CROFT TOW DOLLY

MODELS CGTD76 & CGTD76DB



OWNERS MANUAL

Towing Instructions, Assembly, Parts Breakdown and Options



CROFT TRAILER SUPPLY, INC.

P.O. Box 300320 • Kansas City, MO 64130 816-861-1001 • 1-800-426-8159 • FAX 816-861-1881 • www.crofttrailer.com Exceeding weight limitations or not using a towing vehicle larger and at least 1,000 lbs. heavier than the tow dolly and the towed vehicle combined can result in loss of towing vehicle control, separation of the tow dolly from the towing vehicle, or separation of the towed vehicle from the tow dolly, causing severe personal injury, death, or property damage.

All vehicles to be towed on tow dollies must be towed with the front axle on the dolly.

It is recommended that two people set-up and load this piece of equipment TABLE OF CONTENTS

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WIRING OF THE TOWING VEHICLE

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

- 1. Make certain the towing vehicle lights are "OFF".
- Connect YELLOW wire to left turn signal and stop wire in the left rear of towing vehicle with the wire splicer 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 or 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 tow dolly turn signals. If normal operation does not occur when connected to the tow dolly, a heavy duty replacement flasher may be obtained through an auto parts outlet store.

TESTING CIRCUITRY

- 1. Check that the WHITE (ground) wire is connected to the frame of the towing vehicle.
- 2. With headlights in "ON" position, the tail lights 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 this plug connection is correct, correct problem by reversing yellow and green wire connection on the towing vehicle.

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 tow unit 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.



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 the following precautions in this section. To avoid personal injury, study the following precautions and insist those working with you, or you yourself, follow them.

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 tow unit under the influence of alcohol or drugs.

Review the 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 THE SAFETY PRECAUTIONS AND HOW IT WORKS.**

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

Never exceed the limits of a tow unit. If its ability to do a job safely is in question **DON'T TRY IT**.



LIGHTING AND MARKING

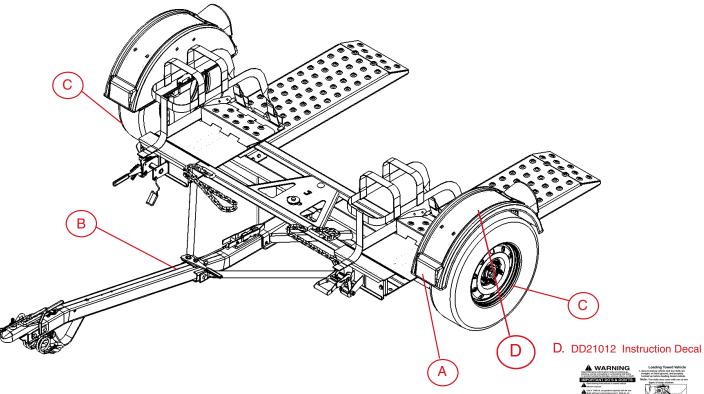
It is the responsibility of the owner to know lighting and marking requirements of local highway authorities and to install and maintain equipment to provide compliance with regulations.

Light bar kits and magnetic tow lights are available from Croft Trailer Supply Inc.



SAFETY SIGN LOCATIONS

Types of safety signs and locations on a Croft Tow Dolly are shown in the illustration below. Good safety requires that you familiarize yourself with various safety signs, type of warning, and particular functions related to that area, that requires your SAFETY AWARENESS.



A. NA21007 55 MPH Speed Limit



B. NP21007 Tilt Bed



C. DA21001 Tire Pressure/Torque

Keep wheel lug nuts or bolts tightened to specified torque.

Maintain tire pressure at 50 P.S.I. cold REV 1 DA21001





SAFETY SIGN CARE

- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or have become illegible.
- Replacement parts that displayed a safety sign should also display current sign.
- Safety signs are available from Croft Trailer Supply.

How to install safety signs:

- · Be sure installation surface is clean and dry.
- Decide on exact position before you remove backing paper.
- Remove smallest portion of split backing paper.
- Align decal over specified area and carefully press small portion with exposed sticky backing in place.
- Slowly peel back remaining paper and carefully smooth remaining portion of decal into place.
- Small air pockets can be pierced with a pin and smoothed out using 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 serious injury or death.
- Do not attempt to mount a tire unless you have 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.
- Tow unit tires must be inflated to recommended P.S.I. . See decal on tow unit for correct pressure.
- Always order and install tires and wheels with appropriate type and load capacity to meet or exceed gross weight of unit.



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 Croft Trailer Supply.



BEFORE OPERATION:

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



DURING OPERATION

- SAFETY CABLES Always follow state and local regulations regarding safety chains and auxiliary lighting when towing. Be sure to check with local law enforcement agencies for your own particular regulations. Only safety chains (not elastic or nylon/plastic tow straps) should be used to retain connection between towing vehicle and towed unit in event of separation.
- Do not load towed vehicle with cargo. Towed vehicles exceeding weight limits will overload tow unit and may cause serious injury and damage.
- Criss cross safety cables under tongue, secure to mounting loops on towing vehicle.
- Secure emergency brake actuator cable to mounting loop on towing vehicle.
- Beware of bystanders, PARTICULARLY CHILDREN! Always look around to make sure
 it is safe to start engine of towing vehicle or move 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 towed unit.
- When halting operation, even periodically, set towing vehicle parking brake, shut off engine, and **remove ignition key**.
- · Be extra careful on inclines.

- MANEUVER TOWING VEHICLE AT SAFE SPEEDS. DO NOT EXCEED 55 M.P.H.
- Avoid overhead wires or other obstacles. Contact with overhead lines could cause serious injury or death.
- Avoid loose gravel, rocks, and holes; they can be dangerous for unit operation or movement.
- Allow for unit length when making turns.
- Do not work under raised components or attachments unless securely positioned and blocked.
- Keep all bystanders and pets clear of work area.
- Operate towing vehicle from operators seat only.
- As a precaution, recheck hardware on tow unit every 50 miles, and correct all problems. Follow maintenance safety procedures.



FOLLOWING OPERATION

- Following operation, or when unhitching, stop towing vehicle, set parking brake, shut off engine and **remove ignition key**.
- Store tow unit in area away from human activity.
- Do not permit children to play on or around stored tow unit.
- Make sure parked tow unit is on hard, level surface.
- Wheel chocks may be needed to prevent unit from rolling.



HIGHWAY AND TRANSPORT OPERATIONS

- Adopt safe driving practices:
 - Always drive at safe speed relative to local conditions and ensure that your speed is low enough for an emergency stop. **Do not exceed 55 M.P.H.**
 - Reduce speed prior to turns to avoid risk of overturning.
 - Always keep 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.
- 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.
- Watch for obstructions overhead and to both sides while transporting.
- Operate with maximum visibility at all times. Make allowances for increased length and weight of tow unit when making turns and stopping.



