

Attachment A – Examples of Utility Trailers for Cache Support Vehicles

- Trailers (up to two) to accommodate one or two ATVs each (the following specs based on a John Deer Gator TH 6x4, or equivalent):
 - Weight: 1089 lbs
 - Height: 44”
 - Width: 60”
 - Length: 106”
- Hitch standards:

Gross Trailer Weight (GTW)

The Gross Trailer Weight (GTW) is a combination of the weight of the trailer and cargo inside. This is the total weight of both elements. Never exceed the weight capacity (GTW) of your trailer hitch.

Hitch, Receiver Hitch, Trailer Hitch

A Receiver Hitch is the primary device that is attached to the rear of the vehicle that allows you to tow. There are six classes of hitches. It is very important to choose the correct class of receiver hitch. Gross trailer weight and tongue weight will determine the hitch that is needed. Do not exceed the lowest rating of any component of your towing system.

- Class 1 - 1000 to 2500 GTW
- Class 2 - 3500 GTW
- Class 2.5 - 4,000 GTW
- Class 3 - 10,000 WD/6,000 GTW
- Class 4 - 12,000 WD/8,000 GTW
- Class 5 - 14,000 WD/10,000 GTW

Safety Chains

Safety chains are a requirement and should be crossed under the tongue of the trailer so that the tongue will not drop to the road if it becomes separated from the hitch. Always leave enough slack so you can turn. Never allow the safety chains to drag on the ground and never attach the safety chains to the bumper.

Trailer Classification, Safety Chain Breaking Force-Minimum:

- Class 1: 2000 lbs (8.9 kN)
- Class 2: 3500 lbs (15.6 kN)
- Class 3: 5000 lbs (22.2 kN)
- Class 4: The strength rating of each length of safety chain or its equivalent and its attachments shall be equal to or exceed in minimum breaking force the GVWR of the trailer.

Sway Control

The Sway Control is a device used to reduce the lateral movements of the trailer that are caused by the wind. This works along with a weight distribution hitch. Do not use this on a class 1 or 2 hitch or with surge brakes.

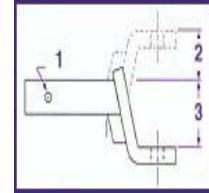
Tongue Weight (TW)

Tongue weight is the downward force that is exerted on the hitch ball by the coupler. Tongue weight will vary depending on where the load is positioned in relationship to the trailer axle(s). To measure the tongue weight, use either a commercial scale or a bathroom scale with the coupler at towing height. When using a bathroom scale with heavier tongue weights, use the method shown; multiplying (the scale reading x 3).

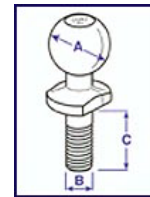
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Weight Distribution (WD) A Weight Distribution hitch is used to balance the weight of the cargo between the front and rear wheels throughout the trailer which will allow for better steering, braking, and level riding.

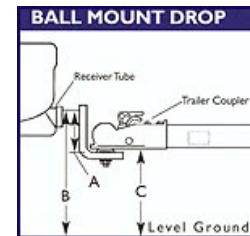
Coupler The coupler is the component that is placed over the hitch ball that connects the vehicle to the trailer. Be sure that the coupler size matches the size of the hitch ball and that the coupler handle is securely fastened. To determine what size hitch ball you need for your application you will need to know the size of coupler that is on the trailer.



Ball (Hitch Ball) The Hitch Ball is the connection from the hitch to the trailer. There are many elements in determining the correct hitch ball. Mounting platform thickness, hole size, coupler socket size and the most important gross trailer weight rating. The platform must be at least 3/8" thick and the hole size must not be more than 1/16 of an inch larger in diameter than the threaded shank. Every time you tow be sure to check the nut and lock washer to make sure it is fastened securely.
 A = Ball Diameter | B = Shank Diameter | C = Shank Length



Ball Mount The ball mount is placed inside the hitch opening which is mounted to the vehicle. Be sure to check your ball mount before towing to make sure a hitch pin is placed through the hole of the ball mount. The hitch pin secures the ball mount inside the tube of the receiver hitch when towing



Style Type #1 Ball mount: This style of ball mount is needed when the trailer and vehicle are equally level.

