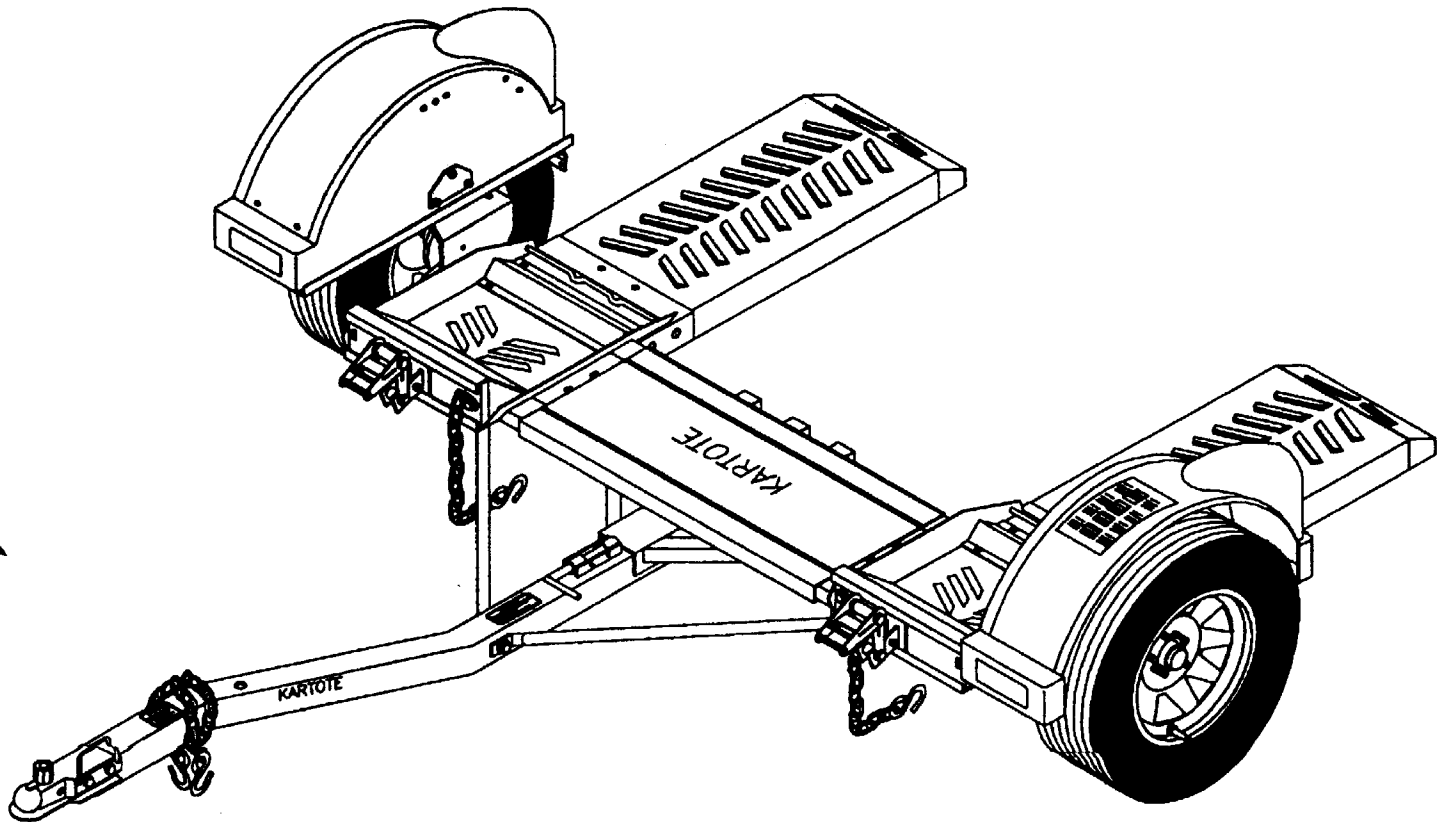

KARTOTE



OPERATOR & PARTS MANUAL

KT175I, KT200I KARTOTE



ULTRA-FAB PRODUCTS, INC.
ELKHART, INDIANA 46517

INTRODUCTION

Congratulations! You are now the owner / operator of the finest Tow Dolly available. You have joined the growing number of people who have discovered the convenience of using an Ultra-Fab KarTote.

