



1158 Paris Rd, Bogata Tx, 75417

# Owner's Manual

## WARNING

This user's manual contains safety information and instructions for your trailer. You must read this manual before loading or towing your trailer. You must follow all safety precautions and instructions

## WARRANTY

5 YEAR ON AXLE WELD AND 3 YEAR ON AXLE BARRING

3 YEAR STRUCTURAL

1 YEAR ON ACCESSORIES (LIGHTS, JACKS)

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# 1 General Safety Information

## 1.1 SAFETY ALERT SYMBOLS AND SIGNAL WORDS

An Owner's manual that provides general trailer information cannot cover all of the specific details necessary for the proper combination of every trailer, tow vehicle and hitch. Therefore, you must read, understand and follow the instructions given by the tow vehicle and trailer hitch manufacturers, as well as the instructions in this manual

Our trailers are built with components produced by various manufactures. Some of these items have separate instruction manuals where this manual indicates that you should read another manual, if you do not have that manual, contact DP Platinumstar Trailers for a copy.

The safety information in this manual is denoted by the safety alert symbol: \* The level of risk is indicated by the following signal words

**\*Danger** – Immediate hazards which will result in severe personal injury or death if the warning is ignored

**\*Warning** – Hazards or unsafe practices which could result in severe personal injury or death if the warning is ignored

**\*Caution** – Hazards or unsafe practices which could result in minor or moderate injury if the warning is ignored

**\*Notice** – practices that could result in damage to the trailer or other property

## 1.2 MAJOR HAZARDS

Loss of control of the trailers or trailer/tow vehicle combination can result in death or serious injury. The most common causes for loss of control of the trailer are:

- Improper sizing of the trailer for the tow vehicle, or vice versa
- Excessive speed: driving too fast for the conditions
- Failure to adjust driving behavior when towing a trailer
- Overloading and/or improper weight distribution

- Improper or mis-coupling of the trailer to the hitch
- Improper braking and steering under sway conditions
- Not maintaining proper tire pressure
- Not keeping lug nuts tight

### **1.2.1 IMPROPER SIZING OF THE TRAILER TO THE TOW VEHICLE**

Trailers that weigh too much for the towing vehicle can cause stability problems, which can lead to death or serious injury. Furthermore, the additional strain put on the engine and drive-train may lead to serious tow vehicle maintenance problems. For these reasons, the maximum towing capacity of your towing vehicle should not be exceeded. The towing capacity of your tow vehicle, in terms of maximum Gross Trailer Weight (GTW) and maximum Gross Combined Weight Rating (GCWR) can be found in the tow vehicle's owner's manual.

#### **DANGER**

- Use a hitch with a load rating less than the load rating of the trailer can result in loss of control and may lead to death or serious injury
- Use of a tow vehicle with a towing capacity less than the load rating of the trailer can result in loss of control and may lead to death or serious injury
- Be sure your hitch and tow vehicle are rated for the Gross Vehicle Weight Rating (GVWR) of your trailer

### **1.2.2 DRIVING TOO FAST**

With ideal road conditions, the maximum recommended for safely towing a trailer is 60 mph. If you drive too fast, the trailer is more likely to sway, thus increasing the possibility for loss of control. Also, your tires may overheat, thus increasing the possibility of a blowout.

#### **WARNING**

- Driving too fast for conditions can result in loss of control and cause death or serious injury
- Decrease your speed as road, weather and lightning conditions deteriorate

### **1.2.3 FAILURE TO ADJUST DRIVING BEHAVIOR WHEN TOWING A TRAILER**

When towing a trailer, you will have decreased acceleration, increased stopping distance, and increased turning radius (which means you must make wider turns to keep from hitting curbs, vehicles, and anything else that is on the inside corner). Furthermore, the trailer will change the handling characteristics of your towing vehicle,

making it more sensitive to steering inputs and more likely to be pushed around in windy conditions or when being passed by large vehicles. In addition, you will need a longer distance to pass, due to slower acceleration and increased length. With these caveats in mind:

- Be alert for slippery conditions. You are more likely to be affected by slippery road surfaces when driving a tow vehicle with a trailer, than driving a tow vehicle without a trailer

- Anticipate the trailer “swaying”. Swaying can be caused by excessive steering, wind gusts, roadway edges, or by the trailer reaction to the pressure wave created by passing trucks and busses.

- When encountering trailer sway take your foot off the gas, and steer as little as possible in order to stay on the road. Use small “trim-like” steering adjustments. Do not attempt to steer out of the sway; you'll only make it worse. Also do not apply the tow vehicle brakes to correct trailer swaying. On the other hand, application of the trailer brakes alone will tend to straighten out the combination, especially when going downhill.

- Check rearview mirrors frequently to observe the trailer and traffic

- Use lower gear when driving down steep or long grades. Use the engine and transmission as a brake. Do not ride the brakes, as they can overheat and become ineffective

- Be aware of your trailer height, especially when approaching bridges, roofed areas and around trees

#### **1.2.4 TRAILER NOT PROPERLY COUPLED TO THE HITCH**

It is critical that the trailer is securely coupled to the hitch ball, and that the safety chains and emergency break-away brake cable are correctly attached. Uncoupling may result in death or serious injury to you and to others.

#### **WARNING**

Proper selection and condition of the coupler and hitch are essential to safely towing your trailer. A loss of coupling may result in death or serious injury

- Be sure the hitch load rating is equal to or greater than the load rating of the coupler

- Be sure the hitch size matches the coupler size

- Observe the hitch for wear, corrosion and cracks before coupling. Replace worn, corroded or cracked hitch components before coupling the trailer to the tow vehicle

- Be sure the hitch components are tight before coupling the trailer to the tow vehicle

Do not move trailer until:

- The coupler is secured and locked to hitch
- The safety chains are secured to the tow vehicle and the trailer jacks are fully retracted

Do not tow the trailer on the road until:

- Tires and wheels are checked
- The trailer brakes are checked
- The breakaway switch is connected to the tow vehicle
- The load is secured to the trailer and the trailer lights are connected and checked

### **1.2.5 PROPER USE OF SAFETY CHAINS**

If your trailer comes loose from the hitch for any reason, we have provided safety chains so that control of the trailer can still be maintained

#### **WARNING**

Improper rigging of the safety chains can result in loss of control of the trailer and tow vehicle, leading to death or serious injury if the trailer uncouples from the tow vehicle

- Fasten chains to frame of tow vehicle. Do not fasten chains to any part of the hitch unless the hitch has holes or loops specifically for that purpose
- Cross chains underneath hitch and coupler with enough slack to permit turning and to hold tongue up, if the trailer comes loose

### **1.2.6 PROPER CONNECTION OF BREAKAWAY BRAKE**

If equipped with breaks your trailer will be equipped with a breakaway system that can apply the brakes on your trailer if your trailer comes loose from the hitch ball for any reason. You will have a separate set of instructions for the breakaway brake if your trailer is so equipped. The breakaway brake system, including battery, must be in good condition and properly rigged to be effective.

#### **WARNING**

An ineffective or inoperative breakaway brake system can result in a runaway trailer, leading to death or serious injury if the coupler or hitch fails. The breakaway cable must be connected to the tow vehicle, and NOT to any part of the hitch. Before towing the trailer, test the function of the breakaway brake system. If the breakaway brake system is not working, do not tow the trailer. Have it serviced / repaired.

### **1.2.7 MATCHING TRAILER AND HITCH**

#### **DANGER**

Use of a hitch with a load rating less than the load rating of the trailer can result in loss of control and may lead to death or serious injury. Be sure your hitch and tow vehicle are rated for the Gross Vehicle Weight Rating (GVWR) of your trailer.

### **1.2.8 WORN TIRES, LOOSE WHEELS, AND LUG NUTS**

Just as with your tow vehicle, the trailer tires and wheels are important safety items. Therefore, it is essential to inspect the trailer tires before each tow.

If a tire has a bald spot, bulge, cut, cracks, or is showing any cords, replace the tire before towing. If a tire has uneven tread wear, take the trailer to a dealer service center for diagnosis. Uneven tread wear can be caused by tire imbalance, axle misalignment or incorrect inflation.

Tires with too little tread will not provide adequate frictional forces on wet roadways and can result in loss of control, leading to death or serious injury.

Improper tire pressure causes increased tire wear and may reduce trailer stability, which can result in a tire blowout or possible loss of control. Therefore, before each tow you must also check the tire pressure. Remember, the proper tire pressure is listed on the certification / VIN label, normally mounted on the front left side of the trailer, and should be checked when tires are cold. Allow 3 hours cool-down after driving as much as 1 mile at 40 mph before checking tire pressure.

#### **WARNING**

Improper tire pressure can result in a blowout and loss of control, which can lead to death or serious injury. Be sure tires are inflated to pressure indicated on sidewall before towing trailer.

The tightness of the lug nuts is very important in keeping the wheels properly seated to the hub. Before each tow, check to make sure they are tight.

Metal creep between the wheel and rim and lug nuts will cause rim to loosen and could result in a wheel coming off, leading to serious injury or death. Tighten lug nuts before each tow.

The proper tightness (torque) for lug nuts is listed in section 7.2.12.2 in the "Inspection and Service Instructions" chapter of this manual. Use a torque wrench to tighten the lug nuts, use the crisscross star pattern later in the manual. If you do not have a torque wrench, use a lug wrench (from your tow vehicle) and tighten the nuts as much as you can. At the first opportunity, have a service gauge or trailer dealer tighten the lug nuts to the proper torque.

Lug nuts are also prone to loosen after first being assembled. When driving a new trailer (or after wheels have been remounted), check to make sure they are tight after the first 10, 25, and 50 miles of driving and before each tow thereafter. Failure to perform this

check can result in a wheel separating from the trailer and a crash, leading to death or serious injury.

### 1.2.9 IMPROPER LOADING

The total weight of the load you put in or on the trailer, plus the empty weight of the trailer itself, must not exceed the trailer's Gross Vehicle Weight Rating (GVWR). If you do not know the empty weight of the trailer plus the cargo weight, you must weigh the loaded trailer at a commercial scale. In addition, you must distribute the load in the trailer such that the load on any axle does not exceed the Gross Axle Weight Rating (GAWR). If your trailer is equipped with a tire & loading information placard, mounted next to the certification / VIN label, the cargo capacity weight stated on that placard is only a close estimate. The GVWR and GAWR's are listed on the certification / VIN label mounted on the front left side of the trailer.

#### WARNING

An overloaded trailer can result in loss of control of the trailer, leading to death or serious injury. Do not exceed the trailer Gross Vehicle Weight Rating (GVWR) or the Gross Axle Weight Rating (GAWR). Do not load a trailer so that the weight on any tire exceeds its rating.

### 1.2.10 UNSAFE LOAD DISTRIBUTION

Improper front / rear load distribution can lead to poor trailer sway stability or poor tow vehicle handling. Poor trailer sway stability results from tongue weights that are too low, and poor tow vehicle stability results from a tongue that is too high. Refer to chapter heading "Loading the Trailer" for more information.

In the table below, the second column shows the rule of thumb percentage of total weight of the trailer plus its cargo (Gross Trailer Weight, or GTW) that should appear on the tongue of the trailer. For example, a trailer with a gooseneck hitch, with a loaded weight of 12,000 pounds, should have 20-25% of 12,000 pounds (2,400-3,000 lbs.) on the gooseneck. A dump trailer will have the proper weight distribution if the load is evenly distributed in the dump bed. For non-flowable (discrete) loads locate the load such as to provide the proper tongue weight.

After loading, be sure to check that none of the axles are overloaded

Tongue weight as a percentage of loaded trailer weight

Type of Hitch	Percentage
Ball Hitch (or bumper hitch)	10-15% for large trailers 6-10% for smaller utility and cargo trailers 5-7% for boat trailers
Gooseneck Hitch & Fifth Wheel Hitch	20-25%

The numbers quoted above are for example purposes only and should be tailored to the specific trailer. For questions regarding the actual percent of tongue weight for the trailer, check with the manufacturer for specifics.

Uneven left / right load distribution can cause tire, wheel, axle, or structural failure. Be sure your trailer is evenly loaded left / right. Towing stability also depends on keeping the center of gravity as low as possible.

### **WARNING**

Improper tongue weight (load distribution) can result in loss of control of the trailer, leading to death or serious injury. Make certain that tongue weight is within the allowable range.

Be sure to:

- Distribute the load front-to-rear to provide proper tongue weight
- Distribute the load evenly, right and left, to avoid tire overload
- Keep the center of gravity low

#### **1.2.11 SHIFTING CARGO**

Since the trailer “ride” can be bumpy and rough, you must secure your cargo so that it does not shift while the trailer is being towed.

### **WARNING**

Shifting cargo can result in loss of control of the trailer and can lead to death or serious injury. Tie down all loads with proper sized fasteners, ropes, straps, etc.

If the door latch is equipped with a catch that has a hole for a linchpin, use a linchpin to prevent the door latch from opening.

If the door opens, your cargo may be ejected onto the road, resulting in death or serious injury to other drivers. Always secure the door latch after closing. Place a linchpin in the catch.

#### **1.2.12 INAPPROPRIATE CARGO**

Your trailer may be designed for specific cargo, for example, only for horses. If your trailer is designed for specific cargo, only carry that cargo in the trailer. A utility trailer must not be used to carry certain items, such as people, containers of hazardous substances or containers of flammable substances.

### **WARNING**

Do not transport people inside the trailer, even if it has living quarters. The transport of people puts their lives at risk and may violate the law. Do not transport flammable, explosive, poisonous or other dangerous materials in your trailer.

### **1.2.13 INOPERABLE BRAKES, LIGHTS OR MIRRORS**

Be sure that the electric brakes and all the lights on your trailer are functioning properly before towing your trailer. Electric brakes and lights on a trailer are controlled via a connection to the tow vehicle, generally a multi-pin electrical connector. Check the trailer tail lights by turning on your tow vehicle headlights. Check the trailer brake lights by having someone step on the tow vehicle brake pedal while you look at trailer lights. Do the same thing to check the turn signal lights. If your trailer has electric brakes, your tow vehicle will have an electric brake controller that sends power to the trailer brakes. Before towing the trailer on the road, you must operate the brake controller while trying to pull the trailer in order to confirm that the electric brakes operate. While towing the trailer at less than 5 mph, manually operate the electric brake controller in the tow vehicle cab. You should feel the operation of the trailer brakes.

#### **WARNING**

Improper electrical connection between the tow vehicle and the trailer will result in inoperable lights and electric brakes and can lead to collision.

