# 2009 WEB GUIDE IC DINCIPALITY TO MARKET

THE RIGHT EQUIPMENT
CHASSIS CHOICES
OFFICIAL LIST OF TOWABLES
TOWING ACCESSORIES

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User Guide

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ST



# Tow bar mounting brackets



Now you see them (bracket arms inserted)



Now you don't (bracket arms removed)

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# TOW TIME

f you enjoy the thrill of exploring the open road in your motorhome, you've probably found a few instances where bigger is not always better. That's where towing a dinghy behind your coach becomes advantageous. Want to know more? The *2009 Web Guide to Dinghy Towing* provides a selection of informative articles and a listing of new vehicles ready-made to enhance your RVing lifestyle.

Granted, no manufacturer has yet to engineer a plugand-play setup directly from the factory, but it's never been simpler to equip both dinghy and coach for road duty.

For starters, as highlighted in "The Right Connections" (page 6), the hard hookup between coach and car (or truck



or SUV) has become an easy one-person operation: self-aligning tow bars make cinching up a breeze; with some tow-bar designs, even routing cables and wiring through hollow arms, the connection is more than easy, it's eye-pleasing. Plus, manufacturers are offering an array of accessories to help keep it that way: An RV underskirt, fitted beneath the equipment, will safeguard the dinghy vehicle and towing hardware from debris. For more ironclad protection, nearly indestructible rock guards are available that quickly attach to the tow bar and shield the dinghy from road refuse.

Yet another device to aid in safe dinghy transport, supplemental braking systems have likewise evolved. Portable systems can be installed in less than an hour, and even permanent installations remain unobtrusive. Dinghy brakes may not be mandatory in some states — yet — but anytime you add a few tons of weight to the back of your motorhome, you really do need a way to slow it down without taxing the brakes on your coach.

And make no mistake, contemporary motorhomes can accommodate a lot of dinghy weight. While many new chassis are rated to handle at least 4,000 pounds of dinghy weight, certain luxury motor-coaches today carry gross combined weight ratings (GCWR) of 60,000 pounds or more — with up to 25 percent of that dedicated to towing. Because motorhome chassis limitations directly figure into dinghy selection, we've also included information on all popular motorhome underpinnings, including entries from Chevrolet, Dodge, Ford, Freightliner, Spartan and Workhorse (see "Chassis Choices for 2009," page 12) in addition to specifications for proprietary chassis built by the major coach builders including Country Coach, Fleetwood, Foretravel, Monaco and Tiffin.

However, the real focus of any dinghy towing guide is the dinghies themselves. Manufacturers are becoming increasingly sensitive to the needs of the motorhome community, and the "2009 Dinghy Roundup" (beginning on page 20) lists more than 100 passenger cars, SUVs, light trucks and hybrids that have been certified for four-wheels-down towing. The list includes many of the newest vehicles — including a plethora in the subcompact car segment. For all-terrain fun, there are plenty of 4WD vehicles to choose from.

As motorhomes continue to grow in size and stature, life on the road has never been more comfortable. A dinghy adds to that enjoyment.  $\blacklozenge$ 

Publisher Bob Livingston Art Director Susie Lieu Almazan Editor Eileen Hubbard Managing Editor Denise Santoyo Assistant Editor Kaitlyn Voyce Contributors Bob Ashley, Gary Bohinc, Chris Hemer

EDITORIAL/BUSINESS OFFICE 2575 Vista Del Mar, Ventura, CA 93001; FAX (805) 667-4484; E-MAIL Info@motorhomemagazine.com

Go To: MOTORHORHOME.com

ADVERTISING Ventura, California VP/National Sales Terry Thompson Business Manager Denielle Sternburg P.O. Box 8510, Ventura, CA 93002 TEL (805) 667-4100 FAX (805) 667-4379

Elkhart, Indiana Midwest Sales Director Chuck Lasley National Advertising Sales Tacy Hendershot, Lou Cicirelli 2300 Middlebury Street, Elkhart, IN 46516 TEL (574) 295-7820 FAX (574) 522-0418 Seattle, Washington National Advertising Sales Scott Oakes, John Marciano 1818 Westlake Avenue N, #420 Seattle, WA 98109 TEL (206) 283-9545 FAX (206) 283-9571

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# THE RIGHT CONNECTIONS



### Linking up with the correct equipment adds safety, simplicity and convenience to dinghy towing

raveling with a dinghy vehicle is almost a given with today's larger motorhomes. Although the trend to bigger coaches has injected "camping" with more creature comforts than a luxury hotel room, it's not without its drawbacks. Even rigs with a 60-degree wheel cut will encounter some difficulty negotiating narrow roads in smaller towns during sightseeing tours —

roads in smaller towns during sightseeing tours and it's just not fun trying to park a 40-footer at local markets when replacing perishables.

A dinghy simplifies such tasks, and eliminates the need to break camp and stow everything each time you need (or want) to venture away from the campground. Additionally, the dinghy can stow gear securely when motorhome storage is filled (within weight restrictions), and there is the security of having a spare set of wheels in the event of an emergency.

However, it isn't for free; towing a dinghy will affect the acceleration, fuel economy and braking

of any motorhome, to some degree. That said, proper selection of a dinghy and towing equipment will enable you to safely and conveniently enjoy the benefits of auxiliary transportation.

#### **FLAT TOWING**

The first and most essential step in selecting a dinghy vehicle is to make sure it is approved by its manufacturer for flat towing (see "2009 Dinghy Roundup," page 20). While you do have other options — most passenger cars or light trucks can safely be used as a dinghy, provided a towing accessory (such as a transmission lube pump) is available for that specific model as an aftermarket add-on, or towing on a dolly or trailer is planned — these vehicles have been certified for four-wheels-down towing without affecting their warranties. That said, however, buyers should always first confirm flat-towability by consulting the vehicle owner's manual before the purchase is finalized.

When selecting a dinghy, first determine the

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Once the tow bar is attached to both vehicles, make sure electric connections and safety cables are secure.

maximum towing limit of your motorhome and then decide what vehicles fall within that limit. Towing limits aren't the only factor to consider, but they help to eliminate many choices based on weight alone. The weight rating of the motorhome's hitch receiver is another concern, although most are adequate, and receivers can be upgraded. Keep in mind, however, that an upgraded hitch receiver cannot increase the specified towing limit set by the coach manufacturer.

An economical four-passenger compact car can double as a family's second car when not traveling, but even a larger SUV or sport truck can be towed, providing its weight is within the towing limit of your chassis (refer to "Chassis Choices for 2009," page 12).

Most flat-towed dinghies track so well that many motorhome drivers have commented, "You don't even know it's there." Front-wheel-drive (FWD) vehicles with manual transmissions and most 4WD vehicles with manual transfer cases are among the easiest and most economical to tow. Plus, they tend to rank among the lightest vehicles.

Some auto manufacturers also produce FWD vehicles

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equipped with automatic transmissions that are flat-towable. They are popular because the expense of towing equipment is minimal, and readying for towing involves fewer steps.

But some vehicles do require special procedures, such as starting the engine every 200 miles to circulate transmission fluid. Note that this can-

RHOME.com



While driving your dinghy, this tow bar remains on the coach, tucked out of harm's way.

Coach-mounted self-aligning tow bars make hitching a one-person job.

not simply be circumvented by overfilling the transmission prior to towing, because the problem isn't caused by lack of sufficient fluid but rather by lack of oil circulation. Such practices, although inconvenient, are designed to prevent drivetrain damage and must be incorporated into

the towing routine.

Another vehiclespecific consideration is that towing some

Roadmaster's Falcon All Terrain is rated to tow up to 6,000 pounds.

The Roadmaster Sterling All Terrain, like the Falcon, uses non-binding technology.

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### THE MOTORHOME/DINGHY LINK

n essential ingredient in safe dinghy towing involves a solid, properly designed-and-installed mechanical linkage between the motorhome and the towed vehicle. Hitch receivers, tow bars and baseplates must all be in good working order, rated for the weight you intend to pull and, when applicable, designed for the specific application.

Hitch receivers: Check the rating of your hitch receiver to ensure that it is rated for the heaviest load you intend to pull. If a receiver is already installed on your coach, the weight limits and class should be clearly visible on it.

However, the riding height of a motorhome rarely matches up with that of the chosen dinghy, oftentimes necessitating the use of an adjustable-height drop receiver to allow the tow bar to ride level. Receivers should be bolted (not welded) in place, using at least Grade 5 bolts and lock washers, locking nuts and threadlocking sealer.

Tow bars are available in two basic styles: A-frame, or self-aligning, A-frame tow bars (offered as "solid" or "folding"), while the most economical, are designed to fit a limited number of baseplates (the mounting brackets affixed to the dinghy) or specific applications; however, the folding design will fit a wider range than the solid design. These types of tow bars are strong, but heavy, and require storage space when not in use. Hitching is easier with a helper to guide



Baseplate installation does not require welding or specialized tools, but can be involved. If you have any doubts, have a professional do it.



To hook up using a telescoping tow bar, the dinghy vehicle only needs to be near the center and midlength of bar.

alignment.

Self-aligning tow bars are available in two styles: dinghy-mounted and coach-mounted. Coach-mounted units are the most desirable, as there is less chance of damage when not in use — and hitching is a one-person operation. Highly adaptable, selfaligning tow bars fit a broad range of vehicles

dinghies with the ignition switch in a position that allows the steering column remain unlocked also leaves power applied to various electrical circuits. Over the course of a full day of towing, this can lead to



significant battery drain. While strategies for dealing with this vary considerably by model, most fixes involve temporarily unplugging one or more fuses from the vehicle's fuse box prior to towing. A more involved alternative is to connect the offending circuit through an owner-added switch, allowing these circuits to be made tow-ready by the mere flip of a switch.

