



CooLift®

Service Manual

For CooLift models with electric hydraulic lift, no propulsion
(CTA-- Models)

IMPORTANT: Read entire manual before operating

Serial #: _____

Date of Purchase: _____

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CooLift Toolkit

- Set of torx drivers
- #2, #3, #4 Phillips head screwdrivers
- 5/16", 7/16", two - 9/16", 5/8", 11/16", 3/4", 13/16" wrenches
- 6mm, two - 8mm, 10mm, 12mm, 13mm, 14mm, two - 33mm, 35mm wrenches
- Four spacer blocks (4" x 4" x 24" wooden blocks)
- Isopropyl alcohol
- Vise on workbench
- Four vise-grip plier clamps (size 6r)
- Channel locks
- Rubber mallet
- Drift pin
- 1/2" socket w/extension and ratchet
- Needle nose pliers
- #1 flat head screwdriver
- 4mm, 5mm Allen wrench
- 5/16", 9/64" Allen wrench
- Tape measure
- Torque wrench
- Medium flat head screwdriver
- Drip pan (cake pan will work)
- Absorbing material (kitty litter)
- DOT 3 or DOT 4 brake fluid
- Hydraulic fluid
- Shop towels
- Tube of clear silicone sealant
- Medium strength thread locker
- Flashlight
- Hydraulic thread sealant
- Utility knife

VERTICAL LOOP HANDLE REMOVAL

TOOLS NEEDED:

TORX T30 DRIVER, #3 PHILLIPS SCREWDRIVER 7/16" WRENCH

Note: It is important to keep the CooLift upright at all times.

- 1) Remove the brake master cylinder using the T30 driver and place it on the top shelf of the user end cabinet. NOTE: It is not necessary to remove the brake line.
- 2) Remove the mounting screws (4 upper, 4 lower)(K, I) that connect the vertical loop handles using #3 Phillips screwdriver and 7/16" wrench. For the CTA48 model, set aside the bulk head mounting brackets.
- 3) Remove the two screws (F) that mount the horizontal brace (E) to each of the vertical loop handles (A, D) using the #3 Phillips screwdriver and the 7/16" wrench.
- 4) Rotate each of the vertical loop handles (A, D) toward center in order to allow the handles to clear the upper handle mounts (see illustration for screw locations and handle rotation).
- 5) The handle assembly consisting of a left and right vertical loop (A, D) and a horizontal brace (E) should be able to be removed by grasping the entire assembly on both sides at the junction of the horizontal and vertical components and lifting in an upward motion.

VERTICAL LOOP HANDLE REPLACEMENT

TOOLS NEEDED:

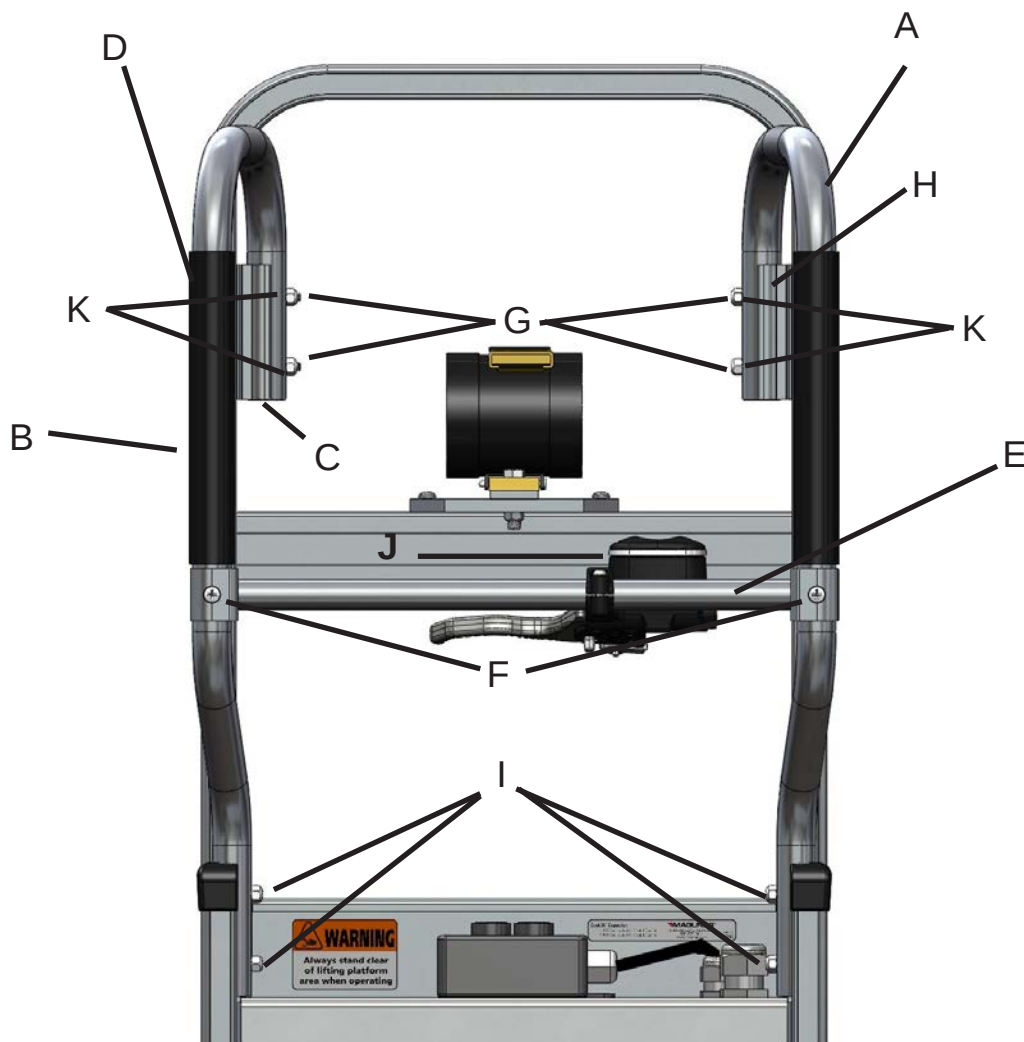
TORX T30 DRIVER, #3 PHILLIPS SCREWDRIVER 7/16" WRENCH

Note: It is important to keep the CooLift upright at all times.

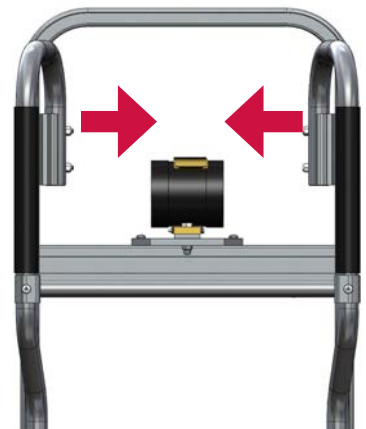
NOTE: Replacing a handle on the CooLift requires that the entire handle assembly first must be removed. See Vertical Loop Handle Removal for instructions.

- 1) With the entire handle assembly removed from the CooLift, slide the vertical loop handle to be replaced out of the horizontal handle grip mount.
- 2) Slide the replacement handle into place taking care to minimize scratching or marking on the aluminum tubing.
- 3) Grasp each of the vertical loop handles (A, D) by the foam section and rotate the top looped portion of each section towards the other.
- 4) Place the base of the handle assembly on top of the cabinet such that the bottom of the vertical loop handles are located within the arc of the end caps on each of the corner posts and rotate the top of the vertical loop handles outwardly into position.
- 5) Place the two screws (K) into holes located within the top section of the vertical loop handles and then hand tighten it to the frame. For the CTA48 model, be sure to replace the previously removed bulk head mounting brackets.
- 6) Place the screws (I) into the holes located in the lower section of the vertical loop handles and hand tighten them to each of the corner posts.
- 7) Place the remaining two screws (F) in the holes that secure the horizontal brace (E) to each of the vertical loop handles (A, D) and tighten them using #3 Phillips screwdriver and 7/16" wrench.
- 8) Tighten the remaining previously hand tightened screws with #3 Phillips screwdriver and 7/16" wrench.
- 9) Position the master cylinder (J) into place on the horizontal brace (E) and tighten the two mounting screws with the Torx T30 driver.

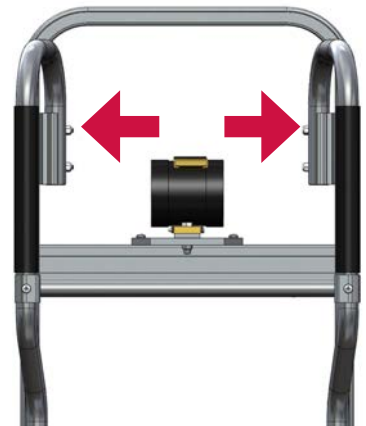
Item		Qty.	Part Number
A	Vertical loop handle - RH	1	309053
B	Foam handle sleeve	2	302285
C	Steel end cap for vertical loop handle	2	309049
D	Vertical loop handle - LH	1	309039
E	Horizontal brace	1	309048
F	Pan head machine screw - 1/4"-20 x 1-3/4" long	2	80106
G	Hex lock nut 1/4"-20	10	80675
H	Handle mount bracket	2	302721
I	Pan head machine screw - 1/4"-20 x 1-1/2" long	4	80105
J	Brake master cylinder	1	309218
K	Pan head machine screw - 1/4"-20 x 2-1/2" long	4	80108
	Pan head machine screw - 1/4"-20 x 3" long (top K screws for CTA48 model - bottom two K screws are 80108)	2	80111



Rotate loop handle in toward center to remove



Rotate loop handle out to replace



CTA43 BULK HEAD REMOVAL

TOOLS NEEDED:

7/16" WRENCH, 1/2" WRENCH, #3 PHILLIPS SCREWDRIVER, #4 PHILLIPS SCREWDRIVER
SPACER BLOCK (4" x 4" x 24" WOODEN BLOCK)

Note: It is important to keep the CooLift upright at all times.

- 1) Place the CooLift on a level flooring surface with the holding brake engaged.
- 2) Raise the deck to the highest position.
- 3) Place a spacer block between the deck and the base of the cart.
- 4) **Turn off main power switch.**
- 5) Remove the two screws (I) that attach the bulk head (A) to the base plate using the #4 Phillips screwdriver and the 1/2" wrench.
- 6) Take out the four screws (G) that attach the bulk head saddle plate (B) and the load retaining strap assembly and spacer (C, D) to the bulk head and the main cart using the #3 Phillips screwdriver and the 7/16" wrench.
NOTE: If the bulk head is going to be reinstalled after servicing, only the two screws (G) anchored to the main cart and the saddle plate need to be removed. If the bulk head is taken off and the CooLift will be used in the 53" pallet configuration, a new saddle plate (309151) will need to be installed.
- 7) Lift and remove the saddle plate. Then lift and remove the bulk head frame to disengage from the base plate.

CTA43 BULK HEAD INSTALLATION

TOOLS NEEDED:

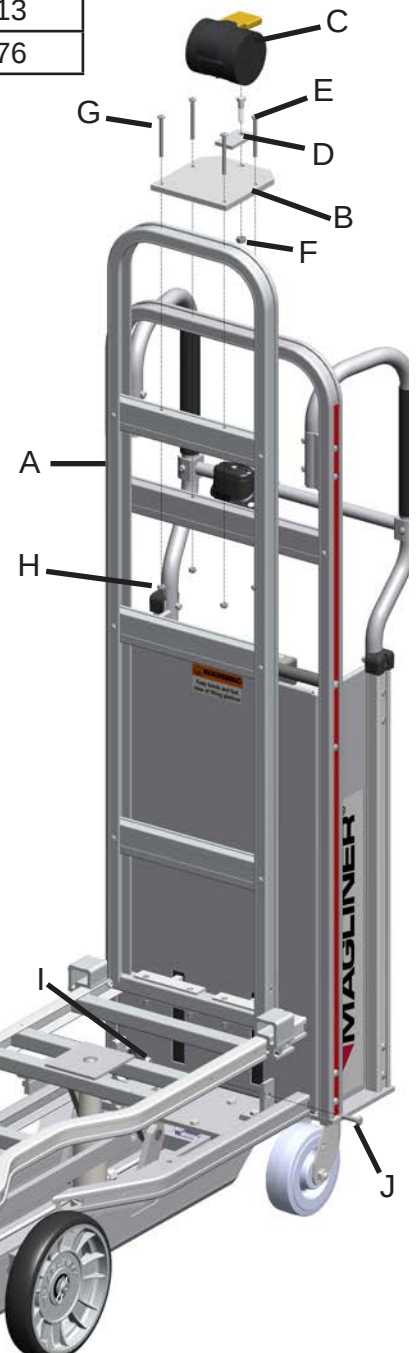
7/16" WRENCH, 1/2" WRENCH, #3 PHILLIPS SCREWDRIVER, #4 PHILLIPS SCREWDRIVER
SPACER BLOCK (4" x 4" x 24" WOODEN BLOCK)

Note: It is important to keep the CooLift upright at all times.

- 1) Place the CooLift on a level flooring surface with the holding brake engaged.
- 2) Raise the deck to the highest position.
- 3) Insert a spacer block between the deck and the base of the cart.
- 4) **Turn off main power switch.**
- 5) Slide the bulk head (A) into position on the bulk head mounts located on the base plate.
- 6) Place the bulk head saddle plate (B) into position with the containment strap assembly and strap spacer (C, D) above it and attach using the four screws (G) and lock nuts (H) and finger tighten.
- 7) Attach the bulk head to the mounts on the base plate using the two screws (I) and securely tighten them to the lock nuts (J) using the #4 Phillips screwdriver and the 1/2" wrench.
- 8) Securely tighten the four screws (G) in the bulk head saddle plate (B) using the #3 Phillips screwdriver and the 7/16" wrench.

Item		Qty. for CTA43	Qty. for CTA53	Part Number
A	Bulk head for CTA43	1	--	309790
B	Bulk head saddle plate for CTA43	1	--	309341
C	Containment strap	1	1	309152
D	Containment strap mounting spacer	1	1	309150
E	Screw - 3/8"-16 x 1-1/2" long	1	1	79988
F	Hex lock nut - 3/8"-16	1	1	80603
G	Screw - 1/4"-20 x 2-3/4" long	4	2	80111
H	Hex lock nut - 1/4"-20	4	2	80675
I	Screw - 5/16"-18 x 1" long	2	--	80313
J	Hex lock nut - 5/16"-18	2	--	80676

Completed assembly



CTA48 BULK HEAD REMOVAL

TOOLS NEEDED:

7/16" WRENCH, 1/2" SOCKET END WRENCH, #3 PHILLIPS SCREWDRIVER, TWO 9/16" WRENCHES, SPACER BLOCK (4" x 4" x 24" WOODEN BLOCK)

Note: It is important to keep the CooLift upright at all times.

- 1) Place the CooLift on a level flooring surface with the holding brake engaged.
- 2) Raise the deck to the highest position.
- 3) Place a spacer block between the deck and the base of the cart.
- 4) **Turn off main power switch.**
- 5) Remove the two screws (I) and lock nuts (F) that attach the bulk head (A) to the base plate using the 1/2" socket end wrench.
- 6) Take out the four screws (G) and lock nuts (H) that attach the bulk head saddle plate (B) and the containment strap assembly and spacer (C, D) to the bulk head and the main cart using the #3 Phillips screwdriver and the 7/16" wrench.
NOTE: If the bulk head is going to be reinstalled after servicing, only the two screws (G) anchored to the main cart and the saddle plate need to be removed. If the bulk head is taken off and the CooLift will be used in the 53" pallet configuration, a new saddle plate (309151) will need to be installed.
- 7) Lift and remove the saddle plate. Then lift and remove the bulk head frame to disengage from the base plate.

CTA48 BULK HEAD INSTALLATION

TOOLS NEEDED:

7/16" WRENCH, 1/2" SOCKET END WRENCH, #3 PHILLIPS SCREWDRIVER, TWO 9/16" WRENCHES, SPACER BLOCK (4" x 4" x 24" WOODEN BLOCK)

Note: It is important to keep the CooLift upright at all times.

- 1) Place the CooLift on a level flooring surface with the holding brake engaged.
- 2) **Turn off main power switch.**
- 3) Slide the bulk head (A) into position on the base plate in the location shown in Figure 2.
- 4) Fasten in place using the two screws (I) and lock nuts (F) and finger tighten (the screw heads will be on top of the base plate and the lock nuts underneath).
- 5) Place the bulk head saddle plate (B) into position and attach using the four 1/4"-20 x 2-3/4" long screws (G) and 1/4"-20 lock nuts (H) and finger tighten.
- 6) Place the containment strap mounting spacer (D) onto the bulk head saddle plate and then place the containment strap assembly (C) onto the mounting spacer. Insert one 3/8"-16 x 1-1/2" long screw (E) and 3/8"-16 lock nut (F) and securely tighten using the two 9/16" wrenches.
- 7) Once all items are in place, securely tighten the hardware for the bulk head saddle plate and for the hardware connecting the bulk head to the base plate

Item		Qty. for CTA48	Qty. for CTA53	Part Number
A	Bulk head for CTA48	1	--	309332
B	Bulk head saddle plate for CTA48	1	--	309341
C	Containment strap	1	1	309152
D	Containment strap mounting spacer	1	1	309150
E	Screw - 3/8"-16 x 1-1/2" long	1	1	79988
F	Hex lock nut - 3/8"-16	3	1	80603
G	Screw - 1/4"-20 x 2-3/4" long	4	2	80111
H	Hex lock nut - 1/4"-20	4	2	80675
I	Screw - 3/8"-16 x 1-1/4" long	2	--	80026

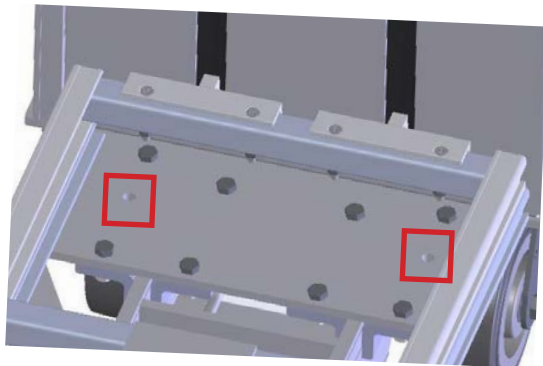


Figure 2



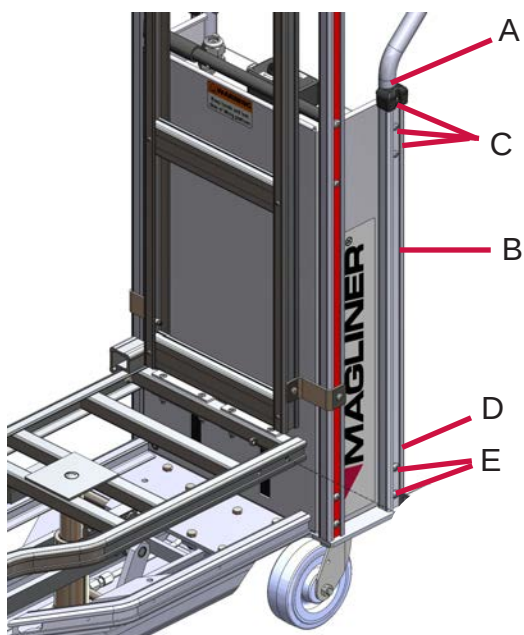
REPLACING CORNER POST

TOOLS NEEDED:

7/16" WRENCH, 1/2" WRENCH, #3 PHILLIPS HEAD SCREWDRIVER

Note: It is important to keep the Coolift upright at all times.

