

StowMaster™
ALL TERRAIN™
non-binding tow bar

U.S. patent numbers 6,957,824 and 6,168,182

Owner's Manual

Entire contents of manual must be read by owner

FREE!
NEW EXTENDED
WARRANTY
AVAILABLE -
30-DAY DEADLINE



Towing and Suspension Solutions

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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 bar, and to provide you with important safety information.

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

Your tow bar has a one-year limited warranty. To qualify for your warranty, fill out and return the enclosed product registration card within 30 days of purchase. **As a bonus, we'll extend your warranty to a total of two years at no additional cost, if we receive the product registration card within 30 days of purchase.**

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

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Save this manual

Save this manual for future reference. It contains important sections relative to safety, use, maintenance, parts replacement and other information. Therefore, make sure this manual is always with you when you're towing.

You may download or print a copy of the most current manual at www.roadmasterinc.com (under 'Tech Support').

WARNING

Read all instructions before installing the tow bar, or before towing a vehicle. Failure to understand how to properly install or operate the tow bar could result in property damage, personal injury or even death.



Your tow bar serial number...

...is on a metal label on the passenger's side tow bar arm. You will need this number when you fill out your product registration card.

Write down the serial number in the space below and retain for future reference.

Serial number: _____

All illustrations and specifications contained herein are based on the latest information available at the time of publication. ROADMASTER, Inc. reserves the right to make changes, at any time, without notice, in material, specifications and models, or to discontinue models.

IMPORTANT NOTICE!

Safety Definitions

This manual contains information that is very important to know and understand. This information is provided for **safety** and to **prevent equipment problems**. To help recognize this information, observe the following symbols:

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.

SAFE TOWING PRACTICES

To ensure your safety and that of your passengers, as well as the safety of others on the road, follow these safe towing practices at all times.

CAUTION

Do not back up the motorhome with the towed vehicle attached.

Backing up with the towed vehicle attached will cause the towed vehicle to “jackknife,” which will damage the tow bar, the mounting bracket, the receiver hitch, the towed vehicle’s front end, and/or the rear of the motorhome. Backing up with the towed vehicle attached is the primary cause of tow bar damage and will void the warranty.

- **Be sure the vehicle can be towed** before taking it on the road. Some vehicles must be equipped with a transmission lube pump, an axle disconnect, driveline disconnect or free-wheeling hubs before they can be towed. Failure to properly equip the vehicle will cause severe damage to the transmission.

Check the vehicle manufacturer’s instructions for the proper procedure(s) to prepare the vehicle for towing.

- **The tow bar must be approximately level with the ball hitch on the motorhome.** Towing with the tow bar at an upward or downward slope puts undue strain on the tow bar bracket and the ball mount. Driving over sharp inclines or declines could force the coupler off the hitch ball.

If it is necessary to raise or lower the hitch, two optional accessories are available: an adjustable ball hitch, part number 880; and roller hitch drops, in 4" through 10" drops (part numbers 051-4 through 051-10).

- **The steering wheel must be unlocked and free to turn when towing.** Failure to do so can cause severe tire and equipment damage. Check the manufacturer’s instructions for the proper towing procedure(s).

- **Always use safety cables when towing.** The safety cables must connect the towed vehicle to the towing vehicle, frame to frame.

Additionally, check to ensure that the safety cables are the proper length. Refer to the sections titled “How to use safety cables” and “Proper installation of safety cables” for further information.

The weight capacity of the safety cables must meet or exceed the towed weight, or the safety cables will fail.

- The StowMaster All Terrain tow bar is rated at a maximum of 6,000 pounds carrying capacity; therefore **the weight of the towed vehicle and all its contents cannot exceed 6,000 pounds.** In addition, the hitch ball, the receiver hitch, the safety cables and all supplementary towing equipment must be rated at no less than the weight of the towed vehicle and all its contents.

- **The tow bar must be secured with lynch pins (or optional padlocks) before towing.** Unless the tow bar is secured to both vehicles with all appropriate pins (or padlocks), the towed vehicle will detach.

- **Inspect the system before towing** – check the

mounts, brackets, bolts, fasteners, wiring, the safety cables and all other system components each time before towing. Check the coupler ball clamp and ball socket (Figure 1) for fractures or cracks in the steel.

If any component is damaged, replace it before towing.

Check the nut at the bottom of the threaded hitch ball shank (Figure 2)

to ensure that it is tightened to the manufacturer’s torque specifications. Inspect the nut and the bottom of the threaded hitch ball shank (Figure 2) for signs of wear caused when the motorhome ‘bottoms out.’ If the nut is damaged, replace it; if the threaded shank is damaged, replace the hitch ball and shank.

Additionally, check the tow bar bracket every 3,000 miles – inspect for any fractures or cracks in the steel, or any visible damage. Do not tow if the tow bar bracket is damaged.

Additionally, check the torque on all bolts. (To find the torque ratings, refer to the installation instructions for the mounting bracket and the tow bar.)

- **Never tow a vehicle with one of a comparable weight.** The towed vehicle’s weight should never exceed 40 percent of the towing vehicle’s weight.

Towing a vehicle with one of similar weight will cause the towed vehicle to override the towing vehicle, resulting in “jackknifing,” “leapfrogging” or “fishtailing.” Serious damage to both vehicles, as well as the towing system, could result.

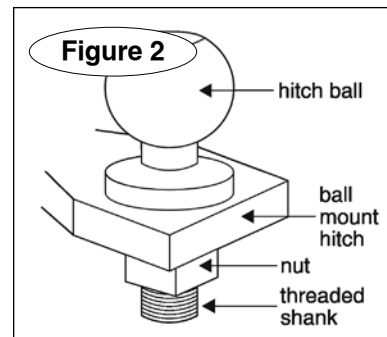
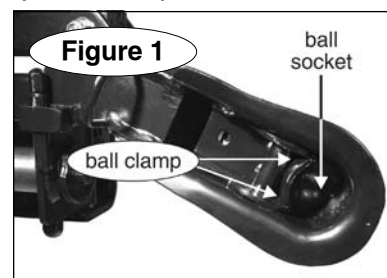
- **Always stand to one side and as close to the motorhome as possible when releasing the tow bar locking mechanisms.** Never stand between the adjustable arms, or put any part of your body between the adjustable arms, when releasing the tow bar – always stand to one side.

Because the towed vehicle may jerk forward when the locking mechanisms are released, face the towed vehicle and stand as close to the back of the motorhome as possible before releasing the locking mechanisms, to keep from being hit by the towed vehicle.

- **Check the motorhome turning radius.** Some motorhome chassis have such a tight turning radius that you can damage your motorhome, towed vehicle or tow bar while turning too sharply. Before getting on the road with your towed vehicle, you should test your turning radius in an empty parking lot.

With the towed vehicle attached, have someone watch

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Safe towing practices

continued from preceding page

as you slowly turn sharply to see whether you have this potential problem. If you do, note how far you can safely turn the motorhome's steering wheel, and be sure not to turn it further when towing. Damage that results from turning too sharply is not covered by warranty.

