



Coupler

Trailer Hitch

Ball Mount

Trailer Ball

Safety Chains

Custom Wiring Harness

UNDERSTANDING TOWING

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Having a complete understanding of towing is key to providing customers with the proper products and information they need to Bring It® on the road. The following guide offers some basic information to help be a resource for the customer. There is also a towing glossary at the end of this section to provide further information on common towing terms.

Ensure customers review their vehicle owner's manual prior to purchasing a towing system. The owner's manual has vital

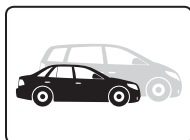
information about the vehicle's capabilities, capacities and limitations and should be regarded as the first authority to maintaining good vehicle practices.

It is also important to be aware of the different laws and restrictions held across states. The State Patrol is a good resource for this information.

Keeping up with understanding towing



Expanded product category information



Updated capacity charts and graphs

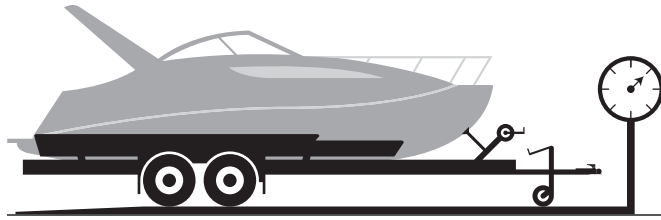


Additional towing glossary terms



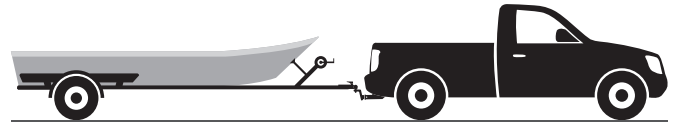
Gross Trailer Weight (GTW)

The gross trailer weight is the total weight of the trailer and its cargo (for example, gross trailer weight = boat + trailer + cooler + fishing gear). It is important to know the GTW to ensure safe towing. It can be measured by putting the fully loaded trailer on a vehicle scale.



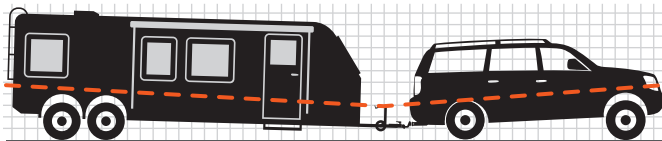
Weight Carrying Capacity (WC)

The weight carrying capacity is the measure of the total weight a trailer hitch can safely pull without adding a weight distribution system. The total weight of the trailer should never exceed the weight capacity rating of the trailer hitch, ball mount or trailer ball. Always use the lowest weight capacity rating of your towing system.

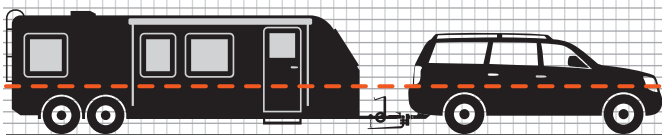


Weight Distribution Capacity (WD)

The weight distribution capacity is the measure of the total weight a trailer hitch can safely pull with a weight distribution system installed. The use of a weight distribution hitch and sway control balances the weight of the trailer, allowing for better steering, braking and level towing. See page 239 for weight distribution products.



Without weight distribution

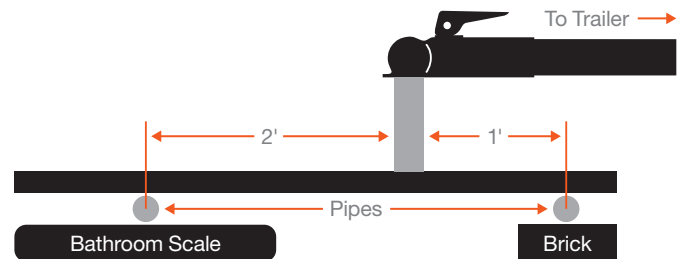


With weight distribution

Tongue Weight (TW)

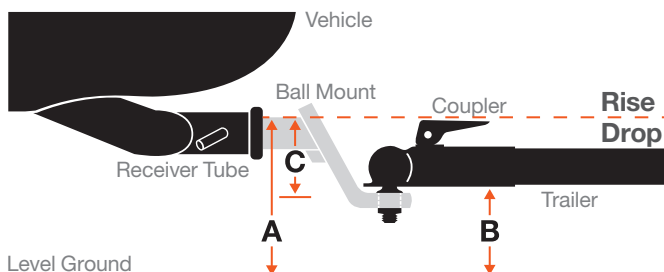
Tongue weight is the downward force that is exerted on the trailer ball by the coupler. The tongue weight will vary depending on where the load is positioned relative to the trailer axle(s). Ideally, a trailer's tongue weight should be about 10% of its total weight.

To measure the tongue weight, use a commercial scale or a bathroom scale with the coupler at level towing height. When using a bathroom scale, use the method shown below and multiply the bathroom scale reading by three.



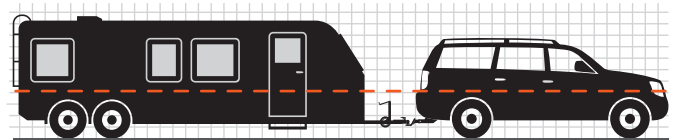
How to Determine Rise and Drop

When selecting a ball mount, it is important to determine the amount of drop or rise a trailer has to ensure both trailer and vehicle ride level. Drop and rise refer to the height difference between the trailer coupler and hitch. To find this difference, take the distance from the ground to the top of the inside of the receiver tube opening (A), and subtract it from the distance from the ground to the bottom of the coupler (B). B minus A equals C, the drop or rise. If (C) is a negative number, this indicates a drop of equal value needed in a ball mount. If the number is positive, then a ball mount with rise is required.

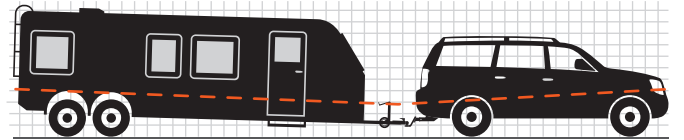


Level Towing

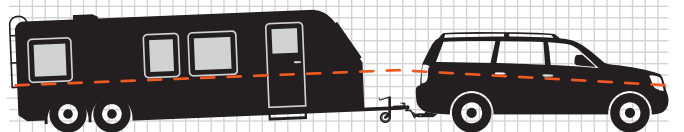
Using a ball mount with the proper amount of drop or rise will allow for level towing across both trailer and vehicle.



Level towing



Towing with too much drop



Towing with too much rise



TRAILER HITCHES

Mounted to the vehicle, the trailer hitch is the primary device that allows a vehicle to tow. Choosing the correct type of trailer hitch requires knowledge of the gross trailer weight and tongue weight of the trailer being pulled. The lowest rating of any component of your towing system should never be exceeded. See the hitch application guide on page 42 for specific hitch availability.

1 1/4 Class 1 & 2 1 1/4" x 1 1/4" Receiver Tube Opening

GTW	Up to 3,500 lbs.
TW	Up to 350 lbs.
WD	Not applicable
WD TW	Not applicable



2 Class 3 & 4 2" x 2" Receiver Tube Opening

GTW	3,500 lbs. to 10,000 lbs.
TW	350 lbs. to 1,000 lbs.
WD	Up to 12,000 lbs.
WD TW	Up to 1,200 lbs.



2 Class 5 Xtra Duty 2" x 2" Receiver Tube Opening

GTW	16,000 to 17,000 lbs.
TW	2,400 to 2,550 lbs.
WD	Up to 17,000 lbs.
WD TW	Up to 2,550 lbs.



2 1/2 Class 5 Commercial Duty 2 1/2" x 2 1/2" Receiver Tube Opening

GTW	18,000 to 20,000 lbs.
TW	Up to 2,700 lbs.
WD	18,000 to 20,000 lbs.
WD TW	Up to 2,700 lbs.



2 Front Mount 2" x 2" Receiver Tube Opening

GTW	Up to 5,000 lbs.
TW	Up to 500 lbs.
SLP	9,000 lbs. straight line pull



2 Recreational Vehicle 2" x 2" Receiver Tube Opening

GTW	3,500 lbs. to 5,000 lbs.
TW	350 lbs. to 500 lbs.
WD	3,500 to 6,000 lbs.
WD TW	350 to 600 lbs.



Rear Mount Trailer Hitches

Rear mount trailer hitches are broken up by weight class, ranging from class 1 to 5 for all types of vehicles. For heavier loads, there are Xtra Duty and Commercial Duty trailer hitches. Rear mount trailer hitches are designed to fit specific vehicles and are mounted to the vehicle's frame.

