# 2012 GUIDE TOTOWING



**Selecting a Tow Vehicle • Hitching Basics Towing Tips • Trailer-Brake Controllers** 

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towing photos by Rich Cox Photography

# **Keeping within manufacturer-assigned tow ratings is critical in making the appropriate model and option choices**

here are many variables to consider when selecting the proper tow vehicle for your application. Among them are budget, brand and towing capacity — and it's important to examine them all carefully before making a purchase. Going through the effort to better understand each variable and to account for all of them up front will lead to a more pleasant trailering experience.

# **WEIGHT**

The tow-ratings guide in this section lists the maximum tow ratings for vehicles with specific equipment, but many buyers interpret the maximum vehicles' tow ratings with far too much optimism. Always check the manufacturer's figures before making a purchase. The following is an explanation of the terms you need to know which, when combined with readings from a public scale and from your own calculator, should help you determine the correct tow rating for the tow vehicle you plan to buy.

Gross Combination Weight Rating (gcwr): The total allowable weight of the tow vehicle, the trailer, the cargo in each, hitch hardware, fluids and occupants.

Gross Vehicle Weight Rating (gvwr): The total allowable weight for the vehicle, including occupants, fluids, options, hitch hardware, cargo and trailer-hitch weight.

Gross Axle Weight Rating (gawr): The total allowable weight on an individual axle. This includes the weight of the tires, wheels, brakes and the axle itself.

Maximum Tow Rating: The manufacturer's weight limit for towed loads. For conventional trailers, this normally includes a hitchweight limit as well; for fifth-wheels, the pin weight is applied to the truck's gywr and its rear-axle gawr.

# MATCHING UP THE TOW VEHICLE AND TRAILER

The gywr and gawr for all motor vehicles are listed on the data plate, typically affixed to



the driver's door frame, fuel door, glove box, end of the dashboard or other easy-to-access location. Brochures and window stickers may be inaccurate; always look for the data plate. All trailers should have a weight sticker on the left front side wall. There should also be a sticker in an interior cabinet that lists the trailer's unloaded vehicle weight (uvw), gvwr, weight added by freshwater and LP-gas and the resulting cargo carrying capacity (ccc).

In many cases, especially on older trailers, optional equipment — such as air-conditioning units and AC generators — sneaks on board after weighing, and may not be reflected on the sticker. (And don't forget the fuel-fill tanks that some SURVs offer for campsite refueling of motorcycles and ATVs.)

Recreational Vehicle Industry Association (RVIA) weight label requirements are more inclusive of dealer-added options and make it much easier for buyers to have access to more accurate weight figures.

The gywr figures are neither guidelines nor estimates; they are limits, and there are numerous valid reasons the manufacturer arrived at



these figures. If you think the figures are "close enough" or have a fudge-factor percentage built in, think again. Your warranty coverage, and your safety, may be at risk.

The only surefire way to find out what your trailer weighs is to load it as usual for a trip and weigh it at a public scale. There you can get the hitch weight, axle weight and total weight. Assuming that the axle weight is lower than the gawr, the total is within the gywr and the hitch weight is lower than the maximum given for your tow vehicle, you can then move on to tow-vehicle selection.

When purchasing a trailer, consult the weight sticker on the unit of your choice on a dealer's lot and refer to the uvw and ccc.

Estimate how much cargo you will add, being mindful of the gywr, and use that number while selecting a tow vehicle.

To a lesser extent, tow-vehicle weight is variable as well. Brochures and tow guides frequently list how much a tow vehicle weighs, but this number generally applies to the most basic model in that configuration, without any options. In some cases, distinctions are made by engine, transmission, drive system (2WD or 4WD/AWD) and, in other cases, by cab or bed styles. If the dealer does not have a vehicle equipped as you want that is available to weigh, or cannot provide option weights, you can form rough estimates — but exact figures are the only way to be certain.

Bigger engines add weight, diesels more so because they come with additional accessories (up to 700 pounds more than the standard gas engine is common). Add up to 175 pounds for an optional transmission, about 400 pounds for 4WD and a bit less than 300 pounds for longer beds. Then add other options like luxury-trim levels, as all those electric motors add up. The towing package and hitch could add another 100 pounds, and larger wheels and tires can also have an effect.

# FOR EXAMPLE

Here is an example of how to calculate the realistic towing capacity of a vehicle. For example, consider a fictional one-ton longbed, diesel, extended-cab, 2WD, single-rear-wheel pickup set up for towing. We'll arbitrarily assign it a gywr of 9,900 pounds, a front gawr of 5,000 pounds, a rear gawr of 6,824 pounds, a gcwr of 23,000 pounds and a quoted maximum tow rating of 17,000 pounds.

As is often the case in single-rear-wheel

# **CHOOSE WISELY**

trucks, the rear axle's gawr on this truck is derived from each tire's maximum load of 3.412 pounds. Pickups such as this normally start at more than 6,000 pounds, and with a diesel, automatic and nice trim, figure that with a full tank of fuel and hitch, this unit weighs at least 7,000 pounds. If we add two "standard-size" people (154 pounds each), a few tools and some cargo, it weighs 7,500 pounds. That is split to 4,000 pounds on the front axle, and 3,500 pounds on the rear axle.

The first thing you should have noticed is that the maximum tow rating cannot apply with the truck fully loaded because gcwr (23,000) minus gvwr (9,900) leaves 13,100 pounds — about 4,000 pounds less than quoted towing ability. After adding options and people to the example truck, and subtracting that value (7,500) from gcwr (23,000), the effective working tow rating of the truck becomes 15,500 pounds, about 1,500 pounds less than the truck's quoted maximum towing rating.

However, you have yet to check all the numbers and verify that a 15,500-pound trailer will work. If that trailer is a fifth-wheel and has 20 percent of its weight on the pin, that adds 3,100 pounds to the back of the truck. This would make the truck overweight — its 7,500-pound ready-to-roll weight plus the 3,100 pounds on the pin equals 10,600 pounds — 700 pounds more than the truck's gywr, and just 224 pounds shy of the rear-axle limit of 6,824 pounds.

SUVs and other non-pickup tow rigs cannot escape scrutiny. The vehicle's loaded weight, with the anticipated load of passengers aboard, must be subtracted from the gcwr to determine the realistic tow rating.

# OTHER FACTORS

The tow-ratings chart in this publication lists

vehicle-towing maximums segregated by engine, cab style, drive and single- or dual-rear wheels as appropriate. In general, assume the maximum tow rating always requires a towing package — and special towing equipment (see "Towing Packages," beginning on page 36) and the highest numerical axle ratio offered, and as the example shows, maximums can be confusing. You can do your own estimates by starting with the information given and keeping the following generalizations in mind.

**Transmission:** For the majority of vehicles, automatic transmissions offer the higher tow ratings when they vary by transmission. On heavy-duty (HD) models, the difference may be 1,000 pounds or less, and on lighter-duty vehicles, a manual tranny might rate a 2,000pound lower tow rating. Exceptions include high-output engines that are available only with manual gearboxes, vehicles where the manual transmission weighs more than the automatic and transmissions in vehicles designed for high performance and not towing.

**Axle Ratio:** Lower gearing (the numerically higher ratios, e.g. 4.10:1, 4.56:1, as opposed to 3.31:1, 3.42:1), typically produces greater tow ratings because of greater torque multiplication. There is a wide variance in the axle ratio's effect on the tow rating, with some diesel-powered pickups varying only a few hundred pounds; on others, changing from a 3.73:1 to a 4.30:1 sometimes increases the tow rating by 3,500 pounds. In the past, some ratings have increased by a factor greater than three (from 2,000 to 7,100 pounds) simply by using a different axle ratio. Lower gearing will also make your vehicle accelerate quicker up to 50-55 mph. In general, a one-step drop in axle ratio (4.10:1 to 3.73:1) on an HD pickup will drop tow rating and gcwr by a ton.

Lower gearing has an adverse effect on fuel

Most automatic transmissions offer increased towing ratings over their manual counterparts. To be sure, always check with the manufacturer.



economy, but it's usually not proportional to the gain in towing ability. Under the best circumstances, the difference between the highest and lowest gear ratios offered (say, 3.42:1 and 4.10:1) results in a 1.5-mpg decrease in non-towing, steady state-highway cruising. In most normal conditions that change is less than 1 mpg, and if you tow a relatively heavy trailer a lot, there's no question that the lowest gearing is best.

**Drive System:** Vehicles that drive only two wheels, be they front or rear, generally have higher tow ratings (all other things being equal). Even though modern 4WD and AWD systems are guite efficient, a small amount of parasitic loss uses up energy. More importantly, 4WD systems add weight — easily up to 400 pounds on some HD pickups — and that weight frequently comes off the tow rating. Unless the gcwr and gvwr are higher, a 4WD version will probably tow a few hundred pounds less than its 2WD counterpart.

Towing Package: If you can order a towing package, do so. Not only is it usually required to get the top tow rating, but the contents rarely can be duplicated for the original cost — and it will add to resale value. You can plainly see the hitch receiver or electrical receptacle, but there are often other changes to the wiring system (including up-rated wire and fuses), alternator, battery, cooling system, power steering and lubricants. In some cases. integrated brake controllers and fifth-wheel hitches are also offered.

**Bed Length/Style:** If there's a difference, a longbed truck may rate slightly lower in tow capacity — about 150-250 pounds — because the longer bed adds weight. In other cases there is no change because the longer wheelbase is beneficial. Note that the more "styled" beds marketed under a variety of names typically are heavier than conventional slab-sided beds, and that cab-and-chassis figures do not reflect any bed unless otherwise noted. A steel bed for a medium-duty cab-and-chassis could quickly eat up an entire ton of its gcwr.

Single or Dual Rear Wheels: Most people assume that a dually pickup will have a higher tow rating than a single-rear-wheel unit, but this is not always so. In many cases the gcwr is limited by factors other than the number of rear wheels and does not change, and in those cases the weight of the wider axle, bigger brakes and two more tires and wheels is subtracted from the gcwr. The dually no doubt provides a more stable towing platform for the heavier trailers, although not always with the highest tow



rating. A dually will have a higher gywr because the dual-wheel rear axle might have a 10,000pound gawr, for example, compared to the single-rear-wheel truck's 6,824-pound gawr. Gawr is not always an exact calculation of the tire capacity times the number of tires. A duallyequipped truck will be better for hauling a heavy slide-in truck camper and handling heavy fifth-wheel pin weights because of the weight concentrated on the rear axle as compared to the conventional trailer's hitch weight.

Tires: Wheel sizes continue to grow commensurate with their popularity, with some tow vehicles offering 20-inch wheels as factory options. However, using a larger wheel and lowerprofile tire means a smaller air cushion and lower tire sidewall, to the extent that tow ratings generally drop whenever the wheel size increases — and ride comfort can be compromised. Read the fine print on the packaging carefully.

## RESEARCH

Before purchasing any vehicle for towing, ensure that the equipment required is available for your vehicle. You may find that the newkid-on-the-block is a very capable tow vehicle, but no one makes a fifth-wheel hitch for it. (Ford remedied this quandary on 2011 Super Duty trucks; GM also offers a fifth-wheel saddle-ready option). Also beware of hitch-ball and receiver ratings, as some trucks are rated for heavier loads than any easily found hardware can handle, and therefore may require special-order parts.

Before purchasing a vehicle, we suggest you acquire the manufacturer's comprehensive towing guide, available online or at dealerships. Be sure to read the fine print because in many cases the maximum rating may apply only to one particular version and be for a fifth-wheel trailer; many larger pickups may have their actual tow rating limited by the hitch and hardware. 🛖

# TOWING 2012

By Chris Hemer



# It's a long list of steady improvement rather than radical change for this year's crop of tow vehicles

very year, RVers wait with eager anticipation to see what the latest crop of trucks and SUVs will have to offer — whether it's increased capacity, revised styling, new features or any combination of all of the above. And while many years have brought all-new vehicles, engines or other major news, 2012 is a year of gradual improvement rather than radical change. Considering Ford, Dodge and GM have all recently introduced new or significantly revised trucks in the last couple of years, we're not likely to see anything earth-shattering for a little while, at least.

That's not to say that there isn't still a lot to

talk about. Domestic and foreign auto manufacturers have still managed to make 2012 exciting with greater capacity, more features and enhanced capability. So if you're looking for a new tow vehicle, this can still be your year.

As usual, we're only going to cover vehicles from the major manufacturers, and only those that have undergone meaningful changes that could potentially improve your towing/outdoor experience — a minor exterior revision or new interior treatment doesn't make the cut.

So, without further delay, we bring you the latest and greatest for 2012.





# FORD MOTOR COMPANY

The crown jewel of Ford, the F-150, enters 2012 with several new technologies and driveline upgrades, including hill-start assist and the addition of neutral tow capability on all 4×4 models, making them easier to flat-tow behind a motorhome. An optional electronic locking rear axle replaces most of the limited-slip offerings on the 3.5-liter EcoBoost and

5.0-liter engines, and is available on 2WD and 4WD models in a range of gear ratios. Finally, last year's electronic shift-on-the-fly has been replaced with a two-speed automatic 4x4 system on Lariat, King Ranch and Platinum trim levels. The system still features four high and four low modes, but now also offers a 4x4 auto mode. As for visual enhancements, the F-150 is now available with an FX appearance





package on the FX4 and FX2 trucks. Featuring flat-black accents, unique badges and exclusive interior treatments, the most noticeable feature of the FX package will likely be the flatblack, six-spoke 20-inch wheels. An FX luxury package, meanwhile, now offers cooled front seats, which combine with the previously available heated seats. The off-road ready F-150 SVT Raptor gets a new Torsen front differential and a class-exclusive, patent-pending front camera that will enable off-road drivers to see what's in front of them, even when the driver's view might be blocked. The F-Series

Super Duty is largely carryover for 2012, but an enhanced hitch receiver and frame upgrades enable best-in-class travel-trailer tow ratings of 17,500 pounds on F-350 and F-450 models with dual rear wheels. Fifth-wheel ratings move up to 22,700 pounds for the F-350 dually, and 24,500 pounds for the F-450. The Ford Ranger, after years of neglect, has finally been laid to rest.

## CHRYSLER CORPORATION

The Ram 1500 continues to improve for 2012 with a new six-speed automatic transmission with Electronic Range Select and a new, more efficient torque converter. A segment-exclusive coil-spring, multilink rear-suspension arrangement promises car-like ride and handling, and the 5.7-liter HEMI engine now produces 390 hp and 407 lb-ft of torque, along with 20-mpg highway fuel economy. The days of three or four trim levels are gone. For 2012, the Ram 1500 is offered in 11 models: Tradesman, Express, Outdoorsman, ST, SLT, Sport, Sport R/T, Lone Star, Big Horn, Laramie and Laramie Longhorn, all of which are available with a factory spray-in bedliner. Other cool available features include the highly touted Rambox, infloor storage bins and segment firsts like surround-sound audio, heated and ventilated front seats and heated rear seats. Standard safety features include ABS, stability control, hill-start assist and trailer-sway control. If you work as hard as you play, the new Tradesman HD model may be of particular interest to you; it boasts an 11,500-pound maximum trailer rating and a 3,100-pound payload, more than any other half-ton truck, according to Chrysler.





