trailers
- Weight-distributing or fifth-wheel hitch required (Trailers over 10,000 pounds require fifth-wheel hitch)



## TRAILER TOWING SELECTOR

### TO USE THESE CHARTS

For cars, select the applicable model and make across the top, then read down that column to find the maximum weight that car and engine can tow. For **trucks**, select the transmission, model and/or cab design, and drive system (4x2 or 4x4) you prefer. Read down that column to determine the maximum loaded trailer weight that can be towed with the engine/axle ratio combinations listed at left. For **Windstar**, select the desired engine across the top, and read down to the appropriate van or wagon model.

If you live in Calif., NY, Mass., or a high altitude area, check with your Ford Dealership for powertrain/axle ratio availability.

The GCWR column shows the maximum allowable combined weight of vehicle, trailer and cargo (including passengers). Maximum Loaded Trailer Weight assumes towing vehicle with any mandatory options, no cargo and driver (150 pounds) only. Weight of additional options, passengers, cargo and hitch must be deducted from this weight. Be sure to check Required and Recommended Equipment charts on page 19.

## RANGER & EXPLORER

	Maxim	um Loade	d Traile	r Weight	(Lbs.)	Automa	tic Trans	smissio	n	
				Ra	nger			Ехр	lorer	
	Axle	GCWR	Regu	ar Cab	Supe	rCab	2-D	oor	4-D	oor
Engine	Ratio	(Lbs.)	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4
2.5L SEFI I4	4.10	5,500	2,240							
3.0L	3.73	7,500	4,000	3,860	4,000	3,700				
SEFI V6	4.10	8,000		4,360		4,200				
4.0L OHV	3.55	9,500	6,000		5,980					
SEFI V6	3.73	9,000					5,120	4,900	4,920	4,680
	3.73	9,500		5,820		5,660			5,400	5,160
	4.10 9,000 3.27 7,500							4,900		
4.0L SOHC	SOHC 3.27						3,000	3,380		
SEFI V6	3.55 8,500						4,500	4,380		
	3.55	9,000							4,500	4,500
	3.73	9,000					5,100	4,880		
	3.73	10,000							5,900	5,680
	4.10	9,000						4,880		
	4.10	10,000							5,900	5,680
5.0L SEFI V8	3.73	11,000							6,740	6,520
	Maxin	num Load	ed Traile	er Weigh	ıt (Lbs.) -	- Manua	I Transn	nission		
2.5L SEFI I4	3.73	4,800	1,600		1,440					
3.0L SEFI V6	3.73	6,000	2,720	2,400	2,580	2,240				
4.0L	3.27	6,000					2,000	1,940	1,960	
SEFI V6	3.55	6,500						2,440		2,220
	3.55	7,000	3,660		3,520					
	3.73 7,000			3,360		3,200	3,160	2,940	2,960	2,720

## **FORD CARS**

Car Line	Escort/ZX2	Contour	Mustang	Taurus	Crown Victoria
Towing Class	Light-Duty I (1)(2)	Light-Duty I (1)	Light-Duty I (1)	Light-Duty I	Light-Duty I
Max. Gross Trailer Wt. (lbs.)	1,000	1,000	1,000	1,400(Wagon)/ 1,550 (Sedan) (3)	2,000
Max. Tongue Load (lbs.)	100	100	100	140/155 (3)	200
Minimum Engine	2.0L 4-Cyl.*	2.0L 4-Cyl.*	3.8L V-6*	3.0L V-6* (3)	4.6L V-8

(1) Frontal area under 20 square feet. (2) Automatic transmission not to be used for trailer towing on ZX2. (3) 1,600 (Wagon)/1,750 (Sedan) Max. Gross Trailer Weight and 160/175 Max. Tongue Load with optional Duratec engine and only driver and one passenger with no cargo. When towing on roads with steep grades or moderate but long sustained grades (5 miles or more), or when ambient temperatures exceed 100 degrees F., vehicle speed should not exceed 45 MPH in both cases. Trailer towing not permitted with SHO model. \*Auxiliary transmission oil cooler recommended for automatic transmission during long-distance hauling (greater than 50 miles).



Metric Conversion – To obtain information in kilograms, multiply the pounds by .45; to obtain information in kilometers, multiply the miles by 1.6; to obtain information in centimeters, multiply the inches by 2.54; to obtain information in square meters, multiply the square feet by .09.