Take time to be sure you understand the proper operation and maintenance of your KarTote. Read this operator & parts manual carefully; you'll get better results and have fewer problems.

After your KarTote has been in operation for a period of time, check for loose bolts and parts. All are tight when the KarTote leaves the factory; however, after a period of time, some items may require additional tightening.

Like any other machine, your Ultra-Fab KarTote requires proper care and intelligence in operation. Misuse and neglect will only cause unnecessary expense and dissatisfaction.

Ultra-Fab reserves the right to make changes or add improvements to its products at any time without incurring any obligation to make such changes on previously manufactured equipment.

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SAFETY


DO NOT ASSEMBLE OR OPERATE THIS UNIT UNTIL THE FOLLOWING ASSEMBLY, OPERATING AND SAFETY INSTRUCTIONS HAVE BEEN READ AND UNDERSTOOD.

SAFETY



This symbol is used to bring attention to safety precautions and instructions. When you see this symbol, be alert and pay attention to all instructions.

YOUR PERSONAL SAFETY IS INVOLVED.

The words **CAUTION**, **WARNING**, and **DANGER** following a  symbol indicate three degrees of hazard. **CAUTION** is used to remind of good safety practices, or to call attention to unsafe practices. **WARNING** is used to alert of specific potential hazards, while **DANGER** indicates the most serious specific immediate hazards.



SAFETY PRECAUTIONS

- Carefully read and understand this manual before attempting to use your KarTote.**
- Never attempt to load or unload a tow dolly which is not securely hitched to a vehicle.
- Never unhitch a loaded tow dolly.
- Do not load or unload a tow dolly until you are sure everyone is out of the immediate area.
- Do not allow anyone to ride on the tow dolly.
- Do not allow anyone, under any circumstances, to ride in a towed vehicle.
- When operating, locking, or unlocking latch, and/or securing tie-down straps and safety chains, take care to avoid bumping, cutting, scratching, or burning any part of your body on the loaded vehicle.
- Never use a tow dolly as an elevating device to aid in the repair or inspection of a vehicle.
- It is not recommended that a vehicle be towed backwards, due to a tendency for the vehicle to sway or whip, possibly resulting in a loss of vehicle control.
- Allow for increased stopping distances when towing your KarTote. Some vehicles may have insufficient braking capacity to stop the dolly and towed vehicle within normal stopping distances.
- Always keep your KarTote in good operating condition. Before use, repair or replace any malfunctioning, missing, or broken items with factory replacement parts.
- Do not back a loaded or unloaded tow dolly.



SAFETY CHECKLIST

Before loading, and periodically during a trip, the following safety checks should be made:

- LIGHTING** - Check to be sure all lights are operating properly.
- SAFETY CHAINS** - Inspect chains for wear, and make certain they are securely attached.
- TIE-DOWN STRAPS** - Never use worn, altered, or frayed tie-down straps to secure a vehicle to a tow dolly. Replace any defective straps with correctly sized factory replacement straps. Page 6
- TRAILER FRAME** - Make a thorough visual inspection of the KarTote, check for loose or missing bolts, and damaged parts. Replace damaged parts with factory replacement parts.
- TIRES** - Visually inspect tires for wear and check inflation pressure. Refer to page 8 for the correct inflation pressures for your KarTote.
- COUPLER & BALL** - When attaching the coupler to the ball, make sure the ball is completely engaged in the coupler ball socket and securely locked in place. To lock the coupler to the ball hitch, depress the locking lever and loosen handwheel, counter-clockwise, until the coupler slips over the ball. Turn the handwheel clockwise until tight and release the lock lever. Since the coupler on your KarTote is multifit, a 1 7/8", 2", or 50 mm coupler ball, S.A.E. Class III may be used.
- WHEEL NUTS** - See page 4 figure 4 for proper tightening and checking procedure.
- WHEEL BEARINGS** - Before a trip - With axle supported so tire will not contact the ground, wheel should have a slight drag when spun and no end play in bearings when moved side to side. Adjust spindle nut accordingly. During a trip - Check for excessive end play in the bearings by rocking the wheel in and out. It should not move more than 1/4" Check the temperature, by hand, of each hub in relation to the other. If one hub is significantly warmer than the other, perform the "Before a trip" check above. See page 8 if maintenance is needed.