Bumper Mount Trailer Hitches

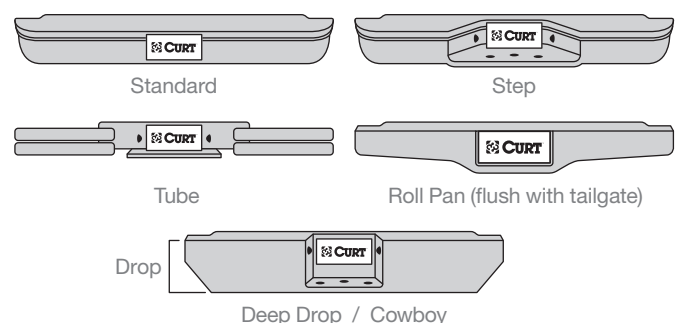
A bumper hitch mounts directly onto a vehicle's bumper. When using a bumper hitch, the towing weight should never exceed the bumper's weight rating. Also, bumper hitches should not be used with a weight distribution hitch. See page 10 for our bumper hitches.



Front Mount Trailer Hitches

Having a trailer hitch on the front end of a vehicle can be very beneficial for many applications. Though front mount hitches typically have a lower gross trailer weight rating than most rear mount hitches, they are very useful for holding winches, cargo carriers and other hitch-mounted accessories.

Bumper Styles





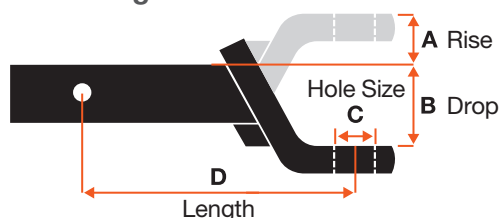
BALL MOUNTS

The ball mount is the part of the hitch system that is placed inside the receiver tube opening of the trailer hitch and secured using a lock or pin & clip. It provides a platform for a trailer ball and can sometimes be used to hold other accessories. Ball mounts come in various styles and weight capacities. For safety, the pin & clip or lock securing a ball mount should always be checked before towing. See our entire ball mount lineup starting on page 142.

For a complete listing of our unique Euro Mount® and instructions on how to select the proper size, see page 143.



Measuring a ball mount



TRAILER BALLS

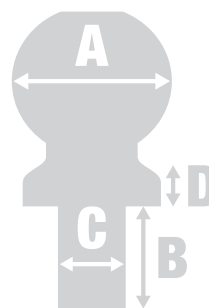
The trailer ball is a spherical object that connects the trailer hitch to the trailer. Using a threaded shank and nut, the trailer ball bolts onto the ball mount and provides a place on which the trailer coupler rests and latches. The most important factor in selecting the right trailer ball is the trailer ball's gross trailer weight rating. The total weight of the trailer and its cargo should not exceed this number. Also, the diameter of the mounting platform hole must not be more than 1/16" larger than the trailer ball shank.

When installing a trailer ball, make sure that the mounting platform on the ball mount is at least 3/8" thick. Before towing, check the nut and lock washer to make sure they are securely fastened.

See page 162 for our complete trailer ball line.

Measuring a trailer ball

- A: Ball Diameter
- B: Shank Length
- C: Shank Diameter
- D: Rise



Torque specifications

- 3/4" Shank: 160 ft. lbs.
- 1" Shank: 250 ft. lbs.
- 1 1/4" Shank: 450 ft. lbs.
- 2" Shank: 4,550 ft. lbs.



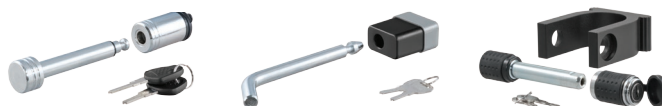
TOWING ACCESSORIES

Towing accessories encompass a wide variety of towing odds and ends. Some accessories, such as safety chains and pins & clips, are required in any towing situation. Others, while not totally essential, are designed to complement the trailer, vehicle, trailer hitch and other main towing components for the best possible function. These items include hitch tube covers, bearing protectors, tow mirrors, wheel chocks and more. CURT offers a full line of towing accessories to improve towing on and off the road. See page 168 for our selection of towing accessories.



TOWING SECURITY

Part of towing smart is making sure your vehicle, trailer and all towing equipment are kept secure during travel and safe from tampering. There are many types of locks of all shapes and sizes that improve security for different parts of a towing setup. A hitch lock can be used in place of a pin & clip to provide extra security for any hitch-mounted component. A coupler lock ensures that the coupler latch will remain locked down on the trailer ball. Different types of trailer locks can be used on a parked trailer, preventing the trailer from being hauled away without the owner's permission. CURT offers these as well as kingpin locks, wheel locks, security cables and more. See page 176 for our towing security products.





TOWING ELECTRICAL

The electrical components used by the trailer and vehicle are just as vital to towing as the trailer hitch, ball mount and other major parts. CURT carries a complete line of towing electrical products, from custom harnesses and connectors to advanced brake controls and adapters. Our SMT technology and quality components are built to be safe, functional and long-lasting. See all of our towing electrical products starting on page 182.

Adapters

An adapter is an electrical device that allows a connection to be made between a mismatched trailer plug and vehicle socket. For example, a truck may be equipped with a 6-way round socket, but the trailer may have a 4-way flat plug. An adapter can be installed to provide an easy connection for these two opposing connector types. For a chart on which CURT adapter should be used, see page 18.

For a selection of our adapters, see page 198.



Brake Controls

A brake control is a device used to communicate with the electric brakes found in larger trailers. Though a brake control does not actually exert any of the force necessary for stopping the trailer, it tells the electric brakes when to apply power. A brake control mounts onto the dash of the tow vehicle and typically has some kind of digital display with simple-to-use buttons or knobs. For more information and a complete list of CURT brake controls, see page 184.



Custom Wiring

Custom vehicle-to-trailer wiring harnesses are devices that allow you to plug your trailer wiring into your vehicle's electrical system without the need for cutting or splicing wires. Sometimes called a T-connector, a custom wiring harness provides an OEM original-equipment connector while still maintaining proper electrical function in your vehicle. See page 192 for our custom wiring harnesses.



Plugs & Sockets

Plugs & sockets are the basic components that allow vehicle wiring systems and trailer wiring systems to be connected. A socket is typically located near the rear of the vehicle and is commonly mounted somewhere on or around the trailer hitch. When preparing to tow, the plug is inserted into the socket and allows power to be supplied to the trailer's lights and other electrical systems. Plugs & sockets can be as simple as a 2-way flat connector and as complex as a 7-way RV blade connector. See page 204 for our plugs & sockets.



GOOSENECK HITCHES

Commonly used to haul livestock trailers and other heavy work trailers, a gooseneck hitch mounts into the bed of a pickup truck and uses a simple but strong trailer ball for heavy-duty towing. An under-bed gooseneck hitch allows for full use of the truck bed, using a trailer ball that can be folded down or removed out of the way. The CURT gooseneck hitch line offers several styles to fit various towing applications. See page 214 for our complete line.



5TH WHEEL HITCHES

5th wheel trailer hitches are designed to mount into the bed of a pickup truck and provide a heavy-duty coupler for a 5th wheel trailer kingpin. The kingpin slides into the hitch head and is held secure by a pair of locking jaws. The most common use for 5th wheel hitches is RV towing. For our selection of 5th wheel hitches, see page 226.





SPECIALIZED TOWING

Specialized towing encompasses a wide variety of towing products and applications. The most common of these are weight distribution hitches, sway control units and pintle hook. A pintle hook is a basic towing setup consisting of a hook and ring. Though simple in design, pintle hooks are typically capable of towing massive amounts of weight. For this reason, they are popular in the agriculture and construction industries. See page 248 for CURT pintle hooks.

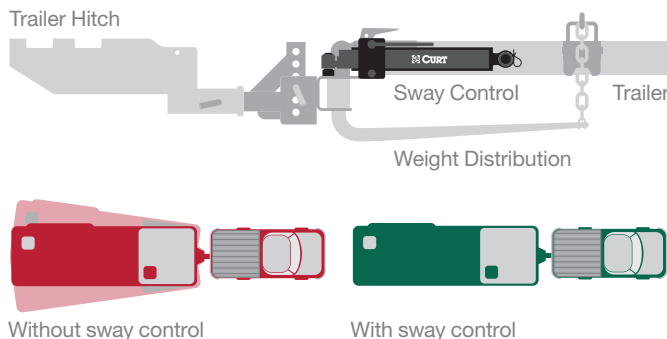
Weight Distribution

A weight distribution (WD) hitch makes it easier to tow large, heavy trailers. Equipped with two rods called 'spring bars', the WD hitch applies a safe amount of leverage on the tow vehicle's frame and evens out the weight of the trailer between the vehicle's rear axle and trailer's axle(s). This allows for more level towing across both the vehicle and the trailer. WD hitches can be used with class 3 - 5 trailer hitches and offer maximum sway control when used with a sway control unit. CURT weight distribution hitches are available in round bar and trunnion bar styles. See page 239 for our WD hitches.



