

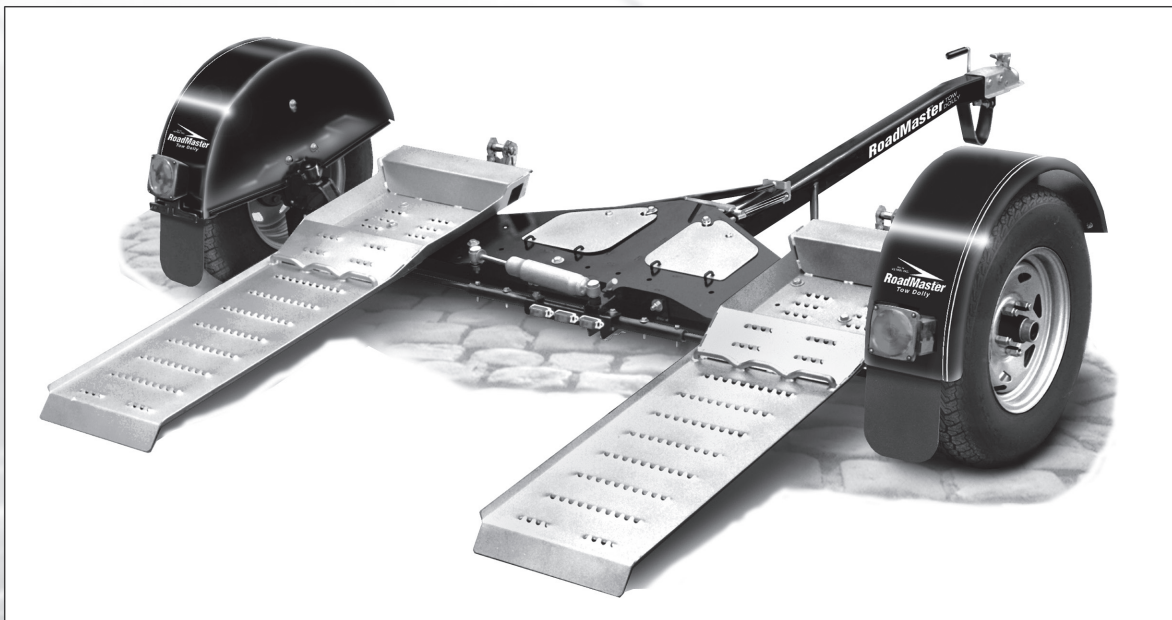
RoadMaster™ TOW DOLLY

U.S. patent number 6,164,897

Part number 2000-1

Owner's Manual

Entire contents of manual must be read by owner



CAUTION

This dolly will not accommodate all vehicles. The size and shape of any particular vehicle, its wheel height and the position of fender flares, air dams or other body components may make it susceptible to damage when it is loaded/unloaded or during transport or cornering. For these reasons, before towing any vehicle for the first time make certain it will not come into contact with the dolly.

Failure to follow these instructions may result in non-warranty damage.

It is the owner's responsibility to make certain that there is adequate clearance. ROADMASTER, Inc. expressly disallows any claim for damage caused by inadequate clearance.



Time Tested • Time Proven

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WELCOME TO THE ROADMASTER FAMILY!

This manual has been prepared to acquaint you with the installation, operation, care and maintenance of your tow dolly and to provide you with important safety information.

Read your owner's manual cover to cover. Understand how to install and operate your tow dolly, and carefully follow the instructions and safety precautions.

We thank you for your patronage and greatly appreciate your discerning taste.

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“Towing vehicle” and “towed vehicle” — definition

People frequently confuse the terms “towing vehicle” and “towed vehicle.” The “towing vehicle” is the one that pulls the dolly, while the “towed vehicle” is on the dolly.

To avoid confusion, the phrase “towing vehicle” has been replaced by “motorhome” (even though you may not be using a motorhome to tow the dolly). We will use the phrase “towed vehicle” as defined above.

Record the serial number...

Please record the serial number of your tow dolly in the space below. The number can be found on the front edge of the main bed.

Have the serial number at hand when calling for technical support or replacement parts. It will allow us to serve you faster and ensure that you receive the correct components.

Serial number: _____

Specifications

Minimum tread width	32" ramps in narrow position 40" ramps in wide position
Maximum tread width	68" ramps in narrow position* 76" ramps in wide position*
Overall width - narrow axle.....	93½"
Overall width - wide axle	101½"
Overall length	136"
Height at fenders	29½"
Weight - empty	620 lbs.
Tires	radials ST 205/75 R14
Adjustable TieDown™ straps	fit tires with diameters of 30" or less and 11" or less in tread width
Coupler information	2" Class III
Ball height.....	18"
GAWR (maximum axle capacity).....	3,500 lbs.
Maximum weight of towed vehicle.....	4,250 lbs.
Trailer ball size	2"

* Vehicles with fender flares, or with fenders that overhang the wheels, may be susceptible to damage during cornering. Refer to step 1 in the “Towing” section.

IMPORTANT NOTICE!

Safety Definitions

Statements in this manual identified as follows are of special significance:

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, could result in property damage, serious personal injury, or even death.

CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in property damage, or minor or moderate personal injury.

CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

NOTE

Refers to important information and is placed in italic type. It is recommended that you take special notice of these items.

TOW DOLLY SAFETY REQUIREMENTS

WARNING

Read all instructions before assembling or operating the tow dolly. Failure to understand how to assemble or operate the tow dolly could result in property damage, personal injury or even death.

1. The trailer ball, ball mount, receiver and motorhome must all be rated to pull a weight that exceeds the combined weight of the tow dolly, towed vehicle and all of its contents.

2. Do not pull more than 4,250 pounds with the tow dolly. Remember to add the weight of all contents within the towed vehicle when calculating its total weight.

3. The motorhome must be at least 1,000 pounds heavier than the towed vehicle. If not, the momentum of the towed vehicle and dolly will attempt to push the motorhome, resulting in “fishtailing” or “jackknifing.” This force can easily cause a loss of control that can result in severe damage or a life-threatening accident.

4. The tow dolly is equipped with electric brakes. For the electric brakes to function, a brake controller must be installed in the motorhome. Even with adequate braking capacity, the combination of vehicles will require additional stopping distance that must be accounted for when towing.

Refer to the manufacturer’s instructions to set the controller to the appropriate weight for towing; be certain to reduce the braking force if the dolly is ever towed unladen.

5. Avoid sharp turns when towing with the dolly loaded – always turn with as wide a radius as possible. Turning too sharply may cause the towed vehicle to contact the tow dolly fender, causing damage to the towed vehicle and dolly.

6. Do not back up the dolly when loaded. The steerable wheels can easily “jackknife” and cause severe damage to both vehicles and the dolly.

The dolly can be backed up when empty, if the steering pin is in place.

7. The towed vehicle cannot exceed 78" (with the axles wide) or 70" (with the axles narrow) in overall body width at the front fender wells. If the towed vehicle exceeds this width, severe damage may occur to the tow dolly and the towed vehicle when the steerable tires pivot to track the motorhome.

8. Before loading any vehicle, be sure that the ramps and axles are adjusted to the correct width.

9. When the dolly axles are adjusted from narrow to wide or wide to narrow, the tow dolly must be realigned. See the section titled “Alignment instructions.”

10. Before backing the towed vehicle off the dolly, be certain that the bed tilt lock has been properly released. If you attempt to unload the dolly without releasing

the bed tilt lock, the dolly and towed vehicle may be severely damaged.

11. Replace broken, worn or defective tow dolly components before towing any vehicle.

12. Torque the wheel lug nuts to 90 ft./lbs. every 50 miles for the first 200 miles. Torque every 3,000 miles thereafter.

13. Check the air pressure on both tires every 3,000 miles. Inflate to 50 lbs. psi. Also inspect the tires for any road damage or unusual wear. Do not tow on improperly inflated tires – the result will be premature tire wear.

14. Always connect the dolly to the motorhome before loading the towed vehicle. Similarly, always unload the towed vehicle before disconnecting the dolly from the motorhome. It is nearly impossible to control the combined weight of the dolly and towed vehicle when disconnected from the motorhome.

15. When connecting the safety chains to the motorhome, cross them underneath the coupler. If the coupler should ever disconnect, the crossed chains will support the tongue of the dolly, helping to prevent it from digging into the road.

16. The steering pin must be removed when towing a vehicle on the dolly. Removing the pin allows the wheels of the dolly to pivot behind the motorhome. If the wheels cannot pivot, the towed vehicle will pivot on the dolly, causing severe damage to the towed vehicle and dolly.

The pin must be replaced when towing the dolly empty. Without the weight of the towed vehicle, the tires could bounce sideways and drag at an angle in the direction of travel, causing severe damage to the tires, wheels, axle and other components.

17. The towed vehicle’s steering wheel must be locked or otherwise secured when towing. Failure to lock the steering wheel will allow the towed vehicle to pivot on the bed, causing it to hit the fender and wheel assemblies of the dolly. Severe damage will result to both vehicles.

18. When loading and unloading, be careful not to burn yourself on any chassis or engine components that may still be hot. In addition, the underside of the vehicle may have sharp edges and corners that can cause cuts and abrasions.

19. Do not ride on the tow dolly or in the towed vehicle while it is being towed.

20. If the towed vehicle has rear wheel drive, be certain it can be towed without damaging the transmission. If necessary, drop the driveshaft to protect the transmission.

21. Always load the towed vehicle facing forward. If the vehicle is loaded backwards, the front wheels will not stay in line with the dolly. This will cause severe fishtailing and swaying, which may result in damage

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TOW DOLLY SAFETY REQUIREMENTS

continued from preceding page

to the front end of the vehicle or the tires, as well as other consequential, non-warranty damage.