Style Type #2 Ball mount: This style of ball mount is needed when your trailer and vehicle are NOT equally level.

How do I determine what size drop or rise I need for my ball mount?

To determine the size drop or rise for your style type #2 ball mount: (style type #1 is only for equal level vehicle and trailer) First level your trailer and measure from the ground up to the top ID of receiver tube opening. Second, measure your vehicle from the ground up to the bottom of the trailer coupler. Third take the difference from both measurements and this will determine the size of drop or rise you need.

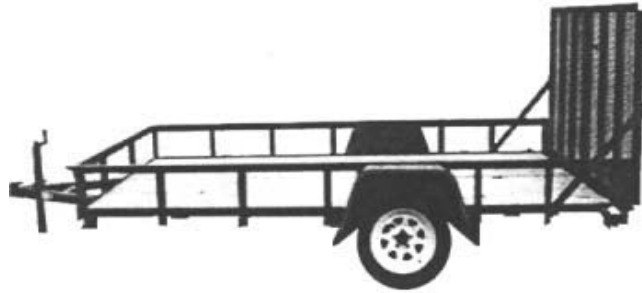
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The Department of Transportation TITLE 49, entitled “Transportation”, Part 393 “PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION”, Subpart F, “Coupling Devices and Towing Methods”, Section 393.70 “Coupling devices and towing methods, except for driveaway- tow away operations” provides the regulations that you should follow in determining your towing vehicle and trailer requirements for safe operations. (See Attachment B for “Towing Considerations for Safe Operations”)

■ **Important points to keep in mind with trailer hitches:**

- Make sure that the ball size is the same as the trailer coupler size, so that a 1 7/8" ball would go with a 1 7/8" coupler, and a 2" ball with a two inch coupler
- Never exceed the recommended weight rating stamped on the ball.
- The shank size must conform to the mounting device, so that a 3/4" shank (1 2/16") would go with a 13/16" mounting hole, a 1" shank with a 1 1/16" mounting hole.
- Never weld, cut burn, apply heat to, or alter a trailer ball in any manner
- When installing a trailer ball, always use the lock washer and nut. An internal thread ball should be tightened to 270 ft. lbs. while a shank ball should be tightened to 175 ft. lbs.
- Check the trailer ball and replace if there is any visible damage or wear.
- Never tow more than one trailer, as this may lead to swaying and improper load damage and is very unsafe.

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**5' x 10' Utility Trailer
Specifications**

Main Frame Construction	2x3 Angle Iron
Cross Member	2x2 1/2 Angle Iron
Tongue Construction	2x3 Angle Iron
G.V.W.	2990 lb.
Trailer Empty Weight	775 lb. approx.
Wheels & Tires	ST205/15-B 5 lug 1596#
Deck	P.T. Pine Floor
Coupler	2"
Side Rails	2x3 Angle Iron
Width Between Wheel Wells	5 ft.
Paint	Primed with 2 coats of industrial primer and acrylic black w/pin stripes
Deck Height	19"
Axle	3500# 58x73 5 lug

Standard Features

Safety Chains
Full lighting
Top Wind Jack

Gate
4 prong electrical plug

Options & Spare Parts

<p>Spare Tire & Wheel ST205/15-B 1596# ST205/15-C 1820# ST205/15-C 2150# Wheel Break-Away Kit with Charger & D.O.T. lighting</p>

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**6'9" x 18' Utility Landscape Trailer
Specifications**

Main Frame Construction	3x3 Angle Iron
Cross Member	2 1/2 x 3 Angle Iron
Tongue Construction	3x5 Angle Iron
G.V.W.	7000 lb.
Trailer Empty Weight	1860 lb. approx.
Wheels & Tires	ST205/15-C 5 lug 1820#
Deck	P.T. Pine
Coupler	2 5/16 ball
Side Rails	2 1/2 x 2 1/2 Angle Iron
Width Between Wheel Wells	81"
Paint	Primed with 2 coats of industrial primer and acrylic black w/pin stripes
Deck Height	19"
Axle	3500# 78x93 5 lug