The bad news? It's only available one way: 4×2, regular cab with an 8-foot bed. The Ram 2500 and 3500 models may not have as much to report, but what they offer is still significant. The standard HEMI gas V-8 gets a new sixspeed automatic transmission, and the available 6.7-liter Cummins engine pounds out 350 hp and 800 lb-ft of torque, yet meets 50-state emissions requirements without the need for pesky diesel exhaust fluid. It also comes with a standard exhaust brake. And a new Ram 3500 Max Tow package features a 22,750-pound trailer rating ... just in case you move up to a quad-slide fifth-wheel some day. The Dodge Dakota is no longer with us.

# **GENERAL MOTORS**

Not much to report on the Chevy Silverado/GMC Sierra 1500 front, save for some minor exterior updates, new colors and the addition of hard-drive navigation radios. More meaningful for RVers is the addition of electronic trailer-sway control and hill-start assist to the standard StabiliTrak stability control system. The Sierra/Silverado HD underwent significant revisions last year, so not much has changed for 2012 — unless you've got some very heavy hauling to do. A beefed up trailer hitch receiver now bestows the 3500 dually with a stratospheric 18,000-pound tow rating for conventional trailers, and up to 23,000





pounds for a fifth-wheel, thanks to enhancements to the pickup box sills and structure, leaf springs, U-bolts and box mounts.

The Chevy Colorado will formally be discontinued after the 2012 model year, to be followed by a new Colorado, based on an all-new midsize truck architecture developed by GM do Brasil within GM's global product development organization. Launch date is yet unknown at press time.

# **TOYOTA**

The Toyota Tundra, having recently been named the Most Dependable Large Pickup for the sixth year in a row in the 2011 J.D. Power and Associates Vehicle Dependability Study, is

essentially carryover for 2012. The nation's best-selling compact pickup, Toyota Tacoma, however, has undergone several cosmetic changes for 2012 including a redesigned hood, grille, headlamps and front bumper, plus interior updates. But the bigger news is the Tacoma TRD T/X Baja Series Limited Edition (we'll just call it the Baja) that pays homage to Toyota's Baja racing heritage. At press time, the Baja was undergoing final testing for application on both the Tacoma Access and Double Cab 4x4 models equipped with the TRD Off-Road Package. Expansion into the Pre-Runner 2WD models is also being considered, according to Toyota. Equipped with a 4.0-liter V-6 and either a six-speed manual or five-speed automatic transmission, the Baja will feature TRD Off-Road Package goodies like an electronically locking rear differential, Active Traction Control, Hill-Start Assist Control and Downhill Assist Control. Plus there are Baja-exclusive features like BF Goodrich T/A KO tires on bead-lock-style off-road wheels, TRD catback exhaust, increased front end ride height, Bilstein race shocks on all four corners and unique Baja Series graphics. One final note that's worth mentioning: Toyota is still the only manufacturer to have adopted SAE standard J2807 (which the company adopted last year), a new standard for measuring the towing capability of vehicles. As such, Toyota's tow ratings may appear lower than they were a couple of years ago, but the capacity of the vehicles remains the same. Expect to see similar changes to everyone else's ratings next year when J2807 is supposed to officially go into effect. ₽



# **USE THIS**

ow ratings for all vehicle manufacturers are listed in alphabetical order, and are organized by model type and configuration. In most instances, you will find a letter (or letters) which identify the equipment that the rating is based on, i.e. automatic or manual transmission, gear ratio, towing package, etc. You will find the meaning for each of these letters in the "Key to Charts" section on page 18.

If there is no letter after the rating, that means there is only one rating available. Likewise, you may find the word "all" in the engine column; that means all available engines are capable of that particular tow rating.

Because each manufacturer lists its vehicles differently, we have found it necessary to make some changes in an effort to keep this quide consistent and concise. For example, Ram trucks are listed with separate tow ratings for each trim level; while we understand

that equipment adds weight and therefore reduces towing capacity, we simply don't have room to publish separate ratings based on a 50-pound weight difference. Likewise, GM doesn't have separate conventional and fifthwheel tow ratings, and instead simply indicates a separate rating for models that are equipped to tow a fifth-wheel. So in the GM section, you'll note that some models have two ratings separated by a slash; the first rating is for conventional towing, the second is for fifth-wheel towing.

Where applicable, we've also included relevant manufacturer's notes for a particular vehicle or model line, but always check with your dealer for details on the model you plan to purchase, including tow rating, payload capacity, gross vehicle weight rating (gvwr), gross combination weight rating (gcwr) and gross axle weight ratings (gawr). 👄

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F-150 Reg. Cab SB 2W	VD ,	IOL V-8					8,000 (t/h)	F-250 SC SRW	tion	5.2L V-8	12,500		RW 4WD	62LV-8
F-150 Reg. Cab LB 2W	0 1	DE V-8	7,900 (f)	F-150 SuperCres	w Cab Shortbed 2WD;	201 A-8	9,400 (i)	F-350 SC SRW 4		6.7L V-8 TD	14,000 (	(I) F-250/F-350 SC S (II) F-350 SC SRW 4W	RW 4WD 6	N iram
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F-150 Reg. Cab LB 4WD	SOL V-S	8,00,8					71,200 (i)	F-250/350 CC SRW 2M	0 6.7L V	0.00	2,500 (k)	F-250/F-350 CC SRW 2N	NO 621.V	12,3
F-150 Reg. Cab LB 4WD	3.7L V-6	5,900					7,700 (b)	1-250 CC SRW 4WD	6.21,	14)	000 (M)	F-250 CC SRW 4WD	0 67LV-8	TD 15,30
F-150 Reg. Cab LB 4WD	50L V-8	8,100					9,300 (i)	F-250 CC SRW 4WD	6.2L V	14	,000 (0)	F-250 CC SRW-4WD	52L V-6	10 16,100 B
F-150 Reg. Cab LB 4WD	50LV-8	9.700	n) F-150 Si	perCrew Cab Sh	northed 4WD 3.5L V-6 forthed 4WD 3.5L V-6	TC	8,100 (f)	F-250 CC SRW 4WD	6.7L V-8	12,	out (I)	F-250 CC SRW 4WD	62L V-8	11,500
F-150 Ren Cab I R Ham	35L V-6 TC	8,500 (					500 (14/1)	F-350 CC SRW 4WD	62LV	14,00	o (m)	-350 CC SRW 4WD	57L V-8 TI	14,900 D 15000 W
F-150 Reg. Cab LB 6WD	3.5L V-6 TC	9,700 (1/1	F-150 Sup	erCrew Cab Sho	oribed 4WD 3.5L V-8 T oribed 4WD 6.2L V-8	17.20	0 (i/k,t)	F-350 CC SRW 4WD	62L V-5	12,0	oo (i) E	350 CC SRW 4WD	62LV-8	D 15,200 (t/
F-150 SuperCab Star Inc. common	35L V-6 TC	17,300 (ct)*			ion 5WD 62LV-8	11,1	00 (i,k)	F-350 CC SRW 4WD	6.7L V-8.7	12,5	on the E	350 CC SRW 4WD	621 V-8	11,900 (
F-150 SuperCab Std. Bed 2WD	37L V-8	5,800 (i)				7.	300 ()	F-350 CC DRW 2WD	6.2L V-8	14,000	240 ES	ISO CC DRW 2WD	87L V-8 TD	15,700 (1/1)
F-150 SuperCab Std. Bed 2WD	5.0L V-8	8.100 (1)	F-150 Super	Crew Cab Std. B	62L V-8 Sed 4WD 5,0L V-8	8,0	00 (k)	F-350 CC DRW-2WD	6.21, V-8	12,30	0 () F-3	50 CC DRW 2WD	62LV-8	12,200 (1/6)
F-150 SuperCab Std. Bed 2WD	50L V-8	9,500 (h)					(0 (h)	F-350 CC DRW 2WD	6.7L V-8 TD	15,000	W F-30	SO CC DRW 2WD	62L V-8	15,200 (1)
- 130 September Cale Cod Production	35L V-6 TC	8,500 (c)	F-150 Supert	rew Cab Shi Be	ed 4WD 5.0L V-8 nd 4WD 3.5L V-6 TC	9,200	0.	F-350 CC DRW 4WD	62, V-8	11,000 (	F-35	O CC DRW 4WD	571 V-8 TD	21,900 ()
100 Superfus that or a second	3.5L V-6 TC	8,800 (h)				8,000		F-350 CC DRW 4WD	52LV-8	11,900	W F-350	CC DRW 4WD	52L V-8	11,700
150 SuperCarb LB 2WD	35L V-6 TC	11,300 (.0)	F-150 SuperCr	ew Cab Std. Bed	1 4WD 3.5L V-6 TC	9,500 (		F-350 CC DRW 4WD	6.7L V-8 TD	14,900 (	V F-350	CC DRW 6WD	621 V-8	
150 SuperCab LB 2WD	5.01. V-8	7,900 (1)	* Requires treas	r-doty psyload a	dokum	17,100 (1/1	kr)	F-450 DRW 4WD	6.7L V-8 TD	17,500 (all	F-450	CC DRW 4WD	6.7L V-8 TD	14,700
50 SuperCal I D man	500 V-8	8,300 (h)						F	WIT NO IN	17,500 (all)	" Alich J	District the state	6.7L V-8 TD	21,500*
O SuperCol LP Surr	50LV-8		-					F-250/F-350/F-450 Sup F-250/350 Reg. Cab SRW 2WO	er Duty con		WUIT. 3	Other E. 25th		24,400
O Supercal La value	2 VETC	5.400 (c)	1-250/F-350	/F-450 Supe	er Duty, Conventi			F-250/350 Reg. Cab SRW 2WD	6.21 V-8	heel Towing	F-250 m	ome F-350 models for 100 states. Compute the 2012 Family	I. less than similarly	Minut
Game Part of the land	NO TO	9.600 (A)	250/350 Reg. (	ab SRW 2WD	62LV-8	onal Towing		F-236/350 Ren Cut Print	5.21 V-8	12,800 (1)		was worthing the 2012 fairly	V & Fally Town &	offi for her a
San Cat Street of the Asia	EVETO		2301/350 Ren n	A President	AAC LO	12.500 (10)		CONV.200 Plett Cab Courses	57L V-8 TD	15,800 (1)				- a said
AME W			CHARLES NO.	A OPERAL MAN	871 V 870	12,500 (40)		TARVISOU REIL Pub Print of the	62L V8	15,700 (1/h)			-	
MAILER LIPE 311		THE PER	(50/35) Reg Co	DW CHO	521 VS	72,400.00		Married Reit, Cale Street Street	SULVE SULVE	12,2007.0		HOM	34	
				-	87,94	1280m		The same of the party many	THE R. P. LEWIS CO., Land	0.20	-			

# 2012 TOW RA

# **KEY TO CHARTS**

a=Automatic Transmission
a4=Automatic transmission, Four Speeds
a5=Automatic transmission, Five Speeds
a6=Automatic transmission, Six Speeds

m=Manual Transmission
m5=Manual Transmission, Five Speeds
m6=Manual Transmission, Six Speeds

b=3.08:1 c=3.15:1 d=3.21:1 e=3.23:1 f=3.31:1 g=3.42:1

h=3.55:1 i=3.73:1 j=3.92:1 k=4.10:1 l=4.30:1 n=4.44:1 o=4.56:1

q=4.88:1

r=5.38:1

CC=Crew Cab
KC=King Cab
SB=Shortbed
Std Bed= Standard Bed
LB= Longbed
SWB=Short Wheelbase
LWB=Long Wheelbase
DRW=Dual Rear Wheels

AWD=All-Wheel Drive

SRW=Single Rear Wheels
CV=Cargo Van
PV=Passenger Van
TD=Turbo Diesel
TC=Turbocharged
SC=Supercharged
NA=Not applicable,
or not available

p=Cooling or other accessory package required
 t=Towing package required

A forward slash (/) denotes either/or; comma indicates more than one footnote applies.

# VEHICLE ENGINE TOW LIMIT (Ib)

ACURA					
MDX	3.7L V-6	5,000			

	AUDI	
Q5	All	4,400
Q7	All	5,500*
Q7	3.6L V-6	6,600 (t)

<sup>\*</sup> With dealer-installed hitch

	BMW	
X3 2.8i	3.0L I-6	3,500
X5 3.5i	3.0L I-6	6,000
X5 3.5i	4.8L V-8	6,000
X535d	3.0 I-6 TD	6,000
X55.0i	4.4L V-8	6,000
X635i	3.0L I-6	6,000
X650i	4.4L V-8	6,000

	BUICK	
Enclave FWD	3.6L V-6	2,000
Enclave FWD	3.6L V-6	4,500 (t)
Enclave AWD	3.6L V-6	2,000
Enclave AWD	3.6L V-6	4500 (t)

	CADILLAC	
Escalade 2WD	6.2L V-8	8,300
Escalade AWD	6.2L V-8	8,100
Escalade ESV 2WD	6.2L V-8	8,000

Escalade ESV AWD	6.2L V-8	7,700
Escalade EXT AWD	6.2L V-8	7,600
Escalade Two Mode Hybrid 2WD	6.0L V-8	5,800
Escalade Two Mode Hybrid 4WD	6.0L V-8	5,600
SRX AWD	3.0L V-6	2,500
SRX AWD	3.0L V-6	3,500 (t)
SRX FWD	3.0L V-6	2,500
SRX FWD	3.0L V-6	3,500 (t)

CHEVRO	LET/GM	C
Avalanche 1500 2WD	5.3L V-8	5,100 (b)
Avalanche 1500 2WD	5.3L V-8	5,600 (g)
Avalanche 1500 2WD	5.3L V-8	8,100 (g,p)
Avalanche 1500 4WD	5.3L V-8	5,000 (b)
Avalanche 1500 4WD	5.3L V-8	5,500 (g)
Avalanche 1500 4WD	5.3L V-8	(q,p) 000,8
Traverse/Acadia FWD	3.6L V-6	2,000
Traverse/Acadia FWD	3.6L V-6	5,200 (t)
narologii loadia i i i i		,
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, ,	2.91 1-4	
•	2.91 1-4	, , , , , , , , , ,
•		, , , ,
•	5.3L V-8	
•	5.3L V-8	. , , , ,
,	2.9L I-4	
Colorado/Canyon CC 2WD	2.9L I-4	2,100 (m,i)
Traverse/Acadia AWD  Traverse/Acadia AWD  Colorado/ Canyon Reg Cab 2WD  Colorado/ Canyon Reg Cab 2WD  Colorado/ Canyon Reg Cab 2WD  Colorado/ Canyon Ext Cab 2WD  Colorado/ Canyon CC 2WD  Colorado/ Canyon CC 2WD	2.9L I-4 3.7L I-5 5.3L V-8 5.3L V-8 2.9L I-4	2,000 5,200 (t) 3,400 (a,i) 2,400 (m,i) 4,000 (a,i) 3,200 (a,i) 2,200 (m,i) 5,500 (a,i) 6,000 (a,g/i) 4,000 (a,g*) 3,000 (a,i)