- **Never use the tow bar to tow more than one vehicle.**

In some states it is legal to have one vehicle towing more than just one vehicle (for example, a truck which is towing a trailer which is towing a boat). However, when using a tow bar, never tow more than one vehicle, or non-warranty damage or injury may result.

- **The hitch ball must be two inches in diameter.** If the hitch ball diameter is smaller than two inches, the coupler

may disengage during towing.

Also, the diameter of the threaded hitch ball shank (Figure 2) must match the diameter of the hole in the ball mount hitch. If the threaded shank is too small, towing vibrations could cause the hitch ball to unthread and separate from the ball mount hitch.

- **Keep the tow bar clean and well-lubricated.** As is the case with most precision equipment, frequent cleaning and care results in better performance and longevity.

Refer to the section titled "Care and cleaning" for further information.

WARNING

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

INSTALLER'S SAFETY CHECKLIST

The following safety checklist is provided to the installer with the instructions for installing the StowMaster All Terrain tow bar. It is repeated here for your information.

As a precaution, verify that all safety requirements have been followed before towing the vehicle.

- **The installer must be sure that the vehicle is suitable or adaptable for towing.** Some vehicles must be equipped with a transmission lube pump, an axle disconnect, driveline disconnect or free-wheeling hubs before they can be towed. Failure to properly equip the vehicle will cause severe damage to the transmission.

Check the manufacturer's instructions for the proper procedure(s) to prepare the vehicle for towing.

- **Read the instructions thoroughly before installing the 'quick-disconnect' ('QD') system and its components.** The tow bar will be attached to the QD system. If the QD system is not properly aligned, centered and positioned on the towed vehicle, the tow bar will not be centered on the towed vehicle, which may cause excessive tire wear and other consequential, non-warranty damage.

- **Stress to the owner that the tow bar must be approximately level with the ball hitch on the motorhome.** Towing with the tow bar at an upward or downward slope puts undue strain on the tow bar mounting bracket and the ball mount. Driving over sharp inclines or declines could force the coupler off the hitch ball.

- **Show the owner how to properly operate the tow bar.** Familiarize yourself with the features of the tow bar. Demonstrate them to the owner, and ask the owner to connect and disconnect the tow bar and other components of the towing system, until the owner is comfortable with its operation.

- **Advise the owner to always use safety cables when towing.** The safety cables must connect the towed vehicle to the towing vehicle, frame to frame.

The weight capacity of the safety cables must meet or exceed the towed weight, or the safety cables will fail.

- The StowMaster All Terrain tow bar is rated at a maxi-

imum of 6,000 pounds carrying capacity; therefore **the weight of the towed vehicle and all its contents cannot exceed 6,000 pounds.** In addition, the hitch ball, the receiver hitch, the safety cables and all supplementary towing equipment must be rated at no less than the weight of the towed vehicle and all its contents.

- **Caution the owner to use a hitch ball with a two-inch diameter.** If the hitch ball diameter is smaller than two inches, the coupler may disengage during towing.

In addition, the diameter of the threaded hitch ball shank must match the diameter of the hole size in the ball mount hitch. If the threaded hitch ball shank is too small, towing vibrations could cause the hitch ball to unthread and separate from the ball mount hitch.

- **The tow bar must be attached to a bracket which is bolted to the towed vehicle's frame or unibody.** In order to be towed, virtually all vehicles require a tow bar mounting bracket that is connected to the frame, unibody or chassis and extends beyond the bumper.

- **The tow bar must be mounted upright, with the coupler facing out.** See Figure 3. Never mount the tow bar with the coupler facing any other way – the tow bar arms and other components will be severely damaged during towing.

- **Caution the owner to secure the tow bar with lynch pins (or optional padlocks) before towing.** Unless the tow bar is secured to both vehicles with all appropriate pins (or padlocks), the towed vehicle will detach.

- **The installer must NOT use the tow bar as a ground for welding.** Connecting a ground to the 'A-frame' of the tow bar will cause current to flow through the locking

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Installer's safety checklist

continued from preceding page

spring, which will detemper the spring and destroy the locking mechanism.

• **Under no circumstances should the tow bar be welded to the vehicle, nor should any of the pre-punched**

mounting holes be altered. Any welding or altering of the tow bar will void the owner's warranty.



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

INSTALLING THE 'QUICK-DISCONNECT' SYSTEM

This ROADMASTER tow bar is equipped with an exclusive "quick-disconnect" (or, "QD") system. Before connecting the tow bar to the vehicle, first install the components of the QD system to the mounting bracket.

1. First, attach the quick-disconnects ("QDs," parts "A" and "B" in Figure 4) to the tow bar mounting brackets. Attach the QDs so that the vertical pin on each is pointing up, as shown in Figure 4.

Attach part "A" on the passenger side, and part "B" on the driver side. Use the supplied 1/2" x 1 1/2" bolts, the two safety plates (parts "C"), and the flat washers, lock washers and nuts, as shown in Figure 4.

Note that both QDs have an extra hole – "D" in Figure 4 – for safety cable attachment. Mount parts "A" and "B" so that the "D" holes are to the outside.

Do not tighten any of the bolts – leave them loose for now – they will be tightened later.



Use all mounting hardware and both safety plates. If all supplied materials are not used, the quick-discon-

nects or other components may vibrate loose, which may cause property damage, personal injury or even death.