Before each tow:

- Check that the taillights, brake lights and turn signals work

- Check that the electric brakes work by operating the brake controller inside the tow vehicle

If your trailer has hydraulic “surge” brakes, pull the emergency break-away brake lanyard to check the operation of the surge mechanism. Standard mirrors usually do not provide adequate visibility for viewing traffic to the sides and rear a towed trailer. You must provide mirrors that allow you to safely observe approaching traffic.

### **1.2.14 HAZARDS FROM MODIFYING YOUR TRAILER**

Essential safety items can be damaged by altering your trailer. Even simply driving a nail or screw to hang something can damage an electrical circuit, LP gas line or other features of the trailer. Before making any alteration to your trailer, contact your dealer or DP Platinumstar Trailers and describe the alteration you are contemplating. Alteration of the trailer structure or modification of mechanical, electrical, plumbing, heating, or other systems on your trailer must be performed only by qualified technicians who are familiar with the system as installed on your trailer.

### **1.2.15 HAZARDS FOR DUMP TRAILERS**

A dump trailer is specifically designed for hauling cargo that is to be dumped, not for transporting equipment or livestock.

The major hazards associated with dump trailers are:

- Overloading
- Improper weight distribution; both side to side and front to back
- Getting under a raised dump bed
- Not using, or improperly using, the body prop.
- Modifying or altering hydraulic components
- Modifying or altering dump controls
- Not dumping from a solid and level foundation
- Not fully opening rear doors when dumping
- Jerking the trailer, or hydraulics, to loosen the load

### **1.2.16 SAFETY WARNING LABELS ON YOUR TRAILER**

#### **WARNING**

To protect you and others against death or serious injury, all of the labels shown above must be on the trailer and must be legible. If any of these labels are missing or cannot be read, contact DP Platinumstar Trailers. You will need to provide us with the number shown at the bottom of the label(s) in order for us to send the correct one(s).

### **1.2.17 TRAILER TOWING GUIDE**

Driving a vehicle with a trailer in tow is vastly different from driving the same vehicle without a trailer in tow. Acceleration, maneuverability and braking are all diminished with a trailer in tow. It takes longer to get up to speed; you need more room to turn and pass, and more distance to stop when towing a trailer. You will need to spend time adjusting to the different feel and maneuverability of the tow vehicle with a loaded trailer. Because of the significant differences in all aspects of maneuverability when towing a trailer, the hazards and risks of injury are also much greater than when driving without a trailer. You are responsible for keeping your vehicle and trailer in control, and for all the damage that is caused if you lose control of your vehicle and trailer.

As you did when learning to drive an automobile, find an open area with little or no traffic for your first practice trailering. Of course, before you start towing the trailer, you must follow all of the instructions for inspection, testing, loading and coupling. Also,

before you start towing, adjust the mirrors so you can see the trailer as well as the area to the rear of it.

Drive slowly at first, 5 mph or so, and turn the wheel to get the feel of how the tow vehicle and trailer combination responds. Next, make some right and left-hand turns. Watch in your side mirrors to see how the trailer follows the tow vehicle. Turning with a trailer attached requires more room.

Stop the rig a few times from speeds no greater than 10 mph. If your trailer is equipped with brakes, try using different combinations of trailer/electric brake and tow vehicle brake. Note the effect that the trailer brakes have when they are the only brakes used. When properly adjusted, the trailer brakes will come on just before the tow vehicle brakes.

It will take practice to learn how to back up a tow vehicle with a trailer attached. Take it slow. Before backing up, get out of the tow vehicle and look behind the trailer to make sure that there are no obstacles. Some drivers place their hands at the bottom of the steering wheel, and while the tow vehicle is in reverse, “think” of the hands as being on the top of the wheel. When the hands move to the right (counter-clockwise, as you would do to turn the tow vehicle to the left when moving forward), the rear of the trailer moves to the right. Conversely, rotating the steering wheel clockwise with your hands at the bottom of the wheel will move the rear of the trailer to the left, while backing up. If you are towing a bumper hitch rig, be careful not to allow the trailer to turn too much, because it will hit the rear of the tow vehicle. To straighten the rig, either pull forward, or turn the steering wheel in the opposite direction.

### **1.2.18 REPORTING SAFETY DEFECTS**

If you believe that your vehicle has a defect that could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying DP Platinumstar Trailers. If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or DP Platinumstar Trailers.

To contact NHTSA, you may either call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153), go to <http://www.safecar.gov>; or write to: Administrator, NHTSA, 1200 New Jersey Ave. SE., Washington, DC 20590. You can also obtain other information about motor vehicle safety from <http://safecar.gov>.

### **1.3 SAFE TRAILER TOWING GUIDELINES**

- Recheck the load tiedowns to make sure the load will not shift during towing
- Before towing, check coupling, safety chain, safety brake, tires, wheels and lights
- Check the lug nuts or bolts for tightness

- Check coupler tightness after towing 50 miles
- Adjust the brake controller to engage the trailer brakes before the tow vehicle brakes. Follow the instructions given with the brake controller manufacturer's literature
- Use your mirrors to verify that you have room to change lanes or pull into traffic
- Use your turn signals well in advance
- Allow plenty of stopping space for your trailer and tow vehicle
- Do not drive so fast that the trailer begins to sway due to speed. Generally, never drive faster than 60 mph
- Allow plenty of room for passing. A rule of thumb is that the passing distance with a trailer is 4 times the passing distance without a trailer. Shift your automatic transmission into a lower gear for city driving
- Use lower gears for climbing and descending grades
- Do not ride the brakes while descending grades, they may get so hot that they stop working. Then you will potentially have a runaway tow vehicle and trailer
- To conserve fuel, don't use full throttle to climb a hill. Instead, build speed on the approach
- Slow down for bumps in the road. Take your foot off the brake when crossing the bump
- Do not break while in a curve unless absolutely necessary. Instead, slow down before you enter the curve
- Do not apply the tow vehicle brakes to correct extreme trailer swaying. Instead, lightly apply the trailer brakes with the hand controller. Make regular stops, about once each hour. Confirm that the coupler is secure to the hitch and is locked, electrical connections are made, there is appropriate slack in the safety chains, there is appropriate slack in the breakaway switch pull pin cable, the tires are not visibly low on pressure, and the cargo is secure and in good condition.

## 2. Tire Safety Information

This portion of the user's manual contains tire safety information as required by 49 CFR 575.6

Section 2.1 contains "Steps for Determining correct load limit – Trailer"

Section 2.2 contains "Steps for Determining correct load limit – Tow Vehicle"

Section 2.3 Contains a Glossary of Tire Terminology, including cold inflation pressure, maximum inflation pressure, recommended inflation pressure, and other non-technical terms

Section 2.4 contains information from the NHTSA brochure entitled "Tire safety – Everything rides on it". This brochure describes the following items:

-Tire labeling, including a description and explanation of each marking on the tires, and information about the DOT Tire Identification Number (TIN)

-Recommended tire inflation pressure, including a description and explanation of cold inflation pressure, vehicle placard and location on the vehicle, adverse safety and consequences of under inflation (including tire failure), and measuring and adjusting air pressure for proper inflation.

-Tire care, including maintenance and safety practices

-Vehicle load limits, including a description and explanation of locating and understanding the load limit information, total load capacity, and cargo capacity. Calculating total and cargo capacities with varying seating configurations including quantitative example showing / illustrating how the vehicles cargo and luggage capacity decreases as combined number and size of occupants' increases. Determining compatibility of tire and vehicle load compatibilities. Adverse safety consequences of overloading on handling and stopping tires.

## **2.1 STEPS FOR DETERMINING CORRECT LOAD LIMIT – TRAILER**

### **2.1.1 TRAILERS 10,000 POUNDS GVWR OR LESS**

1. Locate the statement, “the weight of cargo should never exceed XXX kg or XXX lbs.” on your vehicle’s placard
2. This figure equals the available amount of cargo and luggage load capacity
3. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage capacity.

The trailer’s placard refers to the Tire Information Placard attached adjacent to or near the trailer’s VIN (certification) label at the left front of the trailer. Note: The following calculations in sections 2.1.2 and 2.2 are not required by the government. For the purpose of completeness, NATM has included these statements

### **2.1.2 TRAILERS OVER 10,000 POUNDS GVWR**

(Note: These trailers are not required to have a tire information placard on the vehicle)

TIRE AND LOADING INFORMATION				
SEATING CAPACITY		TOTAL	FRONT	REAR
The combined weight of occupants and cargo should never exceed				Kg or Lbs.
TIRE	SIZE	COLD TIRE PRESSURE		SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION #D-327
FRONT				
REAR				
SPARE				

1. Determine the empty weight of your trailer by weighing the trailer using a public scale or other means. This step does not have to be repeated
2. Locate the GVWR (Gross Vehicle Weight Rating) of the trailer's VIN (certification) label
3. Subtract the empty weight of your trailer from the GVWR stated on the VIN label. That weight is the maximum available cargo capacity of the trailer and may not be safely exceeded.

## 2.2 STEPS FOR DETERMINING CORRECT LOAD LIMIT – TOW VEHICLE

1. Locate the statement, "the combined weight of occupants and cargo should never exceed XXX lbs.", on your vehicles placard
2. Determine the combined weight of the driver and passengers who will be riding in your vehicle
3. Subtract the combined weight of the driver and passengers from XXX kilograms or XXX pounds
4. The resulting figure equals the available amount of cargo and luggage capacity. For example, if the "XXX" amount equals 1400 lbs., and there will be five 150 lb. passengers in your vehicle, the amount of available cargo and luggage capacity is 650 lbs. (1400-750 (5 x 150) = 650 lbs.)
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage capacity calculated in step 4
6. If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult the tow vehicle's manual to determine how this weight transfer reduces the available cargo and luggage capacity of your vehicle

## 2.3 TIRE SAFETY – EVERYTHING RIDES ON IT

The National Traffic Safety Administration (NHTSA) has published a brochure (DOT HS 809 361) that discusses all aspects of Tire Safety, as required by CFR 575.6. This brochure is reproduced in part below. It can be obtained and downloaded from NHTSA, free of charge, from the following website:

[http://www.nhtsa.dot.gov/cars/rules/TireSafety/ridesonit/tires\\_index.html](http://www.nhtsa.dot.gov/cars/rules/TireSafety/ridesonit/tires_index.html)

Studies of tire safety show that maintaining proper tire pressure, observing tire and vehicle load limits (not carrying more weight in your vehicle than your tires or vehicle can safely handle), avoiding road hazards, and inspecting tires for cuts, slashes, and other irregularities are the most important things you can do to avoid tire failure, such as tread separation or blowout and flat tires. These actions, along with other care and maintenance activities, can also:

- Improve vehicle handling
- Help protect you and others from avoidable breakdowns and accidents
- Improve fuel economy
- Increase the life of your tires

This booklet presents a comprehensive overview of tire safety, including information on the following topics:

- Basic tire maintenance
- Uniform tire quality grading system
- Fundamental characteristics of tires
- Tire safety tips

Use this information to make tire safety a regular part of your vehicle maintenance routine. Recognize that the time you spend is minimal compared with the inconvenience and safety consequences of a flat tire or other tire failure.

### **2.3.1 SAFETY FIRST – BASIC TIRE MAINTENANCE**

Properly maintained tires improve the steering, stopping, traction, and load-carrying capability of your vehicle. Underinflated tires and overloaded vehicles are a major cause of tire failure. Therefore, as mentioned above, to avoid flat tires and other types of tire failure, you should maintain proper tire pressure, observe tire and vehicle load limits, avoid road hazards, and regularly inspect your tires

### **2.3.2 FINDING YOUR VEHICLE'S RECOMMENDED TIRE PRESSURE AND LOAD LIMITS**

Tire information placards and vehicle certification labels contain information on tires and load limits. These labels indicate the vehicle manufacturer's information including:

- Recommended tire size
- Recommended tire inflation pressure
- Vehicle capacity weight (VCW – the maximum occupant and cargo weight a vehicle is designed to carry)

-Front and rear gross axle weight ratings (GAWR – the maximum weight the axle systems are designed to carry)

Both placards and certification labels are permanently attached to the trailer near the left front

### **2.3.3. UNDERSTANDING TIRE PRESSURE AND LOAD LIMITS**

Tire inflation pressure is the level of air in the tire that provides it with load-carrying capacity and affects the overall performance of the vehicle. The tire inflation pressure is a number that indicates the amount of air pressure – measured in pounds per square inch (psi) - a tire requires to be properly inflated.

(You will also find this number on the vehicle information placard expressed in kilopascals (kPa), which is the metric measure used internationally). Manufacturers of passenger vehicles and light trucks determine this number based on the vehicle's design load limit, that is, the greatest amount of weight a vehicle can safely carry and the vehicle's tire size. The proper tire pressure for your vehicle is referred to as the "recommended cold inflation pressure." (As you will read below, it is difficult to obtain the recommended tire pressure if your tires are not cold.)

Because tires are designed to be used on more than one type of vehicle, tire manufacturers list the "maximum permissible inflation pressure" on the tire sidewall. This number is the greatest amount of air pressure that should ever be put in the tire under normal driving conditions.

### **2.3.4 CHECKING TIRE PRESSURE**

It is important to check your vehicle's tire pressure at least once a month for the following reasons:

- Most tires may naturally lose air over time
- Tires can lose air suddenly if you drive over a pothole or other object or if you strike the curb when parking
- With radial tires, it is usually not possible to determine underinflation by visual inspection

For convenience, purchase a tire pressure gauge to keep in your vehicle. Gauges can be purchased at tire dealerships, auto supply stores, and other retail outlets.

The recommended tire inflation pressure that vehicle manufacturers provide reflects the proper psi when a tire is cold. The term cold does not relate to the outside temperature. Rather, a cold tire is one that has not been driven on for at least three hours. When you drive, your tires get warmer, causing the air pressure in them to increase. Therefore, to

get an accurate tire pressure reading, you must measure tire pressure when the tires are cold or compensate for the extra pressure in warm tires.

### **2.3.5 STEPS FOR MAINTAINING PROPER TIRE PRESSURE**

- Step 1: Locate the recommended tire pressure on the vehicle's tire information placard, certification label, or in the owner's manual
- Step 2: Record the tire pressure of all tires
- Step 3: If the tire pressure is too high on any of the tires, slowly release air by gently pressing on the tire valve stem with the edge of your tire gauge until you get the correct pressure
- Step 4: If the tire pressure is too low, note the difference between the measured tire pressure and the correct tire pressure. These "missing" pounds of pressure are what you need to add
- Step 5: At a service station, add the missing pounds of air pressure to each tire that is underinflated
- Step 6: Check all the tires to make sure they have the same air pressure (except in cases in which the front and rear tires are supposed to have different amounts of pressure)

If you have been driving your vehicle and think that a tire is underinflated, fill it to the recommended cold inflation pressure indicated on your vehicle's tire information placard or certification label. While your tire may be slightly underinflated due to the extra pounds of pressure in the warm tire, it is safer to drive with air pressure that is lightly lower than the vehicle manufacturer's recommended cold inflation pressure than to drive with a significantly underinflated tire. Since this is a temporary fix, don't forget to recheck and adjust the tire's pressure when you can obtain a cold reading.