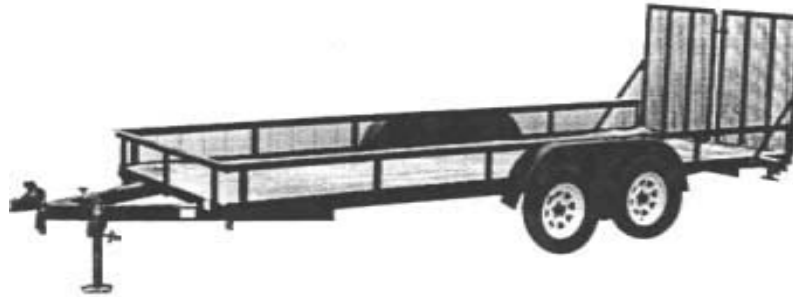
Standard Features

- | | |
|----------------------------|--|
| Safety Chains | Tongue Jack |
| Full lighting | D.O.T. Package & Break Away kit with charger |
| Electric Brakes all wheels | 6 prong metal electrical plug |
| Landscape Gate 48" | |

Options & Spare Parts

Spare Tire & Wheel
ST205/15-B 1596#
ST205/15-C 1820#
ST205/15-C 2150#
Wheel
Mesh Sides
72" Tail Gates Exchange

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6'9" x 20' Utility Landscape Trailer
Specifications

Main Frame Construction	4x4 Angle Iron
Cross Member	2 1/2 x 3 Angle Iron
Tongue Construction	3x5 Angle Iron
G.V.W.	7000 lb.
Trailer Empty Weight	2010 lb. approx.
Wheels & Tires	ST205/15-C 5 lug 1820#
Deck	P.T. Pine
Coupler	2 5/16 ball
Side Rails	3 x 3 Angle Iron
Width Between Wheel Wells	81"
Paint	Primed with 2 coats of industrial primer and acrylic black w/pin stripes
Deck Height	19"
Axle	3500# 78x93 5 lug

Standard Features

Safety Chains	Full lighting
Electric Brakes all wheels	Landscape Gate 48"
Tongue Jack charger	D.O.T. Package & Break Away kit with 6 prong metal electrical plug

Options & Spare Parts

Spare Tire & Wheel
ST205/15-B 1596#
ST205/15-C 1820#
ST205/15-C 2150#
ST225/15-D 2450#
Wheel
Mesh Sides
72" Tail Gates Exchange
Upgrade to 10,000 G.V.W. w/ST225-15-C Tires

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MULTI-HITCH

The Multi-Hitch is the original design for all combination hitches used throughout the world today. Started in the early 1970's, the Multi-Hitch combines the more commonly used trailer ball hitches with the more industrial pintle hitch system. The hitch resulted in cost savings, increased safety, performance, ease of use and appearance. Even today, manufacturing methods and packaging are being changed to bring you a more cost effective and attractive product.

HEAVY DUTY INCLUDES

- combination hitches with interchangeable ball sizes
- pintle hitches - 15 Ton GTW
- flat back hitches can be mounted directly to vehicle
- adapters (mounting plates) for mounting hitches to receiver

CLASS II

- Ball mounts - allows height adjustment for trailer coupling and interchangeable balls



MULTI-HITCH - 16,000 LBS. GTW



PART #	DESCRIPTION	PRICE
K-200	with 2" Ball	
K-201	with 1-7/8" Ball	
K-300	with 2-5/16" Ball	

INTERCHANGEABLE BALLS WITH LOCKNUTS



PART #	DESCRIPTION	PRICE
K-202/s	2" Ball with 1-1/8" Shank & Locknut	
K-203/s	1-7/8" Ball with 1-1/8" Shank & Locknut	
K-205/s	2-5/16" Ball with 1-1/8" Shank & Locknut	
K-207	1-1/8" Locknut	