Colorado/Canyon CC 2WD	3.7L I-5	5,500 (a,i)	1500 Reg Cab Std Bed 2WD	4.8L V-8	4,700 (e)
Colorado/Canyon CC 2WD	5.3L V-8	6,000 (a,g/i)	1500 Reg Cab Std Bed 2WD	4.8L V-8	7,200 (i)
Colorado/Canyon CC 2WD	5.3L V-8	3,800 (a,g*)	1500 Reg Cab Std Bed 2WD	5.3L V-8	6,600 (b)
Colorado/Canyon Reg Cab 4WD	2.9L I-4	3,100 (a,i)	1500 Reg Cab Std Bed 2WD	5.3L V-8	7,400 (b,p)
Colorado/Canyon Reg Cab 4WD	2.9L I-4	2,100 (m,i)	1500 Reg Cab Std Bed 2WD	5.3L V-8	9,100 (g,p)
Colorado/Canyon Reg Cab 4WD	3.7L I-5	4,000 (a,i)	1500 Reg Cab Std Bed 4WD	4.3L V-6	5,100 (i)
Colorado/Canyon Ext Cab 4WD	2.9L I-4	2,900 (a,i)	1500 Reg Cab Std Bed 4WD	4.8L V-8	6,000 (g)
Colorado/Canyon Ext Cab 4WD	3.7L I-5	5,500 (a,i)	1500 Reg Cab Std Bed 4WD	5.3L V-8	6,400 (b)
Colorado/Canyon Ext Cab 4WD	5.3L V-8	6,000 (a,g/k)	1500 Reg Cab Std Bed 4WD	5.3L V-8	7,100 (b,p)
* Sport suspension			1500 Reg Cab Std Bed 4WD	5.3L V-8	8,900 (g,p)
Colorado/Canyon CC 4WD	3.7L I-5	5,500 (a,i)			
Colorado/Canyon CC 4WD	5.3L V-8	6,000 (a,g/k)	Silverado/Sierra 15	00 Ext Cab,	Std Bed
Equinox/Terrain	3.0 V-6	3,500	Conventional/Fi	fth-Wheel T	owing
Express/Savana 1500 SWB CV 2WD	4.3L V-6	4,300	1500 Ext Cab Std Bed 2WD	4.3L V-6	4,400 (e)
Express/Savana 1500 SWB CV 2WD	5.3L V-8	6,700 (g/i)	1500 Ext Cab Std Bed 2WD	4.8L V-8	4,700 (e)
Express/Savana 1500 SWB CV AWD	5.3L V-8	6,500	1500 Ext Cab Std Bed 2WD	4.8L V-8	6,700 (i)
Express/Savana 1500 SWB PV 2WD	5.3L V-8	6,200	1500 Ext Cab Std Bed 2WD	5.3L V-8	6,200 (b)
Express/Savana 1500 SWB PV AWD	5.3L V-8	6,000	1500 Ext Cab Std Bed 2WD	5.3L V-8	6,900 (b,p)
Express/Savana 2500 SWB CV 2WD	4.8L V-8	7,400 (g)	1500 Ext Cab Std Bed 2WD	5.3L V-8	9,700/9,400 (g,p)
Express/Savana 2500 SWB CV 2WD	6.0L V-8	10,000 (g)	1500 Ext Cab Std Bed 2WD	6.2L V-8	9,700/9,400 (g,p)
Express/Savana 2500 SWB CV 2WD	6.6 TD V-8	10,000	1500 Ext Cab Std Bed 2WD	6.2L V-8	10,700/10,600 (i,t)
Express/Savana 2500 SWB PV 2WD	6.0L V-8	6,700 (g)	1500 Ext Cab Std Bed 4WD	4.8L V-8	5,500 (g)
Express/Savana 2500 SWB PV 2WD	6.0L V-8	9,800 (g)	1500 Ext Cab Std Bed 4WD	5.3L V-8	6,100 (b)
Express/Savana 2500 LWB CV 2WD	4.8L V-8	7,200 (g)	1500 Ext Cab Std Bed 4WD	5.3L V-8	6,800 (b,p)
Express/Savana 2500 LWB CV 2WD	6.0L V-8	10,000 (g)	1500 Ext Cab Std Bed 4WD	5.3L V-8	9,600 (g)
Express/Savana 2500 LWB CV 2WD	6.6 TD V-8	10,000	1500 Ext Cab Std Bed 4WD	6.2L V-8	9,400/9,100 (g,p)
Express/Savana 3500 SWB CV 2WD	4.8L V-8	7,400 (g)	1500 Ext Cab Std Bed 4WD	6.2L V-8	10,400/10,300 (i,t)
Express/Savana 3500 SWB CV 2WD	6.0L V-8	10,000 (g)			
Express/Savana 3500 SWB CV 2WD	6.6 TD V-8	10,000	Silverado/Sierra 1	1500 CC, Sh	ort Box
Express/Savana 3500 SWB PV 2WD	6.0L V-8	9,700 (g)	1500 CC Short Box 2WD	4.8L V-8	4,700 (e)
Express/Savana 3500 SWB PV 2WD	6.6 TD V-8	10,000	1500 CC Short Box 2WD	4.8L V-8	6,700 (i)
Express/Savana 3500 LWB CV 2WD	4.8L V-8	7,100 (g)	1500 CC Short Box 2WD	5.3L V-8	6,200 (b)
Express/Savana 3500 LWB CV 2WD	6.0L V-8	10,000 (g)	1500 CC Short Box 2WD	5.3L V-8	6,900 (b,p)
Express/Savana 3500 LWB CV 2WD	6.6 TD V-8	10,000	1500 CC Short Box 2WD (XFE)	5.3L V-8	7,000 (b)
Express/Savana 3500 LWB PV 2WD	6.0L V-8	9,300 (g)	1500 CC Short Box 2WD	5.3L V-8	9,600 (g,p)
Express/Savana 3500 LWB PV 2WD	6.6 TD V-8	10,000	1500 CC Short Box 2WD	6.2L V-8	9,700 (g,p)
			1500 CC Short Box 2WD	6.2L V-8	10,600 (i,t)
Silverado/Sierra 150			1500 CC Short Box 4WD	4.8L V-8	5,500 (g)
1500 Reg Cab Std Bed 2WD	4.3L V-6	4,800 (e)	1500 CC Short Box 4WD	5.3L V-8	6,000 (b)
1500 Reg Cab Std Bed 2WD	4.3L V-6	5,400 (a,i)	1500 CC Short Box 4WD	5.3L V-8	6,700 (b,p)
1500 Reg Cab Std Bed 2WD	4.3L V-6	4,100 (m,i)	1500 CC Short Box 4WD	5.3L V-8	9,500 (g)

# **2012 TOW RATINGS**

1500 CC Short Box 4WD	6.2L V-8	9,400 (g,p)	2500 CC Std Bed 4WD	6.6L V-8 TD	15,800 (i)	
1500 CC Short Box 4WD	6.2L V-8	10,400 (i,t)	Sierra Denali 2500 4WD	6.0L V-8	9,300 (i)	
	0.22 7 0	10,100 (1,0)	Sierra Denali 2500 4WD	6.6L V-8 TD	13,000 (k)	
Sierra Denali CC Short	bed, 1500 2V	VD and AWD	oloria Bolian 2000 TVB	0.02 7 0 15	10,000 (11)	
Sierra Denali CC Shortbed 2WD	6.2L V-8	9,600 (p)	Silverado/Si	erra 2500 Reg C	ab LB	
Sierra Denali CC Shortbed AWD	6.2L V-8	9,400 (p)	2500 Reg Cab LB 2WD	6.0L V-8	10,200 (i)	
			2500 Reg Cab LB 2WD	6.0L V-8	13,000/14,700 (k)	
Silverado/Sierra	1500 Reg C	ab LB	2500 Reg Cab LB 2WD	6.6L V-8 TD	17,800 (i)	
1500 Reg Cab LB 2WD	4.3L V-6	4,700 (o)	2500 Reg Cab LB 4WD	6.0L V-8	9,900 (i)	
1500 Reg Cab LB 2WD	4.3L V-6	5,200 (s)	2500 Reg Cab LB 4WD	6.0L V-8	13,000/14,400 (k)	
1500 Reg Cab LB 2WD	4.8L V-8	5,100 (o)	2500 Reg Cab LB 4WD	6.6L V-8 TD	17,500 (i)	
1500 Reg Cab LB 2WD	4.8L V-8	7,100 (s)				
1500 Reg Cab LB 2WD	5.3L V-8	6,500 (d)	Silverado/Si	ierra 2500 Ext Ca	ab LB	
1500 Reg Cab LB 2WD	5.3L V-8	7,200 (d,k)	2500 Ext Cab LB 2WD	6.0L V-8	9,700 (i)	
1500 Reg Cab LB 2WD	5.3L V-8	10,000/8,900 (q,k)	2500 Ext Cab LB 2WD	6.0L V-8	13,000/14,200 (k)	
1500 Reg Cab LB 4WD	4.3L V-6	4,900 (i)	2500 Ext Cab LB 2WD	6.6L V-8 TD	17,400 (i)	
1500 Reg Cab LB 4WD	4.8L V-8	5,800 (g)	2500 Ext Cab LB 4WD	6.0L V-8	9,400 (i)	
1500 Reg Cab LB 4WD	5.3L V-8	6,300 (b)	2500 Ext Cab LB 4WD	6.0L V-8	13,000/13,900 (k)	
1500 Reg Cab LB 4WD	5.3L V-8	7,000 (b,p)	2500 Ext Cab LB 4WD	6.6L V-8 TD	15,700 (i)	
1500 Reg Cab LB 4WD	5.3L V-8	9,800/9,700 (g,p)				
			Silverado/Sierra 2500 CC LB			
Silverado/Sierra	1500 Ext C	ab LB	2500 CC LB 2WD	6.0L V-8	9,600 (i)	
1500 Ext Cab LB 2WD	5.3L V-8	6,000 (b)	2500 CC LB 2WD	6.0L V-8	13,000/14,100 (k)	
1500 Ext Cab LB 2WD	5.3L V-8	6,700 (b,p)	2500 CC LB 2WD	6.6L V-8 TD	16,700 (i)	
1500 Ext Cab LB 2WD	5.3L V-8	9,500/9,000 (g,p)	2500 CC LB 4WD	6.0L V-8	9,300 (i)	
			2500 CC LB 4WD	6.0L V-8	13,000/13,800 (k)	
Silverado/Sierra	Two-Mode I	-	2500 CC LB 4WD	6.6L V-8 TD	14,700 (i)	
Two-mode hybrid 2WD	6.0L V-8	6,100				
Two-mode hybrid 4WD	6.0L V-8	5,900	Silverado/S	Sierra 3500 Reg	Cab	
			3500 Reg Cab SRW 2WD	6.0L V-8	13,000/14,500 (k)	
Silverado/Sierra 2			3500 Reg Cab DRW 2WD	6.0L V-8	9,600 (i)	
2500 Ext Cab Std Bed 2WD	6.0L V-8	9,800 (i)	3500 Reg Cab DRW 2WD	6.0L V-8	14,100 (k)	
2500 Ext Cab Std Bed 2WD	6.0L V-8	13,000 (k)	3500 Reg Cab SRW 4WD	6.0L V-8	9,700 (i)	
2500 Ext Cab Std Bed 2WD	6.6L V-8 TD	17,500 (i)	3500 Reg Cab SRW 4WD	6.0L V-8	13,000/14,200 (k)	
2500 Ext Cab Std Bed 4WD	6.0L V-8	9,500 (i)	3500 Reg Cab SRW 4WD	6.6L V-8 TD	17,400 (i)	
2500 Ext Cab Std Bed 4WD	6.0L V-8	13,000/14,300 (k)	3500 Reg Cab DRW 4WD	6.0L V-8	9,300 (i)	
2500 Ext Cab Std Bed 4WD	6.6L V-8 TD	16,400 (i)	3500 Reg Cab DRW 4WD	6.0L V-8	13,800 (k)	
			3500 Reg Cab DRW 4WD	6.6L V-8 TD	23,000 (i)	
Silverado/Sierra						
2500 CC Std Bed 2WD	6.0L V-8	9,700 (s)		Sierra 3500 Ext (		
2500 CC Std Bed 2WD	6.0L V-8	13,000/14,200 (k)	3500 Ext Cab SRW 2WD	6.0L V-8	9,500 (i)	
2500 CC Std Bed 2WD	6.6L V-8 TD	17,400 (i)	3500 Ext Cab SRW 2WD	6.0L V-8	13,000/14,000 (k)	
Sierra Denali 2500 2WD	6.6L V-8 TD	16,500 (i)	3500 Ext Cab SRW 2WD	6.6L V-8 TD	17,300 (i)	
2500 CC Std Bed 4WD	6.0L V-8	9,400 (i)	3500 Ext Cab DRW 2WD	6.0L V-8	9,100 (i)	
2500 CC Std Bed 4WD	6.0L V-8	13,000/13,900 (k)	3500 Ext Cab DRW 2WD	6.0L V-8	13,600 (k)	