## EXPEDITION / F-150 / 250 PICKUP (Conventional Towing)

Maximum Loaded Trailer Weight (Lbs.) -- Automatic Transmission

					R	egular (	Cab Picku	p	SuperCab Pickup						
	Axle	GCWR	Exped	lition	F-150	F-150	F-250	F-250	F-150	F-150	F-250	F-250			
Engine	Ratio	(Lbs.)	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4			
4.2L SEFI V6	3.31	9.000			4,800				4,500						
	3.55	10,000			5,800	5,800   5,400			5,500						
4.6L SEFI V8	3.08	10,000			5,600				5,400						
	3.31	10,500					5,800				5,700				
	3.31	11,000	5,900												
	3.55	,,,,,		6,000	7,200	6,800			6,900	6,600					
	3.55	11,000 (2)		5,500		6,300				6,100					
	3.73 12,000 3.08 11,000						7,300	7,000			7,200	6,800			
5.4L SEFI V8	3.08	11,000			6,600				6,300						
	3.31	12,000	6,800	6,400			7,200	6,900			7,100	6,700			
	3.55	12,700			8,300	7,900			8,000	7,700					
	3.73	13,500 (1)	8,300	7,900											
	3.73	13,000 (2)		7,400											
	3.73	12,700				7,800				7,600					
	3.73	13,500					8,700	8,300			8,600	8,200			
5.4L NGV V8	3.73	11,000					5,900								
(Natural Gas)															
		Maximum	Loaded	Trailer	Weight	(Lbs.)	Manual	Transmis	ssion						
4.2L SEFI V6	3.08	6,500			2,300				2,000						
	3.31	7,200				1,900									
	3.55	7,800		-	3,600	3,200			3,300						
4.6L SEFI V8	3.08	6,500			2,200				1,900						
	3.31	7,200					2,600	2,200			2,400	2,000			
	3.55	7,800			3,500	3,100			3,200	2,900					
	3.73	7,800					3,200	2,800			3,000	2,600			

<sup>(1)</sup> With 16-inch tires. (2) With 17-inch tires.

## WINDSTAR

Engine	3.0L SEFI V-6	3.8L SPI SEFI V-6
Axle Ratio	3.98	3.56
GCWR (Lbs.)	6,550	7,000 8,500**
	nximum Load ler Weight (l	
Wagon	2,000*	2,000* 3,500**
Van	2,000*	2,000*

<sup>\*</sup>Requires Class I Trailer Tow Electrical Package.
\*\* Requires Class II Trailer Tow Package.

## SUPER DUTY F-250 / 350 PICKUP (Conventional Towing)

						Maxim	ium Load	ded Trail	er Weigl	nt (Lbs.)	Autom	atic Trar	nsmissio	n							
				R	egular C	ab Picku	p				SuperCa	b Pickup			Crew Cab Pickup						
Engine	Axle Ratio	GCWR (Lbs.)	F-250 4x2	F-250 4x4	F-350 4x2 SRW	F-350 4x2 DRW	F-350 4x4 SRW	F-350 4x4 DRW	F-250 4x2	F-250 4x4	F-350 4x2 SRW	F-350 4x2 DRW	F-350 4x4 SRW	F-350 4x4 DRW	F-250 4x2	F-250 4x4	F-350 4x2 SRW	F-350 4x2 DRW	F-350 4x4 SRW	F-350 4x4 DRW	
5.4L	3.73	13,500	8,200	7,700	8,200	7,900	7,700	7,500	7,800	7,400	7,800	7,600	7,400	7,300	7,500	7,100	7,500	7,300	7,100	6,900	
SEFI V8	4.10	15,000	9,700	9,200	9,700	9,400	9,200	9,000	9,300	8,900	9,300	9,100	8,900	8,800	9,000	8,600	9,000	8,800	8,600	8,400	
6.8L	3.73	17,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	
SEFI V10	4.30	20,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	
7.3L V8	3.73	20,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	
DI Turbo	4.10	20,000				10,000		10,000				10,000		10,000				10,000		10,000	
Diesel																					
						Maxi	mum Lo	aded Tra	iler Wei	ght (Lbs.	) Man	ual Trans	smission								
5.4L	3.73	13,500	8,300	7,800	8,300	8,000	7,800	7,500	7,900	7,500	7,900	7,700	7,500	7,300	7,600	7,200	7,600	7,400	7,200	7,000	
SEFI V8	4.10	15,000	9,800	9,300	9,800	9,500	9,300	9,000	9,400	9,000	9,400	9,200	9,000	8,800	9,100	8,700	9,100	8,900	8,700	8,500	
6.8L	3.73	16,500	10,000	10,000	10,000	10,000	′	.,		10,000	10,000	10,000	10,000	10,000	10,000	· ·	10,000	.,	10,000	9,800	
SEFI V10	4.30	20,000	10,000	10,000	10,000	10,000	_	10,000		10,000	10,000	10,000	10,000	10,000	10,000		,	10,000		10,000	
7.3L V8	3.73	20,000	10,000	10,000	10,000	10,000	10,000	′	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	· ′	10,000	10,000	
DI Turbo	4.10	20,000				10,000		10,000				10,000		10,000				10,000		10,000	
Diesel																					

