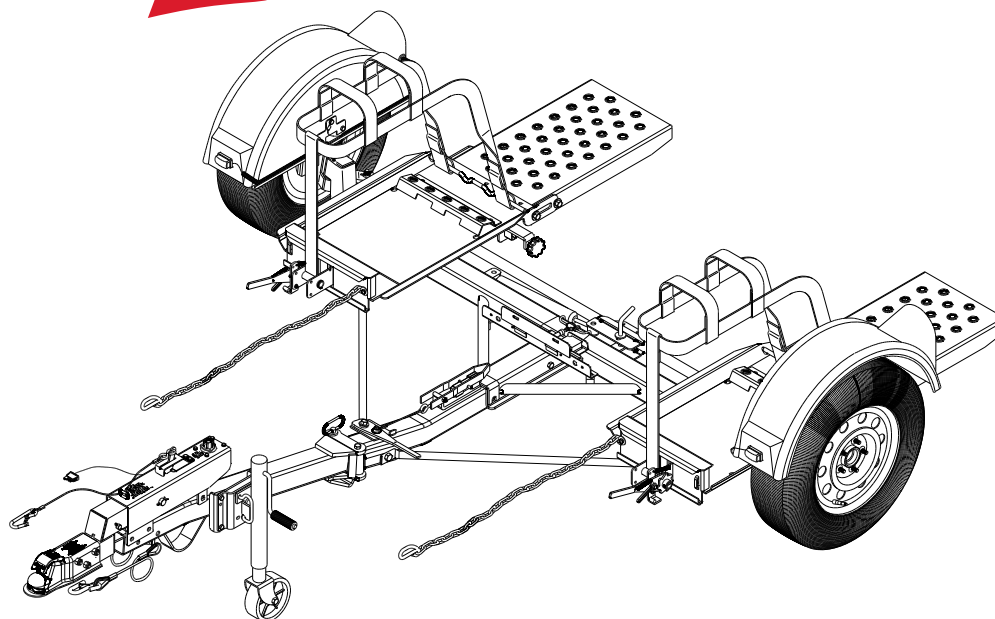


OWNER'S MANUAL

ATTENTION INSTALLER

This manual MUST accompany the owner of this Kar Kaddy KK460SS

DEMCO



**IMPORTANT
WARRANTY REGISTRATION HERE:**



SERIAL NUMBER

General Information

Thank you for purchasing a Demco Kar-Kaddy. We feel you have made a wise choice and hope you are completely satisfied with your new piece of equipment.

⚠ WARNING: FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN LOSS OF TOWING VEHICLE CONTROL, SEPARATION OF THE TOW DOLLY FROM THE TOWING VEHICLE, SEPARATION OF THE TOWED VEHICLE FROM THE TOW DOLLY, CAUSING SEVERE PERSONAL INJURY, DEATH, OR PROPERTY DAMAGE.

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General Information

- 1. Unless otherwise specified, high-strength (grade 5) (3 radial-line head markings) hex head bolts are used throughout assembly of this piece of equipment.
- 2. Whenever the terms “**LEFT**” and “**RIGHT**” are used in this manual it means from a position behind the Kar-Kaddy and facing forward.
- 3. When placing a parts order, refer to this manual for proper part numbers and place order by **PART NO.** and **DESCRIPTION.**

Reporting Safety Defects

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Demco Manufacturing Company (DEMCO).

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or (DEMCO).

To contact NHTSA, you may either call the Auto Safety Hot line toll-free at 1-800-424-9393 (or 366-0129 in Washington, D.C. area) or write to:
NHTSA,
U.S. Department of Transportation
Washington, D.C. 20590.

You can also obtain other information about motor vehicle safety from the Hot line.

SAFETY

TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.



THIS SYMBOL MEANS
-ATTENTION
-BECOME ALERT
-YOUR SAFETY IS INVOLVED!

SIGNAL WORDS

Note the use of the following signal words DANGER, WARNING, and CAUTION with the safety messages. The appropriate signal word for each has been selected using the following guidelines:

DANGER:

Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

WARNING:

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION:

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

If you have questions not answered in this manual, require additional copies, or if your manual is damaged, please contact your dealer or Demco, 4010 320th Street, Boyden, IA 51234
 ph: (712) 725-2311 Toll Free: 1-800-543-3626 Fax: (712) 725-2380 <http://www.demco-products.com>



SAFETY...YOU CAN LIVE WITH IT

Equipment Safety Guidelines

Every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You the operator, can avoid many accidents by observing and following precautions in this section. To avoid personal injury, study the following precautions and insist those working with you, or you yourself, follow them.

In order to provide a better view, certain illustrations in this manual may show an assembly with a safety shield removed. However, equipment should never be operated in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace shield prior to use.

Replace any caution, warning, danger or instruction safety decal that is not readable or is missing. Location of such decals is indicated in this booklet.

Do not attempt to operate this equipment under the influence of alcohol or drugs.

Review safety instructions with all users.

Operator should be a responsible adult. **DO NOT ALLOW PERSONS TO OPERATE OR ASSEMBLE THIS UNIT UNTIL THEY HAVE DEVELOPED A THOROUGH UNDERSTANDING OF SAFETY PRECAUTIONS AND HOW IT WORKS.**

Do not paint over, remove, or deface any safety signs or warning decals on your equipment. Observe all safety signs and practice instructions on them.

Never exceed limits of a piece of machinery. If its ability to do a job, or to do so safely is in question-DON'T TRY IT.

Lighting and Marking

It is the responsibility of the customer to know the lighting and marking requirements of the local highway authorities and to install and maintain the equipment to provide compliance with the regulations. Add extra lights when transporting at night or during periods of limited visibility.

Remember

Your best assurance against accidents is a careful and responsible operator. If there is any portion of this manual or function you do not understand, contact your local authorized dealer or the manufacturer.

Safety Sign Care

- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or have become illegible.
- Replace parts that displayed a safety sign should also display the current sign.
- Safety signs are available from your distributor, dealer parts department, or the factory.

How to install safety signs:

- Be sure that the installation area is clean and dry.
- Decide on the exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the decal over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal into place.
- Small air pockets can be pierced with a pin and smoothed out using the piece of decal backing paper.

Tire Safety

- Failure to follow proper procedures when mounting a tire on a rim can produce an explosion which may result in a serious injury or death.
- Do not attempt to mount a tire unless you have the proper equipment and experience to do the job.
- Inflating or servicing tires can be dangerous. Whenever possible, trained personnel should be called to service and/or mount tires.
- Always order and install tires and wheels with appropriate capacity to meet or exceed the anticipated weight to be placed on the equipment.

Before Operation

- Carefully study and understand this manual.
- Do not wear loose-fitting clothing which may catch in moving parts.
- Always wear protective clothing and substantial shoes.
- Keep wheel and lug nuts tightened to specified torque.
- Assure tires are inflated evenly.
- Give the unit a visual inspection for any loose bolts, worn parts, or cracked welds, and make necessary repairs. Follow the maintenance safety instructions included in this manual.
- Be sure there are no tools lying on or in the equipment
- Do not use the unit until you are sure that the area is clear, especially around children and animals.
- Don't hurry the learning process or take the unit for granted. Ease into it and become familiar with your new equipment.
- Practice operation of your equipment and its attachments. Completely familiarize yourself and other operators with it's operation before using.
- Make sure that the brakes are evenly adjusted (if equipped with brakes)
- Securely attach to towing unit. Use a high strength, appropriately sized hitch pin with a mechanical retainer and attach a safety chain.
- Do not allow anyone to stand between the tongue or hitch and the towing vehicle when backing up to the equipment.
- Make Sure the tow rating on vehicle is high enough for what it is towing.

During Operation

- **SAFETY CHAIN** -A safety chain must be obtained and installed. Always follow state and local regulations regarding safety chain and auxiliary lighting when towing equipment on a public high way. Be sure to check with local law enforcement agencies for your own particular regulations. Only a safety chain (not an elastic or nylon/plastic tow strap) should be used to retain the connection between the towing and towed machines in the event of separation of the primary attaching system.
- Install the safety chains by criss crossing chains under tongue and secure to draw bar cage, mounting loops, or bumper frame.
- Beware of bystanders, PARTICULARLY CHILDREN! Always look around to make sure that it is safe to start the engine of the towing vehicle or move the unit. This is particularly important with higher noise levels, as you may not hear people shouting.
- NO PASSENGERS ALLOWED- Do not carry passengers anywhere on or in equipment.
- Do not clean, lubricate, or adjust your equipment while it is moving.
- When halting operation, even periodically, set the or towing vehicle brakes, shut off the engine, and remove the ignition key.
- Be extra careful when working on inclines.
- Maneuver towing vehicle at safe speeds.
- Avoid loose fill, rocks, and holes; they can be dangerous for equipment operation or movement.
- Allow for unit length when making turns.
- Keep all bystanders and pets clear of the work area.
- Operate the towing vehicle from the operators seat only.
- Never stand alongside of unit with engine running or attempt to start engine and/or operate machine while standing alongside of unit.
- Never leave running equipment attachments unattended.
- As a precaution, always recheck the hardware on equipment following every 100 hours of operation. Correct all problems. Follow the maintenance safety procedures.

Following Operation

- Following operation, or when unhitching, stop the towing vehicle, set the brakes, shut off the engine and remove the ignition keys.
- Store the unit in an area away from human activity.
- Do not permit children to play on or around the stored unit.
- Make sure all parked machines are on a hard, level surface and engage all safety devices.
- Wheel chocks may be needed to prevent unit from rolling.

Highway and Transport Operations

- Adopt safe driving practices:
 - Always drive at a safe speed relative to local conditions and ensure that your speed is low enough for an emergency stop.
 - Reduce speed prior to turns to avoid the risk of overturning.
 - Always keep the towing vehicle in gear to provide engine braking when going downhill. Do not coast.
 - Do not drink and drive!
- Comply with state and local laws governing highway safety on public roads.
- Use approved accessory lighting flags and necessary warning devices to protect operators of other vehicles on the highway during transport. Various safety lights and devices are available from your dealer.
- Local laws should be checked for all highway lighting and marking requirements.
- Plan your route to avoid heavy traffic.
- Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc.
- Be observant of bridge loading ratings. Do not cross bridges rated lower than the gross weight at which you are operating.
- Watch for obstructions overhead and to the side while transporting.
- Always operate equipment in a position to provide maximum visibility at all times. Make allowances for increased length and weight of the equipment when making turns, stopping the unit, etc.

Performing Maintenance

- Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.
- Make sure there is plenty of ventilation. Never operate the engine of the towing vehicle in a closed building. The exhaust fumes may cause asphyxiation.
- Before working on this machine, stop the towing vehicle, set the brakes, shut off the engine and remove the ignition keys.
- Be certain all moving parts and attachments have come to a complete stop before attempting to perform maintenance.
- Always use a safety support and block wheels. Never use a jack to support unit.
- Always use the proper tools or equipment for the job at hand.
- Use extreme caution when making adjustments.
- Follow the torque chart in this manual when tightening bolts and nuts.
- Openings in the skin and minor cuts are susceptible to infection from brake fluid. Without immediate medical treatment, serious infection and reactions can occur.
- Replace all shields and guards after servicing and before moving.
- After servicing, be sure all tools, parts and service equipment are removed.
- Do not allow grease or oil to build up on the actuator, any step, or platform.
- When replacing bolts, refer to the owner's manual.
- Refer to bolt torque chart for head identification marking.
- Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The Manufacturer will not claim responsibility for use of unapproved parts and/or accessories and other damages as a result of their use.
- If equipment has been altered in any way from original design, the manufacturer does not accept any liability for injury or warranty.
- A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment
- Periodically check all bolts and nuts to insure proper tension or torque.
- Grease the center pivot pin every **1500** miles.
- An occasional drop of oil may be required on the moving parts of the tie-down winch.

Pre-Checks Before Loading

Safety Checks

- Safety is of utmost importance at all times. There are several items that must be checked each time before using and while using the tow dolly.
- Make sure all bolts are properly tightened and those requiring a set torque are up to specifications:
- Lug Nuts - 120 ft. lbs.
- Check lug nut tension after the first 5 miles and periodically thereafter.
- The tires must be inflated to the recommended PSI (located on side of tire).
- The ball hitch must latch securely around the ball and the safety ball clamp must be in position to lock the hitch on the ball.
- RECOMMENDED BALL HEIGHT: 18" to the top of the ball.
- Tow dolly must be connected directly into tow vehicle receiver hitch or into an approved rise drop receiver only! Tow dolly should never be inserted into a receiver extension, bike rack, storage rack, motorcycle rack, or any other device that extends the tow dolly away from the tow vehicle.
- The transport safety chains must be hooked to the frame of the towing vehicle and the towed vehicle safety chain must be hooked to the towed vehicle frame directly above the area where the chain is mounted on the tow dolly. Leave some slack in the chain to allow suspension movement.
- Caution the user not to attempt to back-up the tow dolly as damage may be done to the tow dolly and/or the vehicle being towed.
- Check to make sure that all lights are in proper working order.
- Examine the ramps, winches and straps, making sure they are in good condition.

-
- Be certain the safety lock pin is locking the strap winch.
 - Re-tighten straps after the first 5 miles and every 50 miles thereafter to ensure that they are tight.
 - The strap on the optional winch must be in good condition and should be wound neatly on winch when not in use.
 - NOTE: The winch strap must not be left connected to the towed vehicle after it is loaded and strapped down.
 - The owner assumes all responsibility for the towing vehicle's fitness and suitability to perform the towing task in a safe, legal, and reliable manner. These responsibilities include, but are not limited to:
 - Compliance with towing restrictions as stated by the towing vehicle's owners manual and/or manufacturer.
 - Towing vehicle must have as a minimum a Class 3-5,000 lb.(for non-brake units) or a Class 4-6,000 lb.(for brake units) hitch and hitch ball. Do not use any other size hitch ball.
 - Towing vehicle must be in good condition.
 - Towing vehicle must have a current federal and/or state inspection where applicable, and comply with any applicable laws.
 - The towing vehicle's weight must be substantially greater (at least 1000 lbs.) than the weight of the tow dolly and towed vehicle combined.
 - Make sure all lights are properly hooked up and operating at all times.
 - Towing vehicle's hitch must be approximately 18 inches off the ground (measured to the top of the ball). Make sure that the hitch and hitch ball are in good condition and not rusted, loose or stripped. Both the hitch and the hitch ball must be securely attached to the towing vehicle.
 - Reading and following these instructions.
 - Do not load the towed vehicle with cargo.
 - Towed vehicles exceeding weight limits will overload the tow dolly and may cause serious injury and damage to both the towed vehicle and dolly.
 - Do not load a towed vehicle exceeding the width limit - it will obstruct the platform's swivel action when underway and could damage the towed vehicle and/ or the tow dolly.
 - Do not exceed 55 miles per hour or any lower posted speed limit.
 - This unit cannot be back up, when loaded or with the steering lock pin remove.
 - All vehicles mounted on the Kar Kaddy must be mounted with the front of the vehicle facing forward.
 - Rear Wheel Drive: Disconnect the towed vehicle drive shaft for rear wheel drive vehicles with automatic transmission.
 - For manual transmission: Consult your vehicle owners manual for towing suitability with the drive shaft connected.
 - Periodically check all bolts and nuts to insure proper tension or torque.
 - Grease the king pin and tie rod end grease zerks every 2500 miles.
 - An occasional drop of oil may be required on the moving parts of the tie down winches.
 - A light film of oil should periodically be applied to steering stabilizer arm to prevent rust.
 - The operator should periodically have the toe-in checked and adjusted if needed at a qualified alignment shop. Improper toe-in can result in irregular tire wear. See **Kar Kaddy Toe-In Adjustment** page of manual.
 - This tow dolly comes equipped with chrome wheels. To maintain a high gloss to the chrome, clean and wax with a soft cloth regularly. Do not use an abrasive to clean chrome, this will cause scratches and this will lead to rust.