Fishtailing and swaying may also cause a loss of vehicular control, resulting in a severe, life-threatening traffic accident.

22. Check and comply with your local, state, federal or provincial requirements for towing.

23. The RoadMaster tow dolly is not designed for commercial applications. Commercial use will void the warranty.

WARNING

Failure to follow these instructions can cause property damage, personal injury or even death.

BEFORE YOU ASSEMBLE THE DOLLY...

WARNING

Read all instructions before assembling or operating the tow dolly. Failure to understand how to assemble or operate the tow dolly could result in property damage, personal injury or even death.

Musts for installation safety

1. Assembler must use all bolts and parts supplied as instructed.
2. Assembler and owner must read and understand all instructions and heed all warnings within the owner's manual and the literature packet before loading any vehicle onto the dolly.
3. Owner must check with and comply with all local, state, federal or provincial requirements regarding tow dollies.
4. Assembler must always wear eye protection while assembling the tow dolly.
5. Assembler must show owner how to properly load, unload and tow the vehicle.
6. Assembler must caution owner to use a trailer ball, ball mount and receiver that is rated at 5,000 pounds

or more.

7. Assembler must use solid wooden blocks or adequate stands for support while assembling the dolly.

8. Assembler must torque all bolts according to the enclosed chart (Figure 4).

9. Vehicles must be loaded with front wheels on dolly. Owner must be sure that any rear wheel drive vehicle is towable on dolly without damaging the transmission. Rear wheel drive vehicles may require a drive line disconnect to prevent transmission damage.

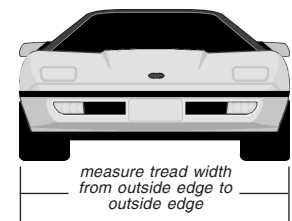
10. Assembler must stress importance of owner sending in product registration card. The warranty is only valid if the owner sends in his product registration card within 60 days. Warranty registration will allow us to expedite a claim or contact the customer should the need arise.

Required tools

- torque wrench
- 1/2" socket
- 9/16" socket
- 3/4" socket
- 13/16" socket
- socket wrench
- 1/2" wrench
- 9/16" wrench
- 3/4" wrench

Axle and ramp positioning chart

<i>Position of axles and ramps</i>	<i>Minimum tread width</i>	<i>Maximum tread width</i>
<i>Axles narrow; ramps narrow</i>	<i>32"</i>	<i>68"</i>
<i>Axles wide; ramps narrow</i>	<i>32"</i>	<i>68"</i>
<i>Axles wide; ramps wide</i>	<i>40"</i>	<i>76"</i>



ASSEMBLY INSTRUCTIONS — WIDE AXLE

Use these instructions ONLY for wide axle assembly

The wide axle setup is the most versatile, since the ramps can be adjusted to accommodate either narrow or wide vehicles.

Note: if the tow dolly axles are changed from wide to narrow, or from narrow to wide, the tow dolly must be realigned. See the section titled "Alignment instructions."

1A Start by opening the box and unloading everything except the main bed of the dolly. Tear the walls of the box down and place solid wooden blocks or stands underneath each side of the frame so that the bottom of the main bed is about eight inches off the ground.

Now, use the "Axle and Ramp Positioning Chart" on page two to measure the overall tread width of the vehicle to be towed, and to determine the position for the axles and ramps.

2A Attach one of the axles – Starting on one side, pull

the axle out so the three holes in the top of the axle align with the three holes identified as **W5**, **W6** and **W7** in Figure 1. Insert $\frac{1}{2}$ " x $4\frac{1}{2}$ " bolts with washers through **W5**, **W8** and **W9**. Install washers and lock nuts on the opposite side. Do not insert bolts through **W6** or **W7** at this time.

3A Attach one of the ramps –

CAUTION

When installing the ramps, use extreme caution not to pinch, crush, cut or otherwise damage the attached wiring or plugs. If electrical components are damaged, they will not function.

Since the axle is being assembled in the wide set-
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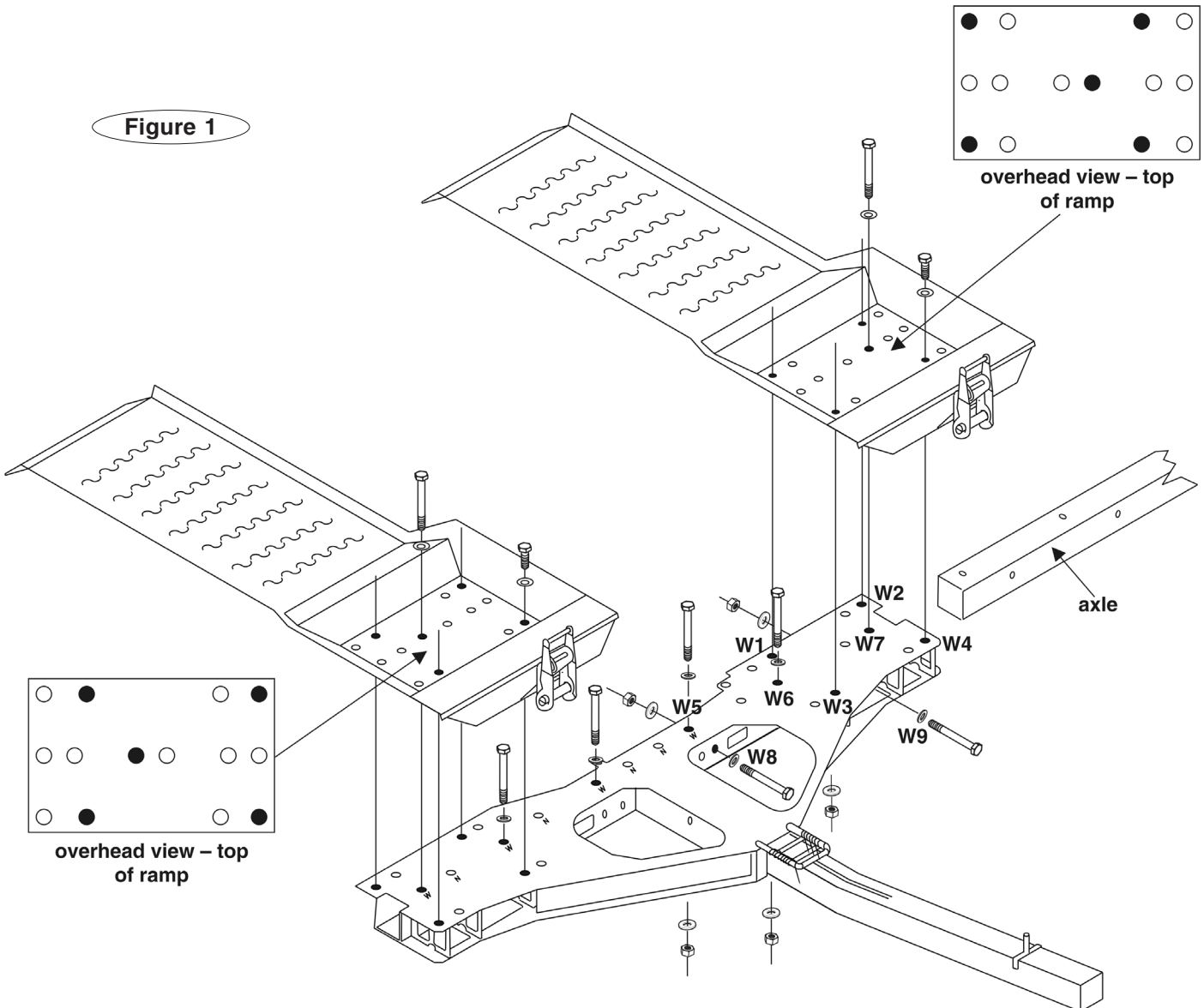


Figure 1

ASSEMBLY INSTRUCTIONS — WIDE AXLE

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ting, the ramp can be mounted in either the narrow or wide position.

To attach the ramp at the wide setting, line the ramp holes (as shown in Figure 1) with the main bed holes **W1** through **W4**. With the ramp in position, insert and tighten the four ½" x 1" bolts and washers, as shown in Figure 1.

To attach the ramp at the narrow position, line the ramp holes (as shown in Figure 2) with the main bed holes **N1** through **N4**. With the ramp in position, insert and tighten the four ½" x 1" bolts and washers.

4A Secure one of the axles – If the ramps are placed in the wide setting, insert ½" x 4½" bolts with washers through the ramp and into holes **W6** and **W7** on the bed. Install washers and lock nuts on the underside of these bolts.

If the ramps are placed in the narrow setting, insert two ½" x 4½" bolts with washers through the ramp and into holes **N6** and **N7** (Figure 2). Install washers and lock nuts on each of these bolts.

WARNING

It is imperative that all five of the ½" x 4½" bolts are used (on each side) to secure the axle to the main bed. All five holes will line up if the axles and ramps are in the correct position.

Failure to install and secure all bolts as instructed may cause the axle to separate from the main bed, resulting in property damage, personal injury or even death.

5A Secure the ramp and axle on the other side – Repeat Steps 2A - 4A to secure the ramp and axle on the other side.

You must install the ramp and axle on the other side at the same width position as you did for the first side.

**To finish the installation,
go to Step 6 on page 6.**

ASSEMBLY INSTRUCTIONS — NARROW AXLE

Use these instructions ONLY for narrow axle assembly

Note: if the tow dolly axles are changed from narrow to wide, or from wide to narrow, the tow dolly must be realigned. See the section titled "Alignment instructions."