PERFORMING MAINTENANCE

- Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.
- Make sure there is plenty of ventilation. Never operate engine of towing vehicle in a closed building. Exhaust fumes may cause asphyxiation.
- Before working on tow unit, stop towing vehicle, set parking brake, turn off engine and remove ignition key.
- Always block wheels and never use a jack as sole support.
- Always use proper tools or equipment for job at hand.
- Use extreme caution when making adjustments.
- Follow torque chart in this manual when tightening bolts and nuts.
- Openings in skin and minor cuts are susceptible to infection from brake fluid.
 Without immediate medical treatment, serious infection and reactions can occur.
- After servicing, be sure all tools, parts and service equipment are removed.
- Do not allow grease or oil to build up on any step or platform.
- When replacing bolts, refer to owners manual for proper size and grade.
- 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 tow unit to original specifications.
 Manufacturer will not claim responsibility for use of unapproved parts and/or accessories or other damages as a result of their use.
- If tow unit has been altered in any way from original design, 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 tow unit.

BOLT TORQUE

TORQUE DATA FOR STANDARD NUTS, BOLTS, AND CAP SCREWS.

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.



Torque Specifications

Bolt Torque for Standard Bolts *

G	RADE 2	2 G	RADE	5 G	RADE	8
"A"	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	(1310)

Bolt Torque for Metric Bolts *

	GRADE 8.8		GR	ADE 9.8	GR	ADE 10.9
"A"	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)

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 cap screws 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.

TOW DOLLY LOAD LIMITATIONS

READ TOW DOLLY INSTRUCTIONS BEFORE LOADING

Maximum Tire Tread Width or Outside Body Width: 42" Min. - 76" Max.

Maximum Towed Vehicle Weight

	With H3BOS	With 13689	With Brakes
Front Wheel Drive	4,250 lbs	4,500 lbs	4,500 lbs
Rear Wheel Drive or Four Wheel Drive	4,250 lbs	5,000 lbs	5,000 lbs

- Vehicle must be centered with front end on tow dolly facing forward.
- Vehicles with low front end or air dams may not have enough ground clearance to drive up on tow dolly platform.
- · Vehicle must have lockable steering.
- Rear-wheel or four-wheel drive vehicles must have drive shaft disconnected.
- Do not tow mid or rear engine mounted vehicles
- Towed vehicles must not be loaded with possessions, people, pets, etc.

BACKING 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.



TOW DOLLY INSTRUCTIONS

Read the following information completely before hooking up, loading, using, unloading or unhooking the tow dolly. Failure to abide by the following can result in damage to property, severe personal injury and/or death.

IMPORTANT DO'S & DON'TS

- · Read the towing instructions in the towed vehicle's owner's manual.
- Use a 2", 5000 lb. (or greater) capacity ball for a Tow Dolly without surge brakes and a 2", 6000 lb. (or greater) capacity ball for a Tow Dolly with surge brakes.
- Make sure the towing vehicle's parking brake is fully engaged before starting hookup, loading, unloading or unhooking of the Tow Dolly.
- Do not load the towed vehicle onto the Tow Dolly until the Tow Dolly is completely and properly hooked up to the towing vehicle and setting on a level surface.
- Always drive the front wheels of the towed vehicle onto the Tow Dolly. Do not load backwards
- Tail lights and stop lights must be hooked up and operating properly at all times.
- Do not load a towed vehicle that exceeds the weight or size limits onto the Tow Dolly.
- Always have someone safely guide you when driving the towed vehicle onto the Tow Dolly.
- Be sure the tires of your towed vehicle and the Tow Dolly are in good condition and inflated
 to the proper pressures. Tire pressure may increase during travel do not bleed off this
 increase in pressure.
- Do not back up your towing vehicle when the Tow Dolly is attached. The Tow Dolly swivels
 both at the coupler and at the car platform. If you must back up, unload the towed vehicle
 first, disconnect the Tow Dolly and move the vehicle and tow dolly separately. Play It Safe...
 park where you can pull ahead when leaving.
- Do not exceed 55 miles per hour, or any lower posted speed limit.
- · Avoid sharp turns or swerves.
- Braking distance increases when using a Tow Dolly. Use caution and always allow sufficient distance for braking.
- Do not transport passengers or cargo in the vehicle being towed.
- Do not unhook the Tow Dolly from the towing vehicle until the towed vehicle is completely
 unloaded from the Tow Dolly.

IMPORTANT INFORMATION CUSTOMER RESPONSIBILITIES

The customer assumes all risks inherent in the operation, use, or possession of the Tow Dolly. Towing a vehicle is the customer's responsibility and it is the customer who must ensure that the weight and size limits of the Tow Dolly rented will not be exceeded by the vehicle being towed. Any injury or damage that results from exceeding weight or size limits is the sole responsibility of the customer.

TOWING VEHICLE REQUIREMENTS

The customer 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 may include, but are not limited to:

- The towing vehicle's weight being at least 1000 lbs. greater than the weight of the tow dolly and the towed vehicle.
- Compliance with towing restrictions as stated by the towing vehicle's owner's manual and/or manufacturer.
- •The towing vehicle having, as a minimum, a 5000 lb., Class 3 hitch and hitch ball for a Tow Dolly without surge brakes. Or a 6000 lb. hitch, class 3 and hitch ball for a Tow Dolly with surge brakes. (Hitch ball must be 2". Do not use any other size hitch ball.)
- \bullet The towing vehicle being in good condition.
- The towing vehicle having a current federal and/or state inspection where applicable, and complying with any applicable laws.
- Making sure all lights are properly hooked up and operating at all times.
- The towing vehicle's hitch being approximately 20 inches to the top of the ball. Make sure
 that the hitch and the 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.
- 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.

LOAD WEIGHT AND SIZE LIMITS

Load Limits (total weight of towed vehicle). A towed vehicle exceeding the weight limit will overload the tow dolly and may cause serious injury and damage to both the towed vehicle and the Tow Dolly.

For Tow Dolly without surge brakes:

- Front-Wheel-Drive Vehicles: 4330 lbs. max.
- Rear-Wheel-Drive Vehicles: 4330 lbs. max.

For Tow Dolly with surge brakes:

- Front-Wheel-Drive Vehicles: 4550 lbs. max.
- Rear-Wheel-Drive Vehicles: 4960 lbs. max.

Size Limits. A towed vehicle exceeding the width limit will obstruct the platforms swivel action when towing and could damage the towed vehicle's tires and the fenders.

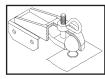
 Maximum Vehicle Tread & Body Width: 76" from outside of left tire to outside of right tire on the front axle. The tow dolly may only be used with a vehicle that is equipped with a 2", 5,000 lb. capacity ball. When used properly, the tow dolly can provide a safe and effective means to transport a vehicle within the following limitations. WARNING: Read all Tow Dolly instructions and load limitations before using Tow Dolly.