- 1) Place the Coolift on a level flooring surface with the holding brake engaged.
- 2) **Turn off main power switch.**
- 3) Remove the battery box (see Replacing Battery Box for proper removal).
- 4) Remove the five screws (C, E) and hex nuts (A, D) that connect the corner post to the Coolift using the #3 Phillips head screwdriver and the wrenches and remove the corner post (B).
- 5) Position the new corner post in place and secure with the previously removed screws and nuts and tighten with the #3 Phillips head screwdriver and the wrenches.
- 6) Replace the battery box (see Replacing Battery Box for proper installment).



	Item	Qty.	Part Number
A	Hex lock nut - 1/4"-20	3	80675
B	Corner post assembly	1	309108
C	Screw - 1/4"-20 x 1-1/2" long	3	80105
D	Hex lock nut - 5/16"-18	3	80676
E	Screw - 5/16"-18 x 1-1/2" long	2	80115

Quantities listed are for one side of the Coolift

REPLACING FOAM HANDLE SLEEVE

ITEMS NEEDED:

ISOPROPYL ALCOHOL

VICE

Note: It is important to keep the Coolift upright at all times.

- 1) Remove handle (see Vertical Loop Handle Removal for instructions).
- 2) With the handle assembly off of the cart, slide the vertical loop handle to be replaced out of the horizontal handle grip mount by moving it upward taking care to manipulate the orientation in order to minimize scratching or marking on the aluminum tubing.
- 3) Wipe down the section of the vertical loop handle from the insertion end to the desired location of the new sleeve with isopropyl alcohol. **NOTE:** The illustration shows the sleeve sliding in place from the upper end of the handle but either end is an acceptable starting point.
- 4) Saturate the inside of the new sleeve with isopropyl alcohol to allow for a smooth application to the handle.
- 5) With the handle held securely in a vise, gradually work the new sleeve into place by twisting, pulling and sliding, taking care not to rip the foam.



Part # 302285

REPLACING PALLET STOPS - CTA43 AND CTA48

TOOLS NEEDED:
1/2" SOCKET END WRENCH

Note: It is important to keep the CooLift upright at all times.

- 1) Place the CooLift on a level flooring surface with the holding brake engaged.
- 2) **Turn off main power switch.**
- 3) Remove and discard old pallet stop.
- 4) Locate the front hole of the pallet stop as shown in Figure 1 and insert the screw (A).
- 5) Locate the front hole on the deck (for CTA43 models) or the back hole on the deck (for CTA48 models) as shown in Figure 2. Insert the pallet stop (B) and the screw (A) as shown. Fasten screw with 5/16"-18 lock nut (C) using the 1/2" socket end wrench on the lock nut on the inside of the deck frame channel.
- 6) Repeat process for the opposite side.

Item		Qty.	Part Number
A	Screw - 5/16"-18 x 1-1/4" long	2	80012
B	Pallet stop	1	309206
C	Hex lock nut - 5/16"-18	2	80676

Quantities listed are for both sides of the CooLift

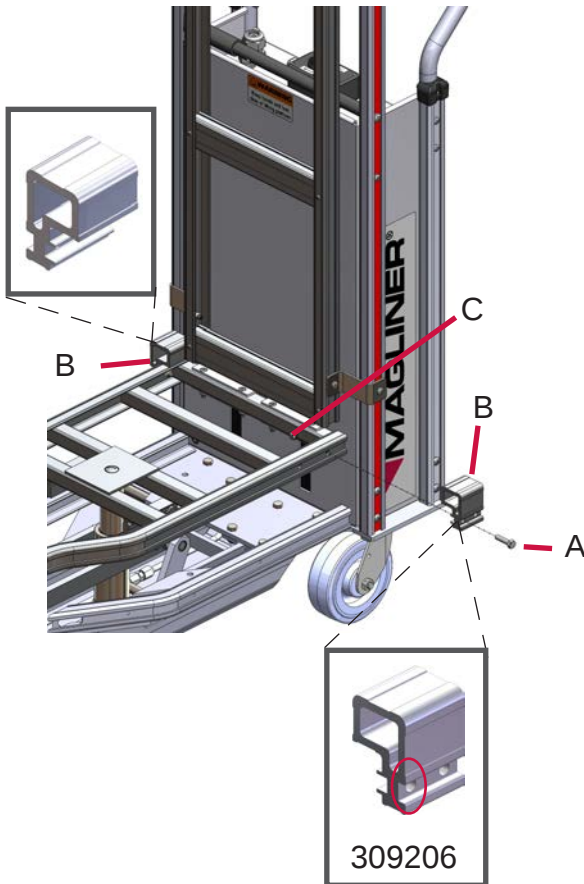


Figure 1

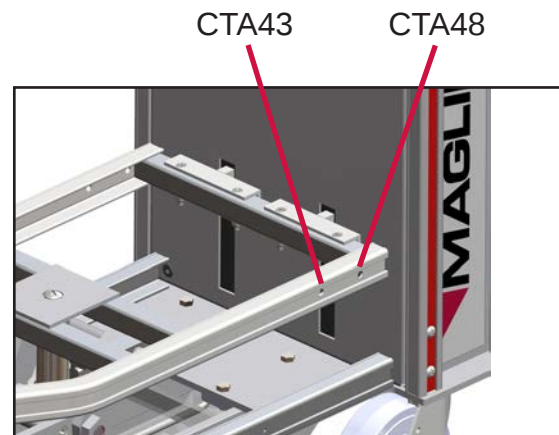


Figure 2

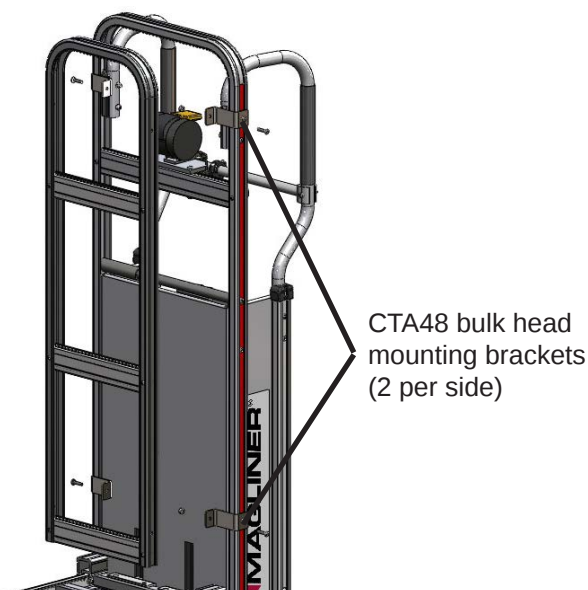
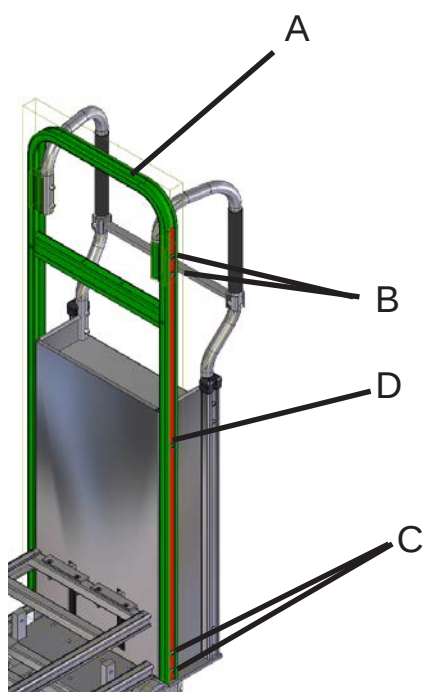
REPLACING VERTICAL HANDLE MOUNT ASSEMBLY

TOOLS NEEDED:

7/16" WRENCH, 1/2" WRENCH, #3 PHILLIPS SCREWDRIVER

Note: It is important to keep the CooLift upright at all times.

- 1) Place the CooLift on a level flooring surface with the holding brake engaged.
- 2) **Turn off main power switch.**
- 3) Remove the bulk head (see Bulk Head Removal).
- 4) Remove vertical loop handles (see Vertical Loop Handle Removal).
- 5) If you have a CTA48 model, remove the bulk head mount brackets using the #3 Phillips head screwdriver and the 7/16" wrench.
- 6) Remove the battery box (see Replacing Battery Box for proper removal).
- 7) Remove the ten screws - five on each side - that connect the vertical handle mount assembly to the CooLift. Use the #3 Phillips head screwdriver and the 7/16" wrench on the top three screws (B, D) and the #3 Phillips head screwdriver and the 1/2" wrench on the bottom two screws (C) on each side.
- 8) Grasp the vertical handle mount assembly (A) to be replaced and lift it straight up to remove it from the cart.
- 9) Position the new vertical handle mount assembly (A) into place and secure with the previously removed screws and nuts and tighten with the #3 Phillips head screwdriver and the 7/16" wrench.
- 10) Replace the battery box (see Replacing Battery Box instructions for proper installment).
- 11) Reconnect the handle (see Replacing Vertical Loop Handle).
- 12) If replacing the assembly on the CTA48 model, reinstall the bulk head mount brackets using the #3 Phillips head screwdriver and the 7/16" wrench.
- 13) Reinstall the bulk head (see Installing Bulk Head).



Item		Qty	Part Number
A	Vertical handle mount assembly	1	309087
B	Screw - 1/4"-20 x 2-1/2" long	2	80108
C	Screw - 5/16"-18 x 1-1/2" long	2	80115
D	Screw - 1/4"-20 x 1-1/2" long	1	80105

Hardware quantities listed are for one side of the CooLift

REPLACING BRUSHES

TOOLS NEEDED:

FLAT HEAD SCREWDRIVER, #3 PHILLIPS SCREWDRIVER, PAIR OF PLIERS

Note: It is important to keep the CooLift upright at all times.

- 1) Place the CooLift on a level flooring surface.
- 2) Engage the holding brake.
- 3) **Turn off main power switch.**
- 4) Remove the back access panel from the cart by removing the mounting screws (B) using the #3 Phillips head screwdriver.
- 5) Insert the flat head screwdriver into end of the slotted frame that holds the brush section and bend the end of the slot open enough to allow the old sections to slide out (A).
- 6) Remove the old brush sections using the pliers to grab them and slide them out of the slots.
- 7) Slide in the new brush sections (A) into place.
- 8) Using the pliers, re-crimp the ends of the slots to enable the brush sections to remain in place.
- 9) Place the back access panel back into position and secure using the previously removed mounting screws (B) with the #3 Phillips head screwdriver.



	Item	Qty	Part Number
A	Yoke brush	1	309259
B	Screw - 1/4"-20 x 3/4" long w/ locking patch	7	80257

REPLACING FRONT CASTER

TOOLS NEEDED:
9/16" WRENCH
TWO 1/2" WRENCHES

Note: It is important to keep the Coolift upright at all times.

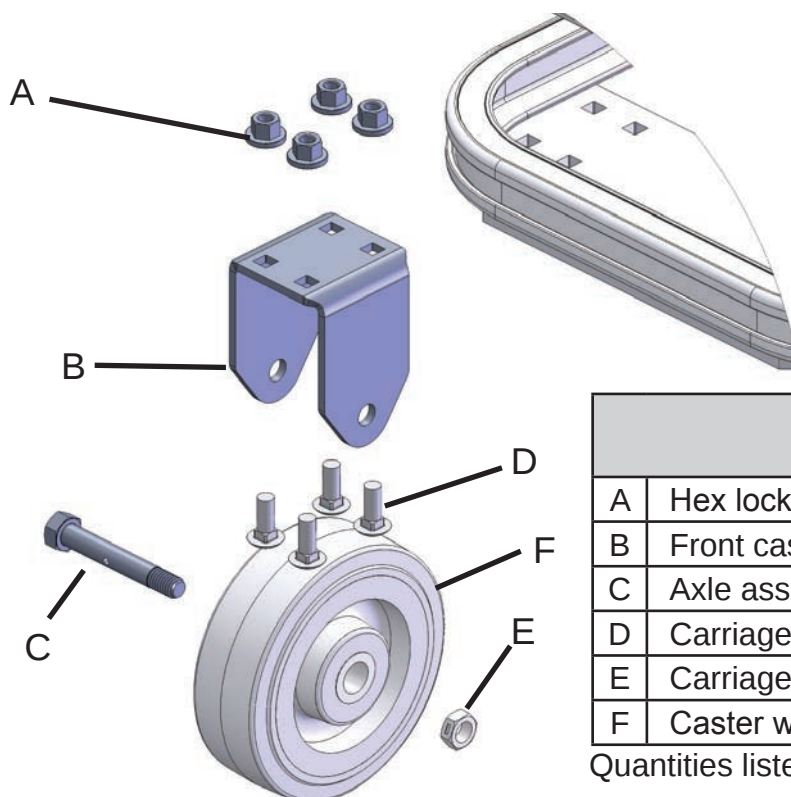
Removal

Caution: Remove and replace only one caster at a time.

- 1) With the cart sitting on a level flooring surface and the holding brake engaged, remove the four lock nuts (A) that hold the caster yoke (B) to the base of the cart with the 9/16" wrench.
- 2) The entire front caster assembly can now be lowered and slid out of position.
- 3) Remove the axle (C) and carriage nut (E) using the two 1/2" wrenches.
- 4) Remove the four carriage bolts (D) through the bottom of the caster yoke (B).

Replacement

- 1) With the cart sitting on a level flooring surface and the holding brake engaged, mount the caster mount to the bottom of the cart using four carriage bolts (D) and tighten with the 9/16" wrench.
- 2) Position the wheel inside the caster mount, insert the axle (C) and tighten carriage nut (E) using the two 1/2" wrenches.



Item		Qty.	Part Number
A	Hex lock nut flange - 3/8"-16	4	80624
B	Front caster yoke	1	309098
C	Axle assembly (includes E)	1	84501
D	Carriage bolt - 3/8"-16 x 1" long	4	80127
E	Carriage nut (included in 84501)	1	n/a
F	Caster wheel - 6" x 2" flat tread	1	130014

Quantities listed are for each front caster

REPLACING REAR SWIVEL CASTER

TOOLS NEEDED:
TWO 9/16" WRENCHES

Note: It is important to keep the CooLift upright at all times.

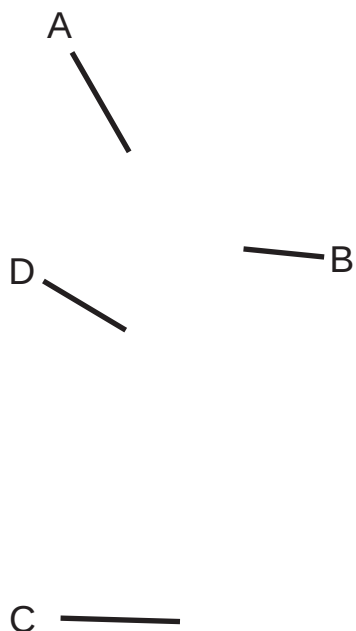
Removal

Caution: Remove and replace only one caster at a time.

- 1) With the cart sitting on a level flooring surface, the holding brake engaged and the rear access panel removed, loosen the three screws (A,B) that hold the caster mount to the base of the cart using the pair of 9/16" wrenches.
- 2) The entire rear swivel caster assembly can now be lowered and slid out of position.

Replacement

- 1) With the cart sitting on a level flooring surface, the holding brake engaged and the rear access panel removed, position the replacement rear swivel caster in place and insert the three screws (A,B) through the base of the cart and the tighten the lock nuts (C) against the swivel caster mount (D) using the pair of 9/16" wrenches.
- 2) Replace back access panel.



Item		Qty.	Part Number
A	Hex head cap screw - 3/8"-16 x 1-1/4" long	2	80026
B	Hex head cap screw - 3/8"-16 x 1" long	1	80025
C	Hex lock nut flange - 3/8"-16	3	80624
D	Caster assembly - 6" x 2" swivel grey flat tread	1	130066

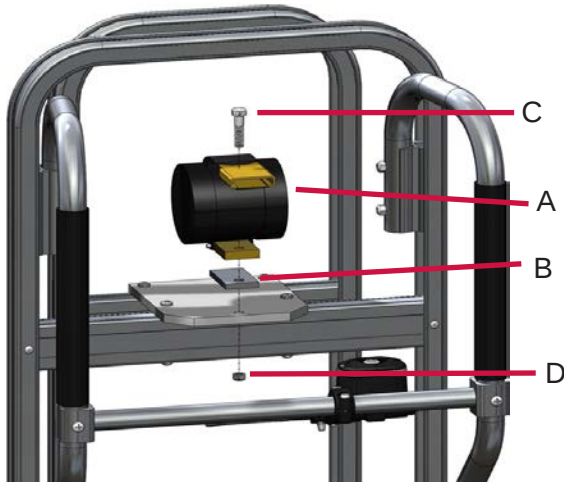
Quantities listed are for each rear swivel caster

REPLACING CONTAINMENT STRAP

TOOLS NEEDED: TWO 1/2" WRENCHES

Note: It is important to keep the CooLift upright at all times.