3500 Ext Cab DRW 2WD	6.6L V-8 TD	22,800 (i)	Suburban/Yukon XL 4WD	5.3L V-8	5,000 (b)
3500 Ext Cab SRW 4WD	6.0L V-8	9,200 (i)	Suburban/Yukon XL 4WD	5.3L V-8	5,500 (g)
3500 Ext Cab SRW 4WD	6.0L V-8	13,000/13,700 (k)	Suburban/Yukon XL 4WD	5.3L V-8	8,000 (g,p)
3500 Ext Cab SRW 4WD	6.6L V-8 TD	16,900 (i)	Yukon Denali 2WD	6.2L V-8	8,300
3500 Ext Cab DRW 4WD	6.0L V-8	8,900 (i)	Yukon Denali AWD	6.2L V-8	8,100
3500 Ext Cab DRW 4WD	6.0L V-8	13,400 (k)	Yukon XL Denali 2WD	6.2L V-8	7,900
3500 Ext Cab DRW 4WD	6.6L V-8 TD	22,600 (i)	Yukon XL Denali AWD	6.2L V-8	7,800
Silverado/Sie	rra 3500 <b>C</b>	C	Chevy Suburban, GN	/IC Yukon X	L 2500
3500 CC Std Bed SRW 2WD	6.0L V-8	9,500 (i)	2500 Long Wheelbase 2WD	6.0L V-8	9,600
3500 CC Std Bed SRW 2WD	6.0L V-8	13,000/14,000 (k)	2500 Long Wheelbase 4WD	6.0L V-8	9,400
3500 CC Std Bed SRW 2WD	6.6L V-8 TD	17,200 (i)			
3500 CC Std Bed SRW 2WD Denali	6.6L V-8 TD	17,100 (i)	CHRYSLE	R/DOD(	GE
3500 CC Std Bed SRW 4WD	6.0L V-8	9,200 (i)	Grand Caravan	3.6L V-6	3,600 (t)
3500 CC Std Bed SRW 4WD	6.0L V-8	13,000/13,700 (k)	Journey FWD and AWD	3.6L V-6	2,500 (t)
3500 CC Std Bed SRW 4WD	6.6L V-8 TD	17,000 (i)	Town and Country	3.6L V-6	3,600 (t)
3500 CC Std Bed SRW 4WD Denali	6.6L V-8 TD	16,800 (k)	Dodge Durango RWD	3.6 V-6	6,200
3500 CC LB SRW 2WD	6.0L V-8	9,400 (i)	Dodge Durango RWD	5.7 V-8	7,400
3500 CC LB SRW 2WD	6.0L V-8	13,000/13,900 (k)	Dodge Durango AWD	3.6 V-6	6,200
3500 CC LB SRW 2WD	6.6L V-8 TD	17,300 (i)	Dodge Durango AWD	5.7 V-8	7,200
3500 CC LB DRW 2WD	6.0L V-8	9,000 (i)			
3500 CC LB DRW 2WD	6.0L V-8	13,500 (k)	Ram 1500 Regula	ır Cab Shor	tbed
3500 CC LB DRW 2WD	6.6L V-8 TD	22,800 (i)	1500 Reg Cab SB 2WD	3.7L V-6	3,750 (a4,h/j)
3500 CC LB DRW 2WD Denali	6.6L V-8 TD	22,600 (i)	1500 Reg Cab SB 2WD	4.7L V-8	7,600 (a5,h/j)
3500 CC LB SRW 4WD	6.0L V-8	9,100 (i)	1500 Reg Cab SB 2WD	5.7L V-8	7,100 (a5,d)
3500 CC LB SRW 4WD	6.0L V-8	13,000/13,600 (k)	1500 Reg Cab SB 2WD	5.7L V-8	9,100 (a5,h/j)
3500 CC LB SRW 4WD	6.6L V-8 TD	16,800 (i)	1500 Reg Cab SB 2WD R/T model	5.7L V-8	5,000 (a5,k)
3500 CC LB DRW 4WD	6.0L V-8	8,700 (i)	1500 Reg Cab SB 4WD	4.7L V-8	7,450 (a5,h/j)
3500 CC LB DRW 4WD	6.0L V-8	13,200 (k)	1500 Reg Cab SB 4WD	5.7L V-8	8,900 (a5,h/j)
3500 CC LB DRW 4WD	6.6L V-8 TD	22,400 (i)			
3500 CC LB DRW 4WD Denali	6.6L V-8 TD	22,300 (i)	Ram 1500 Regula	ar Cab Lonç	jbed
			1500 Reg Cab LB 2WD	3.7L V-6	3,600 (a4,h/j)
Chevy Tahoe and Suburba	ın, GMC Yu	kon,Yukon XL,	1500 Reg Cab LB 2WD	4.7L V-8	7,450 (a5,h/j)
Yukon and Yukon XL	Denali 150	0 Series	1500 Reg Cab LB 2WD	5.7L V-8	6,900 (a5,d)
Tahoe/Yukon 2WD	5.3L V-8	5,500 (b)	1500 Reg Cab LB 2WD	5.7L V-8	8,900 (a5,h)
Tahoe/Yukon 2WD	5.3L V-8	6,000 (g)	1500 Reg Cab LB 2WD	5.7L V-8	10,400 (a5,j)
Tahoe/Yukon 2WD	5.3L V-8	8,500 (g,p,)	1500 Reg Cab LB 4WD	4.7L V-8	7,300 (a5,h/j)
Tahoe/Yukon Two-Mode Hybrid, 2WI	O 6.0L V-8	6,200	1500 Reg Cab LB 4WD	5.7L V-8	8,750 (a5,h)
Tahoe/Yukon 4WD	5.3L V-8	5,200 (b)	1500 Reg Cab LB 4WD	5.7L V-8	10,450 (a5,j)
Tahoe/Yukon 4WD	5.3L V-8	5,700 (g)			
Tahoe/Yukon 4WD	5.3L V-8	8,200 (g,p)	Ram 1500	Quad Cab	
Tahoe/Yukon Two-Mode Hybrid, 4WI	O 6.0L V-8	5,900	Ram 1500 Quad Cab 2WD	3.7L V-6	3,450 (a4,h/j)
Suburban/Yukon XL 2WD	5.3L V-8	5,100 (b)	Ram 1500 Quad Cab 2WD	4.7L V-8	7,300 (a5,h/j)
Suburban/Yukon XL 2WD	5.3L V-8	5,600 (g)	Ram 1500 Quad Cab 2WD	5.7L V-8	6,750 (a5,d)
Suburban/Yukon XL 2WD	5.3L V-8	8,100 (g,p)	Ram 1500 Quad Cab 2WD	5.7L V-8	8,700 (a5,h)

D 1500 O I O . I . OMD	F 71 V 0	40.0F0 (.F.')		. Oak Lamak	- d
Ram 1500 Quad Cab 2WD	5.7L V-8	10,250 (a5,j)	Ram 2500 Crev		
Ram 1500 Quad Cab 4WD	4.7L V-8	7,150 (a5,h/j)	Ram 2500 Crew Cab LB 2WD	5.7L V-8	10,900 (a6,i)
Ram 1500 Quad Cab 4WD	5.7L V-8	8,550 (a5,h)	Ram 2500 Crew Cab LB 2WD	5.7L V-8	13,900 (a6,k)
Ram 1500 Quad Cab 4WD	5.7L V-8	10,050 (a5,j)	Ram 2500 Crew Cab LB 2WD	6.7L I-6 TD	11,900 (m6,g)
P 450	10 O O-l-		Ram 2500 Crew Cab LB 2WD	6.7L I-6 TD	12,900 (m6,i)
	O Crew Cab	7050 / 51 //	Ram 2500 Crew Cab LB 2WD	6.7L I-6 TD	10,000 (a6,g)
Ram 1500 CC 2WD	4.7L V-8	7,250 (a5,h/j)	Ram 2500 Crew Cab LB 2WD	6.7L I-6 TD	13,000 (a6,i)
Ram 1500 CC 2WD	5.7L V-8	6,700 (a5,d)	Ram 2500 Crew Cab LB 2WD	6.7L I-6 TD	15,000 (a6,k)
Ram 1500 CC 2WD	5.7L V-8	8,700 (a5,h)	Ram 2500 Crew Cab LB 4WD	5.7L V-8	10,400 (a6,i)
Ram 1500 CC 2WD	5.7L V-8	10,200 (a5,j)	Ram 2500 Crew Cab LB 4WD	5.7L V-8	13,400 (a6,k)
Ram 1500 CC 4WD	4.7L V-8	7,050 (a5,h/j)	Ram 2500 Crew Cab LB 4WD	6.7L I-6 TD	11,500 (m6,g)
Ram 1500 CC 4WD	5.7L V-8	8,500 (a5,h)	Ram 2500 Crew Cab LB 4WD	6.7L I-6 TD	12,500 (m6,i)
Ram 1500 CC 4WD	5.7L V-8	10,000 (a5,j)	Ram 2500 Crew Cab LB 4WD	6.7L I-6 TD	9,600 (a6,g)
			Ram 2500 Crew Cab LB 4WD	6.7L I-6 TD	12,600 (a6,i)
Ram 2500 Reg			Ram 2500 Crew Cab LB 4WD	6.7L I-6 TD	14,600 (a6,k)
Ram 2500 LB 2WD	5.7L V-8	11,400 (a6,i)			
Ram 2500 LB 2WD	5.7L V-8	14,400 (a6,k)	Ram 2500		
Ram 2500 LB 2WD	6.7L I-6 TD	12,400 (m6,g)	Ram 2500 Mega Cab 2WD	5.7L V-8	10,600 (a6,i)
Ram 2500 LB 2WD	6.7L I-6 TD	13,400 (m6,i)	Ram 2500 Mega Cab 2WD	5.7L V-8	13,600 (a5,k)
Ram 2500 LB 2WD	6.7L I-6 TD	10,500 (a6,g)	Ram 2500 Mega Cab 2WD	6.7L I-6 TD	11,750 (m6,g)
Ram 2500 LB 2WD	6.7L I-6 TD	13,500 (a6,i)	Ram 2500 Mega Cab 2WD	6.7L I-6 TD	12,750 (m6,i)
Ram 2500 LB 2WD	6.7L I-6 TD	15,500 (a6,k)	Ram 2500 Mega Cab 2WD	6.7L I-6 TD	9,800 (a6,g)
Ram 2500 LB 4WD	5.7L V-8	10,900 (a6,i)	Ram 2500 Mega Cab 2WD	6.7L I-6 TD	12,800 (a6,i)
Ram 2500 LB 4WD	5.7L V-8	13,900 (a6,k)	Ram 2500 Mega Cab 2WD	6.7L I-6 TD	14,800 (a6,k)
Ram 2500 LB 4WD	6.7L I-6 TD	12,000 (m6,g)	Ram 2500 Mega Cab 4WD	5.7L V-8	10,150 (a6,i)
Ram 2500 LB 4WD	6.7L I-6 TD	13,000 (m6,i)	Ram 2500 Mega Cab 4WD	5.7L V-8	13,150 (a6,k)
Ram 2500 LB 4WD	6.7L I-6 TD	10,050 (a6,g)	Ram 2500 Mega Cab 4WD	6.7L I-6 TD	11,250 (m6,g)
Ram 2500 LB 4WD	6.7L I-6 TD	13,050 (a6,i)	Ram 2500 Mega Cab 4WD	6.7L I-6 TD	12,250 (m6,i)
Ram 2500 LB 4WD	6.7L I-6 TD	15,050 (a6,k)	Ram 2500 Mega Cab 4WD	6.7L I-6 TD	9,300 (a6,g)
			Ram 2500 Mega Cab 4WD	6.7L I-6 TD	12,300 (a6,i)
Ram 2500 Cre	ew Cab Shortb	ed	Ram 2500 Mega Cab 4WD	6.7L I-6 TD	14,300 (a6,k)
Ram 2500 Crew Cab SB 2WD	5.7L V-8	11,000 (a6,i)			
Ram 2500 Crew Cab SB 2WD	5.7L V-8	14,000 (a6,k)	Ram 3500 Regul		
Ram 2500 Crew Cab SB 2WD	6.7L I-6 TD	12,050 (m6,g)	Ram 3500 Reg Cab LB DRW 2WD	6.7L I-6 TD	12,050 (m6,g)
Ram 2500 Crew Cab SB 2WD	6.7L I-6 TD	13,050 (m6,i)	Ram 3500 Reg Cab LB DRW 2WD	6.7L I-6 TD	14,050 (m6,i)
Ram 2500 Crew Cab SB 2WD	6.7L I-6 TD	10,150 (a6,g)	Ram 3500 Reg Cab LB DRW 2WD	6.7L I-6 TD	10,150 (a6,g)
Ram 2500 Crew Cab SB 2WD	6.7L I-6 TD	13,150 (a6,i)	Ram 3500 Reg Cab LB DRW 2WD	6.7L I-6 TD	14,050 (a6,i)
Ram 2500 Crew Cab SB 2WD	6.7L I-6 TD	15,150 (a6,k)	Ram 3500 Reg Cab LB DRW 2WD	6.7L I-6 TD	22,750 (a6,k)
Ram 2500 Crew Cab SB 4WD	5.7L V-8	10,550 (a6,i)	Ram 3500 Reg Cab LB DRW 4WD	6.7L I-6 TD	11,600 (m6,g)
Ram 2500 Crew Cab SB 4WD	5.7L V-8	13,550 (a6,k)	Ram 3500 Reg Cab LB DRW 4WD	6.7L I-6 TD	13,600 (m6,i)
Ram 2500 Power Wagon 4WD	5.7L V-8	10,250 (a5,o)	Ram 3500 Reg Cab LB DRW 4WD	6.7L I-6 TD	9,700 (a6,g)
Ram 2500 Crew Cab SB 4WD	6.7L I-6 TD	11,550 (m6,g)	Ram 3500 Reg Cab LB DRW 4WD	6.7L I-6 TD	13,700 (a6,i)
Ram 2500 Crew Cab SB 4WD	6.7L I-6 TD	12,550 (m6,i)	Ram 3500 Reg Cab LB DRW 4WD	6.7L I-6 TD	22,300 (a6,k)
Ram 2500 Crew Cab SB 4WD	6.7L I-6 TD	9,650 (a6,g)			
Ram 2500 Crew Cab SB 4WD	6.7L I-6 TD	12,650 (a6,i)	Ram 3500 Crew	Cab Shorth	ed
Ram 2500 Crew Cab SB 4WD	6.7L I-6 TD	14,650 (a6,k)	Ram 3500 Crew Cab SB SRW 2WD	6.7L I-6 TD	12,000 (m6,g)