Pre-Checks Before Loading

Safety Checks

- Examine ramps, winches and straps to make sure they are in good condition. Check wheel nuts every trip.
 - To check the towing system after hook-up, tow about 100 feet. Then stop and perform a safety check. Check the bolts, chains, tire straps, ramps, coupler latch and other items, to ensure that they are tight. In addition, check all taillights and stoplights to make sure that they are operating properly. Repeat the safety check after the first 5 miles and every 50 miles thereafter.
 - Tire inflation must be maintained per recommendation of tire manufacturer (located on side wall of tire).
 - Tire pressure may increase during travel - do not bleed off this increase in pressure.
 - Recheck coupler to be sure it is properly secured to the ball. Check tightness of
 - coupler latch.
 - Check your vehicle owners manual or registration for vehicle weight. Towing vehicle must be larger and at least 1000 lbs. heavier than the towed vehicle and tow dolly combined.
-

Lighting Checks

Check lighting for proper operation before heading down the road.

1. Check that the WHITE ground wire of the wiring harness is connected to the tow dolly frame and the WHITE (ground) wire is connected to the frame of the towing vehicle.
 2. With headlights in "ON" position, the taillight should be lighted.
 3. Start engine and have someone depress brake pedal. Brake lights of the tow dolly and towing vehicle should come "on" and "off" simultaneously with each application.
 4. Put left turn signal on. Left turn light of tow dolly and towing vehicle should flash simultaneously. Should the turn signal light of the tow dolly function opposite to those of the towing vehicle, it is probable that the YELLOW and GREEN wires have been reversed. Check the plug connection under the tongue of the tow dolly to make sure wire colors are not crossed at that point. If plug connection is correct, correct problem by reversing yellow and green wire connection on the towing vehicle.
-

Towed Vehicle Weight & Size Limitations

Tread Width	42" Min.	76" Max.
Body Width	76" Max.	
	<u>FWD</u>	
Weight	4800 lbs.	

FWD = Front Wheel Drive Towed Vehicle

DO NOT BACK UP!!

The tow dolly is not a trailer and cannot be backed up because it swivels both at the coupler and car platform. If you must back up, unload car first, disconnect the coupler and move car and dolly separately.

Play it Safe: Park where you can pull out going forward.

Decal Location



PINCH POINT

REV 0

DD21018

A. DD21018

D. DD21017 QTY. 4

WARNING

To prevent serious injury or death.

Make sure tongue is in forward locked position with locking pin and retainer clip properly installed before hooking up or loading.

REV 0 DD21019

CAUTION

Actuator is spring loaded. Use care when servicing or injury may occur.

REV 1 NP21010

G. NP21010 Qty. 1

WARNING

Cancer and Reproductive Harm
www.P65Warnings.ca.gov

REV 1 DE21016

J. DE21016 Qty. 1

Keep wheel nut torque to 120 ft. lbs.
Maintain tire pressure at 50 P.S.I. Cold

F. RD21008 QTY. 2

ATTENTION

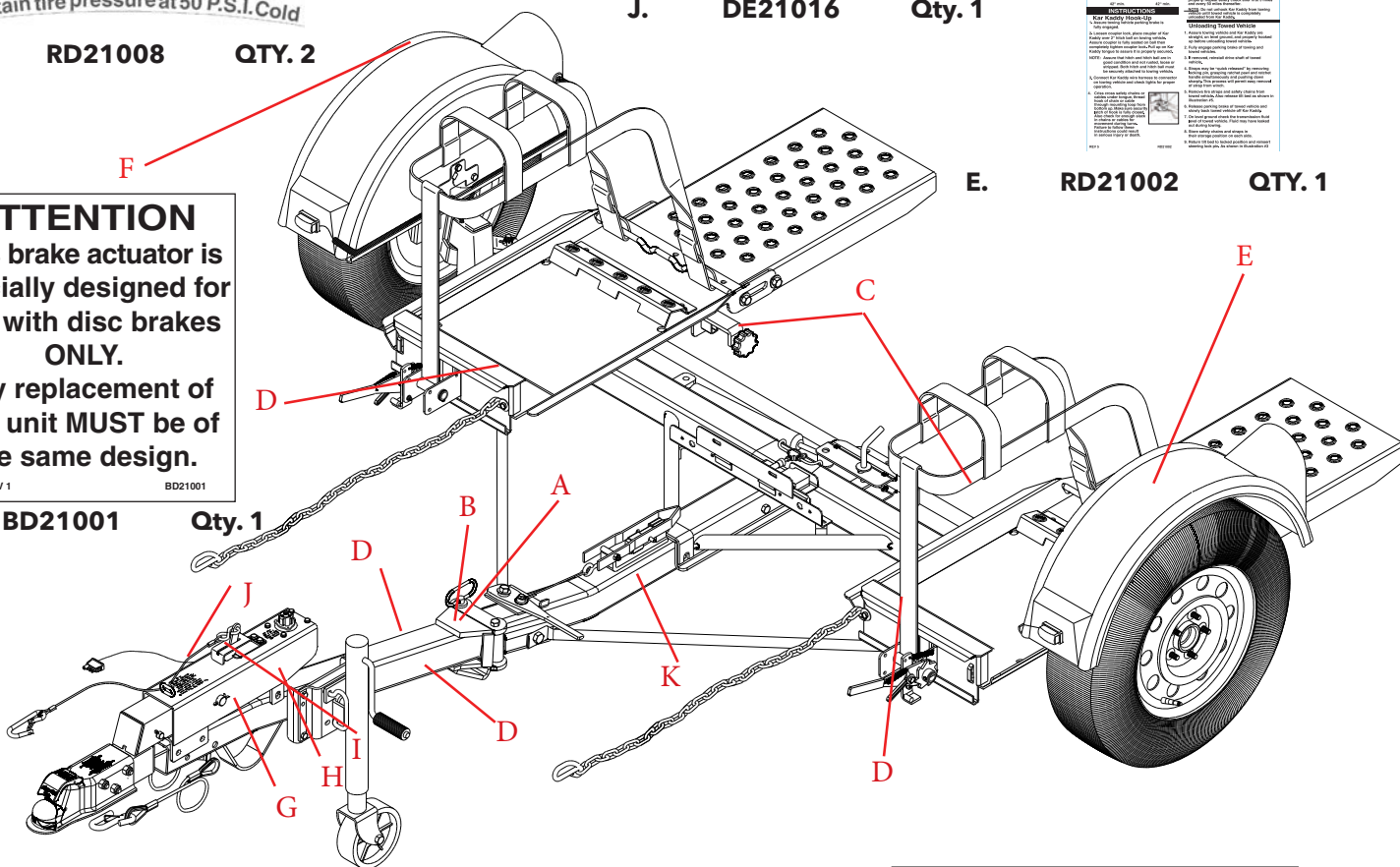
This brake actuator is specially designed for use with disc brakes ONLY.

Any replacement of this unit MUST be of the same design.

REV 1 BD21001

H. BD21001 Qty. 1

E. RD21002 QTY. 1



**PULL & LIFT
TO
FOLD RAMP**

Rev 0 DD21020

C. DD21020 QTY. 2

**BRAKES ON
DO NOT TOW**

**BRAKES OFF
TOWABLE**

BH21003

I. BH21003 Qty. 1

WINCH OPERATING INSTRUCTIONS

Remove winch lock pins (A) from strap winches on front of tow dolly.

Release winch: Grasp handle (B) squeeze trigger (C) push down and pull all excess strap from winch. Lay the strap to outside of tow dolly.

Tighten straps: Place the straps over tires centering straps and winches to tires. While tightening straps, pull cross straps forward to ensure even tightening. Tighten straps until each tire starts to flatten against the strap. After strap is tight, insert lock pin and make sure handle is in horizontal position.

REV 2 DD21016

K. DD21016 QTY. 2

WARNING

Loading Towed Vehicle

1. Ensure vehicle is properly loaded and secured.
2. Use proper tie-down technique.
3. Use proper tie-down technique.
4. Use proper tie-down technique.
5. Use proper tie-down technique.
6. Use proper tie-down technique.
7. Use proper tie-down technique.
8. Use proper tie-down technique.
9. Use proper tie-down technique.
10. Use proper tie-down technique.

IMPORTANT DO'S & DON'TS

- Do not use the winch to pull or push any vehicle.
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IMPORTANT INFORMATION

Proper Vehicle Braking

1. Use proper braking technique.
2. Use proper braking technique.
3. Use proper braking technique.
4. Use proper braking technique.
5. Use proper braking technique.
6. Use proper braking technique.
7. Use proper braking technique.
8. Use proper braking technique.
9. Use proper braking technique.
10. Use proper braking technique.

Load Weight and Size Limits

Maximum Towed Vehicle Weight: 10,000 lbs.

Maximum Towed Vehicle Length: 30 ft.

Maximum Towed Vehicle Width: 8 ft.

Maximum Towed Vehicle Height: 8 ft.

Maximum Towed Vehicle Weight: 10,000 lbs.

Maximum Towed Vehicle Length: 30 ft.

Maximum Towed Vehicle Width: 8 ft.

Maximum Towed Vehicle Height: 8 ft.

Loading Angle Clearance Guide

IMPORTANT:

Using this guideline will reduce the chance of the towed vehicles air dam, or bottom of fascia from interfering with tow dolly platform and/or tire stop. **"X"** must be less than $4.3 \times \text{"Y"}$.

Example: If **Y** measures 5"

$$4.3 \times 5 = 21.5$$

X must measure less than 21.5"



NOTE: User's responsibility for checking clearance. If "Y" is less than 3.5", interference may occur.

Torque Specifications

Tighten all bolts to torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt chart as guide. Replace hardware with same grade bolt.

NOTE: Unless otherwise specified, high-strength Grade 5 hex bolts are used throughout assembly of equipment.

Bolt Torque for Standard bolts *

"A"	GRADE 2		GRADE 5		GRADE 8	
	lb-ft	(N.m)	lb-ft	(N.m)	lb-ft	(N.m)
1/4"	6	(8)	9	(12)	12	(16)
5/16"	10	(13)	18	(25)	25	(35)
3/8"	20	(27)	30	(40)	45	(60)
7/16"	30	(40)	50	(70)	80	(110)
1/2"	45	(60)	75	(100)	115	(155)
9/16"	70	(95)	115	(155)	165	(220)
5/8"	95	(130)	150	(200)	225	(300)
3/4"	165	(225)	290	(390)	400	(540)
7/8"	170	(230)	420	(570)	650	(880)
1"	225	(300)	630	(850)	970	

Torque figures indicated are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

* GRADE or CLASS value for bolts and capscrews are identified by their head markings.

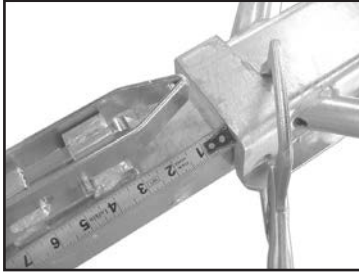
Torque Lug Nuts to 120 FT/LBS
Torque 11MM caliper bolts to 40 ft/lbs

Bolt Torque for Metric bolts *

"A"	CLASS 8.8		CLASS 9.8		CLASS 10.9	
	lb-ft	(N.m)	lb-ft	(N.m)	lb-ft	(N.m)
6	9	(13)	10	(14)	13	(17)
7	15	(21)	18	(24)	21	(29)
8	23	(31)	25	(34)	31	(42)
10	45	(61)	50	(68)	61	(83)
12	78	(106)	88	(118)	106	(144)
14	125	(169)	140	(189)	170	(230)
16	194	(263)	216	(293)	263	(357)
18	268	(363)	--	--	364	(493)
20	378	(513)	--	--	515	(689)
22	516	(699)	--	--	702	(952)
24	654	(886)	--	--	890	(1206)

1. Place the main frame (#1) on blocks or some other sturdy support so that the frame rests approximately 8" - 10" off the ground.

2. With an assistant, place tongue assembly (#2) into main frame channel and position latch on tongue approximately 3" from front of channel. Clamp tongue to main frame and support front of tongue.



3. Locate the four bullet connectors extending out the back of the tongue and plug into the connector protruding from under the main frame channel. Plug into the flat four connector by matching the colors. Do not cross colors when making this connection. Make sure that the two pigtails for the license plate bracket are out.

4. Using the open end of a 9/16" wrench to support the back of the female coupler, (as shown below) push drip free quick couplers together. **NOTE:** When pushing the male connector into the female connector, the female knurl collar will snap towards male connector automatically, locking the connection.