Sway Control

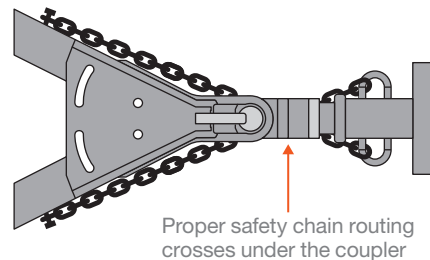
A sway control is a device used to reduce the lateral movement of a trailer caused by wind and passing traffic. It may be used with or without a weight distribution system. A sway control should not be used on a trailer hitch with a 1 1/4" receiver tube opening or on trailers with surge brakes. See page 245 for our sway control products.



Safety Cables & Chains

Safety chains are required by law and should always be used when towing. When connected, safety chains should be crossed under the coupler of the trailer so that the coupler will not drop to the road if it becomes separated from the hitch. Always leave enough slack so the vehicle can safely turn. Safety chains should never be allowed to drag on the ground and should never be attached to the bumper.

Each safety chain or safety cable must equal or exceed the gross trailer weight rating of the trailer. CURT safety chains are available in a variety of capacities. See page 263 for custom chain and page 261 for standard packaged safety chain.



Couplers

The coupler is the front-most end of the trailer that latches on the vehicle's trailer ball. The coupler size must always match the trailer ball size. Before towing, the coupler should be properly adjusted to the trailer ball, and the coupler latch should be securely fastened with a pin & clip. See page 252 for our selection of couplers.



Jacks

A trailer jack is a 'leg' or 'post' that holds up the front end of a trailer when it is not connected to a tow vehicle. Jacks can be raised or lowered, making them useful components when coupling or leveling the trailer. CURT has a number of jack styles available. See page 254 for our selection of jacks.





CARGO MANAGEMENT

Hauling bicycles or camping gear is difficult without sufficient cargo management products. Storing items and keeping them secure is just as important as any other aspect of towing. For this reason, CURT offers a full line of cargo management products designed to make towing easier by providing extra space and peace of mind.

Bike Racks

A bike rack is a convenient solution for storing those awkward and difficult-to-pack bicycles during travel. Much like a cargo carrier, a bike rack offers a simple and effective alternative by allowing you to attach several bicycles to your trailer hitch. See page 267 for a complete list of CURT bike racks.



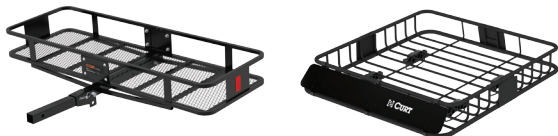
Cargo Straps

Cargo straps are a more reliable alternative to bungee cords and ropes when it comes to keeping cargo secure while towing. The main types of cargo straps are cambuckle and ratchet. Cambuckle straps are better for lightweight cargo because they tighten by simply pulling on the open end of the strap. Ratchet straps are heavier-duty and can be used to apply higher amounts of tension on heavy cargo. CURT has both types of cargo straps available in a variety of lengths and colors. See page 276 for our selection of cargo straps.



Cargo Carriers & Roof Baskets

A cargo carrier is an external vehicle attachment that provides additional space for storing cargo. It can be mounted to a trailer hitch on the front, rear or top of the vehicle. CURT cargo carriers are available in three styles: a standard tray style, a basket style and a roof basket style. They offer easy installation and fit 1 1/4" or 2" receiver tubes. See page 272 for a selection of our cargo carriers.



Tie-Down Rings

Tie-down rings are a simple way to create sound attachment points for cargo straps. It can be difficult on a trailer or truck bed to find a secure place to attach cargo strap hooks. A set of tie-down rings offers the solution. CURT carries recessed rings, D-rings, fold-away hooks and more to accommodate a wide variety of applications. For a complete listing of our tie-down rings, see page 278.



Vehicle Towing Capacities







The table below gives the approximate towing capacity for each type of vehicle. These capacities are estimates only. For the actual towing capacity of any vehicle, check the owner's manual. No part of the towing system should ever be overloaded.

Type of Vehicle	Vehicle Illustration	Example Vehicles	Towing Capacity
Small car		Dodge Avenger, Chevrolet Cobalt, Hyundai Elantra, Ford Focus	Under 1,000 lbs. GTW
Full-size car		Chevrolet Impala, Honda Accord, Ford Crown Victoria, Dodge Charger	1,000 - 2,000 lbs. GTW
Minivan or crossover vehicle (CUV)		Nissan Murano, Chevrolet Equinox, Subaru Outback, Honda Odyssey	2,000 - 4,000 lbs. GTW
Mid-size truck or sport utility vehicle (SUV)		Honda Ridgeline, Toyota Tacoma, Chevrolet Trailblazer, Ford Ranger	3,000 - 7,200 lbs. GTW
Full-size 1/2-ton truck or sport utility vehicle (SUV)		Toyota Tundra, Ford F-150, Ford Expedition, Chevrolet Suburban	5,000 - 11,200 lbs. GTW
3/4-ton or 1-ton truck		RAM 2500, GMC Sierra 2500, Chevrolet Silverado 2500, Ford F-250	10,000 - 16,000 lbs. GTW
Commercial truck (cab & chassis)		GMC Sierra 3500, Ford F-350, RAM 3500, Chevrolet Silverado 3500	16,000 - 20,000 lbs. GTW

Hitch Selection Guide

Use this table to determine the correct trailer hitch class for a tow vehicle, based on the gross trailer weight. Trailer hitch capacity is always limited by the tow vehicle's capacity. Refer to the owner's manual for the vehicle's maximum towing capacity. See page 42 for vehicle-specific application information.






Receiver Tube Size	1 1/4"	Up to 3,500 lbs. GTW
	2"	Up to 17,000 lbs. GTW
	2 1/2"	Up to 20,000 lbs. GTW

Rec. Tube Size	Class and Weight Rating						
1 1/4"	Class 1 & 2 Up to 3,500 lbs.	✓	✓	✓			
2"	Class 3 Up to 8,000 lbs.	✓	✓	✓	✓		
2"	Class 4 Up to 10,000 lbs.	✓	✓	✓	✓	✓	
2"	Xtra Duty Up to 17,000 lbs.	✓	✓	✓	✓	✓	✓
2 1/2"	Commercial Duty Up to 20,000 lbs.	✓	✓	✓	✓	✓	✓

Note: Refer to owner's manual for vehicle's maximum towing capacity

Weight Capacity Guide

Use this table as a guide to determine the weight of a trailer, based on the type of trailer that it is and its length. Knowing the weight of a trailer is essential when deciding which trailer hitch to use. The trailer weights provided in this table are merely estimates and should not be assumed to be exact. The estimates only reflect the weight of the trailer itself and do not take into consideration cargo or passengers.

Estimated Trailer-Only Weights		
 Boat	Aluminum trailer 12-15' - Trailer weight: 200 lbs. 16-20' - Trailer weight: 300 lbs.	Fiberglass trailer Up to 17' - Trailer weight: 200 lbs. 18-20' - Trailer weight: 300 lbs. 21-22' - Trailer weight: 570 lbs.
 Utility	Single axle 8' - Trailer weight: 320 lbs. 10' - Trailer weight: 360 lbs.	Tandem axle 12' - Trailer weight: 1,200 lbs. 16' - Trailer weight: 1,300 lbs. 20' - Trailer weight: 1,500 lbs.
 Recreational vehicle	Motorcycles, ATVs, personal watercraft, snowmobiles Carries two (8') - Trailer weight: 350 lbs. Carries four (14') - Trailer weight: 980 lbs.	Toy haulers 20' - Trailer weight: 4,100 lbs. 28' - Trailer weight: 6,600 lbs. 37' - Trailer weight: 12,000 lbs.
 Livestock / Horse	Livestock trailers (gooseneck pull) 16' - Trailer weight: 3,500 lbs. 20' - Trailer weight: 4,000 lbs. 28' - Trailer weight: 5,000 lbs.	Horse trailers (bumper pull) One horse - Trailer weight: 1,800 lbs. Two horses - Trailer weight: 3,100 lbs. Four horses - Trailer weight: 4,500 lbs.
 Camper / 5th Wheel	Campers 17' - Trailer weight: 2,300 lbs. 23' - Trailer weight: 4,200 lbs. 30' - Trailer weight: 4,800 lbs.	5th wheels 26' - Trailer weight: 5,900 lbs. 31' - Trailer weight: 7,800 lbs. 35' - Trailer weight: 10,200 lbs.

For more information, contact the CURT Technical Support line at 800.798.0813.

Note: CURT Manufacturing recommends the use of a trailer hitch with a weight distributing (WD) rating when carrying a personal mobility vehicle (power wheel chair, scooter, etc.). By using a trailer hitch with a capacity lower than the gross trailer weight, the warranty may be voided and could result in damage to both the tow vehicle and the load.