IMPORTANT

Tow dolly must be attached to the towing vehicle before loading the towed vehicle onto the tow dolly. Do not back the vehicle with the tow dolly attached, as this will damage the towed vehicle and tow dolly. If in a situation where backing is necessary, disconnect the towed vehicle from the tow dolly, and the tow dolly from the towing vehicle and move separately.

HOOK-UP OF THE TOW DOLLY

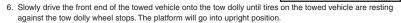
 Loosen coupler loop nut. Place the coupler of the tow dolly over the 2" hitch ball on the truck. Be sure the coupler is fully seated down over the ball.
 Make sure that the hitch and hitch ball are in good condition and not rusted, loose or stripped. Both the hitch and hitch ball must be securely attached to the towing vehicle.



- 2. Completely tighten the coupler loop nut. Pull up on the tow dolly tongue to be sure it is properly secured.
- Connect the color coded wires from the tow dolly to the corresponding color coded posts on the towing vehicle's electrical box.
- Crisscross the safety chains under tongue and secure to towing vehicle frame. Allow some slack in the chains for movement during turns made by the towing vehicle and tow dolly.

HOOK-UP OF THE TOWED VEHICLE TO TOW DOLLY

- 1. Be sure that the towing vehicle and tow dolly are straight and on level ground.
- 2. Make sure that the tow dolly platform is straight.
- Lift ratchet handle to full extended position and unroll straps from ratchet. Return ratchet handle to the down position.
- 4. Lay straps along fender side of tow dolly, off of tow dolly platform.
- 5. Allow tow dolly platform to tilt back by releasing the locking pin



Make certain that the towed vehicle is centered on tow dolly platform since the platform swivels during turns. Adequate space is required between the tow dolly fenders and towed vehicle.

CAUTION: NEVER BACK A TOWED VEHICLE ONTO A TOW DOLLY.

- 7. Locking pin on platform must go into the locked position.
- 8. For safety reasons, engage the parking brake of the towed vehicle (see item #13) and place transmission in low gear (standard) or park (automatic).
- Center the tie down ratchets in front of the towed vehicle tires and pull the tow dolly tire straps forward over the tires.
- 10. Tighten each strap securely by pulling up and down as many times as necessary on the tie down ratchet assembly handle until the tire flattens slightly against the tire stop. Place handle in down position.
- 11. Hook up safety chains from tow dolly platform to the frame of towed vehicle directly above the area where chains are mounted on tow dolly. Allow slight slack in the chains to provide for suspension movement on the towed vehicle.
- 12. Disconnect the drive shaft on the towed vehicle if rear-wheel or four-wheel drive. Consult your dealer if you are uncertain of above. TOWING ABOVE VEHICLE WITHOUT DISCONNECTING DRIVE SHAFT WILL DAMAGE TOWED VEHI-CLE'S TRANSMISSION EVEN IF TRANSMISSION IS PLACED IN NEUTRAL.



- 13. Release parking brake on towed vehicle and be sure the steering is LOCKED in the straight position. The towed vehicle must have lockable steering. Remove keys from ignition and lock vehicle.
- 14. Check the towing system after hook-up, tow about 100 feet, then stop and perform a safety check. Check the bolts, chains, coupler, ramps, tire straps, and other items to make sure they are in the right position and secure. Repeat the safety check after the first 5 miles and then every 50 miles thereafter.
- 15. Towed vehicle is now safely connected and ready to be towed.

CHECK THE TOW DOLLY BOLTS, COUPLER, SAFETY CHAINS, ELECTRICAL HOOK-UP, AND TIRE STRAPS AFTER 100 FEET, AFTER THE FIRST 5 MILES OF TRAVEL, AND THEN EVERY 50 MILES THEREAFTER.

DO NOT EXCEED 55 MILES PER HOUR OR ANY LOWER POSTED SPEED LIMIT.

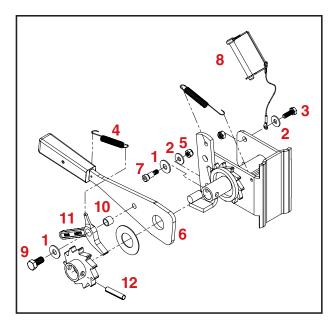
UNLOAD TOWED VEHICLE FROM TOW DOLLY

- 1. Park towing vehicle and tow dolly straight and on level ground. Apply parking brake of towing vehicle.
- 2. Fully apply towed vehicle parking brake.
- 3. Install drive shaft on rear-wheel or four-wheel drive towed vehicle.
- 4. Remove wheel straps and safety chains from towed vehicle.
- 5. Release tow dolly platform locking pin.
- 6. Release parking brake on towed vehicle.
- 7. SLOWLY back towed vehicle off of tow dolly to prevent bottom of vehicle from contacting ramps.

CHECK TRANSMISSION FLUID LEVEL ON TOWED VEHICLE IF DRIVE SHAFT WAS REMOVED AS FLUID $\underline{\text{MAY}}$ HAVE LEAKED OUT DURING TOWING.

- 8. Return tow dolly platform to the up position and engage locking pin.
- 9. Take up excess slack on tow dolly straps in ratchet assembly.
- 10. Store all safety chains in storage position.
- 11. Wrap tow dolly electrical wires around tow dolly tongue handle.

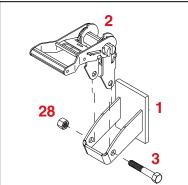
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OPTIONAL KIT BREAKDOWNS

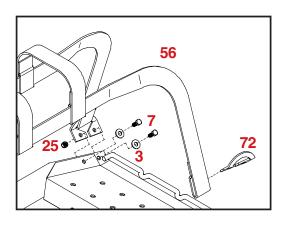
LEVER RATCHET ASSEMBLY PARTS LIST

-	5432	LEFT LEVER RATCHET ASSEMBLY	
-	5433	RIGHT LEVER RATCHET ASSEMBLY	
*1	FW516Z	5/16" FLAT WASHER	1
2	FW14Z	1/4" FLAT WASHER	1
3	B14075G5ZC	1/4" -20UNC X 3/4" HEX HEAD BOLT	1
*4	01864	SPRING	2
5	NLN14G2ZC	1/4" -20UNC NYLON INSERT LOCK NUT	2
6	03574X	RATCHET HANDLE	1
7	03578X	5/16" X 1/2" SHOULDER BOLT	1
8	05337X	LOCK PIN w/ CABLE	1
*9	05444X	3/8" X 16UNC X 3/4" HEX HD w/ EPOXY	1
*10	05449X	WINCH PAWL BUSHING	1
*11	05450X	WINCH PAWL	1
12	11750X ROLL PIN 5/16"		1
-	5227	REPLACEMENT WINCH PAWL KIT	-
		(Includes 1 of * items)	
Plea	ase order replace	ement parts by PART NO. and DESCRIPTION	NC



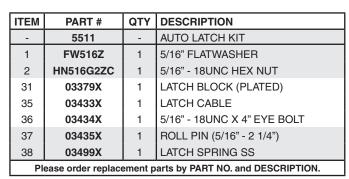
REF. NO.	PART NO.	QTY.	DESCRIPTION
-	5422	-	Tie Down Ratchet Kit
1.	03383X	1	Mounting Bracket (plated)
2.	03423X	1	Ratchet
3.	B1235G5ZC	1	1/2" -13UNC x 3-1/2" Hex Head Bolt Gr.5
28.	NLN12G2ZC	1	1/2" -13UNC Nylon Insert Locknut

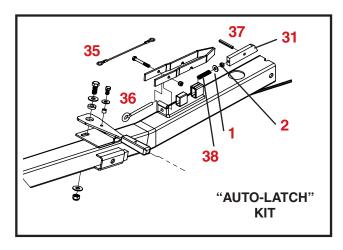
Please order replacement parts by PART NO. and DESCRIPTION.