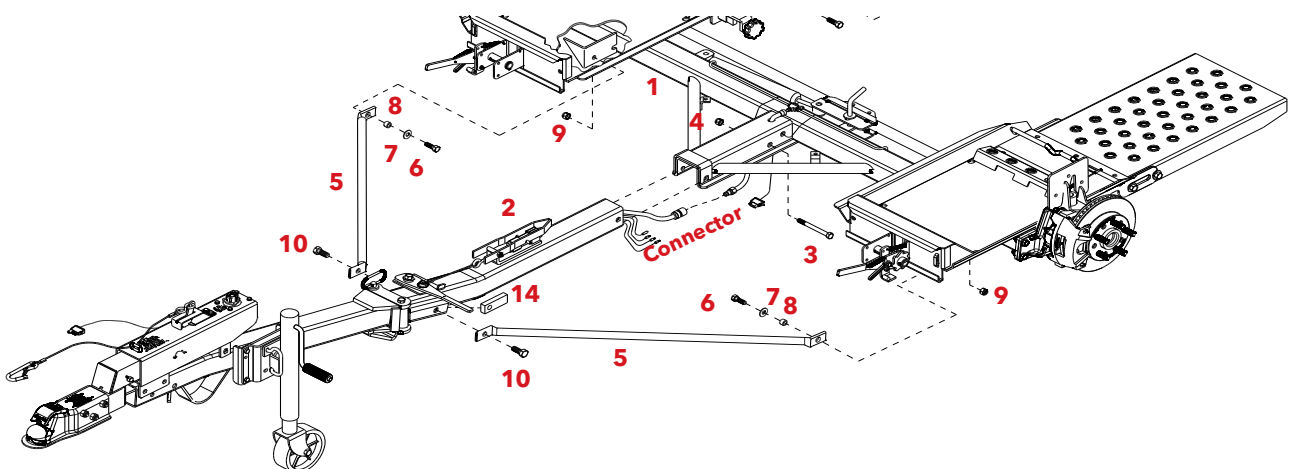
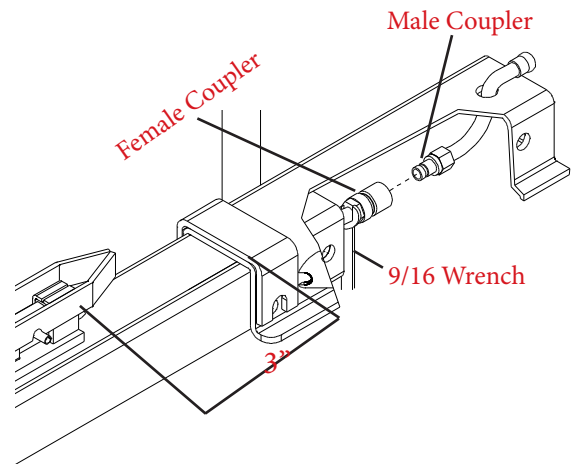
5. With an assistant, mount the tongue assembly (#2) to the front of

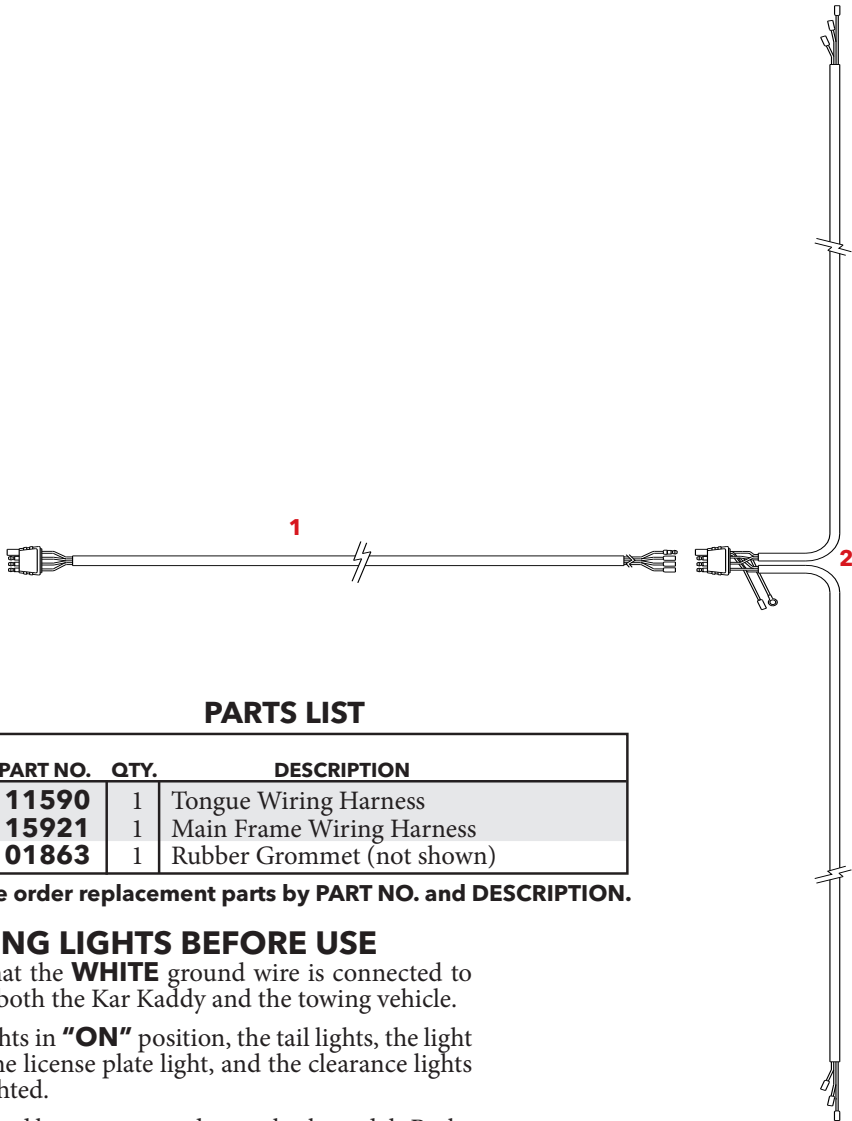
the Kar Kaddy main frame and use a 5/8" x 4-1/2" grade 5 bolt (#3) and lock nut (#4)(torque to 50 ft. lbs). Do not torque over 50 ft. lbs. or bed will not tilt.

NOTE: Brake line and wiring must be above bolt also coupler assembly must be ahead of bolt. With an assistant, gently slide the tongue assembly back in line with the main frame hole placement. RE-clamp the tongue to the main frame. Using a narrow flat tool, i.e. a small putty knife or similar tool, through the opening between the back of the tongue assembly and the channel of the main frame, raise the wiring and brake line up. This will help clear the way to attach the tongue using the 5/8 X 4-1/2 grade 5 bolt and lock nuts.

6. Lay the bracing struts (#5) out along the tow dolly tongue with the back end (the end with the larger hole in it) of the bracing strut toward the main frame. Loosely bolt the back of each bracing strut to the trailer frame as shown using 1/2" x 1-1/2" grade 5 bolt (#6), flatwasher (#7), pivot bushing (#8) and locknut (#9). Hold up the front end (the end with the smaller hole) of each bracing strut to the tongue and secure with two 5/8" x 1-1/4" epoxied hex head bolts (#10) and nut plate (#14). Torque the 1/2" x 1-1/2" bolt with the pivot bushing to 75 ft. lbs. Torque the two 5/8" x 1-1/4" epoxied hex head bolts to 100 ft. lbs.

Connecting Drip Free Quick Coupler
brake couplers.





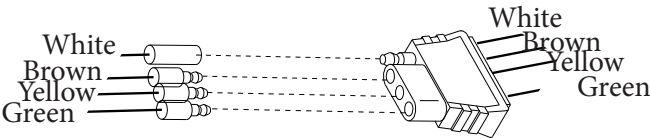
PARTS LIST

REF. NO.	PART NO.	QTY.	DESCRIPTION
1.	11590	1	Tongue Wiring Harness
2.	15921	1	Main Frame Wiring Harness
3.	01863	1	Rubber Grommet (not shown)

Please order replacement parts by PART NO. and DESCRIPTION.

TESTING LIGHTS BEFORE USE

- 1. Make sure that the **WHITE** ground wire is connected to the frame of both the Kar Kaddy and the towing vehicle.
- 2. With headlights in **"ON"** position, the tail lights, the light cluster bar, the license plate light, and the clearance lights should be lighted.
- 3. Start engine and have someone depress brake pedal. Brake lights of tow dolly and towing vehicle should come **"on"** and **"off"** simultaneously with each application.
- 4. Turn left turn signal on. Left turn light of Kar Kaddy and towing vehicle should flash simultaneously. If turn signal light of the trailer function opposite to those of the towing vehicle, it is probable that the **YELLOW (Driver side)** and **GREEN (Passenger side)** wires have been reversed. Check the plug connection under the tongue of the Kar Kaddy to make sure wire colors are not crossed at that point. If wires are crossed change them to match color for color.



COLOR CODE FOR WIRING HARNESS

WHITE	Ground
BROWN	Tail Lights, License Plate Lights, Light Cluster Bar & Clearance Lights
YELLOW	Left Turn and Stop
GREEN	Right Turn and Stop

WIRING OF THE TOWING VEHICLE

Connect wiring to towing vehicle, keeping in mind the color code indicated below.

- 1. Make certain towing vehicle lights are **"OFF"**.
- 2. Connect **YELLOW** wire to left turn signal and stop wire in the left rear of towing vehicle with the wire splicer (01883) supplied.
- 3. Connect **GREEN** wire to the right turn signal and stop wire.
- 4. Connect **BROWN** wire to tail light wire.
- 5. **VERY IMPORTANT** - connect **WHITE** wire to frame body of towing vehicle. This is the common ground, and a clean metal - to - metal contact must be made.

CAUTION: Many flashers for vehicle turn signals will not carry the additional load of Kar Kaddy turn signals. If normal operation does not occur when connected to the Kar Kaddy, a heavy duty replacement flasher may be obtained through auto parts outlets.

NOTE: Tow Dolly must be empty and unhooked to perform any and all of these steps. Do not attempt while tow dolly is loaded or hooked up.



1. Pull retainer clip from bottom of tongue locking pin. Lift locking pin out of tongue pivot.

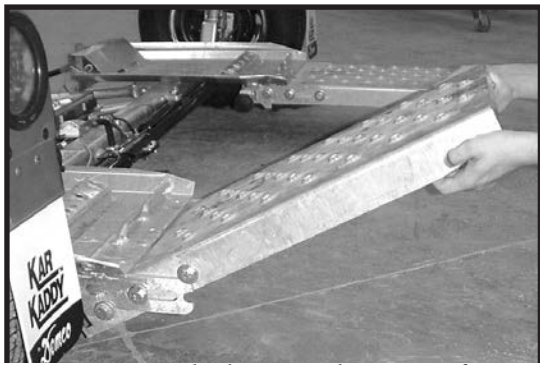


2. With tongue wheel jack turned to its lowest position, push/pull tongue to the left.

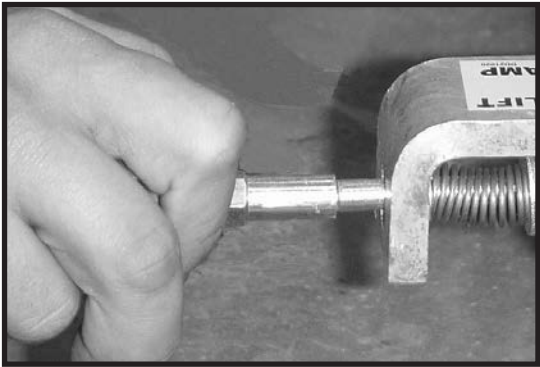


3. Push/pull tongue until it comes to a stop by the left fender. It is recommended to place lock pin and retainer clip back in tongue pivot for storage.

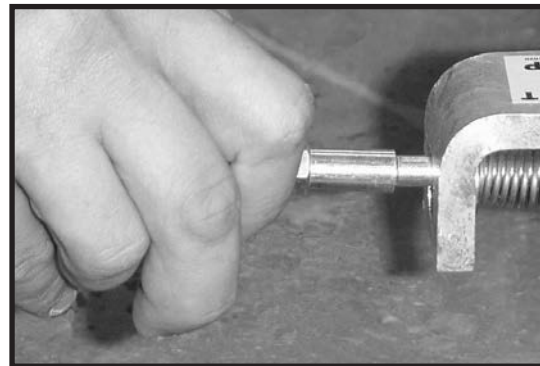
Folding Ramp Lock



1. Locate ramp locks at inside center of ramps.
2. Pull ramp lock straight out as far as it will go.

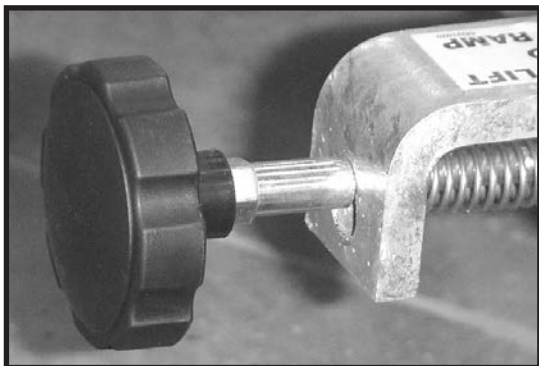


3. Lift ramp lock up as far as it will go and allow lock to



slide in until it stops.

4. If lock has pulled and lifter properly, the ramp lock will



extends out from it's holder. This will mean that the ramp is unlocked and ramp may be folded up.

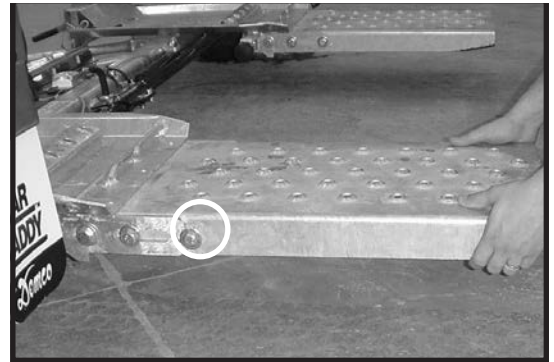
NOTE:

Tow Dolly must be empty and unhooked to perform any and all of these steps. Do not attempt while tow dolly is loaded or hooked up.

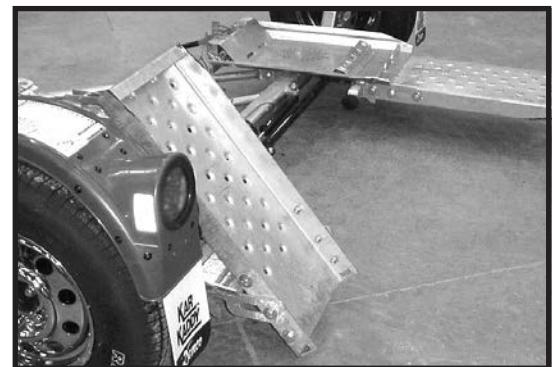
Folding Ramp



1. Pull ramp back as far as it will go. Bolt must be past notch before attempting the next step.
2. Lift ramp until it is past center and resting on it

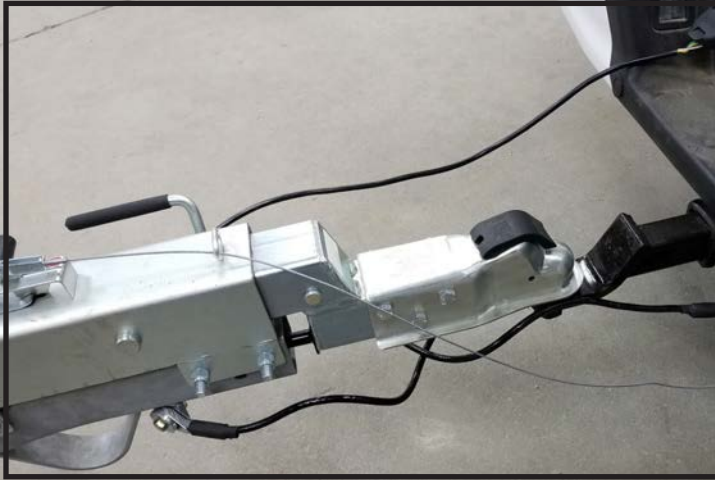


stops.

