



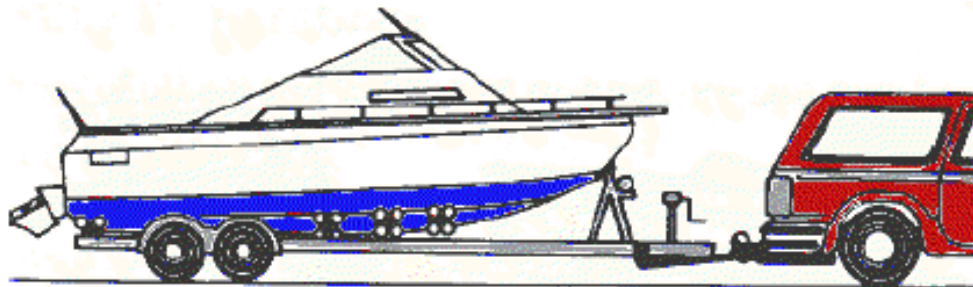
Trailer



Trailerding

By the end of this unit, the participant will be able to:

1. Identify proper vehicle-boat-trailer combination.
2. Identify trailer equipment and safety features.
3. Properly maintain trailer equipment.
4. Demonstrate safe trailering techniques pulling and backing a trailer around obstacles.
5. Demonstrate safe launch and retrieval of a motorboat.





Trailer Ratings

- **Gross Vehicle Weight Rating (GVWR)** - Maximum allowable weight of tow vehicle or trailer when loaded, including weight of vehicle or trailer itself, passengers and gear. It's highly suggested not to exceed 85% of the trailers GVWR.
- **Gross Axle Weight Rating (GAWR)** - Maximum weight an axle is designed to carry, including weight of vehicle or trailer and gear.

Trailer Ratings

- **Capacity Plate** The GVWR, GAWR and trailer identification numbers are located on the trailer's capacity plate.

MANUFACTURED BY			
FRIESEN WELDING			
For: JOHNSON TRAILERS			
DATE OF MANUFACTURE	9/98		
GVWR (UNIFORMLY DISTRIBUTED)	16,000	LBS.	7,257 KGS.
GAWR (MAXIMUM ALL AXLES)	7,000	LBS.	3,175 KGS.
TIRES	235		
RIMS	16		
COLD INFLATION PRESSURE	80	PSI	552 KPA
THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S.A. FEDERAL MOTOR VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.			
MODEL	C1440	TYPE	Gooseneck
VIN	4WFGN2435W10002945		

Trailer Bed Types

Rollers - Support the boat on a system of rollers, which allows for easier launch



Trailer Bed Types

Bunks (pads) - provide better support than rollers, but launching and retrieval require that the boat is floated on and off the trailer.



Trailer Selection

- Load Rating
- Load Height
- Length
- Support
- Brakes
- Winch
- Lights
- Motor Support
- Safety Chains
- Spare Tire

Tow Vehicle Selection

- Load Rating
- Add-ons
- Hitch
- Ball
- Tires
- Transmission



Trailer Hitch/Coupler/Ball

- Hitch class
 - Class 1 - to 2000 lbs
 - Class 2 - to 3500 lbs
 - Class 3 - to 5000 lbs
 - Class 4 - to 12000lbs
- Attachment
- Equalizing hitches
- Ball and coupler
- Receiver hitch

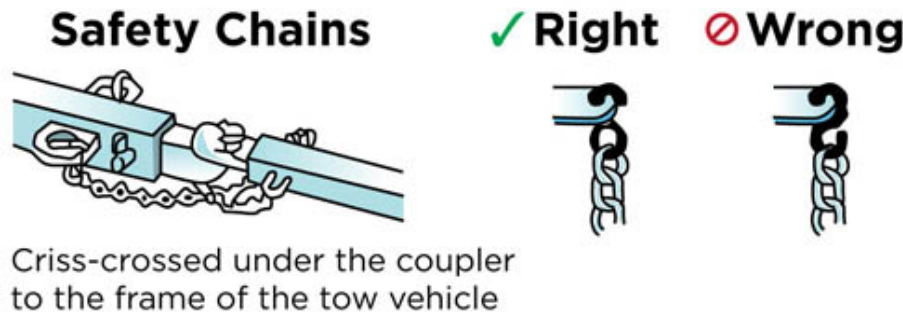


Trailer Hitch Safety Chains

- Trailers need to have safety chains
- Apply chains in a criss-cross pattern
- Chains need to be strong enough to absorb the shock of a trailer hitch failure

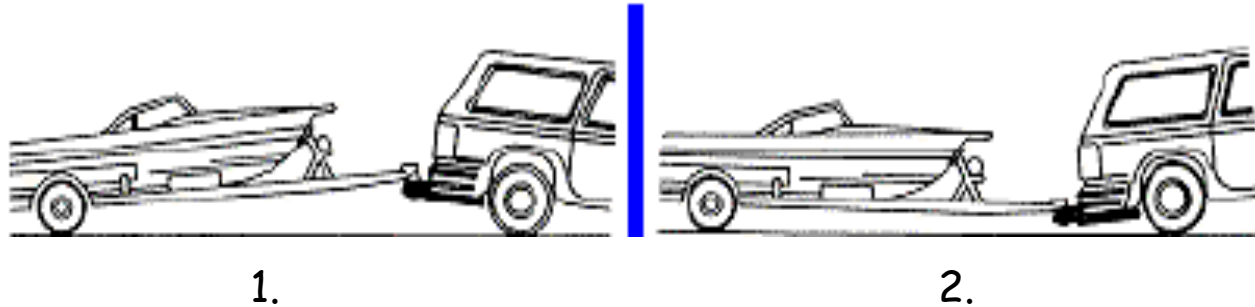
Note: Some states may require the use of "Closed Loop" connectors

- Safety chain attached to bow eye of boat



Tongue Weight

- 5-15% combined weight of trailer and boat
 - 60% of trailer load should be forward of trailer wheels
1. Too much weight on rear of trailer will cause trailer to fishtail.
 2. Too much weight on the hitch will cause the tow vehicle's rear to drag, making steering more difficult.