Towing Electrical Sub-Category Color Guide

CURT Manufacturing has identified six sub-categories within **TOWING ELECTRICAL**. These make it easy for consumers to quickly locate the products needed to properly wire their vehicle and trailer. Each of the six categories are color-coded and easily visible on all CURT retail packaging.

BRAKE
CONTROLS

ELECTRICAL
CONVERTERS

CUSTOM
WIRING

PLUGS &
SOCKETS

ELECTRICAL
ADAPTERS

ELECTRICAL
TESTERS

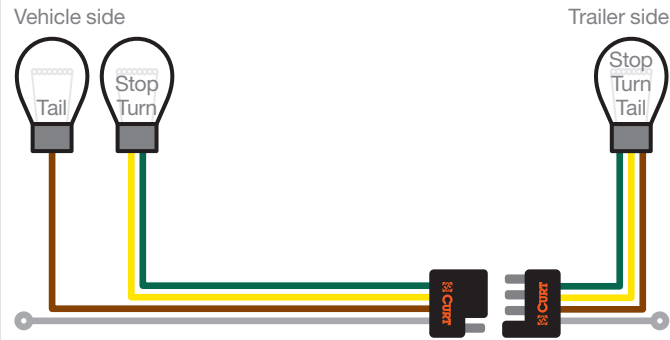
Wiring Systems

CURT Manufacturing electrical products are designed to deliver unsurpassed levels of performance, reliability and durability. The use of surface mount technology (SMT) components is just one of the steps CURT has taken to achieve this. SMT components are the most up-to-date parts available for circuit designs. They offer lower resistance, reduced heat generation and longer life cycles than the more common, out-of-date, through-hole-mounted components.

CURT applies SMT to a full-line of taillight converters and to any custom wiring product (T-connector) with a built-in converter.

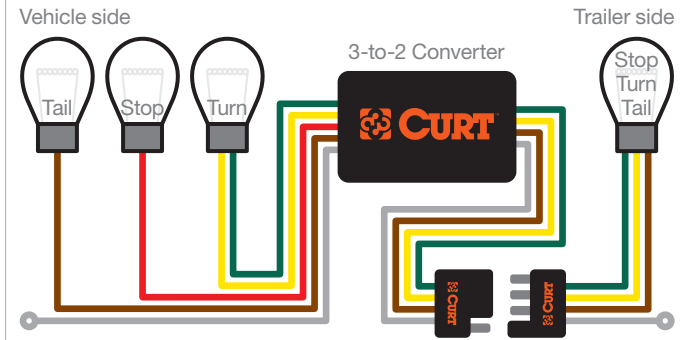
Two-Wire Systems

The two-wire system is still common in the automotive industry and the simplest form of trailer wiring. This system sends the stop / turn signal along one wire, while the tail signal is separate.



Three-Wire Systems

The three-wire system is the most common in the automotive industry, while being simple enough to wire with a converter. The stop, tail and turn signals are sent on separate wires to the converter, which converts the signals to a two-wire system.

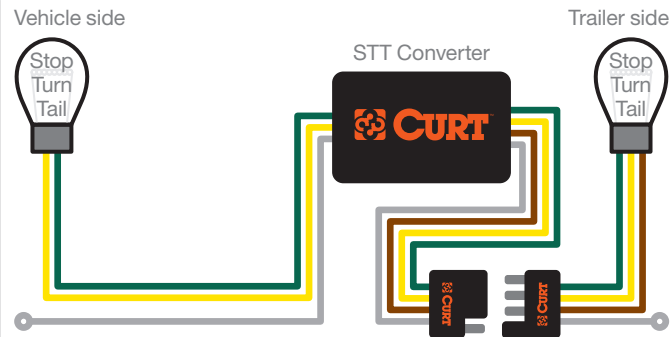


PWM Systems

More and more vehicles on the market today use PWM (pulse width modulation) wiring systems, sometimes called 'multiplex' systems. These are systems that vary the signal intensity over a single wire to control more than one lighting function. There are two types: Stop / Turn / Tail (STT) and Stop / Tail (ST). PWM systems can be either incandescent or LED.

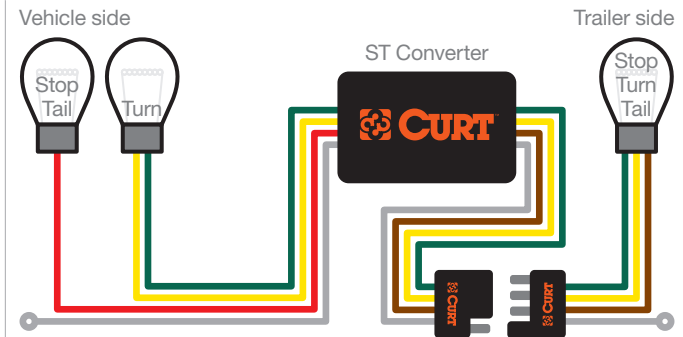
STT Systems

These systems use a single wire to control the stop, tail and turn signals. For STT systems, use CURT taillight converter 56201.



ST Systems

These systems use a single wire to control the stop and tail signals. Separate wires are used to control the left and right turn signals. For ST systems, use CURT taillight converter 56200.



See the application guide on page 42 for a detailed listing of vehicles with ST and STT systems

Plugs & Sockets and Adapter Wiring Guide

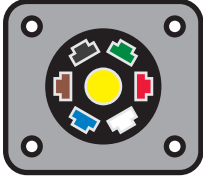
Refer to the **rear views** of plugs & sockets in the representative illustrations below.
The colors illustrated may not represent the colors found on the tow vehicle or trailer.

7-Way RV Blade

Traditional Configuration

Vehicle Side

Trailer Side



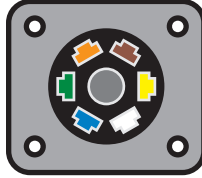
Function	Color
Taillights	Green
Left turn / brakes	Red
Ground	White
Electric brakes	Blue
Right turn / brakes	Brown
+12 volt	Black
Reverse lights	Yellow

7-Way RV Blade

SAE J2863 Configuration

Vehicle Side

Trailer Side



Function	Color
Taillights	Brown
Left turn / brakes	Yellow
Ground	White
Electric brakes	Blue
Right turn / brakes	Green
+12 volt	Orange
Reverse lights	Grey

7-Way Round

Vehicle Side

Trailer Side



Function	Color
Ground	White
Taillights	Brown
Right turn / brakes	Green
Auxiliary power	Red
Left turn / brakes	Yellow
Reverse lights	Black
Electric brakes	Blue

6-Way Round

Vehicle Side

Trailer Side

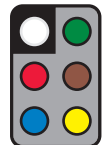


Function	Color
Taillights	Brown
Electric brakes	Blue
Right turn / brakes	Green
Left turn / brakes	Yellow
Ground	White
+12 volt	Black

6-Way Square

Vehicle Side

Trailer Side



Function	Color
Ground	White
+12 volt	Red
Electric brakes	Blue
Left turn / brakes	Yellow
Taillights	Brown
Right turn / brakes	Green

5-Way Flat

Vehicle Side

Trailer Side

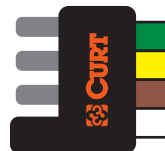


Function	Color
Reverse lights	Blue
Right turn / brakes	Green
Left turn / brakes	Yellow
Taillights	Brown
Ground	White

4-Way Flat

Vehicle Side

Trailer Side

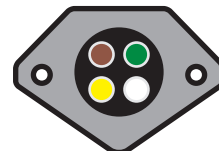


Function	Color
Right turn / brakes	Green
Left turn / brakes	Yellow
Taillights	Brown
Ground	White

4-Way Round

Vehicle Side






Trailer Side



Function	Color
Right turn / brakes	Green
Ground	White
Left turn / brakes	Yellow
Taillights	Brown









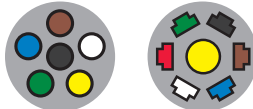


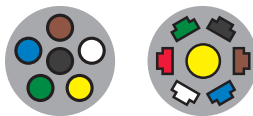









Electrical Adapter Selection Chart

Often times it is necessary to use an adapter to match the wiring of the vehicle to the wiring of the trailer. Below is a chart to identify which adapters are needed, based on the customer's vehicle or trailer wiring.