Ram 3500 Crew Cab SB SRW 2WD	6.7L I-6 TD	14,000 (m6,i)	Ram 3500 Mega Cab SRW 4WD	6.7L I-6 TD	13,400 (a6,i)
Ram 3500 Crew Cab SB SRW 2WD	6.7L I-6 TD	10,050 (a6,g)	Ram 3500 Mega Cab SRW 4WD	6.7L I-6 TD	16,400 (a6,k)
Ram 3500 Crew Cab SB SRW 2WD	6.7L I-6 TD	14,050 (a6,i)	Ram 3500 Mega Cab DRW 4WD	6.7L I-6 TD	10,950 (m6,g)
Ram 3500 Crew Cab SB SRW 2WD	6.7L I-6 TD	17,050 (a6,k)	Ram 3500 Mega Cab DRW 4WD	6.7L I-6 TD	12,950 (m6,i)
Ram 3500 Crew Cab SB SRW 4WD	6.7L I-6 TD	11,700 (m6,g)	Ram 3500 Mega Cab DRW 4WD	6.7L I-6 TD	9,000 (a6,g)
Ram 3500 Crew Cab SB SRW 4WD	6.7L I-6 TD	13,700 (m6,i)	Ram 3500 Mega Cab DRW 4WD	6.7L I-6 TD	13,000 (a6,i)
Ram 3500 Crew Cab SB SRW 4WD	6.7L I-6 TD	9,750 (a6,g)	Ram 3500 Mega Cab DRW 4WD	6.7L I-6 TD	18,000 (a6,k)
Ram 3500 Crew Cab SB SRW 4WD	6.7L I-6 TD	13,750 (a6,i)			
Ram 3500 Crew Cab SB SRW 4WD	6.7L I-6 TD	16,750 (a6,k)	FO	RD	
			E-Series \	Van/Wagon	
Ram 3500 Crew	Cab Longbe	d	E-150 Van	4.6L V-8	6,000 (i)
Ram 3500 Crew Cab LB SRW 2WD	6.7L I-6 TD	11,850 (m6,g)	E-150 Van	4.6L V-8	6,500 (k)
Ram 3500 Crew Cab LB SRW 2WD	6.7L I-6 TD	13,850 (m6,i)	E-150 Van	5.4L V-8	7,500 (i/k)
Ram 3500 Crew Cab LB SRW 2WD	6.7L I-6 TD	9,900 (a6,g)	E-150 Extended Van	4.6L V-8	5,900 (i)
Ram 3500 Crew Cab LB SRW 2WD	6.7L I-6 TD	13,900 (a6,i)	E-150 Extended Van	4.6L V-8	6,400 (k)
Ram 3500 Crew Cab LB SRW 2WD	6.7L I-6 TD	16,900 (a6,k)	E-150 Extended Van	5.4L V-8	7,300 (i/k)
Ram 3500 Crew Cab LB DRW 2WD	6.7L I-6 TD	11,600 (m6,g	E-250 Van	4.6L V-8	6,000 (i)
Ram 3500 Crew Cab LB DRW 2WD	6.7L I-6 TD	13,600 (m6,i)	E-250 Van	4.6L V-8	6,500 (k)
Ram 3500 Crew Cab LB DRW 2WD	6.7L I-6 TD	9,700 (a6,g)	E-250 Van	5.4L V-8	7,400 (i/k)
Ram 3500 Crew Cab LB DRW 2WD	6.7L I-6 TD	13,700 (a6,i)	E-250 Extended Van	4.6L V-8	5,900 (i)
Ram 3500 Crew Cab LB DRW 2WD	6.7L I-6 TD	19,050 (a6,k)	E-250 Extended Van	4.6L V-8	6,400 (k)
Ram 3500 Crew Cab LB SRW 4WD	6.7L I-6 TD	11,550 (m6,g)	E-250 Extended Van	5.4L V-8	7,300 (i/k)
Ram 3500 Crew Cab LB SRW 4WD	6.7L I-6 TD	13,550 (m6,i)	E-350 Super Duty Van	5.4L V-8	7,400 (i/k)
Ram 3500 Crew Cab LB SRW 4WD	6.7L I-6 TD	9,650 (a6,g)	E-350 Super Duty Van	6.8L V-10	9,100 (i)
Ram 3500 Crew Cab LB SRW 4WD	6.7L I-6 TD	13,650 (a6,i)	E-350 Super Duty Van	6.8L V-10	10,000 (k)
Ram 3500 Crew Cab LB SRW 4WD	6.7L I-6 TD	16,650 (a6,k)	E-350 Super Duty Extended Van	5.4L V-8	7,200 (i/k)
Ram 3500 Crew Cab LB DRW 4WD	6.7L I-6 TD	11,200 (m6,g	E-350 Super Duty Extended Van	6.8L V-10	9,000 (i)
Ram 3500 Crew Cab LB DRW 4WD	6.7L I-6 TD	13,200 (m6,i)	E-350 Super Duty Extended Van	6.8L V-10	10,000 (k)
Ram 3500 Crew Cab LB DRW 4WD	6.7L I-6 TD	9,250 (a6,g)	E-150 Wagon	4.6L V-8	5,600 (i)
Ram 3500 Crew Cab LB DRW 4WD	6.7L I-6 TD	13,250 (a6,i)	E-150 Wagon	4.6L V-8	6,100 (k)
Ram 3500 Crew Cab LB DRW 4WD	6.7L I-6 TD	20,950 (a6,k)	E-150 Wagon	5.4L V-8	7,000 (i/k)
			E-350 Super Duty Wagon	5.4L V-8	6,700 i/k
Ram 3500 I	Mega Cab		E-350 Super Duty Wagon	6.8L V-10	8,500 (i)
Ram 3500 Mega Cab SRW 2WD	6.7L I-6 TD	11,700 (m6,g)	E-350 Super Duty Wagon	6.8L V-10	10,000 (k)
Ram 3500 Mega Cab SRW 2WD	6.7L I-6 TD	13,700 (m6,i)	E-350 Super Duty Ext. Wagon	5.4L V-8	6,500 (i/k)*
Ram 3500 Mega Cab SRW 2WD	6.7L I-6 TD	9,750 (a6,g)	E-350 Super Duty Ext. Wagon	6.8L V-10	8,300 (i)*
Ram 3500 Mega Cab SRW 2WD	6.7L I-6 TD	13,750 (a6,i)	E-350 Super Duty Ext. Wagon	6.8L V-10	10,000 (k)*
Ram 3500 Mega Cab SRW 2WD	6.7L I-6 TD	16,750 (a6,k)	*Ratings for 11-passenger van. Ratin	ngs for 14-15- pas	senger van up to
Ram 3500 Mega Cab DRW 2WD	6.7L I-6 TD	11,350 (m6,g)	200 lb. less.		
Ram 3500 Mega Cab DRW 2WD	6.7L I-6 TD	13,350 (m6,i)			
Ram 3500 Mega Cab DRW 2WD	6.7L I-6 TD	9,450 (a6,g)	Edge, Escape, Explo	orer, Expeditio	n, Flex
Ram 3500 Mega Cab DRW 2WD	6.7L I-6 TD	13,450 (a6,i)	Edge	3.5L V-6	3,500 (t)
Ram 3500 Mega Cab DRW 2WD	6.7L I-6 TD	18,450 (a6,k)	Edge	3.7 V-6	2,000*
Ram 3500 Mega Cab SRW 4WD	6.7L I-6 TD	11,350 (m6,g)	* Sport model w/ 22-inch wheels		
Ram 3500 Mega Cab SRW 4WD	6.7L I-6 TD	13,350 (m6,i)	Escape	3.0L V-6	3,500 (t)
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Ram 3500 Mega Cab SRW 4WD

6.7L I-6 TD

9,400 (a6,g)

Explorer

2.0L TC

2,000

# **2012 TOW RATINGS**

Explorer	3.5L V-6	2,000	F-150 SuperCab Std. Bed 4WD 3.3	7L V-6 5,500 (i)
Explorer	3.5L V-6	5,000 (t)	F-150 SuperCab Std. Bed 4WD 5.0	OL V-8 7,800 (h)
Expedition 2WD/4WD	5.4L V-8	6,000 (all)	F-150 SuperCab Std. Bed 4WD 5.0	OL V-8 9,400 (i)
Expedition 2WD	5.4L V-8	9,200 (t)	F-150 SuperCab Std. Bed 4WD 3.5L	V-6 TC 8,300 (f)
Expedition 4WD	5.4L V-8	8,900 (t)	F-150 SuperCab Std. Bed 4WD 3.5L	. V-6 TC 9,700 (h/i)
Expedition EL 2WD	5.4L V-8	6,000	F-150 SuperCab Std. Bed 4WD 3.5L	V-6 TC 11,300 (i,t)
Expedition EL 2WD	5.4L V-8	8,900 (t)	F-150 SuperCab Longbed 4WD 5.0	OL V-8 7,600 (h)
Expedition EL 4WD	5.4L V-8	6,000	F-150 SuperCab Longbed 4WD 5.0	OL V-8 9,300 (i)*
Expedition EL 4WD	5.4L V-8	8,700 (t)	F-150 SuperCab Longbed 4WD 3.5L	. V-6 TC 8,200 (f)
Flex	3.5L V-6	4,500 (t)	F-150 SuperCab Longbed 4WD 3.5L	. V-6 TC 9,600 (h/i)
			F-150 SuperCab Longbed 4WD 3.5L	. V-6 TC 11,100 (i/k,t)*
F	-150		F-150 SuperCrew Cab Shortbed 2WD 3.	7L V-6 5,700 (i)
F-150 Reg. Cab SB 2WD	3.7L V-6	5,500 (h)	F-150 SuperCrew Cab Shortbed 2WD 5.0	OL V-8 8,000 (f/h)
F-150 Reg. Cab SB 2WD	3.7L V-6	6,000 (i)	F-150 SuperCrew Cab Shortbed 2WD 5.0	OL V-8 9,400 (i)
F-150 Reg. Cab SB 2WD	5.0L V-8	7,900 (f)	F-150 SuperCrew Cab Shortbed 2WD 3.5L	. V-6 TC 8,500 (c)
F-150 Reg. Cab SB 2WD	5.0L V-8	8,300 (h)	F-150 SuperCrew Cab Shortbed 2WD 3.5L	. V-6 TC 9,800 (h)
F-150 Reg. Cab LB 2WD	3.7L V-6	5,600 (h)	F-150 SuperCrew Cab Shortbed 2WD 3.5L	. V-6 TC 11,300 (i,t)
F-150 Reg. Cab LB 2WD	3.7L V-6	6,100 (i)	F-150 SuperCrew Cab Shortbed 2WD 6.5	2L V-8 11,300 (i,t)
F-150 Reg. Cab LB 2WD	5.0L V-8	8,400 (f)	F-150 SuperCrew Cab H-D Edition 6.5	2L V-8 7,500 (i)
F-150 Reg. Cab LB 2WD	5.0L V-8	9,800 (h)	F-150 SuperCrew Cab Std. Bed 2WD 5.0	OL V-8 7,900 (f/h)
F-150 Reg. Cab LB 2WD	5.0L V-8	10,000 (i)	F-150 SuperCrew Cab Std. Bed 2WD 5.0	OL V-8 9,500 (i)*
F-150 Reg. Cab LB 2WD	3.5L V-6 TC	8,800 (c)	F-150 SuperCrew Cab Std. Bed 2WD 3.5L	. V-6 TC 8,400 (c)
F-150 Reg. Cab LB 2WD	3.5L V-6 TC	9,800 (h)	F-150 SuperCrew Cab Std. Bed 2WD 3.5L	. V-6 TC 9,700 (h)
F-150 Reg. Cab LB 2WD	3.5L V-6 TC	11,300 (i,t)*	F-150 SuperCrew Cab Std. Bed 2WD 3.5L	V-6 TC 11,300 (i,t)
F-150 Reg. Cab SB 4WD	3.7L V-6	5,700 (i)	F-150 SuperCrew Cab Std. Bed 2WD 6.2	2L V-8 11,200 (i)
F-150 Reg. Cab SB 4WD	5.0L V-8	7,600 (h)	F-150 SuperCrew Cab Shortbed 4WD 5.0	OL V-8 7,700 (h)
F-150 Reg. Cab SB 4WD	5.0L V-8	8,000 (i)	F-150 SuperCrew Cab Shortbed 4WD 5.0	OL V-8 9,300 (i)
F-150 Reg. Cab LB 4WD	3.7L V-6	5,900 (i)	F-150 SuperCrew Cab Shortbed 4WD 3.5L	V-6 TC 8,100 (f)
F-150 Reg. Cab LB 4WD	5.0L V-8	8,100 (h)	F-150 SuperCrew Cab Shortbed 4WD 3.5L	. V-6 TC 9,600 (h/i)
F-150 Reg. Cab LB 4WD	5.0L V-8	9,700 (i)	F-150 SuperCrew Cab Shortbed 4WD 3.5L	V-6 TC 11,200 (i/k,t)
F-150 Reg. Cab LB 4WD	3.5L V-6 TC	8,500 (f)	F-150 SuperCrew Cab Shortbed 4WD 6.2	2L V-8 11,100 (i,k)
F-150 Reg. Cab LB 4WD	3.5L V-6 TC	9,700 (h/i)	F-150 SuperCrew H-D Edition 4WD 6.5	2L V-8 7,300 (i)
F-150 Reg. Cab LB 4WD	3.5L V-6 TC	11,300 (i,t)*	F-150 Raptor 6.5	2L V-8 8,000 (k)
F-150 SuperCab Std. Bed 2WD	3.7L V-6	5,800 (i)	F-150 SuperCrew Cab Std. Bed 4WD 5.0	OL V-8 7,500 (h)
F-150 SuperCab Std. Bed 2WD	5.0L V-8	8,100 (f)	F-150 SuperCrew Cab Std. Bed 4WD 5.0	OL V-8 9,200 (i)*
F-150 SuperCab Std. Bed 2WD	5.0L V-8	9,500 (h)	F-150 SuperCrew Cab Std. Bed 4WD 3.5L	V-6 TC 8,000 (f)
F-150 SuperCab Std. Bed 2WD	3.5L V-6 TC	8,600 (c)	F-150 SuperCrew Cab Std. Bed 4WD 3.5L	. V-6 TC 9,500 (h/i)
F-150 SuperCab Std. Bed 2WD	3.5L V-6 TC	9,800 (h)	F-150 SuperCrew Cab Std. Bed 4WD 3.5L	V-6 TC 11,100 (i/k,t)
F-150 SuperCab Std. Bed 2WD	3.5L V-6 TC	11,300 (i,t)	* Requires heavy-duty payload package	
F-150 SuperCab LB 2WD	5.0L V-8	7,900 (f)		
F-150 SuperCab LB 2WD	5.0L V-8	9,300 (h)		
F-150 SuperCab LB 2WD	5.0L V-8	9,600 (i)	F-250/F-350/F-450 Super Duty	, Conventional Towing
F-150 SuperCab LB 2WD	3.5L V-6 TC	8,400 (c)	F-250/350 Reg. Cab SRW 2WD 6.5	2L V-8 12,500
F-150 SuperCab LB 2WD	3.5L V-6 TC	9,600 (h)		. V-8 TD 12,500
F-150 SuperCab LB 2WD	3.5L V-6 TC	11,300 (i,t)*	F-250/350 Reg. Cab SRW 4WD 6.5	2L V-8 12,400 (i)
F-150 SuperCab Shortbed 4WD	6.2L V-8	6,000 (k)	F-250/350 Reg. Cab SRW 4WD 6.3	2L V-8 12,500 (I)