3-Point Non-removable Tie-Down Straps

REF. NO.	PART NO.	QTY.	DESCRIPTION
3.	FW38Z	5	3/8 Flatwasher
25.	NLN38G8ZC	8	3/8-16 UNC Nylon Insert Locknut
56.	05898X	2	Non-Removable 3-Point Strap w/Buckle
72.	14760	4	Tie-Down Bracket
7.	B381G5ZC	8	3/8-16 UNC x 1 Hex Head Bolt (Gr 5)

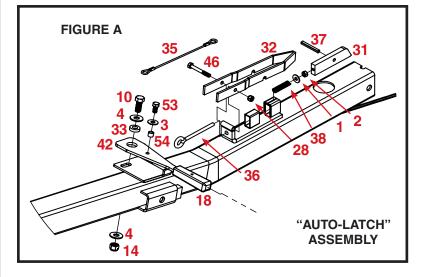


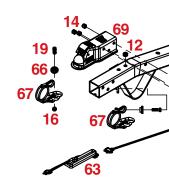


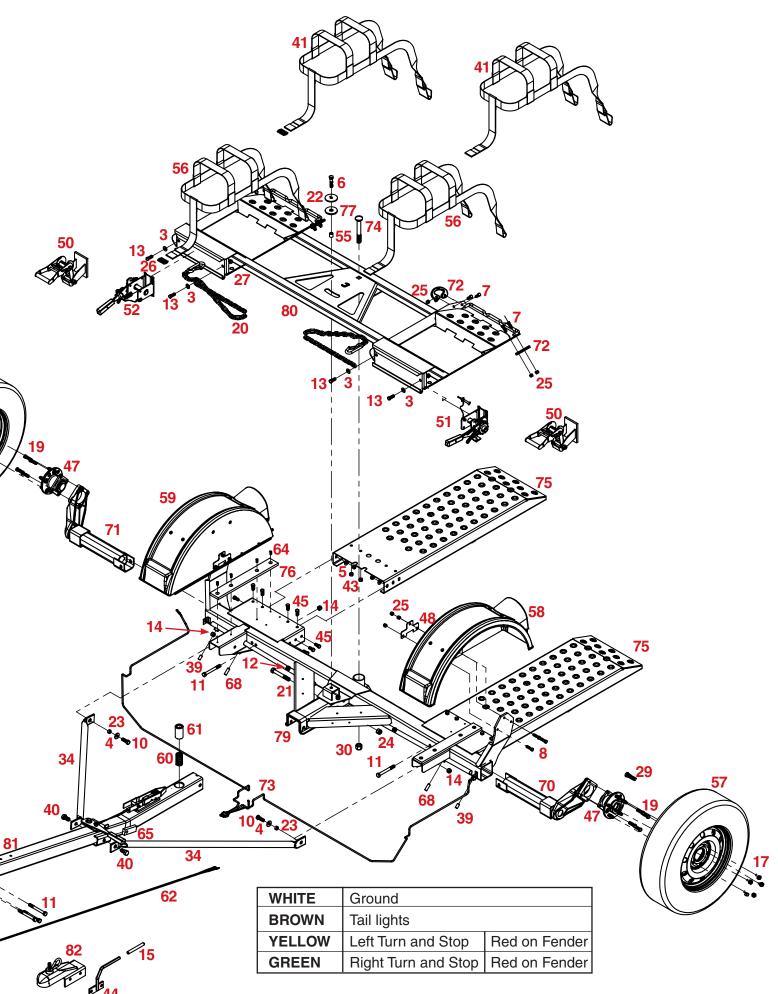
CGTD76 & CGTD76DB PARTS BREAKDOWN

TW516Z	
Section	
FW12Z	
FW716Z	
B12225G5ZC	
Raman	
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12	
13	r.5
14	05
15	Gr.5
16	
17	
19	
20	
- H716L - 7/16" "S" Hook For Safety Chains 5/8" -11UNC X 4-1/2" Hex Head Bolt G	lt Gr.8
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22	r E
23	1.5
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42 03574X 1 Latch Handle (Plated) 43 NLN716G5ZF 20 7/16"-20UNF Nylon Insert Locknut 44 04017X 1 Bolt on Lift Handle 45 B7161G8ZF 20 7/16"-20UNF X 1" Hex Head Bolt Gr.8 46 B51625G5ZC 1 5/16"-18UNC X 2-1/2" Hex Head Bolt 47 04369X 2 Hub (5 On 115mm Bolt Circle) 48 04424X 2 Back-Up Plate For Fender (Plated) 50 5422 2 Tie Down Ratchet Kit 51 5432 1 Left Lever Ratchet 52 5433 1 Right Lever Ratchet 53 05444X 1 3/8"-16UNC X 3/4" Epoxied Hex Bolt (5 Spacer Bushing Stainless Steel 55 05723-95 1 Bushing 56 05898X 2 Non Removable 3-Point Strap w/ Buck	
43 NLN716G5ZF 20 7/16"-20UNF Nylon Insert Locknut 44 04017X 1 Bolt on Lift Handle 45 B7161G8ZF 20 7/16"-20UNF X 1" Hex Head Bolt Gr.8 46 B51625G5ZC 1 5/16"-18UNC X 2-1/2" Hex Head Bolt Gr.8 47 04369X 2 Hub (5 On 115mm Bolt Circle) 48 04424X 2 Back-Up Plate For Fender (Plated) 50 5422 2 Tie Down Ratchet Kit 51 5432 1 Left Lever Ratchet 52 5433 1 Right Lever Ratchet 53 05444X 1 3/8" -16UNC X 3/4" Epoxied Hex Bolt Graph	
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54	ar 5
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56 05898X 2 Non Removable 3-Point Strap w/ Buck	
57 CTD4ST 2 Replacement Wheel/Tire	e
- 04826X 2 St205/75r 14" X "C" Radial Tire	,
- 04366X 2 14" X 5.5" Rim (5 On 115mm Bolt Circl 58 14123 1 Left Poly Fender Grey (see page 19)	e)
58	
60 07166X 1 Tilt Bed Spring	
61 07167X 1 Spring Sleeve (Plated)	
62 07228X 1 84" Wire Harness	
63 11488 1 54" Breakaway Harness	
64 11779 8 1/4" -20UNC X 3/4" Flat Cap Hd Self T	nreading
65 11971 2 Nut Plate 66 12229-95 2 Safety Cable Mounting Washer	
66 12229-95 2 Safety Cable Mounting Washer 67 12236 2 24" Clear Jacket Safety Cable	
- 12238 2 36" Black Jacket Safety Cable (Brake U	Jnits)
68 12985 2 1/2" -13UNC X 1-1/2" Socket Hd. Set S	
69 13689-95 1 2" eZ-Latch Coupler	
70 14626 1 7" Axle Insert, Left	
71 14627 1 7" Axle Insert, Right	
72	
73 15921 Hear Wiring Assembly	
75 14778 2 Low Profile Ramp	
76 14784 2 Wear Plate (Four Hole)	
77 14785 1 Pivot Wear Washer	
79 14966-96 1 Undercarriage (Not Available)	
80 14967-96 1 Top Platform (Not Available)	
81	
Please order replacement parts by PART NO. and DESCRIPTION.	