### **2.3.6 TIRE SIZE**

To maintain tire safety, purchase new tires that are the same size as the vehicle's original tires or another size recommended by the manufacturer. Look at the tire information. If you have any doubt about the correct size to choose, consult with the tire dealer.

### **2.3.7 TIRE TREAD**

The tire tread provides the gripping action and traction that prevent your vehicle from slipping or sliding, especially when the road is wet or icy. In general, tires are not safe

and should be replaced when the tread is worn down to 1/16 of an inch. Tires have built-in treadwear indicators that let you know when it is time to replace your tires. These indicators are raised sections spaced intermittently in the bottom of the tread grooves. When they appear “even” with the outside of the tread, it is time to replace your tires. Another method for checking tread depth is to place a penny in the tread with Lincoln’s head upside down and facing you. If you can see the top of Lincoln’s head, you are ready for new tires.

### **2.3.8 TIRE BALANCE AND WHEEL ALIGNMENT**

To avoid vibration or shaking of the vehicle when a tire rotates, the tire must be properly balanced. This balance is achieved by positioning weights on the wheel to counterbalance heavy spots on the wheel-and-tire assembly. A wheel alignment adjusts the angles of the wheels so that they are positioned correctly relative to the vehicle’s frame. This adjustment maximizes the life of your tires. These adjustments require special equipment and should be performed by a qualified technician.

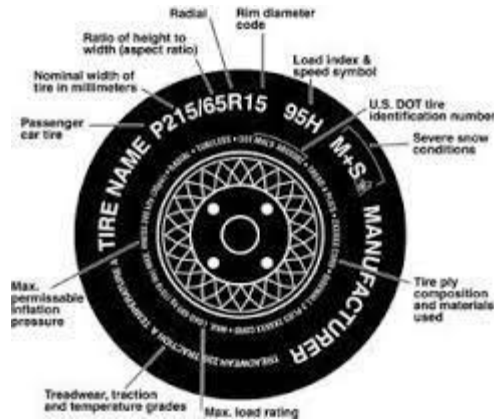
### **2.3.9 TIRE REPAIR**

The proper repair of a punctured tire requires a plug for the hold and a patch for the area inside the tire that surrounds the puncture hole. Punctures through the tread can be repaired if they are not too large, but punctures to the sidewall should not be repaired. Tires must be removed from the rim to be properly inspected before being plugged and patched.

### **2.3.10 TIRE FUNDAMENTALS**

Federal law requires tire manufacturers to place standardized information on the sidewall of all tires. This information identifies and describes the fundamental characteristics of the tire and also provides a tire identification number for safety standard certification and in case of a recall.

#### **2.3.10.1 INFORMATION ON PASSENGER VEHICLE TIRES**



P – The “P” indicates the tire is for passenger vehicles

Next Number – This three-digit number gives the width in millimeters of the tire from sidewall edge. In general, the larger the number, the wider the tire

Next Number – This two-digit number, known as the aspect ratio, gives the tire’s ratio of height to width. Numbers of 70 or lower indicate a short sidewall for improved steering response and better overall handling on dry pavement

R – The “R” stands for radial. Radial ply construction of tires has been the industry standard for the past 20 years

Next Number – This two-digit number is the wheel or rim diameter in inches. If you change your wheel size, you will have to purchase new tires to match the new wheel diameter

Next Number – This two/three-digit number is the tire’s load index. It is a measurement of how much weight each tire can support. You may find this information in your owner’s manual. If not, contact a local tire dealer. Note: You may not find this information on all tires because it is not required by law.

M+S – The “M+S” or “M/S” indicates that the tire has some mud and snow capability. Most radial tires have these markings; hence, they have some mud and snow capability

U.S. DOT Tire Identification Number – This begins with the letters “DOT” and indicates that the tire meets all federal standards. The next two numbers or letters are the plant code where it was manufactured, and the last four numbers represent the week and the year the tire was built. For example, the numbers 3197 mean the 31<sup>st</sup> week of 1997. The other numbers are marketing codes used at the manufacturer’s discretion. This information is used to contact consumers if a tire defect requires a recall.

Tire Ply Composition and Materials Used – The number of plies indicates the number of layers of rubber-coated fabric in the tire. In general, the greater the number of plies, the more weight a tire can support. Tire manufacturers also must indicate the materials in the tire, which include steel, nylon, polyester, and others.

Maximum Load Rating – This number indicates the maximum load in kilograms and pounds that can be carried by the tire

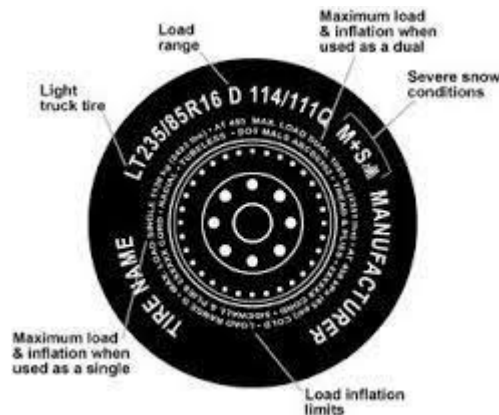
Maximum Permissible Inflation Pressure – This number is the greatest amount of air pressure that should ever be put in the tire under normal driving conditions

### 2.3.10.2 UTQGS INFORMATION

Treadwear Number – This number indicates the tire’s wear rate. The higher the treadwear number is, the longer it should take for the tread to wear down. For example, a tire graded 400 should last twice as long as a tire graded 200

Traction Letter – This letter indicates a tire’s resistance to wear. The temperature grade is for a tire that is inflated properly and not overloaded. Excessive speed, underinflation or excessive loading, either separately or in combination, can cause heat build-up and possible tire failure. From highest to lowest, a tire’s resistance to heat is graded as “A”, “B”, or “C”

### 2.3.10.3 ADDITIONAL INFORMATION ON LIGHT TRUCK TIRES



Tires for light trucks have other markings besides those found on the sidewalls of passenger tires

LT – The “LT” indicates the tire is for light trucks or tires

ST – The “ST” is an indication the tire is for trailer use only

Max. Load Dual kg (lbs.) at kPa (psi) cold – This information indicates the maximum load and tire pressure when the tire is used as a dual, that is, when four tires are put on each rear axle (a total of six or more tires on the vehicle)

Max. Load Single kg (lbs.) at kPa (psi) cold – This information indicates the maximum load and tire pressure when the tire is used as a single

Load Range – This information identifies the tire's load-carrying capabilities and its inflation limits

### **2.3.11 TIRE SAFETY TIPS**

Preventing tire damage

- Slow down if you have to go over a pothole or other object in the road
- Do not run over curbs or other foreign objects in the roadway and try not to strike the curb when parking

Tire safety checklist

- Check tire pressure regularly (at least once a month), including the spare
- Inspect tires for uneven wear patterns on the tread, cracks, foreign objects, or other signs of wear or trauma
- Remove bits of glass and foreign objects weighed in the tread
- Make sure your tire valves have valve caps
- Check tire pressure before going on a trip
- Do not overload your vehicle. Check the tire information and loading placard or user's manual for the maximum recommended load for the vehicle

## **3. COUPLING TO THE TOW VEHICLE**

Follow all of the safety precautions and instructions in this manual to ensure safety of persons, cargo, and satisfactory life of the trailer

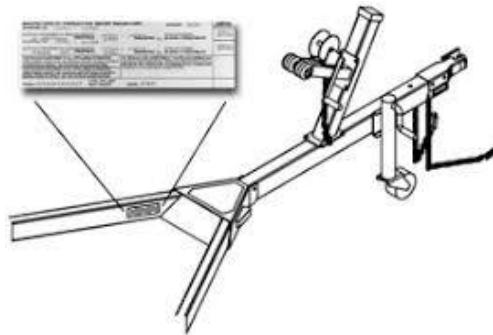
### **3.1 USE AN ADEQUATE TOW VEHICLE AND HITCH**


If the vehicle or hitch is not properly selected and matched to the Gross Vehicle Weight Rating (GVWR) of your trailer, you can cause an accident that could lead to death or serious injury. If you already have a tow vehicle, know your vehicle tow rating, and Gross Combination Weight Rating (GCWR) and make certain the trailer's rated capacity is less than or equal to the tow vehicle's rated towing capacity. If you already have (or plan to buy) a trailer, make certain that the tow rating of the tow vehicle is equal to or greater than the GVWR of the trailer, and that the GCWR will be within limits.

## **DANGER**

Using a hitch with a load rating less than the load rating of the trailer can result in loss and may lead to death or serious injury. Using a tow vehicle with a towing capacity less than the load rating of the trailer can result in loss of control and may lead to death or serious injury. Be sure your hitch and tow vehicle are rated for the Gross Vehicle Weight Rating (GVWR) of your trailer

### **3.2 TRAILER INFORMATION / CERTIFICATION VIN LABEL**



MANUFACTURED BY : DP PLATINUMSTAR TRAILERS			DATE OF MFG. : 05/2021
GVWR : 3175 KG (7000 LB)			
GAWR (EACH AXLE)	WITH TIRES	RIMS AT	COLD
1588 KG (3500 LB)	ST205/75R15	6X15"	345 KPA (50 PSI) SINGLE
THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE			
V.I.N. :			
TYPE : TRAILER    UTILITY			

#### **3.2.1.1 CERTIFICATION / VIN TAG CONTAINS THE FOLLOWING CRITICAL SAFETY INFORMATION FOR THE USE OF YOUR TRAILER**

Manufacturer – Name of trailer manufacturer

Date of Manufacture – Month and year the trailer was manufactured

GVWR – The Gross Vehicle Weight Rating is the maximum allowable gross weight of the trailer and its contents. The gross weight of the trailer includes the weight of the trailer and all of the items within it (such as cargo, water, food, and other supplies)

GAWR – The Gross Axle Weight Rating is the maximum gross weight that an axle can support. It is the lowest of axle, wheel, or tire rating. Sometimes the tire or wheel rating is lower than the axle manufacturers rating and will determine GAWR

The sum of the GAWR for all trailer axles may be less than the GVWR for the trailer, because some of the trailer load is carried by the tow vehicle, rather than by the trailer

axle(s). The total weight of the cargo and trailer must not exceed the GVWR, and the load on an axle must not exceed its GAWR

Tire size – The tire size recommended for your trailer and load range

PSIC – The “pounds per square inch – cold” is the tire pressure (kilopascals / pounds per square inch) measured when cold

Certification statement - “This trailer meets all the Federal Motor Vehicle Safety Standards in effect on the date of manufacture shown above”

VIN – The vehicle identification number

Vehicle type – Generally, the word “trailer” is used. However, after this you may put a Model #, or additional description

### **3.2.1.2. DEFINITIONS**

Tow vehicle – When equipping a new vehicle or an older vehicle to tow your trailer, ask the vehicle dealer for advice on how to outfit the towing vehicle. Discuss the following information and equipment with the vehicle dealer

Overall carrying and towing capacity of vehicle – Vehicle manufacturers will provide you with the maximum towing capacities of their various models, as well as the GCWR. No amount of reinforcement will give a 100 horsepower, 2,500-pound truck the towing capacity that a 300 horsepower, 5,000-pound truck has.

Towing hitch – The towing hitch attached to your tow vehicle must have a capacity equal to or greater than the load rating of the trailer you intend to tow. The hitch capacity must also be matched to the tow vehicle capacity.

Suspension system – A tow vehicle equipped with a factory installed “towing package” comes equipped with heavy duty springs, heavy duty tires and other suspension components which can serve the size and weight of the trailer that the vehicle is rated to tow. However, the addition of additional equipment may further improve the tow vehicle performance. These may include adjustable air shocks, helper springs, etc.

Brake controller – The brake controller is part of the tow vehicle and is essential in the operation of the electric brakes on the trailer. If your trailer has electric brakes, it requires a brake controller be installed at the driver’s position. The brake controller is on the same as the safety breakaway brake system that is installed on the trailer

Side view mirrors – The size of the trailer that is being towed and your state regulations determine the size of the mirrors. However, some states prohibit extended mirrors on a

tow vehicle, except while a trailer is being towed. In this situation, detachable extended mirrors are necessary. Check with your dealer or the appropriate state agency for mirror requirements

Heavy duty flasher – A heavy-duty flasher is an electrical component that may be required when your trailer turn signal lights are attached to the tow vehicle flasher circuit

Electrical connector – An electrical connector connects the light and brake system on the trailer to the light and brake controls on the towing vehicle

Heavy duty engine oil cooling system – The tow vehicle engine works harder when a trailer is being towed. Depending on the size of the trailer, you may need to install a separate engine oil cooler. Inadequate cooling may result in sudden engine failure. Ask the tow vehicle dealer if it is necessary to install a heavy-duty cooling system

Automatic transmission oil cooler – The automatic transmission of a towing vehicle handles more power when a trailer is being towed. Inadequate cooling will shorten transmission life and may result in sudden transmission failure. Ask the tow vehicle dealer if it is necessary to install a separate oil cooler for the automatic transmission

Fire extinguisher – It is sensible to have a fire extinguisher in the tow vehicle

Emergency flares and emergency triangle reflectors – It is wise to carry these warning devices even if you are not towing a trailer. It is particularly important to have these when towing a trailer because the hazard flashers of your towing vehicle will not operate for as long a period when the battery is running both the trailer lights and tow vehicle lights

### **3.3 COUPLING AND UNCOUPLING THE TRAILER**

A secure coupling (or fastening) of the trailer to the tow vehicle is essential. A loss of coupling may result in death or serious injury. Therefore, you must understand and follow all the instructions for coupling.