F-250/350 Reg. Cab SRW 4WD	6.7L V-8 TD	12,500	F-350 Reg. 0
F-350 Reg. Cab DRW 2WD	6.2L V-8	12,900 (i)	F-350 Reg. C
F-350 Reg. Cab DRW 2WD	6.2L V-8	15,000 (I)	F-350 Reg. 0
F-350 Reg. Cab DRW 2WD	6.7L V-8 TD	15,000	F-350 Reg. C
F-350 Reg. Cab DRW 4WD	6.2L V-8	12,500 (i)	F-350 Reg. 0
F-350 Reg. Cab DRW 4WD	6.2L V-8	15,000 (I)	F-250/F-350
F-350 Reg. Cab DRW 4WD	6.7L V-8 TD	15,000	F-250/F-350
F-250/F350 SC SRW 2WD	6.2L V-8	12,500	F-250/F-350
F-250/F350 SC SRW 2WD	6.7L V-8 TD	14,000	F-250/F-350
F-250 SC SRW 4WD	6.2L V-8	12,200 (i)	F-250/F-350
F-250 SC SRW 4WD	6.2L V-8	12,500 (I)	F-250/F-350
F-250 SC SRW 4WD	6.7L V-8 TD	14,000	F-350 SC SR
F-350 SC SRW 4WD	6.2L V-8	12,100 (i)	F-350 SC SR
F-350 SC SRW 4WD	6.2L V-8	12,500 (I)	F-350 SC SR
F-350 SC SRW 4WD	6.7L V-8 TD	14,000	F-350 SC DF
F-350 SC DRW 2WD	6.2L V-8	12,500 (i)	F-350 SC DF
F-350 SC DRW 2WD	6.2L V-8	15,000 (I)	F-350 SC DF
F-350 SC DRW 2WD	6.7L V-8 TD	15,000	F-350 SC DF
F-350 SC DRW 4WD	6.2L V-8	12,100 (i)	F-350 SC DF
F-350 SC DRW 4WD	6.2L V-8	15,000 (I)	F-350 SC DF
F-350 SC DRW 4WD	6.7L V-8 TD	15,000	F-250/F-350
F-250/350 CC SRW 2WD	6.2L V-8	12,400 (i)	F-250/F-350
F-250/350 CC SRW 2WD	6.2L V-8	12,500 (k)	F-250/F-350
F-250/350 CC SRW 2WD	6.7L V-8 TD	14,000	F-250 CC SR
F-250 CC SRW 4WD	6.2L V-8	12,000 (i)	F-250 CC SR
F-250 CC SRW 4WD	6.2L V-8	12,500 (I)	F-250 CC SR
F-250 CC SRW 4WD	6.7L V-8 TD	14,000	F-350 CC SR
F-350 CC SRW 4WD	6.2L V-8	12,000 (i)	F-350 CC SR
F-350 CC SRW 4WD	6.2L V-8	12,500 (I)	F-350 CC SR
F-350 CC SRW 4WD	6.7L V-8 TD	14,000	F-350 CC DF
F-350 CC DRW 2WD	6.2L V-8	12,300 (i)	F-350 CC DF
F-350 CC DRW 2WD	6.2L V-8	15,000 (I)	F-350 CC DF
F-350 CC DRW 2WD	6.7L V-8 TD	17,500	F-350 CC DF
F-350 CC DRW 4WD	6.2L V-8	11,900 (i)	F-350 CC DF
F-350 CC DRW 4WD	6.2L V-8	14,900 (I)	F-350 CC DF
F-350 CC DRW 4WD	6.7L V-8 TD	17,500	F-450 CC DF
F-450 DRW 4WD	6.7L V-8 TD	17,500	* With pickup
			NOTE: Some I

F-250/F-350/F	-450 Super	Duty, Fifth-	-Wheel Towing
F-250/350 Reg. Cab	SRW 2WD	6.2L V-8	12,800 (i)
F-250/350 Reg. Cab	SRW 2WD	6.2L V-8	15,800 (I)
F-250/350 Reg. Cab	SRW 2WD	6.7L V-8 TD	16,700 (f/h)
F-250/350 Reg. Cab	SRW 4WD	6.2L V-8	12,300 (i)
F-250/350 Reg. Cab	SRW 4WD	6.2L V-8	15,300 (l)
F-250/350 Reg. Cab	SRW 4WD	6.7L V-8 TD	16,200 (f/h)
F-350 Reg. Cab DRW	/ 2WD	6.2L V-8	12,800 (i)

F-350 Reg. Cab DRW 2WD	6.2L V-8	15,800 (I)
F-350 Reg. Cab DRW 2WD	6.7L V-8 TD	22,700 (i)
F-350 Reg. Cab DRW 4WD	6.2L V-8	12,400 (i)
F-350 Reg. Cab DRW 4WD	6.2L V-8	15,400 (I)
F-350 Reg. Cab DRW 4WD	6.7L V-8 TD	22,200 i
F-250/F-350 SC SRW 2WD	6.2L V-8	12,500 (i)
F-250/F-350 SC SRW 2WD	6.2L V-8	15,500 (I)
F-250/F-350 SC SRW 2WD	6.7L V-8 TD	16,300 (f/h)
F-250/F-350 SC SRW 4WD	6.2L V-8	12,100 (i)
F-250/F-350 SC SRW 4WD	6.2L V-8	15,100 (I)
F-250/F-350 SC SRW 4WD	6.7L V-8 TD	16,000 (f/h)
F-350 SC SRW 4WD	6.2L V-8	12,000 (i)
F-350 SC SRW 4WD	6.2L V-8	15,000 (I)
F-350 SC SRW 4WD	6.7L V-8 TD	15,900 (f/h)
F-350 SC DRW 2WD	6.2L V-8	12,400 (i)
F-350 SC DRW 2WD	6.2L V-8	15,400 (I)
F-350 SC DRW 2WD	6.7L V-8 TD	22,100 (i)
F-350 SC DRW 4WD	6.2L V-8	12,000 (i)
F-350 SC DRW 4WD	6.2L V-8	15,000 (I)
F-350 SC DRW 4WD	6.7L V-8 TD	21,700 (i)
F-250/F-350 CC SRW 2WD	6.2L V-8	12,300 (i)
F-250/F-350 CC SRW 2WD	6.2L V-8	15,300 (I)
F-250/F-350 CC SRW 2WD	6.7L V-8 TD	16,100 (f/h)
F-250 CC SRW 4WD	6.2L V-8	11,900 (i)
F-250 CC SRW 4WD	6.2L V-8	14,900 (I)
F-250 CC SRW 4WD	6.7L V-8 TD	15,200 (f/h)
F-350 CC SRW 4WD	6.2L V-8	11,900 (i)
F-350 CC SRW 4WD	6.2L V-8	14,900 (I)
F-350 CC SRW 4WD	6.7L V-8 TD	15,700 (f/h)
F-350 CC DRW 2WD	6.2L V-8	12,200 (i)
F-350 CC DRW 2WD	6.2L V-8	15,200 (I)
F-350 CC DRW 2WD	6.7L V-8 TD	21,900 (i)
F-350 CC DRW 4WD	6.2L V-8	11,700
F-350 CC DRW 4WD	6.2L V-8	14,700
F-350 CC DRW 4WD	6.7L V-8 TD	21,500*
F-450 CC DRW 4WD	6.7L V-8 TD	24,400
* With nickun how delete ention		

p-box delete option

NOTE: Some F-350 models tow 100 lb. less than similarly equipped F-250 models. Consult the 2012 Ford RV & Trailer Towing Guide for details.

	HONDA	
Odyssey	3.5L V-6	3,500
Pilot 2WD	3.5L V-6	2,000
Pilot 4WD	3.5L V-6	4,500
Ridgeline	3.5L V-6	5,000

# **2012 TOW RATINGS**

111	YUNDAI		Navigator L 4WD	5.4L V-8	6,000
Santa Fe	2.4 I-4	2,000	Navigator L 4WD	5.4L V-8	8,500 (t)
Santa Fe	3.5 V-6	3,500			
Tucson	All	2,000	M	IAZDA	
Veracruz (all)	3.8L V-6	3,500 (t)	CX7 (all)	2.3L TC	2,000
			CX9 (all)	3.7L V-6	3,500
I	NFINITI				
QX56	5.6L V-8	8,500	MERCI	EDES-BENZ	
FX35	3.5L V-6	2,000	G550	5.5L V-8	3,500
FX50	5.0L V-8	3,500	G55 AMG	5.4L V-8	3,500
			GLK	3.5L V-6	3,500
	JEEP		GL350 BlueTEC	3.0L TD V-6	7,500
Grand Cherokee 2WD	3.6L V-6	5,000	GL450	4.6L V-8	7,500
Grand Cherokee 2WD	5.7L V-8	7,400 (t)	GL550	5.5L V-8	7,500
Grand Cherokee 4WD	3.6L V-6	5,000	ML350 BlueTEC	3.0L TD V-6	7,200
Grand Cherokee 4WD	5.7L V-8	7,200 (t)	ML350 2WD	3.5L V-6	4,600
Liberty 2WD	3.7L V-6	5,000 (t)	ML350 4WD	3.5L V-6	7,200
Liberty 4WD	3.7L V-6	5,000 (t)			
Wrangler	3.6L V-6	2,000	MIT	SUBISHI	
Wrangler Unlimited	3.6L V-6	2,000 (d)	Outlander 2WD	3.0L V-6	2,000
Wrangler Unlimited	3.6L V-6	3,500 (i)	Outlander 4WD	3.0L V-6	3,500
KIA			N	ISSAN	
Sedona	3.8L V-6	3,500	Armada 2WD	5.6L V-8	8,200
Sorrento	3.5L V-6	3,500	Armada 4WD	5.6L V-8	9,000
Sportage	2.4 I-4	2,000	Frontier KC 2WD	2.5L I-4	3,500
opor ago	2.111	2,000	Frontier KC 2WD	4.0L V-6	6,500
LAR	ID ROVER		Frontier KC 4WD	4.0L V-6	6,300
Land Rover LR2	3.2L I-6	3,500	Frontier CC 2WD	4.0L V-6	6,300
Land Rover LR4	5.0L V-8	7,716	Frontier CC 4WD	4.0L V-6	6,100
Range Rover	5.0L V-8	7,716	Murano	3.5L V-6	3,500
Range Rover Sport	all	7,716	Pathfinder	4.0L V-6	6,000
		•	Pathfinder	5.6L V-8	7,000
	LEXUS		Quest	3.5 V-6	3,500
RX 350 AWD	3.5L V-6	3,500	Titan KC 2WD SB	5.6L V-8	7,400
RX 450h AWD (hybrid)	3.5L V-6	3,500	Titan KC 4WD SB	5.6L V-8	7,400
GX 470	4.6L V-8	6,500	Titan KC 2WD SB	5.6L V-8	9,500*
			Titan KC 4WD SB	5.6L V-8	9,400*
<u>I-</u>	INCOLN		Titan KC 4WD SB PRO 4X	5.6L V-8	9,300
MKT	all	4,500	Titan CC 2WD	5.6L V-8	7,400
MKX	all	3,500	Titan CC 4WD	5.6L V-8	7,300
Navigator 2WD	5.4L V-8	6,000	Titan CC 2WD	5.6L V-8	9,400*
Navigator 2WD	5.4L V-8	9,000 (t)	Titan CC 4WD	5.6L V-8	9,300*
Navigator L 2WD	5.4L V-8	6,000	Titan Longbed CC 2WD	5.6L V-8	9,300
Navigator L 2WD	5.4L V-8	8,700 (t)	Titan Longbed CC 4WD	5.6L V-8	9,100
Navigator 4WD	5.4L V-8	6,000	Xterra	4.0L V-6	5,000
Navigator 4WD	5.4L V-8	8,700 (t)	* With Premium Utility Package		

	SCHE		Tundra Reg. Cab SB 2WD	4.6L V-8	8,600 (t)
Cayenne	All	7,716	Tundra Reg. Cab SB 4WD	4.6L V-8	7,100
OW	DADW		Tundra Reg. Cab SB 4WD	4.6L V-8	8,600 (t)
	BARU		Tundra Reg. Cab LB 2WD	4.0L V-6	4,800
Tribeca	3.6L H6	2,400	Tundra Reg. Cab LB 2WD	4.6L V-8	7,100
Tribeca	3.6L H6	3500 (t)	Tundra Reg. Cab LB 2WD	4.6L V-8	8,600 (t)
Forester	2.5L H4	2,400	Tundra Reg. Cab LB 2WD	5.7L V-8	8,400
Outback	2.5L H4	2,700	Tundra Reg. Cab LB 2WD	5.7L V-8	10,400 (t)
Outback	3.6R H6	3,000	Tundra Reg. Cab LB 4WD	4.6L V-8	7,100
CII	71171		Tundra Reg. Cab LB 4WD	4.6L V-8	8,600 (t)
	ZUKI	0.500	Tundra Reg. Cab LB 4WD	5.7L V-8	8,100
Equator Extended Cab	2.5L I-4	3,500	Tundra Reg. Cab LB 4WD	5.7L V-8	10,100 (t)
Equator Extended Cab	4.0L V-6	6,300	Tundra Double Cab SB 2WD	4.0L V-6	4,500
Equator Crew Cab 2WD	4.0L V-6	6,300	Tundra Double Cab SB 2WD	4.6L V-8	6,700
Equator Crew Cab 4WD	4.0L V-6	6,100	Tundra Double Cab SB 2WD	4.6L V-8	8,200 (t)
Grand Vitara	2.4L I-4	3,000	Tundra Double Cab SB 2WD	5.7L V-8	8,100
ጥበ	YOTA		Tundra Double Cab SB 2WD Tundra Double Cab SB 4WD	5.7L V-8 4.6L V-8	10,100 (t)
	2.7L I-4	2.000	Tundra Double Cab SB 4WD		6,400
4Runner 2WD 4Runner 4WD	2.7L 1-4 4.0L V-6	2,000	Tundra Double Cab SB 4WD	4.6L V-8 5.7L V-8	7,900 (t)
FJ Cruiser	4.0L V-0 4.0L V-6	5,000 4,700	Tundra Double Cab SB 4WD	5.7L V-8	7,800 9,800 (t)
Highlander	4.UL V-U 2.7L I-4	3,500 (t)	Tundra Double Cab LB 2WD	5.7L V-8	10,000
Highlander	3.5L V-6	2,000	Tundra Double Cab LB 4WD	5.7L V-8	9,800
Highlander	3.5L V-6	5,000 (t)	Tundra CrewMax 2WD	4.6L V-8	6,600
Highlander Hybrid	3.3L V-6	3,500	Tundra CrewMax 2WD	4.6L V-8	8,100 (t)
Land Cruiser	5.7L V-8	8,500	Tundra CrewMax 2WD	5.7L V-8	6,600
RAV4	3.5L V-6	2,000	Tundra CrewMax 2WD	5.7L V-8	8,100 (t)
RAV4	3.5L V-6	3,500 (t)	Tundra CrewMax 4WD	4.6L V-8	6,200
Sienna	3.5L V-6	3,500	Tundra CrewMax 4WD	4.6L V-8	7,700 (t)
Sequoia 2WD SR5	4.6L V-8	6,900	Tundra CrewMax 4WD	5.7L V-8	7,700
Seguoia 4WD SR5	4.6L V-8	6,600	Tundra CrewMax 4WD	5.7L V-8	9,000 (t)
Seguoia 2WD SR5	5.7L V-8	7,400	NOTE: Toyota Tundra tow ratings v		
Sequoia 4WD SR5	5.7L V-8	7,100	equipment selected. See your deal	ler for details.	
Sequoia 2WD Ltd	5.7L V-8	7,300			
Sequoia 4WD Ltd	5.7L V-8	7,100			
Sequoia 2WD Platinum	5.7L V-8	7,200	VOLK	SWAGEN	
Sequoia 4WD Platinum	5.7L V-8	7,000	Tiguan	2.OL I-4TC	2,200
Tacoma Reg. Cab	2.7L I-4	3,500	Touareg	All	7,700
Tacoma Access Cab/X-Runner	2.7L I-4	3,500			
Tacoma Access Cab 2WD/4WD	4.0L V-6	3,500	V	DLVO	
Tacoma Access Cab 2WD/4WD	4.0L V-6	6,500 (t)	C30	2.5L I-5TC	2,000
Tacoma Double Cab 2WD/4WD	2.7L I-4	3,500	\$60	All	3,307
Tacoma Double Cab 2WD/4WD	4.0L V-6	3,500	S80	All	3,300
Tacoma Double Cab 2WD/4WD	4.0L V-6	6,500 (t)	XC60	All	3,300
Tundra Reg. Cab SB 2WD	4.0L V-6	4,900	XC70	All	3,300
Tundra Reg. Cab SB 2WD	4.6L V-8	7,100	XC90	All	5,000

by Joel Donaldson



**Selecting and maintaining the proper hardware for your tow vehicle and trailer** 

he process of buying a new travel trailer or fifth-wheel is wrought with choices. Negotiating a price; arranging financing; settling on a fair trade-in value for your old rig; then choosing insurance, floorplans, décor schemes and optional equipment are only the beginning. However, one of the most important choices may be considered an afterthought: choosing the proper trailer hitch.