1B Start by opening the box and unloading everything except the main bed of the dolly. Tear the walls of the box down and place solid wooden blocks or stands underneath each side of the frame so that the bottom of the main bed is about eight inches off the ground.

Now, use the "Axle and Ramp Positioning Chart" on page two to measure the overall tread width of the vehicle to be towed, and to determine the position for the axles and ramps.

2B Attach one of the axles – Starting on one side, remove the two 5/16" x 2¼" bolts that go through the tie rod assembly (See Figure 3.). Next, pull the axle and tie rod assembly out so the three holes in the top of the axle align with the three holes identified as **N5**, **N6** and **N7** in Figure 2. With the wheels straight, line up the holes in the outer tie rod assembly with the inner holes.

Now, insert ½" x 4½" bolts with washers through **N5**, **N8** and **N9**. Install washers and lock nuts on each of these bolts as shown. Do not insert bolts through **N6** and **N7** at this time.

3B Attach one of the ramps –

CAUTION

When installing the ramps, use extreme caution not to pinch, crush, cut or otherwise damage the attached wiring or plugs. If electrical components are damaged, they will not function.

Since the axle is being assembled in the narrow setting, the ramp can only be mounted in the narrow position.

To attach the ramp in the narrow position, line the ramp holes (as shown in Figure 2) with the main bed holes **N1** through **N4**. With the ramp in position, insert and tighten the four ½" x 1" bolts and washers.

4B Secure one of the axles – Insert a ½" x 4½" bolt through the ramp and into hole **N7** on the bed (Figure 2). Insert another ½" x 4½" bolt through the main bed and axle at hole **N6** (Figure 2). Install washers and lock nuts on each of these bolts.

Install and tighten the two 5/16" x 2¼" bolts, nuts and washers on the tie rod assembly, as shown in Figure 3.

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ASSEMBLY INSTRUCTIONS — NARROW AXLE

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WARNING

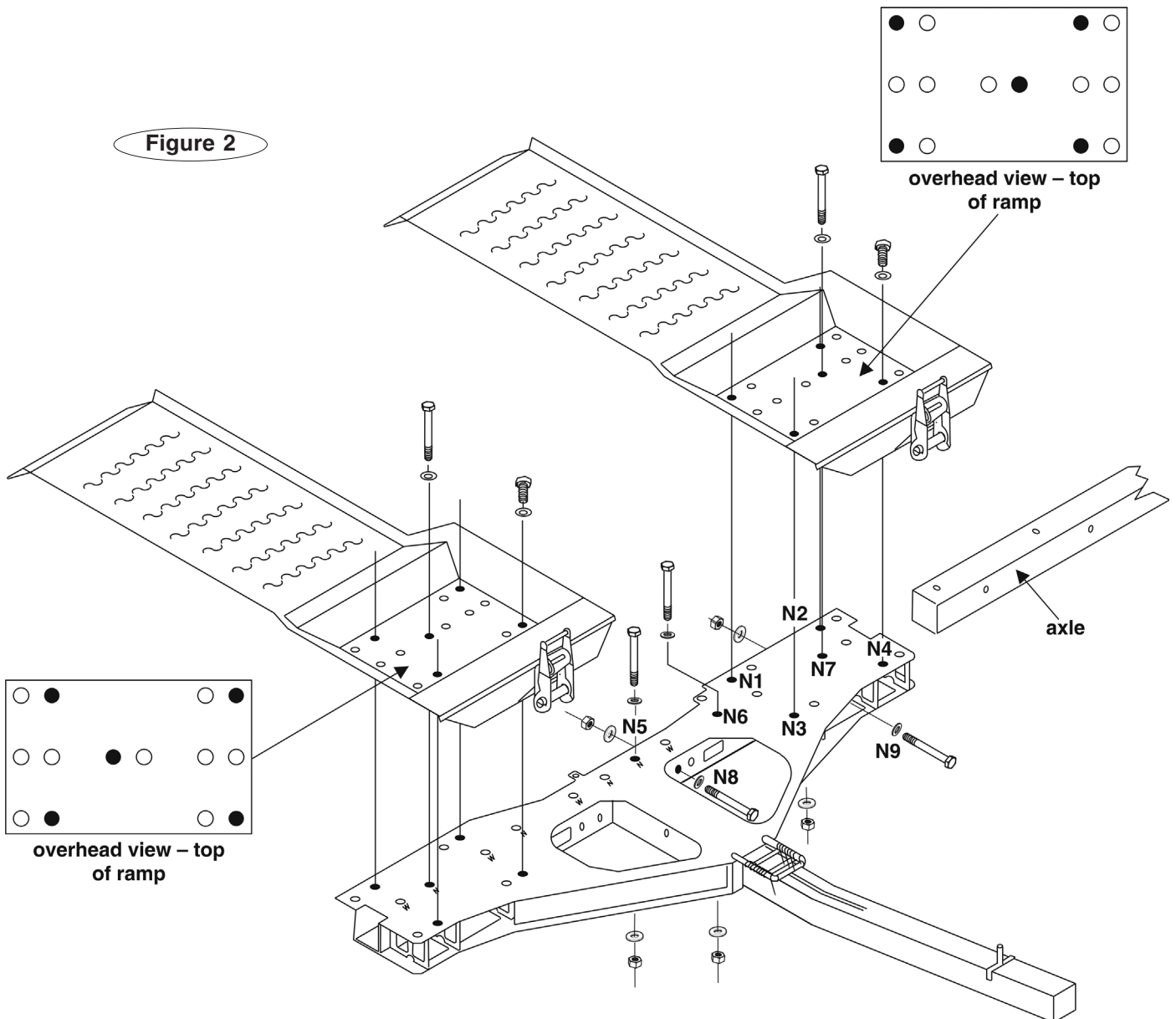
It is imperative that all five of the ½" x 4½" bolts are used (on each side) to secure the axle to the main bed. All five holes will line up if the axles and ramps are in the correct position. Failure to install and secure all bolts as instructed may cause the axle to separate from the main bed, resulting in property damage, personal injury or even death.

5B Secure the ramp and axle on the other side – Repeat Steps 2B - 4B to secure the ramp and axle on the other side.

You must install the ramp, axle and tie rod on the other side at the same width position as you did for the first side.

To finish the installation, go to Step 6 on page 6.

Figure 2



FINAL ASSEMBLY

Now that the axles and ramps have been assembled, install the fenders, tires, tongue and stabilizer bars...

6. Install the fenders – Position one of the fenders onto the five bolts protruding from the back side of the hub assembly. Install the flat washers. Now, secure the fender to the axle assembly using the washers and nuts, as shown in Figure 3. Plug the fender wiring harness into the main wiring harness. Repeat on the opposite side.

7. Install the tires – Install the tire and wheel assemblies on both the driver's and passenger's side. Fingertighten all lug nuts for now. Remove the wooden blocks or stands – the tires will now support the tow dolly.

WARNING

Do not pinch, crush, cut or otherwise damage the wiring harness while positioning the tongue. If the harness is damaged, the tow dolly brake, turn signal and marker lights will not function.

Drivers behind the tow dolly will not be alerted by turn signals or brake lights, which may cause a traffic accident, resulting in property damage, personal injury or even death.

8. Install the trailer tongue – The trailer tongue has a

fishwire pre-installed through its length. Position the tongue near the center of the main bed and securely connect the fishwire to the wiring harness on the main bed.

The tongue marker light wire protrudes through a slot in the top of the tongue, near the coupler. Pull the wire harness through the tongue, being careful not to entangle the marker light wire. Leave some slack in the harness for maneuvering.

Now, push the marker light wire through the slot in the tongue, and connect it to the mating bullet connector.

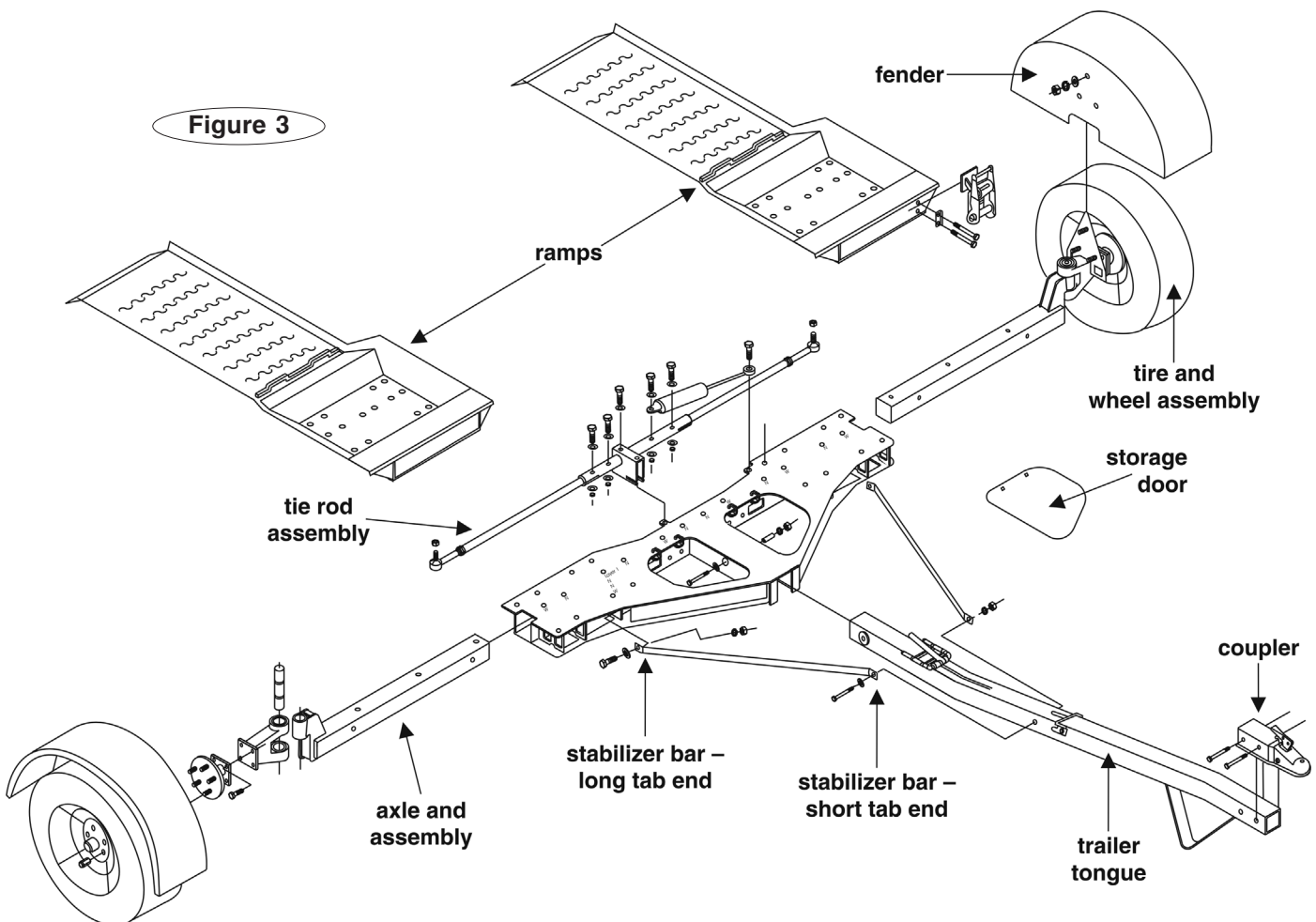
Insert the widest part of the tongue through the notch on the bottom of the bed and raise the tongue up until it fully engages the center channel. Now, push the tongue straight back, while pulling the excess wiring harness through the tongue.