The following parts are involved in making a secure coupling between the trailer and tow vehicle

Coupling – The part of the trailer connecting mechanism by which the connection is made to the trailer hitch. This does not include any structural member, extension of the trailer frame or brake controller

Hitch – The part of the connecting mechanism including the ball support platform and ball and the components that extend and are attached to the towing vehicle, including bumpers intended to serve as hitches

Weight distribution hitch (or equalizing hitch) – A mechanical device that connects the trailer to the towing vehicle and by means of leverage applied on both the trailer and towing vehicle structures, when properly adjusted, distributes the imposed vertical load at the hitch and coupling connection between structures or the towing vehicle and trailer

Weight carrying hitch – A mechanical and/or structural device that connects the trailer to the towing vehicle and that does not employ features designed to redistribute the load imposed at the hitch and carrying connection

Safety chains or cables – Chains or cables permanently attached to the trailer such that if the coupler connection comes loose, the safety chains or cables can keep the trailer attached to the tow vehicle. With properly rigged safety chains or cables, it is possible to keep the tongue of the trailer from digging into the road pavement, even if the coupler-to-hitch connection comes apart. Some states do not allow safety cables, e.g., Pennsylvania; therefore, it may be wise to check with the State Police to see if your state has any restrictions on the use of safety cables, if your trailer is so equipped

Trailer lighting (and braking) connector – A device that connects electrical power from the tow vehicle to the trailer. Electricity is used to turn on brake lights, running lights, and turn signals as required. In addition, if your trailer has a separate braking system, the electrical connector will also supply power to the trailer brakes from the tow vehicle.

Breakaway switch – If the trailer becomes de-coupled from the towing vehicle, the breakaway switch lanyard, attached independently to the tow vehicle hitch, will pull a pin in the emergency electrical break-away switch on the trailer. The breakaway switch is activated by a separate battery supply in the trailer such as to energize the trailer brakes independently on the towing vehicle. It is important to check the state of charge of the emergency break-away battery before each trip. Simply pull the pin out of the switch by hand and then try to pull the trailer. If you feel a significant drag force, the brakes are activated. Be sure to re-insert the pin in the break-away switch. Also, be sure to allow enough slack in the break-away brake lanyard such that the switch will only activate (pin pulls out) if the coupler connection comes loose

Jack – A device on the trailer that is used to raise and lower the trailer tongue. On larger trailers, the jack is sometimes called the “landing gear”

### **WARNING**

An improperly coupled trailer can result in death or serious injury.

Do not move the trailer until:

- The coupler is secured and locked to hitch
- The safety chains are secured to the tow vehicle

- The trailer jack(s) are fully retracted

Do not tow the trailer on the road until:

- Tires and wheels are checked
- The trailer brakes are checked
- The breakaway switch is connected to the tow vehicle
- The load is secured to the trailer
- The trailer lights are connected and checked

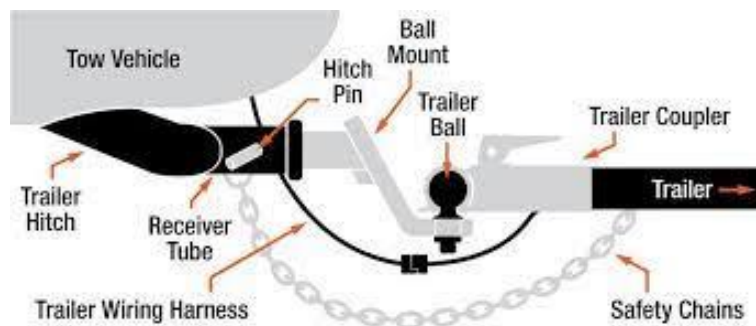
### 3.3.1 VARIOUS COUPLER DESIGNS

Trailers are produced with a variety of coupler devices. One of the sections below will pertain to your trailer

- Bumper pull (ball hitch) coupler
- Gooseneck hitch coupler
- Fifth wheel coupler

If the coupler on your trailer does not resemble one of the couplers listed above, see the separate coupler instructions. If you do not have separate coupler instructions, contact DP Platinumstar Trailers.

### 3.3.2 TRAILER WITH BALL-HITCH COUPLER



A ball hitch coupler connects to a ball that is located on or under the rear bumper of tow vehicle. This system of coupling a trailer to a tow vehicle is sometimes referred to as “bumper pull”

A ball hitch trailer may be fitted with a tongue jack that can raise and lower the coupler. The tongue jack is mounted to the A-frame (front or tongue) part of the trailer. By rotating the jack handle clockwise, the jack will extend and raise the tongue of the trailer

Be sure the ball hitch coupler is suitable for the size and weight of the trailer. The load rating of the coupler and the necessary ball size are listed on the trailer tongue. You

must provide a hitch and ball for your tow vehicle, where the load rating of the hitch and ball is equal or greater than that of your trailer. Also, the ball size must be the same as the coupler size. If the hitch is too small, too large, is underrated, is loose or is worn, the trailer can come loose from the tow vehicle, and may cause death or serious injury.

THE TOW VEHICLE, HITCH AND BALL MUST HAVE A RATED TOWING CAPACITY EQUAL TO OR GREATER THAN THE TRAILER GROSS VEHICLE WEIGHT RATING (GVWR)

IT IS ESSENTIAL THAT THE HITCH BALL BE OF THE SAME SIZE AS THE COUPLER

The ball size and load rating (capacity) are marked on the ball; hitch capacity is marked on the hitch

### **3.3.2.1 BEFORE COUPLING THE TRAILER TO THE TOWING VEHICLE**

Be sure the size and rating of hitch ball, match the size and rating of the coupler. Hitch balls and couplers are marked with their size and rating.

#### **WARNING**

Coupler-to-hitch mismatch can result in uncoupling, leading to death or serious injury. Be sure the load rating of the hitch ball is equal or greater than the load rating of the coupler. Be sure the size of the hitch ball matches the size of the coupler.

Wipe the hitch ball clean and inspect it visually and by feel for flat spots, cracks and pits.

#### **WARNING**

A worn, cracked or corroded hitch ball can fail while towing, and may result in death or serious injury. Before coupling trailer, inspect the hitch ball for wear, corrosion and cracks. Replace worn or damaged hitch ball.

Rock the ball to make sure it is tight to the hitch, and visually check that the hitch ball nut is solid against the lock and washer and hitch frame. Wipe the inside and outside of the coupler clean and inspect it visually for cracks and deformations; feel the inside of the coupler for worn spots and pits. Be sure the coupler is tight to the tongue of the trailer. All coupler fasteners must be visually solid against the trailer frame.

#### **WARNING**

A loose hitch ball nut can result in uncoupling, leading to death or serious injury. Be sure the hitch ball is tight to the hitch before coupling the trailer.

Raise the bottom surface of the coupler to be above the top of the hitch ball. Use the jack if one is provided, otherwise, use wood or concrete blocks to support the trailer tongue. Prepare the coupler and hitch and lubricate the hitch ball and inside of the coupler with a thin layer of automotive bearing grease. If your trailer is equipped with a jack, raise the coupler above the ball height.

Open the coupler locking mechanism. Ball couplers have a locking mechanism with an internal moving piece (ball clamp) and an outside handle, wheel, or latch. In the open position, the coupler can drop fully onto the hitch ball.

Slowly back up the tow vehicle so that the hitch ball is near or aligned under the coupler if the trailer jack has raised the coupler.

Coupler the trailer to the tow vehicle. If your trailer does not have a jack, you will have to lift the coupler and place it over the ball.

If you have a jack, lower the trailer tongue until the coupler fully engages the hitch ball. If the coupler does not line up with the hitch ball, adjust the position of the tow vehicle.

Engage the coupler locking mechanism. In the engaged position, the locking mechanism securely holds the coupler to the hitch ball.

Insert a pin or lock through the hole in the locking mechanism.

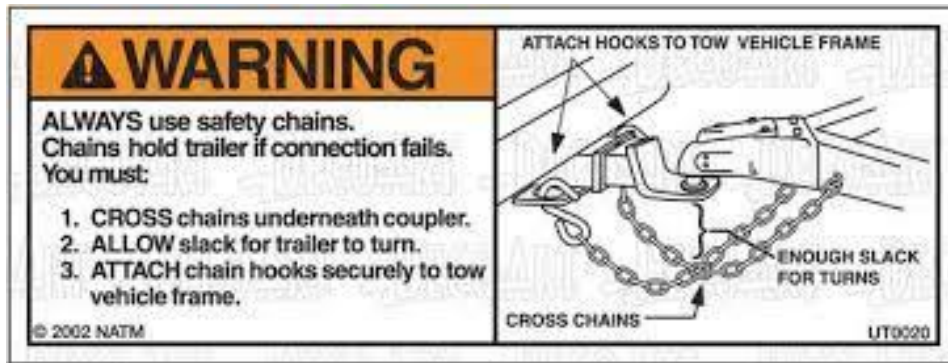
Be sure the coupler is all the way on the hitch ball and the locking mechanism is engaged, locking mechanism will allow the coupler to raise the rear of the tow vehicle. Using the trailer jack, test to see that you can raise the rear of the tow vehicle by 1 inch, after the coupler is locked to the hitch

## **NOTICE**

Overloading can damage the tongue jack. Do not use the tongue jack to raise the tow vehicle more than 1 inch

If the coupler cannot be secured to the hitch ball, do not tow the trailer. Contact DP Platinumstar Trailers or your dealer for assistance.

Lower the trailer so that its entire tongue weight is held by the hitch and continue retracting the jack to its fully retracted position.



Visually inspect the safety chains and hooks for wear or damage. Replace worn or damaged safety chains and hooks before towing.

Rig the safety chains so they:

- Criss-cross underneath the coupler so if the trailer uncouples, the safety chains can hold up the tongue above the road
- Loop around a frame member of the tow vehicle or to holes provided in the hitch system (but do not attach them to an interchangeable part of the hitch assembly)
- Attach "S" hooks from underneath the hole (do not just drop into hole)
- Provide enough slack to permit tight turns, but not close enough to the road surface to drag.

### WARNING

Improper rigging of the safety chains can result in loss of control of the trailer and tow vehicle, leading to death or serious injury, if the trailer uncouples from the tow vehicle.

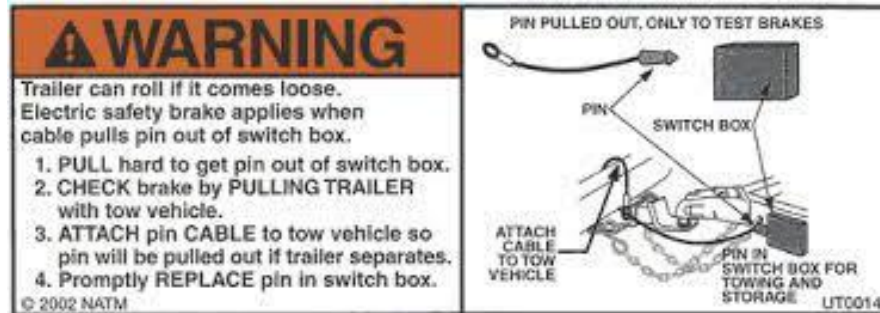
- Fasten chains to frame of tow vehicle. Do not fasten chains to any part of the hitch unless the hitch has holes or loops specifically for that purpose
- Cross chains underneath hitch and coupler with enough slack to permit turning and to hold tongue up, if the trailer comes loose

Attach and test electric breakaway brake system

If the coupler or hitch fails, a properly connected and working breakaway brake system will apply electric brakes on the trailer. The safety chains will keep the tow vehicle attached and as the brakes are applied at the trailer's axles, the trailer / tow vehicle combination will come to a controlled stop.

The breakaway brake system includes a battery, a switch with a pull pin, and a lanyard. Read and follow the instructions here as well as the instructions that have been prepared by the breakaway brake manufacturer. If you do not have these instructions, contact DP Platinumstar Trailers for a copy.

The breakaway brake system may be fitted with a “charging” capability that draws power from the tow vehicle. If the electrical system on your tow vehicle does not provide power to the breakaway brake battery, you must periodically charge the battery to keep the breakaway brake system in working order



Connect the pull pin lanyard to the tow vehicle so that the pull pin will be pulled out before all the slack in the safety chains is taken up. Do not connect the pull pin cable to a safety chain or to the hitch ball or hitch ball assembly. This would keep the breakaway brake system from operating when it is needed.

To test break-away brake battery, remove the pull pin from the switch and attempt to pull the trailer forward. You should feel the trailer resisting being towed, but the wheels will not necessarily be locked. If the brakes do not function, do not tow the trailer until brakes, or battery, are repaired.

Immediately replace the pull pin. The breakaway brake system battery discharges rapidly when the pull pin is removed.

### WARNING

An ineffective breakaway brake system can result in a runaway trailer, leading to death or serious injury if the coupler or ball hitch fails. Connect the breakaway cable to the tow vehicle, and NOT the hitch, ball or support. Before towing the trailer, test the function of the breakaway brake system. If the breakaway brake system is not working, do not tow the trailer. Have it serviced / repaired.

Do not tow the trailer with the breakaway brake system ON because the brakes will overheat which can result in permanent brake failure.

Failure to replace the pull pin will prevent brakes from working, leading to loss of control, serious injury or death.

If you do not use your trailer for three months, or during winter months:

- Store the battery indoors; and charge the battery every three months

- Replace the breakaway brake battery according to the intervals specified by battery manufacturers
- Connect the electrical cables
- Connect the trailer lights to the tow vehicle's electrical system using the electrical connectors
- Check all lights for proper operation
- Clearance and running lights (turn on tow vehicle headlights), brake lights (step on tow vehicle brake pedal), turn signals (operate tow vehicle directional signal lever)
- Check electric brakes for proper operation using brake controller mounted in the cab

If your trailer has electric brakes, your tow vehicle will have an electric brake controller that sends power to the trailer brakes. Before towing the trailer on the road, you must operate the brake controller while trying to pull the trailer to confirm that the electric brakes operate. While towing the trailer at less than 5 mph, manually operate the electric brake controller in the tow vehicle cab. You should feel the operation of the trailer brakes.

### **WARNING**

Improper electrical connection between the tow vehicle and the trailer will result in inoperable lights and electric brakes and can lead to collision.

Before each tow:

- Check that the taillights, brake lights and turn signals work
- Check that the electric brakes work by operating inside the tow vehicle

Uncoupling the ball hitch trailer with tongue jack

Follow these steps to uncouple your ball hitch trailer from the tow vehicle:

- Block trailer tires to prevent the trailer from rolling, before jacking the trailer up
- Disconnect the electrical connector
- Disconnect the breakaway brake switch lanyard
- Disconnect the safety chains from the tow vehicle
- Unlock the coupler and open it
- Before extending jack, make certain the ground surface below the jack pad will support the tongue load
- Rotate the jack handle (or crank) clockwise. This will slowly extend the jack and transfer the weight of the trailer tongue to the jack

## Trailer with gooseneck coupler and drop-leg jack

A gooseneck coupler on the trailer connects to a gooseneck ball that you must have installed in the tow vehicle. This system of coupling a trailer to a tow vehicle permits the tow vehicle to turn a sharper angle than are permitted by a bumper hitch system. A gooseneck coupler consists of a tube in an inverted “U” shape and a gooseneck ball receiver.