- 1) Place the CooLift on a level flooring surface with the holding brake engaged.
- 2) Remove the containment strap assembly (A) by taking out the mounting screw (C) and lock nut (D) using the two wrenches.
- 3) Position the new containment strap assembly (A) such that the tab sits on top of the mounting spacer (B). Insert the previously removed screw (C) and tighten the lock nut (D) using the two wrenches.



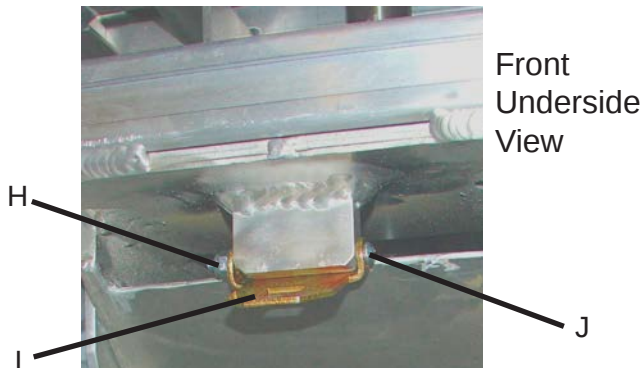
Item		Qty.	Part Number
A	Containment strap	1	309152
B	Containment strap mounting spacer	1	309150
C	Screw - 3/8"-16 x 1-1/2" long	1	79988
D	Hex lock nut - 3/8"-16	1	80603

REPLACING CONTAINMENT STRAP TONGUE

TOOLS NEEDED: #2 PHILLIPS HEAD SCREWDRIVER AND 3/8" WRENCH

Note: It is important to keep the CooLift upright at all times.

- 1) Place the CooLift on a level flooring surface with the holding brake engaged.
- 2) Remove the containment strap tongue (I) by taking out the mounting screw (J) and lock nut (H) using the #2 Phillips head screwdriver and the 3/8" wrench.
- 3) Position the new containment strap tongue (J) so the tab with the rectangle-shaped hole is facing outward from front of cart and the holes are lined up with the holes on the mounting block and secure it with the previously removed screw (J) and lock nut (H), allowing the tongue to rotate freely.



Front
Underside
View

Item		Qty.	Part Number
H	Hex lock nut w/ nylon insert - #10-24 UNC	1	80683
I	Containment strap tongue	1	309133
J	Screw - #10-24 x 2-1/2" long	1	80004

REPLACING BATTERY BOX

TOOLS NEEDED: #3 PHILLIPS HEAD SCREWDRIVER

Note: It is important to keep the CooLift upright at all times.

- 1) Place the CooLift on a level flooring surface.
- 2) Engage the holding brake.
- 3) **Turn off main power switch.**
- 4) Remove the back access panel (B) from the cart by removing the seven mounting screws (A) using the #3 Phillips head screwdriver (Figure 1).
- 5) Remove the two mounting screws (A) located at the top of the battery box (C) that mounts to the pump mounting plate using the #3 Phillips head screwdriver (Figure 2).
- 6) Unplug the charger output cord plug (F) from the battery box (C).
- 7) Grab the black handle (E) located on the top of the battery box (C) firmly and lift while rotating in a counter clockwise motion and maneuver the box out of the cabinet.
- 8) Place the battery box (C) on the floor. Hold the handle (E) firmly with one hand, grasp the red handled loop connected to the wiring harness (D) with the other hand and pull in an upward motion to disconnect the battery box (C) from the cart (Figure 3).
- 9) Position the new battery box (C) on the floor directly behind the CooLift and plug the wiring harness (D) securely into the fitting at the top of the box.
- 10) Lift the battery box (C) with the handle on the top and maneuver it into position within the cabinet. Plug the charger output cord (F) into the battery box (C).
- 11) Secure new battery box (C) with two mounting screws (A) and tighten with the #3 Phillips head screwdriver.
- 12) Place the back access panel (B) back into position and secure using the seven previously removed mounting screws (A) with the #3 Phillips head screwdriver.

Figure 1

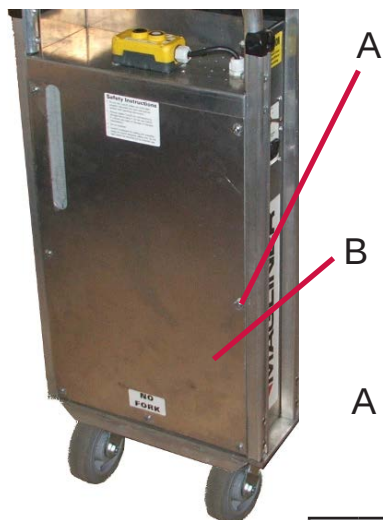


Figure 2

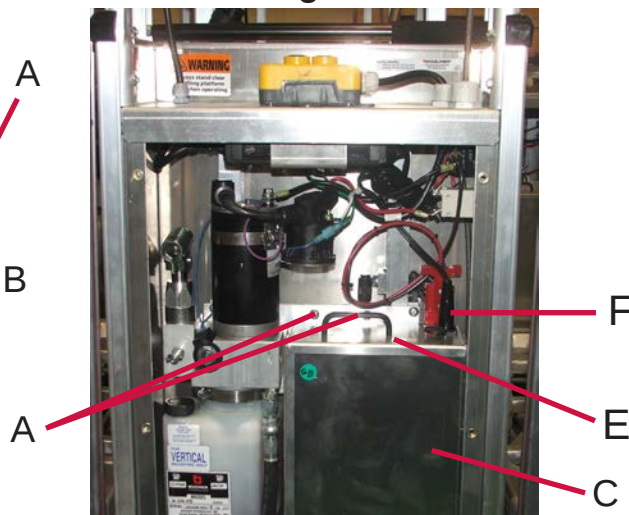


Figure 3



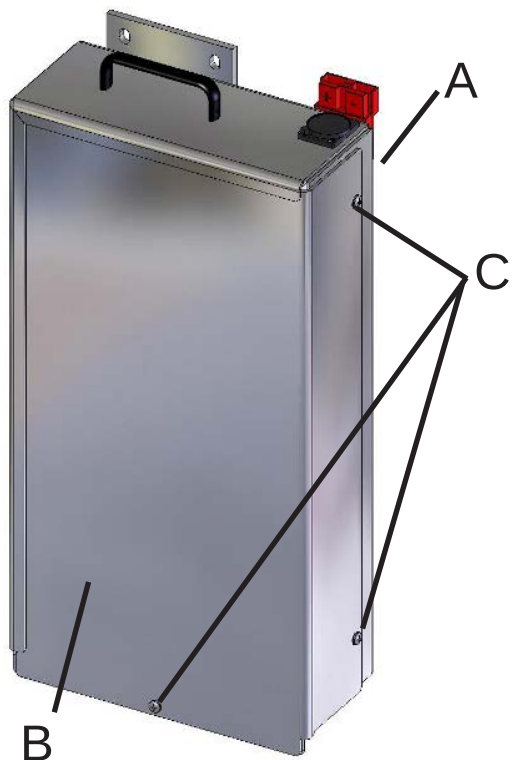
	Item	Qty.	Part Number
A	Screw - 1/4"-20 x 3/4" long w/ locking patch	9	80257
B	Back access panel	1	309077
C	Battery box assembly	1	309100
D	Wiring harness	1	62023
E	Battery box handle	1	n/a
F	AC charger output cord plug	1	n/a

CHANGING BATTERY CELLS IN BATTERY BOX

TOOLS NEEDED:

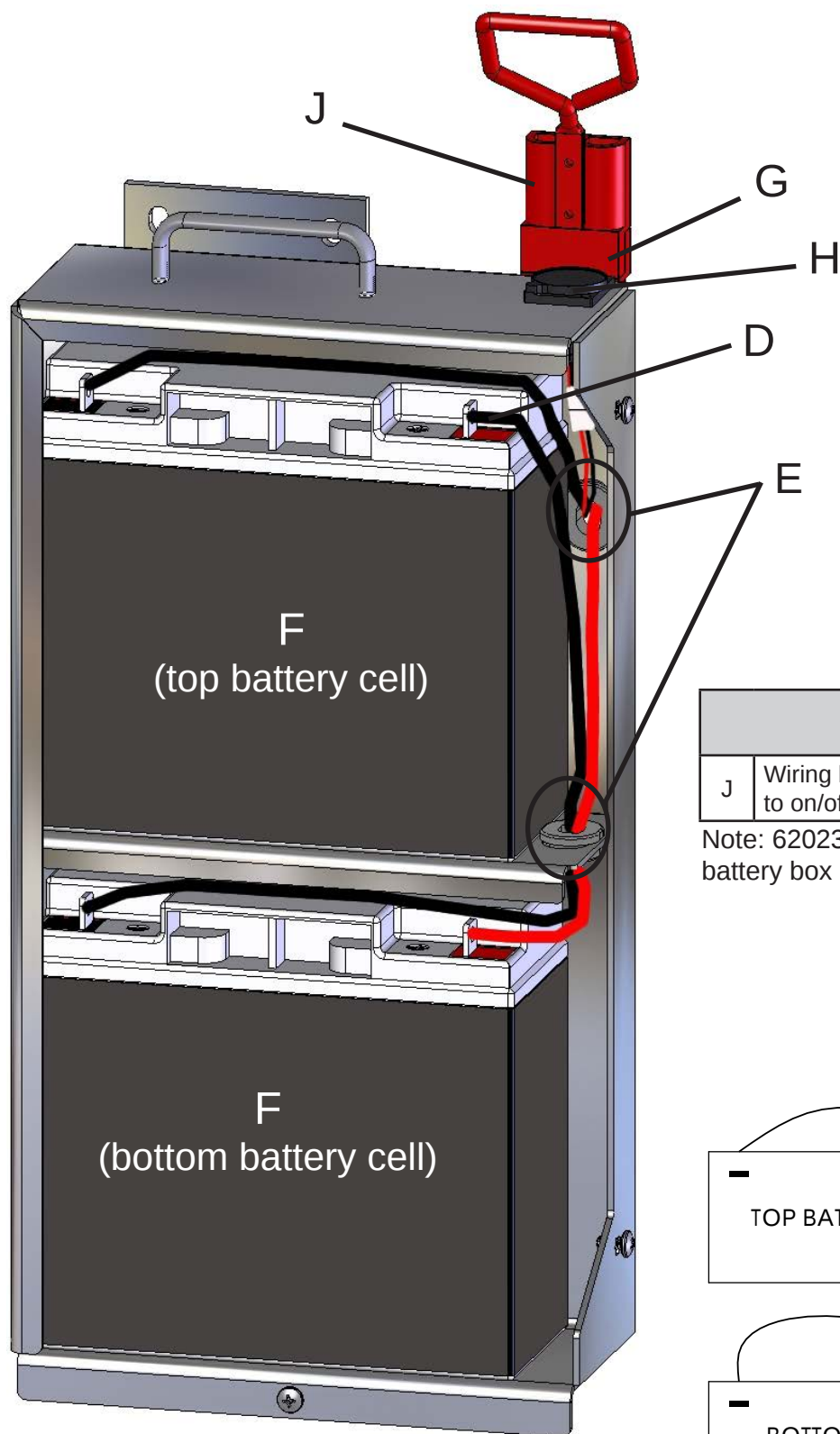
#3 PHILLIPS HEAD SCREWDRIVER
TWO 8mm WRENCHES

- 1) Remove battery box from CooLift (see Replacing Battery Box), set on workbench and make sure battery charger is not connected to the charging port.
- 2) Remove the battery box cover (A) from the battery box assembly (B) by removing the three mounting screws (C) using the #3 Phillips head screwdriver.
- 3) Maneuver the defective battery cell(s) (F) such that the terminals can be reached without hitting the wrench or wrenches on the battery box case which requires shifting forward approximately 1-1/2" inches.
- 4) Depending upon location of battery cell to be replaced, either a #3 Phillips head screwdriver and an 8mm wrench or two 8mm wrenches will be needed to remove the wire from the battery terminals.
- 5) Regardless of the cell that will be changed it is a good practice to remove the black wire (D) in the wiring harness connected to the positive terminal on the top battery first.
- 6) Remove the wires connecting both terminals of the defective battery using the appropriate wrenches or screwdriver wrench combination.
- 7) Slide the defective cell out of the battery box taking care to maneuver over any rubber grommet (E) and around the wiring.
- 8) Position the new battery cell (F) in place within the battery box (B) allowing enough room to make the connections and securely tighten them (see illustration for wiring configuration).
- 9) Maneuver the newly connected battery into place, position the cover back on the battery box and secure with the previously removed screws (C) with the #3 Phillips head screwdriver.



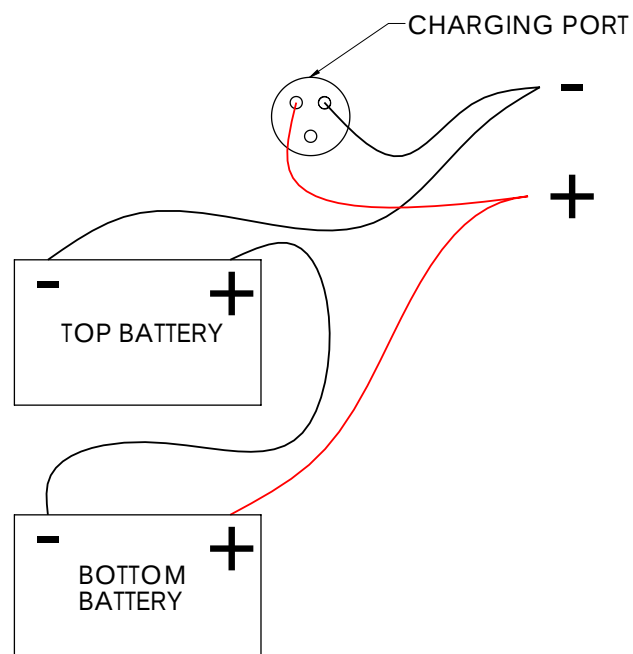
Item		Qty	Part Number
A	Battery box assembly (includes batteries)	1	309100

Battery Box Items		Qty.	Part Number
B	Battery box cover	1	309102
C	Screw - pan head screw #8-32 x 1/2" long with external locking washer	3	80218
D	Wiring harness - battery interconnect	1	62024
E	Grommet - 5/8" ID x 1-1/8" OD x 3/8" wide	2	309024
F	Battery cell - 12v - 18Ah	2	61018
G	Wiring harness - connection plug	1	62025
H	Wiring harness - charge port	1	64001



Item	Qty	Part Number
J	1	62023
Wiring harness - battery box to on/off switch		

Note: 62023 wiring harness is NOT part of 309100 battery box assembly.