Open both storage compartment doors and insert the 1" x 4" bushing into the center channel and tongue.

Now, insert the 1/2" x 5 1/2" bolt through the bushing and secure with a lock nut. Be sure to use a flat washer under the bolt head and nut.

9. Attach the stabilizer bars – Attach both stabilizer bars to the tongue with a 1/2" x 5" bolt, washers, and

continued on next page



FINAL ASSEMBLY

continued from preceding page

locking nut. Be sure to attach the long tab end of the stabilizer bars to the main bed and the short tab ends to the trailer tongue. Note that this bolt goes completely through the tongue and is used to attach both stabilizer bars. Bolt the opposite ends to the bed, using ½" x 1½" drilled bolts. Install washers and castle nuts to all bolts as shown in Figure 3.

CAUTION

Do not over-tighten the stabilizer bolts. If the bolts are over-tightened, the bed will not tilt down. If tightened correctly, the bed will tilt and the bolts will be secure.

10. Now, torque all bolts (except the stabilizer bolts) used in the assembly process according to Figure 4. Do not torque the bolts that secure the stabilizer bar to the bed of the dolly – refer to the caution statement above.

The lug nuts must be evenly tightened onto the wheel hubs. Gradually tighten each lug nut three or four times, using the crossing pattern shown in Figure 5. Torque to 90 foot pounds. The lug nuts must be checked for tightness every 50 miles during the first 200 miles. Check for tightness every 3,000 miles or six months thereafter.

WARNING

Do not over-tighten the lug nuts. If the lug nuts are over-tightened, road vibrations will loosen them, which may cause a wheel separation, resulting in property damage, personal injury or even death.

11. Test the lighting – Test the tow dolly to be certain that the marker lights, turn signals and brake lights are all functioning properly. The wiring is coded as follows:

TM Brown.....taillights and license plate light
 S Blue or black.....tow dolly brakes
 RT Green..... right turn
 LT Yellow..... left turn
 GD White.....ground for tow dolly

12. Adjust the electric brakes – The tow dolly is equipped with electric brakes. For the electric brakes to function, a brake controller must be installed in the motorhome.

Refer to the manufacturer’s instructions to set the controller to the appropriate weight for towing; be certain to reduce the braking force if the dolly is ever towed unladen.

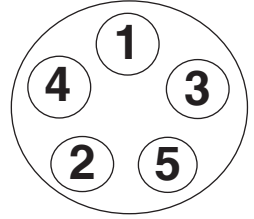
Figure 4

Bolt torque chart

Bolt size	Torque
¼"	12 ft./lb.
3/8"	38 ft./lb.
½"	90 ft./lb.
12mm	63 ft./lb.
Lug nuts	90 ft./lb.

Figure 5

Torque pattern for wheel lug nuts



Use this crossing pattern when tightening the lug nuts on the wheels.

How to convert

from wide ramps to narrow ramps...

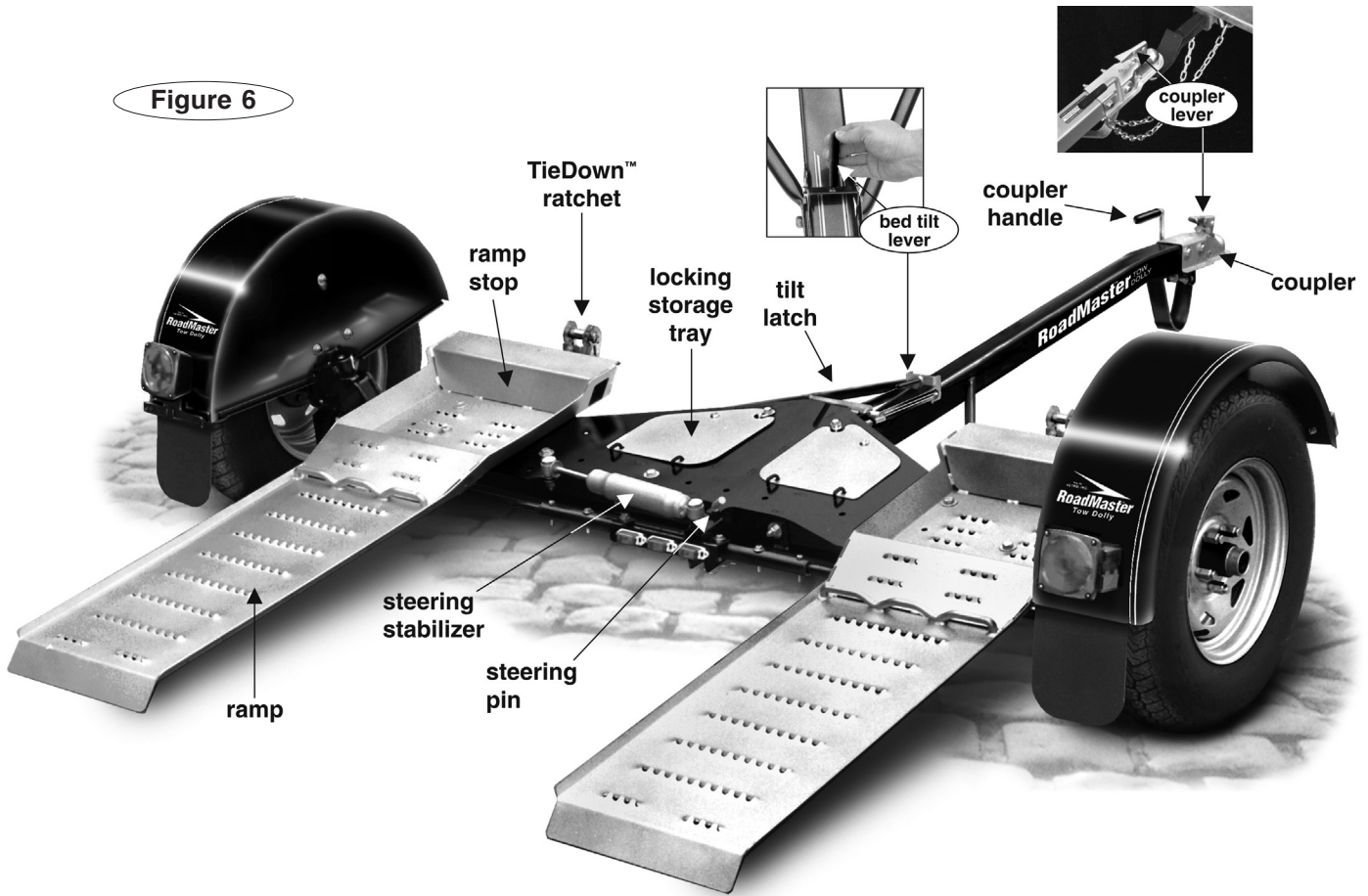
Starting on one side, remove the bolts attaching the ramp to bolt holes **W1** through **W4** (See Figure 1.), as well as **W6** and **W7**. Reposition the ramp to the narrow setting and install and tighten the short bolts through bolt holes **N1** through **N4** (See Figure 2.). Now, install and tighten the long bolts into bolt holes **N6** and **N7**.

Be certain to use washers under all bolt heads, and under any removable nuts.

Repeat for the other side.

BEFORE LOADING THE DOLLY...

Figure 6



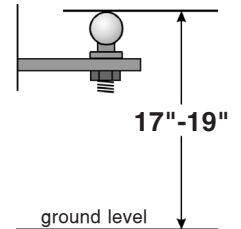
1. The instructions on the following pages contain references to various components of the tow dolly. Use Figure 6 (above) to familiarize yourself with their names before reading the 'Using your tow dolly' section.