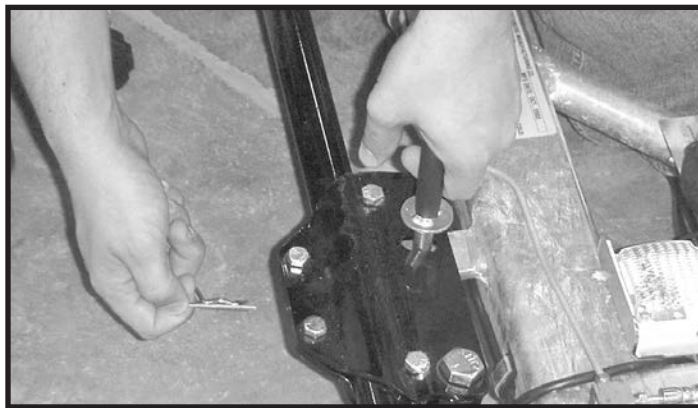


IMPORTANT:

When taking this tow dolly out of storage it is very important to check all pins and retainers for damage. If damage is found replace. Do not use damaged pins or retainers. Make sure that tongue pin and retainer clip is replaced after tongue is folded back to the forward and locked position. Fold ramps down as far as they will go and push forward until you hear or see retainer handles snap into their locked positions. Check to make sure they all fully seated. Make sure that all pins and locking devices are double checked before returning this unit to service.



Step 1. Secure ball coupler to 2" (6,000 lb. capacity) towing vehicle ball only. Make sure that the hitch and the hitch ball are in good condition and not rusted, loose or stripped. **Recommended ball height is 18" to the top of the ball.** Make sure hitch is locked down. Criss-cross safety cables under tongue and secure to towing vehicle frame.



Step 2. Remove black locking pin **BEFORE** loading vehicle onto the Kar Kaddy. The removal of the locking pin allows "Auto Steer" to operate. When towing the dolly empty, this pin must be in place.



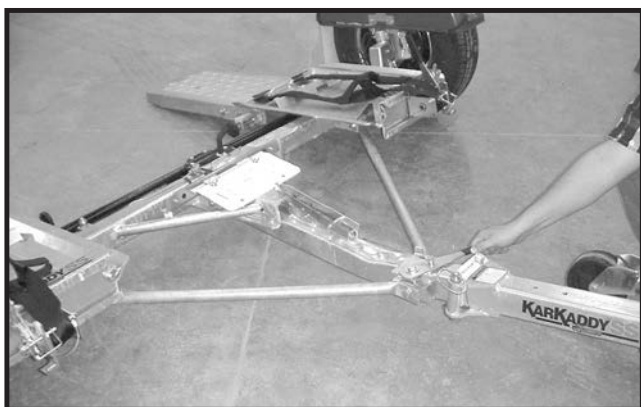
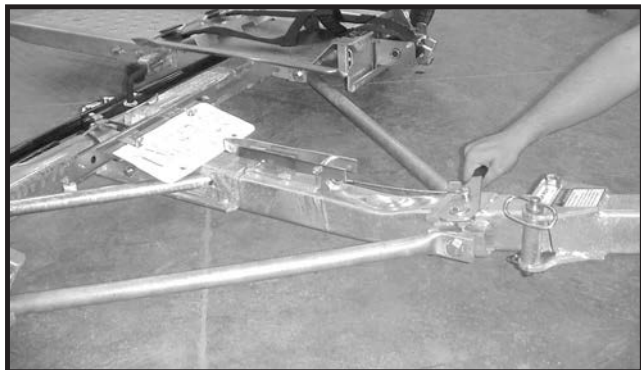
Step 3. Loosen wing nut on back of license plate holder, turn the clip on the front to a horizontal position and put license in the "down" position. Turn the clip back so it rests against the back of the light bar to hold the license down and tighten wing nut.
(License must be "UP" with the tow dolly empty).

Step 4. Before loading (and unloading) towed vehicle make sure platform and towed vehicle are in straight alignment. Tow dolly must be completely and properly hooked up to the towing vehicle.
Towing vehicle must be larger and at least 1000 lbs. heavier than the tow dolly and towed vehicle combined.

IMPORTANT: Over all width of towed vehicle must not exceed:

76" max. (outside to outside),
42" min. (inside to inside),
76" max. (body width).

Loading Instructions



Step 5. Grasp bed release handle on tongue and pull forward coupler. This releases the tilt bed to permit loading. to-



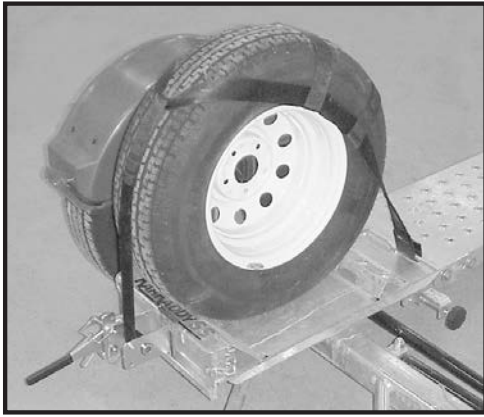
Step 7a. Drive vehicle onto the platform - **front forward** - until tires touch the wheel stops at the front of each side of the platform and the platform tilts to a flat position. Make sure the car is centered on the platform. Towed vehicle tires must fit in wheel troughs without overhanging sides. Engage towed vehicle parking brake. **Shift loaded car into "park" and lock steering wheel with front tires in a straight position.**



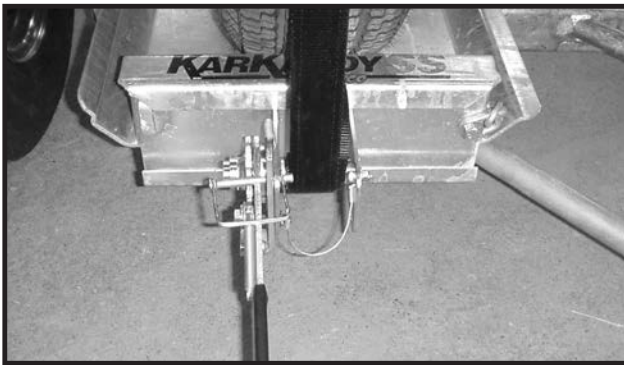
Step 6. With someone safely guiding you, slowly drive vehicle onto platform **FRONT FORWARD**. (Any vehicle mounted on tow dolly must be mounted with front of the vehicle facing forward.) Drive the car forward until the tires touch the ramps. Make sure the tire is aligned to ascend onto the ramps.

Step 7b. Lock steering wheel on towed vehicle with front tires in a straight position. If the towed vehicle does not have a locking steering column the steering wheel must be tied securely. Use Demco steering wheel strap kit #5975.

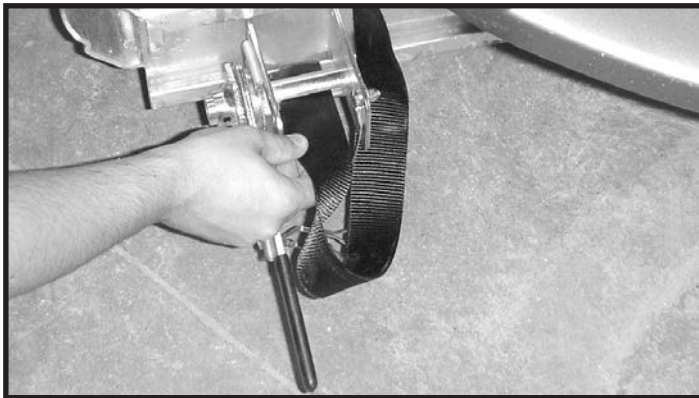




Step 8. Place one tie-down strap over each tire and secure hooks to rods located at the rear of each wheel platform. The short side of the hook must face the rear of the Kar Kaddy.



Step 9. Be sure tie-down winch is centered with the tire before tightening straps.



Step 10. Thread tie-down strap through the slotted tube on the tie-down winch. Pull approx. 6" of strap through this slot. Begin tightening strap making sure the tail becomes enclosed by the strap coming over the tire. Tighten the straps ensuring that the strap fed through the slot binds between the shaft and the strap being wound onto the winch shaft. While tightening straps, pull cross strap forward to ensure even tightening. **NOTE: Be sure to tighten straps until each tire starts to flatten against tire stop.** After each strap is tight, insert a safety pin in each winch.

Step 11. Make sure the tie-down strap is the correct size for the auto tire. See page 4 of this instruction for proper fit and exchange instructions.

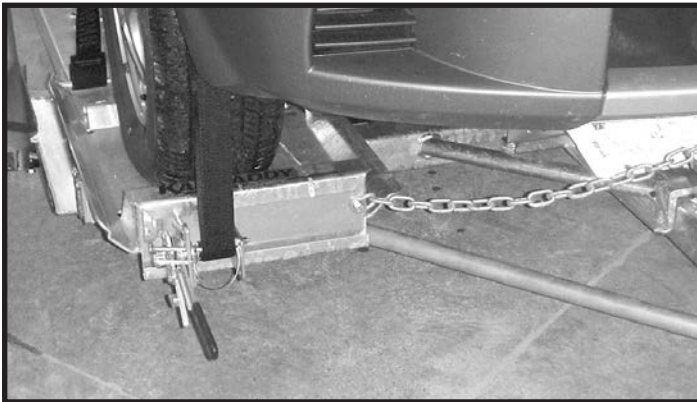
Wheel Strap Checks

Your tow dolly is equipped with custom made wheel tie-down straps of a standard size that will fit most tires, however if your tires are too large or too small you will want to exchange these new straps for the proper size straps.

1. **Tire too large** - This is very obvious. The strap will not basket over the tire properly. Call us. We will provide at NO Charge, on an exchange basis, the proper size strap. You must return your new, unused straps and provide us with the Make and Model of your car and the tire size.
2. **Tire too small** - This is not as obvious (see picture). The basket will fit down over the tire very well. The problems cannot be readily seen. You must tighten the straps down solid and then check on the inside of the tire and be sure the strap, when tightened, does not come in contact with any metal that may cause wear or cutting such as strut mounts. If there is contact, you need a smaller strap. Call us. We will provide on a NO Charge, exchange basis, the proper size strap. You must return your new, unused straps and provide us with the Make and Model of your car and tire size.

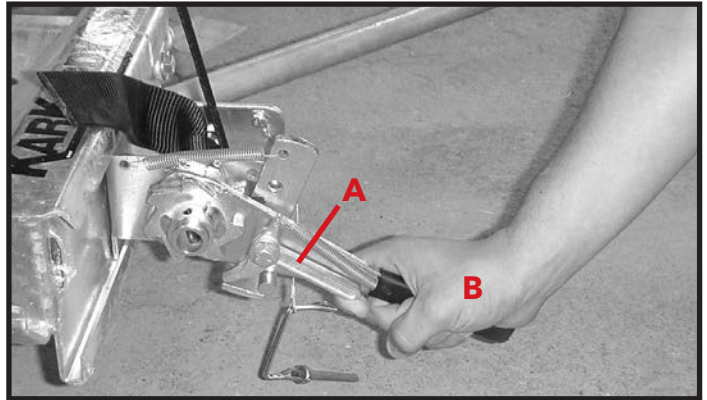


Loading Instructions



Step 12. Hook the towed vehicle safety chains to frame of vehicle directly above the area where the chains are mounted on the Kar Kaddy. Leave some slack in the chains to allow suspension movement of the towed vehicle. **Disengage towed vehicle parking brake.**

Straps must be retightened after first 5 miles of travel. Check straps every 50 miles thereafter to ensure they are tight and not rubbing or fraying.



Step 13. TO UNLOAD towed vehicle. **Never unhook tow dolly coupler from towing vehicle, before unloading tow dolly.** Make sure that platform and vehicle are straight. Reinstall driveshaft. Ensure that towed vehicle parking brake is fully engaged, then unhook the towed vehicle safety chains, and release the tie-down straps. **NOTE:** Tie down straps must be “quick -released” by grasping ratchet pawl (A) and ratchet handle (B) simultaneously and pushing down sharply. This process will permit easy removal of strap from winch. Grasp bed release handle on tongue and pull toward coupler. This releases the tilt bed to permit unloading. This will allow the platform to tilt as you slowly drive off. Make sure the winch ratchet handles are horizontal. Replace the “Auto Steer” locking pin (for towing empty).

WARNING: To Prevent Serious Injury Or Death

FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN LOSS OF TOWING VEHICLE CONTROL, SEPARATION OF THE TOW DOLLY FROM THE TOWING VEHICLE, SEPARATION OF THE TOWED VEHICLE FROM THE TOW DOLLY

Step 14. To pull the Kar Kaddy empty, make sure “Auto-Steer” LOCKING PIN IS IN PLACE and towing vehicle safety chains are up and hooked. Tie-down winch handles should be left in a down position (horizontal position) with safety pins in place when towing loaded or empty. **DO NOT ATTEMPT TO PULL KAR KADDY WITH WHEEL PLATFORM IN LOADING (tilted) POSITION.**

DAMAGE PREVENTION

Check your vehicle manual or registration for vehicle weight. Towing vehicle must be larger and at least 1,000 lbs. heavier than the towed vehicle and tow dolly combined.

Do not pack goods in car that is being towed. Overloading the Kar Kaddy or exceeding the width limit may result in damage to both car and Kar Kaddy.

REAR WHEEL DRIVE PRECAUTIONS

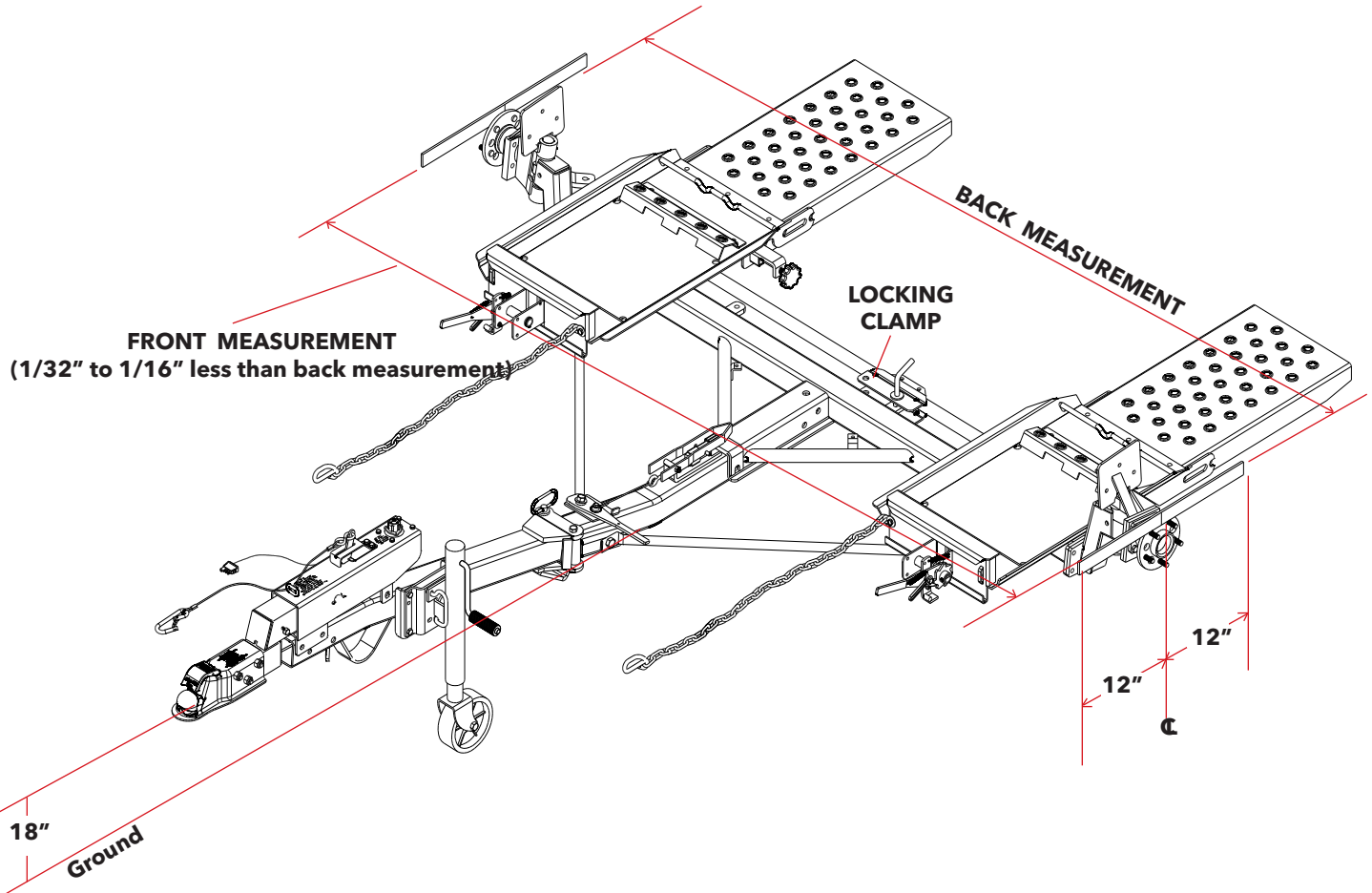
Disconnect towed vehicle driveshaft for rear wheel drive vehicles with automatic transmission. Simply placing transmission in neutral is not sufficient to prevent damage to transmission.