ASSEMBLY INSTRUCTIONS

For shipping and handling convenience, your KarTote may have been shipped in various stages of assembly. The amount of assembly required to complete your KarTote will depend on the method of shipment, as well as any optional equipment.

The following pages contain detailed assembly instructions for the various components of your KarTote. General assembly instructions are given for procedures common to all KarTote models, with additional instructions included in the appropriate sections to aid in the assembly of particular options. Start at the beginning of the assembly instructions to avoid missing any assembly procedures. If the procedure has already been performed, or the option is not included on your KarTote, disregard it and go on to the next step. Refer to figures 1-13 and the parts diagrams in the back of this manual for part identification.

TOOLS REQUIRED

The following is a suggested list of tools required for assembly.

WRENCHES

Two - 7/16	One - 1/2
Two - 9/16	One - 11/16
One - 5/8	Two - 3/4
Two - 1 1/8	

OTHER TOOLS

Hammer	Pliers
Screw Driver - Flat	Punch
Vise Grip	5/16 Allen Wrench

CAUTION: Take care to insure the KarTote will not accidentally topple, slide, or fall on you when assembling or working on it. Always use solid wood blocks or stands to keep it elevated. Never rely on a hoist or concrete blocks to hold the weight of the KarTote.

TORSION AXLE

Block the main frame of the KarTote approximately two feet off the ground. Insert the torsion axle tubes into the main frame tube as shown in figure 1. The correct positioning of the axle arm is toward the rear and slightly upward. Make sure the torsion axles are installed on the correct side so proper axle arm rotation is obtained.

Fasten the torsion axles to the main frame by inserting the 5/8" x 4 1/2" hex bolts through the corresponding holes and secure with the 5/8" nylon insert lock nuts as shown in figure 1.

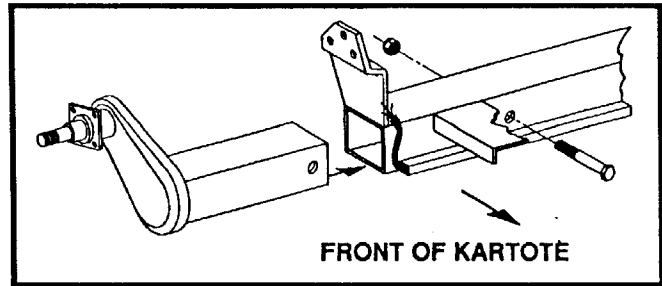


Figure 1

TONGUE ASSEMBLY

Insert the tongue wiring assembly (harness with plug on both ends) through the tongue. A piece of stiff wire would be of help in pulling the wire assembly through the tongue. The plug in end of the wire assembly with the white ground wire should be to the coupler end of the tongue.

Ground the white wire to the small hole in the front of the tongue with the 1/4" x 3/4" hex bolt and whiz nut.

(Surge Bakes) Insert the grommet (item 25, page 9) into the hole on the top of the tongue to protect the brake hose as shown on page 13. Assemble and insert the brake line and hose (items 1 & 2) into the tongue.

In order to prevent the wiring assembly and brake line from being crushed by the ramp tilt compression spring, slide them to the side and up as shown in figure 2. Insert the 3/16" x 1/2" roll pin in the hole on the side of the tongue to secure. Do not crush wire or line with the roll pin.