2. Check the tread width – Before attempting to load the towed vehicle, measure the tread width (see the 'Axle and ramp positioning' chart below) and make certain that the ramps and axles are in the correct position for the towed vehicle.

See the preceding assembly sections for detailed instructions on how to adjust the width of the ramps and axles.

3. Check the vehicle weight – The RoadMaster tow dolly is rated to haul a maximum of 4,250 pounds. Verify that the weight of your towed vehicle and all of its contents does not exceed 4,250 pounds.

4. Check the trailer ball height – Make certain that the trailer ball height is 18 inches, plus or minus one inch. Ball heights outside of this range can create poor towing characteristics, such as sway and fishtailing.

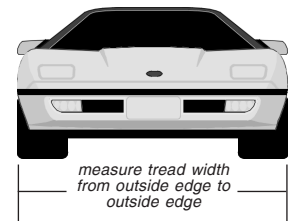


In addition, incorrect ball height can cause the ramps to damage the bottom of the towed vehicle or drag on the road over bumps and dips.

The coupler requires a two-inch hitch ball with a 5,000 lb. capacity.

Axle and ramp positioning chart

Position of axles and ramps	Minimum tread width	Maximum tread width
Axles narrow; ramps narrow	32"	68"
Axles wide; ramps narrow	32"	68"
Axles wide; ramps wide	40"	76"



USING YOUR TOW DOLLY

Loading

1. Park the motorhome on a flat, level surface. Make sure that the motorhome's engine is off, with the transmission in park, and that the emergency brake is on.

2. Position the dolly in line with the motorhome and place the coupler over the trailer ball. Make certain that the coupler socket fully encloses the hitch ball. Secure the coupler to the ball by fully lowering the coupler lever into a horizontal position, as shown in Figure 6.

Pull up on the tow dolly tongue to verify that the coupler is properly latched and is securely attached to the trailer ball.

WARNING

Always connect the dolly to the motorhome before loading the towed vehicle. It is nearly impossible to control the combined weight of the dolly and towed vehicle when disconnected from the motorhome. Attempting to do so may cause property damage, personal injury or even death.

3. Attach the safety chains to the receiver on the motorhome and cross the chains, as shown in the photo to the right. Crossing the safety chains will help prevent the tongue from catching on the road in case of disengagement.



Leave just enough slack in the chains for turning sharp corners.

4. Connect the tow dolly's wiring plug to the motorhome's socket and check the lights for proper function.

5. Remove the steering pin (see Figure 6).

CAUTION

With the steering pin in place, the towed vehicle will attempt to pivot on the dolly when turning corners. Failure to remove the steering pin will force the towed vehicle into the dolly fenders, resulting in severe damage to both vehicles.

6. Tilt the ramps to the ground by pulling the bed tilt lever (see Figure 6).

CAUTION

The TieDown ratchets must be in the down position when loading. If the ratchets are left in the up position, they may catch on the towed vehicle, resulting in damage to the vehicle.

7. If the towed vehicle has a rock guard, spoiler, air dam or other undercarriage component, check to ensure that it will clear the ramps and deck without damage.

8. Now, align the towed vehicle with the dolly and have an assistant carefully guide you up the ramps,

being careful to keep the towed vehicle centered. As the towed vehicle reaches the top, the ramps will automatically raise. Continue forward until the tires touch the ramp stop.

WARNING

All towed vehicles must be loaded forward, with the steerable wheels on the tow dolly. The front end of the towed vehicle is aligned with a small amount of "toe-in" to help keep it in a straight line as you drive. By towing backwards you reverse the effect, causing the towed vehicle to wander, sway and fishtail. This can cause loss of control, resulting in property damage, personal injury or even death.

9. Now, lock or otherwise secure the steering wheel so that the front end cannot pivot on the dolly. If the vehicle is not equipped with a locking steering column, you must secure the steering wheel so that it cannot turn while being towed.

CAUTION

Failure to lock the steering wheel will allow the towed vehicle to pivot on the bed, causing it to hit the fender and wheel assemblies of the dolly. Severe damage to both vehicles will result.

10. Put front wheel drive vehicles in park. If it is a rear wheel drive, make certain it can be pulled with the rear wheels on the ground without damaging the transmission. If it can be safely towed, put the towed vehicle in neutral. If not, remove the driveshaft and put in park (in gear if a manual transmission).

11. If the towed vehicle's emergency brakes apply the front wheels, set the emergency brake. Do not set the emergency brake if it applies the rear wheels.

WARNING

Do not set the emergency brake if it applies the rear wheels, or severe brake damage or fire may result.

12. Connect the bed safety chains to secure points under the towed vehicle. Leave some slack to allow for movement of the suspension when towing.

13. While under the towed vehicle, check that the tilt latch has fully engaged, securing the bed in the raised position. Verify each time before towing. If the tilt latch is not fully engaged, the ramps will tilt while towing.

14. Now, secure the towed vehicle to the dolly with the TieDown™ straps...

WARNING

Be certain that the TieDown straps do not touch any components behind the wheel, such as struts.

continued on next page

USING YOUR TOW DOLLY

continued from preceding page

If the TieDown straps are touching a strut or other component, road vibrations may cause the straps to be chafed while towing, which may cause the strap(s) to separate, resulting in property damage, personal injury or even death.

Notice that the hook will always go toward the rear and that the buckle will always be on the outside of the tire. Identify the passenger side strap and install it on the tire, as shown in Figure 7.

Position the hook so that it is centered with the tire. As close as possible, adjust the diameter of the buckle strap so that the front and rear of the strap engage the tire just above the 9:00 and 3:00 positions. Rotate the buckle strap around the tire, so that the strap is just forward of the center of the wheel.

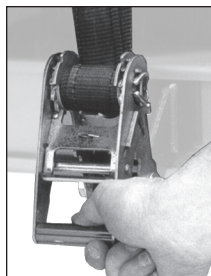
Next, pull the strap through the buckle so that the buckle is tight around the tire (Figure 8).

WARNING

Be certain that the TieDown™ strap is routed through the buckle, as shown in Figures 7 and 8, before towing. The strap will not secure the towed vehicle if the strap is not routed through the buckle correctly. Failure to properly route the strap will cause the strap to loosen, which may result in property damage, personal injury or even death.

The crossover strap (Figure 7) should be centered at 12:00. In addition, center the ratchet with the tire, by sliding it left or right as necessary.

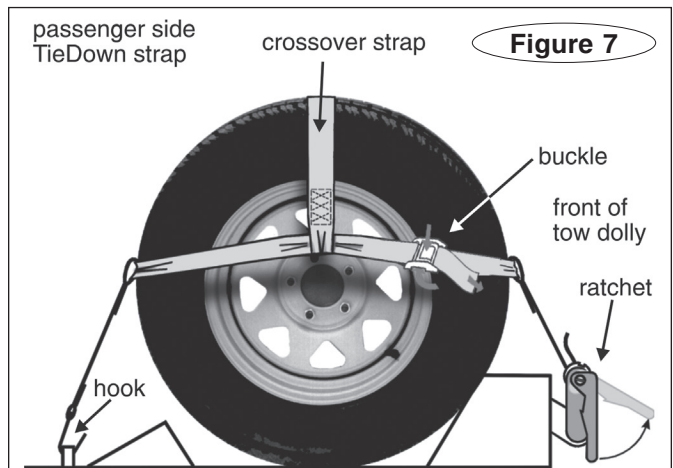
Now, take the front end of the strap and feed at least six inches through the slot in the ratchet. Tighten the strap by raising and lowering the ratchet handle, as shown in the photo to the right. The strap is sufficiently tight when the tire begins to flatten against the ramp stop.



WARNING

The ratchet handle must be in the down position when towing to properly secure the TieDown straps. If the ratchet handle is up, the strap may loosen during towing, which may cause the towed vehicle to separate from the dolly, resulting in property damage, personal injury or even death.

Be certain that the TieDown strap is centered on



the tire, both front-to-rear and side-to-side, when tightened. Also, take care that the strap is not twisted and cannot rub or chafe. Be sure to secure the end of the straps to prevent them from damaging the finish of the towed vehicle or dolly.

Repeat this procedure on the driver's side. (See "Unloading the dolly," on page 11, for instructions on how to release the TieDown strap.)

WARNING

The TieDown straps must be retightened after towing the first five miles. Check the TieDowns every 100 miles thereafter for tightness, as well as for any chafing or rubbing. Road vibrations may cause the TieDown straps to loosen during towing. If the TieDown straps are not tightened, the towed vehicle may separate, which will cause property damage, personal injury or even death.

15. Hook up your auxiliary lighting for the rear of the towed vehicle. Test the lighting for proper functioning before towing.

Note: Nearly every state requires lighting at the rear of the towed vehicle. ROADMASTER manufactures three lighting systems. See "Electrical kits," under "Optional equipment and accessories," for a full description.

Towing

1. Before towing any vehicle for the first time, test to ensure that the vehicle will not come into contact with the dolly's fenders. Vehicles with fender flares, or fenders that overhang the wheels, are especially susceptible to damage of this kind.

First, make certain that the towed vehicle is centered on the dolly.

In an empty parking lot, have someone watch as you slowly turn sharply to see whether you have this potential problem. Damage that results from turning too sharply is not covered by warranty.

continued on next page

USING YOUR TOW DOLLY

continued from preceding page

WARNING

The combined motorhome, dolly and towed vehicle will take significantly longer to accelerate and pass other vehicles. Stopping distances may be greatly increased. Failure to compensate for the tow dolly and towed vehicle while towing may result in a loss of vehicular control, which may cause property damage, personal injury or even death.