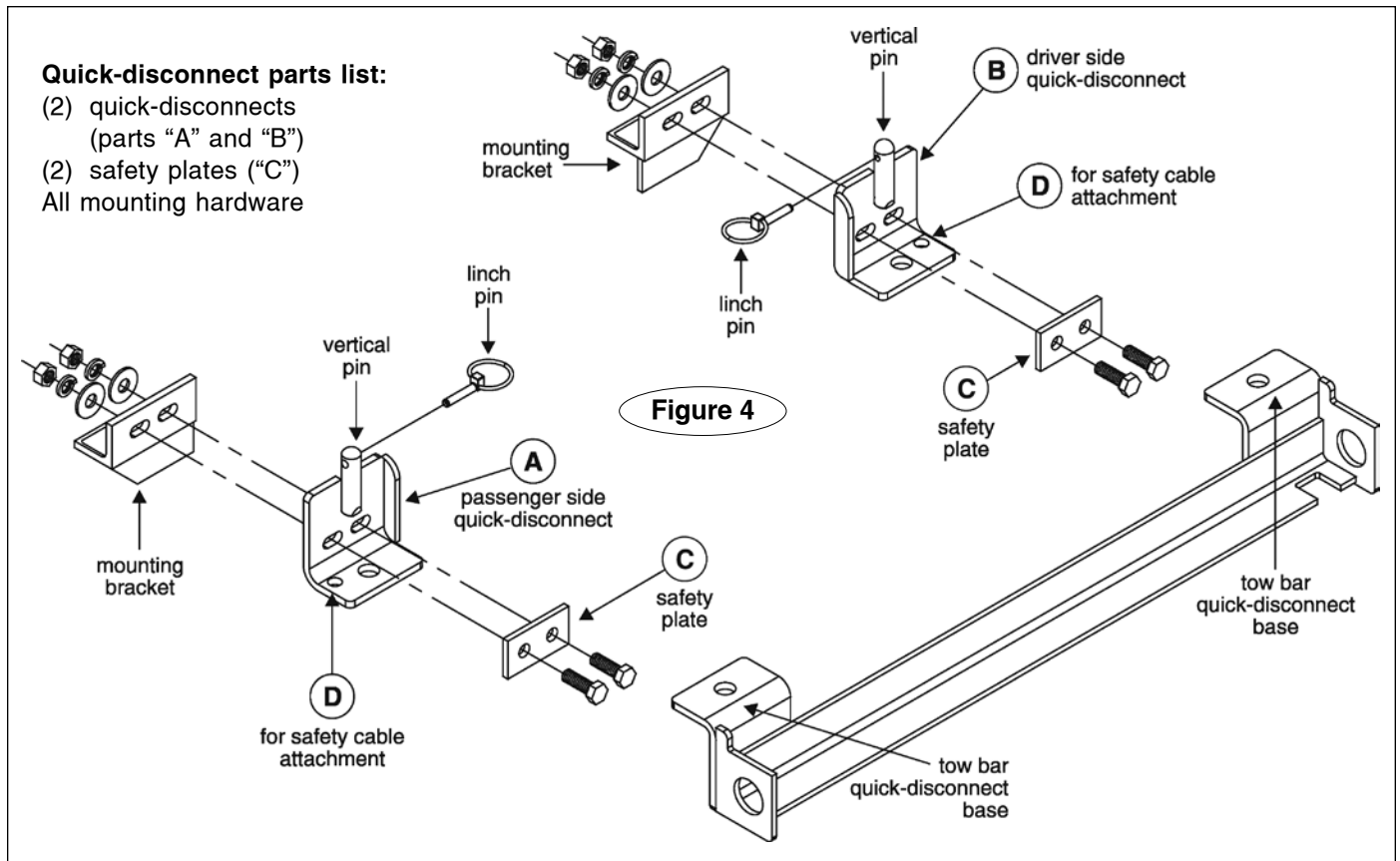
2. Now, test-fit the crossbar – lower the crossbar (Figure 5) over the quick-disconnects. The vertical pins at the top of both QDs should fit through the top holes at the ends of the crossbar (Figure 5), and the vertical pins at the bottom of the crossbar should fit through the lower holes on the quick-disconnects (Figure 5).

3. Both quick-disconnects must be positioned so that the crossbar is centered to the front of the vehicle – measure the distance between the side of one QD and the side of the mounting bracket it is attached to. Then, make certain there is an equal distance between the other QD and the other mounting bracket.

CAUTION

The quick-disconnects must be centered on the mounting brackets. If they are attached too far to the left or the right, the tow bar will not be centered on

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Installing the 'quick-disconnect' system

continued from preceding page

the towed vehicle, which will cause excessive tire wear and other consequential, non-warranty damage.

4. Once the crossbar slides on and off easily, torque the four bolts to 75 ft./lbs.

Again, test-fit the crossbar over the QDs, to verify that the crossbar slides on and off easily. If it does not, adjust the QDs again.

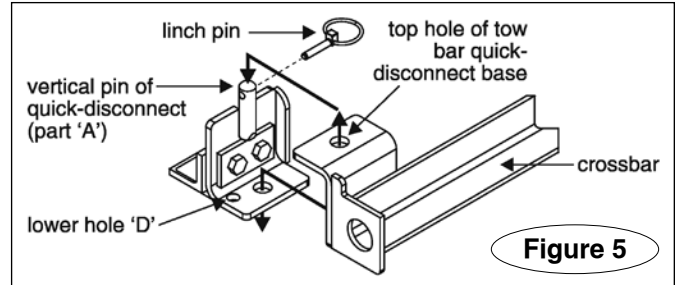
5. Both lynch pins must be inserted through the upper holes in the vertical pins in parts "A" and "B," as shown in Figure 5.

Both lynch pins must be locked. The rings (Figure 6) are spring-loaded – they must be snapped over the pins, as shown in Figure 6, with the curved side of the lynch pins touching the rings, in order to keep the QD bases secure.

⚠ WARNING

Towing vibrations will force the lynch pins out unless they are properly locked in place over the vertical pins on both quick-disconnects. Refer to Figure 6.

Failure to properly attach and lock both lynch pins will result in the loss of the towed vehicle, which may cause property damage, personal injury or even death.



CONNECTING THE TOW BAR

⚠ CAUTION

Use caution when handling the tow bar – if your hands, fingers or any part of your body are caught between moving components, they can be pinched, cut or otherwise injured.

1. First, attach the tow bar to the driver side and passenger side quick-disconnects ("QDs") – lower the tow bar over both QDs so that the vertical pins (Figure 5) extend upward through the top holes of the QD bases (Figure 5).

At the same time, make certain that the lower vertical pins of each QD base slide through the lower holes on

both QDs (Figure 5).

2. The two lynch pins (Figures 5 and 6) must be inserted through the upper holes in the vertical pins in both QDs.

Both lynch pins must be locked. The rings (Figure 6) are spring-loaded – they must be snapped over the pin, as shown in Figure 6, with the curved side of the lynch pins touching the rings, in order to keep the QD bases secure.

⚠ WARNING

Towing vibrations will force the lynch pins out unless they are properly locked in place over the vertical pins on both quick-disconnects. Refer to Figure 6.

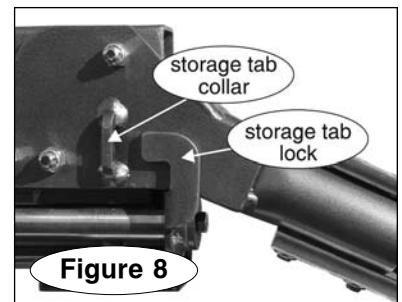
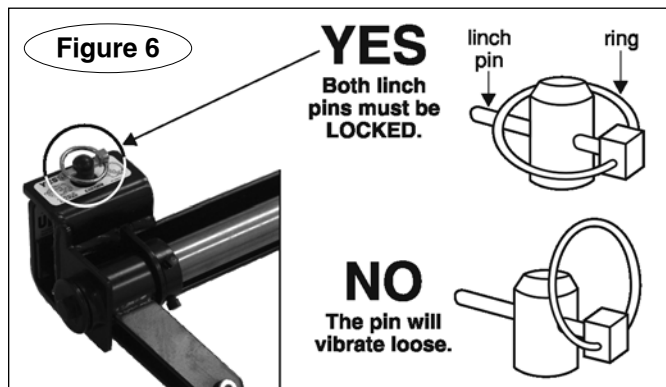
Failure to properly attach and lock both lynch pins will result in the loss of the towed vehicle, which may cause property damage, personal injury or even death.