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### BEFORE YOU TOW

Make sure your equipment is rated for the dinghy's weight and that you are not exceeding your motorhome's gross combination weight rating (GCWR). Confirm hitch height is correct. Confirm all hitch bolts and tow-bar and baseplate fasteners are securely tightened. Confirm all hitch and wiring connections
are engaged and secure; all safety chains
or cables are attached;
and all locking pins
are properly installed.
Connect brake
system and breakaway device.
Check motorhome

and dinghy for proper function of taillights, brakelights and turn signals.

Check tire pressure

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Once the pins are in, the motorhome is driven ahead slowly (or dinghy backed) to lock the arms in position.

by attaching to modelspecific baseplates: Class III (5,000-lb.) or Class IV (10,000-lb.) models are available. Contact tow-bar manufacturers to find out if baseplates are offered for the dinghy you plan to tow.

Baseplates are perhaps the most critical variable in this link. While tow bars and, obviously, hitch receivers are intended for mass fitment, different brands, models and years of dinghy vehicles require different baseplates and installation procedures, so proper selection and installation are essential.

Installing a baseplate typically entails very specific procedures. For example, fitting baseplates on three popular dinghy models — the Saturn VUE, Honda CR-V and Suzuki Grand Vitara — requires different steps.

Installing a baseplate on the VUE is relatively simple, requiring only some minor drilling, as well as temporary removal of the bumper covering (fascia). Due to the vehicle's shape, the baseplate's two attachment points are located at a nonstandard distance from each other, requiring the installation of an adapter to fit the tow bar.

To install a baseplate on the CR-V, the bumper covering (fascia) must be temporarily removed. Some minor drilling is required and the bumper covering and/or grille may also require some trimming.

Installing the Grand Vitara's baseplate is a bit more involved, requiring temporary removal of the bumper covering, front fascia panels and some minor trimming of the grille inserts and shock absorption pads.

On some vehicles, the baseplate installation process can be even more intricate. For example, the air dam may need to be trimmed or the factory-installed belly pan may require either trimming or permanent removal. Such requirements are described in the manufacturer's fitment charts hopefully eliminating any unpleasant surprises at installation time. Today's baseplates do a good job of blending into the exterior lines of the dinghy vehicle.

Remember, too, that all 50 states require properly rated safety chains or cables to keep the dinghy from separating from the motorhome if the tow bar or ball fails. Safety chains or cables should be connected securely to the dinghy and crossed under the tow bar, then secured to the hitch receiver. They should be long enough to allow full turning without binding, but not drag when slack.

of all tires on motorhome and dinghy including spare tires. Make sure the dinghy is set up for towing: steering unlocked; hand brake off; gear selector in the position specified by manufacturer; ignition in proper position; lube-pump switch, driveshaft coupler, 4WD transfer case and hubs (if applicable) in proper position.

### AS YOU GO

Observe the speed limit for towing in each state or province you traverse.
 Maintain adequate stopping distance from the vehicle in front of you.
 A minimum five-second interval is recommended.

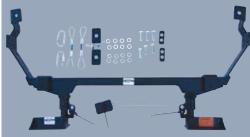
- Avoid towing in snowy or icy conditions.
- Pay particular attention to traffic merging onto the freeway, and be prepared to take evasive action to avoid "daydreamers."

Plan ahead — most flat-towed dinghies can't be backed more than a few feet, so it's necessary to focus on easy ingress and egress. Most tow-bar manufacturers will not warrant damage caused by backing. Dollies tend to jackknife quickly. It's better to disconnect the dinghy and drive to a safe place to reconnect.

Avoid having to make tight turns; they put a lot of pressure on tow bars.
Towing in deep sand or gravel may cause the dinghy's front wheels to turn to one side. If this happens, you must manually recenter them before continuing.
Walk around the motorhome and dinghy to inspect all connections, check tire pressure and look for signs of trouble every time you stop.

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### **OTHER TOWING** EQUIPMENT



Baseplate kits are designed for specific models, and come complete with all mounting hardware.

hould you choose (or already own) a vehicle that is not flat-towable as produced, there are retrofit kits for many models. One retrofitter, Remco Manufacturing (www.remcotowing.com) estimates 80 percent of passenger vehicles can be modified to serve as dinghies with its line of retrofit products.

For rear-wheel-drive (RWD) and some 4WD applications, couplers enable the driveshaft to be easily disconnected from the transmission or differential by a cable or lever mounted near the driver's seat. These kits run about \$650 and can be installed in about three hours.

A transmission-lube pump can be mounted and plumbed into some automatic transmissions to keep fluid circulating while the vehicle is in tow.

Other FWD vehicles can be adapted using a Remco axle-lock disengagement device. Check with your dealer to make sure a specific modification does not affect the dinghy's warranty.

Tow dollies also offer an alternative to flat-towing, although they take up space in camp. Remember that the dolly weight must be figured in with the total weight of the dinghy.

Trailers track better than dollies, but they



Once the proper baseplate is installed, this clean-looking setup is all that remains when the towed vehicle isn't hooked up; cooling doesn't suffer.

take up even more precious space in camp. Also, the weight of the trailer drastically cuts into the total weight that can be pulled behind a motorhome, thereby making this method a distant third choice.



Lube pumps allow towing of some automatic transmission-equipped vehicles not manufacturer-approved for flat towing.

There are a number of other accessories for dinghy towing. Some, like dinghy braking devices, should be considered mandatory, while others (such as rock guards and RV underskirts) protect against road debris. These components are addressed in "Towing Accessories" (page 28), along with dinghy wiring and lighting. ◆

#### 2009 WEB GUIDE TO DINGHY TOWING SPONSORS

Produced by the editors of *MotorHome* for the publication's Web site, the *2009 Web Guide to Dinghy Towing* was developed with assistance from the following manufacturers: AUTOMATIC EQUIPMENT MANUFACTURING (Blue Ox Products), (888) 425-5382, www.aemfg.com.

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# TigerTrak™



If you drive a front engine gas motorhome, you've experienced it all too often - the rear end wagging as the body shifts from side to side. TigerTrak track bars from **Blue Ox** greately reduce this tail wag.

• Superior stabilizing track bars. When the springs of gas motorhomes sway from side to side, such as when passing a large vehicle, the TigerTrak allows unhindered up-and-down movement of the parabolic springs while virtually eliminating tail wag.

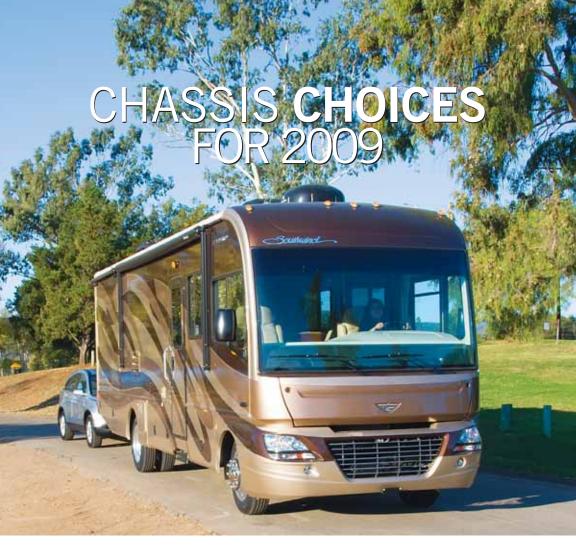
• **Fits most motorhomes.** The TigerTrak has units for the front/rear of all Workhorse W Series, Ford F-53 and Kodiak Super C 4500 and 5500 series. There are many other track bars being created, so you'll be sure to find a fit for your motorhome.

• Superior construction, easy installation. Made from premium materials including high-strength alloy steel and polyurethane bushings, the TigerTrak has increased stability for less. Installation is easy with only basic tools needed and no drilling required!

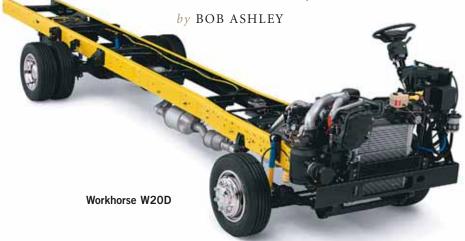
For more information on TigerTrak track bar systems and to find a dealer near you, visit **www.steeringcontrols.com** or call **1-800-336-4336** today!



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This year's selection offers an exciting mix, including the **first-ever Class A Sprinter**, new **front-end diesels**, increased **towing capabilities**, and a recently unveiled **RV diesel hybrid** 



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hassis to the casual observer are an amalgamation of steel beams, cross members, suspension systems, wires and tanks.

The functional fact of the matter is that chassis serve as a platform for big-and-getting-bigger slideout rooms, integrated control systems, granite countertops and marble floors, residential-style furniture and convenient floorplans.

Chassis for 2009 continue to evolve and provide motorhome manufacturers more options for what they build and how they build it.