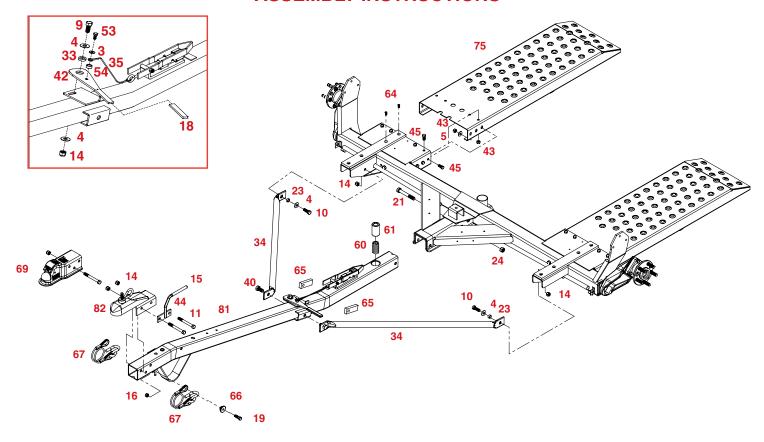








ASSEMBLY INSTRUCTIONS



Tools Needed

• End Wrenches - 9/16", 5/8", 11/16", 3/4", 15/16" & 1-1/8". •

Sockets - 7/16", 9/16", 5/8", 11/16", 3/4", 15/16" & 1-1/8"

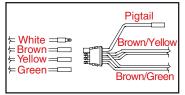
Ratchet

· Torque Wrench

12" Adjustable Wrench 7/32" Allen Wrench #25 Torx Bit Small Hammer Pliers

Remove top platform to expose mainframe by removing bolts (#6) and (#74). Place the mainframe on blocks or some other sturdy support so that the frame rest approximately 8" – 10" off the ground. Note: Save the fasteners for later use.

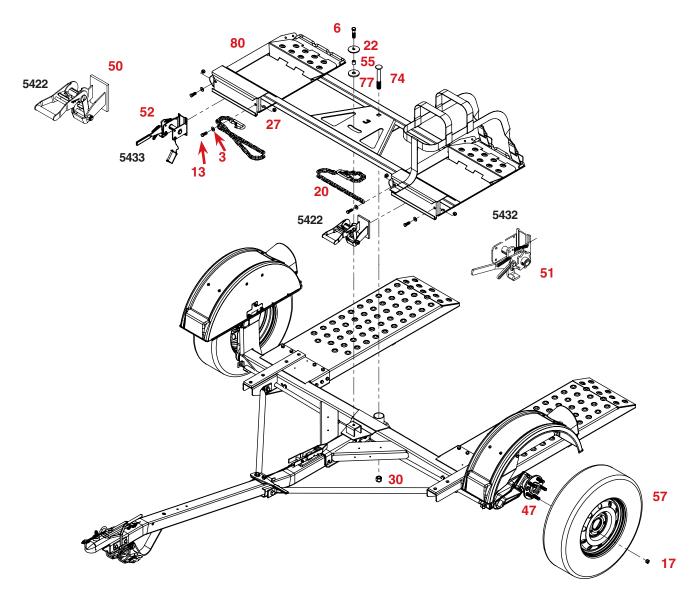
 Hold the tongue (#81) up to the front of the tow dolly and plug the four bullet connectors extending out of the back of the tongue into the connector protruding from under the mainframe channel.



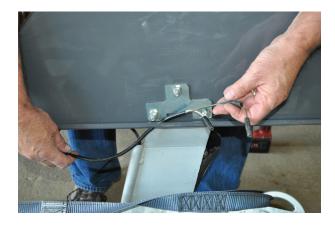
- 3. Insert the tilt bed spring (#60) and spring sleeve (#61) into the hole provided at the top rear of the tongue. Mount the tongue to the front of the tow dolly using one 5/8"-11UNC x 4-1/2" grade 5 bolt (#21) and one 5/8"-11UNC nylon lock nut (#24) and torque to 50 ft. lbs. Do not torque over 50 ft. lbs. or the bed will not tilt. Make sure that the spring and spring sleeve remain aligned with the hole in the tongue and the latch catch (#32, Figure A, Page 14) is in the up position during the latching process. You may now latch the tilt bed to the tongue. The tilt bed should remain latched through the balance of the assembly process. Note: If assembling a unit with surge brakes, attach the rubber brake hose to the brake tee at this time and tighten. See page 20.
- 4. See Figure A, Page 14 for the following instructions. Mount the latch handle (#42) to the mounting plate using ½"-13UNC x 1-1/4" grade 5 bolt (#9), two ½" flat washers (#4), bushing (#33), and ½"-13UNC nylon lock nut (#14). Put stainless steel bushing (#54) into latch cable (#35) and secure handle using 3/8"-16UNC x ¾" Epoxied grade 5 bolt (#53) and 3/8" flat washer (#3). Adjust latch so cable is snug

by loosening bolt and nut and sliding handle forward or back in the slot in the mounting plate. Slide black vinyl hand grip (#18) onto the latch handle (#42).