3. Drive the towed vehicle within three or three-and-a-half feet of the motorhome hitch receiver. The vehicle does not have to be perfectly centered to the hitch receiver, just close.

Then, put the vehicle in gear (park), set the emergency brake and chock one of the wheels.

4. With one hand, press down on the passenger side release handle (Figure 7). With your other hand, hold the coupler and slide it toward the passenger side to disconnect the tow bar from the storage tab collar (Figure 8).

5. Swing the tow bar up, in a counter-clockwise direction (Figure 9), until the bar is vertical. Then slide the driver's side arm to the extreme right side of the



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Connecting the tow bar

continued from preceding page

stainless steel slider bar (Figure 10).

CAUTION

Never release the tow bar arms when they are in the vertical position. The arms can fall and cause severe personal injury.

6. Lower the tow bar to position the coupler over the hitch ball. Slide the tow bar arms forward or backward, as needed, to maneuver the coupler over the hitch ball. If one of the tow bar arms does not slide forward or backward, lift the release handle (Figure 7) to unlock it.

7. With the coupler over the hitch ball, raise the coupler locking lever (Figure 11) until the tab 'ear' (Figure 11) just clears the tab hole (Figure 11), and pull straight back toward the towed vehicle.

Now, lower the coupler over the hitch ball so that it completely covers it, and slide the coupler locking lever (Figure 11) forward until it locks on the ball.

Note: an optional coupler lock (part number 305) is available for added protection against accidental coupler disconnect.

Be certain the coupler is properly locked onto the hitch ball. The tab ear will slide back into the tab hole when the mechanism is fully engaged.

WARNING

If the coupler is not properly locked onto the hitch ball, as described above, it will release during towing. The tow bar will separate from the motorhome, which may cause property damage, personal injury or even death.

8. Attach the safety cables (See "How to use safety cables" and "Proper installation of safety cables.") and plug in the electrical wiring cord, according to the supplier's instructions.

Before towing the vehicle, make sure the steering is unlocked, the transmission is in the proper setting and the emergency brake is released. Remove the wheel chock.

Check the manufacturer's specifications, the owner's manual, or talk to the installer for the proper towing procedures or requirement(s) for the vehicle to be towed.

WARNING

Do not tow the vehicle until the tow bar is properly attached with all pins or padlocks. Unless the tow bar is secured to both vehicles with all appropriate pins or padlocks, the vehicle will detach, which may cause property damage, personal injury or even death.

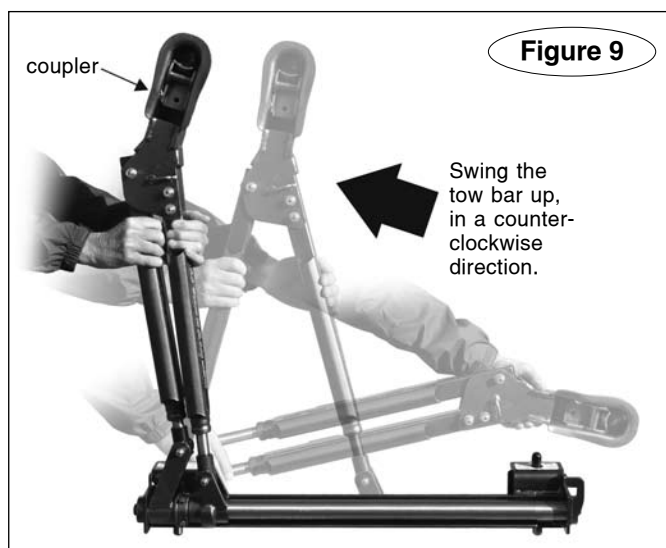
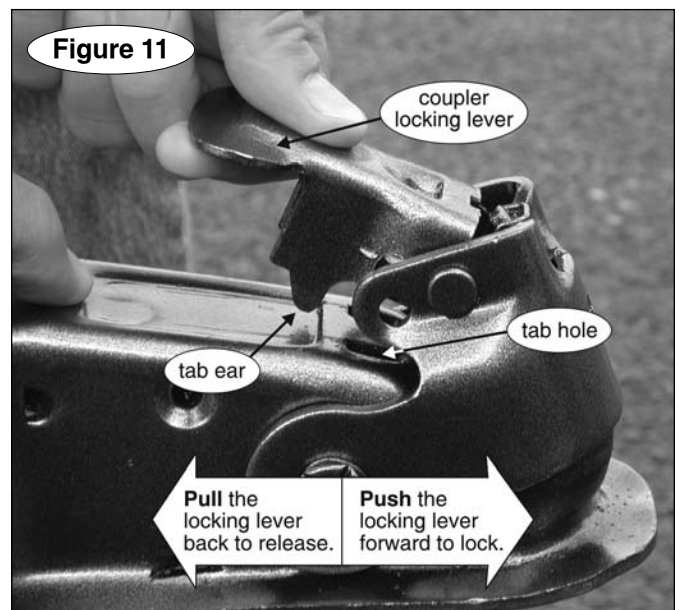
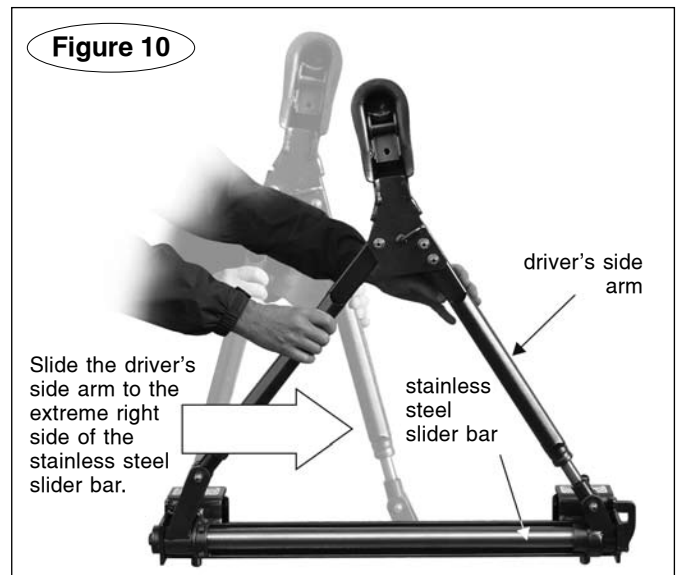
When you drive away, steer briefly to the left and then to the right, to extend, self-center and lock the tow bar.

Always stop at this time. Check the tow bar to ensure that both arms are locked before assuming highway speed. Additionally, check the other components of your towing system, to ensure that they are fully engaged.

WARNING

Both tow bar arms must be locked before towing. If

continued on next page



Connecting the tow bar

continued from preceding page

they are not, the momentum of the towed vehicle will apply excessive force to the tow bar arms and other components of the towing system, which may cause the towing system to fail, resulting in property damage, personal injury or even death.



WARNING

Do not tow a vehicle using tow bar mounting brack-

ets, safety cables, or a hitch receiver rated less than the actual weight of the towed vehicle.