For manual transmission: Consult your vehicle owners manual for towing suitability with the drive shaft connected.

ALL VEHICLES MOUNTED ON THE KAR KADDY MUST BE WITH THE FRONT OF THE VEHICLE FACING FORWARD.

SAFETY

- Examine winches and straps to make sure they are in good condition.
- Check wheel nuts every trip.
- Tires must be inflated to recommended pressure by tire manufacturer.
- Be certain the safety lock pins lock the strap winches.
- Retighten the straps over the tires after the first 5 miles of travel. Check straps every 50 miles there after to ensure they are tight and not rubbing or fraying.



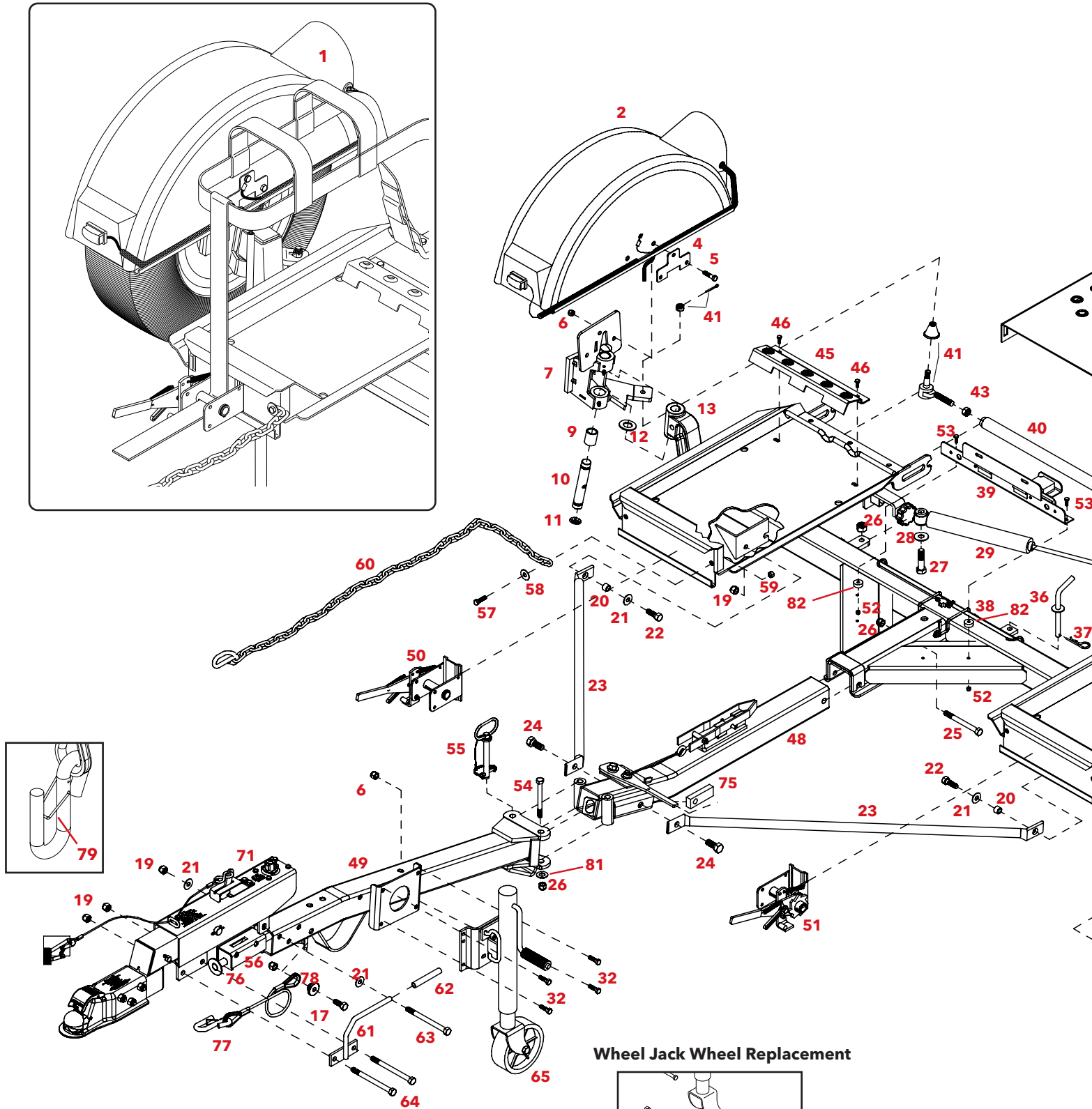
MEASURING THE TOE-IN

Have the tongue in a “hooked-up” position with the ball coupler 18” off the ground. Jack up the axle just enough to allow you to take the wheels off and put blocks under the axle. Take the wheels off.

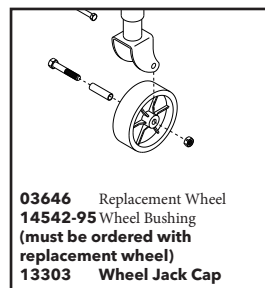
Find two 24” long bars. These could be a level, a square or a straight piece of iron bar. Clamp one bar tight to the face of each hub/Brake Drum with 12” extending forward and backward of the center of the spindle. The bars must be parallel to the platform the car sits on. Measure across the back end of the bars and then across the front end. The front measurement should be $\frac{1}{32}$ ” to $\frac{1}{16}$ ” less than the back measurement. If the unit needs to be adjusted, this must be done by adjusting the tie rod.

TOE-IN ADJUSTMENT

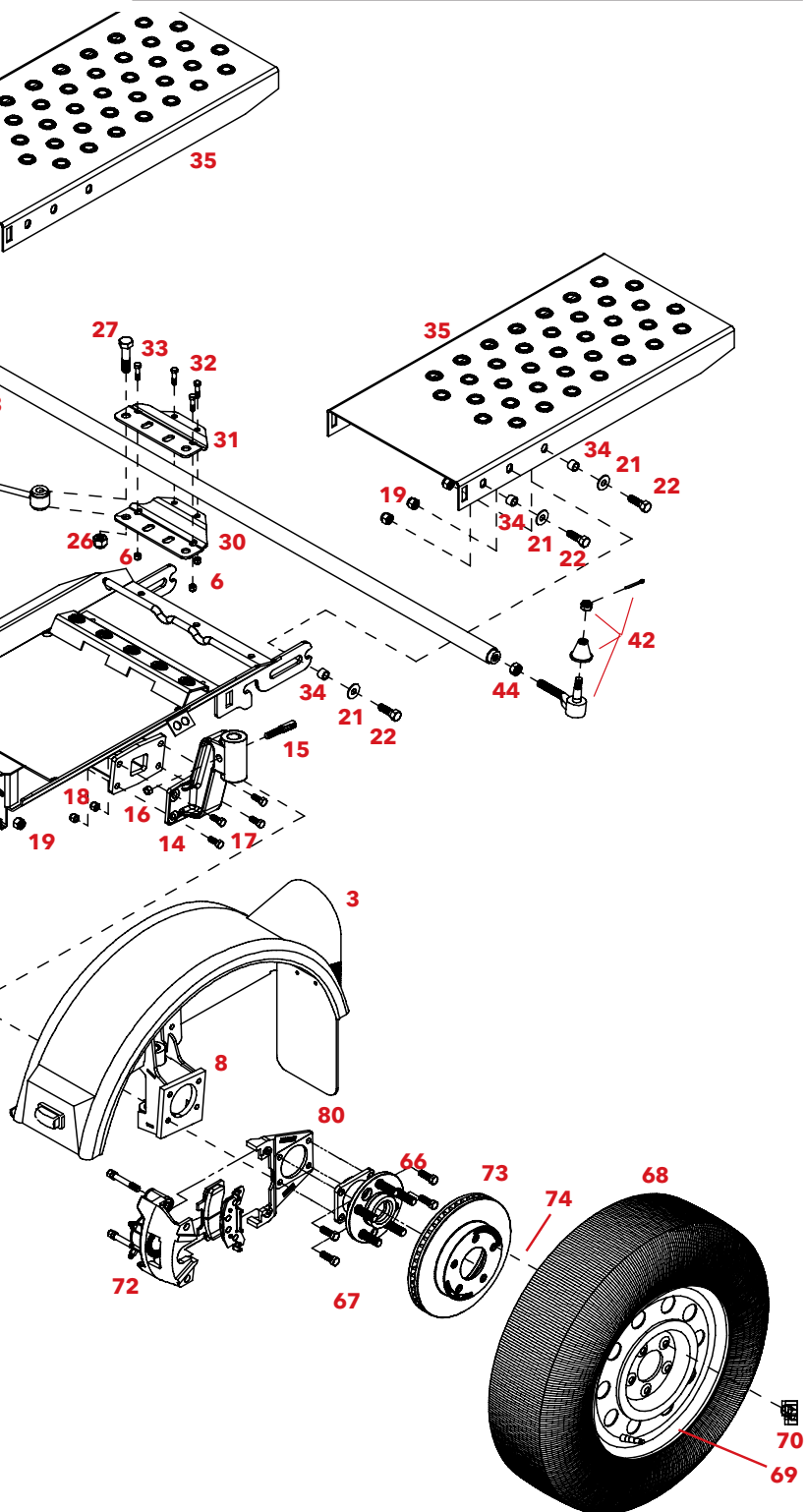
1. Put a mark on each side of the locking clamp on the tie rod.
2. Loosen the locking nuts on each end of the tie rod and then the four bolts on the tie rod locking clamp.
3. Turn the tie rod whichever direction is needed until you have a front measurement of $\frac{1}{32}$ ” to $\frac{1}{16}$ ” less than the back measurement.
4. Hold the tie rod and tighten the locknuts on each end.
5. Measure again to make sure the toe-in measurement has not moved.
6. Tighten the locking clamp bolts while holding clamp between the marks you previously put on the tie rod.
7. Reassemble the rest of the Kar Kaddy unit.



Wheel Jack Wheel Replacement

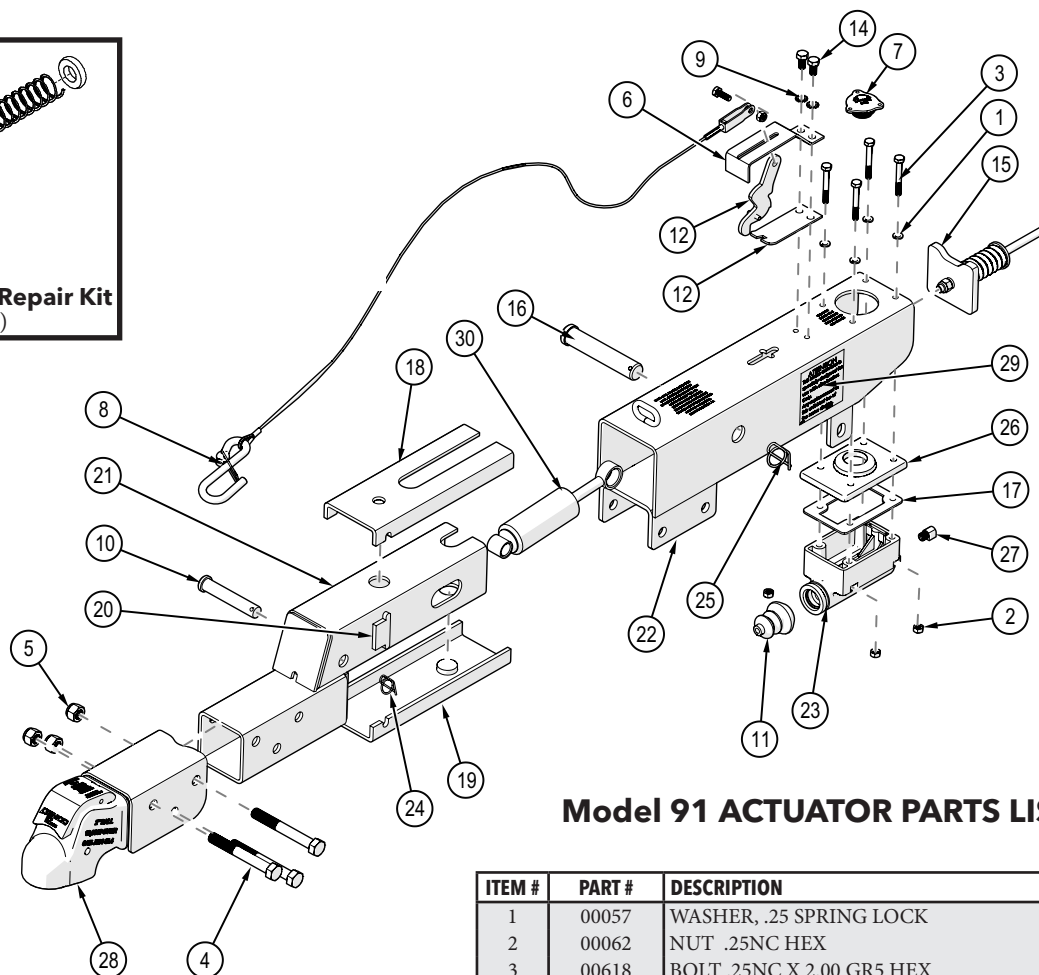
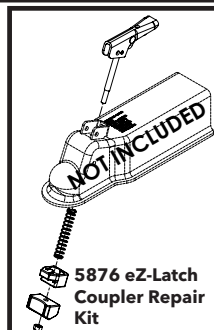
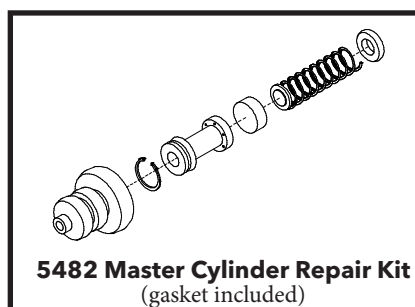