Note: This information also applies to models with Pickup Box Delete option (66D)

## TRAILER TOWING SELECTOR

## TO USE THESE CHARTS

For **Fifth-Wheel** trailers used with **F-Series**, select the transmission, cab design and truck series (4x2 or 4x4) you prefer. Read down that column to find the maximum loaded trailer weight that can be towed with the engine/axle ratio combination listed at left. For **Full-Size Vans**, select the model column across the top then read down that column to find the maximum loaded trailer weight that can be towed with the engine/axle ratio combination listed at left.

If you live in Calif., NY, Mass. or a high altitude area, check with your Ford Dealership for powertrain/axle ratio availability.

The GCWR column shows the maximum allowable combined weight of vehicle, trailer and cargo (including passengers) for this engine/axle ratio combination.

Maximum Loaded Trailer Weight assumes towing vehicle with any mandatory options, no cargo and

driver (150 pounds) only. Chassis cabs also assume 1,000 pounds second-unit body weight. Weight of additional options, passengers, cargo and hitch must be deducted from this weight. Also check the Required and Recommended Equipment charts on page 19.

# F-150 / 250 PICKUP (Fifth-Wheel Towing)

	Maximum Loaded Trailer Weight (Lbs.) Automatic Transmission														
			R	egular C	ab Picku	p	,	SuperCa	b Pickup	)					
	Axle	GCWR	F-150	F-150	F-250	F-250	F-150	F-150	F-250	F-250					
Engine	Ratio	(Lbs.)	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4					
4.2L	3.55	10,000	5,800	5,400			5,500								
SEFI V6															
4.6L	3.55	11,500 (1)	7,300	6,700			6,300	6,700							
SEFI V8	3.55	11,000 (2)		6,300				6,200							
	3.73	12,000			7,300	7,000			7,200	6,800					
5.4L	3.55	12,700	7,800	6,400			6,600	7,700							
SEFI V8	3.73	12,700		6,400				7,600							
	3.73	13,500			8,700	8,300			8,600	8,000					