If the brackets, safety cables, hitch receiver or any supplementary towing equipment is not rated at the weight of the towed vehicle and all its contents, it may fail during towing, causing property damage, personal injury or even death.

DISCONNECTING THE TOW BAR

1. Disconnecting the tow bar is essentially the reverse of connecting it. First, always try to park on level ground, with the towed vehicle in line with the motorhome. This will eliminate most of the tension between the vehicles, allowing for an easier disconnect.

2. Disconnect the electrical wiring harness, safety cables, and any other towing system accessories.

3. Put the towed vehicle in gear (park), set the emergency brake and chock one of the wheels.



WARNING

Always put the towed vehicle in gear (park), set the emergency brake and chock one of the wheels before lifting the coupler off the hitch ball.

Failure to do so may result in a 'runaway' vehicle or may crush you between the towed vehicle and the motorhome, causing property damage, personal injury or even death.

4. Pull back on the coupler locking lever (Figure 11) to release the coupler, and lift the coupler off the ball.

Note: if it is difficult to lift the coupler, the towed vehicle's weight may be pressing against it. Release the pressure by pushing down on one or both of the release handles (Figure 7) to unlock them.

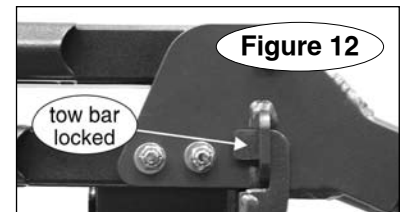
5. Lift the coupler up, until the tow bar is completely

vertical. Lift up on the release handle on the driver's side arm, and allow the arm to compress.

Slide the driver's side arm to the extreme left side of the stainless steel slider bar. Lower the coupler down until the coupler rests on the driver's side.

6. To secure the tow bar on the towed vehicle, lift the release handle (Figure 7) on the passenger side arm and

move the coupler to the right, until the storage tab lock (Figure 8) slides through the storage tab collar (Figure 8), as shown in Figure 12.



7. To remove the tow bar, remove the two lynch pins (Figures 5 and 6) at the top of both quick-disconnects, and lift the tow bar up and away.

(ROADMASTER recommends replacing at least one lynch pin with a padlock – part number 301 or 302 – to prevent accidental release or theft.)



CAUTION

Unless the storage tab lock is in place (as shown in Figure 12) before the tow bar is removed, the base of the tow bar may fall, which may cause severe personal injury.

HOW TO USE SAFETY CABLES

Safety cables are an integral part of your towing system. They are a secondary safety device, required by law in many states. This section, and the following section, will acquaint you with how to use them properly.

- The safety cables must be rated at 6,000 pounds weight capacity (the maximum capacity of the StowMaster All Terrain tow bar). The weight of the towed vehicle and all its contents cannot exceed 6,000 pounds.

- The safety cables must connect the towing vehicle to the towed vehicle, frame to frame.

- Pull the safety cables so that all the slack is at the motorhome. **Make sure there is enough slack in the cables at the motorhome to allow for sharp turns** – if there is not enough slack, the towing system will be severely damaged when the motorhome turns.

- The safety cables must be the correct length...

- Make sure the cables are not too short – if you use a receiver hitch extension or other equipment that extends the distance between the towed vehicle and the motorhome, the standard cables may be too short. If the cables are too short, the towing system will be severely damaged when the motorhome turns a sharp corner.

(Safety cable extensions in a variety of lengths are available from ROADMASTER.)

- Make sure the cables are not too long – the cables should not hang down to the extent they may catch on obstructions, or drag on the ground. This much slack could cause damage to the towing system, the towed vehicle or the motorhome. If the cables are too long, wrap the excess cable around the tow bar to take up the slack. **Make sure there is enough slack in the cables at the motor-**

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How to use safety cables

continued from preceding page

motorhome to allow for sharp turns.

Damage caused by using safety cables of an incorrect length is not covered under warranty.

- Always cross the cables under the hitch receiver, as shown in Figure 13 under “Proper installation of safety cables.” In the unlikely event the tow bar separates from the motorhome, crossing the cables will help prevent the tow bar from dragging on the ground, which can cause

the tow bar to “pole vault” the towed vehicle.

- Some ROADMASTER tow bar mounting kits with removable arms use two safety cables on each side. If two sets of safety cables are required, both must be used. This is required by law. Refer to “Proper installation of safety cables” for further information.

⚠ WARNING

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

PROPER INSTALLATION OF SAFETY CABLES

Some ROADMASTER tow bar mounting brackets with removable arms, such as the ones in Figures 13 and 14, use both a long safety cable and a short safety cable on each side.

Each **long safety cable** runs from the towing vehicle to a **quick link** attaching it to one of the quick-disconnects. This quick link is also an attachment point for one of the **short safety cables**; another quick link attaches the short safety cable to the mounting bracket.

Unscrew the nuts on each quick link to connect the safety cable loops. Finger-tighten the nuts firmly, until the loop is completely closed, to secure the attachment.

Do not substitute carabiners or other devices for the quick links – the quick links are designed to hold the weight of a towed vehicle; carabiners or other devices are not.

Only ROADMASTER bracket kits with removable arms have these short safety cables (with the exception of MX brackets). Other bracket kits are bolted directly to the frame of the towed vehicle and do not require short safety cables.

If your ROADMASTER bracket kit contains short safety cables, refer to the installation instructions for complete information.