Fortunately, selecting the right hitch isn't difficult, nor is its installation — after locating a competent shop, that is. Maintaining proper adjustment of the hitch on an ongoing basis is important, and it has a large bearing on the safety and ease of trailer towing.

Trailers are available in two different designs: a travel trailer that's coupled to the rear of the tow vehicle by a conventional hitch ball, and a fifth-wheel trailer that utilizes a fifthwheel (or gooseneck) hitch mounted in the truck bed, centered over the rear axle. The hitching methods are as different as the trailers and require specific knowledge by the installer and trailer owner.

# **CONVENTIONAL HITCHES**

All hitches are rated by their respective manufacturers to safely handle up to a specific gross vehicle weight (gvw), which is the weight of the trailer with full water and LP-gas cylinders and all supplies aboard. Several weight classes exist for hitches designed for towing conventional travel trailers.

Weight-carrying hitches are intended for lighter trailers because the entire trailer's hitch weight is carried on the ball and transferred to the rear axle of the tow vehicle, whereas weight-distributing hitches are designed to distribute the trailer's hitch weight to all axles of the tow vehicle and trailer, making larger, heavier trailers with considerably higher hitch weights towable without destabilizing the tow vehicle.

A travel trailer with ideal weight distribution will have a minimum hitch weight of about 12 percent of the gross weight, and the maximum can range upward to about 15 percent, provided it does not violate the rating of the hitch.

Except for the lightest folding trailers, hitches

rated Class II and higher are used for recreational towing, and they use a receiver bolted to the tow vehicle's frame. The hitch receiver — which may have box dimensions of 11/4 inches square, 2 inches square or 21/2 inches square, with the larger boxes for higher load ratings — accepts a slide-in ball mount (or draw bar), which is secured with a pin.

Besides serving as the trailer/receiver attachment point, the ball mount also is used in varying heights (known as "drop") to couple the trailer in a level fashion (frame parallel to the road surface), which is desirable for best stability and trailer-brake performance. Some ball mounts are fixed, while others are adjustable.

Ball mounts used for weight-carrying hitches are quite different than those used for weight-distributing. The need for weight-distributing hitches varies with tow-vehicle type and trailer weight. A trailer with 350 pounds of hitch weight may present no challenge for a stiffly sprung, long-wheelbase HD pickup, while it may destabilize a softly sprung compact SUV. In general, a weight-distributing hitch will improve stability in most situations because weight resting on a hitch ball (when a weight-carrying hitch is used) loads the rear axle excessively by placing all of the hitch weight on that axle in addition to weight that is transferred from the front axle to the rear in a seesaw lever action.

Because many receivers are usable in either weight-carrying or weight-distributing configurations, depending on the ball mount, the receiver manufacturer may list both ratings.

Weight-distributing hitches should be used in many weight situations of Class II, and in most situations of Class III and above. Unlike their weight-carrying counterparts, these hitches typically use a much heavier ball mount (that's height-adjustable), plus a pair of spring bars that provide the leverage needed to distribute weight fore and aft.

# HITCH ADJUSTMENT

After having a weight-distributing hitch of proper weight rating installed, owners may take the rest for granted. This can be a costly error because an improperly adjusted weightdistributing hitch can contribute to trailer sway, which is a very undesirable, and unsafe, handling trait.

The keys to happy towing are proper hitchball height and proper tension on the spring



bars. When all aspects are correct, the tow vehicle and the trailer are at the proper ride height, which in most cases is level. One exception will be described later. Proper hitch adjustment helps prevent rear-axle overloading and improves braking and steering response.

Evaluating the proper adjustment of a weight-distributing hitch is relatively simple: The tow vehicle should maintain the same attitude before hitching that it does after hitching, measured at reference points at the front and rear bumpers or wheel wells. If it is level before hitching, it should be level afterward, although slightly lower due to the addition of hitch weight. A level attitude means the adequate load has been placed on the spring bars to distribute portions of the hitch weight equally to the front and rear axles. If the rear of the tow vehicle sags after hitching, then the spring-bar loading isn't adequate.

The exception to level attitude: If the tow vehicle is a stiffly sprung pickup and the rear of the truck is higher than the front, that attitude should be maintained after hitching. Such trucks often will carry heavy loads without the need for weight-distributing hitches and without sagging. But care must be exercised here. Although the truck may not look like it's sagging visually, the hitch weight carried by the rear axle may still create an unstable situation.

If the trailer is not level after the spring bars have been adjusted to create the proper towvehicle attitude, then the ball height should be corrected

Trailer sway can be a problem if trailer balance or hitch adjustment are not correct because the trailer exerts steering leverage on the tow vehicle by virtue of being connected to the tow vehicle 3 or 4 feet behind the rear

# THE BASICS OF HITCHING

axle. With correct hitching, trailer balance may be a problem if the hitch weight is less than 10 percent of gross weight. It should be more than 10 percent (we recommend a minimum of 12 percent) for best stability.

Even with a well-balanced trailer and a properly adjusted hitch, use of a sway-control device is highly recommended. Often called sway bars (not to be confused with anti-roll bars fitted to axles of tow vehicles), sway-control devices are designed to damp rotation of the coupler on the hitch ball. They improve the handling characteristics of the trailer/tow vehicle combination whether the hitch method is weight-carrying or weight-distributing.

Sway-control devices are available in two different configurations, the most popular of which is one that employs a steel bar, attached to the ball mount, that is encased in a rail or tube attached to a small ball on the trailer Aframe. Inside the rail or tube is friction material that is clamped against the steel bar. Any pivoting of the trailer coupler on the bar causes the bar to slide within the rail, creating drag and damping sway. On larger trailers, it's often possible to use a pair of friction-type units for additional sway control.

One popular hitch, the Equal-i-zer, includes a friction feature in the hitch design in that the tips of spring bars create friction on trailerframe brackets. Cam-type sway units work by modifying the operation of the spring bars on a weight-distributing hitch. As the trailer turns, a cam increases the tension on one of the bars. creating a force that tends to pull the trailer back into a straight line. The harder the trailer turns, the stronger this self-centering force becomes. Since this scheme relies on spring-bar tension, it's generally most effective on trailers with relatively high hitch weights (e.g., trailers requiring considerable spring-bar tension).

The Hensley Arrow and PullRite hitch systems

offer different approaches to controlling sway. The Hensley unit prevents sway through use of trapezoidal hitch linkages that make the tow vehicle and trailer act as a single unit, with no pivoting of the coupler on the ball unless the tow vehicle turns. Thus, during typical highway travel the tow vehicle and trailer are connected as non-articulated vehicles, and tend to function as a single unit. Even so, there is no restriction on the tow vehicle's capability for

The PullRite, in effect, moves the hitchpivot point to a location immediately aft of the tow vehicle's rear axle, dramatically reducing the leverage the trailer can exert on the tow vehicle

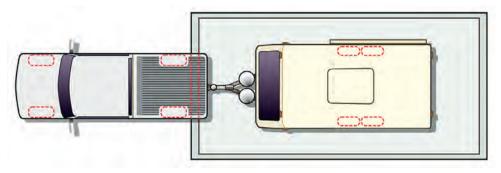
# FIFTH-WHEEL HITCHES

Fifth-wheel towing is a different story altogether. The trailer's kingpin serves as the pivot point for the fifth-wheel hitch, which is centered slightly ahead or over the truck's rear axle. The trailer's kingpin slides into the hitch saddle, where it is secured by latching jaws or some other mechanism. This saddle is attached to a support base, which transfers the towing forces to the truck frame.

The design prevents the trailer from having any steering effect on the tow vehicle, and is what gives fifth-wheel trailers such good road manners. Wind gusts and road irregularities have little or no effect on tow-vehicle stability.

Most hitches are secured to the bed with a pair of mounting rails, while other underbed systems leave the truck bed flat after the hitch is removed.

Until recently, fifth-wheel hitches have been strictly aftermarket add-ons. But Ford and GM upped the ante with the availability of a factory-installed fifth-wheel (and gooseneck) hitch, providing clean installation and a factory warranty. The trailer's electrical connection has



To determine weight, first get a reading on axle weight, then unhitch the trailer for a total weight reading (with the tow vehicle's wheels off the scale), and then subtract the two.



been mounted into the side of the bed for added convenience.

Most removable aftermarket systems use permanently mounted rails with pins to secure the hitch saddle. The underbed style of the fifth-wheel-hitch mount is completely different in that the entire hitch mechanism is removed by simply pulling a lever in the wheel well. Pull-Rite also uses an underbed system with removable connection pins. Some systems, such as the B&W Turnover Ball and Companion, allow the hitch saddle and support base to be removed separately, making it easier on the back when lifting the hardware.

Many fifth-wheel hitches are mounted so they tilt fore and aft; however, having only the fore-and-aft pivot restricts side-to-side movement

Some hitches have heads that pivot in multiple directions, allowing the pinbox to move in any direction with respect to the pickup, while still maintaining a tight mechanical connection. This also makes it easier to hitch or unhitch the trailer on uneven ground.

Another strategy for improving trailer-truck flexibility involves the use of air springs as part of the hitch design. Typically, the hitch is suspended on multiple bladder-type air bags, which support most of the trailer's kingpin weight. Aside from providing considerable articulation, these bags are also capable of smoothing out much of the road shocks and vibration that would otherwise be transmitted. from the trailer to the tow vehicle. Adjustments to the system can be accomplished by varying the amount of air pressure in the bags.

Other suspension-type hitches use a hinged pivot arm and a single airbag setup or a rubber spring in shear to provide truck-totrailer impact damping while the hitch-saddle mechanism provides the side- and fore/aft head tilting.

Shortbed pickups are now more popular than ever, particularly among extended-cab





# **USING A WEIGHT-CARRYING HITCH**

**USING A WEIGHT-DISTRIBUTING HITCH** 

A weight-distributing hitch distributes weight to all axles of the tow vehicle and the trailer.

# THE BASICS OF HITCHING











models. However, a short bed often causes complications when using the truck for towing a fifth-wheel because the proper hitch-mounting location is far enough forward to cause trailer-to-cab collisions during sharp turns. Installing an extended pinbox provides a workable solution with smaller trailers with modest pin weights; however, owners should first check with the pinbox manufacturer before adding any extension.

One solution is a conventional hitch that can be manually unlocked and moved aft on a special set of rails before making tight turns. PullRite offers a hitch that performs this motion automatically, returning to the forward-towing position after the turn is completed. Rearward travel can be as much as 22 inches for some models, which is generally adequate for accommodating 102-inch-wide trailers. Turns as tight as 90 degrees are even possible.

Some companies offer manually moving hitches to accommodate sharp turns, but the owner is responsible for unlatching the mechanism. Another system, the Reese Sidewinder, uses a special pin box that automatically handles clearance problems.

Maximum weight ratings for fifth-wheel hitches range up to 25,500 pounds gross weight, with as much as 25 percent of it on the hitch (most fivers have 20 percent hitch weight or less), and it's best to choose a unit that not only will handle the trailer it will be used to tow, but also any possibility of a larger trailer, although a higher-rated hitch will cost more and will be slightly heavier.

Whether towing a conventional trailer or a fifth-wheel, the use of a properly rated hitch, adjusted correctly, will aid in creating a safer and more manageable towing experience.  $\blacksquare$ 

by Chuck Hammock



■ lectric-brake systems have been employed for several decades on most ■ trailers that have any significant weight. Each trailer with electric brakes, in turn, also requires that the tow vehicle be fitted with a brake controller

For years, brake-controller choices have been extensive — all aftermarket and all electronic. Ford changed the game in 2005 with the first trailer-brake-control (TBC) system included as a factory-installed integral part of the tow vehicle's design, and GM and Dodge have since followed suit. The TBC synchronizes vehicle and trailer brakes for seamless braking, even under heavy load, to provide added driving control and confidence.

Until the advent of anti-lock brake systems (ABS), most brake controllers were tapped directly into the hydraulic lines of the tow vehicle's onboard hydraulic-braking system. They were often described as hydraulic/electric brake controllers, as they converted hydraulic pressure in the tow vehicle's brake system to an electric signal used to activate the trailer's brakes directly proportional to hydraulic pressure in the vehicle's braking system. A significant factor in elimination of this system was the advent of ABS because the tow vehicle manufacturers cautioned against tapping into the hydraulic system.

# FORD'S TBC SYSTEM

As Ford was first to offer a factory-installed brake controller in the tow vehicle, let's look at its system. Ford's integrated controller electronically tracks hydraulic pressure inside the vehicle's master cylinder and uses the pressure, along



with vehicle speed, to modulate the amount of current produced for trailer brakes. Thus, the system accurately follows tow-vehicle braking with more at high pedal pressure, less at low, even to the point of using ABS. If the wheels of the tow vehicle are slipping, ABS goes into action for the tow vehicle as well as the trailer. The Ford system doesn't give the trailer the same functions and characteristics of true ABS, but when the truck's ABS is activated, the trailerbrake application is reduced to avoid wheel lockup, just as with true ABS. A dash monitor indicates the level of trailer braking, and a manual override is provided so the trailer brakes can be applied independently of tow-vehicle brakes. TBC-equipped Ford Super Duty trucks also enjoy an added element of safety; if the trailer is swaying, the TBC will actually apply the trailer brakes to help stabilize the trailer.

While the Ford brake control uses brakepressure sensing, the GM and Dodge integrated controllers use inertia-type sensing to regulate trailer brake action. None of the systems can be retrofitted to earlier truck models, and aftermarket controllers still must be used for most other vehicles, so the demand for those aftermarket controllers remains quite large. Accordingly, it's

# TRAILER-BRAKE CONTROLS





helpful to understand what's out there, and how to make a good choice.

In essence, all electronic brake controllers fall into two general categories: timer-based brake controllers and inertia-based proportional brake controllers. All brake controllers generate an output signal to a trailer-brake system when a user first touches the tow vehicle's brake pedal or activates the brake controller's manual control, if so equipped. What happens next varies greatly, depending on whether you're using a timer-based or proportional brake controller.

While most manufacturers identify their proportional brake controllers as such, you usually won't see the words "timer-based" in the literature for a nonproportional brake controller. Instead, marketers will sometimes advertise timer-based controllers as having the advantage of requiring no leveling, but even that idea is confusing. Several proportional brake controllers do not require leveling. Timer-based controllers are also touted as being microprocessor-operated, but all brake controllers contain a processor of some kind. Even the most sophisticated timer-based microprocessor doesn't determine how hard you are braking, but how long you've been braking. A good rule of thumb is that if it doesn't say the word "proportional" somewhere in the literature, it's probably a timer-based brake controller.