Trailer Side Connectors				
	 4-Way Flat	 5-Way Flat	 6-Way Round	 7-Way RV Blade
Vehicle Side Connectors	 4-Way Flat	Nothing needed Suggested Part#: N/A	5-way flat splice-in harness Suggested Part#: 58531	4-way flat to 6-way round adapter Suggested Part#: 57626
	 5-Way Flat	Nothing needed Suggested Part#: N/A	Nothing needed Suggested Part#: N/A	4-way flat to 7-way RV blade adapter Suggested Part#: 57676
	 4-Way Round	4-way round to 4-way flat adapter Suggested Part#: 57225	4-way round to 4-way flat adapter and splice-in 5-way flat harness Suggested Part#: 57225 & 58531	4-way flat to 6-way round adapter Suggested Part#: 57225 & 57626
	 6-Way Round	4-way round to 4-way flat adapter and 4-way flat to 6-way round adapter Suggested Part#: 57225 & 57626	Not applicable - Replace vehicle end wiring with 7-way RV blade and use adapter Suggested Part#: 57225 & 57626	Nothing needed Suggested Part#: N/A
	 7-Way RV Blade	6-way round to 4-way flat adapter Suggested Part#: 57621	6-way round to 4-way flat adapter and splice-in 5-way flat harness Suggested Part#: 57621 & 58531	Nothing needed Suggested Part#: N/A
		7-way RV blade to 4-way flat adapter Suggested Part#: 57241	7-way RV blade to 5-way flat adapter Suggested Part#: 57251	7-way RV blade to 6-way round adapter Suggested Part#: 57261

Common Plug Ends Per Trailer Type

CURT offers a wide range of electrical components that vary as much as the trailers they connect to. Below are some examples of common trailers and the types of plug ends they typically use.

Common Trailer Types	Common Corresponding Plug Ends		
		Most Commonly Used	Occasionally Used
			
	Boat Trailer without Surge Brakes	4-Way Flat	7-Way RV Blade (rarely used)
			 
	Boat Trailer with Surge Brakes	5-Way Flat	6-Way Round or 7-Way RV Blade
			 
	Utility Trailer	4-Way Flat	6-Way Round or 7-Way RV Blade
			 
Camper Trailer	7-Way RV Blade	6-Way Round or 7-Way RV Blade	
			
5th Wheel Trailer	7-Way RV Blade	6-Way Round	
			
Gooseneck Trailer	6-Way Round	7-Way RV Blade	

TOWING GLOSSARY

A

All-Purpose Vehicle (APV)

also called a Multi-Purpose Vehicle (MPV) or Multi-Utility Vehicle (MUV); a type of van that offers a higher load capacity and more room for passengers and cargo while still appealing to personal use with its relatively small size (e.g. minivan)

All-Terrain Vehicle (ATV)

a relatively small, off-road vehicle that is designed to be straddled by the driver and travel over multiple types of terrain; may seat anywhere from one to three persons, depending on the design (e.g. quad, three-wheeler, four-wheeler)

All-Wheel Drive (AWD)

a drivetrain system that powers all four wheels simultaneously, all of the time; provides more traction when needed but generally will not activate until the vehicle requires it; some automatic all-wheel drive vehicles are essentially smart 2WD systems; different from four-wheel drive in that 4WD can be switched off by the driver

Active Sway Control

also known as 'integrated sway control'; a feature of certain weight distribution hitches that allows the hitch to reduce trailer sway in addition to leveling out the trailer and tow vehicle; accomplished using support brackets to hold the spring bars in place

Application Guide

a complete index of current part numbers and associated vehicle applications for CURT trailer hitches, custom vehicle-to-trailer wiring harnesses and electrical converters (see page 42)

Aquacore® Coating (A-coat)

a base primer that CURT Manufacturing applies to trailer hitches to co-cure with the final powder coat and increase the hitch's overall corrosion resistance

Axle

the central shaft of a rotating wheel or gear; may be permanently fixed to the wheels, rotating with them, or fixed to the frame with the wheels rotating around the axle; one axle has two wheels

B

Ball

also known as a 'trailer ball', 'hitch ball' or 'tow ball'; a spherical metal device that mounts onto a ball platform using a threaded shank and nut and provides an attachment point for a trailer coupler

Ball Height

applies to Euro Mount® ball mounts only; a measurement from the ground to the top of a trailer ball when the tow vehicle it is attached to is parked on a flat surface and parallel to the ground; used to determine which Euro Mount® is required to make sure the trailer rides parallel to the ground while being towed; maximum recommended ball height for trailers is 25" from the ground, measured to the center of the hitch ball

Ball Mount

also known as a 'drawbar', 'hitch bar', 'tow bar' or 'stinger'; a removable trailer ball platform that slides into the receiver tube opening of a trailer hitch and fastens with a pin and clip; can be used to raise or lower the height of the ball to allow for level towing

Brake Control

also known as a 'brake controller'; an electrical device that serves as the interface between a tow vehicle and a trailer's electric brakes; can be inertia-activated or based on time delay from activation of the vehicle brakes; typically located in the tow vehicle's driving compartment with an electrical line running to the trailer wiring connector; usually requires the user to adjust brake gain to compensate for varying trailer loads; necessary for the operation of electric trailer brakes

Breakaway Switch

a component within a breakaway system, attached to both the tow vehicle and trailer, that signals the electric trailer brakes to activate when the tow vehicle and trailer become separated during a breakaway

Breakaway System

also called a 'breakaway kit'; a safety system, consisting of a breakaway switch, battery and other components, that activates the trailer brakes in the event that a trailer becomes disconnected from the vehicle while moving

Bumper

a horizontal buffer that runs the width of a vehicle and protects it in the event of an accident; mounted to both the front and rear of the vehicle (see quick reference chart of bumper styles on page 10)

Bumper Hitch

a light-duty receiver hitch that attaches to a vehicle's bumper, rather than to its frame

Bumper Pull Trailer

also called a 'tag-along trailer' or 'drag trailer'; a trailer that is pulled behind a vehicle with a chassis-mounted trailer hitch as opposed to a 5th wheel or gooseneck hitch; commonly refers to an RV trailer or horse trailer

Bungee Cord

an elastic cord designed for securing cargo; usually composed of rubber or several elastic strands covered with nylon or cloth and equipped with metal or plastic hooks on each end

C

Cargo Carrier

a hitch-mounted platform that allows for extra storage area on the outside of a vehicle; commonly used to haul coolers, boxes, tools, firewood and other items that are inconvenient to store inside the vehicle; usually equipped with a short 2" wall or a higher 6" wall and may include a tilt feature, allowing the carrier to fold up when not in use

Chassis

the main framework of a vehicle, consisting only of the frame and essential parts needed for operation; excludes the body and other non-essential parts; can be a unibody, consisting of both the chassis and bodywork, or with a basic C-frame construction

Circuit-Protected

a term applied to electrical circuits, indicating a design with an intentional 'weak spot', known as a fuse or circuit breaker, that breaks the flow of electricity in the event of an overload or short circuit, preventing damage to the circuitry

Class 1 Trailer Hitch

a trailer hitch with a 1 1/4" x 1 1/4" receiver tube opening, a gross trailer weight capacity of up to 2,000 lbs. and a tongue weight capacity up to 200 lbs.; typically used on small and full-size cars

Class 2 Trailer Hitch

a trailer hitch with a 1 1/4" x 1 1/4" receiver tube opening, a gross trailer weight capacity of up to 3,500 lbs. and a tongue weight capacity up to 350 lbs.; typically used on minivans and crossover SUVs

Class 3 Trailer Hitch

a trailer hitch with a 2" x 2" receiver tube opening, a carrying capacity of up to 8,000 lbs. gross trailer weight and a tongue weight capacity up to 800 lbs.; can be used in conjunction with a weight distribution system to increase the weight rating up to 12,000 lbs. and the tongue weight up to 1,200 lbs.; typically used on mid-size and full-size trucks and SUVs

Class 4 Trailer Hitch

often refers to any trailer hitch with a weight carrying capacity greater than 6,000 lbs.; a trailer hitch with a 2" x 2" receiver tube opening, a carrying capacity of up to 10,000 lbs. gross trailer weight and a tongue weight capacity up to 1,000 lbs.; can be used in conjunction with a weight distribution system to increase the weight rating up to 12,000 lbs. and the tongue weight up to 1,200 lbs.; typically used on mid-size and full-size trucks and SUVs

Class 5 Trailer Hitch

any trailer hitch with a gross trailer weight capacity greater than 10,000 lbs. and a tongue weight capacity between 1,000-1,200 lbs.; usually has a 2" x 2" receiver but sometimes a 2 1/2" x 2 1/2" receiver; can be used with a weight distribution system but not to increase weight ratings; typically used on 3/4-ton, 1-ton and commercial trucks

Clip

a small, hairpin-shaped metal device used to retain a hitch pin in a receiver tube

Commercial Duty (CD) Hitch

a type of class 5 trailer hitch with a 2 1/2" x 2 1/2" receiver tube opening, a carrying capacity of 18,000 lbs. gross trailer weight and a tongue weight capacity of 2,700 lbs.; can be used with a weight distribution system but not to increase weight ratings; typically used on 3/4-ton, 1-ton and commercial trucks

Commercial Duty + (CD+) Hitch

a type of class 5 trailer hitch with a 2 1/2" x 2 1/2" receiver tube opening, a carrying capacity of 20,000 lbs. gross trailer weight and a tongue weight capacity of 2,700 lbs.; can be used with a weight distribution system but not to increase weight ratings; typically used on 3/4-ton, 1-ton and commercial trucks

Computer Numerical Control (CNC)

a common manufacturing method that uses the automated control of workpiece motions or tool motions to fabricate parts; typically uses set input parameters such as feed, speed, depth of cut, etc.