(1) With 16-inch tires (2) With 17-inch tires

## SUPER DUTY F-250 / 350 PICKUP (Fifth-Wheel Towing)

						Maxim	ium Load	ded Trail	er Weigl	nt (Lbs.)	Autom	atic Trai	nsmissio	n							
				R	egular C	ab Picku	р				SuperCa	b Pickup					Crew Ca	b Pickup			
Engine	Axle Ratio	GCWR (Lbs.)	F-250 4x2	F-250 4x4	F-350 4x2 SRW	F-350 4x2 DRW	F-350 4x4 SRW	F-350 4x4 DRW	F-250 4x2	F-250 4x4	F-350 4x2 SRW	F-350 4x2 DRW	F-350 4x4 SRW	F-350 4x4 DRW	F-250 4x2	F-250 4x4	F-350 4x2 SRW	F-350 4x2 DRW	F-350 4x4 SRW	F-350 4x4 DRW	
5.4L SEFI V8	3.73 4.10	13,500 15,000	8,200 9,700	7,700 9,200	8,200 9,700	7,900 9,400	7,700 9,200	7,500 9,000	7,800 9,300	7,400 8,900	7,800 9,300	7,600 9,100	7,400 8,900	7,300 8,800	7,500 9,000	7,100 8,600	7,500 9,000	7,300 8,800	7,100 8,600	6,900 8,400	
6.8L SEFI V10	3.73 4.30	17,000 20,000	11,600 14,600	11,100	11,600 14,600	11,300 14,300	11,100	10,800 13,800	11,300	10,800 13,800	11,200	10,900 13,900	10,800 13,800	10,600 13,600	11,000 14,000	10,500	10,900	10,600 13,600	10,500 13,500	10,200 13,200	
7.3L V8 DI Turbo Diesel	3.73 4.10	20,000 20,000	14,200 	13,700 	14,100 	13,800 13,800	13,700	13,400 13,400	13,800 	13,400 	13,800 	13,500 13,500	13,400 	13,200 13,200	13,500 	13,100 	13,500 	13,200 13,200	13,100 	12,800 12,800	
						Maxi	mum Lo	aded Tra	iler Wei	ght (Lbs.	.) Man	ual Trans	smission								
5.4L SEFI V8	3.73 4.10	13,500 15,000	8,300 9,800	7,800 9,300	8,300 9,800	8,000 9,500	7,800 9,300	7,500 9,000	7,900 9,400	7,500 9,000	7,900 9,400	7,700 9,200	7,500 9,000	7,300 8,800	7,600 9,100	7,200 8,700	7,600 9,100	7,400 8,900	7,200 8,700	7,000 8,500	
6.8L SEFI V10	3.73 4.30	16,500 20,000	11,100 14,600	10,700 14,200	11,100 14,600	10,800 14,300	10,700 14,200	10,300 13,800	10,800 14,300	10,400 13,900	10,800 14,300	10,500 14,000	10,400 13,900	10,100 13,600	10,500 14,000	10,100 13,600	10,500 14,000	10,200 13,700	10,100 13,600	9,800 13,300	
7.3L V8 DI Turbo Diesel	3.73 4.10	20,000 20,000	14,100	13,600	14,100	13,800 13,800	13,600	13,300 13,300	13,800	13,400	13,800	13,500 13,500	13,300	13,100 13,100	13,500	13,100	13,500	13,200 13,200	13,100	12,700 12,700	

Note: This information also applies to models with Pickup Box Delete option (66D).



# SUPER DUTY F-350 / 450 / 550 CHASSIS CAB (Fifth-Wheel Towing)

Maximum Loaded Trailer Weight													itic Trans	smission	1							
						Regula	r Chassi	is Cab				Super Ch	assis Ca	b			C	rew Cha	ssis Cab	)		
			F-350	F-350	F-350	F-350	F-450	F-450	F-550	F-550	F-350	F-350	F-350	F-350	F-350	F-350	F-350	F-350	F-450	F-450	F-550	F-550
	Axle	GCWR	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4
Engine	Ratio	(Lbs.)	SRW	SRW	DRW	DRW	DRW*	DRW*	DRW*	DRW*	SRW	SRW	DRW	DRW	SRW	SRW	DRW	DRW	DRW	DRW	DRW	DRW
5.4L	3.73	13,500	7,400	6,900	7,000	6,600					7,000	6,600	6,800	6,400	6,700	6,300	6,500	6,100				
SEFI V-8	4.10	15,000	8,900	8,400	8,500	8,100					8,500	8,100	8,300	7,900	8,200	7,800	8,000	7,600				
6.8L	3.73	17,000	10,800	10,300	10,400	9,900					10,400	10,000	10,100	9,700	10,100	9,700	9,800	9,400				
SEFI V-10	4.30	20,000	13,800	13,300	13,400	12,900					13,400	13,000	13,100	12,700	13,100	12,700	12,800	12,400				
	4.88	24,000					16,800	16,400	16,700	16,400									16,200	15,800	16,100	15,800
	5.38	26,000					18,800	18,400	18,700	18,400									18,200	17,800	18,100	17,800
7.3L V-8 DI	3.73	20,000	13,300	12,900	12,900	12,500					13,000	12,600	12,700	12,300	12,700	12,300	12,400	12,000				
Turbo Diesel	4.10	20,000			12,900	12,500							12,700	12,300			12,400	12,000				
	4.88	26,000					18,300	18,000	18,300	17,900									17,700	17,400	17,700	17,300
			•		•	•	Maxim	um Load	ed Traile	r Weigh	t (Lbs.)	Manu	al Transı	mission		•				•		
5.4L	3.73	13,500	7,500	7,000	7,100	6,700					7,100	6,700	6,900	6,500	6,800	6,400	6,600	6,200				
SEFI V-8	4.10	15,000	9,000	8,500	8,600	8,200					8,600	8,200	8,400	8,000	8,300	7,900	8,100	7,700				
6.8L	3.73	16,500	10,300	9,900	9,900	9,500					10,000	9,600	9,700	9,300	9,700	9,300	9,400	9,000				
SEFI V-10	4.30	20,000	13,800	13,400	13,400	13,000					13,500	13,100	13,200	12,800	13,200	12,800	12,900	12,500				
	4.88	22,000					14,800	14,500											14,200	13,900		
	5.38	22,000					14,800	14,500											14,200	13,900		
7.3L V-8 DI	3.73	20,000	13,300	12,900	12,900	12,500					13,000	12,500	12,600	12,200	12,700	12,300	12,400	11,900				
Turbo Diesel	4.10	20,000			12,900	12,500							12,600	12,200			12,400	11,900				
	4.88	26,000					18,300	18,000	18,200	17,900									17,700	17,300	17,600	17,300