REF. NO.	PART NO.	QTY.	DESCRIPTION
1.	03528	2	Tie-down Strap assembly, Black
2.	6472	1	Right Large Fender Assembly with Lights
3.	6471	1	Left Large Fender Assembly with Lights
4.	04424-95	2	Fender Backing Plate
5.	00914	6	3/8"-16UNC x 1-1/2" Hex Head Bolt (gr.5)
6.	02592	18	3/8"-16UNC Nylon Lock Nut
7.	12560-81	1	Right Wheel Carrier
8.	12559-81	1	Left Wheel Carrier
9.	01732	4	1" I.D. x 1-1/4" O.D. x 1-1/2" lg. Bushing (brnz)
10.	11588	2	King Pin (1" x 6-1/2")
11.	01731	4	1-1/4" Dust Cap
12.	01978	2	1" I.D. x 18 GA Narrow Rim Machine Washer



REF. NO.	PART NO.	QTY.	DESCRIPTION
13.	35652-81	1	Right Drop Axle & Wheel Carrier Assembly
14.	35651-81	1	Left Drop Axle & wheel Carrier Assembly
15.	11551	2	King Pin Retainer Bolt
16.	03724	2	7/16"-20UNF Center Punched Nut
17.	02377	10	7/16"-20UNF x 1-1/2" Epoxy Bolt (gr.8)
18.	04168	8	7/16"-20UNF Nylon Lock Nut
19.	02178	18	1/2"-13UNC Nylon Lock Nut
20.	02579-95	2	Pivot Bushing
21.	00085	15	1/2" Flatwasher
22.	01254	15	1/2"-13UNC x 1-1/2" Hex Head Bolt (gr.5)
23.	02747-96	2	Bracing Strut
24.	03503	2	5/8"-11UNC x 1-1/4" Epoxy Bolt (gr.5)
25.	02434	1	5/8"-13UNC x 4-1/2" Hex Head Bolt (gr.5)
26.	02587	4	5/8"-13UNC Nylon Lock Nut
27.	02696	2	5/8"-11UNC x 2-3/4" lg. Hex Head Bolt (gr.5)
28.	14100	1	5/8" Flatwasher
29.	01729-30	1	Steering Stabilizer Shock
30.	11553-80	1	Tie Rod Clamp, Bottom
31.	11554-80	1	Tie Rod Clamp, Top
32.	00907	6	3/8"-16UNC x 1" Hex Head Bolt (gr.5)
33.	02494	2	3/8"-16UNC x 2-1/4" Hex Head Bolt (gr.5)
34.	11659-91	12	Ramp Bushing
35.	11529-96	2	Ramp
36.	01718-95	1	Tie Rod Locking Pin
-	02189	1	Replacement Black Handle Grip for Locking Pin
37.	00182	1	Hair pin
38.	11540-96	1	KK460SS Main Frame
39.	6264	1	License Plate Bracket Assembly
40.	5553-81	1	Tie Rod Assembly w/ ends
41.	5179A	1	Right Tie Rod End w/Right Hand Threads & Jam Nut
42.	5178A	1	Left Side Tie Rod End w/ Left Hand Threads & Jam Nut
43.	01905	1	9/16"-18UNF Jam Nut w/Right Hand Threads
44.	01904	1	9/16"-18UNF Jam Nut w/Left Hand Threads
45.	04773-96	2	Rear tire Stop
46.	00523	4	3/8"-16UNC x 1-1/4" lg. Hex Head Bolt (gr.5)
48.	11978-96	1	Rear Tongue Half
49.	11969-96	1	Front Tongue Half
50.	5433	1	Right Winch assembly
51.	5432	1	Left Winch Assembly
52.	02772	2	1/4"-20UNC Nylon Lock Nut
53.	04177	2	1/4"-20UNC x 1" Carriage Bolt
54.	11967-95	1	5/8"-13UNC x 5 1/4" Hex Head Bolt (gr.5) Hinge Bolt
55.	11795	1	Pin, 5/8" x 4-7/8"
56.	02209	2	7/16" Hex Nut
57.	01898	4	7/16" NC x 1-1/4" Bolt Hex (gr.5)
58.	00059	8	3/8" Flat Washer
59.	02771	4	7/16" NC Nylon Insert Lock Nut
60.	02383	2	36" Safety Chain
61.	04017-95	1	Bolt on Handle
62.	02189	1	Rubber Handle Grip
63.	01338	1	1/2"-12UNC x 4-1/2" lg. Hex Head Bolt (gr.5)
64.	01975	2	1/2"-12UNC x 5" lg. Hex Head Bolt (gr.5)
65.	11683	1	Wheel Jack
-	13303	-	Plastic Cap for Wheel Jack
66.	04369	2	Hub and Spindle
-	02917	-	Replacement 12mm x 1.50mm Stud Bolt
67.	02210	8	7/16"-20UNF x 1-1/4" Epoxy Bolt (gr.8)
68.	13989	2	ST205/75R14 "C" Range Radial Tire
69.	11574	2	Chrome Rim, 14 x 5.5, 5 on 115mm B.C.
70.	02933	10	Chrome Lug Nut
71.	8669113	1	DA91 Actuator
72.	13825-92	2	Disc Brake Caliper Assembly
73.	03927-92	2	10" Brake Rotor
74.	04174	4	Retainer Washer
75.	11971-95	2	Nut Plate
76.	12445-30	1	Spring Return System
77.	12238	2	Safety Cable 36"
78.	12229-95	2	Safety Cable Mounting Washer
79.	12253	-	Safety Hook Spring Clip Replacement
80.	13920-92	2	Caliper Mount
81.	00496	1	5/8" Machine Washer NR
82.	04462	2	Urethane Snubbers

DA91 Actuator Parts Breakdown



Model 91 ACTUATOR PARTS LIST

ITEM #	PART #	DESCRIPTION	Qty
1	00057	WASHER, .25 SPRING LOCK	4
2	00062	NUT .25NC HEX	4
3	00618	BOLT .25NC X 2.00 GR5 HEX	4
4	01896	BOLT .50NC X 4.00 GR5 HEX	3
5	02178	NUT, .50NC LOCK, NY. INSERT	3
6	03866-95	EMERGENCY LEVER GUIDE	1
7	03876	MASTER CYLINDER CAP ASSEMBLY	1
8	05408	SAFETY CABLE F/ ACTUATORS	1
9	05424	WASHER, .313 EXTERNAL TOOTH LOCK	2
10	05426	PIN, FRONT SHOCK	1
11	05687	MASTER CYLINDER BOOT	1
12	05693-95	SPRING, SAFETY LEVER	1
13	05951	EMERGENCY LEVER	1
14	05961	BOLT .313NC X .625 GR5 HEX	2
15	05977	PUSH ROD ASM DA91 & DA95	1
16	05986-95	COLD HEADED CLEVIS PIN, .875	1
17	09153	CORK GASKET F/ MASTER CYLINDER	1
18	10965	DA91 & DA10 SLIDE CHANNEL TOP	1
19	10966	DA91 & DA10 SLIDE CHANNEL BOT	1
20	10967	SLIDER SPACER	2
21	11079-95	DROP TUBE MOUNT INNER SLIDE DA91	1
22	11164-95	OUTER CASE DA91, 3 BOLT MOUNT	1
23	11190	COMPOSITE MASTER CYLINDER DISC	1
24	12396	RUE RING LOCK COTTER 5/8 SHAFT	1
25	12397	RUE RING LOCK COTTER, 7/8 SHAFT	1
26	12557	CAP FOR MASTER CYLINDER	1
27	14798	90 DEGREE FITTING	1
28	17436-95	2" CAST COUPLER	1
29	BD21001	DECAL DISC BRAKES	1
30	SB12426	SHOCK, DAMPER	1
Please order replacement parts by PART NO. & DESCRIPTION.			

-	8669113	-	DA91 Actuator w/ 2" eZ-Latch Coupler
-	5401	-	Lever Replacement Kit (incl. items w/)**
-	5482	-	Master Cyl. Replacement Kit (disc)
-	5876	-	eZ-Latch Coupler Repair Kit

Please order replacement parts by **PART NO.** and **DESCRIPTION**

BLEEDING THE SYSTEM

The first requirement for safe, sure hydraulic braking is the use of quality brake fluid. Use only DOT-3 or DOT-4 brake fluid from a sealed container.

If pressure bleeding equipment is available, follow the manufacturer's instruction in bleeding the system.

If system must be bled manually, proceed as follows: Fill master cylinder with fluid. Install bleeder hose on top bleeder of first caliper to be bled.

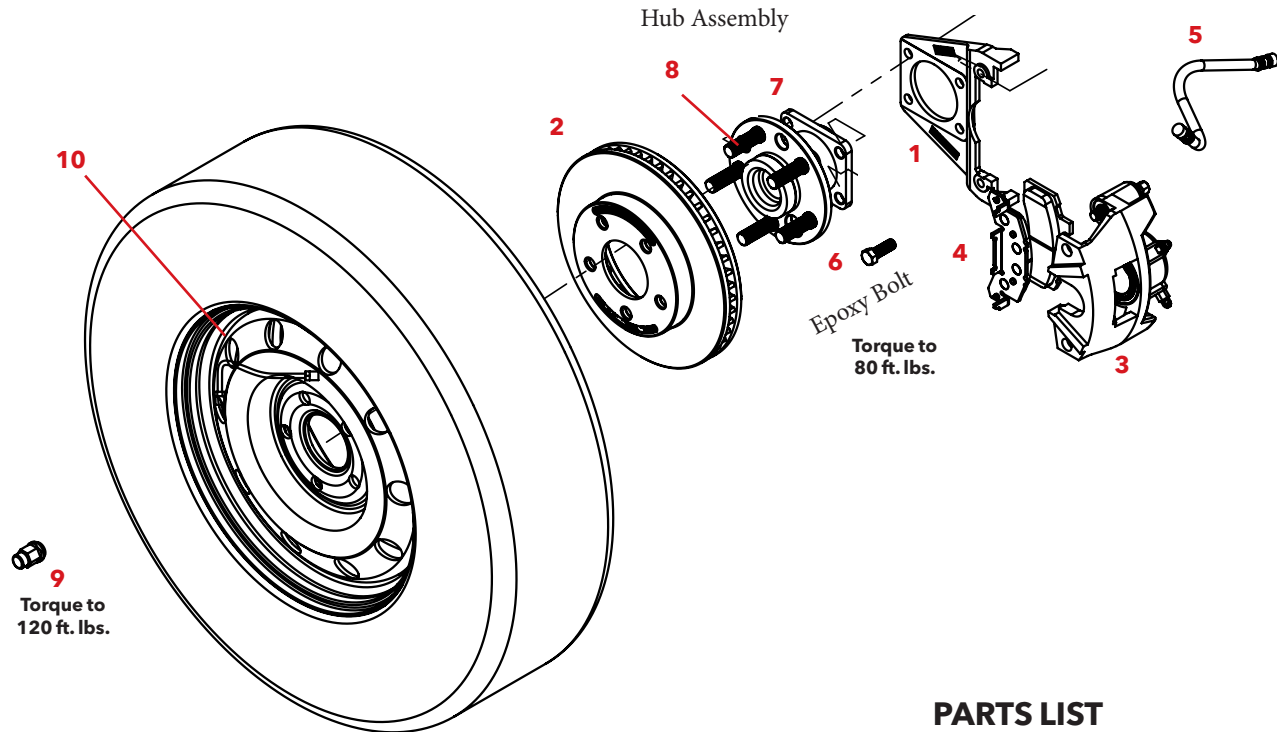
NOTE: always bleed brakes by using the top bleed screw on the caliper.

Have loose end of hose submerged in brake fluid in glass container to observe bubbling.

By loosening the top bleeder screw located on the caliper one turn, the system is open to the atmosphere through the passage drilled in the screw. Pump actuator with long steady strokes. The bleeding operation is completed when bubbles no longer rise to the surface of the fluid. **Be sure to close bleeder screw securely.**

Repeat bleeding operation at each caliper. During the bleeding process, replenish the brake fluid, so the level does not fall below the 1/2 full level in the master cylinder reservoir. After bleeding is complete, make sure master cylinder reservoir is filled and filler cap is securely in place.

After the bleeding operation has been completed, apply pressure to the system and check the whole brake system for leaks.



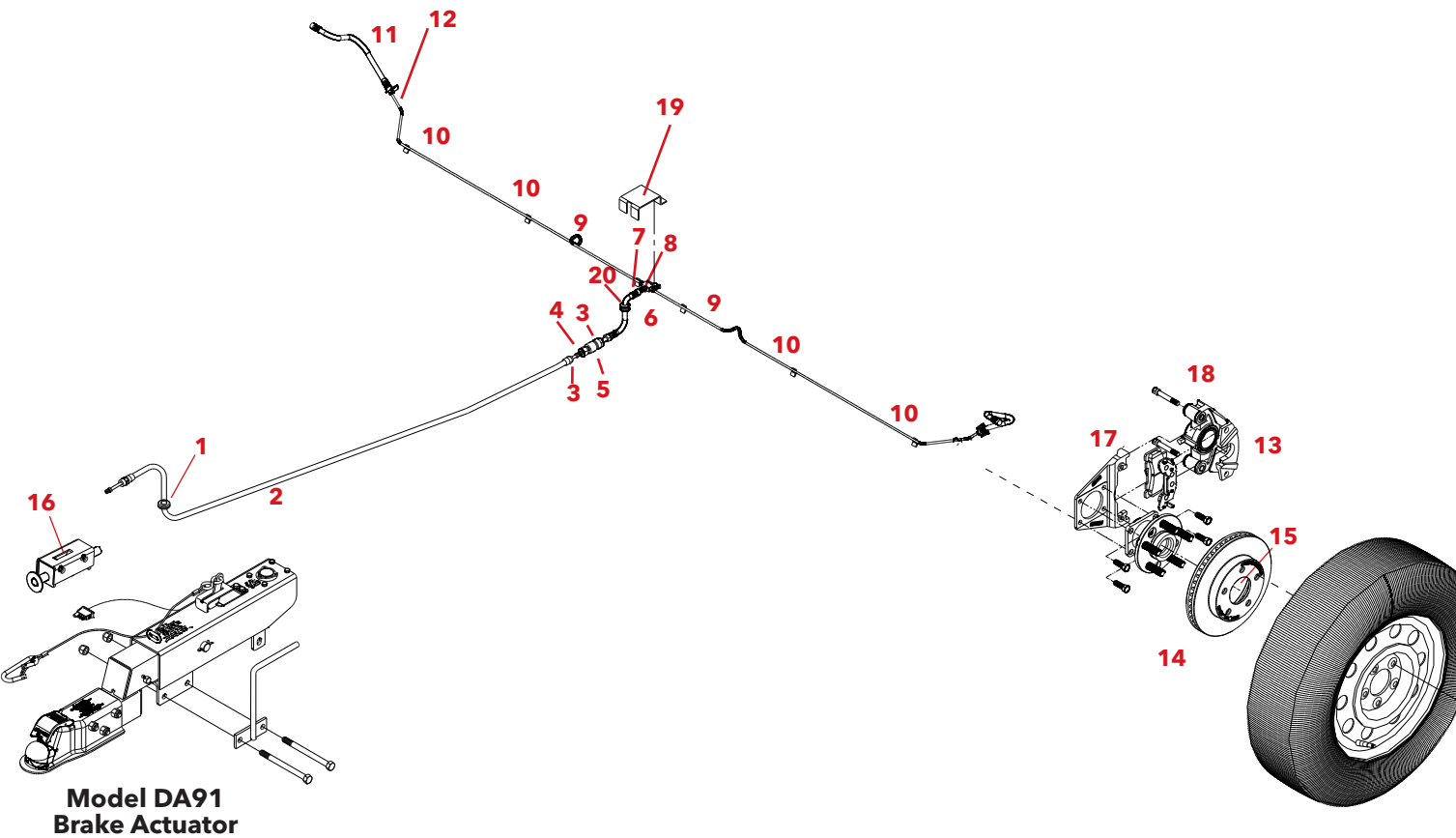
ASSEMBLY

1. Begin by mounting the Hub Assembly and the Caliper Mounting Bracket (#1) to the Forged Arm using the (#6) 7/16" Epoxied Bolts (as shown).
2. Now place the Rotor (#2) onto the Hub Assembly as shown in the diagram.
3. Make sure the Brake Pads (#4) are correctly placed in the Caliper (#3).
4. Place Caliper (#3) over the Rotor (#2), and secure it to the Mounting Bracket (#1) using the Caliper Mounting Bolts (not shown).
5. When mounting left caliper only, rotate elbow fitting 1/4 turn tighter (clockwise) to position elbow fitting correctly. Hook up Brake Hoses (#5) and replace the Rim and Tire.

