

## 6 LOADING AND UNLOADING A FLATBED 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; and
- 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. Read the “Tongue Weight” section below.

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 axle 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”).

# Loading And Unloading A Flatbed Trailer

## **WARNING**

An overloaded trailer can result in loss of control of the trailer, leading to death or serious injury.

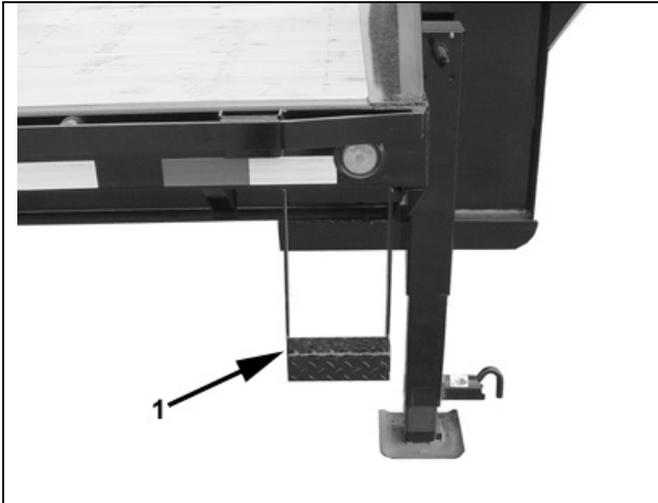
Do not exceed the trailer Gross Vehicle Weight Rating (GVWR) or an axle Gross Axle Weight Rating (GAWR).

Do not load a trailer so that the weight on any tire exceeds its rating.

## **6.1 GENERAL INFORMATION**

Your flatbed trailer may be equipped with chain boxes on the front of the trailer. The boxes are for storing chains, binders, etc. Do not store items that can blow out while driving in the chain boxes.

Gooseneck trailers may be equipped with steps (1) and grab handles on each side to ease access to, and from the trailer deck. See figure 6-1.



Gooseneck Steps – Figure 6-1

## **6.2 DOVETAIL AND RAMP OPTIONS**

Your flatbed trailer can be equipped with one of several different ramp options:

- Hydraulically operated dovetail.

## Loading And Unloading A Flatbed Trailer

- Fold down ramps.
- Two spring loaded ramps.
- Three spring loaded ramps.
- Removable ramps.
- Mesh ramps.

### WARNING

Unsecured ramps can create a driving hazard.

Secure ramps in their storage or travel position before towing trailer.

### 6.2.1 Hydraulically Operated Dovetail

The hydraulic pump, battery and control are located on the street side of the trailer in a lockable box.

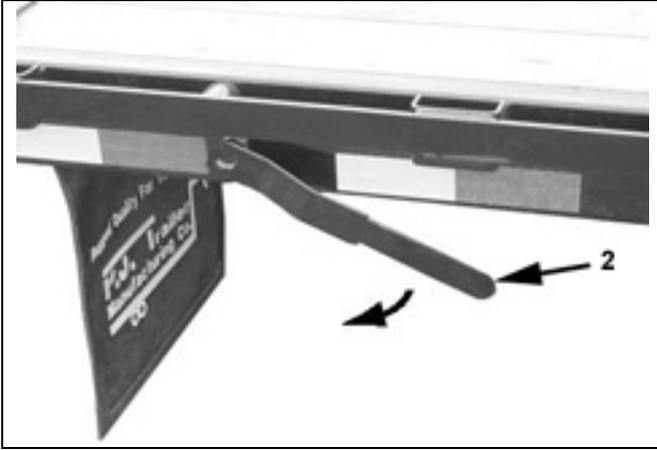
- To lower the dovetail, open the box and locate the control. Press “UP” (1) to move the dovetail off of the mechanical stops. See figure 6-2.