<sup>\*</sup> F-450/550 weights shown are for 141-inch wheelbase models. For 165 and 201-inch wheelbase models, weights may be somewhat less (usually not more than 400 pounds). Trailer weights shown assume 1,000 pounds second-unit body weight. Be sure the combined weight of your vehicle and trailer does not exceed the listed GCWR.

## **ECONOLINE VAN / WAGON**

Maximum Loaded Trailer Weight (lbs.) Automatic Transmission											
			Van					Wagon			
Engine	Axle Ratio	GCWR (lbs.)	E-150	E-250	E-250 Extended	E-350 Super Duty	E-350 Super Duty Extended	E-150	E-350 Super Duty	E-350 Super Duty Extended	
4.2L SEFI V6	3.55	10,000	5,100					4,700			
	3.73	10,500		5,200	5,100						
	4.09	11,000		5,700	5,600						
4.6L SEFI V8	3.55	11,500	6,600					6,100			
5.4L SEFI V8	3.55	12,000	6,900			6,500	6,300	6,500	6,000	5,700	
	3.73	13,000		7,500	7,400						
	4.10	13,000				7,500	7,300		7,000	6,700	
5.4L NGV V8	3.73	11,000		4,500	4,500					5,000	
(Natural Gas)	4.10	11,500				5,000	5,000			5,000	
6.8L SEFI V10	3.73	15,000				9,300	9,200		8,900	8,600	
	4.10	18,500				10,000	10,000		10,000	10,000	
7.3L V8 DI	3.55	16,000				10,000	9,800		9,500	9,200	
Turbo Diesel	4.10	20,000				10,000	10,000		10,000	10,000	

## **ECONOLINE RV CUTAWAY/STRIPPED CHASSIS**

To determine Maximum Trailer Weight, subtract your vehicle's actual GVWR from the following GCWRs:

- E-250/350 Super Duty Stripped Chassis GCWRs:
- -4.2L Engine = 11,000 lbs.
- -5.4L Engine = 12,000 lbs. (3.55 axle); 13,000 lbs. (4.10 axle)
- E-350/450 Super Duty Cutaway GCWRs:
- -5.4L Engine = 13,000 lbs.
- -6.8L Engine = 18,500 lbs. (4.10 axle); 20,000 lbs. (4.63 axle)
- 7.3L Turbo Diesel Engine = 20,000 lbs. (Applications that exceed 10,000 lbs. Maximum Trailer Weight require a fifth-wheel hitch.)

## THREE BASIC RV TRAILER TYPES



#### **Folding Camping Trailer**

Relatively inexpensive units providing campers with a comfortable, dry mobile shelter, plus these added benefits:

- Lightweight for easy towing (usually range from 300 to 2,000 pounds).
- Simple weight-carrying hitch is usually sufficient for towing.
- Compact, low-profile traveling package.
- Easily maneuverable generally 8 to 16 feet long.