The most noteworthy new chassis for 2009 include a Class A version of the imported Dodge Sprinter chassis that previously had been designed only in Class B and Class C coaches; front-engine diesel versions of the heretofore gas-powered Workhorse

W-Series chassis using Navistar MaxxForce engines, along with a separately developed frontdiesel Class A W16D; a 14,500-pound E-series Class C gas-powered chassis from Ford equipped with a 255-HP 5.4-L Ford V-8 engine; and the new diesel Power Bridge from Fleetwood in partnership with Freightliner. In the Class C-plus arena, International Engine's Dura-Star and Chrysler's Dodge Ram 5500 platforms entered the RV market in motorhomes with high gross vehicle weight ratings (GVWR) assembled by Gulf Stream.

ecoFRED

In addition, Freightliner also unveiled the

Chas	sis Weight Formulas
<b>cvw</b> (gross vehicle weight)	ACTUAL WEIGHED TOTAL OF: Motorhome + full fuel, fluid tanks (holding and water) and LP-gas + cargo weight + passenger weight.
<b>GVWR =</b> (gross vehicle weight rating)	Chassis manufacturers' maximum allowable weight of the fully loaded motorhome (including passengers, fuel, LP-gas, fluids and cargo). <i>The gvw must never exceed the gvwr.</i>
<b>GCW</b> = (gross combined weight)	ACTUAL WEIGHED TOTAL OF: Motorhome + full fuel, fluid tanks, LP-gas + cargo weight + passenger weight + the loaded weight of anything being towed (dolly, trailer or dinghy).
(gross combined weight rating)	Chassis manufacturers' maximum allowable weight of the fully loaded motorhome (including passengers, fuel and fluid tanks, LP-gas and cargo) + the loaded weight of anything being towed (dolly, trailer or dinghy). <i>The gcw must never exceed the gcwr.</i>

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Tiffin PowerGlide

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ecoFRED diesel/electric "hybrid" chassis during the 2008 National RV Trade Show in Louisville, Kentucky, that promises to improve fuel mileage. "The ecoFRED was developed to address environmental concerns as well as fuel-savings opportunities that are important to our customers," said Tony Sippel, RV product manager for the Gaffney, South Carolina, subsidiary of Daimler Trucks North America.

The new Sprinter Class A chassis with a 11,030-pound GVWR from Daimler AG that carries the Dodge nameplate in the U.S. is powered by a 154-HP 3.0-L turbocharged V-6 diesel engine that will get an estimated 15 MPG when it debuts on Winnebago Via/Itasca Reyo motorhomes later this year.

Similarly, Gulf Stream Coach introduced the Montaj Class A on the E-series chassis that traditionally has been the platform for Class C motorhomes.

With midrange weight ratings ranging from 28,000 to 32,000 pounds, Fleetwood's Power Bridge diesel-pusher chassis, equipped with Cummins ISB or ISC engines rated to 360 HP, offers up to 242 cubic feet of pass-through storage along with increased water and fuel tank capacities of 105 and 100 gallons, respectively, and has become the platform of choice for most of Fleetwood's diesel-pushers.

As it already does with the Liberty chassis on the American Coach series, Fleetwood adds a bridge — i.e., connecting supports — of its own design to front and rear sections to customize the chassis for each application.

"We are looking at more tank capacity and more pass-through storage — and lighter-weight component materials," said Stan Sassmann, a product development manager for Fleetwood. "Weight is always an issue. It always has been the case in Class C and Class A gas chassis, and it's going to take on the same sense of importance on the larger diesels as well."

**Fleetwood Power Bridge** 

North American RV builders have long looked for inspiration to Europe where motorhomes generally get better fuel mileage, although most of the Continent's Class A diesel chassis typically weigh considerably less than their American counterparts.

Taking inspiration from their European brethren, Workhorse developed a 16,000-pound gvwR W16D low-profile chassis powered by the International MaxxForce 5, a six-cylinder turbodiesel front engine. The W16D is estimated to get 14.5 MPG as a platform under Damon Motor Coach's new Avanti Class A motorhome and is expected to become the framework for offerings from other motorhome builders. "The low profile allows you to design better aerodynamics," said Matt Thompson, Damon's vice president of Avanti sales.

According to Bill Walmsley, Workhorse director of marketing, "The biggest thing we've been trying to do is work with fuel economy. We've taken a platform we already used in other segments of our business and we've re-engineered it for RV applications. It's not designed to be the performance machine that we typically have strived for in the past with our big block engines and some of our diesel chassis, but it is very functional."

Also with the idea of increasing fuel mileage, Workhorse introduced the W20D and W22D frontengine diesel chassis with a GVWR of 20,500 and 22,000 pounds, respectively, powered by 230-HP MaxxForce 7 V-8 engines.

"Manufacturers already know how to build on this platform, and we've added a fuel-efficient diesel engine that's already set up for the new 2010 EPA emission requirements," Walmsley said. ◆

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		CLAS	S C		
MODEL	WHEELBASES (INCHES)	ENGINE(S)	GVWR <sup>1</sup> (LBS.)	GCWR <sup>2</sup> (LBS.) A	TOWING LLOWANCE (LBS.) <sup>3</sup>
		CHEVRO	DLET		
KODIAK C4500/ C5500	166–221	GM Vortec 8.1-L V-8 325 HP/450 LB-FT Duramax 6.6-L V-8 diesel 300/330 HP/705/841 LB-FT	16,500–21,500	26,000	Determined by manufacturer
		CHEVROLET/W	ORKHORSE		
	159	GM Vortec 6.0-L V-8 323 HP/373 LB-FT	14,200	20,000	5,800
		DODO	ξE		
RAM 5500	238.5–257.5	Cummins 5.7-L 350 нр/610 lb-ft	19,500	26,000	6,500
		DODGE/FREIC	GHTLINER		
SPRINTER	144, 170	Mercedes-Benz 3.0-L V-6 diesel 154 нр/280 LB-FT	11,030	15,520	5,000
		FOR	D		
E-350SD	138, 158, 176	Ford 6.0-L V-8 diesel 235 HP/440 LB-FT Ford 6.8-L V-10 305 HP/420 LB-FT Ford 5.4-L V-8 255 HP/350 LB-FT	10,000–12,500	13,000–20,000	7,800–10,000
E-450SD	158, 176	Ford 6.0-L V-8 diesel 235 HP/440 LB-FT Ford 6.8-L V-10 305 HP/420 LB-FT Ford 5.4-L V-8 255 HP/350 LB-FT	14,500	20,000–22,500	10,000
		NAVISTAR/INTE	RNATIONAL		
DURASTAR	140–254	MaxxForce DT I-6 diesel 300 нр/660 LB-FT	25,500	33,000	Determined by manufacturer

	CLASS A									
MODEL	WHEELBASES (INCHES)	ENGINE(S)	GVWR <sup>1</sup> (LBS.)	GCWR <sup>2</sup> (LBS.)	TOWING ALLOWANCE (LBS.) <sup>3</sup>					
	CUSTOM CHASSIS PRODUCTS									
RSR	192	Cummins ISB-AD 5.9-L I-6 340 HP/660 LB-FT	22,000	26,000	4,000					
RSRH	216	Cummins ISB-AD 5.9-L I-6 340 нр/660 LB-FT	25,000	29,000	4,000					
RR4R	204–252	Cummins ISB 5.9-L I-6 340 нр/660 LB-FT	29,000	36,000	7,000					
RR8R	237–273	Cummins ISC 8.3-L I-6 360 HP/1,050 LB-FT Cummins ISL 8.9-L I-6 425 HP/1,200 LB-FT	33,000	43,000	10,000					
<sup>1</sup> Gross vehicle	weight rating. <sup>2</sup> Gross c	ombined weight rating. <sup>3</sup> Depend	ding on actual motorh	ome weight.						

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MODEL	WHEELBASES		GVWR <sup>1</sup>	<b>GCWR</b> <sup>2</sup>	TOWING
-	(INCHES)		(LBS.)		LLOWANCE (LBS.)
RR8S	248–272	Cummins ISL 8.9-L I-6 425 нр/1,200 LB-FT	37,600	47,600	10,000
RR10R	261	Cummins ISC 8.3-L I-6 360 нР/1,050 LB-FT Cummins ISL 8.9-L I-6 425 нР/1,200 LB-FT	43,000	53,000	10,000
RR10S	248–272	Cummins ISL 8.9-L I-6 425 нр/1,200 lb-ft	44,600	54,600	10,000
		DYNOMAX (COUM	NTRY COACH)		
TRIBUTE	239, 263	Caterpillar C9 9.3-L I-6 425 нР/1,350 LB-FT Cummins ISL 8.9-L I-6 425 нР/1,200 LB-FT	37,200	47,200	10,000
INSPIRE	205, 229, 265, 277, 279	Caterpillar C9 9.3-L I-6 425 нР/1,350 LB-FT Cummins ISL 8.9-L I-6 425 нР/1,200 LB-FT	37,200–47,600	47,200–57,600	10,000
ALLURE	219, 243, 279, 296	Caterpillar C9 9.3-L I-6 425 нР/1,350 LB-FT Cummins ISL 8.9-L I-6 425 нР/1,200 LB-FT Cummins ISM 10.8-L I-6 500 нР/1,550 LB-FT	47,600	57,600–62,600	10,000-15,000
INTRIGUE	234, 270, 294	Caterpillar C13 12.5-L I-6 525 HP/1,750 LB-FT Cummins ISM 10.8-L I-6 500 HP/1,550 LB-FT	52,000	67,000	15,000
MAGNA	241, 265, 289	Caterpillar C15 15.2-L I-6 625 нР/1,900 LB-FT Cummins ISX 14.9-L I-6 600 нР/1,850 LB-FT	54,000	69,000	15,000
AFFINITY	241, 265, 289	Caterpillar C15 15.2-L I-6 625 нР/1,900 LB-FT Cummins ISX 14.9-L I-6 600 нР/1,850 LB-FT	54,000	69,000	15,000
RHAPSODY	292	Caterpillar C15 15.2-L I-6 625 нр/2,150 LB-FT	59,000	79,000	20,000
		FOR	D		
F-SERIES SUPER DUTY	158, 178, 190, 208, 228, 252	Ford 6.98-L V-10 362 HP/457 LB-FT	16,000, 18,000 20,500, 22,000 24,000, 26,000	26,000–30,000	4,000–10,000
		FREIGHTI	LINER		
MC (FRED)	178, 190, 208, 228, 242, 246, 250, 252, 254, 260, 270		22,000–27,500	26,000–30,000	Determined by manufacturer