REPLACING DECK POSITIONING (UP/DOWN) SWITCH

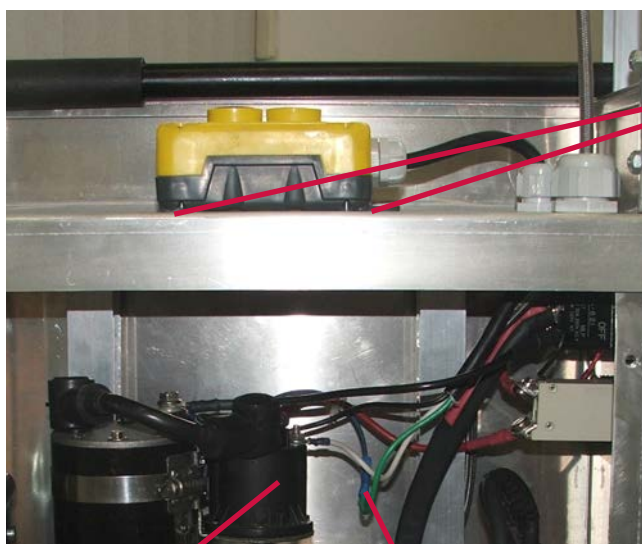
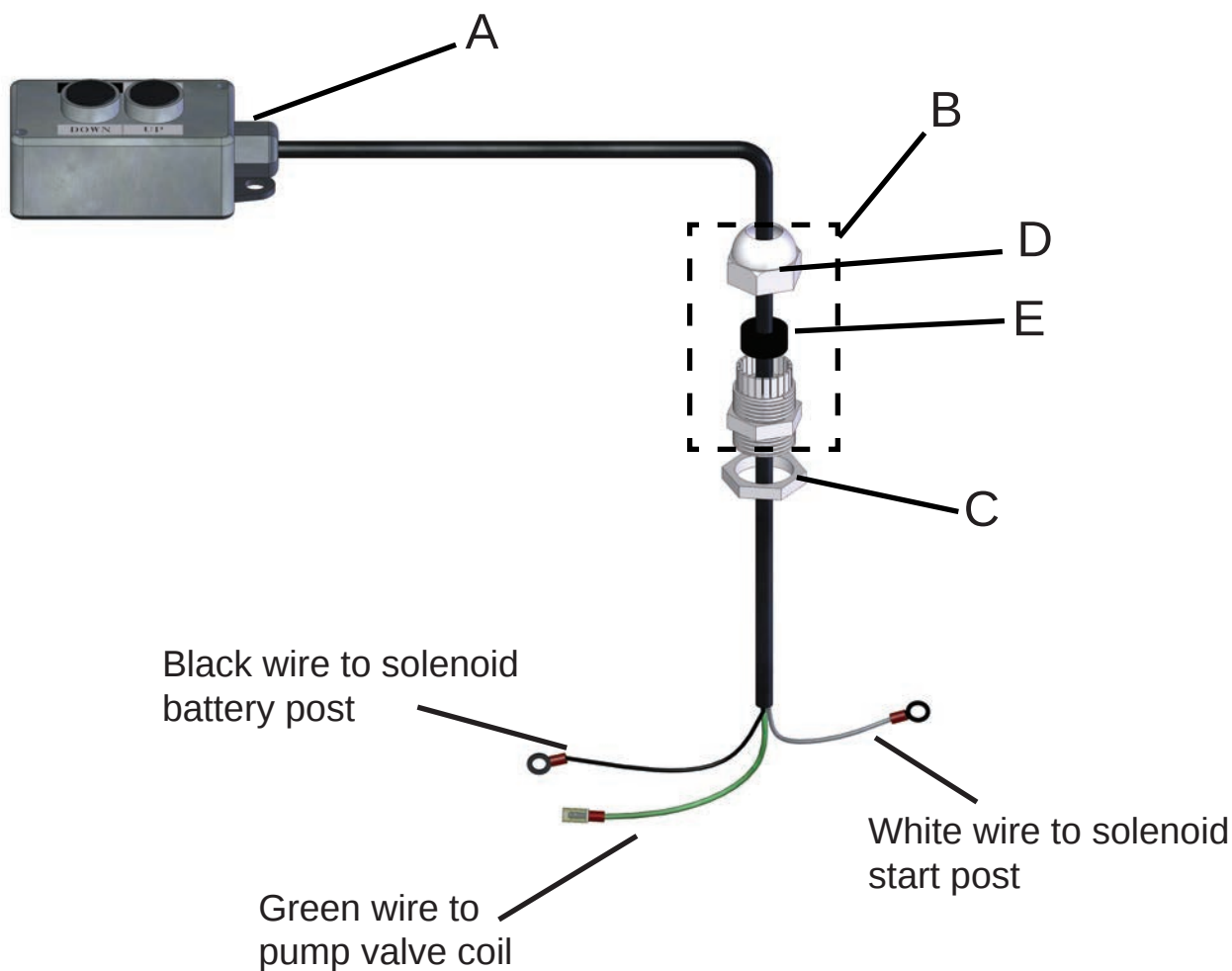
TOOLS NEEDED:

#3 PHILLIPS HEAD SCREWDRIVER, #1 FLAT HEAD SCREWDRIVER, 10mm WRENCH
13mm WRENCH, 5/16" WRENCH, SILICONE SEALANT (CLEAR)

Note: It is important to keep the CooLift upright at all times.

- 1) Place the CooLift on a level flooring surface.
- 2) Engage the holding brake.
- 3) **Turn off main power.**
- 4) Remove battery box (see Replacing Battery Box).
- 5) Remove the jam nut (D) on the cord grip (B) and pull out the rubber insert (E) to allow the cord to move freely within the fitting.
- 6) Follow the green wire from the up/down switch (A) down in the cabinet where it plugs into a connector (F) connected to a blue wire and disconnect it by unplugging it.
- 7) Disconnect the white wire from the switch solenoid (G) using a 10mm wrench.
- 8) Disconnect the black wire from the switch solenoid (G) using a 13mm wrench.
- 9) Slide the boot off the white wire that was connected to the switch solenoid (G).
- 10) Using the #1 screwdriver and the 5/16" wrench remove the nuts off the screws that mount the up/down switch to the cabinet. NOTE: Do not try to remove the screws entirely from the switch box, just hold the screws in place and remove the nuts.
- 11) Feed the disconnected wires through the cabinet via the cord grip (B) and remove the up/down switch box (A) from the CooLift.
- 12) Peel off any silicone that is left on the cabinet or the switch box.
- 13) Place a neoprene washer (H) on each mounting hole and mount the new up/down switch box (A) on the cabinet using the #1 screwdriver and the 5/16" wrench.
- 14) Feed the wires through the jam nut (D), the rubber insert (E), and the section of cord grip mounted on the cabinet and secure by tightening the jam nut (D) by hand.
- 15) Fasten the white wire on the switch solenoid (G) and secure using the 10mm wrench.
- 16) Fasten the black wire on the switch solenoid (G) and secure using the 13mm wrench.
- 17) Connect the green wire terminal to the blue wire terminal (F) that comes from the pump valve coil.
- 18) Reinstall the battery box (see Replacing Battery Box).

Item		Qty.	Part Number
A	Operator up/down switch	1	63019
B	Cord grip PG-16 (includes D and E)	1	309122
C	Hex locknut PG-16	1	309123
D	Jam nut	1	n/a
E	Rubber insert	1	n/a
F	Plug connector	1	n/a
G	Solenoid	1	n/a
H	Washer, neoprene bonded	2	80730



REPLACING BATTERY CHARGER

TOOLS NEEDED:

SLIP JOINT PLIERS

#2 PHILLIPS HEAD SCREWDRIVER

#3 PHILLIPS HEAD SCREWDRIVER

Note: It is important to keep the CoolLift upright at all times.

Charger Replacement

- 1) Place the CoolLift on a level flooring surface.
- 2) Engage the holding brake.
- 3) **Turn off main power switch.**
- 4) Remove the back access panel from the cart by removing the mounting screws (A) using the #3 Phillips head screwdriver.
- 5) Disconnect the battery box from the existing charger (B) by unplugging the main wiring harness from the battery box.
- 6) Unplug the input cord from the left side of the charger.
- 7) Remove the two #10 x 3/4" long screws (C) from the U-shaped mounting bracket (D) using the #2 Phillips head screwdriver, taking care to keep the charger and bracket from dropping once the screws are removed. To remove the charger, lower the U-shaped mounting bracket (D) and charger (B) towards the pump motor, then to the right, rotating them out into the enclosure opening.
- 8) Check to ensure the black foam strips mounted to the underside of the enclosure shelf are not worn or damaged. If replacements are needed, please see Replacing Foam Mounting Strips.
- 9) Remove the battery charger from the mounting bracket (D).
- 10) Place the charger ON/OFF switch on the ON position on the new charger (see Figure 3). Center the charger in the mounting bracket (D). **NOTE:** The output cord should be oriented towards the switch plate and the charger ON/OFF switch should be oriented towards the enclosure opening.
- 11) Carefully place the charger and bracket above the pump motor and wiring, under the UP/DOWN switch, against the foam strips and centering the charger left to right within the mounting bracket (D).
- 12) Align the bracket holes with the enclosure shelf holes and secure with #10 x 3/4" long screws (C).
- 13) Plug in the input cord on the left side of the charger and plug the charger output cord plug into the battery pack.
- 14) Test the charger by plugging the charger cord into a grounded 115v outlet and check the charger indicator lights.

Troubleshooting tips if no light turns on:

- Confirm 115v outlet is operable.
- Confirm the charger ON/OFF switch is in the ON position.
- Confirm the input power cord is securely plugged into the charger receptacle.

- 15) Replace the back access panel using the mounting screws and #3 Phillips head screwdriver.

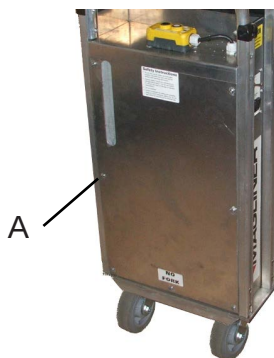


Figure 1

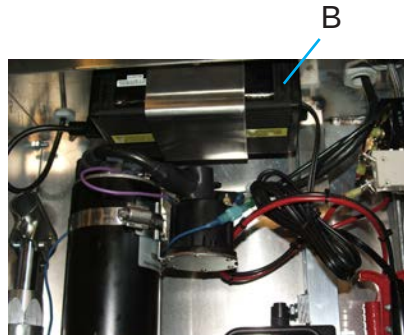


Figure 2



Figure 3

ON/OFF switch

Charger Replacement Parts List

Item	Description	Qty.	Part #
A	Screw - 1/4"-20 x 3/4" long w/ locking patch	7	80257
B	AC charger for 24v battery	1	63004
C	Pan head machine screw - #10-32 x 3/4" long	2	80121
D	Charger mounting bracket	1	309207

REPLACING CHARGER CORD

TOOLS NEEDED:
 SLIP JOINT PLIERS
 #2 PHILLIPS HEAD SCREWDRIVER
 #3 PHILLIPS HEAD SCREWDRIVER
 18 AWG WIRE STRIPPER/CUTTER

Note: It is important to keep the Coolift upright at all times.

Charger Cord Replacement

- 1) Loosen the cord grip using slip joint pliers. Remove the jam nut on the cord grip and pull out the rubber insert to allow the cord to move freely within the fitting.
- 2) Remove the male end of the plug from the existing cord using the #2 Phillips head screwdriver.
- 3) Remove the back access panel from the cart by removing the mounting screws using the #3 Phillips head screwdriver.
- 4) Unplug the existing cord from the charger socket and remove from the enclosure.
- 5) Cord installation:
 - a. Assembling into the enclosure
 - i. Remove the male end of the plug (D) from the replacement cord using the #2 Phillips head screwdriver.
 - ii. Slip the cord (C) from the inside of the enclosure up through the hole in the enclosure and through the cord grip (A) and lock nut (B).
 - iii. Remove excess cord from the inside of the enclosure until a length of 6-1/2" to 7" is left.
 - iv. Tighten the jam nut.
 - b. Assemble cord plug (see wiring part diagram, next page)
 - i. Shorten the three exposed wires to 7/8"- 1" long, then strip each wire back 1/4"- 5/16" from the end.
 - ii. Insert the cord end through the cord plug base, then insert and secure the three wires to the plug terminals:
 - a. Green wire to center terminal
 - b. Black or blue wire to terminal with copper screw terminal
 - c. White or brown wire to silver screw terminal

Note: Review wiring part diagram to confirm correct wire-terminal connection.
 - iii. Reassemble cord plug and securely tighten cord grip clamp.

- 6) Test the charger by plugging the charger cord into a grounded 115v outlet and check the charger indicator lights.

Troubleshooting tips if no light turns on:

- Confirm 115v outlet is operable.
 - Confirm the charger ON/OFF switch is in the ON position.
 - Confirm the input power cord is securely plugged into the charger receptacle.
- 7) Replace and secure the enclosure panel using the #3 Phillips head screwdriver.
- 8) To store the charger cord, coil the charger cord around the two brackets, interlacing the cord plug within the coiled cord loops to secure it. Figure 2 shows the completed bracket assembly with the cord properly secured to the brackets.

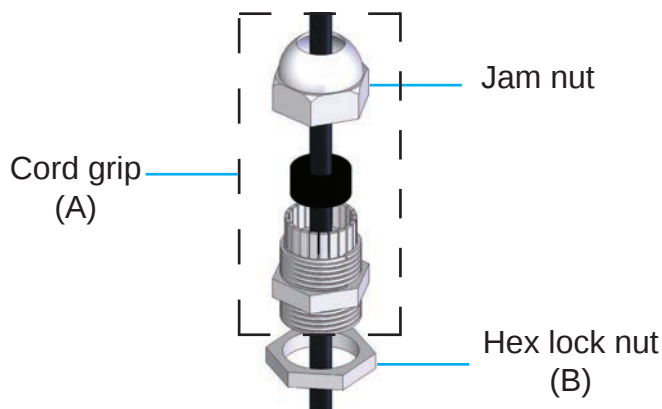


Figure 1

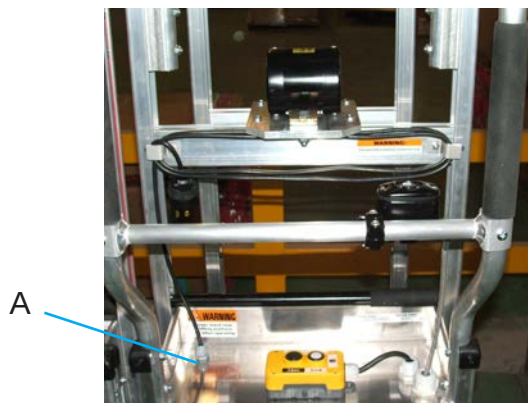
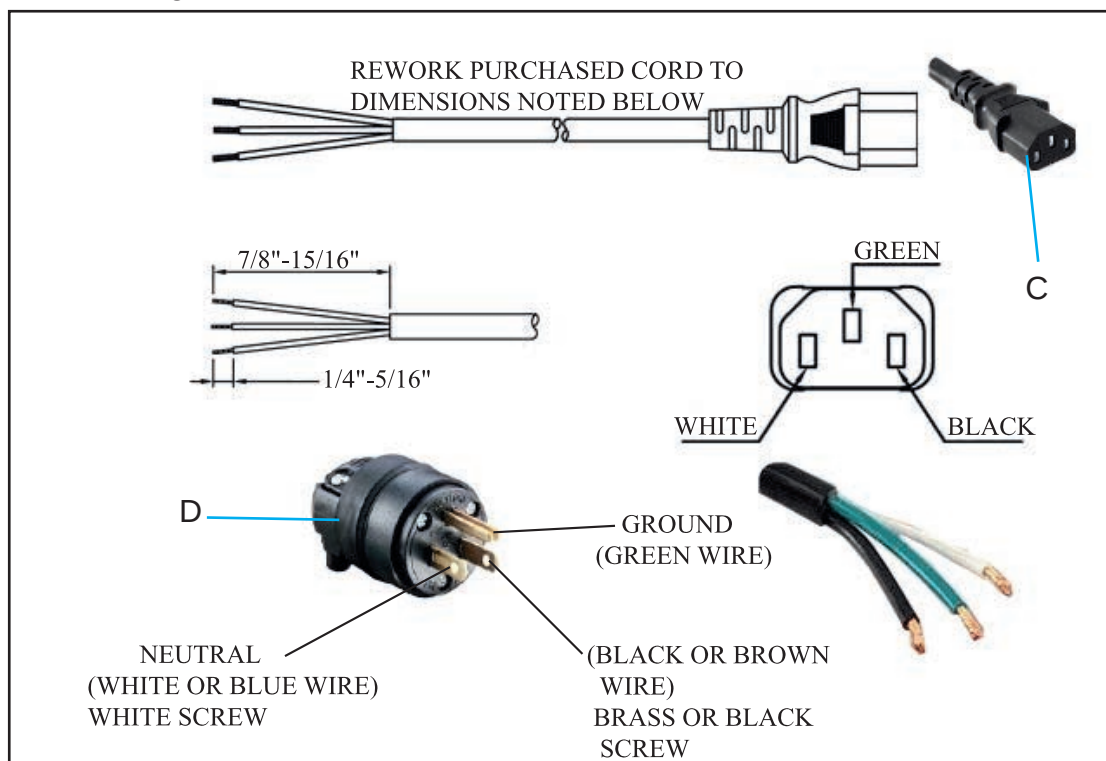


Figure 2



Wiring Part Diagram

Item	Description	Qty.	Part #
A	Cord grip - PG-9	1	309177
B	Hex lock nut - PG-9	1	309178
C	Electrical cord 8' long with C13 connector on one end	1	64018
D	Plug 115v 5-15p three-prong cord plug	1	61053

REPLACING FOAM MOUNTING STRIPS

TOOLS NEEDED:

SHARP PUTTY KNIFE, POCKET KNIFE OR RAZOR BLADE

#2 PHILLIPS HEAD SCREWDRIVER

#3 PHILLIPS HEAD SCREWDRIVER

Note: It is important to keep the CooLift upright at all times.

- 1) Place the CooLift on a level flooring surface.
- 2) Engage the holding brake.
- 3) **Turn off main power switch.**
- 4) Remove the back access panel from the cart by removing the mounting screws using the #3 Phillips head screwdriver.
- 5) Remove the charger by first removing the U-shaped mounting bracket using the #2 Phillips head screwdriver, taking care to keep the charger and bracket from dropping once the screws are removed. Remove charger and bracket from enclosure and set aside.
- 6) Using a sharp tool, cut or scrape off the existing foam strips from the underside of the enclosure box.
- 7) The location for foam strips is 1/2" - 3/4" from the front of the enclosure and approximately 2-1/2" left and right of the charger mount holes.
- 8) Mount two adhesive backed foam strips (A) to the underside of the enclosure shelf, oriented front-back on the enclosure (Figure 1). Press firmly to secure into place.
- 9) Remount the charger and confirm the cord is plugged into it. Check the charger to confirm it is in the ON position by plugging the charger cord into a grounded 115v outlet and check the charger indicator lights in the right end of the charger.
- 10) Replace the back access panel using the mounting screws and #3 Phillips head screwdriver.

Item	Description	Qty.	Part #
A	3/4" square foam tape, adhesive backed - 4" long	2	309217

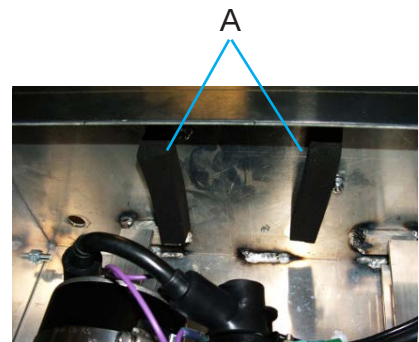


Figure 1

REPLACING BATTERY METER

Note: It is important to keep the CooLift upright at all times.