Insert the tongue spring plug into the compression spring then insert the spring into the tube on the lower end of the tongue.

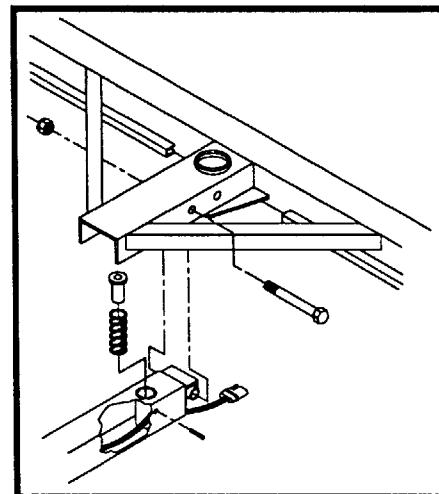


Figure 2

ASSEMBLY INSTRUCTIONS

Bolt the tongue to the main frame assembly using one 5/8" x 5 1/2" hex bolt and nylon insert lock nut as shown in figure 2.

Connect the wire plugs located underneath the tongue.

Bolt on the coupler and the tongue handle (items 14 & 16 page 11) using two 1/2" x 4 1/2" grade 5 hex bolts, 1/2" lock washers and 1/2" hex nuts. On models equipped with the **surge brake option**, use three 1/2" x 4 1/2" bolts to attach the actuator coupler.

(Surge Brakes) connect the rubber brake hose to the surge brake actuator at this time. (items 1 & 5 page 13)

Assemble the tongue braces (item 24 page 9) to the tongue and main frame. Loosely attach braces to the tongue with the 1/2" x 4 1/2" hex bolt, flat washers and nylon insert lock nut. Use the 1/2" x 1 1/2" hex bolts, flat washers, and nylon insert lock nuts to fasten the braces to the main frame. Tighten bolts snugly, but not completely.

HYDRAULIC BRAKES

Refer to page 13 for identification of parts.

If you are installing brakes on a unit which presently has standard hubs on it, it is necessary to remove the entire hub assemblies from the axle before proceeding.

Place the brake backing plate against the four hole axle flange. Align the backing plate holes so the brake cylinder is up and slightly toward the rear of the unit.

Insert the four 7/16" x 1" fine thread hex bolts outward through the axle flange and the back plate. On the lower rear hole, attach the brake hose bracket (item 8), so that it can be used to stabilize the brake lines. Secure with four lock washers and fine thread hex nuts.

Connect the 8 7/8" brake line (item 9) to the hole on the inside of the backing plate. Gently bend the line so that it lies flat against the backing plate, then bend it downward and around the torsion arm toward the front of the KarTote. The end of the line should be near the bracket on the lower rear hole on the axle flange, where it will connect to the 12 1/8" rubber hose. (item 6)

IMPORTANT: Be sure the brake line will miss the fender mount bracket as the torsion arm rotates.

Insert the 12 1/8" hose (item 6) rearward through the bracket. Connect it to the brake line and use the hose clip (item 7) to secure the hose to the bracket.

Insert the brake lines (item 4) through the protective

channels on the front side of the axle and the holes in the tongue mount channel. Connect them with the tee (item 3), and to the rubber hoses (item 6). Connect the tongue brake line (item 2) to the tee at this time also.

Bend the outer ends of the brake lines up and rearward as shown on page 13. They should be aligned with the holes in the brackets located on the inside of the fender mount brackets.

Route the free end of the rubber hose (item 6) under the torsion arm, up, and forward through the hole in the brake hose bracket. Secure with a hose clip, (item 7) and fasten to the brake lines. (item 4)

Assemble the bearing cups, bearing cones, and the grease seals to the hydraulic brake drums adding grease if necessary.

Slide the brake drum assemblies, spindle washers and spindle nuts onto the spindle. **Use the following guidelines to set the end play on the bearings initially, and any time the hubs are removed.**

Turn the hub slowly to seat the bearings while tightening the spindle nut until the hub will no longer turn.