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		CLAS	S A		
MODEL	WHEELBASES (INCHES)	ENGINE(S)	GVWR <sup>1</sup> (LBS.)	GCWR <sup>2</sup> (LBS.) AL	TOWING LOWANCE (LBS.
XCS	190, 193, 200, 203, 208, 228, 242, 252, 262, 266, 276	Cummins ISB 5.9-L I-6 300 HP/620 LB-FT 340 HP/660 LB-FT 325 HP/750 LB-FT 	26,000–32,400	30,000-42,400	Determined by manufacturer
XCR	193, 200, 203, 208, 216, 228, 234, 238, 242, 248, 252, 262, 266, 272, 276, 282 (tag axle), 288 (tag axle)	Cummins ISB 5.9-L I-6 300 HP/620 LB-FT 340 HP/660 LB-FT 325 HP/750 LB-FT 350 HP/750 LB-FT Cummins ISC 8.3-L I-6 360 HP/1,050 LB-FT Cummins ISL 8.9-L I-6 370 HP/1,200 LB-FT 400 HP/1,200 LB-FT 425 HP/1,200 LB-FT	26,000-44,600	30,000-59,600	Determined by manufacturer
ecoFRED 178, 190, 208, 228, 242, 246, 250, 252, 254, 260, 270		Cummins ISB 6.7-L I-6 300 нр/620 lb-ft	27,000	37,000	Determined by manufacturer
XCL	228, 267, 276	Cummins ISL 8.9-L I-6 29,500–34,600 39,50 400 нр/1,200 lb-ft 425 нр/1,200 lb-ft		39,500–44,600	Determined by manufacturer
XCP POWERLINER	252, 266, 282, 292, 296	Cummins ISM 10.8-L I-6 500 HP/1,550 LB-FT	44,600–49,000	59,600–64,000	15,000
(CP POWERLINER III Tag axle)	252, 266, 282, 292, 296	Cummins ISM 10.8-L I-6 500 HP/1,550 LB-FT	50,000	65,000	15,000
		FREIGHTLINE	ER/DODGE		
SPRINTER F-50 COWL CHASSIS	170	Mercedes-Benz 3.0-L V-6 diesel 154 HP/280 LB-FT	11,030	15,250	5,000
		FORETR	AVEL		
PHENIX	252, 276, 304	Cummins ISX 15-L I-6 650 нр/1,950 lb-ft	52,000	60,000	18,000
NIMBUS	228, 252, 276	Cummins ISL 8.9-L I-6 425 нр/1,200 LB-FT Cummins ISM 11.0-L I-6 500 нр/1,550 LB-FT	34,800–46,800	51,000-60,000	15,200–16,200
		LIBERTY (FLE	ETWOOD)		
AMERICAN ALLEGIANCE 40X, 42G, 42T	278–302	Cummins ISL 8.9-L I-6 400 HP/1,200-1,500 LB-FT	34,600–44,600	49,600–59,600	15,000

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		CLAS	S A		
MODEL	WHEELBASES (INCHES)	ENGINE(S)	GVWR <sup>1</sup> (LBS.)	GCWR <sup>2</sup> (LBS.) A	TOWING LLOWANCE (LBS.) <sup>3</sup>
AMERICAN TRADITION 42C, 42F, 42M, 42P	302	Cummins ISL 8.9-L I-6 425 нр/1,200 lb-ft	44,600	61,600	15,000
AMERICAN EAGL 42C, 42F, 42M, 4 45D, 45E, 45H		Cummins ISM 10.8-L I-6 500 нр/1,550 lb-ft	46,600	61,600	15,000
AMERICAN HERI 45B, 45E	TAGE 304	Cummins ISM 10.8-L I-6 500 HP/1,550 LB-FT Cummins ISX 14.9-L I-6 650 HP/1,550-1,950 LB-FT	46,600–50,600	61,600–65,600	15,000
		POWER BRIDGE (	(FLEETWOOD)		
BOUNDER DIESE 36B, 36D, 38F, 38S, 38V	ïL 228–252	Cummins ISB 6.7-L I-6 340 HP/660 LB-FT	28,000	33,000	5,000
EXPEDITION 34H 38F, 38L, 38R, 3		Cummins ISB 6.7-L I-6 325 hp/750 lb-ft	31,000	41,000	10,000
DISCOVERY 37D, 39R, 40G, 40K, 40X	228–252–276	Cummins ISB 6.7-L I-6 350 нр/750 lb-ft	31,000	41,000	10,000
EXCURSION/ PROVIDENCE 39F 40E, 40Q, 40T, 4		Cummins ISC 8.3-L I-6 360 HP/1,050 LB-FT	32,000	42,000	10,000
	R	OADMASTER (MONACO (	COACH CORPORAT	ION)	
RR4R	204–252	Cummins ISB 5.9-L I-6 340 нр/660 lb-ft	29,000	36,000	7,000
RR8R	237–261	Cummins ISC 8.3-L I-6 360 HP/1,050 LB-FT Cummins ISL 8.9-L I-6 400 HP/1,200 LB-FT	33,000	43,000	10,000
RR8S	248–272	Cummins ISL 8.9-L I-6 425 нр/1,200 LB-FT	37,600	47,600	10,000
RR10R	261	Cummins ISL 8.9-L I-6 400 нр/1,200 LB-FT	43,000	53,000	10,000
RR10S	270	Cummins ISL 8.9-L I-6 425 нр/1,200 lb-ft	44,600	54,600	10,000
S-SERIES	242–284	Cummins ISL 8.9-L I-6 425 HP/1,200 LB-FT Cummins ISM-II 11.0-L I-6 500 HP/1,550 LB-FT Cummins ISX 15.0-L I-6 650 HP/1,950 LB-FT	50,300	60,300	10,000–15,000
		SPART	AN		
NVS	Per coachbuilder's specs	Cummins ISB 300 HP/620 LB-FT	23,000–25,500	28,000	5,000
NVS GT	Per coachbuilder's specs	Cummins ISC 300 HP/1,000 LB-FT	24,000–29,500	34,000–39,500	10,000
К2	Per coachbuilder's specs	Cummins ISM 500 HP/1,550 LB-FT	44,601–46,600 (with tag axle)	59,601–61,600 (with tag axle)	15,000
<sup>1</sup> Gross vehicle we	ight rating. <sup>2</sup> Gross co	ombined weight rating. <sup>3</sup> Deper	nding on actual motorh	nome weight.	

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		CLAS	S A		
MODEL	WHEELBASES (INCHES)	ENGINE(S)	GVWR <sup>1</sup> (LBS.)	GCWR <sup>2</sup> (LBS.) AL	TOWING LOWANCE (LBS.)
КЗ	Per coachbuilder's	Cummins ISX	50,601–54,000	65,601–69,000	15,000
	specs	600/650 нр	(with tag axle)	(with tag axle)	
		1,850/1,950 LB-FT			
MOUNTAIN	Per coachbuilder's	Cummins ISC	29,601–34,600	39,600–46,600	10,000-12,000
MASTER	specs	330/360 нр			
		1,850/1,950 LB-FT			
MOUNTAIN	Per coachbuilder's	Cummins ISL	31,601–34,600	46,601–49,600	15,000
MASTER GT	specs	350/400/425 нр	41,601–44,600	56,601–59,600	
		1,200 LB-FT	(with tag axle)	(with tag axle)	
		TIFF	IN		
POWERGLIDE	238–318	Cummins ISL 8.9-L	36,600-49,900	46,600–59,000	10,000
		425 HP/1,200 LB-FT			·
		WINNE	BACO		
MAXUM	267	Cummins ISL 8.9-L		42.250 44.220	10.000
WAXUW	207	400/425 HP/1,200 LB-FT	32,350–34,320	42,350–44,320	10,000
		,			
		WORKH			
W16	158.5–228	GM Vortec 8.1-L V-8	16,000	22,000	4,000
		340 нр/455 lb-ft			
W16D	190	MaxxForce 5 V-6	16,000	20,000	4,000
		200 нр/440 lb-ft			
W18	158.5–228	GM Vortec 8.1-L V-8	18,000	22,000	4,000
		340 нр/455 lb-ft			
W20	190–228	GM Vortec 8.1-L V-8	20,500	26,000	5,500
14/000	100,000,000	340 HP/455 LB-FT	00 500	00.000	5 500
W20D	190, 208, 228	MaxxForce 7 V-8	20,500	26,000	5,500
W22	208–242	230 нр/620 LB-FT GM Vortec 8.1-L V-8	22,000	26,000	4,000
WZZ	200-242	340 HP/455 LB-FT	22,000	20,000	4,000
W22D	208, 228, 242	MaxxForce 7 V-8	22,000	26,000	4,000
WZZD	200, 220, 242	230 нр/620 цв-гт	22,000	20,000	4,000
W24	228-242	GM Vortec 8.1-L V-8	24,000	30,000	6,000
112-1		340 нр/455 lb-ft	24,000	30,000	0,000
UF0 22	208-228	GM Vortec 8.1-L V-8	22,000	26,000	4,000
		340 нр/455 lb-ft	,		.,
UF0 26	208–262	GM Vortec 8.1-L V-8	26,000	30,000	4,000
		340 нр/455 lb-ft	,	,	,
R28	228-252	Caterpillar C7 7.2-∟ I-6	28,000	40,000	12,000
		300–360 нр			
		860–925 LB-FT			
R29	228–252	Caterpillar C7 7.2-∟ I-6	29,500	41,500	12,000
		300–360 нр			
		860–925 lb-ft			
R31	228–252	Caterpillar C7 7.2-∟ I-6	31,000	43,000	12,000
		300–360 нр			
		860–925 lb-ft			
R32	228–252	Caterpillar C7 7.2-∟ I-6	32,000	44,000	12,000
		300–360 нр			
		860–925 LB-FT			

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# MOTORHOME'S 2009 DINGHY ROUNDUP

smart fortwo

### From pickups to hybrids, this may be the most diverse selection ever

t may finally be happening: Manufacturers may actually be building their new cars with the dinghy-towing motorhome owner in mind. It doesn't seem like that long ago that your only choices were front-wheel-drive, manualtransmission economy cars — but today there are few automobile genres that aren't represented in the dinghy-towing segment. From subcompacts and hybrids to full-size pickups and SUVs, there's something for everyone in this year's guide.