# TIMER-BASED VS. **PROPORTIONAL**

A timer-based brake controller has a timer that generates an output signal for your RV's brakes that increases with the amount of time you keep your foot on the brake pedal. It doesn't know whether you're braking gently on a gradual downhill grade, or if you're in a panic stop. The rate of increase in output (the slope of the voltage ramp) has no bearing on pedal effort, but can usually be adjusted for braking

aggressiveness.

An inertia-based proportional controller generates an output that is, as the name suggests, directly proportional to your braking needs. Most proportional brake controllers measure the tow vehicle's rate of deceleration by means of a pendulum. The quicker you slow, the farther the pendulum is displaced, via inertia, from its at-rest position. This creates an electric signal to your trailer's brakes that is proportional to your deceleration rate.

Tekonsha and its sister companies use a series of LEDs and photoelectric detectors in their proportional controllers to determine the position of the displaced pendulum, and therefore determine the deceleration rate. Hayes Lemmerz uses the Hall effect, a physics principal involving moving magnets, to determine the pendulum's position.

All pendulum controllers are subject to some inaccuracies, as the pendulum can tilt slightly forward or backward on steep grades. Most such controllers employ a damping device to stabilize the sensor against vibrations, and the damper helps reduce the effect of the fore-or-aft-tilt problem.

The pendulum's position is adjusted through the level-control knob, which allows the pendulum to be oriented to a true vertical resting position to compensate for the angle of the brake-controller body (the "leveling" referred to in some timer-based-controller advertising). The level adjustment also allows the driver to pitch the pendulum slightly forward or aft of its normal resting position to set up the trailer so the trailer's braking is aggressive or delayed.

Most drivers prefer some braking effect from the trailer's brakes on the initial touch of the brake pedal, and adjust the brake controller accordingly to provide this so-called threshold voltage. This adjustment produces



some output (typically 2 volts), without the initial time period having passed or deceleration having occurred in the two electric brake-controller types. This time period, or deceleration event, is normally needed to activate the timerbased controller or the proportional pendulum-based controller, respectively.

With dozens of different models of brake controllers on the market, many RVers may find the selection of the right controller difficult without some form of guidance. While budgetary considerations may force a user into one category of controller, this is a critical system where pinching pennies may not be advisable.

When faced with the need for a panic stop, most drivers want a controller that will respond in proportion to their braking needs at that moment. Keep in mind that a timer-based controller can't respond in this manner, as its output is fixed for a certain timed duration.

Among more recent developments, solidstate accelerometers are being used to measure braking force. Tekonsha has embraced this technology in its Prodigy P2 brake control. Hayes uses an accelerometer in its G2 Brake Boss, as doesHensley Manufacturing in its high-tech TruControl trailer brake control. Tuson, a newcomer to the brake-controller world, offers the DirecLink, which is a true network-based unit. The DirecLink receives its data from the OBDII diagnostic port and provides proportional control of trailer brakes.

Some brake controllers aren't compatible with disc-brake systems on trailers; in such cases, the installation of a controller module such as the Carlisle HydraStar — is necessary on the trailer in order ensure functional braking.

## AFTERMARKET INSTALLATION

Critical to every successful brake-controller installation is the proper tow-vehicle wiring. While you should carefully follow the manufacturer's

recommendations, there are certain common elements to almost every controller.

A reliable power source is a priority, which may include a vehicle's built-in circuitry for an aftermarket brake controller. The main power line should be at least a 10 AWG wire from a circuit breaker at the fuse box, or the battery, to the brake controller's power-input connection (follow specific instructions for your controller). The circuit should continue from the controller, without any splices, and terminate at the seven-pin connector found at the rear of your tow vehicle. Most manufacturers advise against grounding the controller to the vehicle's firewall, but recommend routing a 10 AWG (or larger) separate ground wire directly to the battery; the controller may not function properly if the ground connection is not made directly to the battery terminal.

The other connection is made to the brakelight circuit, downstream of the brake-light switch mounted to the brake-pedal assembly, so the controller senses when the brakes have been activated.

Later-model vehicles with towing packages have brake-control wiring bundled under the dash with a plug-in connector attached. A pigtail with the mating part of the connector is supplied with the vehicle and is ready for connection to the brake-control wiring. This setup avoids most of the complexity and possible mistakes with locating the correct wiring among that maze under the dash.

Today's RVer has many choices in brake controllers from many manufacturers. It's important to carefully select the controller that is right for your needs and capable of handling the weight and number of axles on your trailer.

Be sure to follow the manufacturer's written instructions about every aspect of the brake controller's installation, operation, adjustment and maintenance for optimum performance. ₽

# What's included on these must-have tow-vehicle options?

here are many bells and whistles available when choosing a new tow vehicle, but there's one option that is an absolute necessity: the towing package.

Plenty of advantages are involved in choosing factory-installed towing hardware. First, you have full warranty coverage on the equipment. Also, it was designed by the best engineering minds at a major auto manufacturer, which is reassuring when considering the hardware is tying your truck and trailer safely together. Plus, you'll probably save money over the cost of aftermarket hardware. And perhaps best of all, use of the factory options means being ready for the road is a turnkey operation that calls for few or no trips to specialty shops after leaving the dealership.

In many cases, you don't have a choice. If the vehicle is to be rated for its highest towing capacity, the towing-package option is mandatory to give the tow vehicle its optimum performance potential. For less-strenuous duty, the towing package is optional.

Check with the dealer to determine the content of the towing-package option. Following are some of the items you will likely encounter.

**Axle Ratio:** Most packages include a lower (numerically higher) axle ratio; for example, a 3.73:1 or 4.10:1 instead of the 3.55:1 that comes with the stock vehicle. A lower ratio results in greater torque multiplication at the rear wheels, which means more power for towing. It also means the engine turns somewhat



**TOWING-PACKAGE COMPONENTS**Overall packages vary by model, but here are some components that may be included:

Hitch receiver (or fifth-wheel hitch)

4- and/or 7-pin connector

Larger alternator

Larger battery

Larger radiator

Additional electric fan(s)

**Transmission-oil cooler** 

**Engine-oil cooler** 

Rear anti-sway bar

**Extendible mirrors** 

**Vehicle Dynamic Control** 

Integrated brake controller

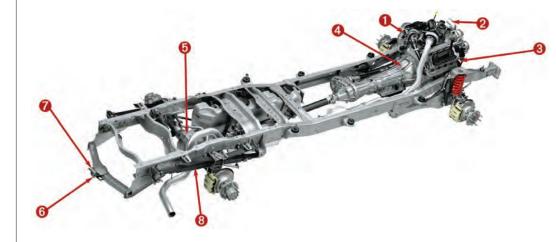
**Brake controller (or unit pre-wire)** 

**Synthetic lubricants** 

Lower axle ratio

Re-valved shock absorbers





- 1) ENGINE OPTION
- 2) HD COOLING
- 3) HD TRANSMISSION COOLER
- 4) TRANSMISSION OPTION
- **TOWING AXLE RATIO**
- **HITCH RECEIVER**
- WIRING CONNECTOR 7)
- SUSPENSION/ PAYLOAD PACKAGE

faster for a given road speed, and thus gets slightly worse mileage, but that's the tradeoff for improved towing performance.

**Hitch Receiver:** If the tow vehicle already has a receiver, all you need to select is the proper ball mount and the associated hardware, such as a load-distributing hitch. The receiver will be properly matched to the tow vehicle's trailer-towing rating, so you needn't worry about any hitch-overloading situations — as long as you pay attention to the numbers. You'll also avoid interference problems with the exhaust pipe(s), the fuel tank and the spare tire. Some trucks — such as 2011 and later Ford Super Duty pickups — also feature a factory-installed fifth-wheel hitch.

Wiring Package: The wiring package is a

group of color-coded pigtails near the back bumper that is ready for installation of the trailer-plug receptacle. It can be as complete as a plug or two installed out back, or a pre-wired pigtail for brake-control installation under the dash and full integration with the tow vehicle's electric system.

**Alternator:** It takes extra charging current to keep a trailer's battery(ies) charged in addition to handling the electrical-power needs of the tow vehicle. The battery itself may also be larger.

**Heavy-Duty Suspension:** The trailer and its hitch weight add load on the tow-vehicle suspension, so the normal reaction among dealership sales staff and buyers is to order the optional heavy-duty (HD) suspension, par-





Ford's towing mirrors easily extend for optimum visibility of the trailer.

ticularly when fifth-wheel towing is involved. In fact, when the trailer is a conventional balltype trailer, it's often best not to order a heavy-spring option if there is a choice (if the towing package does not include HD suspension) for trucks rated 8,600 pounds and higher because stiff ride and the tendency of the rear springs to do some or most of the work of the load-distributing hitch can be the result. A stiff ride is a very common complaint among owners of \( \frac{3}{4}\)-ton and one-ton pickups not towing fifth-wheels.

A case can be made for not ordering an HD suspension even for fifth-wheel towing — except in very high pin-weight situations — opting instead to install auxiliary springs or air bags after delivery to support the pin weight (if necessary). This allows a more civilized ride on standard rear springs while not towing. It's necessary to compare the standard and optional rear-axle-weight ratings relative to the anticipated trailer pin weight. It's easy to upgrade rear suspensions after a truck is built, but nearly impossible to soften the ride of an oversprung truck without replacing the suspension. SUVs have enough of their body weight on the rear axle, so that's generally not an issue.

wise, towing packages usually include a trailerwiring harness with a circuit for an aftermarket brake-control unit, a very worthwhile component of the package (see page 33).

**Stability Control:** More manufacturers are now offering electronic stability control. In addition, all Ford F-150 2011 and newer trucks include Trailer Sway Control (TSC), which can determine the yaw motion (sway) of the truck and take action, from applying precise braking to reducing engine torque.

Mirrors: Many towing packages offer mirrors designed to be extended outward while towing trailers. Some Ford mirrors even collapse electronically.

Extra Cooling: The largest possible radiator, a larger transmission-oil cooler and often a power-steering-fluid cooler are essential parts of the usual HD cooling component of a towing package, and we advise that no tow vehicle should be ordered without them.

These components will not only help the tow vehicle avoid overheating any vital functional parts, but they will also lead to longer trouble-free component service life. 🖙



# **Plenty of practice and defensive driving skills** lead to a safe and enjoyable RV experience

railer towing isn't exactly rocket science, but it does represent a step up in complexity from driving a solo vehicle. Towing requires new awareness of combined vehicle length, trailer width, braking distance, turning characteristics and several other important factors that must be considered while on the road.

Most of us drive trucks, SUVs or passenger cars daily, and tow an RV only occasionally while vacationing. Thus, it's always necessary to make a mental transition and try to keep the size and handling characteristics of the larger rig in mind.

Allowing solo-vehicle habits to take over may result in a tendency to make turns too tightly, to run over curbs, to hit stationary objects such as overhanging tree limbs or to follow too closely.

# PAY ATTENTION

The first towing precautions are those that precede towing — matching the tow vehicle and trailer correctly, adhering to weight limits and making sure hitch selection and adjustment are correct, as described elsewhere in this guide. It's also important to refresh defensive driving skills. From there, the real fun begins.

The combined length of the tow vehicle and the trailer, as well as the combined weight, must be in the front of your mind, right from the start. Maintaining extended following distances is one of the most important towing-related driving habits that initially is difficult to adhere to.

Even though trailer brakes may be functional, braking distances almost always are extended. It's also important to make lane changes carefully and slowly, and to allow extended distances for passing. High-quality, properly adjusted towing mirrors with large reflective areas are also essential. Some manufacturers have factory-installed extendible towing mirrors available, and most such factory mirrors work well these days, such as those seen on many Ford trucks. If you need aftermarket portable mirrors, solidly mounted units like those from McKesh are a good idea.

Speedy traffic seems more tolerant of slower





18-wheelers than of slower RVs, which makes courtesy an important safety factor for RV owners because an irate driver trying to pass can pose a serious safety threat. Frequent monitoring of rearview mirrors is necessary while towing; when a vehicle is tailgating and trying to pass, we should help by driving slightly to the right to give the other driver a better view of the road ahead, even if a passing opportunity does not exist at the time. We should use turnouts whenever possible and avoid following another vehicle so closely that a vehicle overtaking from the rear cannot return to the proper lane.

# BRAKING

While tow-vehicle and trailer brakes are adequate for most situations, care is necessary to avoid overheating, which can lead to brake fade. If brake fade occurs, it will likely be on steep downgrades. Brake fade happens when friction raises the temperature of brake pads and linings to extremely high levels, resulting in temporary loss of braking.

fully integrated brake controls on full-size pickups, and these units all work very nicely and are valuable safety components.

When towing with a diesel, an aftermarket exhaust brake can be extremely beneficial, and many newer diesel trucks now offer fully integrated exhaust-brake control.

# TRAILER MANEUVERING

All trailers require more space for turns, and travel trailers follow the tow-vehicle track more closely than do fifth-wheels, which track farther to the inside of a turn. There is need for continual awareness, which should eventually become second-nature after a modest amount of on-the-road experience.

Fifth-wheel trailers are different to back than conventional trailers, and require more practice for someone accustomed to backing a conventional trailer. A well-used technique involves placing one's hand at the bottom of the steering wheel and moving it in the same direction the trailer is intended to go. It's more effective with travel trailers than with fifth-

# There is need for continual awareness, which should become second-nature after a modest amount of experience.

The only known cure is prevention, such as downshifting to a gear range that is low enough to retard speed sufficiently that brakes need not be used more than occasionally. This way, enough braking performance is reserved to make an emergency stop, should it become necessary.

When braking on a grade is necessary, apply the brakes intermittently, with moderate pressure, and release the pedal to allow the brakes to cool.

The action of electric trailer brakes should be apparent to the driver, and sufficient to handle the trailer's weight. The controller should be adjusted so that maximum braking action does not cause trailer-wheel lockup. Improper controller adjustment is a major cause of inadequate braking, so it's wise to study the manufacturer's instructions. Travel-trailer instability (fishtailing) should not occur in a wellbalanced, well-hitched combination, but if it does, independent actuation of trailer brakes usually will bring the trailer back into line. Ford, GM and Dodge all offer factory-installed,

wheels, which often require more turning of the steering wheel.

Handheld two-way radios can allow an assistant to more effectively relay backing instructions to the driver. In addition, back-up cameras — such as those available on many Ford and other trucks — help ease the difficulty of hitching up when a helper isn't available.

Before each trip, it's essential to check the tires to assure that inflation pressures match those molded on tire sidewalls (cold), or that they are appropriate for your load (consult the tire and vehicle load/inflation tables). Also, be sure to inspect all vehicle fluids, per standard maintenance procedure during heavy-duty vehicle use cycles, and make sure trailer-wheel lug nuts are tightened to factory specifications.

Trailering is a great way to explore the new horizons and a great way to check out the wonderful camping destinations that are available to owners of recreational trailers. And always keep in mind that defensive driving will pay off in safe travel. 🗭