#### **Conventional Travel Trailer**

Generally larger, rigid construction units offering more of the conveniences of home, including such features as kitchen sink, dinette, shower, refrigerator and flush toilet. Additional benefits include:

- Widely varied levels of roominess, comfort and luxury – depending on the towing capacity of your vehicle, and your budget.
- Sizes usually range from 12 to 35 feet long.
- Normally towed with a weightdistributing hitch, depending on weight.



#### Fifth-Wheel Trailer

Provide the same types of accommodations as a conventional travel trailer, but with these unique characteristics:

- The forward raised portion is designed to extend over the box of a pickup truck.
- Attaches to the truck via a fifthwheel hitch mounted in the pickup bed.
- Offers the advantages of improved weight distribution and towing dynamics, since some trailer weight is directly over the towing vehicle.

## FRONTAL AREA CONSIDERATIONS

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

Vehicle Line	Frontal Area Limitations/Considerations	With				
Escort/ZX2*/Contour/Mustang	20 sq. ft.	All applications				
Windstar Van/Wagon	Base Vehicle Frontal Area	Cargo Van <b>OR</b> Wagon with 3.0L <b>OR</b> Wagon with 3.8L with Class I Trailer Tow Electrical Pkg. Only				
	32 sq.ft.	Wagon with 3.8L and Class II Trailer Tow Pkg.				
Explorer	50 sq.ft.	All applications				
Ranger	Base Vehicle Frontal Area	2.5L Engine				
	50 sq.ft.	3.0L V6 or 4.0L V6 Engine				
Econoline	Base Vehicle Frontal Area	E-150/250 Commercial Van/E-150 XL Wagon without				
		HD Service Pkg. (Van), Handling Pkg. or Trailer Towing Pkg.				
	60 sq.ft.	E-150/250 Commercial Van/E-150 XL Wagon with HD				
		Service Pkg. (Van), Handling Pkg. or Trailer Towing Pkg.				
		OR E-150/250 Recreational Van/E-350 Van/E-350 Wagon				
F-150/250	Base Vehicle Frontal Area	Without Heavy-Duty Electrical/Cooling Pkg. or Class III				
	Dasc venicle Frontal Area	Trailer Tow Group				
	60 sq.ft.	With Heavy-Duty Electrical/Cooling Pkg. or Class III				
		Trailer Tow Group				
Expedition	Base Vehicle Frontal Area	Without Class III Trailer Tow Group				
	60 sq.ft.	With Class III Trailer Tow Group				
Super Duty F-Series	60 sq.ft.	All applications				

KEY: MT = Manual Transmission AT = Automatic Transmission \* Manual Transmission Only



Metric Conversion – To obtain information in kilograms, multiply the pounds by .45; to obtain information in centimeters, multiply the feet by 30; to obtain information in square meters, multiply the square feet by .09; to obtain information in kilometers, multiply the miles by 1.6.

# REQUIRED/RECOMMENDED TRAILER TOWING EQUIPMENT

It is essential that your vehicle includes any optional equipment needed to best perform its expected towing tasks. This equipment falls into the two categories listed at right:

**Required Equipment** 

#### Windstar Wagon

• For Trailers From 2,000-3,500 pounds – 3.8L Engine with Class II Trailer Tow Pkg.

#### Ranger

• For Trailers Over 2,000 pounds – Air Cond. and Payload Pkg. No. 2.

#### Econoline Van/Wagon

 For E-150/250 Commercial Van/E-150 XL Wagon with Trailers Over 3,500 pounds – Heavy Duty Service Pkg. (Van) OR Handling Pkg. OR Trailer Towing Pkg.

#### F-150/250

 For Trailers Over 4,000 pounds – Heavy Duty Electrical/Cooling Pkg., OR Class III Trailer Tow Group.

#### **Expedition**

• For Trailers Over 4,000 pounds – Class III Trailer Tow Group.

## Windstar Wagon Trailer Tow Packages

# Class I Trailer Tow Electrical Package (Option Code 65T)

- Module, Wiring, and Jumper
- Required for All Class I Towing Applications

# Class II Trailer Tow Package (Option Code 539)

- 8,500-lb. GCWR
- 78 AH Battery
- Heavy-Duty Halfshafts
- High-Speed Ambient Temperature Package
- Module, Wiring, and Jumper
- Conventional 15" Spare Tire
- Auxiliary Transmission Cooler

- 1. Required Equipment includes items that must be installed. Your New Vehicle Limited Warranty (see your Dealer for a copy) may be voided if you tow without them.
- **2. Recommended Equipment** includes items that can make towing easier, and are strongly recommended for strenuous towing conditions.