Without moving hub, the spindle nut should then be backed off to the nearest locking hole, approximately 1/6 to 1/4 of a turn, and the cotter pin installed.

The spindle nut and hub should be free to move with the cotter pin being the only restraint.

Place the dust cap on the brake hub.

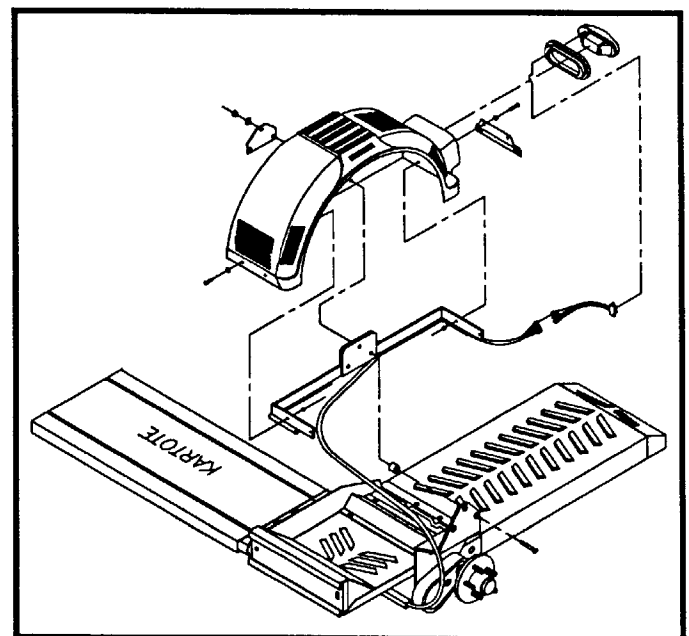


Figure 3

ASSEMBLY INSTRUCTIONS

FENDERS TO THE MAIN FRAME

To assemble the fenders to the main frame, it will be necessary to insert the tail light wire harness through the tube welded to the fender reinforcement then out the back to the tail light as shown in figure 3.

Insert three 3/8" x 2 3/4" flat socket head capscrews through the fender mount bracket, spacer tube, fender reinforcement, fender, and fender washer. Secure with the 3/8" flat washers and nylon insert lock nuts.

Take the slack out of the wire harness and insert any excess into the hole in the tail light shroud. Use the conduit clamps, 1/4" x 1" bolts and hex nuts to hold the wire harness against the fender mount bracket.

TAIL LIGHT ASSEMBLY

Insert light grommets (item 42 page 11) into the fenders. Snap the 3-wire tail light plugs (item 41) into the tail light lamps. (item 43) Connect the electrical spade terminals to their corresponding wires as shown in the wiring diagram. Snap the lamp and plug assemblies into the rubber grommets in the fasteners.

WHEEL ASSEMBLY

CAUTION: Do not operate dolly with less than five properly tightened wheel nuts per wheel. These steps should be followed any time a wheel must be mounted.

Place wheels on the axle hubs, thread lug nuts on stud bolts, and tighten finger tight.

Tighten each lug nut three times using a crisscross pattern as shown in fig. 4. Increase the tightness each time until 90 ft/lbs. of torque has been reached.

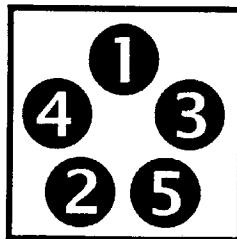


Figure 4

Check for tightness every 50 miles for the first 200 miles and every 3000 miles or six months thereafter.

After the wheel and tire assemblies are installed, rotate them to be sure they do not come in contact with the fender or any other part of the KarTote.

RAMP ASSEMBLY

Slide the ramps into the rear of the main frame, as shown in figure 5, and align the mounting holes.

Secure ramps to the main frame using two 5/16" x 1" carriage bolts, flat washers, and nylon insert lock nuts on the top surface as shown in figure 5. Use four 1/2" x 1 1/4" carriage bolts, flat washers, and nylon insert lock nuts to secure sides of ramps to the main frame.