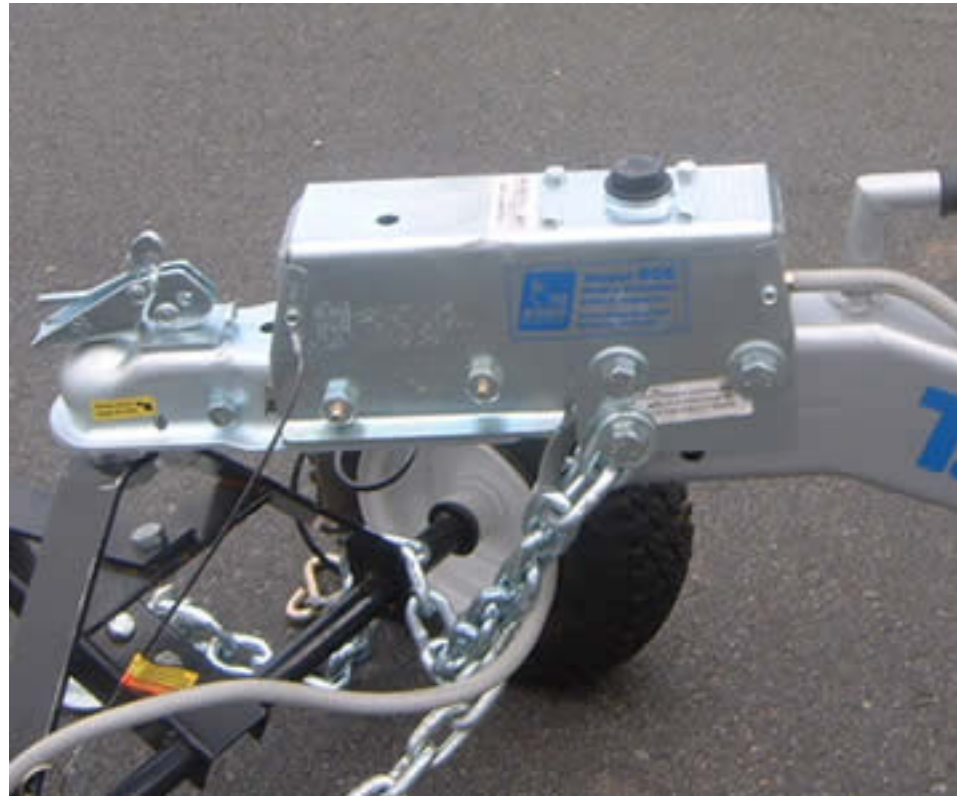
Electrical Connections

- A variety of styles



Braking System

- Surge brakes
- Function
- Concerns



Preventative Trailer Maintenance

- Winch strap/cable and tie-downs
- Trailer frame
- Tires
- Bearings
- Wiring
- Rollers and bunks





Preparing To Tow Safely

- Drain excess boat water
- Trailer weight distributed 5-15% on tongue
- Secure gear
- Secure trailer to tow vehicle
- Connect lights and check
- Connect and criss-cross chains
- Trailer jack up and secure
- Winch ratchet locked
- Secure all tie-downs, winch cable/strap and bow safety chain
- Motor raised if necessary
- Wheel bearings lubricated
- Check tire pressure, spare, lug nuts, brakes
- Drain plug stowed
- Adjust mirrors and seat
- Boat keys and field gear

Road Handling

- Speed
- Braking distance
- Mirrors
- Turning radius
- Backing



Trailer Backing Tips

- Put steering hand on the bottom of the wheel. Move your hand in the direction you want the boat stern to go
- Use side mirrors (don't look over shoulder) while backing.
- Don't put the tailgate down on pickups.
- Honk horn before backing.
- Don't use your seatbelt when backing.





Trailer Backing Tips (cont.)

- Open windows and turn off the radio.
- Spotters - use one if you need it.
- When setting up for backing up, if possible, make the inside of the arc on the driver side.
- Stay close to a guidance feature (e.g., edge of ramp, seam in concrete).
- Make your own guidance feature (e.g., spray paint, place rocks).

Launching

- Launch prep away from ramp
- Remove motor support bracket
- Drain plug installed
- Disconnect wiring, remove tie-downs
- Load boat
- Fuel ready
- Recheck drain plug
- Back down ramp



- Tow vehicle in park
- Driver board boat for start up procedures
- Attaching lines
- Launching boat
- Tow vehicle to parking
- Load additional passengers and gear away from ramp

Retrieval

- Unload boat away from ramp
- Back trailer down ramp
- Maneuver boat onto trailer
- Attach winch cable/strap
- Winch boat onto trailer
- Attach trailer safety chain
- Drive trailer and boat out off ramp
- Secure equipment, attach tie-downs and reattach wiring for lights
- Remove drain plug



Practical Exercises

Trailer Parking/Backing and Launch & Retrieval