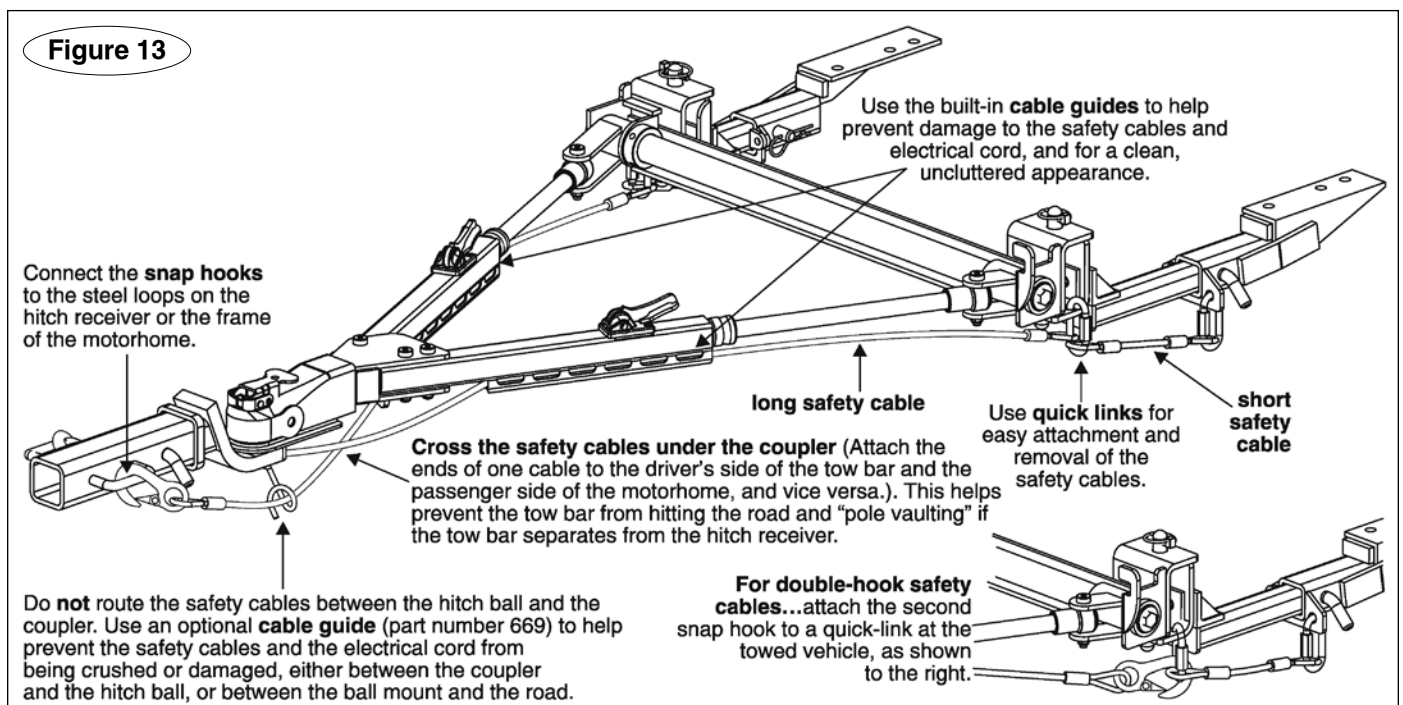
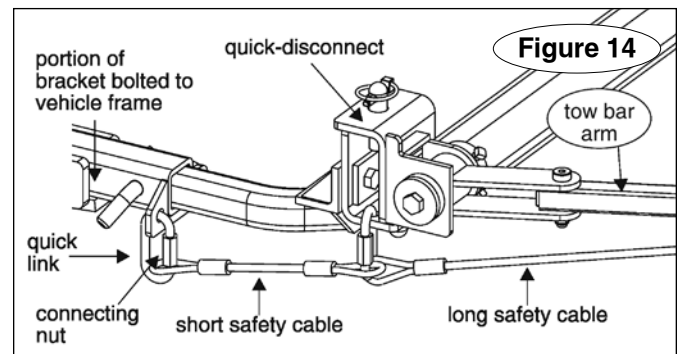
⚠ WARNING

The safety cables must be carefully routed so that they cannot become pinched, frayed, scraped or otherwise damaged, and so they will not drag when going over dips or low spots.

Do not use the cables if they show any signs of wear or damage – immediately discontinue towing and replace the cables.

Failure to follow these instructions will result in

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Proper installation of safety cables

continued from preceding page

cable failure, which may cause property damage, personal injury or even death.

⚠ WARNING

If the quick links are not completely tightened, with the loop closed, the safety cables may detach. In the event of a towing system failure, the towed vehicle will detach, which may cause property damage, per-

sonal injury or even death.

⚠ WARNING

If your towing system requires two sets of safety cables, always use both the long and the short safety cables. Connect them as shown in Figures 13 and 14. Otherwise, in the event of a towing system failure, the towed vehicle will detach, which may cause property damage, personal injury or even death.

CARE AND CLEANING

As is the case with most precision equipment, frequent cleaning and care results in better performance and longevity. Use the following guidelines to keep your tow bar clean and well-lubricated.

Always clean the tow bar before lubricating. Use a water-soluble cleaner such as Voom RV (part number 9911) – it does an exceptional job of breaking down road film, dirt and grease.

CAUTION

Do not use petroleum-based products to clean or lubricate the tow bar. Petroleum will attract dirt and dust, which will impede the operation of the sliding arms and/or other components. Certain petroleum products may also corrode non-metallic components.

Damage caused by using a petroleum-based product to clean or lubricate the tow bar is not covered under warranty.

Clean all moving components, paying special attention to the inner arms and the slider bar – with both tow bar arms lowered and extended, spray a liberal amount of cleaner on the inner arms and the end of each outer arm (Figure 15).

Raise the tow bar, until it is horizontal to the ground. Raise each release handle up, and retract and extend each tow bar arm several times. As the arm closes, the

cleaner will lift dirt and debris from the interior of the outer arm. Wipe the dirt and debris off and repeat, if necessary, until each arm is clean.

Next, with both tow bar arms horizontal to the ground, spray cleaner across the stainless steel slider bar (Figure 15) and into the collar on the driver's side arm. Then slide the driver's side arm back and forth, across the slider bar. The cleaner will lift dirt and debris off the slider bar and the collar. Wipe the dirt and debris off and repeat, if necessary, until the slider bar and collar are clean.

Clean the interior of the coupler, and wipe away the old grease, dirt and debris.

After cleaning the tow bar, wipe any remaining cleaner away.

Now that you have a clean, dry tow bar, use a dry silicone aerosol, such as LubeMaster (part number 747), to lubricate the tow bar – spray a liberal amount of silicone into all moving components, including the driver's side collar.

Flex the tow bar components to work the lubricant in.

To lubricate the locking mechanisms, first clean the moving parts with a water-soluble cleaner, wipe away the excess until the mechanisms are clean and dry, then spray silicone lubricant inside (Figure 16). After the lubricant has dried, move the release handles up and down to work the lubricant in.

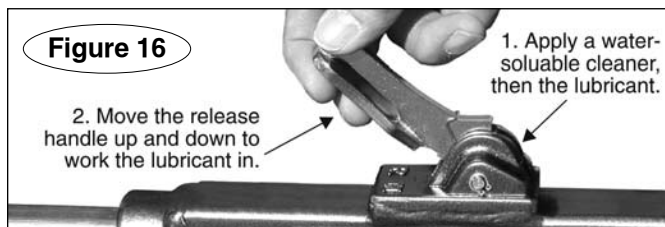
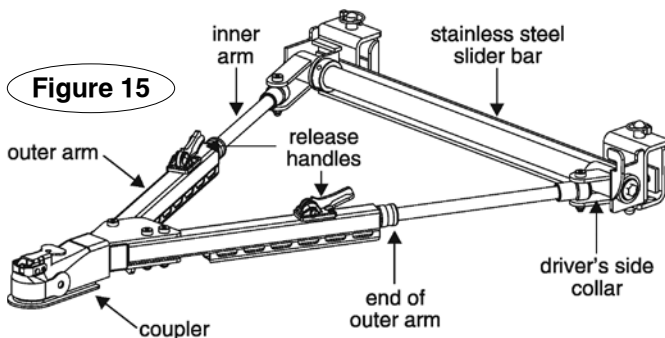
CAUTION

Always clean the locking mechanisms, as described above, before lubricating them. Silicone coats and covers in a thin layer. If it is not removed, it will reduce the clearance for the locking mechanisms, preventing proper operation.