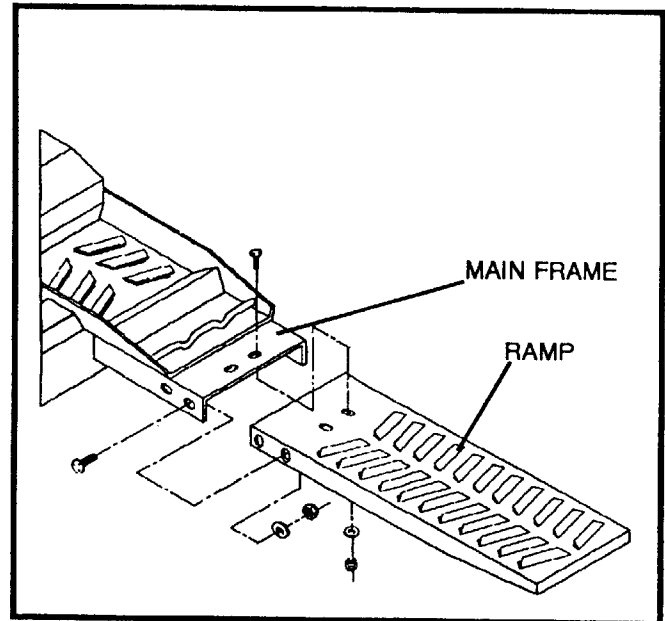


Figure 5

LATCH ASSEMBLY

Assemble the spring latch as shown in figure 6.

Place the compression spring in the pocket between the two round tubes, slide the latch pin through the front tube, the spring, and the rear tube.

Compress the spring past the hole in the latch pin,

Insert the 1/4" x 1 1/2" roll pin into the hole in the latch pin, and tap it through so approximately 1/8 inch extends through the opposite side. Do not tap it through too far, or the latch will not rotate.

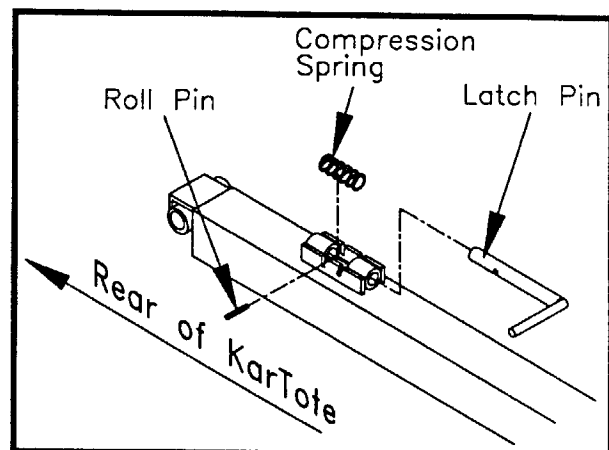


Figure 6

ASSEMBLY / TOWING REQUIREMENTS

FINAL ASSEMBLY

Slide one ratchet mount assembly into the front of each swivel bed base plate.

Attach a safety chain to each side of the swivel frame using a 3/8" x 1 1/4" Grade 5 hex bolt, lock washer, flat washer and hex nut as shown in fig. 7.

Attach two safety chains to the bracket on the bottom of the tongue using 3/8" x 1 1/4" Grade 5 hex bolts, flat washers, lock washers, and hex nuts.

After all assembly has been completed, the KarTote can be wired to the towing vehicle. Check all lights for proper function.

If malfunction occurs, inspect for loose or ungrounded connections, see fig. 1 page 2, or wiring diagram on page 18 to insure all connections were made properly.

(Surge brakes) Fill the actuator with fluid, bleed the system and check for proper operation. Refer to the Installation Instruction and Service Manuals included with the brakes and actuator for any questions.