Connector

an electrical device, usually comprised of a plug and socket, used to join two or more wires together

Converter

sometimes referred to as an 'electrical converter' or 'taillight converter'; an electrical device that adapts a tow vehicle's 'complex' electrical system to make it compatible with a trailer's 'simple' electrical system (e.g. 3-wire system to 2-wire system) by splicing into the vehicle's wiring, usually at the taillight assembly

Coupler

the foremost part of a trailer tongue that envelopes and secures to a tow vehicle's trailer ball

Coupler Height

the distance from the ground to the bottom of a trailer coupler with the trailer tongue leveled; used together with hitch height to determine the drop or rise needed when selecting a ball mount

Coupler Lock

a pin-style lock designed to fit through a coupler latch, disabling the coupler from latching onto or being removed from a trailer ball to prevent unwanted use or removal of the trailer

Crossover Utility Vehicle (CUV)

also called simply a 'crossover'; a vehicle that is built on a car platform using features and styling common on sport utility vehicles (SUVs)

Curb Weight

the total weight of a vehicle with OEM equipment, a full tank of gas and all necessary fluids (water, coolant, oil, etc.), but without any passengers or cargo

Custom Hitch

a trailer hitch that is designed for a particular year, make and model of vehicle to achieve the best possible fit, function and appearance

Custom Original Equipment Vehicle-to-Trailer Connector

sometimes referred to as a 'T-connector'; an electrical device that provides a standard trailer wiring socket on a vehicle by plugging into a special original equipment socket on the vehicle; may not be compatible with all vehicles; different from an electrical converter, which must be spliced into the vehicle's wiring; also different from a custom vehicle-to-trailer wiring harness, which plugs into the vehicle's taillight assembly

Custom Vehicle-to-Trailer Wiring Harness

also called a 'T-connector'; an electrical device that provides a standard trailer wiring socket on a vehicle by plugging into the vehicle's existing wiring at the taillight assembly; may not be compatible with all vehicles; different from an electrical converter, which must be spliced into the vehicle's wiring; also different from a custom original equipment vehicle-to-trailer wiring connector, which uses a single OEM plug to plug into a special socket provided by the vehicle

D

Dinghy Towing

the act of towing a vehicle, typically a car or small SUV, behind a motorhome or larger vehicle; can be done with two of the vehicle's wheels on the ground and two on a special trailer called a tow dolly, or with all four wheels on the ground using a tow bar; the towed vehicle itself is referred to as the 'dinghy'

Drawbar

often used to refer to a ball mount; a removable trailer ball platform that slides into a hitch receiver tube and fastens with a pin and clip; also refers to the 'tongue' portion of a fixed-tongue hitch; sometimes used to distinguish a coupling configuration different than a standard ball mount and trailer ball, such as a pintle hook

Dry Rot

a decaying of rubber that occurs when tires are left exposed to prolonged sunlight; preventable by regular usage and/or tire covers

Dry Weight

the weight of a vehicle or trailer without any passengers, cargo or fluids (water, coolant, oil, gasoline, etc.)

Dually

a pickup truck with four tires on its rear axle, two on each side; usually able to carry heavier loads compared to regular pickups

E

Electric Trailer Brakes

a braking system, built into the axle of a trailer, that uses electrical signals and electromagnets to accentuate a brake drum or disc and decelerate the vehicle; a connection to the tow vehicle's electrical system and a brake control are required for operation

Electrical Converter

sometimes referred to as a 'taillight converter' or simply a 'converter'; an electrical device that adapts a tow vehicle's 'complex' electrical system to make it compatible with a trailer's 'simple' electrical system (e.g. 3-wire system to 2-wire system) by splicing into the vehicle's wiring, usually at the taillight assembly

Equalizer

sometimes used to refer to a weight distribution hitch; also known as a 'load-equalizing hitch'; a supplementary receiver hitch attachment that uses metal bars, called spring bars, placed under tension to distribute a trailer's tongue weight to the trailer axle(s) and front axle of a tow vehicle; when used properly, can enhance handling and braking and increases trailer towing capacity; available in two types of configurations: round bar and trunnion bar; can be used in combination with a sway control unit to minimize trailer sway; also available in an active sway control design, in which the sway control components are built into the weight distribution hitch itself

F

Fifth Wheel Hitch (5th Wheel)

a type of heavy-duty trailer hitch that mounts in the bed of a pickup truck and uses a set of locking jaws to couple to the kingpin of a 5th wheel trailer; similar in concept to a semi-tractor; only compatible with pickup trucks

Fifth Wheel Trailer (5th Wheel)

a relatively large type of trailer designed to be coupled to a 5th wheel hitch using a kingpin; almost exclusively takes the form of an RV trailer; compatible only with pickup trucks or specialized vehicles prepared for fifth wheel towing; can have one, two or three axles

Fish Wire

a small wire device used in hitch installations to allow hardware to be 'fished' or pulled through an enclosed frame or bumper tube; has a coiled end to accept a threaded bolt

Fixed-Tongue Hitch

a trailer hitch that has a permanently integrated trailer ball platform or 'tongue' as opposed to a receiver tube; unable to accept a ball mount or other hitch-mounted accessory that uses a shank; denoted by an 'L' footnote in the CURT Application Guide

Forging

a manufacturing process involving the shaping of metal using localized compressive forces to produce a piece that is stronger than an equivalent cast or machined part

Four-Wheel Drive (4WD)

a drivetrain system in which all four wheels of the vehicle are powered by the engine simultaneously; different from all-wheel drive in that it can be disengaged by the driver so that the vehicle operates on a two-wheel drive system only

Frame

the part of a vehicle that serves as the base to which all other parts attach

Frame Mount Hitch

a trailer hitch that is designed to be bolted to a vehicle's frame or cross members; may have a permanent ball mount platform or a receiver tube opening to accept an insert

Front Mount Hitch

a trailer hitch that mounts onto the front of a vehicle and provides a receiver tube for mounting hitch accessories, such as a cargo carrier; typically only compatible with trucks, full-size vans and SUVs

Front-Wheel Drive (FWD)

a drivetrain system in which the engine powers only the front wheels; common on most non-commercial vehicles that do not have four-wheel drive

G

Gooseneck Hitch

a type of heavy-duty trailer hitch that mounts in the bed of a pickup truck and comes equipped with a trailer ball (usually either 2 5/16" or 3" in diameter) to engage the coupler of a gooseneck trailer; uses rails to attach to the frame of the truck above and forward of the rearmost axle; typically able to tow extremely heavy loads up to 30,000 lbs.

Gooseneck Trailer

a type of trailer with a gooseneck-shaped tongue that uses a ball and socket or kingpin to connect to a gooseneck trailer hitch; usually able to carry extremely heavy loads

Gross Axle Weight (GAW)

the total amount of weight supported by both of a vehicle's axles (front and rear), including the vehicle's systems and all cargo and passengers

Gross Axle Weight Rating (GAWR)

a manufacturer's rating for the maximum allowable weight that a vehicle's axles are designed to carry; applies to tow vehicles, trailers, 5th wheels and motorhome axles; sometimes specified as Front Gross Axle Weight Rating (FGAWR) and Rear Gross Axle Weight Rating (RGAWR) or simply FR and RR

Gross Combined Weight (GCW)

also referred to as 'Gross Combination Vehicle Weight' (GCVW); the actual total combined weight of a vehicle and trailer, including all passengers and cargo

Gross Combination Weight Rating (GCWR)

a manufacturer's rating for the maximum allowable weight of a combined tow vehicle and trailer; includes the weight of the vehicle, trailer, cargo, passengers and all fluids; may also apply to a motorhome and dinghy

Gross Trailer Weight (GTW)

the total weight of a trailer fully loaded in its actual towing condition

Gross Vehicle Weight (GVW)

the total weight of a vehicle when fully loaded, including all cargo and passengers

Gross Vehicle Weight Rating (GVWR)

a manufacturer's rating for the maximum allowable weight of a vehicle when fully loaded, including passengers, cargo and fluids

H

Hand Wheel

a threaded, turn-able wheel on top of a trailer coupler that tightens or loosens the coupler assembly around a trailer ball; less common than a coupler latch

Handle Nut

a special type of nut that comes attached to a bendable handle to allow the user to hold the nut in place at the desired angle in a hard-to-reach mounting place

Hitch

sometimes used to refer to a 'trailer hitch'; also called a 'tow hitch' or 'receiver hitch'; a device that attaches directly to a tow vehicle and serves as the connection apparatus between a tow vehicle and a trailer; usually refers to a receiver hitch, which has a receptacle or tube to accept a shank; may also refer to a 5th wheel hitch or a gooseneck hitch; often used incorrectly to refer to a ball mount