2. If the tow dolly sways or fishtails while towing, bring the motorhome to a slow, controlled stop. Each of the following can cause or contribute to vehicle sway: towing a vehicle backwards; excessive weight in rear of vehicle; insufficient tire pressures; damaged rims or wheel bearings; excessive speeds; unlocked steering wheel. Additionally, the towed vehicle's wheels must be straight and square with the dolly.

WARNING

Towing a vehicle that sways excessively may cause a loss of control. Failure to correct excessive sway, as described above, may result in property damage, personal injury or even death.

Unloading the dolly

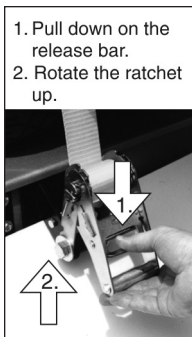
1. Stop the motorhome on flat ground with both vehicles in line. Turn the engine off, put the transmission in park and set the emergency brake.

2. If the driveshaft was removed for towing, replace it at this time.

3. Disconnect the wiring for the auxiliary lighting on the towed vehicle.

4. Disconnect the bed safety chains from underneath the towed vehicle.

5. Unlock the ratchets and remove the TieDown™ straps. To unlock the ratchet, use your thumb to pull down the release bar while rotating the ratchet upward, as shown to the right. The release bar will lock open when the ratchet has been rotated straight up. Unwind the strap from the ratchet and remove the TieDown straps.



CAUTION

After removing the TieDown straps, lower the ratchets to prevent the vehicle from catching on them while unloading. Otherwise, the tow dolly and/or the towed vehicle may be damaged.

6. Pull the bed tilt handle to release the tilt latch. Visually inspect the tilt latch under the vehicle to verify that the bed is free to tilt.

CAUTION

Be certain that the bed tilt latch has been properly released before backing the towed vehicle off the dolly. If you attempt to unload the dolly without releasing the bed tilt latch, severe non-warranty damage will result to the dolly and the towed vehicle.

7. Have an assistant guide you off the dolly. As you begin to back up, the ramps will tilt to the ground. Continue slowly down the ramps until the towed vehicle is completely off the dolly.

WARNING

Always unload the towed vehicle before disconnecting the dolly from the motorhome. It is nearly impossible to control the combined weight of the dolly and towed vehicle when disconnected from the motorhome. Attempting to do so may cause property damage, personal injury or even death.

8. With the towed vehicle unloaded, raise the ramps until they are securely locked in the up position.

9. Store the bed safety chains and TieDown straps in the locking storage trays.

CAUTION

The storage trays are not designed to be waterproof. If the dolly is to be left outdoors for long periods of time, remove the straps or any other items that can be damaged by moisture.

10. Reinsert the steering pin. It must be in place whenever the dolly is moved without a towed vehicle. Without the steering pin, the dolly wheels can easily steer in the wrong direction and cause the tires to drag sideways.

11. Disconnect the safety chains and wiring plug from the motorhome.

12. Disconnect the dolly from the trailer ball by raising the coupler latch.

USING YOUR TOW DOLLY

Pulling the dolly empty

When empty, the dolly is likely to bounce around behind the motorhome. It is advisable to reduce the tire pressure by 15 psi to help alleviate bouncing and vibration. Be certain that the tires are reinflated to the correct pressure before loading a towed vehicle.

CAUTION

Reduce the tire pressure when towing the dolly empty. If the tire pressure is not reduced, as described above, the dolly will bounce and vibrate excessively. The dolly ramps and/or other components may be cracked or otherwise damaged.

1. The steering pin must be inserted when towing an

empty dolly.

WARNING

If the steering pin is not in place, the tires can catch and turn sideways, which may cause a loss of vehicular control, resulting in property damage, personal injury or even death.

2. The ramps must be locked in the up position.
3. The coupler must be secured.
4. Safety cables and wiring must be attached to the motorhome.
5. Before towing, verify that the lighting functions correctly on the dolly.

MAINTENANCE

1. Torque all nuts and bolts according to the 'Bolt Torque Chart' on page seven. Check and maintain torque every 3,000 miles or six months.

2. Steering stabilizer – Check and maintain every 3,000 miles or every six months – Lubricate the shaft of the steering stabilizer with a few drops of oil. This allows the stabilizer to operate smoothly and helps prevent corrosion. If the dolly will not be used for long periods of time, swivel the wheels to compress the steering stabilizer. This will force the shaft into the stabilizer, helping to prevent rust and corrosion.

3. TieDown ratchets – Check and maintain every 3,000 miles or every six months – Use a drop of oil to lubricate the moving components of the ratchets. Do not over-lubricate – excessive oil will attract dirt and debris, preventing the proper operation of the ratchets.

4. TieDown™ straps – Check and maintain every 3,000 miles or every six months – Inspect the straps, hooks and adjustment buckles for any damage or excessive wear. Promptly replace the straps if they are damaged in any way.

5. King pins – Check and maintain every 3,000 miles or every six months – Lubricate the upper and lower grease fitting on both king pins with wheel bearing grease.

6. Tie rod ball joints – Check and maintain every 3,000 miles or every six months – Lubricate the grease fitting on the two tie rod ball joints.

7. Accu-Lube™ hubs – Lubricate every time before you tow. Lubricate and check before initial operation:

1. Remove the rubber plug.
2. Insert the grease gun into the grease fitting.

Note: do not use air-powered grease guns.

3. Pump grease until old grease comes back out the front.

4. Remove the old grease and re-insert the plug.

8. Coupler adjustment – Check and maintain every 3,000 miles or every six months – If the coupler does not properly engage the ball, simply tighten the lock nut. (Do not overtighten the nut, or the lever will not lock.)

9. Tires and alignment – Check and maintain every 3,000 miles or every six months – The axle was preset at the factory with zero camber, 8° caster, and 1/32" - 1/16" toe-in. If you notice unusual tire wear, have an alignment shop verify the axle settings. Tires should be inflated to 50 lbs. psi; under-inflated tires will have excessive wear.

As with any vehicle, it is possible to knock the axle out of alignment by hitting curbs, running over pot holes, etc. As such, the alignment is not covered under warranty.

Note: when the axles are changed from narrow to wide or wide to narrow the dolly must be realigned. See "Alignment instructions."

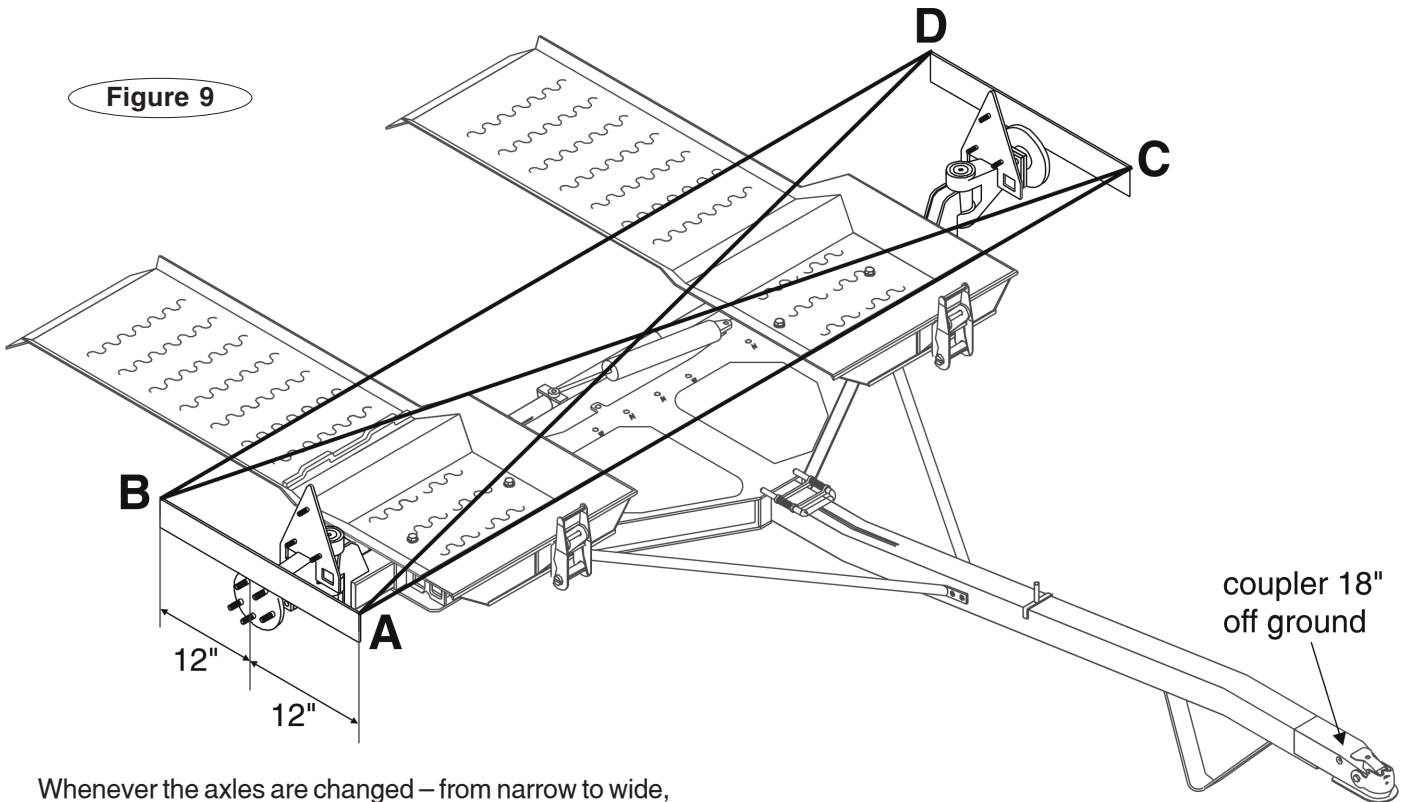
10. Problem: The tow dolly wanders; doesn't track well.