Once you have installed a gooseneck ball receiver that is suitable for the size and weight of the trailer. The load of the coupler and the necessary ball size are listed on the gooseneck. You must provide a gooseneck ball and support structure that is marked with a rating that meets or exceeds the GVWR of your trailer and matches the size of the gooseneck ball receiver. If the gooseneck ball is too small, is underrated, is loose or is worn, the trailer can come loose from the tow vehicle, and may lead to death or serious injury.

The tow vehicle support structure and gooseneck ball must have a rated towing capacity equal to or greater than the trailer Gross Vehicle Weight Rating (GVWR)

It is essential that the gooseneck ball be of the same size as the gooseneck ball receiver

The ball size and load rating (capacity) are marked on the ball; hitch capacity is marked on the hitch

**WARNING**

Coupler-to-hitch mismatch can result in uncoupling, leading to death or serious injury. Be sure the load rating of the hitch ball is equal or greater than the load rating of the coupler. Be sure the size of the hitch ball matches the size of the coupler.

The height of the ball receiver on the trailer must be adjusted to match the height of the gooseneck ball on your tow vehicle, so that:

- There is clearance between the bottom of the trailer and the sides of the tow vehicle bed; and the trailer is level and allows equal weight distribution on tandem axles

### **WARNING**

Improper gooseneck height adjustment can result in overloaded tires, blowout and loss of control, leading to death or serious injury. Adjust the gooseneck receiver so that the loaded trailer is level

A trailer having a gooseneck hitch will have one or two drop leg jacks for raising and lowering the gooseneck ball receiver. Because several drop leg jack mechanisms are available, the general instructions below may vary slightly from the jack manufacturer's instructions.

Before attempting to tow the trailer:

- Be sure the size and rating of the gooseneck ball match the size and rating of the receiver. Gooseneck balls and receivers are marked with their size and ratings.
- Wipe the gooseneck ball clean and inspect it visually and by feel for flat spots, cracks and pits

### **WARNING**

A worn, cracked or corroded gooseneck ball can fail while towing, and may result in death or serious injury. Before coupling the trailer, inspect the gooseneck ball for wear, corrosion and cracks; and replace worn or damaged gooseneck ball.

Rock the ball to make sure it is tight to the ball support, and visually check that the gooseneck ball nut is solid against the lock washer and ball support frame.

### **WARNING**

A loose gooseneck ball can result in uncoupling, leading to death or serious injury. Be sure the gooseneck ball nut is tight before coupling the trailer.

Wipe the inside and outside of the receiver clean and inspect it visually for cracks; and feel the inside of the receiver for worn spots and pits. If any of these conditions exist, have the receiver replaced before coupling the trailer. Lubricate the inside of the gooseneck ball receiver with automotive bearing grease. Be sure the receiver is tight to the trailer. All receiver fasteners must be visibly solid against the trailer frame

Release the jack handle or crank from its holder. Make certain the ground beneath the jack is firm enough to support the tongue weight. Rotate the handle / crank clockwise to raise the bottom surface of the gooseneck to be above the top of the gooseneck ball. Prepare the ball receiver and gooseneck ball. Release the lock plate on the gooseneck ball receiver. With the spring-loaded lock plate locking pin in the open position, rotate the lock plate to a position that allows the gooseneck ball to enter the receiver.

Slowly back up the tow vehicle so that the gooseneck ball is aligned under the gooseneck ball receiver.

### **WARNING**

If the trailer drops during coupling, death or serious injury may result. There must be no one under the trailer or coupler before or during coupling operation.

Couple the trailer to the tow vehicle. Rotate the jack handle counterclockwise. This will retract the jack causing the gooseneck ball receiver to drop down so it can fully engage the gooseneck ball and transfer the weight of the trailer tongue to the towing vehicle hitch. If the receiver does not line up with the ball, raise the receiver again and adjust the position of the tow vehicle. Then lower the receiver over the ball. When the drop leg base is no longer resting on the ground, the towing vehicle hitch is holding all the weight of the trailer tongue.

Close the lock plate on the gooseneck ball receiver

Move the spring-loaded lock plate locking pin to the closed position. Be sure the locking pin is holding the lock plate

Be sure the receiver is all the way on the gooseneck ball and the lock plate is engaged. A properly engaged locking mechanism will allow the coupler to raise the rear of the tow vehicle. Using the trailer jack, test to see that you can raise the rear of the tow vehicle by 1 inch.

### **NOTICE**

Overloading can damage the drop leg jack. Do not use the drop leg jack to raise the tow vehicle more than 1 inch

If the gooseneck ball cannot be secured to the receiver, contact DP Platinumstar Trailers or your dealer for assistance.

After testing to see that the receiver is properly secured and locked to the ball, retract the jack to its fully retracted position.

Return the drop legs to their upper positions. The drop legs are held in the lowered position with a plunger pin. Rotating the plunger pin while pulling it outward will cause it to come out of engagement with the drop leg and the leg will rapidly rise.

### **CAUTION**

The drop legs are heavily spring loaded in the lowered position. They will rapidly return to the upper position when released and can inflict serious bruises, scrapes or pinching. Keep your feet, shins and hands well clear of the drop leg bases when releasing the drop legs. Always wear shoes or boots while performing this operation.

Rig the safety chains

Visually inspect the safety chains and hooks for wear or damage. Replace worn or damaged safety chains and hooks before towing.

Rig the safety chains so that they attach to the “safety chain receivers” in the bed of the truck. If you are not certain of the hitch provisions for receiving safety chains, contact the hitch manufacturer or installer. Do not attach the safety chains to the gooseneck ball or its support. Rig the safety chains so they have sufficient slack to permit turning, but not too much slack – the safety chains must keep the gooseneck on the tow vehicle bed if the trailer uncouples.

### **WARNING**

Improper rigging of the safety chains can result in loss of the trailer and tow vehicle, leading to death or serious injury, if the trailer uncouples from the tow vehicle.

- Fasten chains to safety chain receivers on the hitch, not to ball
- Have sufficient slack to permit turning and to keep gooseneck on bed of tow vehicle, if the trailer comes loose

Attach and test the breakaway brake system. If the coupler or hitch fails, a properly connected and working breakaway brake system will apply electric brakes on the trailer. The safety chains will keep the tow vehicle attached and as the brakes are applied at the trailer’s axles, the trailer / tow vehicle combination will come to a controlled stop.

The breakaway brake system includes a battery, a switch with a pull pin, and a breakaway brake controller. Read and follow the instructions here as well as the instructions that have been prepared by the breakaway brake controller manufacturer. If you do not have these instructions, contact DP Platinumstar Trailers.

The breakaway brake system may be filled with a charging facility that draws power from the tow vehicle. If the electrical system on your tow vehicle does not provide power to the breakaway brake battery you must periodically charge the battery on the trailer to keep the breakaway brake system in working order.

Visually inspect the breakaway brake system for broken parts.

Connect the pull pin cable to the tow vehicle so that the pull pin will be pulled out before all the slack in the safety chains is taken up. Do not connect the pull pin cable to a safety chain or a safety chain receiver or to the gooseneck ball or its support. This would keep the breakaway brake system from operating when it is needed. Contact the hitch manufacturer or installer if you are not certain of the hitch provisions for breakaway brake connection.

To check the breakaway brake battery, pull out the pull pin from the switch and attempt to pull the trailer forward. You should feel the trailer resisting being towed, but the wheels will not necessarily lock up.

Immediately replace the pull pin. The breakaway brake system battery discharges rapidly when the pull pin is removed.

### **WARNING**

An ineffective or inoperative breakaway brake system can result in a runaway trailer leading to death or serious injury if the coupler or hitch fails.

Connect the breakaway cable to the tow vehicle, and not to the safety chain, safety chain receiver, gooseneck ball or gooseneck ball support.

Test the function of the breakaway brake system before towing the trailer. Do not tow the trailer if the breakaway brake system is not working. Have it serviced / repaired.

Do not tow the trailer with the breakaway brake system on because the brakes will overheat which can result in permanent brake failure.

### **WARNING**

Failure to replace the pull pin will prevent brakes from working, leading to loss of control, serious injury or death.

If you do not use your trailer for three or more months, or during winter months:

- Store the battery indoors
- Charge the battery every three months

Replace the breakaway brake battery at intervals recommended by the battery manufacturer's instructions. Connect the electrical cables. Connect the trailer lights to the tow vehicle's electrical system using the electrical connectors.

Check all lights for proper operation:

- Clearance and running lights
- Brake lights
- Turn signals

Check electric brakes for proper operation

If your trailer has electric brakes, your tow vehicle will have an electric brake controller that sends power to the trailer brakes. Before towing the trailer on the road, you must operate the brake controller while trying to pull the trailer to confirm that the electric brakes operate. While towing the trailer at less than 5 mph, manually operate the electric brake controller in the tow vehicle. You should feel the operation of the trailer brakes.

### **WARNING**

Improper electrical connection between the tow vehicle and the trailer will result in inoperable lights and electric brakes can lead to collision

Before each tow:

- Check that the taillights, brake lights and turn signals work
- Check that the electric brakes work by operating the brake controller inside the tow vehicle

Uncoupling the gooseneck trailer with drop-leg jack

Follow these steps to uncouple your gooseneck hitch trailer from the tow vehicle:

- Block trailer tires to prevent the trailer from rolling, before jacking the trailer up
- Disconnect the electrical connector
- Disconnect the breakaway brake switch lanyard

- Disconnect the safety chains from the tow vehicle
- Move the spring-loaded gooseneck receiver lock plate locking pin to the open position. Rotate the lock plate to a position that permits the gooseneck ball to exit the receiver
- Before releasing the drop leg jack, make certain ground surface below jack base will support the trailer tongue load
- Rotate the drop leg plunger pin handle so that the plunger pin is released from the drop leg. Push down on the drop leg base with your foot to place a drop leg to the desired lowered position.
- Rotate the plunger pin handle so that the plunger pin is attempting to engage the drop leg. Slowly raise your foot, permitting the drop leg to raise. The plunger pin will engage a hole in the drop leg

### **CAUTION**

The drop legs are heavily spring loaded in the lowered position. They will rapidly return to the upper position when released and can inflict serious bruises, scrapes or pinching.

Keep your feet, shins and hands well clear of the drop legs and drop leg bases when releasing the drop legs.

Always wear shoes or boots while performing this operation.

Be sure the plunger pin is fully engaged. Push it in by hand if necessary. The bent part of the plunger pin handle must be touching the plunger pin housing. If your trailer has two drop legs jacks, lower them both to the same level, following the above instructions.

### **NOTICE**

If the drop legs are not set at the same level, one of the drop leg jacks can be overloaded and can be damaged.

- Release the handle (or crank) from its holder and engage it with the jack shaft
- Rotate the handle (or crank) from its hold and engage it with the hack shaft
- Rotate the handle (or crank) clockwise to slowly extend the jack and transfer the weight of the trailer tongue to the jack

On two speed jacks, pushing the handle shaft toward the gearbox can perform rapid extension. This shifts the gearbox into a high-speed mode. When the drop leg base contacts the ground, shift the gearbox into low ear mode by pulling or pushing on the handle shaft until it locks into low gear

### **NOTICE**

Do not use high gear to lift the trailer; the drop leg jack mechanism can be damaged. High gear is used only to rapidly move the drop leg base into contact with the ground.

Continue to extend the jack(s), making sure that the ground is providing stable and level support for the trailer. After the jack(s) are extended and the gooseneck ball receiver is well clear of the gooseneck ball, to permit driving the tow vehicle away, disengage the handle from its shaft and return to its holder.

The breakaway brake system may be fitted with a charging facility that draws power from the tow vehicle. If the electrical system on your tow vehicle does not provide power to the breakaway brake battery, you must periodically charge the battery to keep the breakaway brake system in working order.

Visually inspect the breakaway brake system for broken parts

Connect the pull pin cable to the tow vehicle. Do not connect to kingpin or its support.

To test the breakaway battery, remove the pull pin from the switch and attempt to pull the trailer forward. You should feel the trailer resisting being towed, but the wheels will not necessarily lock-up

Immediately replace the pull pin. The breakaway brake system battery discharges rapidly when the pull pin is removed.

### **WARNING**

An ineffective breakaway brake system can result in a runaway trailer leading to death or serious injury if the coupler fails. Connect the breakaway cable to the tow vehicle, and not to the kingpin or its support. Before towing the trailer, test the function of the breakaway brake system. If the breakaway brake system is not working, do not tow the trailer. Have it serviced / repaired.

Do not tow the trailer with the breakaway brake system on because the brake will overheat which can result in permanent brake failure.

### **WARNING**

Failure to replace the pull pin will prevent brakes from working, leading to loss of control, serious injury or death.

If you do not use your trailer for three or more months, or during winter months:

- Store the battery indoors
- Charge the battery every three months

- Replace the breakaway brake battery at intervals recommended by the battery manufacturer
- Connect the electrical cables
- Connect the trailer lights to the tow vehicle's electrical system using the electrical connectors. Check all lights for proper operation
- Clearance and running lights
- Brake lights
- Turn signals

Check brakes for proper operation. While towing the trailer at less than 5 mph, manually operate the electric brake controller in the tow vehicle cab. You should feel the operation of the trailer brakes.

### **WARNING**

Improper electrical connection between the tow vehicle and the trailer will result inoperable lights and electric brakes can lead to collision

Before each tow:

- Check that the taillights, brake lights and turn signals work
- Check that the electric brakes work by operating the brake controller inside the tow vehicle

## **4. LOADING THE TRAILER**

Improper trailer loading causes many accidents and deaths. To safely load a trailer, you must consider:

- Overall load weight
- Load weight distribution
- Proper tongue weight
- Securing the load properly

To determine that you have loaded the trailer within its rating, you must consider the distribution of weight, as well as the total weight of the trailer and its contents. The trailer axles carry most of the total weight of the trailer and its contents (Gross Vehicle Weight, or "GVW"). The remainder of the total weight is carried by the tow vehicle hitch. It is essential for safe towing that the trailer-tongue and tow vehicle hitch carry the proper amount of the loaded trailer weight, otherwise the trailer can develop an undesirable sway at towing speeds, or the rear of the towing vehicle can be overloaded.

The load distribution must be such that no component part of the trailer is loaded beyond its rating. This means that you must consider the rating of the tires, wheels and axles. For tandem and triple axel trailers, you must make sure that the front-to-rear load distribution does not result in overloading any axle.

Towing stability also depends on keeping the center of gravity as low as possible. Load heavy items on the floor and over the axles. When loading additional items, be sure to maintain even side-to-side weight distribution and proper tongue weight. The total weight of the trailer and its contents must never exceed the total weight rating of the trailer (Gross Vehicle Weight Rating, or "GVWR").