(Electric Brakes) Adjust brakes and check for proper operation. (See brake service manual)

TOWING REQUIREMENTS

⚠ CAUTION: Only cars, pickups, trucks, or RV's with adequate towing and braking capacity may pull the Ultra-Fab KarTote. Check vehicle manufacturer's specifications to determine towing capacities.

SUSPENSION

If the loaded KarTote depresses the rear of your tow vehicle more than 3 inches, it may be necessary to install air shocks or helper springs. Defective shocks, springs, tires, or alignment can adversely affect vehicle stability.

CARGO LIMIT

Towing vehicle manufacturers recommend that the passenger/cargo load must be decreased by approximately 125 lbs. from maximum recommended capacity to compensate for the tongue weight of the KarTote carried by the trailer hitch.

MIRRORS

Law requires that any vehicle towing another vehicle must be equipped with mirrors on both sides.

LIGHTING LAWS

Some areas have laws requiring that a vehicle-in-tow be equipped with lights. Be sure you comply with local and state laws before towing any vehicle. If necessary, low cost, portable lighting units may be purchased from Ultra-Fab Products or some auto parts stores.

HITCH HEIGHT

To provide proper loading angle and clearance between the towed vehicle and the KarTote, the hitch height on the towing vehicle must be between 16" and 18" from ground level. See figure 8.

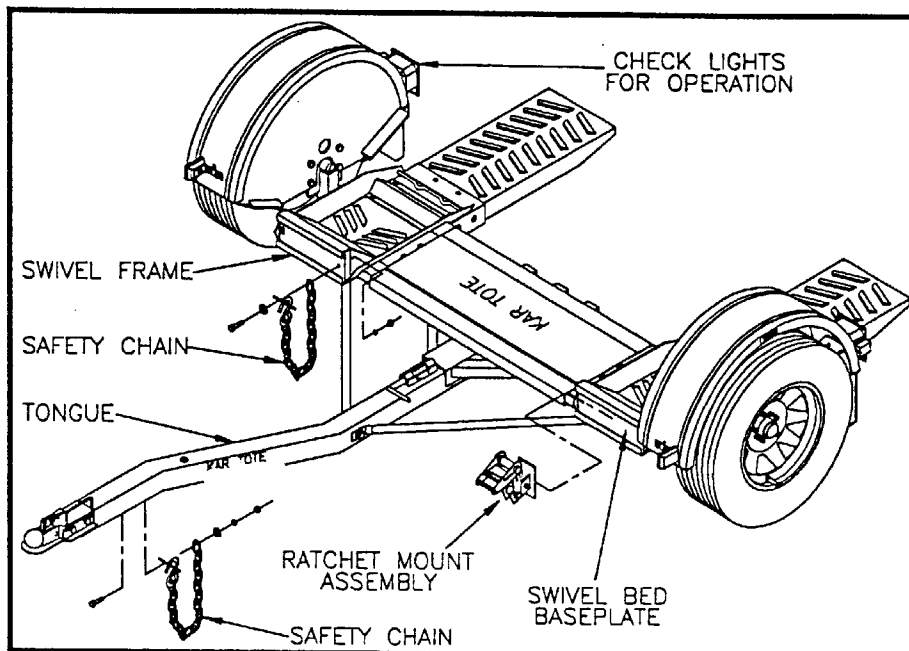


Figure 7

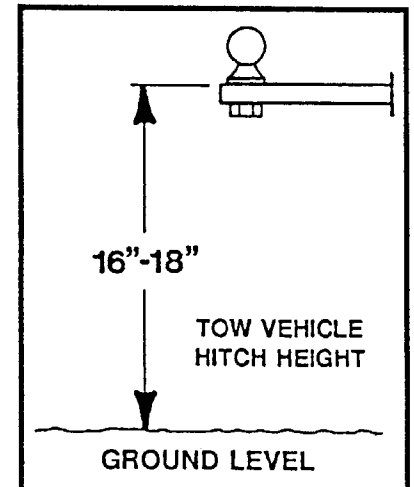


Figure 8