1. Place the CooLift on a level flooring surface.
2. Engage the holding brake.
3. Turn off the main power switch.
4. Remove the battery box (see Replacing Battery Box in the CooLift Service Manual) through and including step 7, unplugging the battery box from the CooLift.
5. To release the battery meter from the CooLift enclosure, reach underneath the enclosure and find the tabs located on both sides of the meter (see Figure 1). Squeeze the tabs inward and ease the battery meter upward and out of the enclosure.
6. Disconnect the red wire (+) from the BATTERY (+) terminal of the battery meter and ensure the wire end does not fall back through the hole of the enclosure.
7. Disconnect the black wire (-) from the BATTERY (-) terminal of the battery meter and ensure the wire end does not fall back through the hole of the enclosure.
8. Disconnect the white wire from the KEYSWITCH terminal of the battery meter and ensure the wire end does not fall back through the hole of the enclosure.
9. Check to be sure that the rubber gasket is in place on the new battery meter - install the rubber gasket to the battery meter if necessary.
10. Connect the black wire (-) to the BATTERY (-) terminal of the battery meter (see Figure 2).
11. Connect the white wire to the KEYSWITCH terminal of the battery meter (see Figure 2).
12. Connect the red wire (+) to the BATTERY (+) terminal of the battery meter (see Figure 2).
13. Snap the meter back into place in the enclosure shelf, making sure that the battery indicator label is at the top of the meter (see Figure 3).
14. Recheck all connections for correct wiring placement and tightness.
15. Reinstall the battery box (see Replacing Battery Box in the CooLift Service Manual).

Description	Qty.	Part Number
Battery charge meter	1	62033

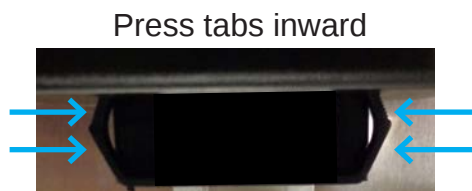


Figure 1



Figure 2



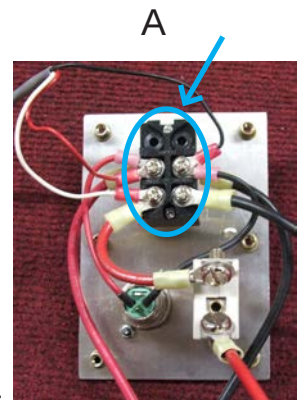
Figure 3

REPLACING POWER SWITCH

TOOLS NEEDED: #3 PHILLIPS SCREWDRIVER, 14mm WRENCH

- 1) Place the Coolift on a level flooring surface and engage the holding brake.
- 2) **Turn off main power switch.**
- 3) Remove battery (see Replacing Battery Box).
- 4) Disconnect each of the wiring connections from the back of the defective switch (A) one at a time and connect them to the new replacement switch making sure to follow the same connection layout using the #3 Phillips screwdriver. See page 29 if a more detailed view is desired.
- 5) When all of the new connections have been made, the new switch (A) should be able to be pushed to the side enough to remove the defective unit by grasping it firmly in one hand and removing the lock nut on the outside of the switch plate with the 14mm wrench.
- 6) Note the locations of the backup hex nut, the locking ring and the lock washer on the defective unit and replicate it on the new replacement component.
- 7) Hold and position the new replacement switch (A) in the hole on the switch plate with your hand and tighten the locknut on the outside with the 14mm wrench.
- 8) Recheck all connections for correct wiring placement and tightness.
- 9) Reinstall battery box (see Replacing Battery Box).

On/Off Switch (62016)



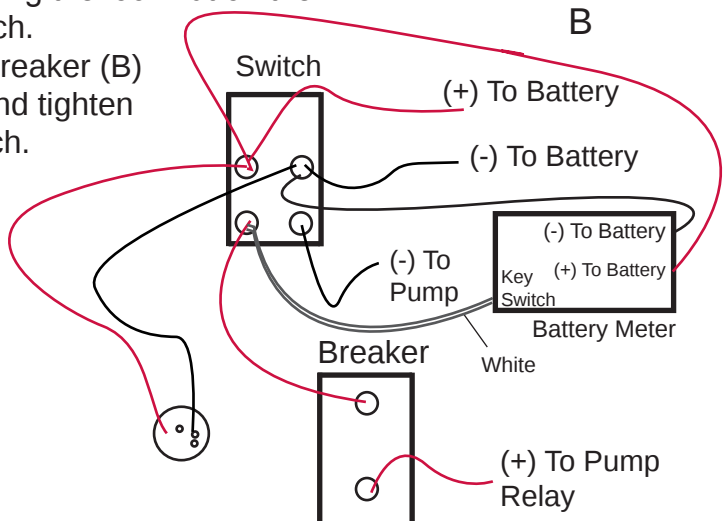
REPLACING POWER CIRCUIT BREAKER

TOOLS NEEDED: FLAT HEAD SCREWDRIVER, 17mm WRENCH

- 1) Place the Coolift on a level flooring surface and engage the holding brake.
- 2) **Turn off main power switch.**
- 3) Remove battery (see Replacing Battery Box).
- 4) Disconnect each of the wiring connections from the back of the defective circuit breaker (B) one at a time and connect them to the new replacement component making sure to follow the same connection layout using the flat head screwdriver. See page 29 if a more detailed view is desired.
- 5) When all of the new connections have been made, the new circuit breaker (B) should be able to be pushed to the side enough to remove the defective unit by grasping it firmly in one hand and removing the lock nut on the outside of the switch plate with the 17mm wrench.
- 6) Hold and position the new replacement circuit breaker (B) in the hole on the switch plate with your hand and tighten the locknut on the outside with the 17mm wrench.
- 7) Recheck all connections for correct wiring placement and tightness.
- 8) Reinstall battery box (see Replacing Battery Box).



Circuit Breaker (62015)



CHANGING WIRING HARNESS

TOOLS NEEDED:

#3 PHILLIPS

10mm WRENCH

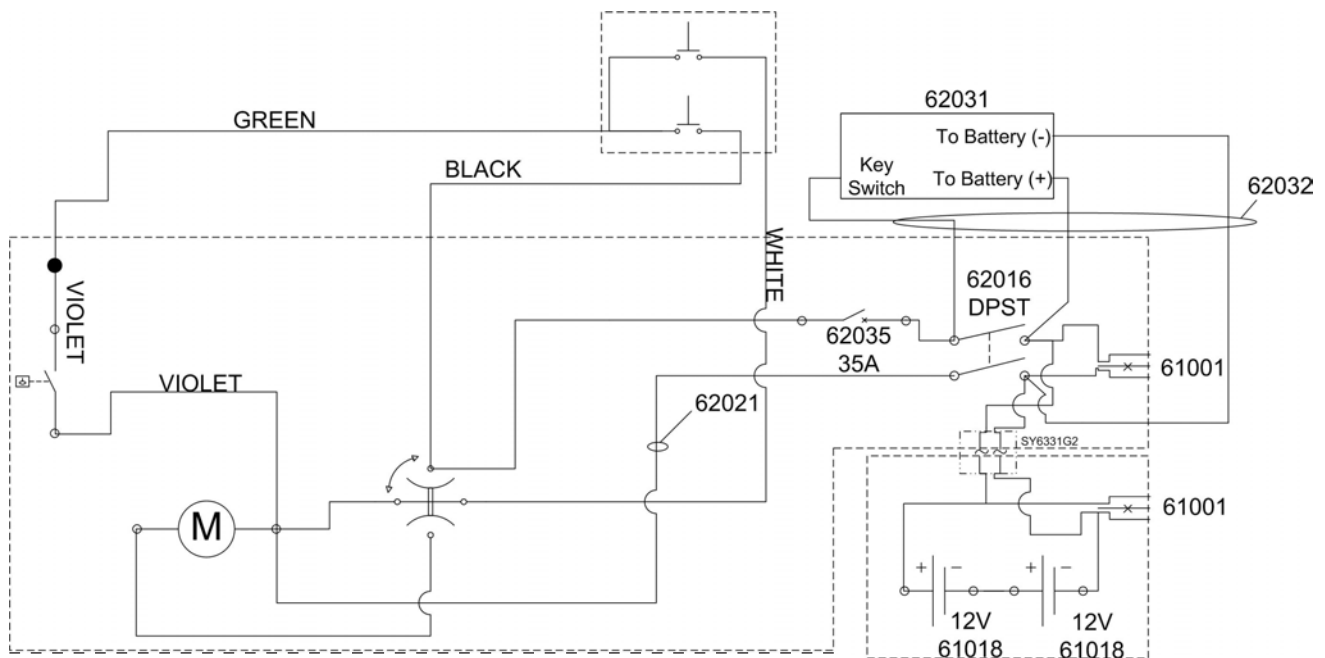
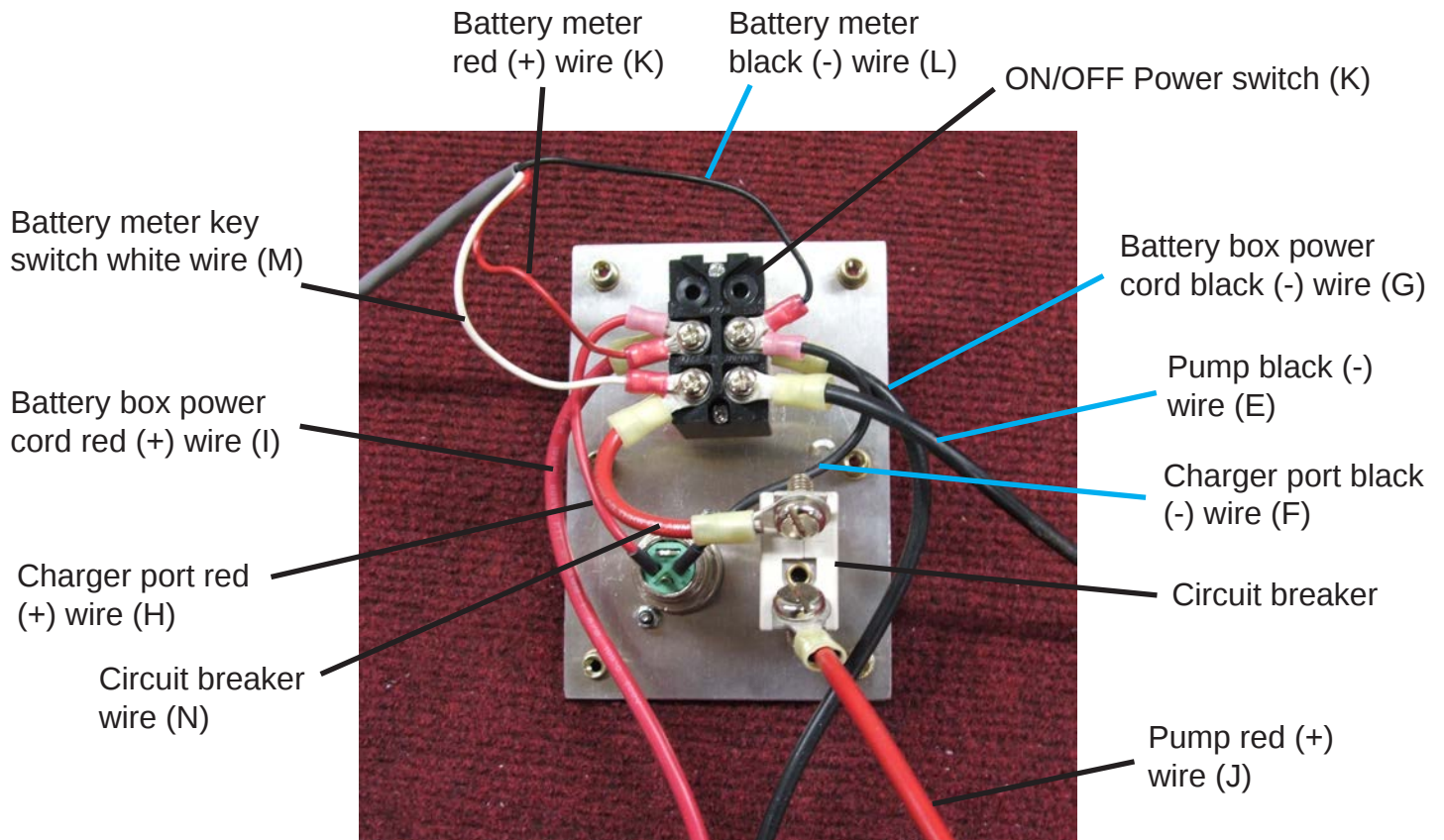
13mm WRENCH

MEDIUM SIZED FLAT HEAD SCREWDRIVER

Note: It is important to keep the CooLift upright at all times.

- 1) Place the CooLift on a level flooring surface with the holding brake engaged.
- 2) Turn off main power switch.
- 3) Remove battery for access (see Changing Battery in Battery Box for proper removal).
- 4) Disconnect each of the wiring connections using the appropriate wrench or screwdriver.
- 5) Install the new item making all the correct electrical connections (see page 29 for detailed views).
- 6) Recheck all connections for correct wiring placement and tightness.
- 7) Reinstall the battery box (see Replacing Battery Box for proper installation).

Description	Qty.	Part Number
Wiring harness to connect cabinet charge port to on/off toggle switch	1	62030
Wiring harness to connect circuit breaker to on/off toggle switch	1	62020
Wiring harness to connect pump to on/off toggle switch	1	62021
Wiring harness to connect circuit breaker to pump	1	62022
Wiring harness to connect battery box to on/off toggle switch	1	62023
Wiring harness for battery interconnect	1	62024
Wiring harness for battery box connector plug	1	62025
Wiring harness for battery charge meter	1	62032
Battery charge meter	1	62031



Electrical Schematic

CHANGING AXLE

TOOLS NEEDED:

THREE SPACER BLOCKS (4" x 4" x 24" WOODEN BLOCKS)

PAIR OF PLIERS

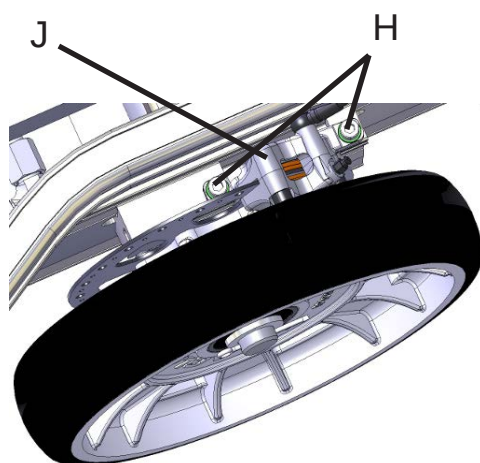
5mm ALLEN WRENCH

5/16" ALLEN WRENCH

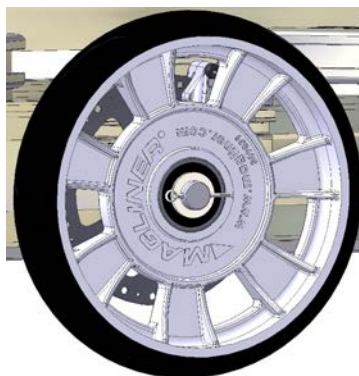
TAPE MEASURE

Note: It is important to keep the CooLift upright at all times.

- 1) Place the CooLift on a pair of spacer blocks positioned on each side of the center wheel such that the front most block is directly under the front hydraulic cylinder and the rear most block is directly under the rear hydraulic cylinder.
- 2) Disengage the holding brake.
- 3) Raise the deck by pressing the up switch until fully extended.
- 4) Position a spacer block between the deck and the base of the cart.
- 5) **Turn off main power switch.**
- 6) Remove both brake calipers (J) by taking out the caliper mounting screws (H) using the 5mm Allen wrench and place them on the deck. NOTE: Do not engage the brake lever while the brake calipers are off the cart.
- 7) Pull both cotter pins (D) at each end of the axle using the pair of pliers and slide off the retaining washers (F).
- 8) Slide the wheels (E) off each end of the axle taking care to set them down on the side opposite the brake disc to prevent damage to the disc (G).
- 9) Loosen the four axle retaining screws (C) - two on each side - located directly below the axle within the axle clamp block (B) using the 5/16" Allen wrench.
- 10) Slide out the axle (A) to be replaced.
- 11) Position the new axle (A) within the axle mount, center it within the frame by measuring the length of each side that extends from the frame with the tape measure to be sure the axle is centered and tighten the four axle retaining screws (C) using the 5/16" Allen wrench.
- 12) Slide each of the wheels on the axle such that the side with the brake disc is positioned next to the CooLift side rails (I).
- 13) Slide a retaining washer (F) on each side and insert the cotter pins (D).
- 14) Position the calipers (J) within the caliper mounts and lightly hand tighten the mounting screws (H). NOTE: Do not use the wrench on them until the calipers have been aligned or damage to the brake disc could result.
- 15) With the caliper mounting screws (H) lightly hand tightened, engage the holding brake to correctly position the caliper orientation to the brake disc. Then the bolts may be tightened using the 5mm Allen wrench.