Lubricate the coupler ball socket and ball clamp (Figure 1) with wheel bearing grease; lubricate all other moving components of the coupler with SAE 30 weight oil. (See "Atwood coupler information.")

Extended storage – before storing your tow bar for an extended period of time, clean and lubricate it as directed above. Store the tow bar in its cover (optional, part number 052-2), to protect it from the elements.

Note: to remove scratches and restore luster on the stainless steel arms, we suggest you use extra fine (0000) steel wool, 3M "Scotch Brite" (fine pad) or a similar product.



ATWOOD COUPLER INFORMATION

Following are the operation, latching and maintenance instructions from the coupler manufacturer, repeated here for your information. (References to trailer use do not apply to the StowMaster All Terrain tow bar.)

Operation

Warning – Personal Injury

- Safe towing practice requires the proper use of safety chains used in accordance with instructions provided by the trailer manufacturer.
- Check that the ball has been completely inserted into the coupler ball socket and the ball clamp (inside the coupler) is closed around the underside of the tow ball and the handle is in the closed position.
- The loaded weight of the trailer must never exceed the least capacity marked on the coupler, tow ball, hitch, trailer or vehicle.
- Check coupler, hitch and ball for damage or wear before each use. Assure all parts operate freely. Replace any component if worn or damaged.
- Failure to follow warnings and instructions could result in separation of tow vehicle and trailer which can result in death, personal injury and property damage.

Warning – Personal Injury

- For proper tow vehicle and trailer hookup, towing performance and to prevent damage to hitch and trailer coupling, the tow vehicle and trailer are to be level with respect to flat ground after hitching up. If your trailer is not level, equipment is available to raise or lower the hitch ball.

Caution – Product Damage

- Use caution when backing or towing vehicle for hook-up, damage to coupler may result.

- Avoid sharp turns when towing or backing. Jack-knifing could bend coupler or create extreme stress or fracture.

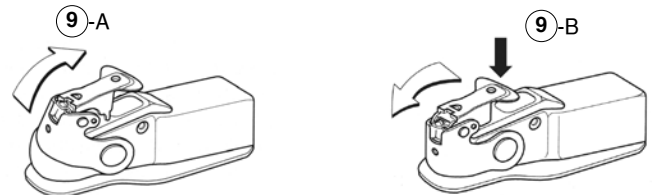
Latching Instructions – Yoke Style Couplers

Warning – Personal Injury

- Always open latch handle before inserting ball.

1. To open, lift the latch handle and pull backward, raising the yoke and resting it on the nose of the coupler (Fig 9-A).
2. Place coupler on ball of same diameter as coupler and of same or greater capacity.
3. When ball is completely nested in ball socket, push latch handle forward until yoke drops over nose of coupler and the latch handle locking tips freely enter slots on top of coupler (Fig 9-B).
4. Extend jack to ground and lift car/trailer combination 2" - 4" to insure coupler is securely attached to tow ball. Retract jack completely before towing.
5. Insert padlock or bolt through lock hole in yoke for theft protection.

Note: these couplers are not adjustable for ball size.



Maintenance

1. Lubricate ball socket and ball clamp with wheel bearing grease. Clean and lubricate monthly.
2. Check towing hitch, ball and coupler for signs of wear before each trip. Replace coupler if damaged or worn.
3. Lubricate moving or sliding parts monthly with SAE 30 weight oil.

LIMITED WARRANTY

1. WARRANTY

1a. WARRANTY OF CONFORMITY AT TIME OF SALE

ROADMASTER, Inc. warrants that at the time of sale of this product it will be free from defects in material and manufacture and will conform to ROADMASTER'S specifications for the product.

1b. CONDITIONAL ONE-YEAR WARRANTY

In addition to the preceding time-of-sale warranty, if the product registration card is completely and accurately filled out and mailed to ROADMASTER within thirty (30) days of purchase, ROADMASTER will provide an additional warranty that for a period of one year after sale the product will remain in good working order, PROVIDED THAT the product is installed and maintained in accordance with ROADMASTER'S instructions and is not subjected to: (a) alteration or unauthorized repairs or repairs by anyone other than ROADMASTER or a ROADMASTER-authorized service center, (b) misuse, abuse, commercial use, or improper maintenance, (c) Acts of God (including without limitation hurricanes, tornadoes, floods, or other severe weather or natural phenomena), (d) failures due to products not supplied by ROADMASTER, or (e) other treatments, uses, or installations for which the product was not intended. This warranty extends only to the first retail purchaser-consumer of the product and is not transferable.

EXTENDED WARRANTY PERIOD: If ROADMASTER receives the product registration card, completely and accurately filled out, within thirty (30) days of purchase, ROADMASTER will enlarge the one-year warranty period in the preceding paragraph to a period of two years.

2. DISCLAIMER OF OTHER WARRANTIES

The preceding warranties are the exclusive and sole express warranties given by ROADMASTER. They supersede any prior, contrary or additional representations, whether oral or written. No agent, representative, dealer or employee has the authority to alter or increase the obligations or limitations of this warranty. Any implied warranties, including the WARRANTY OF MERCHANTABILITY and any WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, are limited in duration to thirty days or the term of the applicable express warranty provided above, whichever is longer.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

3. EXCLUSIVE REMEDY FOR ANY NONCONFORMITIES

If during the applicable Warranty Period, the product does not conform to the preceding Warranties, notify ROADMASTER as provided below, and within a reasonable time ROADMASTER will provide, at its option, one of the following: (1) replacement components for any nonconforming or defective product or components or (2) the percentage of the purchase price for the nonconforming product equal to the percentage of the Warranty Period remaining when ROADMASTER is notified of the nonconformity. ROADMASTER will, at its option, (a) use new and/or reconditioned parts in performing warranty repairs and making replacement products, (b) use parts or products of original or improved design in the repair or replacement. If ROADMASTER repairs or replaces a product, its warranty continues for the remaining portion of the original War-

ranty Period or 60 days from the date of the return shipment to the customer, whichever is greater. All replaced products and all parts removed from repaired products become the property of ROADMASTER. ROADMASTER will not provide, and will not be liable for, labor, costs of removal or reinstallation of components, disposal, shipping, freight, taxes, or other incidental charges.

THESE REMEDIES ARE THE EXCLUSIVE AND SOLE REMEDIES FOR ANY BREACH OF WARRANTY.

For any breach of warranty, the Owner must telephone ROADMASTER at 1-800-869-9690 within thirty (30) days after discovering the nonconformity. Do not return any product without first calling ROADMASTER and getting a return authorization number. Returned products must include the return authorization number and a copy of the original invoice, bill or other proof of the date of purchase. The date of purchase must coincide with the original warranty registration card on file. ROADMASTER will authorize (a) shipment of the product to ROADMASTER or (b) repair or replacement at the nearest warranty service center—in both cases with shipping at your expense. Do not purchase replacement parts or pay for repair labor—you will not be reimbursed. Compliance with the requirements of this paragraph is a condition to coverage under the Warranty: if these requirements are not complied with, ROADMASTER will have no obligation to provide any remedy for any breach of warranty.