Hitch Adapter

sometimes referred to simply as an 'adapter'; a device that converts the receiver tube of a trailer hitch from one size to another to accommodate a different size shank; may reduce the overall weight capacity of the trailer hitch

Hitch Ball

sometimes used to refer to a 'trailer ball'; also known as a 'tow ball' or simply a 'ball'; a spherical metal device that mounts onto a ball platform using a threaded shank and nut and provides an attachment point for a trailer coupler

Hitch Bar

sometimes used to refer to a 'ball mount'; also known as a 'drawbar', 'tow bar' or 'stinger'; a removable trailer ball platform that slides into the receiver tube opening of a trailer hitch and fastens with a pin and clip; can be used to raise or lower the height of the ball to allow for level towing

Hitch Class

the ranking of a receiver-type trailer hitch, based on its receiver tube size and weight rating; usually identified by numbers or roman numerals from a five-point scale; see the individual classes (i.e. Class 1, Class 2, Class 3, etc.) for more information

Hitch Extender

sometimes referred to simply as an 'extender'; a device that fits into the receiver tube of a trailer hitch and extends the receiver tube by a certain length; usually used to give a hitch-mounted accessory, such as a cargo carrier or bike rack, more clearance of the vehicle's bumper or spare tire; may reduce the overall weight capacity of the trailer hitch

Hitch Height

the distance from the ground to the top of a hitch receiver tube, with the vehicle parked on level ground; used together with coupler height to determine the drop or rise needed when selecting a ball mount

Hitch Lock

a locking pin designed to secure a ball mount or other insert in a trailer hitch receiver tube to prevent theft

Hitch Pin

also called a 'pin' or 'receiver pin'; a small metal rod that is used in combination with a hairpin-shaped retaining clip to hold a ball mount or other insert in a receiver tube; typically, bent like a hockey stick and drilled or grooved at one end to accept the clip

Hitch Rating

a value placed on a receiver-type trailer hitch by the manufacturer to indicate the maximum amount of weight the hitch can safely handle; also see Hitch Class. Trailer hitch class chart available on page 10

Hitch Tube Cover

also called a 'receiver cover' or 'trailer hitch cover'; a temporary cap placed over a trailer hitch's receiver tube opening to protect the receiver tube from dirt, rust and other buildup; also used to mask or enhance the look of a hitch when not in use

Hitch Weight

also known as 'tongue weight'; the downward force applied to a trailer hitch by towable equipment; generally should not exceed 15% of the gross trailer weight

I

Insert

any item that mounts to a receiver-style trailer hitch using a shank (e.g. ball mount, bike rack, winch, etc.)

J

J684 Standard (V-5)

a testing standard designed by the Vehicle Equipment Safety Commission to increase highway safety by reducing towing and hitch-related accidents; not intended to cover 5th wheel and pintle hook devices or towing methods

J2638 Standard

a testing standard designed to establish minimum performance criteria for a tow vehicle and fifth wheel or gooseneck trailer at or below 30,000 lbs. gross trailer weight; establishes criteria for the trailer hitch, tow vehicle attachment structure, trailer attachment structure and coupling

Jackknife

an instance in which an extreme angle is formed between a tow vehicle and trailer; occurs from improper braking or a loss of control on poor road conditions

K

Kingpin

the coupling mechanism at the center of a fifth wheel trailer's nose that is grasped by the locking bar or jaws of a fifth wheel hitch; features a cylindrical shape that allows the trailer to rotate freely within the fifth wheel hitch to allow for proper turning and maneuvering

L

Landing Gear

a set of jack-like devices, commonly used on gooseneck and fifth wheel trailers, to raise and lower trailer height when coupling and uncoupling; also used to stabilize the trailer when not in tow; should always be completely raised before towing

LED (Light-Emitting Diode)

a semiconducting light source that requires less amperage for illumination than a traditional light bulb

Locking Pin

a hitch pin that locks with a key to prevent theft of a ball mount or other insert

Long Bed (LB)

also called a 'long box'; a truck bed that is typically a foot or two longer than a short bed (compact long beds are generally 7' long and full size are 8' long)

Low-Side Switching

an electrical switch configuration that uses a direct ground connection to activate a signal; applies 12 volts to the bulb at all times and activates the signal by switching to the ground connection

Lunette Eye

a round metal ring, used in place of a ball coupler on a trailer, to attach to a pintle hook on a tow vehicle

M

Multi-Fit Hitch

also known as a 'universal hitch'; a type of receiver hitch that features an adjustable frame in order to fit a number of different vehicles

Multi-Plex

also known as 'pulse width modulation'; a type wiring system that uses varying signal intensities across a single wire to control more than one trailer electrical function; made up of two subcategories: ST systems and STT systems; commonly used for controlling power to an inertial electrical device

O

Original Equipment Manufacturer (OEM)

a term used to designate parts that are made by the original manufacturer as opposed to an aftermarket manufacturer

P

Payload

the load or freight transported by a vehicle or trailer; excludes the weight of the trailer and tow vehicle

Personal Watercraft (PWC)

a relatively small recreational vehicle designed to operate on the water and bear one or two persons at a time; often referred to by the trademarked brand names Jet Ski, Wave Runner or Sea-Doo

Pin

also called a 'hitch pin' or 'receiver pin'; a small metal rod that is used in combination with a hairpin-shaped retaining clip to hold a ball mount or other insert in a receiver tube; typically, bent like a hockey stick and drilled or grooved at one end to accept the clip

Pintle Hitch

a heavy-duty coupling mechanism comprised of a pintle hook (vehicle side) and lunette eye (trailer side); commonly used on military, construction, industrial and agricultural equipment

Pintle Hook

the 'jaw' portion of a pintle hitch that attaches to a tow vehicle and couples to a lunette eye

Pintle Mount

a receiver hitch insert with a flat plate that provides a mounting place for a pintle hook; typically has a series of holes to allow the pintle hook to be vertically adjusted

Plug

the trailer-side half of a connector used to hook up trailer wiring to a tow vehicle; refers specifically to the trailer side of the connection as opposed to the vehicle side

Powered Converter

a type of electrical converter that draws power directly from a tow vehicle's battery, bypassing the vehicle's electrical systems and allowing the trailer lights to be illuminated with virtually no draw on the vehicle's taillight circuitry or other electrical components; recommended on most vehicles with LED taillights

Pulse Width Modulation (PWM)

also called 'multiplex'; a type wiring system that uses varying signal intensities across a single wire to control more than one trailer electrical function; made up of two subcategories: ST systems and STT systems; commonly used for controlling power to an inertial electrical device

R

Ratchet Strap

a type of heavy-duty cargo strap that uses a ratcheting assembly to allow relatively high tension to be placed on a load; ideal for larger, heavier cargo

Rear-Wheel Drive (RWD)

a drivetrain system in which the engine powers only the rear wheels; less common on non-commercial vehicles than front-wheel drive

Receiver Pin

also called a 'hitch pin' or simply a 'pin'; a small metal rod that is used in combination with a hairpin-shaped retaining clip to hold a ball mount or other insert in a receiver tube; typically, bent like a hockey stick and drilled or grooved at one end to accept the clip

Receiver Tube

the receptacle part of a trailer hitch that accepts the shank of an insert such as a ball mount, cargo carrier or bike rack; commonly 1 1/4" x 1 1/4" or 2" x 2" in size

Recreational Vehicle (RV)

a type of vehicle that has some sort of living space and is made specifically for recreational use, such as camping; may refer to a trailer or automotive vehicle; typically refers to a motorhome but can also include popup campers, truck campers, teardrop trailers and toy haulers

Roll Pan

a fascia panel used in place of a rear bumper on a vehicle; common on lowered trucks; may interfere with placement of a bolt-on hitch, depending on the design

Round Bar

a type of weight distribution hitch that has round spring bars that slide into the bottom of the hitch head; different from a trunnion bar WD hitch, which has square bars that mount on the center of the hitch head

Round Tube Hitch

a type of custom receiver hitch designed to be more visually pleasing and to better complement the vehicle to which it is attached; typically weighs less than a comparative square tube hitch

S

Safety Chains

a safety device that consists of a pair of chains attached from a trailer tongue to a hitch, using hooks to keep the trailer connected to the tow vehicle in the event that the coupler becomes detached while moving; required by law for towing; should be crossed once underneath the coupler for proper hookup

Shank

the square tube or bar of an insert that is mounted onto a trailer hitch by being inserted into its receiver tube; may also refer to the threaded rod-like stem of a trailer ball

Short Bed (SB)

a pickup truck bed that is usually a foot or two shorter than a long bed; typically 5' to 6' long

Socket

the vehicle-side half of a connector used to hook up trailer wiring to a tow vehicle; refers specifically to the vehicle side of the connection as opposed to the trailer side

Sport Utility Vehicle (SUV)

a type of automotive vehicle with a station-wagon-like body built on a light truck chassis; usually equipped with four-wheel drive for on- or off-road ability