### **WARNING**

An overloaded trailer can result in loss of control of the trailer, leading to death or serious injury. Do not exceed the trailer Gross Vehicle Weight Rating (GVWR) or the Gross Axle Weight Rating (GAWR). Do not load a trailer so that the weight on any tire exceeds its rating.

#### **4.1 TONGUE WEIGHT**

It is critical to have a portion of the trailer load carried by the tow vehicle. That is, the trailer tongue must exert a downward force on the hitch. This is necessary for two reasons. First, the proper amount of tongue weight is necessary for the tow vehicle to be able to maintain control of the tow vehicle / trailer system. If, for example, the tongue exerts an upward pull on the hitch, instead of pushing down on it (because the trailer is overloaded behind its axle(s)), the rear wheel of the tow vehicle can lose traction or grip and cause loss of control. Also, even if there is some weight on the tongue, but not enough weight on the tongue, the trailer can become unstable at high speeds. Remember, the faster you go, the more likely the trailer is to sway.

If, on the other hand, there is too much tongue weight, the tow vehicle is prone to jack-knife. Furthermore, the front wheels of the tow vehicle can be too lightly loaded and cause loss of steering control and traction, if the front wheels are driving.

In addition to tow vehicle control, tongue weight is necessary to ensure that the trailer axle(s) do not exceed their Gross Axle Weight Rating (GAWR).

A trailer with a gooseneck hitch, with a loaded weight of 12,000 pounds, should have 20-25% (of 12,000 pounds) on the tongue. That is, the example trailer would have 2,400 pounds to 3,000 pounds on its tongue.

### **WARNING**

Improper tongue weight (load distribution) can result in loss of control of the trailer, leading to death or serious injury. Make certain that tongue weight is within the allowable range.

Be sure to:

- Distribute the load front-to-rear to provide proper tongue weight
- Distribute the load evenly, right and left, to avoid tire overload
- Keep the center of gravity low

Checking tongue weight

To check the tongue weight, the tow vehicle and trailer must be on the level ground, as they will be when the trailer is being towed.

For lighter trailers the recommended method of checking tongue weight is to use an accessory called a “tongue weight scale.” If a tongue weight scale is not available from your dealer, contact DP Platinumstar Trailers for assistance.

An alternate method of checking tongue weight involves the use of a bathroom scale. The loaded trailer must be on a smooth and level surface, and you must block the trailer wheels, front and rear.

Bathroom scale method for checking tongue weight

### **WARNING**

An unrestrained trailer can fall off its support, resulting in serious injury or death. Before checking tongue weight, block trailer wheels, front and rear.

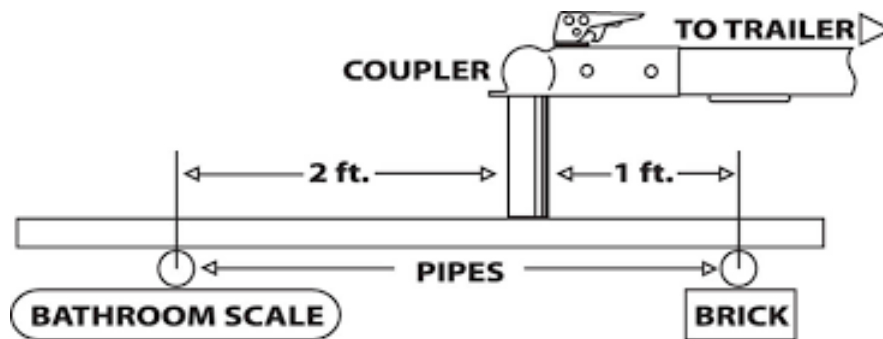
- Raise the tongue of the trailer with the jack
- Place a bathroom scale on the ground, directly below the coupler
- Place a strong block support (such as a cement block) on the scale – note the scale reading for the weight of the block support
- Lower the tongue until the coupler rests on the block support and the jack is ½ inch above the ground
- The scale reading, minus the weight of the block support is the tongue weight
- If the tongue weight exceeds the capacity of a bathroom scale, you can use “leverage” to divide the tongue weight between the bathroom scale and another support
- Raise the tongue of the trailer with the jack
- Arrange a brick, 2 x 4 (or 4 x 4) board, bathroom scale and pipes. The brick should be about the same thickness as the bathroom scale.

- Leave a 3-foot distance between the pipes and place the coupler about 2 feet from the pipe on the bathroom scale
- Place a strong block support (such as a cement block) on the board. Note the weight indicated on the scale.
- Lower the tongue until the coupler rests on the block support and the jack is ½ inch above the ground
- Subtract the scale reading with the block and board alone from the scale reading with the trailer on the block. Multiply the result by 3 to get the actual tongue weight

Example:

- Scale reading with block and board alone = 10 lbs.
- Scale reading with trailer and coupler resting on board = 50 lbs.
- Actual tongue weight:  $(50-10) \times 3 = 120$  lbs.

For heavier trailers it is easier to go to a truck stop where there is a “certified” scale. Pull only the tow vehicle onto the scale and get the weight. The weight must be less than your tow vehicle’s GVWR. Pull the trailer onto the scale and decouple it from the tow vehicle, leaving just the trailer on the scale. Get a “ticket”, which lists the total trailer weight. Re-connect the trailer to your tow vehicle and drive the tow vehicle wheels off the scale, just leaving the trailer axles on the scale. Get a second “ticket”, which lists the trailer’s axle weight. Simply subtract the axle weight from the total weight to determine the hitch weight.



While you are at the scale, you should weigh the entire combination vehicle. This result should be less than the Gross Combined Weight Rating (GCWR) for your towing vehicle. Some scales allow you to get individual axle weights also. If this is possible, get the tow vehicle’s front and rear axle weights to make sure they are in the same proportion as the tow vehicle alone, and that the rear axle is not overloaded. This is the best way to check that a weight distribution (or load leveling) hitch is adjusted properly, i.e., you have proper number of chain links attached to the snap-up brackets.

## 4.2 SECURING THE CARGO

Since the trailer “ride” can be bumpy and rough, you must secure your cargo so that it does not shift while the trailer is being towed.

### **WARNING**

Shifting cargo can result in loss of control of the trailer and can lead to death or serious injury. Tie down all loads with proper sized fasteners, ropes, straps, etc.

#### **4.2.1 DISTRIBUTING THE CARGO (OPEN TRAILER)**

Couple the trailer to the tow vehicle before loading. This is essential for the bumper pull trailer because the tongue of a bumper pull trailer can rise during loading, before the cargo is properly distributed. To measure the tongue weight, you will have to uncouple the trailer after it is loaded.

Do not transport people, containers of hazardous substances, cans or containers of flammable substances, such as gasoline, kerosene, paint, etc. However, fuel in the tank of an off-road vehicle, or a car, or motorcycle, etc. may be carried on your open trailer.

### **WARNING**

Do not transport flammable, explosive, poisonous or other dangerous materials in your trailer.

Preparing the trailer for loading

Before loading cargo onto the trailer:

- Inspect the deck of the trailer for corrosion or damage
- Inspect the hold down openings and/or “D”- rings. Hold down openings must be sturdy with no visible cracks or kinks. D-rings must be tight to the deck and must not be bent

If the deck or any required hold-down is damaged, do not load the cargo. Bring the trailer to your dealer or a competent repair service before using it to carry cargo.

### **WARNING**

Damaged or loose D-rings can break, allowing cargo to become loose inside the trailer. Loose cargo can shift the center of gravity and result in loss of control of the trailer. Inspect D-rings and test them for looseness before loading cargo. Do not use a damaged or loose D-ring to secure cargo.

Loading a rigid-deck trailer

Open trailers have either a rigid-deck or a pivoting deck, depending on the exact model. This subsection describes loading a rigid-deck trailer.

Before loading a rigid-deck trailer, couple the trailer to the tow vehicle and make sure the rigid-deck is level. Do not load or unload the trailer when the deck is not level.

Make sure the top frame of the ramp (or ramps) is secure to the trailer, and the bottom is resting on firm ground. Pockets may be provided to hold the ramp to the frame of the trailer.

### **WARNING**

Load can suddenly move or topple, which can result in serious injury or death. Do not load or unload your open trailer unless it is prevented from tipping and is on firm and level ground.

Load the cargo onto the trailer with approximately 60% of the cargo in the front half of the trailer.

Secure the cargo to the trailer using appropriate straps, chains and tensioning devices.

Since the trailer “ride” can be bumpy and rough, you must secure your cargo so that it does not shift while the trailer is being towed.

### **WARNING**

Shifting cargo can result in loss of control of the trailer and can lead to death or serious injury. Tie down all loads with proper sized fasteners, ropes, straps, etc.

Return the ramp(s) to their stowed position(s) and secure them so that they will not move during transit.

#### **4.2.1.1 LOADING A PIVOTING-DECK (TILT-BED) TRAILER**

Some open trailers are equipped with a pivoting-deck instead of with ramps. The pivoting feature allows for easier loading and unloading.

The pivoting-deck trailer is fitted with a spring-loaded catch that keeps the trailer in the driving position. After the trailer is loaded and the cargo is secured with hold downs, be sure the spring-loaded catch has locked the trailer into “driving position”.

Couple the trailer securely to the tow vehicle before attempting to unlock the deck and load the trailer.

Unlock the deck and pivot it to the loading position. Before loading the cargo, be certain the deck patch is retracted.

### **WARNING**

Loading a pivoting-deck trailer before retracting the deck catch pin can crack the catch pin, which can cause loss of cargo or loss of control of the trailer. Death or serious injury may result. Before loading the trailer, retract the deck catch pin. If the deck catch pin becomes bent, do not straighten it. Replace the deck catch pin before towing the load.

Load the cargo onto the trailer with approximately 60% of the cargo in the front half of the bed. As the cargo is moved forward on the deck, the deck will pivot down into the driving position.

Extend the deck catch pin into the deck to lock the deck into the driving position. Ensure that the catch engages the hole in the pivoting deck.

### **WARNING**

An unlocked pivoting deck can result in loss of cargo or loss of control of the trailer, which can result in death or serious injury.

Before towing the trailer:

- Lock the pivoting deck in the driving position
- Double-check that the catch engages the hole in the pivoting deck

Secure the cargo onto the trailer using appropriate straps and tensioning devices. Since the trailer “ride” can be bumpy and rough, you must secure your cargo so that it does not shift while the trailer is being towed.

### **WARNING**

Shifting cargo can result in loss of control of the trailer and can lead to death or serious injury. Tie down all loads with proper sized fasteners, ropes, straps, etc.

## **4.3 LOADING THE DUMP TRAILER**

### **4.3.1 PAYLOAD CAPACITY**

Check if the trailer has “payload” decals on the sides. If not, then determine the payload, or Cargo Capacity, by subtracting the empty weight of the trailer from the GVWR given

on the certification / VIN tag. Determine the density of the material to be loaded and dumped so that you will know how many cubic yards of material may be safely loaded, carried, and dumped.

### **WARNING**

- Trailer, hitch or dump body can fail
- You or others can die or be seriously injured
- Load in trailer must not exceed xxxx lbs. - it must be evenly distributed

#### **4.3.2 LOADING CARGO**

Couple the trailer to the towing vehicle before loading. This is essential for bumper pull trailers because the tongue can raise during loading. To measure the tongue weight, you will have to de-couple the trailer after it is loaded.

Be sure the trailer is located on level ground. Attempting to load on uneven ground may cause the trailer to overturn, which can result in serious injury or death.

### **WARNING**

Raised body dump can drop or tip over suddenly. You and others can die or be seriously injured. You must:

- Have trailer on level, firm ground before dumping
- Keep others away while dumping
- Stay at controls until dump body is down

Never leave the scene when dump body is lifted

- Lock hoist controls after use
- Have dump body down before moving trailer
- Use body-prop and have dump body empty before getting under raised dump body
- If the hoist does not lift the load, manually reduce the load, obtain service from a qualified hydraulics technician

Never assist the hoist

- If the load does not leave the dump body, lower the dump body and manually free the load
- Never attempt to free a load from a raised dump body

Do not transport people, containers of hazardous substances, or cans of flammable liquid. However, fuel in the tank of a tractor, skid-steer loader, generator, etc. may be carried in the dump trailer.

#### **4.3.3 LOADING FLOWABLE MATERIAL**

Flowable loads will assume an even weight distribution within the trailer. Couple the trailer to the tow vehicle. Check the bed for damage. Close and fasten doors. Level (evenly distribute) the load within the trailer from front to back and from side to side.

#### **4.3.4 LOADING FIXED LOADS (INCLUDING EQUIPMENT SUCH AS SKID-STEER LOADERS)**

Fixed loads that are to be carried or dumped should be loaded evenly throughout the trailer. Too much load in the front portion will strain and overload the hydraulic hoist. Too much load in the rear will lead to reduced trailer sway stability at highway speeds. Inspect the “hold-down” openings or “E” rings for any cracks or kinks. Clear the area around the dump trailer. Load the equipment or material. Secure the equipment. Close and fasten doors. If loading ramps are used the operator must be experienced and skilled to perform the loading.

#### **4.3.5 SECURING THE CARGO**

Since the trailer cargo is subjected to longitudinal (front / back) and lateral (side / side) forces you must secure all cargo that is not flowable, so that it does not shift while the trailer is being towed.

#### **4.3.6 UNLOADING FLOWABLE LOADS FROM THE DUMP TRAILER**

Read and understand the hoist operating procedure before dumping the load. Be sure the trailer is on level ground, both left / right and front / back. Attempting to unload on uneven ground may cause the trailer to overturn, which can result in serious injury or death. Clear the area around the dump trailer.

Open the rear doors, and make sure they are securely hooked to the sides of the trailer using the hold back door chains. Undo the latch on the control box and open the cover, exposing the control switch. The control box cover should be locked when the dump trailer is not being used.

Standing well clear of the dump bed push the “up” button on the control device until the dump bed reaches the halfway point of its dumping angle. Never leave the control device when operating the dump bed.

Discontinue pushing the “up” button and walk to the rear of the trailer so you can estimate if there is enough space for the remainder of the load to be safely dumped. If not, then you need to lower the dump bed (by depressing the “down” button) and pull the trailer forward and then repeat the previous step.

Standing well clear of the dump bed, raise the dump bed to the three-quarter point of the maximum dump angle. Stop the lift and walk to the rear to check to see if there is enough space for continued dumping. Repeat the process until the load has been completely dumped.

If the load has not completely dumped, do not drive forward and stop quickly to “shock” the load out of the bed. Also, do not “jerk” the control button up and down to dislodge the load. The proper procedure for a stuck load is to lower the dump and dislodge the material by hand. Secure the rear doors prior to moving forward.