- 5. Bolt coupler (#82) and lift handle (#44) to the front of the tongue with two ½"-13UNC x4-1/2" grade 5 bolts (#11) and two ½"-13UNC nylon lock nuts (#14). Bolt coupler (#69) and lift handle (#44) to the front of the tongue with three 1/2" -13UNC x 4-1/2" grade 5 bolts (#11) and three 1/2" -13UNC nylon lock nuts (#14). Torque to 75-80 ft. lbs. Slide vinyl grip (#15) onto the lift handle. Note: If assembling a unit with surge brakes, see page 20 for actuator mounting instructions.
- 6. Attach the two 24" transport safety cables (#67) (cables are 36" if assembling a surge brake unit) to the two holes in the safety chain mounting bracket located under the tongue using two 7/16" -20UNF x 1-1/2" grade 8 bolts (#19), two cable mounting washers (#66) and two 7/16" -UNF lock nuts grade 8 (#16). Torque bolts to 50 ft. lbs.
- 7. Remove two ¼"- 20UNC x 3/4" flat head self threading screws (#64) from the rear most hole in each wear plate (#76). (These screws will be re-installed after the ramps are secure). Attach the ramps (#75) as shown using twenty 7/16"-20UNF x ¾" grade 8 bolts (#45) and twenty 7/16"-20UNF hex punch lock nuts (#43). Bolts on the side of ramps use 7/16" flat washers (#5). Bolts on top of ramps must be inserted from the top side for clearance. Tighten top bolts before tightening side bolts. Torque the 7/16" bolts to 80 ft. lbs. Re-install flat head self threading screws in wear plate at this time.



- 8. Lay the bracing struts (#34) out along the tow dolly tongue with the back end (the end with the larger hole) toward the mainframe. Loosely bolt the back end of each bracing strut to the dolly frame as shown using ½"-13UNC x 1-1/4" grade 5 bolt (#10), ½" flat washer (#4), pivot bushing (#23) and ½ 13UNC nylon lock nut (#14). Slide the two threaded nut plates (#65) into mounting bracket located on each side of the tongue below the latch handle. Hold up the front end (the end with the smaller hole) of each bracing strut and secure in the threaded hole of the nut plates (#65) with two 5/8"-11UNC x 1-1/4" grade 5 epoxied bolts (#40). Torque the rear bolts (the ones with pivot bushing) to 75 ft. lbs. and the front bolts to 100 ft. lbs.
- 9. Replace the top platform (#80) and attach using one ¾"-10UNC x 6" carriage bolt (#74) and ¾"-10UNC nylon lock nut (#30). Install top pivot bushing (#55) in hole in the UHMW pivot washer (#77) and attach using one ½"-13UNC x 2-1/4" grade 5 bolt (#6), special washer (#22) and ½"-13UNC nylon lock nut (#14). Note: New ½" lock nut (#14) and ¾" lock nut (#30) are provided in hardware package to replace the ones removed in Step 1. Torque the ½" lock nut to 75 ft. lbs. Caution: Do not torque the ¾" nut. Tighten until snug and then back off one full turn. If over tightened, the platform will not pivot.
- 10. Remove the two 7/16"-14UNC x 1-1/4 bolts (#13), 3/8" flat washers (#3) and 7/16"-14UNC nylon lock nuts (#27) located on the front of each wheel platform tire stop. Slide the tie down ratchets 5432, 5433 or 5422 (#51,#52, and #50, respectively) into the channel at the front of the wheel platforms as shown. Attach the 36" long towed vehicle safety chains (#20). Secure one chain to each wheel platform stop with the 7/16" bolt, flat washer and lock nut that was previously removed. Torque the bolts to 50 ft. lbs. Note: If assembling a surge brake unit, bleed the brakes now before installing the fenders. See page 21 for instructions on bleeding the system
- 11. Bolt each fender on using three 3/8"-16UNC x 1-1/2" bolts (#8), one back-up plate (#48), and three 3/8"-16UNC nylon lock nuts (#25). Mount the fenders with the light pocket toward the rear of the dolly. When tightening the fender bolts, tip fenders forward as far as possible. Torque fender bolts to 30 ft. lbs.



12. Fish the three wires from the mainframe through the front hole in the fender trough.



13. Route wiring in through back of tail light housing on the bottom inside of housing. Fish the three wire inside of housing.



14. Pull all wire from light hole in housing and install the snapper hose clip approximately 1-1/2" back from end of wire shielding. Squeeze snapper clip tight with pliers.

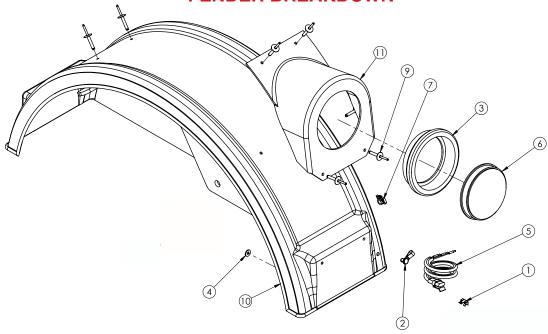


15. Push wires back into housing and finish routing wires in wire trough of fender and attach cable hanger. With pliers install two metal wire clips. Place one clip 5-1/2" from rear of fender and one 8" from rear of fender.

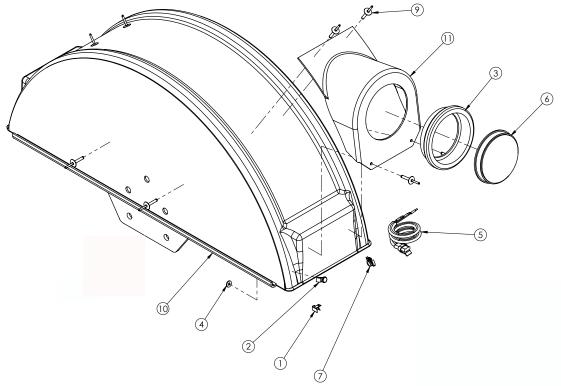


- Install rubber grommet and attach 3-wire pigtail harness to fender wiring. Coil pigtail harness inside of fender housing and plug into 4" round LED light. Push light into grommet.
- 17. On the left side, plug in the bullet plugs with white to white, black to brown, and yellow to red. On the right side, plug in bullet plugs with white to white, black to brown and green to red.
- 18. Attach the wheel and tire assemblies (#57) to the hub (#47) using the 12 mm lug nuts (#17) and torque to 75-80 ft. lbs.

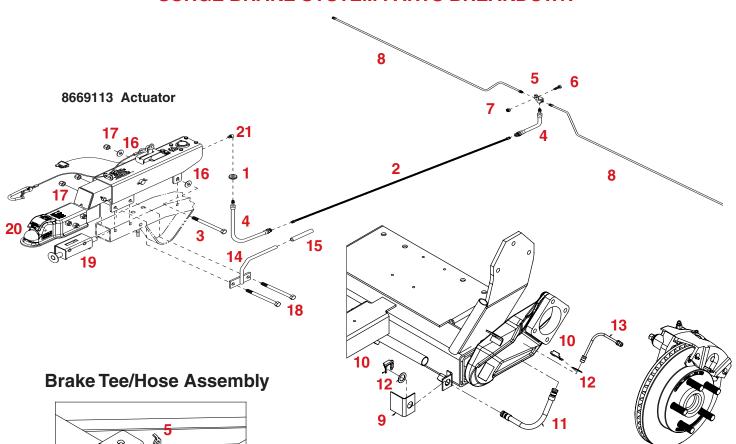
FENDER BREAKDOWN



ITEM	PART #	QTY	DESCRIPTION
1	04425X	2	Wire Retaining Clip
2	05443X	1	Cable Hanger
3	426-18	1	Rubber Mounting Grommet
4	07490	2	Washer .190200 ID x .50 OD
5	11206	1	3-Wire Pigtail Harness for LED Lights
6	11209	1	4" LED Sealed Round Taillight
7	14806	1	Snapper Hose Clip
9	16450	8	Rivet
10	14123	1	Left Poly Large Gray Fender w/o Lights (top picture)
-	14124	1	Right Poly Large Gray Fender w/o Lights (bottom picture)
11	64494	1	Adapter Light Hood Gray
	04508X	2	Amber Fender Reflector (not shown)
	04804X	2	Red Fender Reflector (not shown)