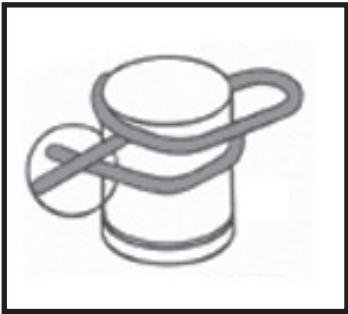
PARTS LIST

ITEM #	PART #	DESCRIPTION	Qty
1	13920-92	CALIPER MOUNTING PLATE	2
2	03927-92	ROTOR	2
3	13825-92	DISC BRAKE CALIPER COMPLETE	2
4	13824	BRAKE PADS (FOR ONE COMPLETE AXLE)	1
5	05982	19" BRAKE HOSE	2
6	02377	7/16"-20UNF GR8 X 1-1/2" EPOXY HEX HD BOLT	8
7	04369	HUB (5 ON 115MM BOLT CIRCLE)	2
8	02917	12MM X 1-1/2" REPLACEMENT STUD BOLT	-
9	02933	12MM LUG NUT CHROME	-
10	11574	14 X 5.5" CHROME RIM (115MM BOLT CIRCLE)	2
-	6845	RIM & TIRE ASSEMBLY	-
-	14179	KIT DISC BRAKE FITTING (includes items listed below)	-
-	14798	90 DEGREE FITTING	1
-	13825-5	BLEEDER VALVE	2
-	-	RUBBER BUSHING	2
-	14486	STAINLESS STEEL CALIPER BOLT (not shown)	2
-	14487	STAINLESS STEEL CALIPER BUSHING (not shown)	2

Please order replacement parts by PART NO. and DESCRIPTION



Model DA91
Brake Actuator



When servicing actuator and installing Rue Pins, make sure to manual lock the Rue Pin as shown above.

SURGE BRAKES PARTS LIST

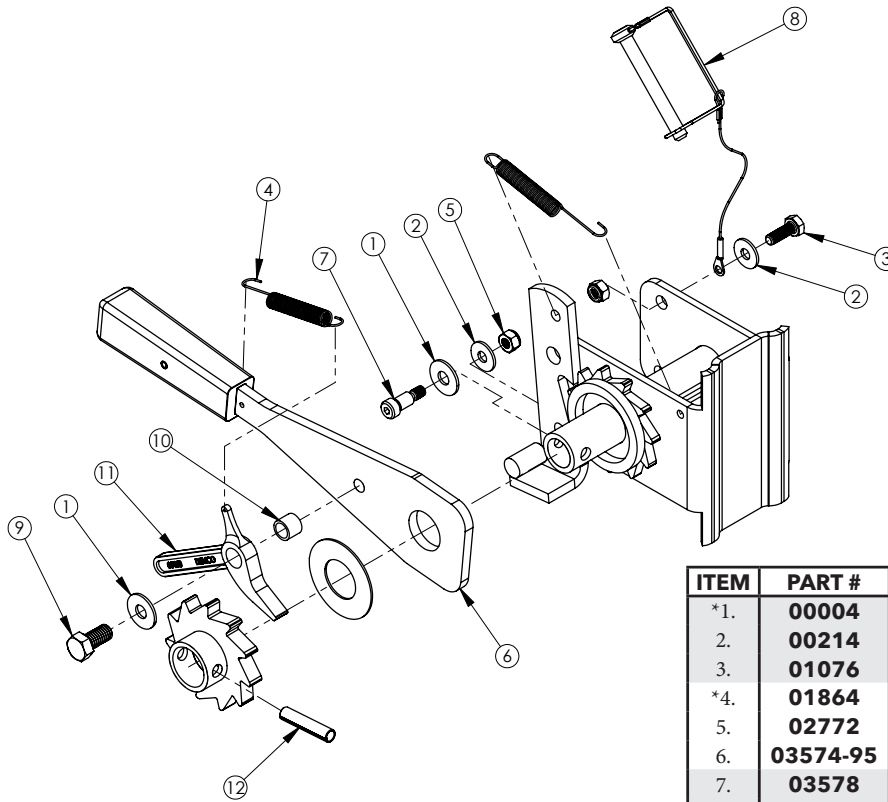
REF. NO.	PART NO.	QTY.	DESCRIPTION
1.	13047	1	Rubber Grommet
2.	12508	1	63" Brake Hose
3.	05679	2	Brake Fitting
4.	11617	1	Male Coupler
5.	11618	1	Female Coupler
6.	11643	1	7" Brake Hose Swivel Male/Solid Male
7.	SB7785	1	Brake Line Tee
8.	02196	1	5/16" x 3/4" Self-threading Bolt
9.	SB541	2	41" Brake Line
10.	02549	6	Rubber Protector
11.	05982	2	19" Brake Hose
12.	SB7764	2	Brake Line Clip
13.	13825-92	1	Disc Brake Caliper Assembly
14.	03927-92	2	10" Brake Rotor
15.	04174	4	12mm Retainer Washer (2 per disc)
16.	12445-30	1	Spring Return System
17.	13920-92	2	Caliper Mount
18.	14486	4	Caliper Mounting Bolt SS
19.	15471-72	1	Brake Tee Cover
20.	17553	1	Rubber Grommet

Please order replacement parts by **PART NO.** and **DESCRIPTION.**

Spring Return System

Slide spring return system (#16) into tongue tube, secure the actuator and lift handle to the front end of the tongue with two 1/2" x 5-1/2" gr.5 bolts, one 1/2" x 4-1/2" gr.5 bolt, and locknuts.

NOTE: The spring return system has a small nut wedged in the spring area for pre-load installation. **Do not** remove nut. Nut will automatically drop out during first braking period.

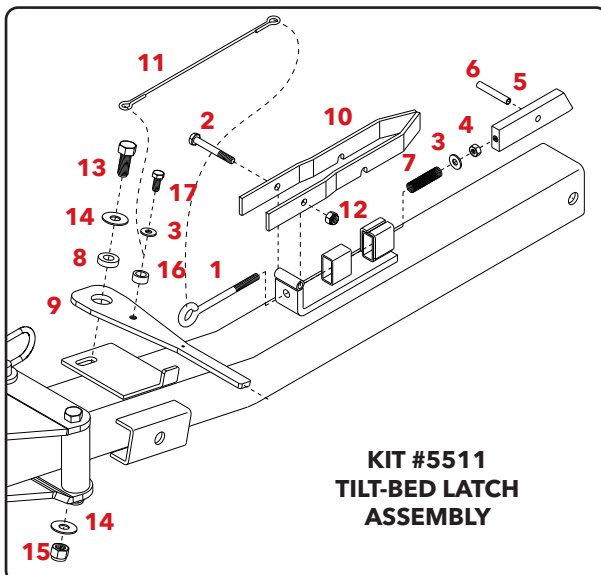


**Left Winch 5432 (Shown)
Right Winch 5433**

ITEM	PART #	DESCRIPTION	QTY.
*1.	00004	5/16" Flat Washer	2
2.	00214	1/4" Flat Washer	2
3.	01076	Bolt 1/4" - 20UNC x 3/4" Hex Head	1
*4.	01864	Spring	2
5.	02772	1/4" - 20UNC Nylon Insert Locknut	2
6.	03574-95	Ratchet Handle Plated w/ Hand Grip	1
7.	03578	5/16" - 18UNC x 1/2" Socket Head Shoulder Bolt	1
8.	05337	Safety Pin w/Cable	1
*9.	05444	3/8" - 16UNC x 3/4" Hex Head Bolt w/ Epoxy	1
*10.	05449	Winch Pawl Bushing (Stainless Steel)	1
*11.	05450	Winch Pawl	1
12.	11750	Roll Pin 5/16" x 1-1/2"	1
-	5227	Replacement Winch Pawl Kit (includes 1 of * items	-

Please order replacement parts by PART NO. and DESCRIPTION.

TILT-BED LATCH ASSEMBLY



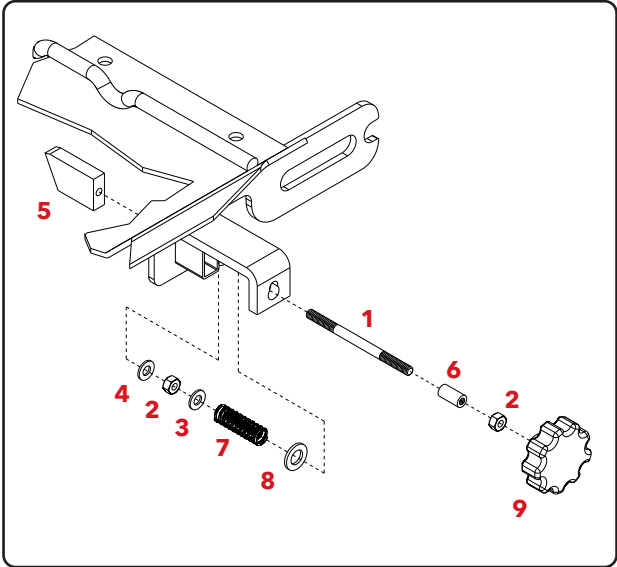
**KIT #5511
TILT-BED LATCH
ASSEMBLY**

REF. NO.	PART NO.	QTY.	DESCRIPTION
	5511	-	Tilt-Bed Latch Kit
1*	03434	1	5/16"-18 UNC x 4" Eye Bolt
2*	04221	1	5/16"-18 UNC x 2-1/2 Hex Head Bolt (Gr 5)
3*	00004	2	5/16" Flatwasher
4*	00007	1	5/16"-18 UNC Hex Nut
5*	03379-95	1	Latch Block
6*	03435	1	Roll Pin (5/16" x 2-1/4")
7*	03499	1	Latch Spring - Stainless Steel
8.	03382-95	1	Latch Handle Pivot Bushing
9.	03574-95	1	Latch Handle
10.	03381-95	1	Latch Catch
11.	03433	1	Latch Cable
12.	02802	1	5/16"-18 UNC Nylon Insert Locknut
13.	00967	1	1/2"-13UNC x 1-1/4" lg. Hex Head Bolt (gr.5)
14.	00085	2	1/2" Flatwasher
15.	02178	1	1/2"-13UNC Nylon Insert Locknut
16.	05449	1	Spacer Bushing - Stainless Steel
17.	05444	1	3/8"-16 UNC x 3/4" Epoxied Hex Bolt (Gr 5)

Please order replacement parts by PART NO. and DESCRIPTION.

* Items included in 5511 kit

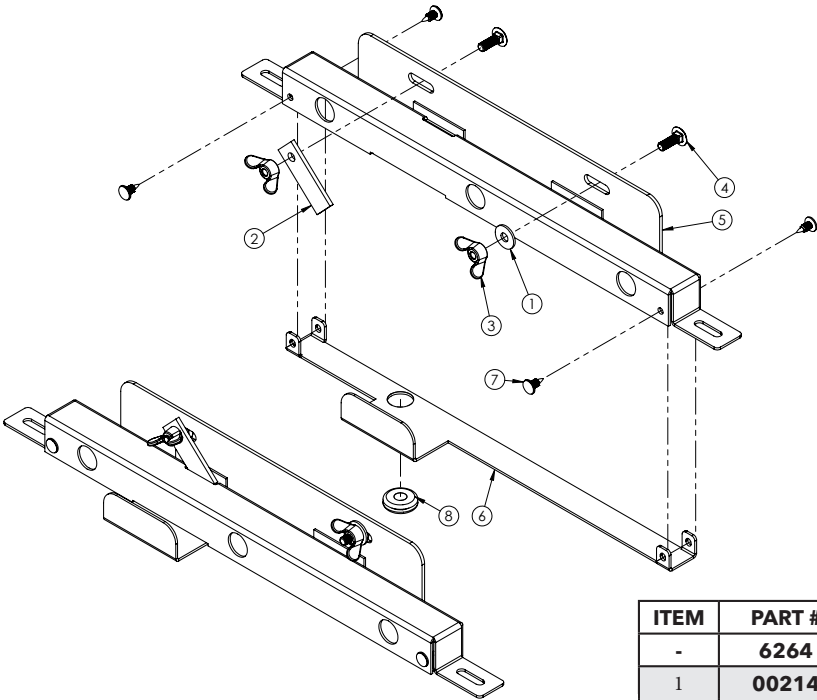
Ramp Latch and License Plate Bracket Assembly



REF. NO.	PART NO.	QTY.	DESCRIPTION
	5763	-	Ramp Latch Kit
1.	11622-95	1	5/16"-18 UNC Latch Rod
2.	00007	2	5/16"-18 UNC Hex Nut
3.	00004	1	5/16" Flatwasher
4.	00059	1	3/8" Flatwasher
5.	11570-95	1	Latch Block
6.	11623-95	1	Threaded Bushing
7.	03499	1	Latch Spring - Stainless Steel
8.	02384	1	1/2" Narrow Machine Washer
9.	11621	1	Handle/Knob