As always, we're only listing those new vehicles that have been officially recognized by the manufacturer as being dinghy towable (along with their specific requirements), and only those that can be towed at a minimum speed of 55 MPH for no less than 200 miles at a time. Bear in mind that, because intro dates vary widely these days, and because much of the information from the manufacturer may be preliminary at press time, some of the facts and figures presented here are subject to change. In fact, some potentially approved vehicles may not be included here because there wasn't enough information on them available at press time. It is important to conduct your own research before purchasing one of the vehicles listed in this guide. The easiest, most assured way to do this is to visit the dealer and ask to see a copy of the owner's manual. In the index, look for the terms "flat towing" or "recreational towing" to find specifics about the vehicle you are considering. This will not only tell you if the vehicle is, in fact, towable, but what specific procedures are required to prevent damage to the transmission, drive system, etc.

If the owner's manual doesn't contain information on flat towing, or recommends against it, you may still have options. There are kits and products available to make towing a "non-towable" vehicle possible. However, there is the possibility that the act of flat towing, and/or the installation of a towing product on a nonapproved vehicle can void the vehicle's warranty, so it's best to deal with a reputable aftermarket provider — such as Remco — that can guide you accordingly.

We know that there will be some vehicles that are not listed in this guide that can be towed with PHOTO: PRESTON GRATIOT

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success, despite the manufacturer's claims to the contrary. How can that be? Usually, it's because the manufacturer has not officially verified that the vehicle in question is towable or because it does not want to deal with any potential warranty claims that may arise as a result of dinghy towing. But that does not necessarily mean that the vehicle can't be safely dinghy towed. When in doubt, it is

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probably best to stick with the vehicles that are officially approved, and the list grows longer every year. Happy shopping!

This guide addresses only 2009 vehicles. Guides for earlier model years are available online at www.motorhomemagazine.com.

User Guide

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#### **MOTORHOME'S 2009 DINGHY ROUNDUP**



#### CHEVROLET

The much celebrated Malibu was introduced in a hybrid variation late last year, and is available for '09 in limited production. Powered by a 2.4-L Ecotec hybrid engine and four-speed automatic hybrid transmission, it delivers 4 more MPG city and highway than a similarly equipped nonhybrid model, but also costs roughly \$4,000 more.

Following in the footsteps of the GMC Acadia, Buick Enclave and Saturn Outlook, Chevy finally gets its own midsize crossover SUV, the Traverse. All models are powered by an updated version of GM's 3.6-L DOHC V-6, which now features direct injection for an impressive 288 HP. A six-speed automatic transmission and StabiliTrak electronic stability control are standard, and you may choose from either front-wheel-drive or all-wheel-drive configurations, both of which are towable.

#### DODGE

Motorhome owners love practical, comfortable vehicles, and Dodge's new Journey fits the bill. The Journey is offered in two different trim levels in front-wheel drive, and can seat up to seven. With an available 3.5-L V-6 it should have plenty of spunk, and the front-wheel-drive version is towable with a dealer-installed auxiliary transmission fluid pump.

But the biggest news from Dodge is the all-new Ram 1500. In addition to aggressive new looks and improvements to the available 5.7-L Hemi (with 390 HP and 407 LB-FT of torque), the Ram is now available in a short bed Crew Cab configuration, which can be outfitted with an optional RamBox cargo management system. RamBox provides lockable, weatherproof, illuminated and drainable storage compartments integrated into the cargo box sides. A new chassis features

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a coil-spring, multilink rear suspension for improved ride and handling. Four-wheel-drive models are towable with either a manual or automatic transmission, too.

#### FORD

The Escape, Explorer and Ranger have long been dinghy favorites, and now Ford adds the new Flex to this mix. Looking like a modern interpretation of a '50s-era Woody (sans the wood), the Flex's 3.5-L V-6 engine and six-speed transmission make for reasonable pep and decent fuel economy — especially for a vehicle that can seat up to seven. It's available in two- or all-wheel drive, and both versions are towable.

A redesigned F-150 is also being launched this year, with hopes it will compete in a tough fullsize truck market. Among the many highlights is a stronger frame, standard AdvanceTrac with Roll Stability Control (RSC), trailer sway control, and an available rearview camera assist. The familiar 4.6- and 5.4-L V-8 engines remain, but a new sixspeed automatic makes its debut this year. Three cab styles, four box options and seven trim levels provide potential buyers with up to 35 different configurations.

#### HONDA

Will wonders never cease? For the past three years, the CR-V was the only vehicle in Honda's lineup that the company would officially acknowledge as towable, but this year that changes with the introduction of the subcompact Fit. Towable with either a manual or automatic transmission, the Fit is destined to become a favorite of motorhome enthusiasts. It's light, inexpensive, economical and surprisingly roomy, thanks to a multiconfigurable interior. Standard features include air conditioning,



an AM/FM/CD audio system with four speakers, auxiliary audio input jack (for iPods and MP3 players), power windows, power mirrors and power door locks. The Fit Sport adds alloy wheels, an underbody aero kit, rear roofline spoiler, fog lights, keyless remote entry, cruise control and a security system.

#### HUMMER

The Hummer model line grows once again with the introduction of the H3T truck. Bigger than a midsize, but smaller than a full-size, the H3T has the rugged military looks of its brethren and the off-road capability to match. The standard engine is a 3.7-L inline five-cylinder, which can be matched to either a five-speed manual or fourspeed automatic; the 5.3-L V-8-powered H3T Alpha comes with the automatic transmission only. The H3T seats five, and can be personalized with an extensive array of Hummer Genuine Accessories. You can even get front- and rear-locking differentials with the available Off Road Adventure package. The best news? All H3T models are dinghy towable.

#### NISSAN

Introduced late last year, Nissan's economical Versa is a good choice for fuel-conscious RVers. Available in a five-door hatchback or four-door sedan, the Versa starts at \$12,990 and comes standard with a 122-HP 1.8-L engine and six-speed manual transmission — the only towable version. Best-in-class total passenger volume and a long list of standard and optional equipment make the Versa a good value.

#### SATURN

To motorhome owners, the Saturn name has become almost synonymous with dinghy towing — and this year, there is yet another model deemed dinghy towable: The VUE 2 Mode Hybrid. Boasting an estimated 50 percent increase in fuel economy over a comparably equipped XR V-6 model without sacrificing performance or capability, this model is the first front-wheel-drive compact SUV powered by GM's two-mode hybrid technology. This system utilizes twin 55-kW electric motors that work in concert with the 2MT70 automatic transmission. Energy to power the motors comes from a 1.8-kWh, 300V nickel-metal hydride battery pack, consisting of 22 nickel metal hydride modules located behind the second-row seat. below the cargo floor. The first mode is for low speeds, and operates in one of three ways: all electric, all engine, or a combination of both. Mode two is designed for highway speeds, providing an electric power boost only under high-demand situations, such as climbing hills. Standard features include ABS, stability control and six air bags.

#### SMART USA

Do you want to show the world that you are a minimalist despite the fact that you travel in a 40-foot diesel-pusher? The smart fortwo may be just what you're looking for. In contrast to its apparent "back to basics" aspirations, the fortwo is surprisingly well equipped with stability control, anti-lock brakes and driver/front passenger air bags. A diminutive 1.0-L three-cylinder engine musters 71 HP, is connected to an automated five-speed manual transmission and averages 33 city/41 highway MPG. The "smart" part is debatable, however: The base model costs \$12,000, while the nicely equipped passion model commands \$13,990 for the coupe and \$16,990 for the cabriolet. That puts it into the same range as larger, more powerful cars that get up to 35 MPG on the highway. ◆