SURGE BRAKE SYSTEM PARTS BREAKDOWN



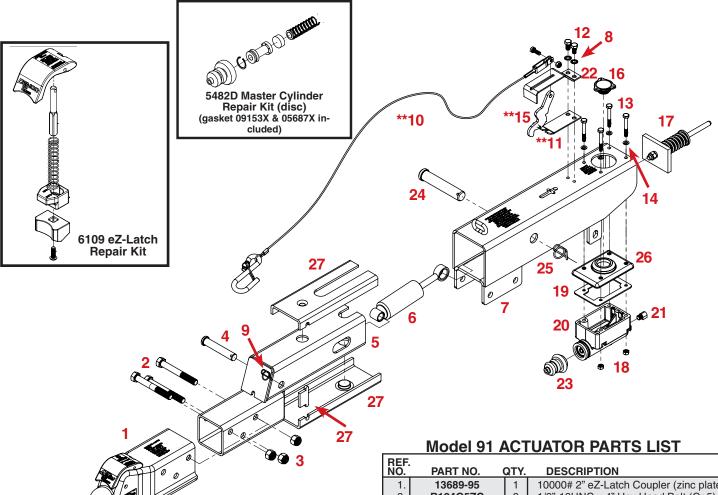
BRAKE LINES PARTS LIST

	DRAKE LINES PARTS LIST				
ITEM	PART #	QTY	DESCRIPTION		
1	13047	1	RUBBER GROMMET		
2	SB560	1	60" BRAKE LINE		
3	B1245G5ZC	1	1/2" -13UNC X 4-1/2" HEX HEAD BOLT		
4	SB7H67	2	7" RUBBER BRAKE HOSE		
5	SB7785	1	3/16" BRAKE TEE		
6	B516075G5ZC	1	5/16" -18UNC X 3/4" HEX HEAD BOLT Gr.5		
7	NLN516G2ZC	1	5/16" -18UNC NYLON INSERT LOCKNUT		
8	SB541	2	41" BRAKE LINE (METAL)		
9	03384X	2	BRAKE LINE/HOSE PROTECTOR PLATE		
10	SB7764	4	RETAINER CLIP		
11	SB7H66	2	7" RUBBER BRAKE HOSE		
12	00496X	4	5/8" X 14 GAUGE NR MACHINE WASHER		
13	14533	2	9" BRAKE LINE (METAL)		
14	04017X	1	LIFT HANDLE (PLATED)		
15	02189X	1	HAND GRIP		
16	FW12Z	2	1/2" FLATWASHER		
17	LN12G5ZC	3	1/2" -13UNC NYLON INSERT LOCKNUT		
18	B125G5ZC	2	1/2" -13UNC X 5" HEX HEAD BOLT		
19	12445-30	1	SPRING RETURN SYSTEM		
20	13689-95	1	eZ-LATCH COUPLER		
21	14798	1	90° FITTING		

ASSEMBLY INSTRUCTIONS

Push the rubber brake line (#4) through the hole in the top of the tongue channel and attach the brake hose to the bottom of the brake tee (#5). Install the 5/16"x3/4" grade 5 bolt (#6) and 5/16-18 UNC nylon insert locknut (#7) to secure brake tee and tighten. Make sure all connections are tight on the tee. Secure the brake actuator, lift handle (#14) and brake return spring system (#19) to the front end of the tongue with two ½"x 5" gr. 5 bolts (#18) and ½"-13 UNC nylon insert locknuts (#17). Secure rear of actuator using one ½"x 4-1/2" gr. 5 bolt (#3), two ½" flat washers (#16) and one 1/2"-13 UNC nylon insert locknut (#17). 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 the first braking period.

MODEL 8669113 ACTUATOR PARTS BREAKDOWN



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.

2" eZ-Latch Coupler RATED AT 10000#

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 first wheel cylinder to be bled. Raise tongue of dolly before bleeding.

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

By loosening the bleeder screw located in the wheel cylinder 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 wheel cylinder. 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.

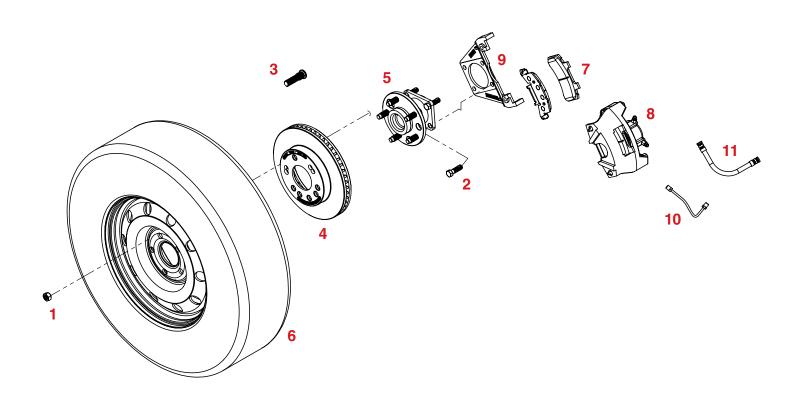
After the bleeding operation has been completed, apply pressure to the system and check the whole brake system for leaks.

	Model 31	<u>40 I</u>	UATUR PARTS LIST
REF. NO.	PART NO.	QTY.	DESCRIPTION
1.	13689-95	1	10000# 2" eZ-Latch Coupler (zinc plated)
2.	B124G5ZC	3	1/2"-13UNC x 4" Hex Head Bolt (Gr.5)
3.	NLN12G2ZC	3	1/2"-13UNC Nylon Insert Lock Nut
4.	05426X	1	Front Shock Pin (drop tube actuators)
5.	11079	1 1	Drop Tube Actuator Slider (plated)
6.	12426	1 1	Damper/ Shock
7.	11164-95	1	3 Bolt Mount Outer Case (plated)
8.	05424X	2	5/16" External Tooth Lock Washer
9.	12396	1	Rue Ring Lock Collar, 5/8" Shaft
**10.	05408X	1	Breakaway Cable Kit
**11.	05693-95	1	Emergency Lever Spring (plated)
12.	B5160625G5ZC	2	5/16"-18UNC x 5/8" Hex Head Bolt (Gr.5)
13.	B142G5ZC	4	1/4-20UNC x 2" Hex Head Bolt (Gr.5)
14.	LW14Z	4	1/4" Lock Washer
**15.	05951X	1	Emergency Lever Assembly
16.	03876X	1	Master Cylinder Cap w/ Diaphragm & O-ring
-	05849X	1	O-Ring Only (not shown)
17.	07132X	1	Push Rod Assembly
18.	HN14G5ZC	4	1/4"-20 UNC Hex Nut
**19.	09153X	-	Plastic Master Cyl. Gasket ONLY
20.	5672	1	Master Cylinder Kit f/Disc Brakes
21.	14798	1	90° Fitting
**22.	03866-95	1	Lever Guide (plated)
23.	05687X	1	Master Cylinder Protective Boot
24.	05986X	1	Connecting Pin (plated)
25.	12397	1	Rue Ring Lock Collar, 7/8" Shaft
26.	12557	1	Master Cylinder Cover Plate
27.	5942	1	Wear Pad Kit: Top, Bottom & 2 Sides