Top View



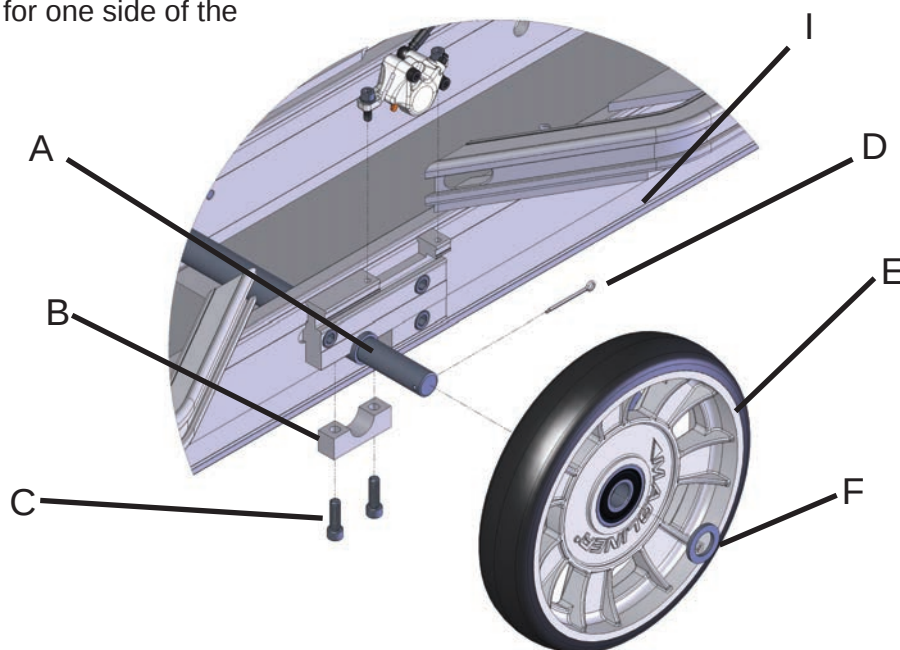
Side View



Bottom View

Item		Qty.	Part Number
A	Axle - 14.3" (one per CooLift)	1	309020
B	Clamp block for axle	1	309022
C	Hex socket head cap screw - 5/16"-18 x 1" long	2	80038
D	Straight cotter pin	1	81142
E	Center wheel - 10" x 2" with bearings	1	309059
F	Washer	1	80718
G	Brake disc	1	309050
H	Hex socket head cap screw - M6 x 20mm	2	80003
I	Side rail	--	n/a
J	Brake caliper assembly	1	309594

Quantities listed for items B-J are for one side of the CooLift



CHANGING BRAKE CALIPER

TOOLS NEEDED:

THREE SPACER BLOCKS (4" x 4" x 24" WOODEN BLOCKS)

2.5mm ALLEN WRENCH

5mm ALLEN WRENCH

8mm WRENCH

TORQUE WRENCH

MEDIUM FLAT HEAD SCREWDRIVER

DRIP PAN

ABSORBING MATERIAL (for containing spills)

ISOPROPYL ALCOHOL

Note: It is important to keep the CooLift upright at all times.

CAUTION: DOT 4 and DOT 5 brake fluids are a slip hazard on any flooring surface.

Brake fluid will strip paint; any spills on a painted surface should be wiped up and rinsed with isopropyl alcohol immediately.

Brake fluid can be an irritant to human tissue and should be washed off in flowing water.

If brake fluid is exposed to the eye, flush immediately and continuously for 15 minutes.

- 1) Place the CooLift on a pair of spacer blocks positioned on each side of the center wheel such that the front most block is directly under the front hydraulic cylinder and the rear most block is directly under the rear hydraulic cylinder.
- 2) Disengage the holding brake.
- 3) Raise the deck by pressing the up switch until fully extended.
- 4) Position a spacer block between the deck and the base of the cart.
- 5) **Turn off main power switch.**
- 6) Remove the brake caliper (D) by removing the caliper mounting screws (A) using a 5mm Allen wrench. NOTE: Do not engage the brake lever while the brake calipers (D) are off the cart (Figure 1).
- 7) Place the large flat head screwdriver between the brake pads (B) on the caliper (D) and rotate it to compress the piston position and force as much brake fluid as possible back into the brake fluid reservoir (Figure 2).
- 8) Remove the brake pads and leaf spring from the caliper (Figure 3).
- 9) Position the caliper (D) directly over the drip pan and remove the banjo bolt (F) using the 8mm wrench to disconnect the brake line.
- 10) Install the brake line (E) to the new caliper (D) making sure to utilize an O-ring (G) on each side of the banjo fitting (H) and tighten to 60 +/- 5 in/pounds of torque (Figure 4).
- 11) Wipe up any brake fluid that has leaked on the caliper (D).
- 12) Pinch the brake pad tabs together so that the pad material on both pads are touching.
- 13) Slide brake pads into the top window of the caliper until they come to a stop (see Figure 3).
- 14) Using a 2.5mm Allen wrench install and tighten the pad retaining pin. Pad pin torque should be 10

+/- 1 in.-lbs.

- 15) Position the calipers (D) within the caliper mounts and lightly hand tighten the mounting screws (A). NOTE: Do not use the wrench on them until the calipers have been aligned or damage to the brake disc could result.
- 16) With the caliper mounting screws (A) lightly hand tightened, engage the holding brake to correctly position the caliper (D) orientation to the brake disc (C). Then the screws may be tightened using the 5mm Allen wrench.
- 17) Bleed the brake system (see Bleeding the Brakes).

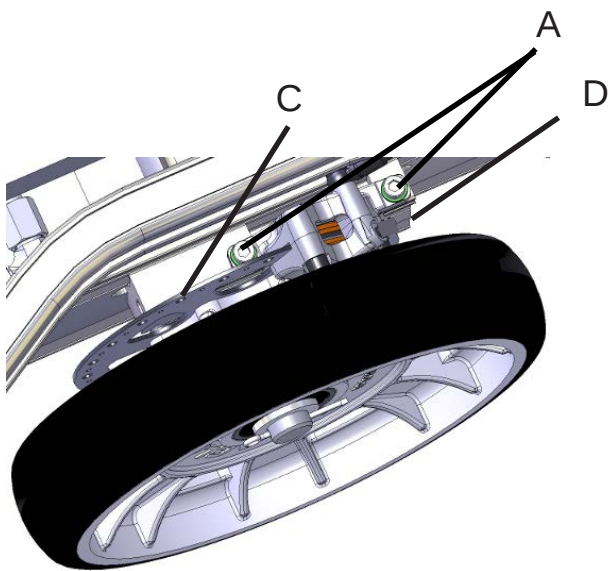


Figure 1



Figure 2
Compressing the piston



Figure 3
Removing/Inserting the pads

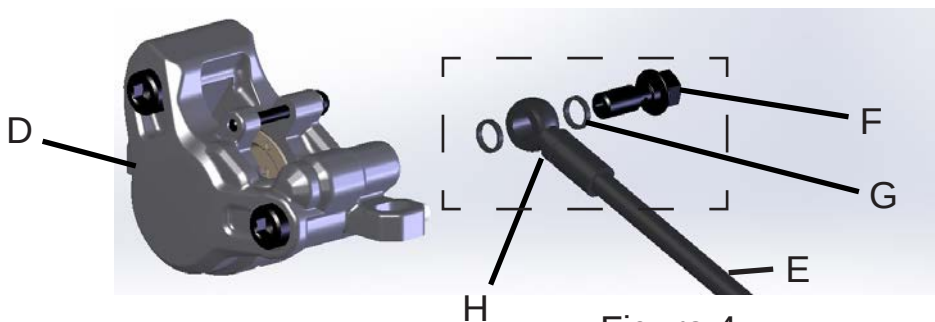


Figure 4

Item		Qty.	Part Number
A	Hex socket head cap screw - M6 x 20mm	2	80003
B	Pair of brake pads with leaf spring	1	309594
C	Brake disc	1	309050
D	Caliper assembly	1	309595
E	Caliper brake line assembly (includes F, G and H)	1	309145
F	Banjo bolt	1	80135
G	O-rings	2	n/a
H	Banjo fitting on brake line	1	n/a

Quantities listed are for one side of the CoolLift

CHANGING BRAKE PAD

TOOLS NEEDED:

THREE SPACER BLOCKS (4" x 4" x 24" WOODEN BLOCKS)

2.5mm ALLEN WRENCH

5mm ALLEN WRENCH

8mm (5/16) WRENCH

MEDIUM FLAT HEAD SCREWDRIVER

DRIP PAN

ABSORBING MATERIAL (for containing spills)

ISOPROPYL ALCOHOL

Note: It is important to keep the CooLift upright at all times.

CAUTION: DOT 4 and DOT 5 brake fluids are a slip hazard on any flooring surface.

Brake fluid will strip paint; any spills on a painted surface should be wiped up and rinsed with isopropyl alcohol immediately.

Brake fluid can be an irritant to human tissue and should be washed off in flowing water.

If brake fluid is exposed to the eye, flush immediately and continuously for 15 minutes.

- 1) Place the CooLift on a pair of spacer blocks positioned on each side of the center wheel such that the front-most block is directly under the front hydraulic cylinder and the rear most block is directly under the rear hydraulic cylinder.
- 2) Disengage the holding brake.
- 3) Raise the deck by pressing the up switch until fully extended.
- 4) Position a spacer block between the deck and the base of the cart.
- 5) **Turn off the main power switch.**
- 6) Remove the brake caliper (C) by removing the caliper mounting screws (A) using a 5mm Allen wrench (Figure 1). NOTE: Do not engage the brake lever while the brake calipers (C) are off the cart.
- 7) When changing the brake pads (B) the brake fluid should remain within the system but for added protection the caliper (C) should be positioned over the drip pan until it is mounted back on the cart.
- 8) Place the large flat head screwdriver between the brake pads (B) on the caliper (C) and rotate it to compress the piston position and force as much brake fluid as possible back into the brake fluid reservoir (Figure 2).
- 9) With a 2.5 mm Allen wrench, remove the pad retaining pin from the caliper.
- 10) Using your fingers pull the pad tabs and pad leaf spring through the window on the top of the caliper.
- 11) Using the boxed end of an 8mm wrench, push the caliper pistons back all the way into the bore of the caliper. This will give you more room to fit in the new pads. Walk the piston back and forth until the piston is all the way back in the bore. Do the same thing on the other side. NOTE: Do not push the edge of the piston as they may crack or chip.

- 12) Place the leaf spring onto one of the brake pads so that the spring feet are on either side of the pad material (see Figure 3).
- 13) Place the opposing pad onto the leaf spring so that the spring feet are on either side of the pad material.
- 14) Pinch the pad tabs together so that the pad material on both pads are touching.
- 15) Slide pads and leaf spring into the top window of the caliper until they come to a stop (see Figure 5). Using a 2.5mm Allen wrench install and tighten the pad retaining pin. Pad pin torque should be 10 +/- 1 in.-lbs.
- 16) Position the caliper (C) within the caliper mount and lightly hand tighten the mounting screws (A) (Figure 4). NOTE: Do not use the wrench on them until the caliper has been aligned or damage to the brake disc could result.
- 17) Engage the holding brake.
- 18) With the caliper mounting bolts lightly hand tightened and the holding brake engaged, the caliper will correctly self position its orientation relative to the brake disc.
- 19) Tighten the caliper mounting screws (A) with the 5mm Allen wrench.

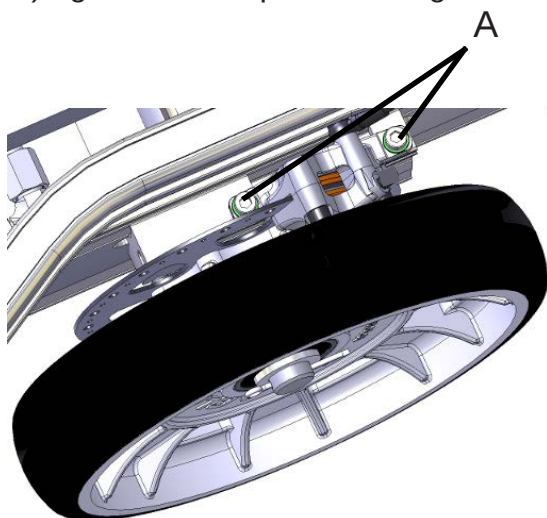


Figure 1



Figure 2
Compressing the piston

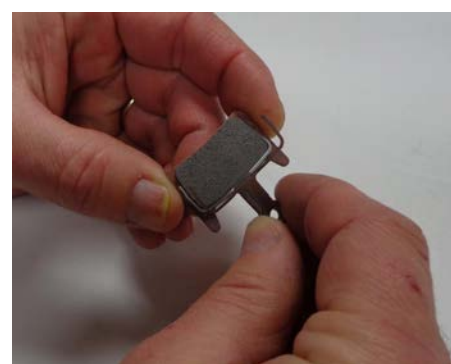


Figure 3
Assembling spring to pads

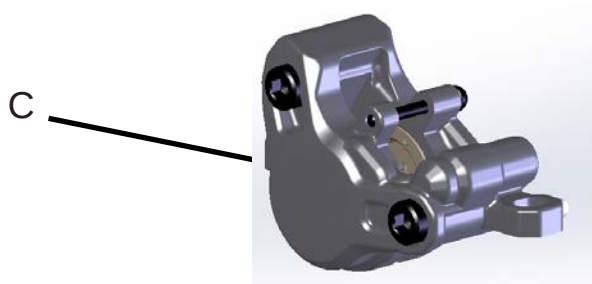


Figure 4



Figure 5
Inserting the pads

Item		Qty.	Part Number
A	Hex socket head cap screw - M6 x 20mm	2	80003
B	Pair of brake pads	1	309594
C	Caliper assembly	1	309595

Quantities listed are for one side of the CoolLift

CHANGING UPPER BRAKE LINE

TOOLS NEEDED:

12mm WRENCH

TWO 33mm WRENCHES

36mm WRENCH

#3 PHILLIPS SCREWDRIVER

DRIP PAN

ABSORBING MATERIAL (for containing spills)

ISOPROPYL ALCOHOL

Note: It is important to keep the CooLift upright at all times.

CAUTION: DOT 3 and DOT 4 brake fluids are a slip hazard on any flooring surface.

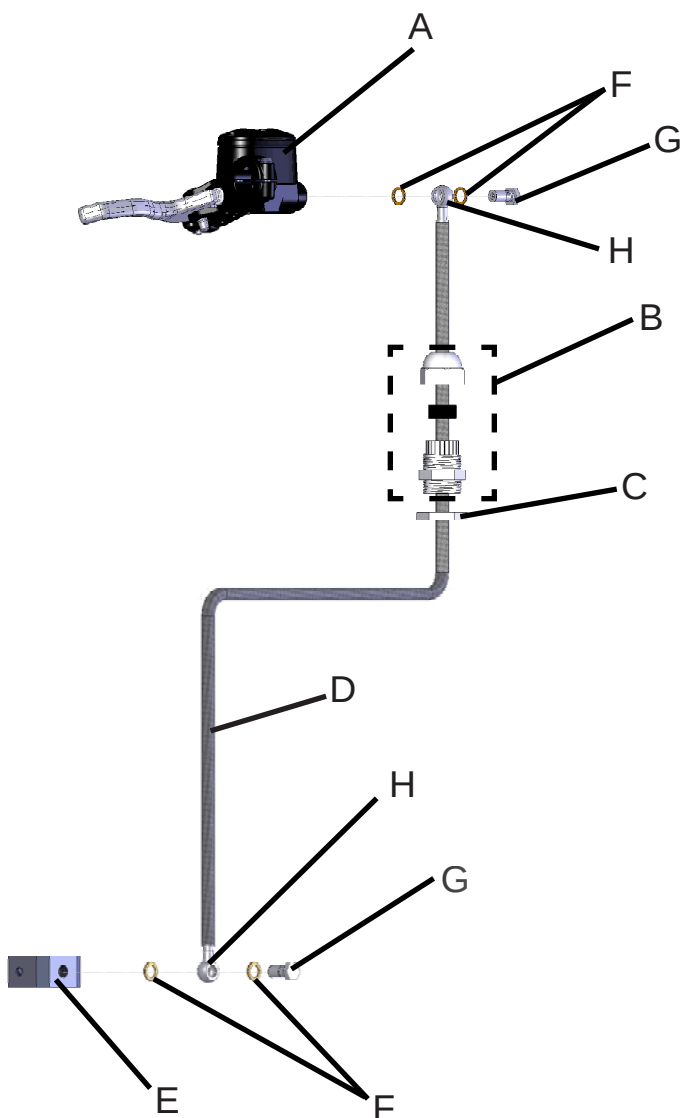
Brake fluid will strip paint; any spills on a painted surface should be wiped up and rinsed with isopropyl alcohol immediately.

Brake fluid can be an irritant to human tissue and should be washed off in flowing water.

If brake fluid is exposed to the eye, flush immediately and continuously for 15 minutes.

- 1) Disengage the holding brake.
- 2) Turn off main power switch.
- 3) Remove the battery box (see Replacing Battery Box).
- 4) Remove the locknut (C) from the bottom of the cord grip fitting (B) using a 36mm wrench.
- 5) Remove the brake line (D) from the junction block (E) by removing the banjo bolt (G) and the copper crush washers (F) using the 12mm wrench. Drain as much brake fluid as possible into the drip pan. NOTE: Do not engage the brake lever while the brake line is removed.
- 6) Remove the brake line (D) from the master cylinder (A) by removing the banjo bolt (G) and the two copper washers (F) using the 12mm wrench.
- 7) Pull the entire brake line (D) and cord grip (B) out through the top of the cabinet.
- 8) Wipe up any brake fluid that wasn't caught inside the drip pan.
- 9) Remove the cord grip fitting (B) from the brake line (D) to be replaced using two 33mm wrenches.
- 10) Slide the rubber sleeve out of the top of the fitting and remove the defective brake line.
- 11) Mount the cord grip fitting (B) onto the cabinet using a 33mm and 36mm wrench.
- 12) Insert the new brake line (D) into the cord grip (B) and tighten with a 33mm wrench, allowing enough slack to reach to the master cylinder (A).
- 13) Connect the new brake line (D) to the junction block (E) using a copper washer (F) on each side of the banjo fitting (H) and tighten with the 12mm wrench.
- 14) Connect the other end to the master cylinder in the same manner.
- 15) Bleed the brake system (see Bleeding the Brakes).
- 16) Reinstall the battery box (see Replacing Battery Box).

Item		Qty.	Part Number
A	Master cylinder	1	309218
B	Cord grip - PG-21	1	309124
C	Hex lock nut - PG-21	1	309125
D	Master cylinder brake line	1	309083
E	Junction block	1	309051
F	Copper washer	4	80712
G	Banjo bolt	2	80124
H	Banjo fitting	-	n/a



CHANGING LOWER BRAKE LINE

TOOLS NEEDED:

12mm WRENCH

8mm WRENCH

#3 PHILLIPS HEAD SCREWDRIVER

UTILITY KNIFE

DRIP PAN

ABSORBING MATERIAL (for containing spills)

ISOPROPYL ALCOHOL

PAIR OF PLIERS

SPACER BLOCK (4" x 4" x 24" WOODEN BLOCK)

Note: It is important to keep the CooLift upright at all times.