Dovetail Control – Figure 6-2

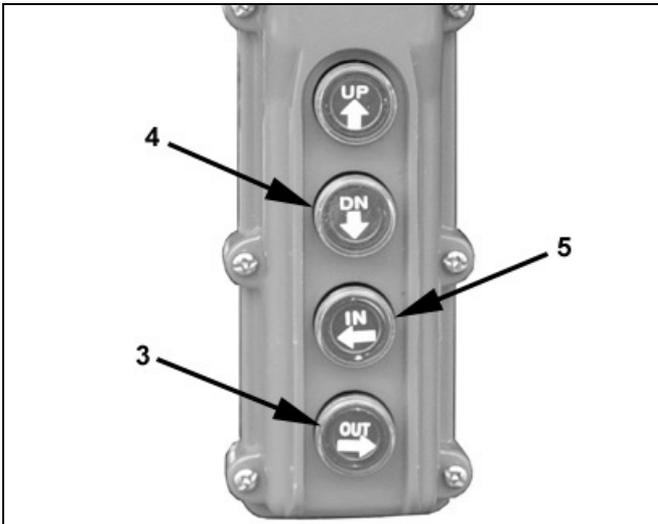
- Move mechanical stop handle (2) clockwise to move mechanical stops off of cylinder. See figure 6-2.

## Loading And Unloading A Flatbed Trailer



Dovetail Mechanical Stop Handle – Figure 6-3

- Press “OUT” (3) to move the dovetail ramp out. See figure 6-4.
- Press “DN” (4) to lower the dovetail. See figure 6-4.



Dovetail Control – Figure 6-4

## Loading And Unloading A Flatbed Trailer



Dovetail Lowered – Figure 6-5

- To raise dovetail:
- Press “UP” (1) to raise dovetail. See figure 6-2.
- Press “IN” (5) to move the dovetail ramp inward. See figure 6-4.
- Move the mechanical stop lever counter clockwise until lever is horizontal. See figure 6-3.
- Press “DN” (4) to lower the dovetail against mechanical stops. See figure 6-4.
- Place control in box, close and lock cover.

### 6.2.2 **Fold Down Ramps**

Your trailer may be equipped with one, two or three fold down ramps.

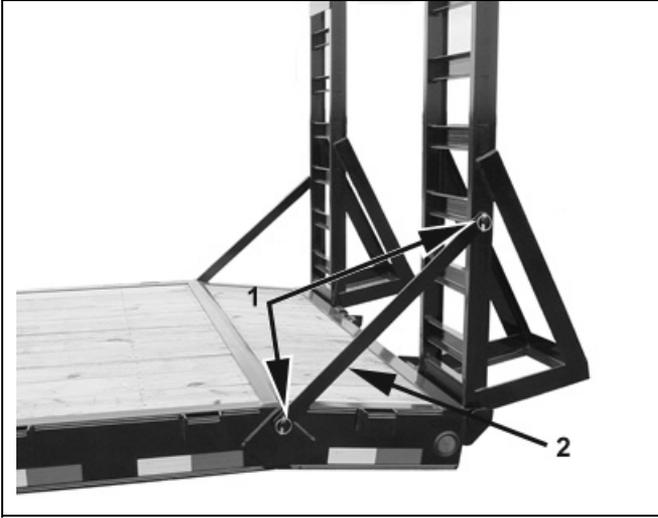
#### **Caution**

Use a safe lifting procedure to prevent injury when handling ramps.

Ramps are shown in figure 6-6 in the travel/ storage position. Your trailer may have ramps that fold over against the trailer deck for travel. If ramps **do not** fold over against the trailer deck, the straps and safety lock pins shown in figure 6-6 **must** be installed for travel.

To lower ramps, remove safety lock pins (1), support straps (2) and lower ramps. Straps and safety lock pins **must** be installed before towing trailer.

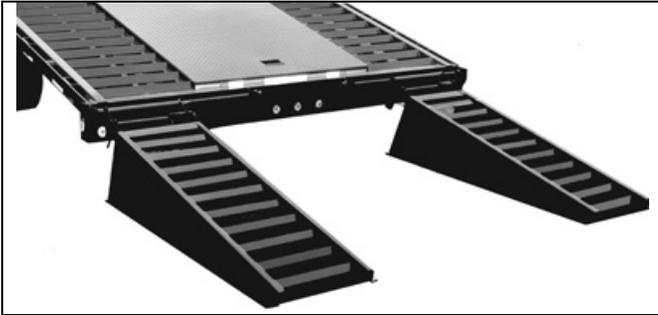
## Loading And Unloading A Flatbed Trailer



Fold Down Ramps – Figure 6-7

### 6.2.3 Spring Loaded Ramps

Your trailer may be equipped with one, two or three spring loaded ramps. Lower the ramps and position as needed to load or unload trailer.