Spring Bar

a semi-flexible metal bar used in pairs on a weight distribution hitch to distribute the tongue weight of a trailer to the front axle of a tow vehicle by applying upward tension on the receiver hitch; may be in the form of a round bar or trunnion bar

ST Wiring System (Stop, Tail)

a type of pulse width modulation wiring system that uses one wire to control the stop (brake) lights and taillights and separate wires to control the left and right turn signals; different than an STT system, which uses a single wire for all three functions

Stabilizing Strap

also called a 'support strap'; a supplementary strap used for adding support to an unsupported load such as a bike rack or cargo carrier

STT Wiring System (Stop, Tail, Turn)

a type of pulse width modulation wiring system that uses a single wire to control the stop (brake) lights, taillights and turn signals; different than an ST system, which uses two wires to accomplish this same function

Sub-Frame

the part of a vehicle that supports the engine and front suspension on a unibody frame

Surface Mount Technology (SMT)

a type of electronic circuitry in which components are mounted directly to the surface of the circuit board instead of through holes made in the board using wire leads; allows for smaller components, more components per area, lower resistance, reduced heat generation and longer life cycles

Surge Brakes

an entirely self-contained trailer brake system that uses the momentum of a trailer behind a tow vehicle to apply pressure to the trailer brakes, using a hydraulic cylinder and brake fluid

Sway

also known as 'trailer sway' or 'yaw'; refers to the fishtailing action of a trailer caused by external forces that set the trailer's mass into a lateral motion with the trailer's wheels serving as the axis or pivot point; may also be caused by the improper use of equipment or by excessive tongue weight

Sway Bar

sometimes confused with a sway control unit or a weight distribution hitch; a specialized spring on a vehicle's suspension system that helps reduce body roll; not associated with a trailer hitch

Sway Control Unit

sometimes referred to simply as a 'sway control'; a device that connects to both a trailer hitch and trailer to reduce the trailer's ability to sway by resisting lateral movement; should not be used to correct sway caused by improper tongue weight

T

T-Connector

an application-specific wiring harness that 'Ts' into existing tow vehicle wiring to provide a standard electrical connector

Tandem Axle Trailer

also called a 'double-axle trailer'; a trailer with two fixed axles and four wheels; typically has a higher towing capacity than single-axle trailers

Tongue Weight (TW)

also known as 'hitch weight'; the downward force applied to a trailer hitch by towable equipment; generally should not exceed 15% of the gross trailer weight; can be measured using a commercial scale or a bathroom scale with the coupler at towing height (when using a bathroom scale, use the method on page 9 and multiply the scale reading by three)

Torque

a measurement of the turning force on an object such as a bolt or a flywheel (e.g. pushing or pulling the handle of a wrench when tightening a bolt)

Tow Bar

a towable device that attaches to the front of a vehicle using brackets to allow the vehicle to be towed by another larger vehicle; also see Dinghy Towing

Tow Dolly

a short, two-wheeled trailer designed to cradle the front wheels of a vehicle to allow it to be towed by another larger vehicle such as a motorhome; also see Dinghy Towing

Tow Rating

a manufacturer's rating for the maximum weight limit that can safely be towed by a particular vehicle, taking into account its engine size, transmission, axle ratio, brakes, chassis, cooling systems, etc.; usually based on overall trailer weight rather than trailer size, though limits may be imposed for maximum frontal area of a trailer and overall length

Tow Vehicle

any car, van, truck, SUV or other automobile that is used to pull a trailer or some other towable load, such as a cargo carrier or dinghy

Trailer Ball

also known as a 'hitch ball', 'tow ball' or simply a 'ball'; a spherical metal device that mounts onto a ball platform using a threaded shank and nut and provides an attachment point for a trailer coupler

Trailer Brakes

a braking system built into a trailer's axle(s) that activates either by electric impulse or a surge mechanism; see Electric Trailer Brakes and Surge Brakes; usually in the form of drum brakes

Trailer Hitch

also called a 'tow hitch', 'receiver hitch' or simply a 'hitch'; a device that attaches directly to a tow vehicle and serves as the connection apparatus between a tow vehicle and a trailer; usually refers to a receiver hitch, which has a receptacle or tube to accept a shank; may also refer to a 5th wheel hitch or a gooseneck hitch; often used incorrectly to refer to a ball mount

Trailer Jack

a mechanical device used for supporting, raising and lowering the tongue of a trailer

Trailer Lock

a type of lock that fits over or in a trailer coupler to prevent unwanted use or theft

Trailer Tongue

sometimes referred to simply as a 'tongue'; the part of a trailer that extends forward from the trailer's main body and includes the trailer coupler

Transmission Cooler

an auxiliary cooler that provides extra cooling for automatic transmission fluid to extend the life of a transmission on an automotive vehicle

Travel Trailer

also known as a 'caravan trailer' or 'conventional trailer'; a type of bumper pull trailer equipped with some sort of living space and an A-shaped frame and coupler; typically available with one, two or three axles

Tri-Axle Trailer

a trailer with three axles and six wheels; typically has a higher towing capacity than a tandem axle trailer

Trunnion Bar

a type of weight distribution hitch that has square spring bars that mount on the center of the hitch head; different from a round bar WD hitch, which has round bars that slide into the bottom of the hitch head

Two-Wheel Drive (2WD)

a drivetrain system in which the engine powers only two wheels; common on most non-commercial vehicles without four-wheel drive

U

Uni-Body

a type of vehicle frame in which the bodywork and chassis are made up of a single molded piece; usually has a sub-frame on the front end to hold the engine and suspension

Universal Hitch

also known as a 'multi-fit hitch'; a type of receiver hitch that features an adjustable frame in order to fit a number of different vehicles; does not provide ideal fit, function and appearance compared to a custom hitch

USCAR (United States Council for Automotive Research)

a group that attempts to create uniformity within vehicle components; also a type of electrical connection that has been commonly used on GM, Ford and Toyota trucks since 1999 (Dodge has their own distinct version)

V

V-5

a testing standard designed by the Vehicle Equipment Safety Commission to increase highway safety by reducing towing and hitch-related accidents; not intended to cover 5th wheel and pintle hook connecting devices or towing methods

V-19

a testing standard designed by the Vehicle Equipment Safety Commission to increase highway safety by reducing towing-related accidents; intended to cover towing methods associated with 5th wheel and gooseneck trailer tongues connecting to kingpin or ball-and-socket couplers located above and forward of the rear-most axle of the towing vehicle

Vehicle Identification Number (VIN)

a unique serial number used by the automotive industry to identify individual motor vehicles

W

Weight Carrying Hitch (WC)

a receiver hitch used without a weight distribution system and on which all of the trailer's tongue weight is placed; may be limited to weight carrying capabilities only or may have a dual rating to provide the option of being used with a weight distribution system

Weight Distributing (WD)

a method of towing in which a weight distribution hitch is used to redistribute some or all of a trailer's tongue weight throughout the vehicle's chassis, from the rear axle to the front axle; causes the vehicle and trailer to be more level and typically raises the gross trailer weight of the trailer hitch

Weight Distribution Hitch

also known as an 'equalizer' or 'load-equalizing hitch'; a supplementary receiver hitch attachment that uses metal bars, called spring bars, placed under tension to distribute a trailer's tongue weight to the trailer axle(s) and front axle of a tow vehicle; when used properly, can enhance handling and braking and increases trailer towing capacity; available in two types of configurations: round bar and trunnion bar; can be used in combination with a sway control unit to minimize trailer sway; also available in an active sway control design, in which the sway control components are built into the weight distribution hitch itself

Weldnut

a type of nut specifically designed to be welded to a metal surface; commonly found on automotive vehicles and used during hitch installations to serve as a mounting place for bolts

Wheelbase (WB)

the horizontal distance between the center of the front wheel and the center of the rear wheel on a vehicle

Wiring Harness

also known simply as a 'harness'; a set of wires used to carry power in an electrical system, such as in an automotive vehicle or trailer

Wiring System

a configuration of wiring used by a vehicle to supply power to its electrical systems; common vehicle forms include two-wire, three-wire and PWM systems

X

Xtra Duty (XD) Hitch

a type of class 5 trailer hitch with a 2" x 2" receiver tube opening, a carrying capacity of 16,000 lbs. gross trailer weight and a tongue weight capacity of 2,400 lbs.; can be used in conjunction with a weight distribution system to increase the weight rating up to 17,000 lbs.; typically used on 3/4-ton, 1-ton and commercial trucks

Xtra Duty + (XD+) Hitch

a type of class 5 trailer hitch with a 2" x 2" receiver tube opening, a carrying capacity of 17,000 lbs. gross trailer weight and a tongue weight capacity of 2,550 lbs.; can be used with a weight distribution system but not to increase weight ratings; typically used on 3/4-ton, 1-ton and commercial trucks