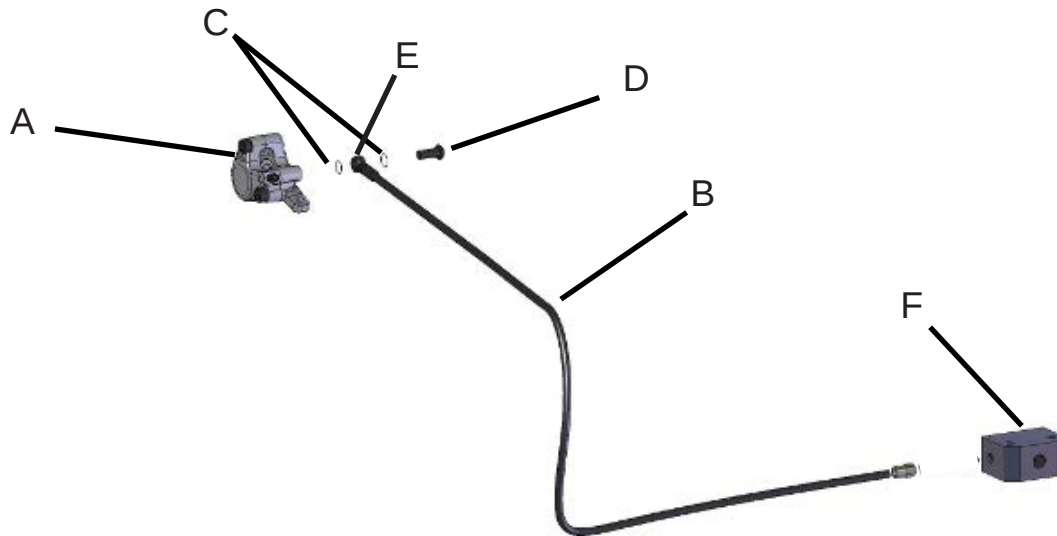
CAUTION: DOT 4 and DOT 5 brake fluids are a slip hazard on any flooring surface.

Brake fluid will strip paint; any spills on a painted surface should be wiped up and rinsed with isopropyl alcohol immediately.

Brake fluid can be an irritant to human tissue and should be washed off in flowing water.

If brake fluid is exposed to the eye, flush immediately and continuously for 15 minutes.

- 1) Disengage the holding brake.
- 2) Raise the deck by pressing the up switch until fully extended.
- 3) Position a spacer block between the deck and the base of the cart.
- 4) **Turn off main power switch.**
- 5) Remove the battery (see Replacing Battery Box).
- 6) Position the drip pan below the caliper (A) and remove the banjo bolt (D) using the 8mm wrench taking care to make sure both of the O-rings (C) are accounted for. **NOTE:** Do not engage the brake lever while the brake line (B) is off the cart.
- 7) Drain as much of the brake fluid into the drip pan as possible from the brake line (B).
- 8) Using an 8mm wrench, remove the other end of the brake line (B) from the junction block (F) and pull the brake line back through the routing position.
- 9) Connect the banjo fitting end (E) to the caliper (A) with the banjo bolt (D) making sure to have an O-ring (C) on each side of the fitting and tighten it with the 8mm wrench to 60 +/- 5 in/pounds of torque.
- 10) Connect the new brake line (B) to the junction block (F) using the 8mm wrench and reroute it through in the same locations as the line to be replaced.
- 11) Bleed the brake system (see Bleeding the Brakes).
- 12) Reinstall the battery box (see Replacing Battery Box).



Item		Qty.	Part Number
A	Caliper assembly	1	309595
B	Caliper brake line assembly (includes items C-G)	1	309145
C	O-rings	-	n/a
D	Banjo bolt	-	80135
E	Banjo fitting on brake line	-	n/a
F	Junction block (one per CooLift)	1	309051

Quantities listed for items A-B are for one side of the CooLift

REPLACING BRAKE LINE CLIPS

Note: It is important to keep the CooLift upright at all times.

- 1) Place the CooLift on a level flooring surface with the holding brake engaged.
- 2) **Turn off main power switch.**
- 3) If the brake clip is still closed around the brake line, slide the clip open by sliding the two pieces of the top of the clip away from the center of the clip; remove brake line from clip.
- 4) Grab the brake clip with either your fingers or pliers and firmly pull towards the inside of the deck to remove the clip.
- 5) Align a new brake clip so that the point of the brake clip will enter the frame from the inside of the unit and push the clip to snap into place.
- 6) Return brake line to inside of clip. Push the longer side of the clip top down towards the brake line to close the clip.

Item	Qty.	Part Number
Brake line clip	6	61019



Open position



Closed position

REPLACING BRAKE MASTER CYLINDER

TOOLS NEEDED:

ABSORBING MATERIAL (for containing spills)

TORX T30 WRENCH

TORX T20 WRENCH

14mm WRENCH

DRIP PAN

ISOPROPYL ALCOHOL

Note: It is important to keep the CooLift upright at all times.

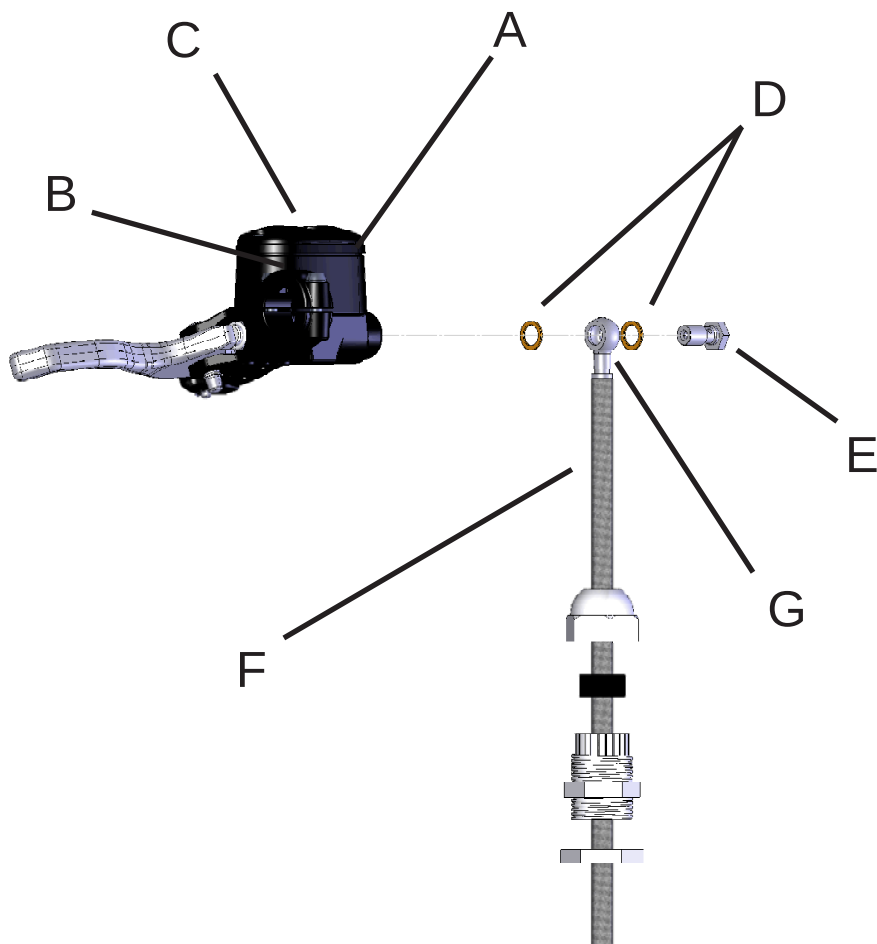
CAUTION: DOT 3 and DOT 4 brake fluids are a slip hazard on any flooring surface.

Brake fluid will strip paint; any spills on a painted surface should be wiped up and rinsed with isopropyl alcohol immediately.

Brake fluid can be an irritant to human tissue and should be washed off in flowing water.

If brake fluid is exposed to the eye, flush immediately and continuously for 15 minutes.

- 1) Place the CooLift on a level flooring surface.
- 2) Remove the two screws that hold the master cylinder (A) to the horizontal brace using the T30 wrench.
- 3) Hold the master cylinder (A) to be replaced above the drip pan and remove the reservoir cover (C) by removing two screws (B) using the T20 wrench and pour the fluid into the drip pan. NOTE: Do not squeeze the brake lever while the reservoir cover is off because it may introduce air into the system.
- 4) Position the new master cylinder (A) in place on the horizontal grip and tighten into place using the T30 wrench.
- 5) Take the reservoir cover (C) off the new master cylinder using the T20 wrench and fill it to the full line with DOT 3 or DOT 4 brake fluid.
- 6) Hold the old master cylinder (A) in the upright position and remove the master cylinder brake line (F) by removing the banjo bolt (E) using the 14mm wrench. NOTE: There will be a copper crush washer (D) on both sides of the banjo fitting.
- 7) Mount the master cylinder brake line (F) to the new master cylinder (A) taking care to hold it upright until it is position to keep as much fluid within the line as possible.
- 8) With the cover off the brake fluid reservoir slowly depress the brake lever approximately one half of its full stroke four or five times to allow as much air to escape from the brake system as possible.
- 9) Replace the reservoir cover (C) and tighten the screws (B) with the T20 wrench.
- 10) Check the brake system for proper functioning.
- 11) If the system seems to be squishy or not functioning properly there may be some air trapped in the lines and they will need to be bled (see Bleeding the Brakes).



Item		Qty.	Part Number
A	Master cylinder (includes B - C)	1	309218
B	Cover screws		n/a
C	Reservoir cover		n/a
D	Copper washer	2	80712
E	Banjo bolt	1	80124
F	Master cylinder brake line (includes G)	1	309083
G	Banjo fitting		n/a

Quantities listed are for quantities shown - 2 additional 80712 and 1 additional 80124 are used at the lower end of the master cylinder brake line

BLEEDING BRAKES

TOOLS NEEDED:

14mm WRENCH

#3 PHILLIPS SCREWDRIVER

T10 TORX DRIVER

T20 TORX DRIVER

TORQUE WRENCH

SPACER BLOCK (4" x 4" x 24" WOODEN BLOCK)

DOT 4 or DOT 5 BRAKE FLUID

DRIP PAN

ABSORBING MATERIAL (for containing spills)

ISOPROPYL ALCOHOL

Note: It is important to keep the CooLift upright at all times.

CAUTION: DOT 4 and DOT 5 brake fluids are a slip hazard on any flooring surface.

Brake fluid will strip paint; any spills on a painted surface should be wiped up and rinsed with isopropyl alcohol immediately.

Brake fluid can be an irritant to human tissue and should be washed off in flowing water.

If brake fluid is exposed to the eye, flush immediately and continuously for 15 minutes.

- 1) Place the CooLift on a level flooring surface.
- 2) Raise the deck to its highest position.
- 3) Insert the spacer block between the deck and the base of the cart.
- 4) Turn off main power switch.
- 5) Remove the back access panel from the cart using the #3 Phillips screwdriver.
- 6) Remove the reservoir cover (B) from the brake master cylinder reservoir using the Torx T20 driver.
- 7) Check the fluid level in the master cylinder (A) making sure it is filled to the fill line marked on the inside of the reservoir.
- 8) Set the reservoir cover (B) back on top of the master cylinder (A) to keep fluid from splashing out, but do not tighten the screws.
- 9) Pump the brake handle eight to ten times and note the amount of pressure it takes each time. If the amount of pressure needed to fully compress the handle begins to increase after the first few pumps, skip the next step of bleeding the master cylinder brake line (E).
- 10) When there is no noticeable increase in pressure after ten pumps, the master cylinder brake line (E) needs to be bled first. Using the 14mm wrench, loosen the banjo bolt (F) that connects it to the junction block (D) until fluid is noticed seeping out at the junction block fitting. NOTE: It is not necessary to take the banjo bolt out entirely, it just needs to be loosened a few turns to allow the air in the brake line to escape and be replaced with brake fluid. Once fluid seeps out of junction block fitting, re-tighten the banjo bolt.
- 11) Remove the reservoir cover (B) and recheck the fluid level. Set the reservoir cover (B) back on top of the master cylinder (A) to keep fluid from splashing out, but do not tighten the screws.
- 12) Place the drip pan on the floor under the caliper on the left side of the cart.
- 13) The lower brake lines need to be bled next. Open the bleed screw in the banjo bolts on the calipers with the T10 torx driver until fluid is noticed seeping out of the bleed screw. NOTE: It is not necessary to take the bleed screw out entirely, it just needs to be loosened a few turns to allow the air in the brake line to

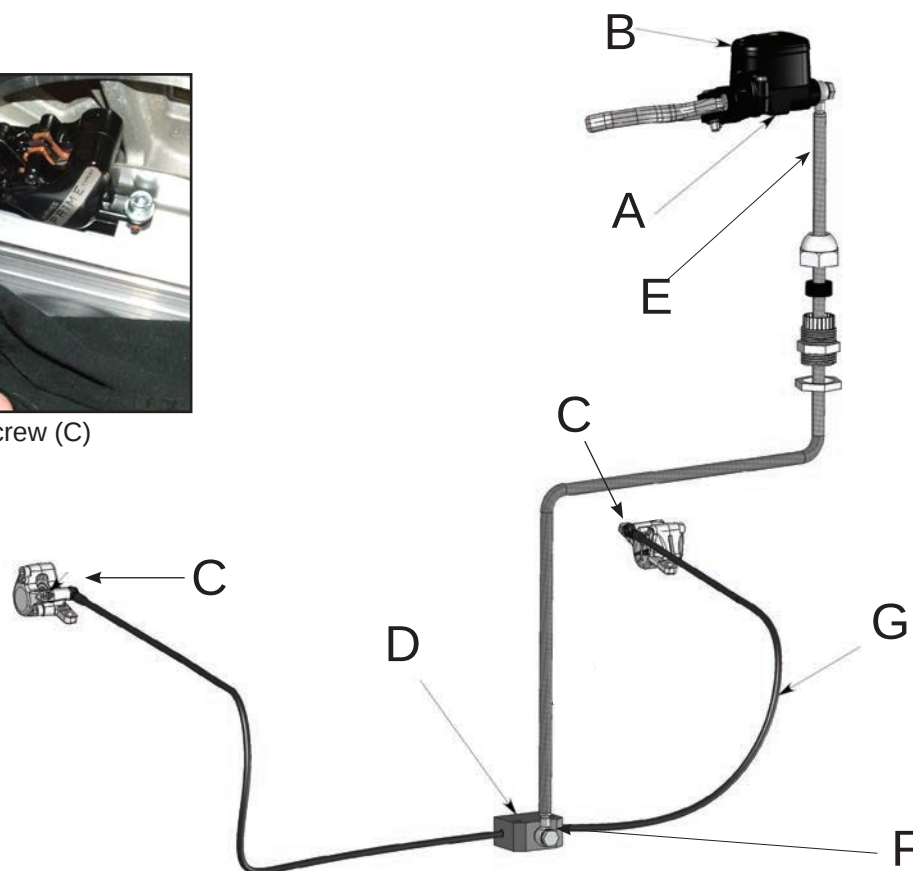
escape and be replaced with brake fluid. You can gently pump the brakes to help accelerate this process.

One the fluid is seeping out, re-tighten the bleed screws

- 14) Remove the reservoir cover (B) and recheck the fluid level. Set the reservoir cover (B) back on top of the master cylinder (A) to keep fluid from splashing out, but do not tighten the screws.
- 15) Pump the brake handle several times and hold it in the compressed position, loosen the caliper bleed screw (C) 1/4 turn with the T10 torx driver until the fluid pressure that was built up is released, tighten the bleed screw to 35 +/- 5 inch pounds of torque and release the brake handle. NOTE: Repeat this step until straight fluid without air bubbles is noticed escaping during the bleed screw loosening process. Check the fluid level and refill the reservoir if necessary after every other cycle.
- 16) Repeat the previous three steps on the right side caliper of the cart; then repeat these same steps for the left side caliper. Keep repeating these steps, alternating sides, until no air is seen in the brake fluid and pumping the brake handle does not increase the pressure in the lines.
- 17) Recheck and refill (if necessary) the master cylinder reservoir.
- 18) Put the reservoir cover (B) back on the master cylinder (A) and tighten the screws with the Torx T20 wrench to 60 +/- 5 inch pounds of torque.
- 19) Wipe any brake fluid that may have leaked into the drip pan located underneath the Coolift deck using the absorbing materials.



Caliper bleed screw (C)



Item		Qty.	Part Number
A	Master cylinder (includes B)	1	309218
B	Reservoir cover	-	n/a
C	Caliper bleed screw	-	80135
D	Junction block	1	309051
E	Master cylinder brake line	1	309083
F	Banjo bolt	1*	80124
G	Caliper brake line assembly	2	309145

*Quantity listed is for quantity shown - an additional 80124 is used at the top of the master cylinder line assembly

CHANGING HYDRAULIC PUMP

TOOLS NEEDED:

7/16" WRENCH

11/16" WRENCH

1/2" WRENCH

10mm WRENCH

13mm WRENCH

#3 PHILLIPS HEAD SCREWDRIVER

DRIP PAN

ABSORBING MATERIAL (for containing spills)

Note: It is important to keep the CooLift upright at all times.

CAUTION: Hydraulic fluid is an extreme slip hazard on any flooring surface.

Hydraulic fluid can be a skin irritant in rare instances and should be washed off with soap and water.

If hydraulic fluid is exposed to the eye, flush immediately and continuously for 15 minutes.