Fold Down Ramps – Figure 6-8

### 6.2.4 Mesh Ramps

Your trailer may be equipped with one, two or three mesh ramps on the rear and/or side of trailer.

## Loading And Unloading A Flatbed Trailer

### Caution

Use a safe lifting procedure to prevent injury when handling ramps.

To lower ramps, remove safety lock pins, support straps and lower ramps. Straps and safety lock pins **must** be installed **or** the ramps **must** be folded over flat against the trailer deck before towing trailer.

#### **6.2.5 Removable Ramps**

Your trailer may be equipped with removable ramps, which may be stored under the rear or side of trailer.



Rear Storage Position Ramps – Figure 6-9



Side Storage Position Ramps – Figure 6-10

## Loading And Unloading A Flatbed Trailer

### Caution

The weight of each loading ramp is listed below.

12 x 60" - 50 lbs.

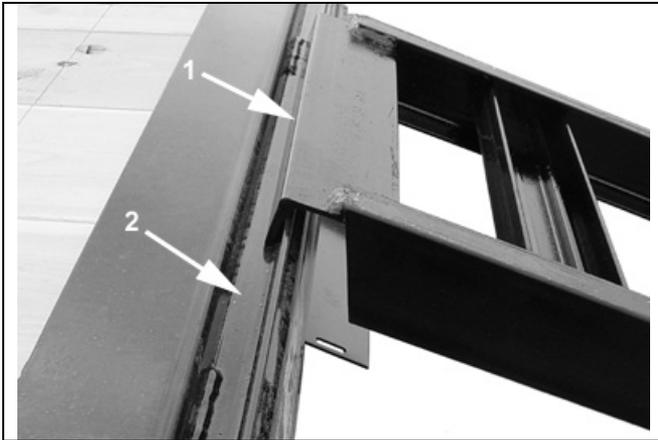
16 x 60" - 60 lbs

16 x 80" - 80 lbs.

16 x 96" - 100 lbs.

Use a safe lifting procedure to prevent injury when handling ramps.

To install ramps, remove safety lock pins, open covers and pull ramps out. Place angle bracket (1) on ramps, in channel (2) on trailer. See figure 6-11. Adjust ramp width as needed to load and unload trailer.



Install Ramps – Figure 6-11

### **6.3 DISTRIBUTING THE CARGO**

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,

## Loading And Unloading A Flatbed Trailer

etc. The exception is fuel in the tank of vehicles or equipment that are being hauled.

### WARNING

Do not transport flammable, explosive, poisonous or other dangerous materials on your trailer. The exception is fuel in the tank of vehicles or equipment that are being hauled.

### **6.3.1 Preparing the Trailer for Loading**

Before loading cargo onto the trailer:

- Inspect the deck of the trailer for corrosion or damage; and
- 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 hold downs and/or “D”-rings can break, allowing cargo to become loose on the trailer. Loose cargo can shift the center of gravity, and result in loss of control of the trailer.

Inspect hold downs and/or “D”-rings, and test them for looseness before loading cargo.

Do not use a damaged or loose hold down or “D”-ring to secure cargo.

### **6.3.2 Loading a Rigid-Deck Trailer**

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

Make sure the top of the ramp (or ramps) is secure to the trailer, and the bottom is resting on firm ground.

## Loading And Unloading A Flatbed Trailer

### WARNING

Load can suddenly move or topple, which can result in death or serious injury.

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.

### **6.3.3 Loading a Tilt Deck Trailer**

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 catch pin is retracted.

## Loading And Unloading A Flatbed Trailer

### 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 deck. 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.