### **DANGER**

- Risk of death by crushing
- Empty dump body before using body-prop

#### **4.3.7 HYDRAULIC COMPONENTS**

Do not alter or substitute the hydraulic components on the dump trailer. The hoist system is designed with each component being compatible with the safe and reliable operation of the hoist system. Under no circumstances should you alter the hydraulic pressure or flow rate to the hoist system. Always have the hoist system repaired or maintained by a qualified technician.

#### **4.3.8 BODY PROP**

The body prop supplied as part of the trailer is to be used only when the dump body is empty. The purpose of the body prop is a back-up to the hydraulic system and will hold the empty dump body in a raised position while performing maintenance on the hoist, trailer body, or the trailer itself. Do not use the body prop to support a loaded dump body. Do not perform maintenance under a raised dump body without first blocking the empty dump bed up with the body prop.

### **WARNING**

- Risk of death by crushing
- Dump body can drop unexpectedly
- Never go under a raised dump body
- Use body-prop for maintenance
- Make sure dump body is empty

- Do not manipulate the body-prop if a person is near the control

#### **4.3.9 UNLOAD BULK MATERIAL USING THE SPREADER GATE**

- Read and understand the hoist operating procedure before operating the dump body
- Clear the area around the dump trailer
- Park the tow vehicle and trailer on a firm and level surface both left / right and front / rear. Attempting to unload on a soft or uneven surface may cause the trailer to overturn, which can result in death or serious injury
- For spreading material, the surface in which the tow vehicle and trailer will travel must be firm and level

#### **WARNING**

An overloaded trailer or improperly distributed load can result in death or serious injury. An overloaded trailer can cause the hydraulic system to malfunction, resulting in the dump body falling. A load that is improperly distributed in the trailer can result in the trailer overturning when the dump body is raised. A soft or uneven surface may cause the tow vehicle and trailer to overturn when the dump body is raised or while spreading material. Raise the dump body only if the tow vehicle and trailer are both on a firm and level surface.

Set the metering chains to the desired number of links to control the opening distance of the spreader gate. Be sure to set both chains at equal length.

#### **CAUTION**

Loaded materials can exert pressure against the spreader gate. This may cause the spreader gate to swing out with force when unlatched, causing serious injury. Stand away from the trailer to unlatch the spreader gate.

Unlatch the spreader gate

While using the dump body controller, position yourself in a safe location clear of the dump body. Check for overhead power lines and other obstructions before raising the dump body.

#### **DANGER**

A lowering or falling dump body can result in death or serious injury. Never enter the area under the dump body unless the empty dump body is supported by the body props.

## **WARNING**

Risk of electrocution. Dump body coming near or contacting power lines may result in electrocution. Electrocution can occur without contact. Be sure there are no overhead power lines over or near the trailer before raising the dump body.

## **DANGER**

The body props are designed to support an empty dump body only. Never support a loaded dump body with the body props. Unload the dump body before using props.

Press and hold button to raise the dump body. Release the button when the body has reached the halfway point of its dumping angle, or if the load begins to shift rearward. Never leave the dump body control when operating the dump body.

## **WARNING**

Fully raising the loaded dump body may result in the tow vehicle rear wheels losing traction. Do not fully raise a loaded dump body or place the entire load at the rear of trailer.

- Watch for and avoid obstructions such as tree limbs, overhead lines, potholes, etc. and slowly drive the tow vehicle and trailer ahead to spread the material
- Do not drive forward and stop quickly to “shock” the load out of the body. Do not “jerk” the control button up and down to dislodge the load. The proper procedure for a stuck load is to fully lower dump and dislodge the material by hand.
- You may need to raise the dump body higher after a portion of the load has been spread to place the remaining material at the rear of the dump body.
- Stop tow vehicle after all material has exited the dump body
- Press and hold down to lower the dump body. Release button when the dump body is fully lowered
- Close and latch rear gate

# **5. CHECKING THE TRAILER BEFORE AND DURING EACH TOW**

## **5.1 PRE-TOW CHECKLIST**

Before towing, double-check all these items:

- Tires, wheels and lug nuts

- Tire pressure. Inflate tire on trailer and tow vehicle to the pressure stated on the VIN / certification label
- Coupler secured and locked
- Safety chains properly rigged to tow vehicle, not to hitch or ball
- Test of lights: tail, stop, and turn lights
- Test trailer brakes
- Safety breakaway switch cable fastened to tow vehicle, not to safety chains
- Cargo properly loaded, balanced and tied down
- Tongue weight and weight distribution set-up
- Doors and gated latched and secured
- Fire extinguisher
- Flares and reflectors

## **5.2 MAKE REGULAR STOPS**

After every 50 miles, or one hour of towing, stop and check the following items:

- Coupler secured
- Safety chains are fastened and not dragging
- Cargo secured
- Cargo door latched and secured

# **6. BREAKING-IN A NEW TRAILER**

## **6.1 RETIGHTEN LUG NUTS AT FIRST 10, 25, & 50 MILES**

Wheel lugs can shift and settle quickly after being first assembled, and must be checked after the first 10, 25, and 50 miles of driving. Failure to perform this check may result in a wheel coming loose from the trailer, causing a crash leading to death or serious injury.

### **WARNING**

Lug nuts are prone to loosen after initial installation, which can lead to death or serious injury. Check lug nuts for tightness on a new trailer or when wheel(s) have been remounted after the first 10, 25 and 50 miles of driving

## **6.2 ADJUST BRAKE SHOES AT FIRST 200 MILES**

Brake shoes and drums experience a rapid initial wear. The brakes must be adjusted after the first 200 miles of use, and each 3,000 miles thereafter. Some axles are fitted with a mechanism that will automatically adjust the brake shoes when the trailer is “hard braked” from a rearward direction. Read your axle and brake manual to see if your

brakes adjust automatically. If you do not have the axle and brake manual, contact DP Platinumstar Trailers for a copy.

A hard stop is used to:

- Confirm that the brakes work
- Confirm that the trailer brakes are properly synchronized with the tow vehicle brakes using the brake controller in the tow vehicle
- Adjust the brake shoes as necessary
- For surge brakes to check the master cylinder reservoir for fluid.

If your trailer is not fitted with automatically adjusting brakes, the brakes will need to be manually adjusted.

### **6.3 SYNCHRONIZING THE BRAKE SYSTEMS**

Trailer brakes are designed to work in synchronization with the brakes on the tow vehicle. When the tow vehicle and trailer braking systems are synchronized, both braking systems contribute to slowing, and the tongue of the trailer will neither dive nor rise sharply.

#### **WARNING**

If trailer and tow vehicle brakes do not work properly together, death or serious injury can occur. Road test the brakes in a safe area at no more than 30 mph before each tow.

To ensure safe brake performance and synchronization, read and follow the axle / brake and the brake controller manufacturers' instructions. If you do not have the instructions, contact DP Platinumstar Trailers for a copy.

Tire pressure

Check the tire pressures on both the trailer and tow vehicle. Inflate to the maximum shown on the VIN / certification label

### **6.4 ACCESSORY BATTERY**

Your trailer may be outfitted with an accessory battery that operates lighting, electric landing gear, dump body, slide-outs or other accessories. An accessory battery may be kept charged by the tow vehicle or by the generator or shore power.

A disconnect switch may be provided to disconnect the accessory battery when you do not plan to be using the trailer for an extended period, such as seasonal storage. If there is no disconnect switch, then remove the cables from the battery terminals.

The accessory battery must be kept in a charged condition during storage. The battery could freeze and break if it becomes discharged. Shore power is the delivery of electrical power from another source to a power inlet on your trailer. To connect your trailer to this source, you must have a “shore power” cord, specifically designed for this use. Do not use an ordinary extension cord. The trailer end of this cord is connected to an electrical box on the trailer, sometimes referred to as a “motor base.” This box contains circuit breakers and/or fuses and may include a power converter to change the shore power (usually 110 volts alternating current) into 12 volts direct current.

Do not assume that a shore power supply is correctly wired. Shore power may have incorrect polarity or not have the safety ground. Before connecting your trailer, you should test shore power by using a polarity and ground tester, which can be purchased at electronic stores. If you have shore power, your trailer may be fitted with Ground-Fault Interrupting outlets (GFI). If you have GFI protection, you must periodically test the outlets by pressing the “test” button that is located on the GFI-equipped outlet.

## **7. INSPECTION, SERVICE & MAINTENANCE**

### **7.1 INSPECTION, SERVICE & MAINTENANCE SUMMARY CHARTS**

You must inspect, maintain and service your trailer regularly to ensure safe and reliable operation. If you cannot or are unsure how to perform the items listed here, have your dealer do them. Note: in addition to this manual, also check the relevant component manufacturer’s manual.

### **7.2 INSPECTION AND SERVICE INSTRUCTIONS**

#### **7.2.1 AXLE BOLTS, FRAME, SUSPENSION, & STRUCTURE**

#### **WARNING**

Worn or broken suspension parts can cause loss of control and injury may result. Have trailer professionally inspected annually after any impact.

To perform many of the inspection and maintenance activities, you must jack up the trailer. When jacking and using jack stands, place them to clear wiring, brake lines, and suspension parts (springs, torsion bars, etc.). Place jacks and jack stands inside of the perimeter strip on the supporting structure to which the axles are attached.

## **WARNING**

Never crawl under your trailer unless it is on firm and level ground and resting on properly placed secured jack stands.

### **7.2.2 TRAILER STRUCTURE**

Because the trailer floor receives the most abuse, it will corrode before any other part of the structure. This is particularly true for horse and livestock trailers, having floors subjected to urine and manure. The urine and manure are corrosive to the metal flooring and other structural parts of the trailer.

Remove the rubber mats from the floor of the trailer, and wash them, at least every three months. Using a power washer and a detergent solution, wash both sides of the rubber mat, as well as the floor and walls of the trailer. Rinse the rubber mat and the trailer floor and walls. Be sure the rubber mat and trailer floor are completely dry before replacing the rubber mat.

#### **7.2.2.1 FASTENERS AND FRAME MEMBERS**

Inspect all the fasteners and structural frame members for bending and other damage, cracks, or failure. Repair or replace any damaged fastener and repair the frame member. If you have any questions about the condition or method of repair of fasteners or frame members, get the recommendation of, or have the repair done by a dealer.

The various fastener types used on your trailer are:

- Bolts, which are used for attaching door and gate hinges to the trailer body
- Buck rivets, which are used to attach the sides and roof panels of the body to each other, and to the frame of the trailer
- Huck bolts may be at various locations on the sub-frame. Huck bolts are not user serviceable. If you detect a loose huck bolt fastener, do not tow the trailer. Call your dealer for instructions

## **WARNING**

Broken or damaged fasteners or welds can cause injury or damage to trailer and contents. Inspect for and repair all damaged parts at least once a year.

#### **7.2.2.2 WELDS**

All welds can crack or fail when subjected to heavy loads or movement of cargo that was not properly tied to prevent movement. Any time that you know or suspect that the trailer has been subjected to heavy loads or movement of cargo, immediately inspect the welds and fasteners for damage. To prevent severe damage to your trailer, inspect all the welds for cracks or failure at least once a year.

### **WARNING**

Improper weld repair will lead to early failure of the trailer structure and can cause serious injury or death. Do not repair cracked or broken welds unless you have the skills and equipment to make a proper repair. If not, have the welds repaired by your dealer.

#### **7.2.3 DROP RAMP TORSION SPRINGS**

If your trailer has a drop-ramp door, the weight of the door may be partially held by a torsion spring and a cable. Stand to the side when opening the drop ramp. You could be hurt if you are behind the drop ramp and the counterbalance does not work.

Inspect the cable and cable ends regularly for fraying and signs of loosening. If released, a torsion spring can inflict serious injury. The torsion spring and cable are not user serviceable. The torsion spring must be serviced by a person who is trained in torsion spring safety.

#### **7.2.4 SLIDE-OUTS**

The optional slide-out facility is fitted with shafts, bushing, gears and sliding members located on the underside of the trailer, these parts are exposed to road grime, water and salt spray. Clean and lubricate the moving parts regularly to keep the slide-out from seizing.

Follow the instructions below to clean and lubricate the slide-out mechanism at least once per season, and more frequently if your trailer is operated in dusty or salt-spray environments.

- Clean the locations where the drive shaft passes through the bushings
- Hand pack grease on the gears
- Grease the sliding track

#### **7.2.5 TRAILER BRAKES**

##### **7.2.5.1 BRAKE SHOES AND DRUMS**

Properly functioning brake shoes and drums are essential to ensure safety. You must have your dealer inspect these components at least once per year, or each 12,000 miles.

The brake shoes must be adjusted after the first 200 miles of use, and each 3,000 miles thereafter. Most axles are fitted with a brake mechanism that will automatically adjust the brake shoes when the trailer is “hard braked” from a rearward direction. Read your axle and brake manual to see how to adjust your brakes. If you do not have this manual, contact DP Platinumstar Trailers for a copy.

#### **7.2.5.2 MANUALLY ADJUSTING BRAKE SHOES**

Most braking systems are not automatically adjusted by hard stopping. These brakes require manual adjustment. The following steps apply to adjust most manually adjustable brakes. Read your axle and brake manual to see how to adjust your brakes. If you do not have this manual, contact DP Platinumstar Trailers for a copy.

Jack up the trailer and secure it on adequate capacity jack stands. Be sure the wheel and brake drum rotate freely. Remove the adjusting-hole cover from the adjusting slot on the bottom of the brake backing plate. With a screwdriver or standard adjusting tool, rotate the star wheel of the adjuster assembly to expand the brake shoes. Adjust the brake shoes out until the pressure of the linings against the drum makes the wheel very difficult to turn. Note: your trailer may be equipped with drop spindle axles. See axle manual for your axle type. You will need a modified adjusting tool for adjusting the brakes in these axles. With drop spindle axles, a modified adjusting tool with about an 80-degree angle should be used. Rotate the star wheel in the opposite direction until the wheel turns freely with a slight drag. Replace the adjusting hole cover. Repeat the procedure on all brakes and lower the trailer to the ground.

#### **7.2.5.3 BRAKES, ELECTRIC**

Two different types of electric brakes may be present on the trailer: an emergency electric breakaway system, which acts only if the trailer comes loose from the hitch and the breakaway pin is pulled. The other brake is an electric braking system that acts whenever the brakes of the tow vehicle are applied.

##### **7.2.5.3.A BREAKAWAY BRAKE**

This battery supplies the power to operate the trailer brakes if the trailer uncouples from the tow vehicle. Be sure to check, maintain and replace the battery according to the battery manufacturer's instructions

**CAUTION**

Extreme cold weather can degrade battery performance and cause brakes to not operate properly. Always check battery charge level before towing.