- Solution:
- a) Check the alignment of the tow dolly.
 - b) Check the hitch ball height. It should be between 17" - 19". See "Before loading the dolly."
 - c) Check for uneven tire wear that can cause tracking problems.

Problem: The bed won't easily tilt for loading or unloading.

Solution: The bolts securing the stabilizer bars are too tight. The bolts must pivot for the bed to tilt. (see "Final assembly")

ALIGNMENT INSTRUCTIONS



Whenever the axles are changed – from narrow to wide, or from wide to narrow – the dolly must be realigned.

To realign the dolly, follow the two steps below.

Step 1

Square the hubs to the dolly

1. First make certain the steering pin (Figure 10) is in place.

2. With the coupler 18 inches off the ground, jack up the axle just enough to allow you to put blocks under it. Now remove the wheels and fenders.

3. Next you'll need two 24-inch long bars. Each bar may be a level, a square or any straight piece of iron bar. Clamp each of these bars tight to the face of each hub, centering them with the spindle.

4. As illustrated in Figure 9 above, first measure Line AD. Next measure Line BC. If these dimensions are equal, your hubs are square with the dolly, and you are ready to proceed with the Toe-in adjustment (below).

5. If the dimensions are not equal, loosen the lock nuts on the end of Tube A and Tube B (Figure 10). Then, remove the six bolts in the center rod.

6. Rotate Tube A and Tube B as necessary to make Line AD the same length as Line BC. When these measurements are equal, the hubs are square with the dolly.

Step 2

Toe-in adjustment

1. The dolly is designed to operate with 0" - 1/16" toe-in.

2. To adjust the toe-in, turn Tube A and Tube B (Figure 10) **equally** until Line AC (Figure 9) is between 0" and 1/16" less than Line BD (Figure 9).

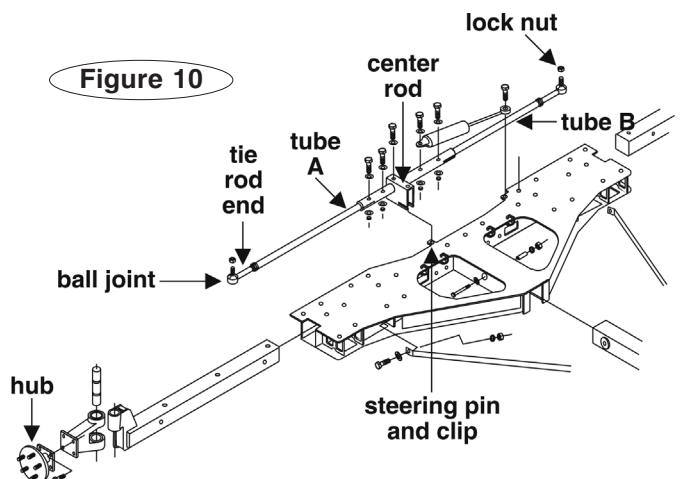
3. Re-insert the six bolts, washers, nuts, etc. to the center rod.

4. Re-tighten the lock nut at the end of each tie rod.

5. Now re-measure to ensure that the measurements have not changed.

6. Re-assemble the wheels and fenders.

7. Torque all bolts according to the "Bolt torque chart" (Figure 4). Tighten lug nuts as shown on the "Torque pattern for wheel lug nuts" chart (Figure 5).



ADJUSTING THE TIEDOWN™ STRAPS

Even though they may appear to be identical, one TieDown strap is designed for the driver's side and the other for the passenger's side.

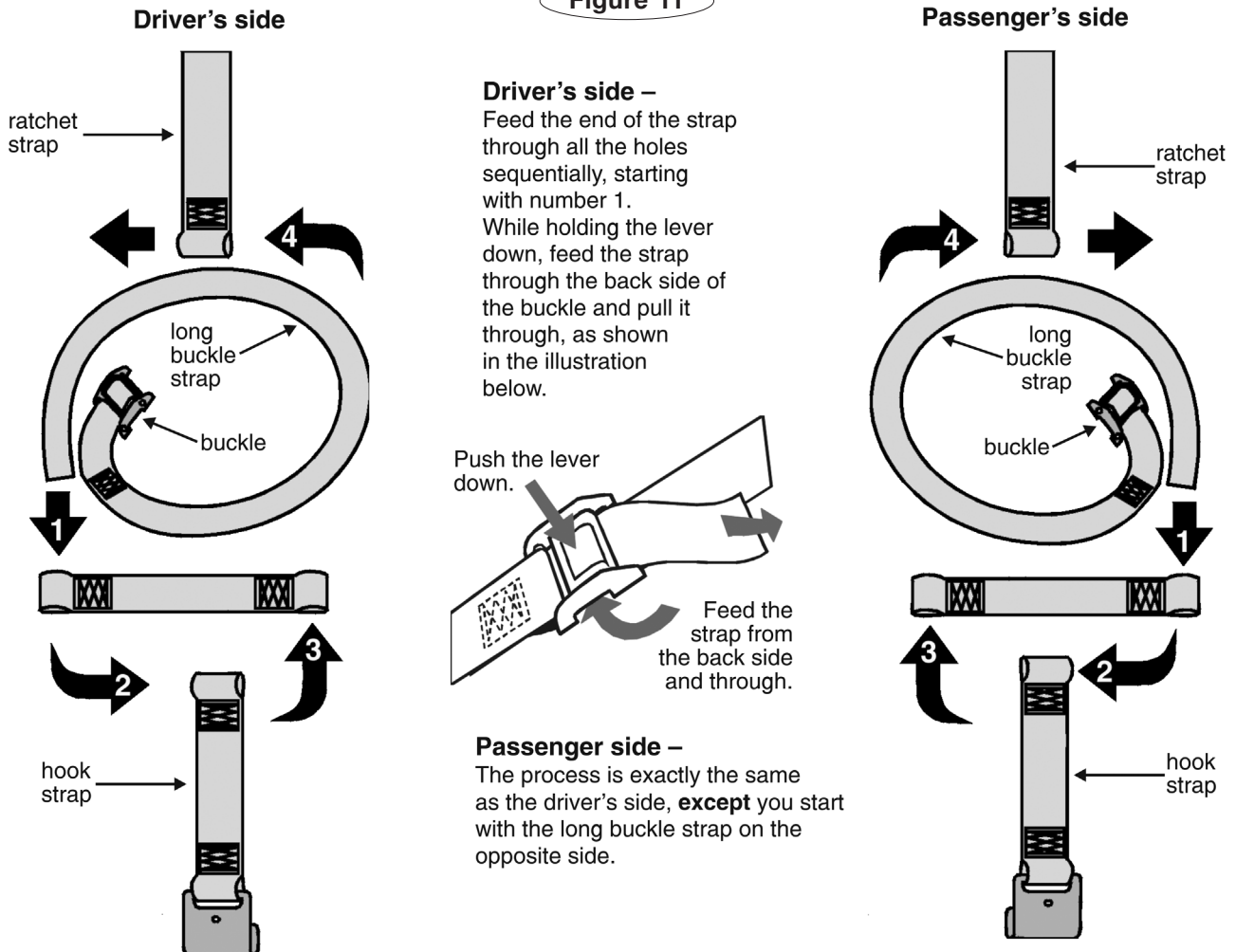
Although the straps come pre-assembled, the process is explained below (Figure 11).

WARNING

Be certain that the strap is routed through the buckle, as shown in Figure 11, before towing. The strap will not secure the towed vehicle if it is not routed through the buckle correctly.