-	5401	-	Lever Replacement Kit (incl. items w/**)
-	5482D	-	Master Cyl. Replacement Kit (disc)
-	6109	-	Coupler Repair Kit

Please order replacement parts by PART NO. and DESCRIPTION

DISC BRAKE PARTS BREAKDOWN



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.

ITEM	PART #	QTY	DESCRIPTION
1	02213X	10	12MM LUG NUT ZINC
2	02377X	8	7/16" -20UNF GR8 X 1-1/2" EPOXY HEX HEAD BOLT
3	02917X	-	12MM X 1-1/2" REPLACEMENT STUD BOLT
4	03927-92	2	ROTOR
5	04369X	2	HUB (5 ON 115MM BOLT CIRCLE)
6		-	ST205/75R14 BLACK WALL WITH RIM
7	13824	1	BRAKE PADS (FOR ONE COMPLETE AXLE)
8	13825-92	2	DISC BRAKE CALIPER COMPLETE
9	13920-92	2	CALIPER MOUNTING PLATE
10	14533	2	9" STEEL BRAKE LINE
11	SB7H66	2	7" BRAKE HOSE
12	CTD4ST	2	RIM & TIRE ASSEMBLY
-	14179	-	KIT DISC BRAKE FITTING (INCLUDES ITEMS LISTED BELOW)
-	14798	1	90° FITTING
-	-	2	BLEEDER VALVE
-	-	2	RUBBER BUSHING
-	14487	2	STAINLESS STEEL BUSHING
-	14486	2	STAINLESS STEEL BOLT
Please order replacement parts by PART NO. and DESCRIPTION.			

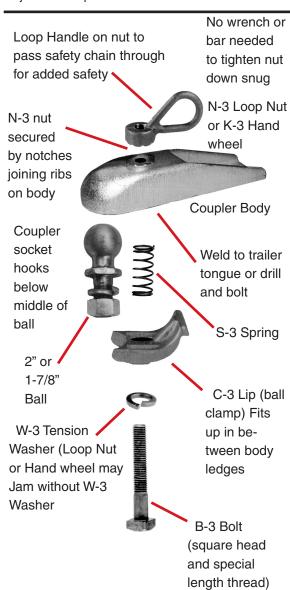
CROFT COUPLER ASSEMBLY INSTRUCTIONS

Note: Applies to the following couplers, H-3, H3BOS Series, AH3, AH4 & H3LA Series

PARTS FUNCTION: There is a definite purpose for each part. Use ALL the parts for safest use and to prolong useful life. Install parts as shown. The body and parts shown comprise a positive locking device in Croft, K.C., MO couplers. The square bolt head cannot turn in the C-3 Lip (ball clamp), thus the N-3 Loop Nut (or K-3 Hand wheel Knob) must turn uphill against gravity and ratchet up and down over the ribs around the bolt hole in order to loosen. Both the W-3 Washer and the S-3 Spring exert pressure down, joining the ribs and notches securely. A safety chain may be passed through the N-3 Loop Nut handle for added safety and to keep the chain from dragging. All these features prevent loosening. Do not ignore them.

INSTALLATION: Coupler steel is ASTM A 27-80, Class 65-35. Weld at least entire bottom edge of both sides with good penetration using mild steel electrode or wire welder. If bolted, use 1/2" grade 5 bolts with H3BOS series couplers. Use 5/8" bolts with AH3/AH4 series adjustable couplers.

MAINTENANCE: Oil threads of bolt and loop nut or hand wheel periodically. Check ribs around bolt hole for wear. Replace any missing, broken, damaged or worn parts. DO NOT SUBSTITUTE regular nuts or other loop nuts or hand wheels for Croft, K.C. MO. N-3 Loop Nuts or K-3 Hand wheel Knob. DO NOT use Hex head bolts in place of square head B-3 Bolt. DO NOT leave out W-3 Washer or S-3 Spring. Check coupler to make sure the C-3 Lip and all parts are in place correctly before using or renting. DO NOT use a wrench or bar to tighten couplers. Over-tightening strains and wears bolt and nut threads, and may cause the coupler to seize on the ball and turn it's own nut, thus loosening the ball on right hand turns. HAND TIGHTEN coupler snug on ball.



TO INSTALL ON BALL:

Loosen loop nut or hand wheel. The spring will push the lip down. Put coupler socket down over ball. While tightening, feel under coupler to make sure the square bolt head is up in the square lip cavity and the lip is under the ball head. Jiggle the coupler up and down on the ball to make sure it is snug while tightening.

ILLUSTRATED PARTS ASSEMBLY (Shown on H-3 coupler. Also applies to AH3/AH4 couplers, H3LA series ring-to-coupler adapters, and H3BOS series bolt on couplers)

Cutaway photo of coupler with parts installed. Top photo at right showing ball in coupler socket and installed parts. Photos below at right show the sequence and position of parts.

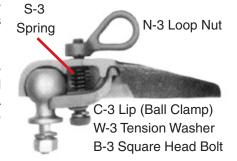
Install C-3 Lip up in between the ledges inside the coupler body by hooking the rearflat surface over the horizontal ledge, then swing the lip forward. The lip hinges on top of horizontal ledge and is held by both ledges when swung forward.

Put the S-3 Spring between the lip and inside of coupler under the bolt hole. Put the W-3 Washer on the bolt, then push the bolt up through the lip, spring and body bolt hole. The W-3 Washer provides extra spring tension to allow the notches in either the N-3 Loop Nut or K-3 Hand wheel Knob to join and ratchet up and down over the ribs around the body bolt hole.

Underneath view of coupler showing lip, (spring), washer & bolt in place. Note that the square head of the bolt fits into the square cavity of the lip.

Screw either the N-3 Loop Nut or K-3 Hand wheel Knob on the bolt. Note how notches in them join the ribs around the body hole as lip is drawn up.

H-3 Cutaway Photos Showing Parts Installed











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