## RECOMMENDED EQUIPMENT (WHERE NOT REQUIRED)

	Ford Cars	Windstar	Ranger	Explorer	Expedition	F-150/250	Super Duty F-250/350	F-Series 5th Wheel	Econoline Van/Wagon
Aftermarket Auxiliary									
Transmission Oil Cooler	X(a)	_	-	_	X(h)	X(h)	_	-	_
Step Bumper (b) (f)	-	_	Χ	X(c)	X(d)	X(e)	X(e)	-	X(e)
Weight-Carrying Hitch (f)									
(Trailers Under 5,000 lbs.)	Χ	Χ	Χ	Х	Х	Χ	Х	-	Χ
Weight-Distributing Hitch (f)									
(Trailers Over 5,000 lbs.)	-	_	Χ	Х	Х	Χ	Х	-	Х
Trailer Towing Package	-	Χ	-	Х	Х	Χ	Х	Χ	Χ
Class III Hitch Receiver (V6 Only)	-	_	Χ	-	-	-	-	-	-
Class IV Hitch Receiver	_	-	_	_	_	_	Х	-	_
Long Pickup Box	_	_	-	-	-	_	_	X(g)	_

(a) Recommended for long-distance, high-speed towing with automatic transmission on Escort, Crown Victoria, Mustang, Contour and Taurus Light-Duty applications. (b) Ford tubular rear bumpers and Ranger step bumper are rated at 2,000 lbs. maximum trailer weight. (c) For trailers under 3,500 lbs. with standard rear bumper. (d) Step bumper with 4,000-lb. trailer rating is standard. (e) For trailers under 5,000 lbs. with Rear Step Bumper. (f) Capacities for bumpers/hitch receivers shown on page 11. (g) 5th wheel towing with short-box units limits turning angle. Parking maneuvers can be improved with a sliding-type 5th wheel hitch. (h) If vehicle is not equipped with factory Class III Trailer Tow Group, auxiliary transmission oil cooler is recommended if you are planning on: traveling farther than 50 miles, towing in hilly terrain, or towing frequently.

## FORD TRUCK TRAILER TOWING PACKAGES

Model (Option Code)	Expedition (535)	F-150/250 (535)	Super Duty F-Series (531)	Econoline Van/Wagon (a)	Explorer (b)
Super Engine Cooling	Х	Х	-	-	-
Heavy-Duty Battery (Gas Engines Only)	-	Х	Х	-	-
Trailer Wiring Harness (7-Pin)	Х	Х	X (c)	-	-
Trailer Wiring Harness (4-Pin)	-	-	-	Х	Χ
Heavy-Duty Flasher System	-	-	-	-	Χ
Handling Package	-	-	-	Х	-
Dual Electric Horns (Van Only)	_	-	-	Х	-
Class III Frame-Mounted Hitch Receiver	Х	Х	-	-	-
Aux. Auto Trans. Oil Cooler	Х	Х	-	-	-
Rear Load Leveling (4x2 Only)	Х	_	-	-	_
Heavy Duty Alternator (Gas Engines Only)	-	-	Х	-	-
Heavy-Duty Shocks (F-150 Only)	_	Х	-	-	-
Trailer Brake Wiring/Feed Kit	_	-	Х	-	-
Front Stabilizer Bar (4x2 Pickups Only)	_	-	Х	-	-
Rear Stabilizer Bar (DRW 4x2 Pickups Only)	-	-	Х	-	-

(a) Class I package (Option Code 534) content shown. Class II/III/IV package (Option Code 535) includes Class I items plus: electric brake controller tap-in capability, 7-pin trailer wiring harness (blade-style female connector)/bumper bracket, relay system for backup/8+/running lights, heavy-duty alternator, Class III frame-mounted hitch receiver (late availability). (b) Includes 3.73 Limit Slip axle. (c) Pickup models (standard with chassis cabs and box delete). Does not include 7-pin connector. NOTE: Content may vary depending on model, trim and/or powertrain. See your Ford Dealer for specific content information.

NOTE: Trailer Towing Package recommended for all light trucks that will be used for towing, to help ensure easy, proper connection of trailer lights.