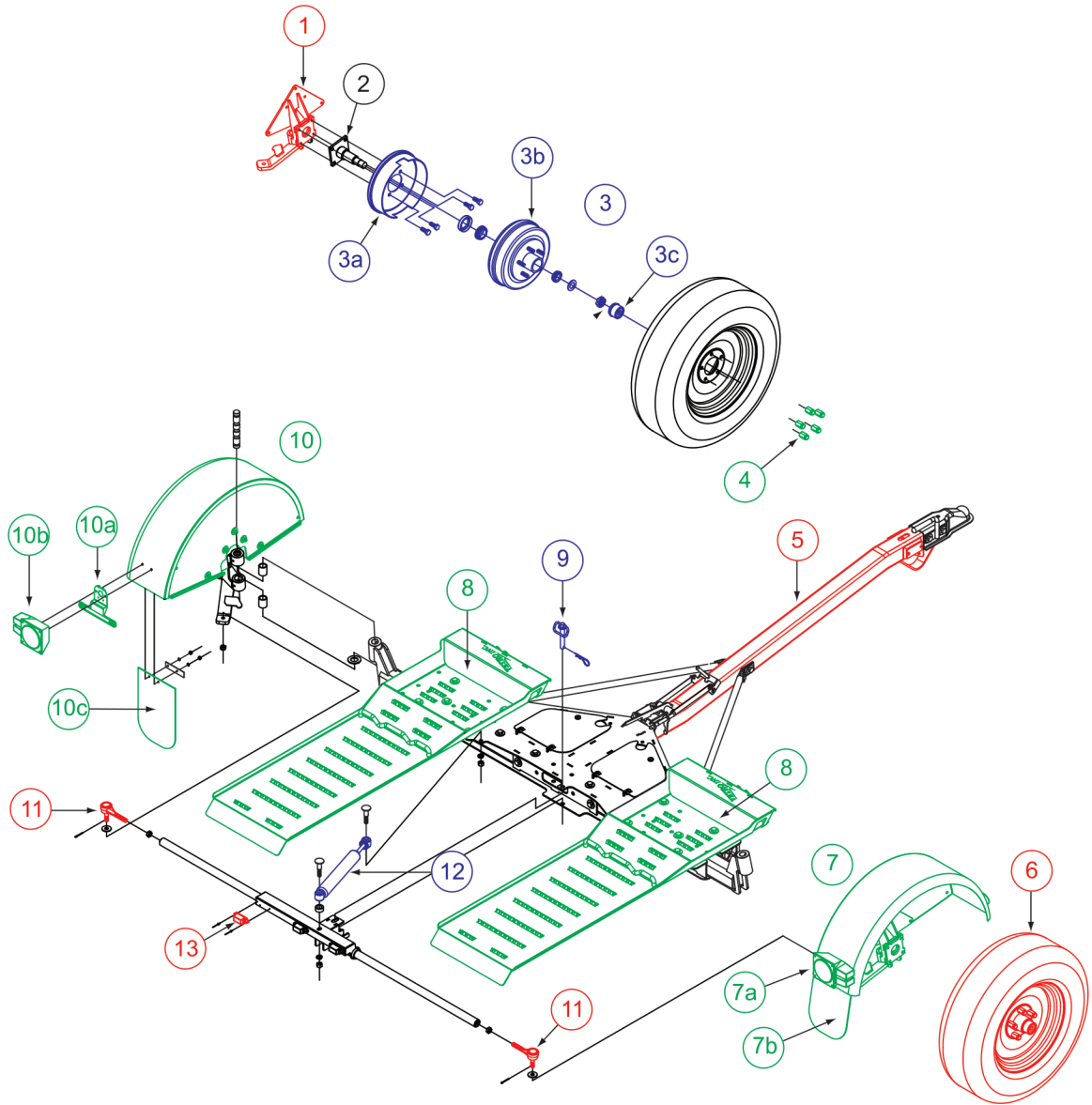
Failure to properly route the strap will cause the strap to loosen, which may cause the towed vehicle to separate from the motorhome, resulting in property damage, personal injury or even death.

Figure 11



COMPONENTS

2000-1 tow dolly — rear view

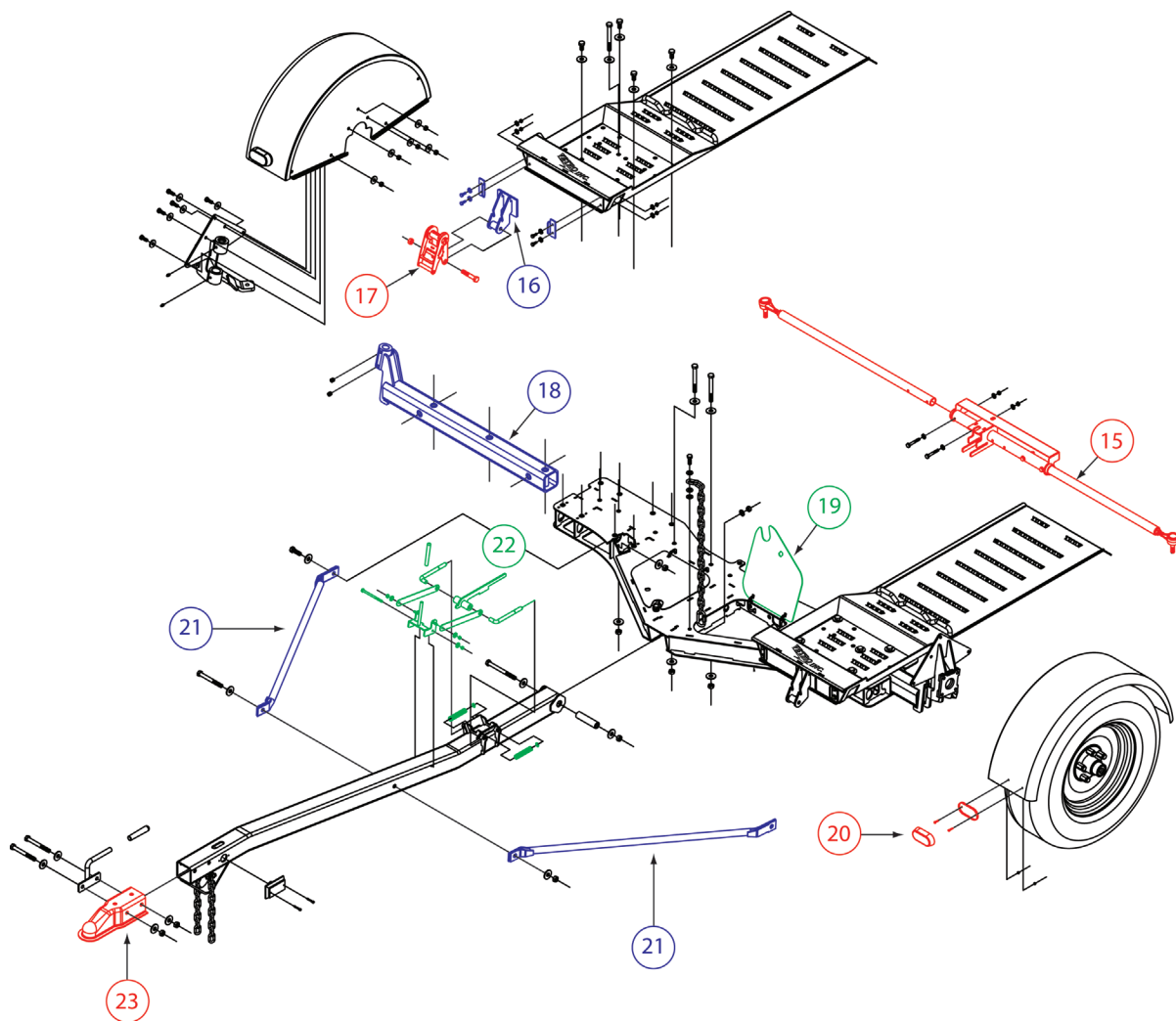


Item	Qty. per Dolly	Description	Part Number
1	1	Kingpin assembly, passenger side includes bushings must order with axle (part number 921007-2)	921009-2
1	1	Kingpin assembly, driver's side includes bushings must order with axle (part number 921007-1)	921009-1
2	2	Spindle weldment	2000-32
3	2	Electric brake and drum assembly (items 3a through 3e) Driver's side	2000-16
		Passenger side	2000-17
	1	Brake assembly, driver's side	4701-LA
	1	Brake assembly, passenger side	4701-RA
	2	Brake drum	2000-81
	2	Dust cap and ring	21-3-AL-100
	2	Cotter pin (not shown)	4755
	2	Bearing and seal kit (not shown; one side only) includes one grease seal and two bearings	2000-33

Item	Qty. per Dolly	Description	Part Number
4	10	Lug nut	357310-00
5	1	Tongue assembly	921008
6	2	Tire and wheel	200330-80
7	1	Fender, passenger side, with light (items 7a through 7b)	921003
	1	Stop light, passenger side	300220-30
	1	Mud flap	200340-10
8	2	Ramp	921000
9	1	Pin and clip	357100-00
10	1	Fender, driver's side, with lights (items 10a through 10d)	921002
	1	License plate bracket	300220-50
	1	Stop light, driver's side	300220-40
	1	Mud flap	200340-10
11	2	Tie rod end	200325-00
12	1	Steering stabilizer	200400-00
13	3	Red marker light	300230-00

COMPONENTS

2000-1 tow dolly — front view



Item	Qty.	Description	Part Number
15	1	Tie rod assembly	921005
16	1	Ratchet mount with hardware	2000-31
17	1	Tie down ratchet	2110
		Tie down straps (not shown) —	
		Adjustable (one strap)	2150
		14" non-adjustable (one strap)	2114
		15" non-adjustable (one strap)	2115
18	1	Axle assembly, passenger side	921007-2
		must be ordered with kingpin (part number 921009-2)	
		Axle assembly, driver's side	921007-1
		must be ordered with kingpin (part number 921009-1)	
19	1	Storage cover with lock	2000-30
	1	Storage cover lock and key (not shown)	2000-11
20	1	Light, clearance, amber	300220-20
21	1	Stabilizer bar	921006
22	1	Tongue latch and release assembly	2000-12
23	1	Coupler	200003-10

PRE-TRIP SAFETY CHECKLIST

- The coupler is securely latched to the trailer ball.
- Safety chains are attached to the motorhome.
- The bed safety chains are secured to the towed vehicle.
- The bed tilt latch has properly engaged with the ramps up.
- The electrical harness is plugged into the motorhome, and the dolly lights are functioning properly.
- The steering pin has been removed for towing a vehicle.
- The steering pin has been inserted for towing the dolly empty.
- Auxiliary lighting has been connected to the towed vehicle, and is functioning properly.
- The towed vehicle and its contents weigh less than 4,250 pounds.
- The towed vehicle is centered on and square with the tow dolly.
- The towed vehicle's steering wheel is locked or otherwise secured.
- The towed vehicle is in the correct gear for towing (see towed vehicle's owner's manual).
- The TieDown™ straps are centered on the tires and tightened properly.
- The TieDown straps are not twisted and cannot chafe or rub.
- The ratchets are in the down position for towing and unloading.
- All wheel lug nuts are torqued to 90 ft./lbs.
- The Accu-Lube™ hubs have been lubricated.
- The tire pressure is correct for towing – loaded or unloaded.
- The nuts and bolts securing the tongue and stabilizers are tight.

The safety checklist above is not all-inclusive. Read, understand and follow all instructions and warnings within the tow dolly and towed vehicle owner's manuals.

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