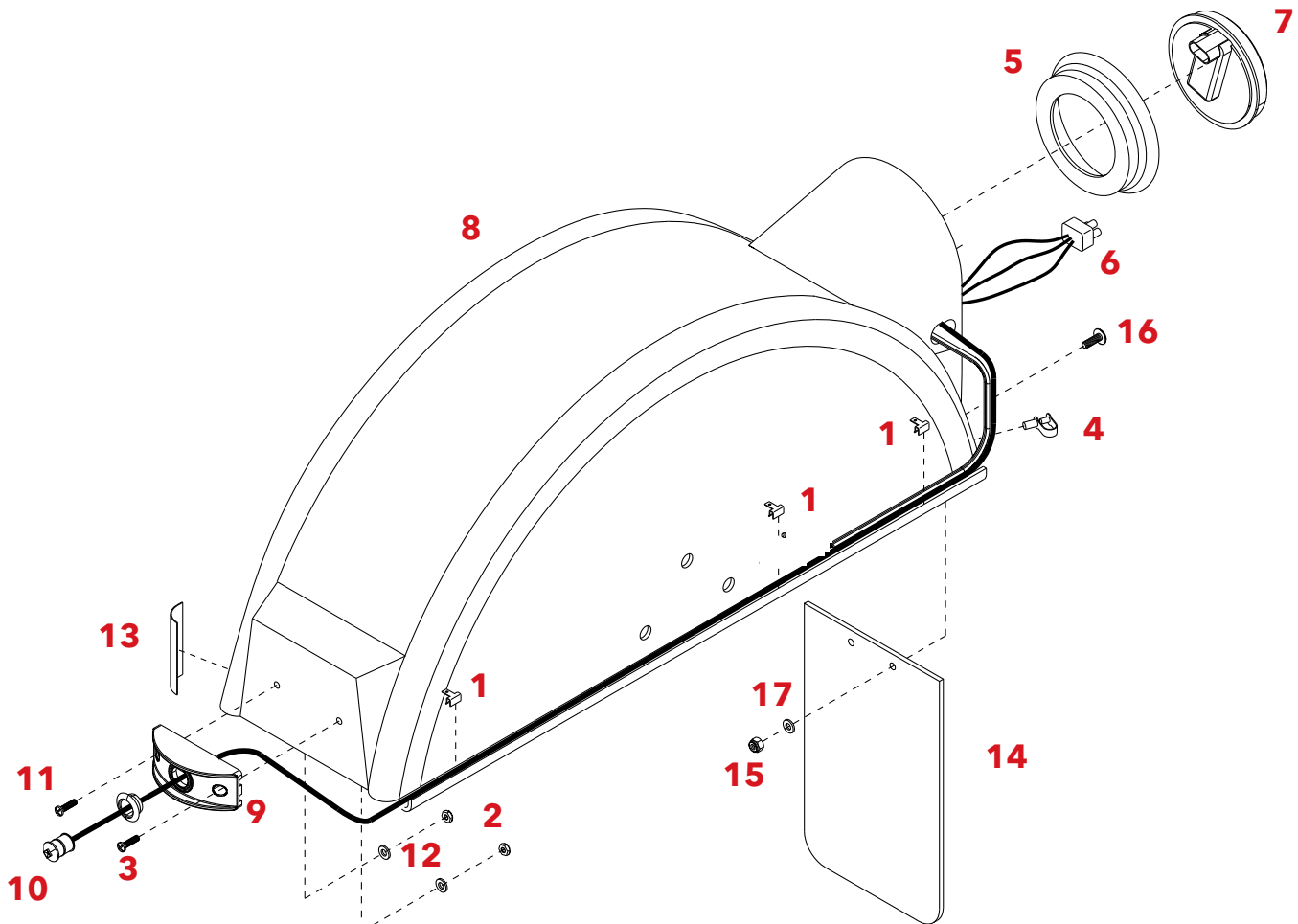
Please order replacement parts by **PART NO.** and **DESCRIPTION.**

LICENSE PLATE BRACKET ASSEMBLY



ITEM	PART #	DESCRIPTION	QTY
-	6264	LICENSE PLATE BRACKET ASSEMBLY	-
1	00214	FLAT WASHER .25"	1
2	02580-95	LICENSE PLATE SUPPORT CLIP	1
3	02770	WING NUT, .25NC NYLON INSERT	2
4	04176	BOLT, CARRIAGE .25NC X .75	2
5	16239	3 LIGHT CLUSTER MAIN HOUSING	1
6	16240	3 LIGHT CLUSTER BOTTOM	1
7	16241	PUSH RIVET .188	4
8	16242	RUBBER GROMMET	1
-	15927	WIRING HARNESS w/LED LIGHTS (NOT SHOWN)	-

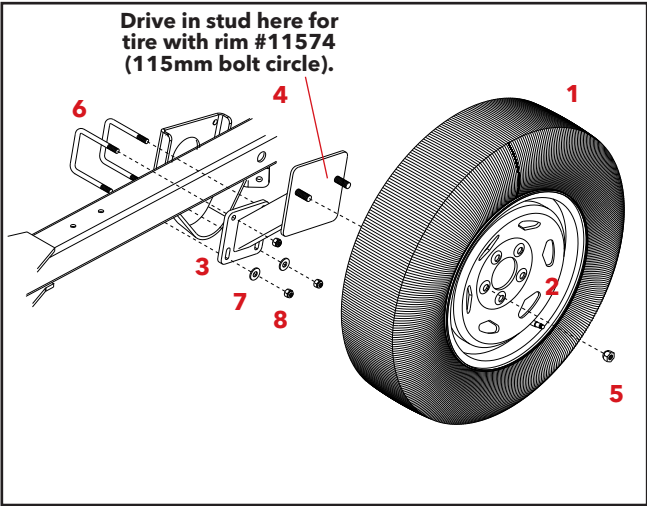
Please order replacement parts by **PART NO.** and **DESCRIPTION**



ITEM	PART #	DESCRIPTION	QTY
-	6471	LEFT LARGE FENDER ASSEMBLY	-
-	6472	RIGHT LARGE FENDER ASSEMBLY	-
1	04425	TINNERMAN U-CLAMP	3
2	02205	NUT, #10-24 NYLON LOCK	2
3	00568	SCREW #10-24 X .50 PAN HEAD	2
4	05443	NYLON CABLE HANGER	1
5	05447	4" LIGHT GROMMET	1
6	15975	LED FENDER HARNESS	1
7	11209	4" LED TAIL LIGHT	1
8	18563	LEFT FENDER ASSEMBLY	1
-	18562	RIGHT FENDER ASSEMBLY	1
9	13509	LED MARKER BASE MOUNT .375	1
10	13508	LED MARKER LIGHT YELLOW .375	1
11	13658	GROMMET F/ .375 LED LIGHT	1
12	07490	WASHER .1875	2
13	04508	AMBER REFLECTOR	1
-	04804	RED REFLECTOR	1
14	01769	KAR KADDY MUD FLAP	1
15	02772	NUT, NYLON LOCK .25	2
16	10732	BOLT, .25 SLOTTED TRUSS HEAD BOLT STAINLESS	2
17	00214	WASHER FLAT .25	2
Please order replacement parts by PART NO. and DESCRIPTION			

Optional Items

Optional Spare Tire and Mount Parts Breakdown



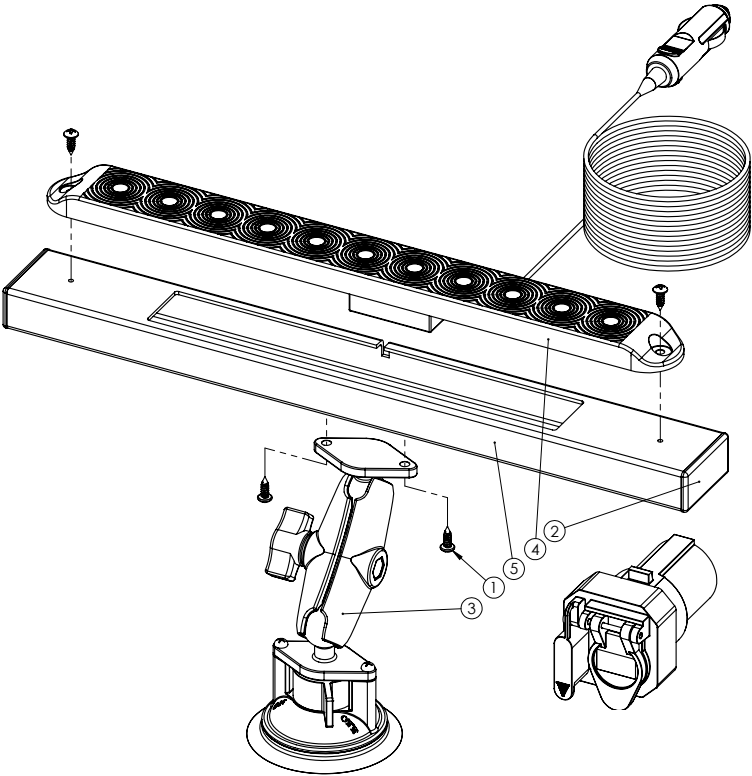
PARTS LIST

-	6845	1	Optional Spare Tire and Rim
1.	13989	1	ST205/75R 14"x"C" ROWL Radial Tire
2.	11574	1	5.5" x 14" Chrome Rim 115mm Bolt Circle
	RKSTM	1	Spare Tire Mounting Bracket
3.	02193-30	1	Spare Tire Bracket
4.	02917	1	Stud Bolt (12mm x 1.5)
5.	02933	2	Wheel Nut (12mm) Chrome
6.	02759	2	3/8"-16UNC Square U-Bolt
7.	00059	2	3/8" Flatwasher
8.	02592	4	3/8"-16UNC Nylon Insert Locknut

Please order replacement parts by PART NO. & DESCRIPTION.

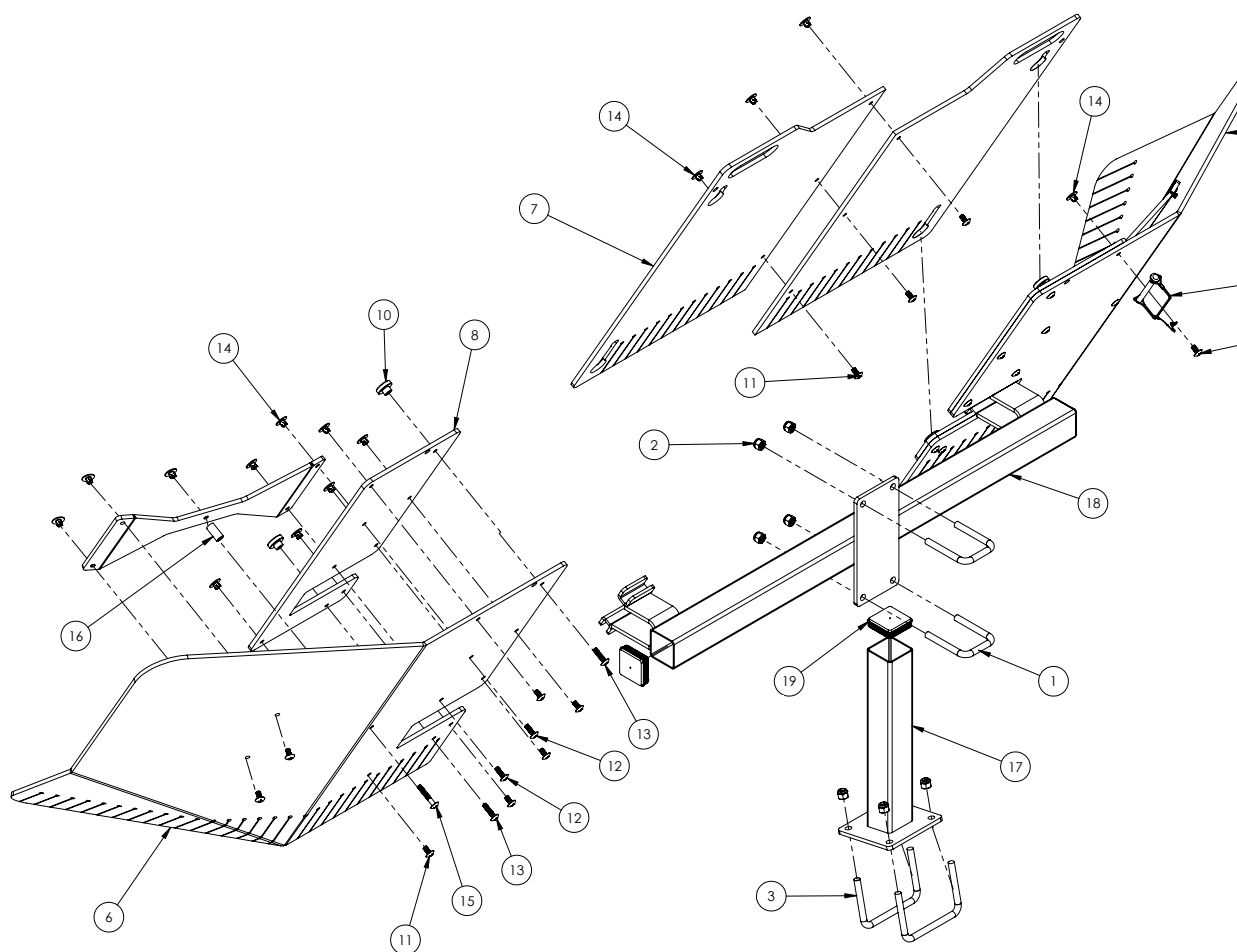
* All options may not mount on tow dolly simultaneously.*

OPTIONAL LIGHT BAR PARTS BREAKDOWN



ITEM	PART #	QTY	DESCRIPTION
	6343	1	LED Light Bar
1	6340	1	LIGHT BAR MOUNTING KIT
2	6341	1	TRANSMITTER & RECEIVER KIT
3	16868	2	END CAP
4	69871	1	LIGHT BAR TUBE
5	16045	4	SCREW #8 X .50 SHEET METAL
Please order replacement parts by PART NO. and DESCRIPTION.			

Optional Sentry Deflector #5950 Parts Breakdown



ITEM	PART #	DESCRIPTION	QTY
1	02128	U-BOLT, SQ, .375NC X 2.063 X 3.00	2
2	02592	NUT, .375NC NYLON LOCK	8
3	04494	U-BOLT, SQ, .375 X 3.00 X 4.00	2
4	05337	SAFETY LOCK PIN ASSEMBLY	1
5	10131	ROCK GUARD, LEFT	1
6	10132	ROCK GUARD, RIGHT	1
7	10133	DEFLECTOR CENTER SECTION	2
8	10134	DEFLECTOR MOUNTING PLATE	2
9	10135	DEFLECTOR BRACE/HANDLE	2
10	10136	RETAINER BUTTON	4
11	10183	SCREW, .25 NC X .50 PHILLIPS HEAD	17
12	10184	SCREW, .25 NC X .75 PHILLIPS HEAD	4
13	10185	SCREW, .25 NC X 1.00 PHILLIPS HEAD	4
14	10186	T-NUT, .25 NC X .41 BARREL	23
15	11264	SCREW, .25 NC X 1.50 PHILLIPS HEAD	2
16	11265	SPACER BUSHING	2
17	13731-81	UPRIGHT POST MOUNT	1
18	13732-81	SENTRY CROSSMEMBER TD MNT	1
19	17044	CAP PLUG 2" SQ X 10-14 GA	3
Please order replacement parts by PART NO. and DESCRIPTION			



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