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			PASSENG	ER CARS			
MAKE	MODEL	BASE CURB WEIGHT	SPEED/DISTANCE LIMITS	TOWABLE WITH MANUAL TRANS.	TOWABLE WITH AUTO TRANS.	MILEAGE CITY/HWY.	APPROX. RETAIL PRICE RANGE
CHEVROLE	T Cobalt Coupe/Sedan	2,991	65 мрн/None	Yes	Yes	25/37	\$16,330-\$24,095
	Malibu	3,415	65 мрн/None	NA	Yes	22/30	\$22,275-\$27,550
	Malibu Hybrid	3,502	65 мрн/None	NA	Yes	26/34	\$26,225-\$27,545
CHRYSLER	Aspen 4 × 4 <sup>(1)</sup>	5,070	None	NA	Yes	13/17	\$35,030-\$38,830
(4)	PT Cruiser	3,070	None	Yes	Yes (2)	19/26	\$17,920-\$24,430
	ble with the optional low-speed r-installed auxiliary transmissio			oosition.			
DODGE	Caliber	3,189	None	Yes	No	21/30	\$16,840-\$25,220
FORD/MER	CURY Focus	2,588	None	Yes	No	24/35	\$14,995-\$16,180
	Fusion/Milan	3,181	70 мрн/None	Yes	No	20/29	\$19,035-\$27,010
	Taurus (FWD/AWD)/Sable/ <sup>1)</sup>		65 мрн/None	NA	Yes	18/28	\$24,125-\$29,425
(1) May requir	e procedure that includes runn	ing the engi	ne for 5 minutes at th	e beginning of a trip	and at each fuel s	top.	
HONDA (1) May requir	Fit e procedure that includes runn	2,500 ing the engi	65 MPH/None ne for 3 minutes at th	Yes e beginning of a trip	Yes (1) and at least every	28/35 8 hours there	\$14,550-\$18,760 eafter.
HYUNDAI	Accent	2,365	None	Yes	No	27/33	\$11,745-\$16,545
HTUNDAI	Elantra	2,305	None	Yes	No	24/33	\$14,120-\$17,820
	Sonata	3,292	None	Yes	No	21/32	\$18,795-\$24,645
INFINITI	G37 Sport Coupe	3,662	70 мрн/500 мі <sup>(</sup>	1) Yes	No	19/26	\$32,000-\$34,000
	G37 Sport Sedan	3,615	70 мрн/500 мі ( 70 мрн/500 мі (		No	17/25	\$33,000-\$35,000
(1) Idle engine	e in NEUTRAL for several minutes			, 103	110	17725	433,000-433,000
KIA	Optima	3,157	None	Yes	No	22/32	\$17,430-\$21,575
	Rio/Rio5	2,365	None	Yes	No	27/33	\$13,975-\$15,920
	Spectra/Spectra5	2,701	None	Yes	No	23/30	\$14,200-\$18,345
	Sportage 2WD	3,230	None	Yes	No	20/25	\$17,035-\$22,380
	Sportage 4WD	3,411	None	Yes	No	19/24	\$20,530-\$23,880
NISSAN	370Z	3,278	70 мрн/500 мі (	1) Yes	No	18/26	\$29,930-\$38,680
	Altima	3,107	60 мрн/500 мі (	1) Yes	No	23/32	\$19,900-\$29,380
	Sentra	2,853	60 мрн/500 мі (		No	25/33	\$16,730-\$20,570
(1) Idle engine	Versa e in NEUTRAL for several minutes	2,722 every 500 r	60 мрн/500 мі ( niles.	1) Yes	No	27/33	\$12,990-\$16,210
				Vee	Vee	25/25	¢17 / FO ¢20 OF0
PONTIAC	G5 G6 (all except convertible)	2,991	65 мрн/None 65 мрн/None	Yes No	Yes Yes	25/35 22/30	\$17,650-\$20,950 \$21,160-\$29,250
(	Torrent GXP	3,813	65 мрн/None	NA	Yes	16/24	\$30,115-\$32,110
	Vibe	2,700	None	Yes	No	26/32	\$16,735-\$21,510
SATURN	Aura Hybrid	3,529	65 мрн/Unlimited	I NA	Yes	26/34	\$26,896
	Aura XE/XR	3,529	65 мрн/Unlimited		Yes	22/33	\$23,100-\$26,595
SCION	tC	2,905	None	Yes	No	20/27	\$17,670
	xB	3,020	None	Yes	No	22/28	\$16,420
	хD	2,625	None	Yes	No	27/33	\$15,320
SMART US	A smart fortwo	1,800	None	NA	Yes	33/41	\$11,990-\$16,990
SUBARU	Impreza	3,075	None	Yes	No	20/27	\$17,495-\$29,995
	Legacy	3,270	None	Yes	No	20/27	\$20,795-\$34,595
	Outback	3,350	None	Yes	No	20/26	\$22,495-\$34,095

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#### PASSENGER CARS

MAKE	MODEL	BASE CURB WEIGHT	SPEED/DISTANCE LIMITS	TOWABLE WITH MANUAL TRANS.	TOWABLE WITH AUTO TRANS.	MILEAGE CITY/HWY.	APPROX. RETAIL PRICE RANGE
SUZUKI	SX4 Sport	2,668	55 мрн/200 мі	Yes	No	22/30	\$15,739-\$17,000
	SX4 Crossover (1)	2,849	55 мрн/200 мі	Yes	No	21/28	\$15,939-\$18,000
(1) Console-mo	unted selector must be in th	e 2WD position					
ΤΟΥΟΤΑ	Camry	3,285	None	Yes	No	21/31	\$19,145-\$21,815
	Camry Solara	3,175	None	Yes	No	21/31	\$20,180-\$22,450
	Corolla 1.8-L	2,767	None	Yes	No	27/35	\$15,350-\$16,420
	Corolla 2.4-L	2,877	None	Yes	No	22/30	\$18,860-\$20,050
	Matrix 1.8-L	2,865	None	Yes	No	26/32	\$16,290-\$18,360
	Matrix 2.4-L	3,140	None	Yes	No	21/28	\$20,760-\$21,950
	Yaris	2,293	None	Yes	No	29/36	\$12,205-\$13,925

#### TRUCKS/SUVS

MAKE	MODEL	BASE CURB WEIGHT	SPEED/DISTANCE LIMITS	TOWABLE WITH MANUAL TRANS.	TOWABLE WITH AUTO TRANS.	MILEAGE CITY/HWY.	APPROX. RETAIL PRICE RANGE
BUICK	Enclave 2WD CX/CXL	4,780	65 мрн/None	NA	Yes	17/24	\$34,865-\$37,175
	Enclave 4WD CX/CXL	4,985	65 мрн/None	NA	Yes	16/22	\$36,865-\$39,175
CHEVROLE	T/ Avalanche 1500 4WD	5,767	None	NA	Yes	14/20	\$38,960-\$47,150
GMC	Colorado/Canyon 4WD	3,754	None	Yes	Yes	17/23	\$18,555-\$24,900
	Equinox Sport 2WD	3,818	65 мрн/None	NA	Yes	17/24	\$30,140
	Equinox Sport AWD	3,915	65 мрн/None	NA	Yes	16/24	\$32,135
	HHR	3,155	65 мрн/None	Yes	Yes	22/30	\$19,380-\$25,280
	Sierra 1500 4WD	4,687	None	NA	Yes	14/20	\$21,185-\$39,525
	Silverado 1500 4WD	4,798	None	NA	Yes	14/18	\$22,970-\$37,985
	Silverado 2500 4WD	5,556	None	NA	Yes	NR	\$29,570-\$40,865
S	uburban/Yukon XL 1500 4WI	5,743	None	NA	Yes	14/20	\$41,790-\$53,910
S	uburban/Yukon XL 2500 4WI	0 6,327	None	NA	Yes	NR	\$43,190-\$48,790
	Tahoe/Yukon 4WD	5,524	None	NA	Yes	14/20	\$39,490-\$51,850
	Trailblazer/Envoy 4WD	4,663	None	NA	Yes	14/20	\$28,900-\$40,075
	Traverse/Acadia	5,066	None	NA	Yes	17/24	\$28,990-\$39,760
Note: Some v NR = No ratir	veights may be higher, dependin ng.	g on model.					
DODGE	Dakota 4WD	4,376	None	Yes	Yes	15/19	\$24,825-\$29,995
	Durango 4WD	4,940	None	NA	Yes (1)	13/19	\$30,910-\$45,340
	Ram 1500 4WD	4,893	None	Yes	Yes	13/18	\$25,725-\$44,935
	Ram 2500 4WD	5,792	None	Yes	Yes	NR	\$31,390-\$44,945
(4)	Ram 3500 4WD	6,481	None	Yes	Yes	NR	\$33,500-\$56,915
(1) With deale NR = No ratir	er-installed auxiliary transmissior ng.	n fluid pump.					
FORD/	Edge (FWD/AWD)	4,078	TBD	NA	Yes	17/24	\$26,130-\$31,790
MERCURY	Escape/Mariner Hybrid	3,669	75 мрн/None	NA	Yes	34/31	\$29,305-\$32,225
	Escape/Tribute I-4	3,299	70 мрн/None	Yes	Yes	22/28	\$20,100-\$24,580
	Escape V-6	3,421	75 мрн/None	NA	Yes	19/25	\$23,115-\$24,580
	Explorer 4WD V-6	4,628	None	NA	Yes (c)	13/19	\$29,315
	Explorer 4WD V-8	4,719	None	NA	Yes (c)	14/19	\$30,625
	F-150 4WD F-250/F-350/F-450	4,971	55 мрн/None	NA	Yes (d)	14/18	\$25,240-\$32,365
	Super Duty 4WD	6,976	None	No	Yes (d)	NR	\$36,255-\$56,235
	Flex (FWD/AWD)	4,468	TBD	NA	Yes	17/24	\$28,295-\$36,555

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MAKE	MODEL	BASE CURB WEIGHT	SPEED/DISTANCE LIMITS	TOWABLE WITH Manual Trans.	TOWABLE WITH AUTO TRANS.	MILEAGE CITY/HWY.	APPROX. RETAIL PRICE RANGE
	Mariner	3,341	75 мрн/None	NA	Yes	18/26	\$23,035-\$27,900
	Mountaineer	4,615	None	NA	Yes (c)	14/20	\$28,035-\$34,370
	Ranger	TBD	55 мрн/None	Yes (a,b)	Yes (c)	21/26	\$16,170-\$25,235
	Sport Trac 4WD V-6	5,080	None	NA	Yes (c)	13/19	\$28,510-\$32,360
	Sport Trac 4WD V-8	6,990	None	NA	Yes (c)	14/19	\$29,820-\$33,670
	Taurus X (FWD/AWD)	4,033	TBD	NA	Yes	16/24	\$27,575

Note: Actual weight may vary depending on brand, model, and equipment. (a) Electronic Shift-on-the-Fly rotary control in 2-high position and transmission in NEUTRAL (with  $4 \times 4$  only).

(b) Manual transmission in NEUTRAL (with  $4 \times 2$  or  $4 \times 4$ ).

(c) Only  $4 \times 4$  with dealer-installed Neutral Tow Kit.

(d) Only with manual shift 4 × 4 vehicles, not Electronic Shift-on-the-Fly or 4 × 2 vehicles. Transfer case must be shifted to NEUTRAL. NR = No rating.