## TRAILERING TIPS

Trailer towing is a special driving situation which places extra demands on your driving skills. We have included a few basic tips that you should know in order to transport your trailer and its contents safely, comfortably and without abusing the towing vehicle:

**Weight Distribution** 

• For optimum handling, the trailer must be properly loaded and balanced.

• Keep center of gravity low for best

• Approximately 60% of the cargo weight should be in the front half of the trailer and 40% in the rear (within limits of Tongue Weight).

 Load should also be balanced from side to side for good handling and proper 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.

Backing

- Back slowly, with someone outside at rear of 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.

Braking

- Allow considerably more distance for stopping with trailer attached. (See page 10)
- If you have a manual brake controller, "lead" with trailer brakes, if possible.
- To correct trailer side-sway, touch trailer brakes momentarily without using vehicle brakes.

**Downgrades and Upgrades** 

 Downshifting assists braking on downgrades and provides added power at the drive wheels for climbing hills.

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 as follows:
- Apply the foot service brakes and hold.
- Have another person place the wheel

chocks under the trailer wheels on the downgrade side.

 Once the wheel chocks are in place, release foot service brakes, making sure that the chocks are holding the vehicle and trailer.

Apply the parking brake.

— Shift the transmission into P (PARK) with an automatic transmission and make sure it is latched there. If your vehicle has a manual transmission, put the gearshift lever in R (REVERSE). NOTE: With 4-wheel drive, make sure the transfer case is not in N (NEUTRAL) (where applicable).

To start, after being parked on a grade:
Apply the foot service brake and hold.

 Start the engine with the gearshift selector lever in P (PARK) on automatic transmissions or N (NEUTRAL) on manual transmissions.

 Shift the transmission into gear and release the parking brake.

- Release the foot service brakes and move the vehicle uphill to free the wheel chocks.
- Apply the foot service brakes and hold 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.
- If you must pass a slower vehicle, be sure to allow extra distance ... remember, you also have the added length of the trailer which must clear the other vehicle before you can pull back in.
- 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 and with heavier trailers may result in excessive shifting between overdrive and the next lower gear.
- If this occurs, it is recommended that the overdrive gear be locked out to eliminate the condition and provide steadier performance (see your vehicle's Owner Guide for information).

• When there is no excessive shifting, use the overdrive gear for optimum fuel economy.

 Overdrive also may be locked out to obtain engine braking on downgrades. **Driving with Speed Control** 

• When driving uphill with a heavy load, significant speed drops may occur.

 A speed drop of more than 8 to 14 mph will, by design, cancel the automatic speed control.

• Temporarily resume manual control through the vehicle's accelerator pedal until the terrain levels off.

#### **Tire Pressure**

- Underinflated tires get very hot and can lead to tire failures and possible loss of vehicle control.
- Overinflated tires can cause uneven tire wear.
- Tires should be checked often for conformance to cold inflation pressures recommended on the Safety Compliance Certification Label for original equipment tires.

#### **Spare Tire Use (Car Applications)**

• Mini-spare tires:

- Should not be used ...
  - as a conventional road tire.

— Are intended only …

- for emergency and limited mileage
- until conventional tire is available.

#### 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** 

• Since gasoline engines lose power at a rate of 3% to 4% per 1,000 ft. elevation, a reduction in gross vehicle weights and gross combination weights of 2% per 1,000 ft. elevation is recommended to maintain performance.

#### **Powertrain Considerations**

- The charts in this guide show the minimum engine size needed to move the gross combination weight of the 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's wise to choose a larger engine.

Metric Conversion – To obtain information in centimeters, multiply feet by 30; to obtain information in kilometers, multiply miles by 1.6.

NOTE: For additional trailering information pertaining to your Ford vehicle, refer to the vehicle's Owner Guide.



North American Fleet Operations

Illustrations and information presented herein were correct when approved for printing. Ford Division reserves the right to discontinue or change at any time the specifications or designs without incurring obligations. Some features shown or described are optional at extra cost. Some options are required in combination with other options. Consult your Ford Dealer for the latest, most complete information on models, features, prices and availability.

Many of the recreational vehicles shown in this brochure are modified or manufactured by companies other than Ford Motor Company. Ford assumes no responsibility for such modifications or manufacturing.