#### **7.2.5.3.A(ii) BREAKAWAY SWITCH**

The switch causes the breakaway battery to operate the electric brakes if the trailer uncouples from the tow vehicle. The pull cable for the pull pin is connected to the tow vehicle, and the switch is connected to the trailer. To check for proper functioning of the switch, battery and brakes, you must pull the pin from the switch and confirm that the brakes apply to each wheel. You can do this by trying to pull the trailer with the tow vehicle, after pulling the pin. The trailer brakes may not lock, but you will notice that a greater force is needed to pull the trailer.

#### **WARNING**

If electric brakes do not operate when trailer is uncoupled from the tow vehicle, death or serious injury can occur. Check the emergency breakaway system before each tow.

Tow vehicle operated electric brakes

The electric brakes that operate in conjunction with the tow vehicle brakes must be “synchronized” so that braking is properly distributed to the tow vehicle brakes and the trailer brakes. For proper operation and synchronization, read and follow the axle / brake and the brake controller manufacturers’ instructions. If you do not have these instructions, contact DP Platinumstar Trailers for a copy.

#### **7.2.5.3.B MAGNETS FOR ALL ELECTRIC BRAKES**

To make certain an electrically operated braking system will function properly, you must have your dealer inspect the magnets at least once a year, or every 12,000 miles.

#### **7.2.5.4 BRAKES, HYDRAULIC (VACUUM, AIR OR ELECTRIC OPERATED)**

If your trailer has hydraulically operated brakes, they function the same way the hydraulic brakes do on your tow vehicle. The hydraulic braking system must be inspected by a dealer, at least as often as the brakes on the tow vehicle, but no less than once per year. This inspection includes an assessment of the condition and proper operation of the wheel cylinders, brake shoes, brake drums and hubs.

You must check the fluid level in the master cylinder reservoir at least every three months. If you tow your trailer an average of 1,000 miles per month in a hot and dry

environment, you must check the brake fluid level once a month. The brake fluid reservoir is located on the tongue of the trailer or near the gooseneck. Fill it with DOT 4 brake fluid.

#### **7.2.5.4.A VACUUM-OPERATED HYDRAULIC**

When towing a trailer, the vacuum, which is located inside the cab of the tow vehicle, must indicate 18 in. Hg. (Inches of mercury) or more always.

#### **WARNING**

If the vacuum gauge in tow vehicle is not at or above 18 in. Hg. (Inches of mercury), damage to the brake system will result and the brakes may become inoperable.

#### **7.2.5.4.B AIR PRESSURE-OPERATED HYDRAULIC**

Air / hydraulic braking systems are typically used when the tow vehicles have a diesel engine. The tow vehicle has an air compressor that routes the air to an air / hydraulic mechanism, which sends brake fluid to the wheel cylinders.

The air pressure gauge in your tow vehicle indicates the current air pressure.

### **7.2.6 TRAILER CONNECTION TO TOW VEHICLE**

#### **7.2.6.1 COUPLER AND BALL**

The coupler on the trailer connects to the ball attached to the hitch on the tow vehicle. The coupler, ball and hitch transfer the towing forces between the tow vehicle and the trailer. Before each tow, coat the ball with a thin layer of automotive bearing grease to reduce wear and ensure proper operation; and check the locking device that secures the coupler to the ball for proper operation.

See the coupler manufacturer's manual for other inspection and maintenance activities. If you do not have this manual, contact DP Platinumstar Trailers for a copy.

If you see or feel evidence of wear, such as flat spots, deformations, pitting or corrosion on the ball or coupler, immediately have your dealer inspect them to determine the proper action to prevent failure of the ball and coupler system. All bent or broken coupler parts must be replaced before towing the trailer.

The coupler handle lever must be able to rotate freely and automatically snap into the latched position. Oil the pivot points, sliding surfaces, and spring ends with SAE 30W

motor oil. Keep the ball pocket and latch mechanism clean. Dirt or contamination can prevent proper operation of the latching mechanism.

When replacing a ball, the load rating must match or exceed the GVWR of the trailer.

#### **7.2.6.2 GOOSENECK**

The gooseneck receiver on the trailer connects to a hitch-mounted ball on the towing vehicle. The receiver, ball and hitch transfer the towing forces between the tow vehicle and the trailer. Before each tow, coat the ball with a thin layer of automotive bearing grease to reduce wear and ensure proper operation; and check the locking device that secures the receiver to the ball for proper operation.

See the gooseneck ball receiver manufacturer's manual for other inspection and maintenance activities. If you do not have a manual for the receiver, contact DP Platinumstar Trailers for a copy.

If you see or can feel evidence of wear, such as flat spots, pitting or corrosion, on the ball or receiver, immediately have your dealer inspect them to determine the proper action to prevent failure of the ball and receiver system.

When replacing a ball, the load rating must match or exceed the GVWR of the trailer.

#### **7.2.6.3 FIFTH WHEEL KINGPIN**

Before each tow, inspect the fifth wheel and kingpin for wear, and coat the contact surface of the fifth wheel plate with water-resistant Lithium-base grease. If you see evidence of wear on the fifth wheel or kingpin, immediately have your dealer inspect them to determine the proper action to prevent failure of the fifth wheel and kingpin system.

See the manual prepared by the manufacturer of the fifth wheel and kingpin for other inspection and maintenance activities. If you do not have this manual, contact DP Platinumstar Trailers for a copy.

#### **7.2.7 LANDING LEG OR JACK**

If a grease fitting is present, you must use a grease gun to lubricate the jack mechanism. Grease the gears in the top of hand-cranked jacks once a year, by removing the top of the jack and pumping or hand packing grease into the gears.

#### **7.2.8 LIGHTS AND SIGNALS**

Before each tow, check the trailer taillights, stoplights, turn signals and any clearance lights for proper operation

### **WARNING**

Improper operating taillights, stoplights and turn signals can cause collisions. Check all lights before each tow.

#### **7.2.9 ACCESSORY BATTERY**

Your trailer may be outfitted with an accessory battery that operates lighting, electric landing gear, slide-outs or other accessories. An accessory battery may be kept charged either by the tow vehicle or by the generator or shore power. See the manual for the accessory battery.

A disconnect switch may be provided to disconnect the accessory battery when you do not plan to be using the trailer for an extended period, such as seasonal storage. If there is no disconnect switch, then remove the cables from the battery terminals.

The accessory battery must be kept in a charged condition during storage. The battery could freeze and break if it becomes discharged.

#### **7.2.10 TIRES**

Trailer tires may be worn out even though they still have plenty of tread left. This is because trailer tires must carry a lot of weight all the time, even when not in use. It is better for the tire to be rolling down the road than to be idle. During use, the tire releases lubricants that are beneficial to tire life. Using the trailer tires often also helps prevent flat spots from developing.

The main cause of tire failure is improper inflation. Check the cold tire inflation pressures at least once a week for proper inflation levels. "Cold" means that the tires are at the same temperature as the surrounding air, such as when the vehicle has been parked overnight. Wheel and tire manufacturers recommend adjusting the air pressure to the trailer manufacturer's recommended cold inflation pressure, in pounds per square inch (PSI) stated on the vehicle's Federal Certification Label or Tire Placard when the trailer is loaded to its gross vehicle weight rating (GVWR). If the tires are inflated to less than the recommended inflation level or the GVWR of the trailer is exceeded, the load carrying capacity of the tire could be dramatically affected. If the tires are inflated more than the recommended inflation level, handling characteristics of the tow vehicle / trailer

combination could be affected. Refer to the owner's manual or talk to your dealer or vehicle manufacturer if you have any questions regarding proper inflation practices.

Tires can lose air over a period. In fact, tires can lose 1-3 PSI per month. This is because molecules of air, under pressure, weave their way from the inside of the tire, through the rubber, to the outside. A drop-in tire pressure could cause the tire to become overloaded, leading to excessive heat buildup. If a trailer tire is under-inflated, even for a short period of time, the tire could suffer internal damage.

High speed towing in hot conditions degrades trailer tires significantly. As heat builds up during driving, the tire's internal structure starts to breakdown, compromising the strength of the tire. It is recommended to drive at moderate speeds.

Statistics indicate the average life of a trailer tire is about 5 years under normal use and maintenance conditions. After 3 years, replacing the trailer tires with new ones should be considered, even if the tires have adequate tread depth. Some experts claim that after 5 years, trailer tires are considered worn out and should be replaced, even if they have had minimal or no use. This is such a general statement that it may not apply in all cases. It is best to have your tires inspected by a tire supplier to determine if your tires need to be replaced.

If you are storing your trailer for an extended period, make sure the tires are fully inflated to the maximum rated pressure and that you store them in a cool, dry place, such as a garage. Use tire covers to protect the trailer tires from the harsh effects of the sun.

### **WARNING**

Worn, damaged or under-inflated tires can cause loss of control, resulting in damage, serious injury and death. Inspect tires before each tow

#### **7.2.11 WHEEL RIMS**

If the trailer has been struck, or impacted, on or near the wheels, or if the trailer has struck a curb, inspect the rims for damage; and replace any damaged wheel. Inspect the wheels for damage every year, even if no obvious impact has occurred.

#### **7.2.12 WHEELS, BEARINGS AND LUG NUTS**

A loose, worn or damaged wheel bearing is the most common cause of brakes that grab

To check your bearings, jack trailer and check wheels for side-to-side looseness. If the wheels are loose, or spin with a wobble, the bearings must be serviced or replaced

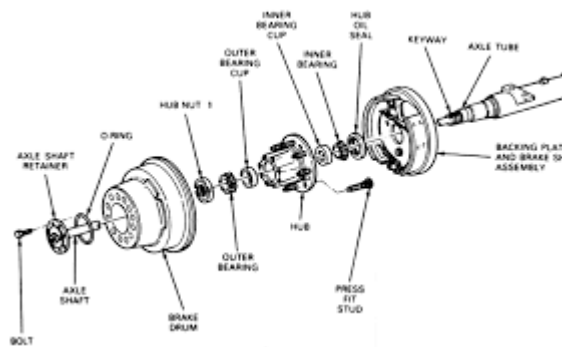
Most trailer axles are built with sealed bearings that are not serviceable. Sealed bearings must be replaced as complete units

### 7.2.12.1 UNSEALED BEARINGS (HUBS)

If your trailer has unsealed axle bearings, they must be inspected and lubricated once a year or 12,000 miles to insure safe operation of your trailer.

If a trailer wheel bearing is immersed in water, it must be replaced

If your trailer has not been used for an extended amount of time, have the bearings inspected and packed more frequently, at least every six months and prior to use.



Follow the steps below to disassemble and service the uninstalled wheel bearings

- After removing the grease cap, cotter pin, spindle nut and spindle washer, remove the hub and drum to inspect the bearings for wear and damage.
- Replace bearings that have flat spots on rollers, broken roller cages, rust or pitting. Always replace bearings and cups in sets. The inner and outer bearings are to be replaced at the same time.
- Replace seals that have nicks, tears or wear
- Lubricate the bearings with a high-quality EP-2 automotive wheel bearing grease

Every time the wheel is removed, and the bearings are reassembled, follow the steps below to check the wheel bearings for free running and adjust.

- Turn the hub slowly, by hand, while tightening the spindle nut, until you can no longer turn the hub by hand
- Loosen the spindle nut just until you can turn it (the spindle nut) by hand. do not turn the hub while the spindle is loose.

- Put a new cotter pin through the spindle nut and axle
- Check the adjustments. Both the hub and the spindle nut should be able to move freely (the spindle nut in motion will be limited by the cotter pin)

### **7.2.12.2 LUG NUTS (BOLTS)**

Being sure wheel mounting nuts (lug nuts) on trailer wheels are tight and properly torqued is an important responsibility that trailer owners and users need to be familiar with and practice. Inadequate and / or inappropriate wheel nut torque (tightness) is a major reason that lug nuts loosen in service. Loose lug nuts can rapidly lead to wheel separation with potentially serious safety consequences.

Lug nuts are prone to loosen right after a wheel is mounted to a hub. When driving on a new or remounted wheel, check the lug nut tightness often during the first few hundred miles of the trailer's use, especially after the first 10, 25 and 50 miles of driving, before each tow, and at least twice per year thereafter.

#### **WARNING**

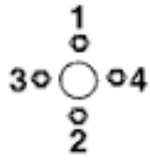
Lug nuts are prone to loosen after initial installation, which can lead to death or serious injury. Check lug nuts for tightness on a new trailer or when wheel(s) have been remounted after the first 10, 25 and 50 miles of driving

#### **WARNING**

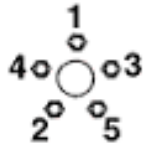
Metal creep between the wheel rim and lug nuts will cause rim to loosen and could result in a wheel coming off, leading to death or serious injury. Tighten lug nuts before each tow

Tighten the lug nuts to the proper torque for the axle size on your trailer to prevent wheels from coming loose. Use a torque wrench to tighten the fasteners. The only way to be certain you have checked the torque or torqued the lug nuts to the proper torque is with a torque wrench. Four-way wrenches, ratchets, and similar tools can be useful for short-term emergency repairs but are not appropriate tools for adequately checking lug nut torque. You must use a torque wrench to adequately indicate the torque that you are applying to the lug nut. If you do not have a torque wrench, tighten the fasteners with a lug wrench as much as you can, then have a service garage or dealer tighten the lug nuts to the proper torque. Over-tightening will result in breaking the studs or permanently deforming the mounting stud holes in the wheels.

**Tighten Lug Nuts in a Criss-Cross Pattern for Best Equal Torque Distribution.**



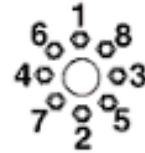
**4 LUG**



**5 LUG**



**6 LUG**



**8 LUG**

Keep a record of the date and approximate mileage when you check the lug nut torque. Note any lug nut that has lost torque. Investigate the reason(s) if the lug nut torque is not maintained after more than one re-torque application, because this indicates there is something wrong with the lug nuts, nut studs, wheels and/or hubs and should be corrected.

Contact your dealer or vehicle manufacturer immediately if you experience any persistent lug nut loosening or any other lug, wheel or axle problems.

In the event of a wheel separation incident, notify the vehicle manufacturer and dealer. Seek prompt professional assistance in assessing the trailer and its gear, and retain, but don't re-use involved lugs, wheels and studs. Don't repair or service the trailer yourself. Call a trained technician.

### **LIONSHEAD TIRES**

**1 year (first year) "no excuses guarantee"**

**2-year complimentary roadside assistance**

**5-year warranty on radial ST tires**

**Lifetime structural warranty on all wheels**