V- Ivlav reguli	CR-V FWD/AWD re procedure that includes run	3,500 ning the eng	65 MPH/None ine for 3 minutes at the bea	Yes ginning of a tri	Yes (1) p and at least every	20/27 8 hours ther	\$21,095-\$28,79 eafter.
HUMMER	H2	6,614	None	NA	Yes	NR	\$59,395
	H2 SUT	6,614	None	NA	Yes	NR	\$60,900
	H3	4,698	None	Yes	Yes	14/18	\$32,345
	H3 Alpha	4,849	None	NA	Yes	13/16	\$40,660
	H3T	4,934	None	Yes	Yes	14/18	\$36,015
	H3T Alpha	5,069	None	NA	Yes	13/16	\$30,750
NR = No ratii	ng.						
HYUNDAI	Santa Fe GLS 2WD	3,727	Legal/None	Yes	No	17/24	\$21,495-\$28,87
	Tucson GLS 2WD	3,240	Legal/None	Yes	No	20/26	\$18,070-\$23,92
JEEP (	Commander Sport U 4WD	(1) 4,866	None	NA	Yes	13/18	\$31,210-\$35,62
	Compass	3,329	None	Yes	No	23/28	\$18,845-\$24,95
Gra	and Cherokee Laredo X 4W	D (1)4,640	None	NA	Yes	14/19	\$32,500-\$36,56
	Patriot	3,310	None	Yes	No	23/28	\$17,920-\$24,36
L	iberty Limited/Sport 4WD	(2) 4,222	None	NA	Yes	15/21	\$24,520-\$27,62
	Wrangler 4WD	3,760	None	Yes	Yes	15/19	\$19,320-\$30,19
With 3.7-i	engine and standard Comma	nd-Irac or op	tional Selec-Irac transfer c	ase.			
	Frontier 2WD I-4	3,675	60 MPH/500 MI (1)	Yes	No	19/23	
	Frontier 2WD V6	4,139	60 мрн/500 мі <sup>(1)</sup>	Yes	No	16/20	\$20,360-\$24,93
	Frontier 2WD V6 Frontier 4WD V6	4,139 4,307	60 мрн/500 мі <sup>(1)</sup> 60 мрн/500 мі <sup>(1)</sup>	Yes Yes	No No	16/20 15/19	\$20,360-\$24,93 \$23,060-\$27,63
	Frontier 2WD V6 Frontier 4WD V6 Xterra 2WD	4,139 4,307 4,150	60 mph/500 mi (1) 60 mph/500 mi (1) 60 mph/500 mi (1)	Yes Yes Yes	No No No	16/20 15/19 16/20	\$20,360-\$24,93 \$23,060-\$27,63 \$22,060-\$27,56
NISSAN	Frontier 2WD V6 Frontier 4WD V6 Xterra 2WD Xterra 4WD	4,139 4,307 4,150 4,360	60 mph/500 mi (1) 60 mph/500 mi (1) 60 mph/500 mi (1) 60 mph/500 mi (1)	Yes Yes	No No	16/20 15/19	\$20,360-\$24,93 \$23,060-\$27,63 \$22,060-\$27,56
NISSAN	Frontier 2WD V6 Frontier 4WD V6 Xterra 2WD	4,139 4,307 4,150 4,360	60 mph/500 mi (1) 60 mph/500 mi (1) 60 mph/500 mi (1) 60 mph/500 mi (1)	Yes Yes Yes	No No No	16/20 15/19 16/20	\$20,360-\$24,93 \$23,060-\$27,63 \$22,060-\$27,56
NISSAN	Frontier 2WD V6 Frontier 4WD V6 Xterra 2WD Xterra 4WD	4,139 4,307 4,150 4,360 ts every 500 4,700	60 mph/500 mi (1) 60 mph/500 mi (1) 60 mph/500 mi (1) 60 mph/500 mi (1)	Yes Yes Yes	No No No	16/20 15/19 16/20	\$20,360-\$24,93 \$23,060-\$27,63 \$22,060-\$27,56 \$24,110-\$29,56
NISSAN	Frontier 2WD V6 Frontier 4WD V6 Xterra 2WD Xterra 4WD e in NEUTRAL for several minute	4,139 4,307 4,150 4,360 es every 500	60 MPH/500 MI (1) 60 MPH/500 MI (1) 60 MPH/500 MI (1) 60 MPH/500 MI (1) miles.	Yes Yes Yes Yes	No No No	16/20 15/19 16/20 16/20	\$20,360.\$24,93 \$23,060.\$27,63 \$22,060.\$27,56 \$24,110.\$29,56 \$30,115.\$33,94
NISSAN	Frontier 2WD V6 Frontier 4WD V6 Xterra 2WD Xterra 4WD e in NEUTRAL for several minute Outlook FWD	4,139 4,307 4,150 4,360 ts every 500 4,700	60 MPH/500 MI (1) 60 MPH/500 MI (1) 60 MPH/500 MI (1) 60 MPH/500 MI (1) miles. 65 MPH/Unlimited	Yes Yes Yes Yes	No No No Yes	16/20 15/19 16/20 16/20 17/24	\$20,360.\$24,93 \$23,060.\$27,63 \$22,060.\$27,56 \$24,110.\$29,56 \$30,115.\$33,94 \$32,115.\$35,94
NISSAN	Frontier 2WD V6 Frontier 4WD V6 Xterra 2WD Xterra 4WD e in NEUTRAL for several minute Outlook FWD Outlook AWD	4,139 4,307 4,150 4,360 4,360 s every 500 4,700 4,700 4,905	60 MPH/500 MI (1) 60 MPH/500 MI (1) 60 MPH/500 MI (1) 60 MPH/500 MI (1) miles. 65 MPH/Unlimited 65 MPH/Unlimited	Yes Yes Yes Yes NA NA	No No No Yes Yes	16/20 15/19 16/20 16/20 17/24 16/23 19/26 16/23	\$20,360.\$24,93 \$23,060.\$27,63 \$22,060.\$27,56 \$24,110.\$29,56 \$30,115.\$33,94 \$32,115.\$35,94 \$22,770.\$26,09
NISSAN	Frontier 2WD V6 Frontier 4WD V6 Xterra 2WD Xterra 4WD e in NEUTRAL for several minute Outlook FWD Outlook AWD VUE FWD	4,139 4,307 4,150 4,360 ss every 500 4,700 4,905 3,825	60 MPH/500 MI (1) 60 MPH/500 MI (1) 60 MPH/500 MI (1) 60 MPH/500 MI (1) miles. 65 MPH/Unlimited 65 MPH/Unlimited 65 MPH/Unlimited	Yes Yes Yes NA NA NA	No No No Yes Yes Yes	16/20 15/19 16/20 16/20 17/24 16/23 19/26	\$20,360.\$24,93 \$23,060.\$27,63 \$22,060.\$27,56 \$24,110.\$29,56 \$30,115.\$33,94 \$32,115.\$35,94 \$22,770.\$26,09
NISSAN	Frontier 2WD V6 Frontier 4WD V6 Xterra 2WD Xterra 4WD e in NEUTRAL for several minute Outlook FWD Outlook AWD VUE FWD VUE FWD VUE AWD	4,139 4,307 4,150 4,360 4,360 4,700 4,700 4,905 3,825 4,325	60 MPH/500 MI (1) 60 MPH/500 MI (1) 60 MPH/500 MI (1) 60 MPH/500 MI (1) miles. 65 MPH/Unlimited 65 MPH/Unlimited 65 MPH/Unlimited 65 MPH/Unlimited	Yes Yes Yes NA NA NA NA	No No No Yes Yes Yes Yes	16/20 15/19 16/20 16/20 17/24 16/23 19/26 16/23	\$20,360.\$24,93 \$23,060.\$27,63 \$22,060.\$27,56 \$24,110.\$29,56 \$30,115.\$33,94 \$32,115.\$35,94 \$22,770.\$26,09 \$23,615.\$28,09
NISSAN	Frontier 2WD V6 Frontier 4WD V6 Xterra 2WD Xterra 4WD e in NEUTRAL for several minute Outlook FWD Outlook AWD VUE FWD VUE FWD VUE AWD VUE Hybrid	4,139 4,307 4,150 4,360 4,360 4,700 4,905 3,825 4,325 3,789	60 MPH/500 MI (1) 60 MPH/500 MI (1) 60 MPH/500 MI (1) 60 MPH/500 MI (1) miles. 65 MPH/Unlimited 65 MPH/Unlimited 65 MPH/Unlimited 65 MPH/Unlimited 65 MPH/Unlimited	Yes Yes Yes NA NA NA NA NA	No No No Yes Yes Yes Yes Yes	16/20 15/19 16/20 16/20 17/24 16/23 19/26 16/23 25/32	

(1) Only Grand Vitara models equipped with 4WD and transfer switch are recommended for flat-towing. Automatic transmission models: flat tow with transfer case in NEUTRAL and transmission in PARK.

(2) Stop towing the vehicle every 200 miles and rev the engine for at least one minute with transfer case in NEUTRAL, transmission lever in DRIVE.

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Towing and Suspension Solutions

## Roadmaster braking systems

Roadmaster braking systems combine the best in features, safety and quality. Regardless of your towing set-up, we have a braking system to match the features you want with the safety you need.

# BRAKEMASTER

BrakeMaster - is the best installed braking system available, and the easiest to use. Connects directly to the motorhome's air or hydraulic brake line for rock-solid, reliable braking brake line pressure in the motorhome controls the brakes in the towed vehicle. BrakeMaster is a truly proportional, truly synchronized braking system.





shown with optional BrakeAway™

# Portable Propertionate Braking System

**Even Brake** - is the best portable proportional system available — it brakes at the same time, and with the same intensity, as you brake the motorhome.

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EVEN @ BRAKE

## TOWING ACCESSORIES Proper dinghy prep, from auxiliary braking systems

to lights, is essential for safe travel



he research has been done, the financing arranged, the papers signed ... and that brand-new dinghy vehicle is now sitting in your driveway. You've shopped carefully to pick a model that's certified by its manufacturer for flat-towing, you've checked the vehicle's weight to confirm that it's within vour motorhome's safe towing capabilities and you've ordered it with any requisite factory options to make it towable with all wheels rolling.