4. DISCLAIMER OF INCIDENTAL AND CONSEQUENTIAL DAMAGES

IN NO EVENT SHALL ROADMASTER BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM NONDELIVERY OR FROM THE USE, MISUSE OR INABILITY TO USE THE PRODUCT OR FROM DEFECTS IN THE PRODUCT.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.

5. APPLICABLE LAW

This Warranty will be interpreted, construed, and enforced in all respects in accordance with the laws of the State of Washington, without reference to its choice of law rules. The U.N. Convention on Contracts for the International Sale of Goods will not apply to this Warranty.

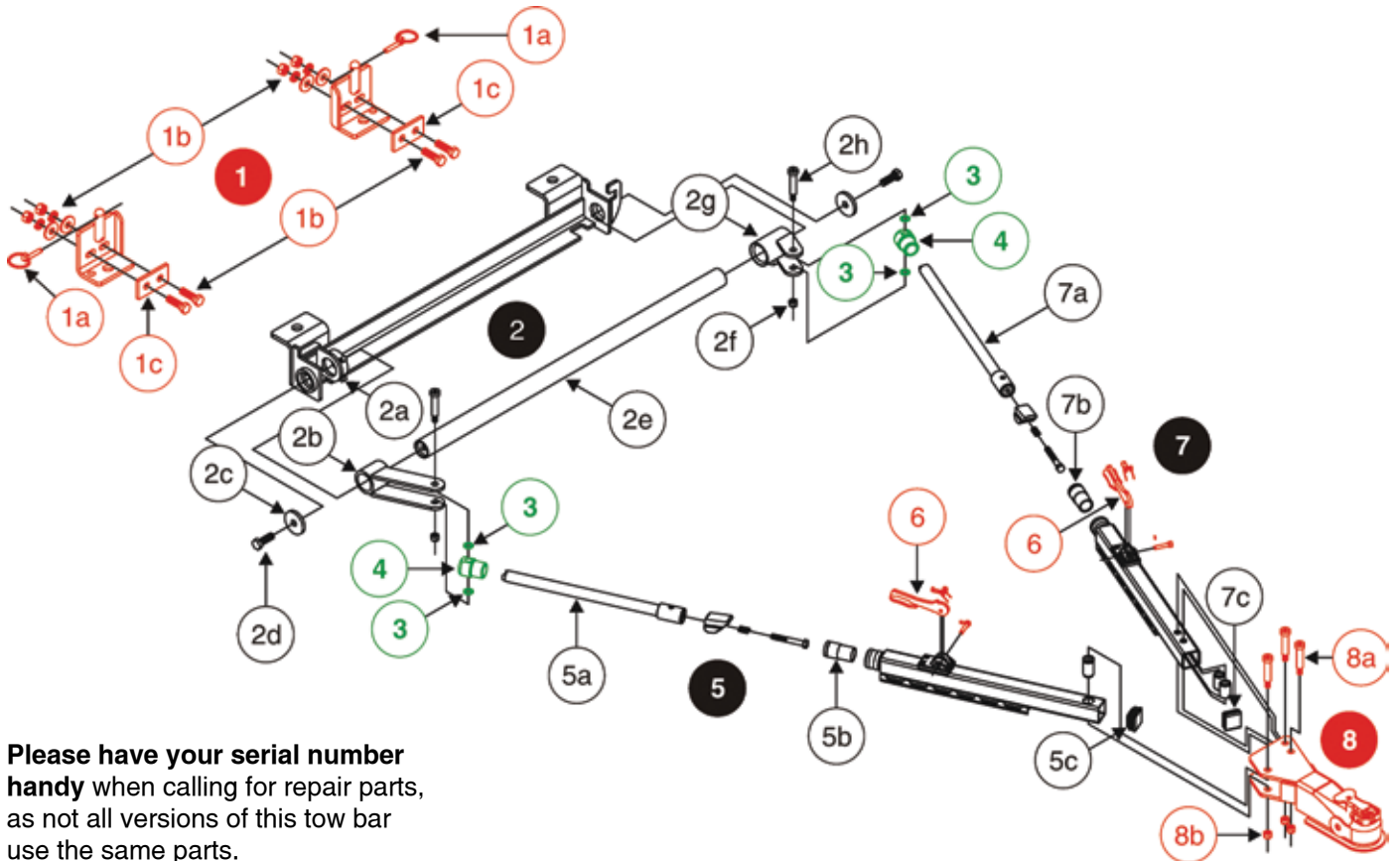
6. SEVERABILITY

If any provision of this warranty is found to be invalid or unenforceable, then the remainder shall have full force and effect, and the invalid provision shall be partially enforced to the maximum extent permitted by law to effectuate the purpose of the agreement.

7. ADDRESS FOR NOTICES TO ROADMASTER

ROADMASTER, Inc., 6110 NE 127th Ave, Vancouver, WA 98682
This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.

STOWMASTER ALL TERRAIN COMPONENTS



Please have your serial number handy when calling for repair parts, as not all versions of this tow bar use the same parts.

<i>description</i>	<i>part number</i>
1 quick-disconnects, car side set (color-coded red)	222
1a linch pins (two)	357000-00
1b quick-disconnect bolt kit	910005-00
1c quick-disconnect backing plate (one)	222-20
2 quick-disconnect/slider bar assembly (color-coded black)	910080
2a 3/8" x 1/2" square head screw (two)	350456-00
2b long tow bar collar (one)	C-000790
2c 1/2" x 1/4" x 2" plate washer (two) ...	350354-00
2d 1/2" x 1 1/2" bolt (two)	350095-10
2e base tube (one) – includes four 1/2" x 1 1/2" bolts and eight 1/2" lock washers	C-000800
2f 3/8" nylon lock nut (five)	350255-00
2g short tow bar collar (one)	C-000791
2h 1/2" x 2" socket shoulder bolt (five)	350376-00
3 1/2" nylon washer (four; color-coded green)	350356-00
4 pivot nut (two; color-coded green)	650004-80
5 inner and outer arm assembly, passenger side (color-coded black)	910021-62

<i>description</i>	<i>part number</i>
5a inner arm assembly, passenger side (one) – includes anvil, compression spring and 3/8" x 2 3/4" bolt	910021-64
5b nylatron bushing (two)	200029-70
5c 1 1/2" outer arm cap (two)	200140-00
6 All Terrain handle repair kit (two sets; color-coded red – includes two lock lever pins, two lever springs, two E-clips and two handles)	910003-05
7 inner and outer arm assembly, driver's side (color-coded black)	910021-61
7a inner arm assembly, driver's side (one) – includes anvil, compression spring and 3/8" x 2 3/4" bolt	910021-63
7b nylatron bushing (two)	200029-70
7c 1 1/2" outer arm cap (two)	200140-00
8 yoke and coupler assembly (one; color-coded red)	C-000802
8a 1/2" x 2" socket shoulder bolt (five)	350376-00
8b 3/8" nylon lock nut (five)	350255-00