#### Now what?

As any seasoned motorhome owner will tell you, there are a lot of steps involved in getting a new vehicle to the point where it can be towed safely. Sadly, no automaker offers a plug-and-play solution that makes its products



Plug receptacles added to dinghy and motorhome allow easy hookup of electrical connector for taillights, turn signals and supplemental braking system.

ready for safe dinghy towing right from the factory. Thus, it's up to you (and perhaps a knowledgeable towing equipment dealer) to get the job done right.

#### **DINGHY WIRING**

One of the most important aspects of dinghy prep involves connecting the wiring between the two vehicles. Tail, brake and turn signals on the back of the dinghy are required in all 50 states and all Canadian provinces, so this isn't a step that you can overlook. (Neither side clearance nor backup lights are required, and are rarely used.)

The most common source of dinghy wiring confusion revolves around differences in the way the turn-signal lights are wired on various cars and motorhomes. Some models are wired to supply turnsignal power to the same bulbs that are used for the brakelights (commonly referred to as a 4-wire system), while others use separate amber bulbs for the rear turn signals (a 5wire system). Note that 4- and 5-wire systems are used on both motorhomes and cars, so any one of four different solutions may be needed for any particular application. Adapters are readily available to electronically match the All-in-one kits, like this Combo Kit from Roadmaster, include everything needed for a safe hookup, from wiring diodes and a socket bracket to safety chains and padlocks.

wiring systems of the dinghy and motorhome.

The traditional method of wiring a dinghy vehicle involves the use of steering diodes, which function as one-way gates to the flow of electricity, allowing power from either the motorhome or vehicle to be supplied to the rear bulbs. Because no electricity can flow backward through a diode, it also prevents power from the motorhome from being inadvertently introduced to any other circuits in the dinghy vehicle.

Many late-model vehicles are equipped with on-board diagnostics that continuously check for proper operation of the turn-signal and brakelight bulbs. Unfortunately, the introduction of aftermarket steering diodes into the vehicle's wiring can "fool" this diagnostic function, typically causing it to give false warnings about burned-out bulbs.

For this reason, it is becoming more common to modify each of the vehicle's tail-lamp assemblies to accept a

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An RV underskirt will keep towing apparatus clean — and it also helps protect the front of the towed vehicle from road debris.

Several companies offer wireless removable towing lights, thereby eliminating the need for this cable altogether.

Although many motorhomes come with a factory-installed 4- or 5-pin connector, there iary braking systems require connections to the motorhome, further increasing the connector-pin count.

Ideally, the industry-standard connection scheme should be observed when installing this new connector, so that it can also be used when towing boats, ATVs, horse trailers, etc.

Unfortunately, since no industrywide standard exists for wire color codes used in automobiles, another hurdle in dinghy wiring involves identifying the proper wires for the stop, turn and tail lamps (as well as a suitable ground connection). If you've had the foresight to purchase a service manual for your particular vehicle, this can sometimes be accomplished by visual inspection of the wire harness. More often than not, it involves connecting a test light to each suspected wire in order to match it with the corresponding bulb. Note that on 4-wire systems, the same wire may be "hot" when either the brake or one of the turn signals is operated.

When splicing diodes or other connections into the vehicle's wiring harness, it is important to use top-quality connectors or splices. In order to prevent any chance of corrosion, all connections should be waterproof. Heatshrink tubing works very well for this purpose, as does self-vulcanizing plastic tape.

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separate bulb. This bulb is then connected directly to the motorhome, eliminating any connections to the vehicle's existing wiring harness. This modification isn't for the squeamish. since it usually involves drilling a large hole in the tail-lamp reflector. Fortunately, special snap-in sockets are available that make this iob somewhat easier. Since the new socket takes up considerable space behind the lamp assembly, care must be taken in selecting a location for the new hole that avoids socket interference with any other objects behind it.

Note that most states allow the turn signals to be either red or amber in color, but only permit the brakelights to be red. Thus, on automobiles equipped with amber turn signals, the new socket is typically installed behind the red brake-lamp lens.

In situations where modifications to the dinghy's original wiring either aren't desirable or practical, a set of removable towing lights often provides a workable solution. Most of these products are affixed with magnets, although some

As an alternative, you can install an extra pair of lamps on your dinghy independent of its electrical system. One-way diodes (left) prevent electrical feedback.



The Kargard shield, from Blue Ox, attaches to the tow bar and adds yet another level of dinghy protection, guarding against potential damage from road debris.

models can be equipped with suction cups or hook-and-loop fasteners (ideal for use on plastic or fiberglass surfaces). A cable is then snaked across the vehicle to the connector at the motorhome hitch receiver.

In some cases, the cable is semipermanently routed inside or underneath the vehicle, allowing the lights to be quickly removed and stowed inside the trunk.

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are situations where a different connector is necessary. Some unapproved dinghies equipped with an automatic transmission must also be equipped with an electric lube pump, which requires a connector pin for 12-volt DC power (and ideally, a separate connector pin for ground, in order to avoid drawing excessive current through the existing one). Also, some auxil-

#### **TOWING ACCESSORIES**



Adding large rubber flaps at the rear of a motorhome will minimize towed-vehicle damage from debris, dirt and grime kicked up by coach tires.



Molded of lightweight, high-impact polyethylene, Roadmaster's Guardian Rock Shield provides RVers with another option for protecting dinghies.

### **DINGHY BRAKING SYSTEMS**

Adequate dinghy braking is an important consideration, because motorhome manufacturers tend to push the weight of their products right to the edge of the chassis manufacturer's ratings — and the addition of up to several tons of extra rolling

weight can be enough to put the combined vehicle pair's braking performance into unsafe territory.

Furthermore, some chassis manufacturers specify that towed

loads in excess Roadmaster Even Brake System

of 1,500 pounds should have independent brakes and safety breakaway systems.

Although a diverse range of dinghy brakingsystems is available, all aim to perform essentially

the same task: to apply the dinghy's brakes in tandem with those on the motorhome.

One approach

uses electronic sig-

nals generated in the

motorhome to acti-



Blue Ox Apollo Braking System

vate the dinghy-vehicle brakes. The motorhome components of the system measure deceleration and send a signal to a power unit connected to the dinghyvehicle brake pedal. As the electronic signal varies with motorhome deceleration, the amount of brakepedal pull varies in concert for variable braking.

The system includes a vacuum pump in the dinghy vehicle that maintains full power-brake performance. An actuation lever on the control unit in the motorhome allows the motorhome driver to apply brakes manually, if desired.

Other products include those that utilize a selfcontained power pack that temporarily attaches to the dinghy's brake pedal. This package usually contains an air compressor, air cylinder and control circuitry. Most models have a built-in inertia sensor in the dinghy that automatically applies the brakes without any direct signals from the motorhome; in some cases, a radio link or control wire is used to receive braking signals from the motorhome.

Other systems use a removable air cylinder to push the pedal, with motive power for the cylinder usually supplied either by the motorhome's existing air compressor (if air brakes are present) or an add-on electric compressor. A signal from the motorhome's brakelights is often used to control operation of the cylinder, although inertia-sensing control boxes are sometimes used instead. One variation of this scheme uses an electric linear actuator in lieu of an air cylinder, thereby dispensing with the need for a compressed air supply.

Finally, a few systems use the movement in a special hitch drawbar as the motive power to operate the dinghy brakes. As the motorhome decelerates, the dinghy forces the drawbar to move forward, and the dinghy's inertia is used to operate a flexible cable connected to the brake pedal or to move a master brake cylinder that pressurizes the dinghy's brake lines.

Self-contained systems generally have a significant edge in ease of installation, but there's also something to be said for having an unobtrusive, permanently-installed system that never requires setup or disassembly. After all, most new dinghies will need to be fitted with a tow bar and baseplate, anyway, so the installation of a supplemental braking system at the same time does not represent much additional effort.  $\blacklozenge$ 

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### Tow bars & baseplates



Many RVers find it handy to take their car on the road with them, so they

look to **Blue Ox** for tow bars and baseplates they can trust completely. With six tow bars to choose from and a custom fit baseplate, they are built strong and designed to fit both your budget and your needs.

• Eliminate unnecessary maintenance. With features like rubber boots to keep dirt and grime out of your tow bar legs and the ability to fold up when not in use are only a few of the reasons these are built for you.

• **Built like receiver hitches.** Our baseplates are built with a welded design like receiver hitches for a custom fit with strong construction. No welding is needed to attach the baseplate to your tow car!

• Now you see them, now you don't. Available on most baseplates, removable tabs further enhance aesthetics of your car. Lose the "tow" look when you casually drive, but know your car is securely locked in place when you're hitting the road!

For more information on tow bars and baseplates and to find a dealer near you, visit **www.blueox.com** or call **1-800-336-4336** today!



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User Guide Contents



### Roadmaster All Terrain tow bars

Releasing your towed vehicle and getting out of a bind is easy with ROADMASTER's All Terrain tow bars...even when the tow bar is at a hard angle or the towed vehicle is out of level. With ROADMASTER's exclusive Freedom Latch<sup>™</sup>, you can release the tow bar at any angle, level or bind — first time, every time. After all, who's on vacation here — you, or your tow bar?



Top of the line aluminum motorhome-mounted tow bar with a 6,000 lb. capacity



STOWMASTER ALL TERRALA CAR-MOUNTED TOW BAR The best 6,000 lb. capacity, vehicle-mounted tow bar on the market. Incorporates our All Terrain technology



FALCON ALL TERRAIN MOTORHOME-MOUNTED TOW BAR 6,000 lb. capacity, motorhome-mounted tow bar for lighter-weight vehicles



HEAVY-DUTY MOTORHOME-MOUNTED TOW BAR 10,000 lb. capacity, heavy duty motorhome-mounted tow bar to handle heavy-duty vehicles

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