- 1) Place the CooLift on a level flooring surface with the holding brake engaged.
- 2) Turn off main power switch.
- 3) Remove the battery box (see Replacing Battery Box).
- 4) Disconnect each wiring harness (B) from the pump connections using the 10mm and 13mm wrenches.
- 5) Disconnect the hydraulic hose (A) that connects the pump to the bulk head fitting located in the base plate at the pump end using the 11/16" wrench and drain as much of the hydraulic fluid as possible into the drip pan.
- 6) Remove the three screws (F) that hold the pump mount plate (C) to the vertical slides using the #3 Phillips head screwdriver. NOTE: Take care to support the pump and pump mount plate when taking out the screws to avoid dropping on your fingers.
- 7) Set the pump assembly (D) to be replaced on the floor or a bench in an upright position resting on the pump reservoir and remove the three pump mount screws (E) located on the back of the pump mount plate (C) using the #3 Phillips head screwdriver.
- 8) Secure the new pump assembly (D) to the pump mount plate (C) using the three previously removed screws and tighten using the #3 Phillips head screwdriver.
- 9) Secure the pump mount plate (C) to the vertical slides using the three previously removed screws and tighten using the #3 Phillips head screwdriver.
- 10) Reconnect the hydraulic hose (A) back on the pump body using the 11/16" wrench.
- 11) Reconnect each wiring harness (B) to pump connections using the 10mm and 13mm wrenches.
- 12) Reinstall the battery box (see Replacing Battery Box).
- 13) The hydraulic system should be purged of all air within the system (see Bleeding the Hydraulic System).

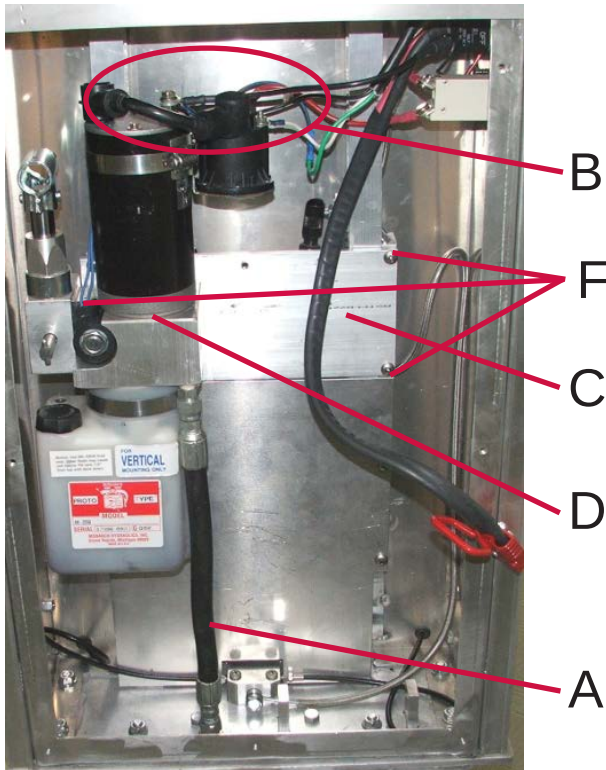


Figure 1

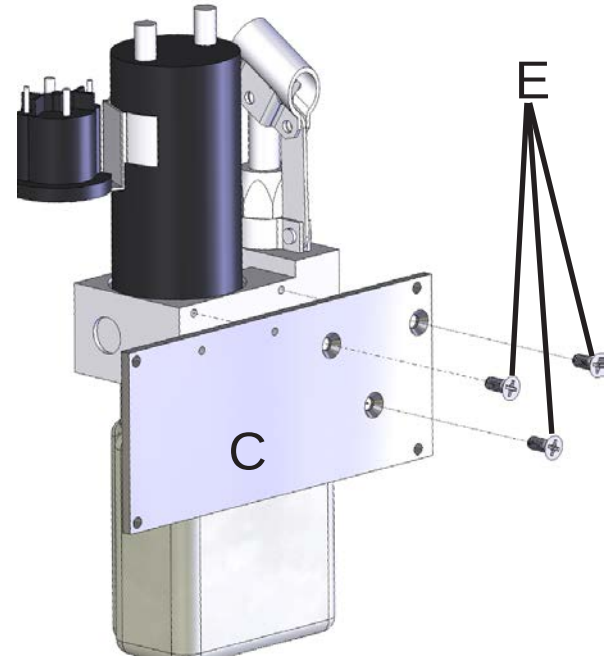


Figure 2

Items		Qty.	Part Number
A	Hydraulic hose	1	55408
B	Wiring harness pump to on/off switch	1	62021
	Wiring harness circuit breaker to pump	1	62022
C	Pump mount plate	1	309831
D	Pump assembly (includes items all pictured in Figure 3)	1	63013
E	Flat head machine screw - 5/16"-18 x 3/4" long	3	80261
F	Pan head machine screw - 1/4"-20 x 3/4" long w/ locking patch	3	80257
G	Manual pump handle	1	63014
H	Hydraulic pump reservoir	1	59501
I	Pump starter - 24v DC (solenoid)	1	63015

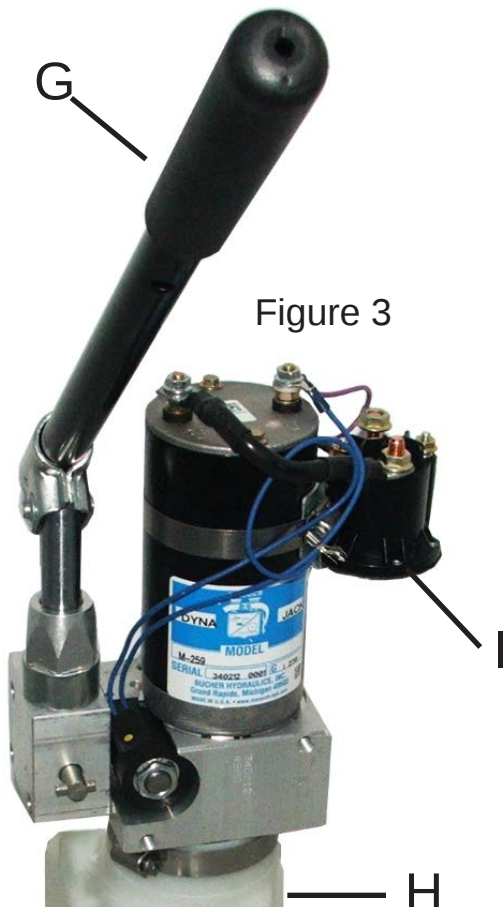


Figure 3

CHANGING HYDRAULIC CYLINDER

TOOLS NEEDED:

11/16" WRENCH

3/4" WRENCH

1/2" DEEP WELL SOCKET AND RATCHET

1/2" WRENCH

#3 PHILLIPS

LARGE FLAT HEAD SCREWDRIVER

HYDRAULIC THREAD SEALANT

TWO SPACER BLOCKS

DRIP PAN

SHOP TOWELS

ABSORBING MATERIAL (for containing spills)

Note: It is important to keep the CooLift upright at all times.

CAUTION: Hydraulic fluid is an extreme slip hazard on any flooring surface.

Hydraulic fluid can be a skin irritant in rare instances and should be washed off with soap and water.

If hydraulic fluid is exposed to the eye, flush immediately and continuously for 15 minutes.

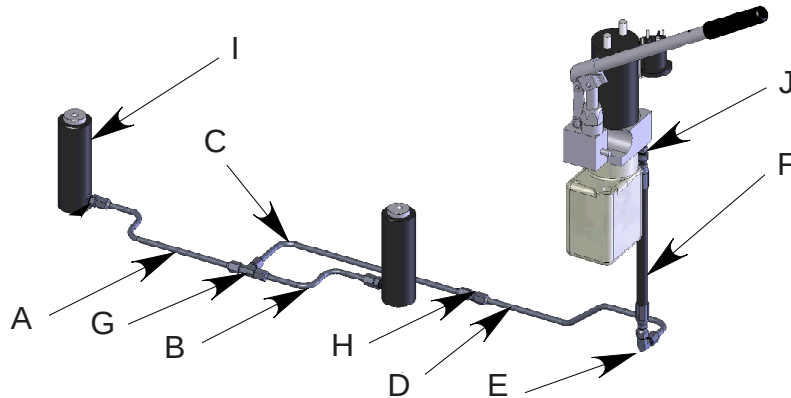
Place the CooLift on a level flooring surface with the holding brake engaged.

1. Elevate lift platform to maximum height with electric pump.
2. Remove deck screws from top of cylinders; set aside for reuse.
3. Block the lift platform with two 2" x 4" wooden spacer blocks on edge.
4. Lower the cylinders completely using the electric pump.
5. Turn off the power switch.
6. Loosen the hydraulic fittings from each hydraulic cylinder using the 11/16" wrench. Use absorbing material to capture escaping hydraulic fluid.
7. Remove the screws from the bottom of the CooLift which hold the cylinders in place (set aside for reuse). Set old cylinder aside sitting upright with the fitting at the top as to not spill hydraulic fluid (fluid will be reused).
8. Position new cylinder in CooLift and finger tighten the flare fitting to the hydraulic fitting in the new cylinder.
9. Replace the screws which secure the cylinders in the CooLift and tighten.
10. Tighten the flare fitting to the cylinder fitting.
11. Pour hydraulic fluid from old cylinders into the pump reservoir.
12. Turn on the power switch.
13. Elevate the cylinders to maximum height using the electric pump. Make certain the cylinder top fits properly in the mounting bracket in the CooLift deck.

14. Bleed the air out of the hydraulic system following the instructions (see Bleeding the Hydraulic System).

NOTE: BOTH CYLINDERS MUST BE BLED EVEN IF ONLY ONE CYLINDER WAS REPLACED

HYDRAULIC LINE SYSTEM



	Items	Qty.	Part Number
A	Line - tee to front cylinder	1	55410
B	Line - tee to rear cylinder	1	55411
C	Line - tee to coupling	1	55412
D	Line - coupling to bulk head	1	55409
E	90-degree bulk head fitting	1	55400
F	Hose - pump to bulk head fitting	1	55408
G	Tee fitting	1	55403
H	Fitting - union or coupling	1	55413
I	Cylinder assembly (includes 55419 fitting, 80396 screw and 80754 washer)	2	59006
J	Fitting - NPT to flare	1	55401
-	Cylinder mount screw (not shown)	4	80010

Note: 55419 fitting compatible with cylinders manufactured 2017 and later.

BLEEDING HYDRAULIC SYSTEM

TOOLS NEEDED:

#4 PHILLIPS

#3 PHILLIPS

MEDIUM FLAT HEAD SCREWDRIVER

HYDRAULIC FLUID

HYDRAULIC FLUID ADDITIVE

3/16" ALLEN WRENCH (REV H CYLINDERS)

9/64" ALLEN WRENCH (ALL OTHER CYLINDERS)

FLASHLIGHT

SHOP TOWELS

ABSORBING MATERIAL (for containing spills)

Note: It is important to keep the CooLift upright at all times.

CAUTION: Hydraulic fluid is an extreme slip hazard on any flooring surface.

Hydraulic fluid can be a skin irritant in rare instances and should be washed off with soap and water.

If hydraulic fluid is exposed to the eye, flush immediately and continuously for 15 minutes.

Note: This procedure uses very low pressure to bleed the air out of the cylinders. Failure to properly follow these instructions might cause damage to the bleed screw seal and leakage of hydraulic fluid may occur.

Note: Rev H cylinders are marked with the part number and rev level on the cylinder body above the port.

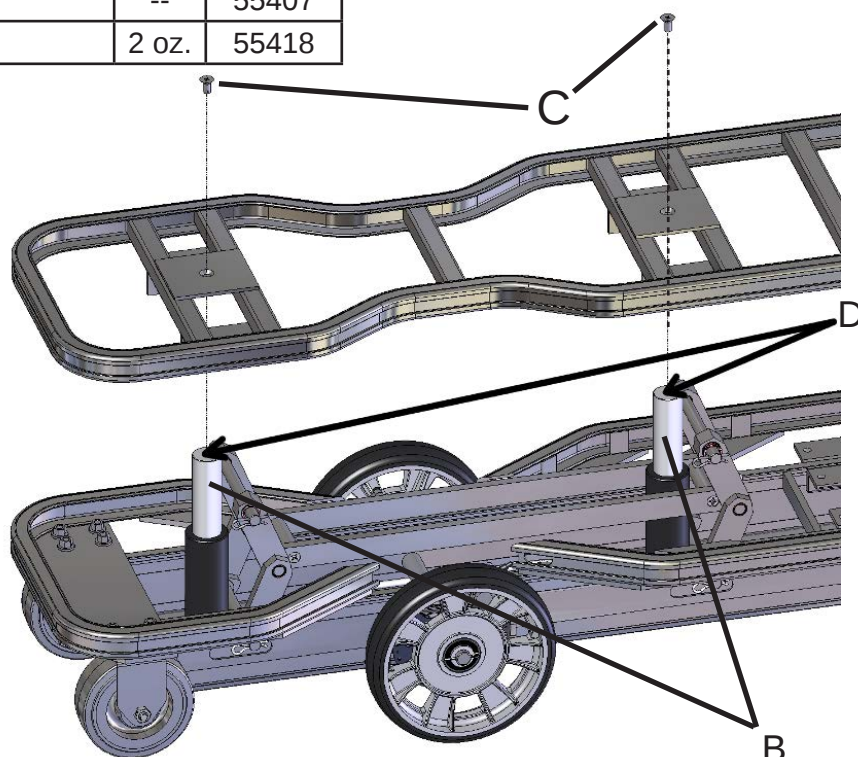
- 1) Place the CooLift on a level flooring surface with the holding brake engaged.
- 2) Turn off main power switch.
- 3) Remove the back access panel from the CooLift by removing the seven mounting screws using the #3 Phillips head screwdriver.
- 4) Add 2 fluid ounces of the hydraulic additive to the pump reservoir (D).
- 5) Check the fluid level in the pump reservoir making sure it is filled to the proper level (see illustration) – refill as needed.
- 6) Fully raise the deck. Remove the two screws and lock washers (A, B) that attach the deck to the top of the hydraulic cylinders (C) using a medium flat head screwdriver.
- 7) Lower the cylinders about 1/4".
 - The center section of the rod end should be recessed slightly.
 - This sequence places the cylinders so that they are nearly fully extended but without any significant hydraulic pressure.
- 8) Using the 3/16" or 9/64" Allen wrench, loosen the bleed screw on the front cylinder by three complete revolutions.
 - For Rev H cylinders, loosen the bleed screw 1/4 turn.
 - For all other cylinders, loosen the bleed screw by three complete revolutions.

- 9) Allow air to escape. When fluid begins to collect in the deck screw tapped hole, proceed to the next step.
- 10) Tighten the bleed screw 1/4 turn for Rev H cylinders or three complete turns for all other cylinders. **DO NOT ATTEMPT TO FULLY TIGHTEN** the bleed screw at this time; it should only be “snug.”
- 11) Repeat steps 8 through 10 for the back cylinder.
- 12) Lower the cylinders completely.
- 13) Repeat steps 7 through 12 as needed until the air is out of the system (usually 2 or 3 repetitions are all that is needed).
- 14) Once the cylinders have been bled, fully raise the cylinders.
 - The center section of the rod end should be flush with the outside section of the cylinder rod.
 - Full system pressure should be on the cylinders.
- 15) Finish tightening both of the bleed screws to 40 in-lbs torque (for all cylinders).
- 16) Check for leaks in the hydraulic system.
- 17) Clean the excess fluid out of the deck screw tapped hole.
- 18) Secure the deck back in place using the lock washer and deck screws previously removed.
- 19) Lower the deck and recheck the fluid level in the reservoir - refill if necessary.
- 20) Secure the back panel with the previously removed screws and the #3 Phillips head screwdriver.
- 21) Wipe up any hydraulic fluid that may have leaked into the drip pan using the shop towels.
- 22) If any hydraulic fluid was spilled onto the flooring surface clean it up by first absorbing it with either a shop towel or the absorbing material and then mopping the area with floor soap to prevent slips and falls.

Item	Description	Qty	Part #
A	Hydraulic pump reservoir	1	59501
B	Hydraulic cylinder assembly with fitting (includes items C and D)	2	59006
C	Slotted truss head screw 3/8"-16 X 3/4"	2	80396
D	Helical lock washer 3/8" dia x 1/8" thick	2	80754
-	Hydraulic fluid	--	55407
-	Hydraulic fluid additive	2 oz.	55418



A
(Fill to 1/2 inch below the top when the deck is at the lowest position)



REPLACING BRAKE PAWL

TOOLS NEEDED:

5/16" WRENCH

#2 PHILLIPS

MEDIUM FLAT HEAD SCREW DRIVER

MEDIUM STRENGTH THREAD LOCKER (BLUE)

Note: It is important to keep the Coolift upright at all times.

1. Pull the brake lever back approximately 1/2" to 3/4" and secure it in place using a heavy duty cable tie (Figure 1).
2. Figure 2 shows the three holes that will be utilized with the new brake pawl assembly. Remove the self-locking retaining clip that holds the current pawl in place by prying it off with a flat screwdriver. Pull out the pin to remove the spring and the pawl, taking care to keep track of the spring as it will be used within the new assembly.
3. Place the spring inside the new pawl (B) as illustrated in Figure 3 and slide it in place over the end of the brake lever and secure with the screw, flat washer and locknut provided (C,D,E); tighten to minimize L-R movement with free rotation. Test the spring action after the installation (it should react in the same way the old pawl did).



Figure 1

H

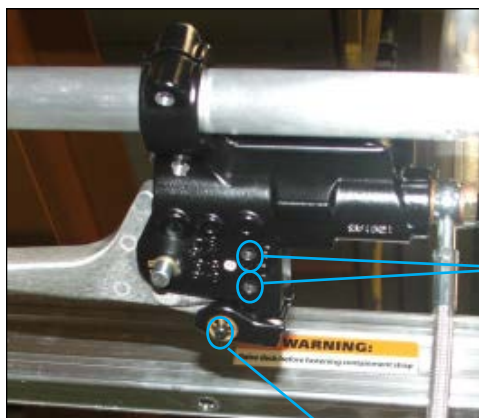


Figure 2

C,D,E



Figure 3

Item	Description	Qty.	Part Number
Brake Pawl Kit (includes all items below)			309219
A	Master cylinder U-bracket	1	309182
B	Brake pawl for master cylinder	1	309183
C	Pan head machine screw - #10-32 UNF x 1" long	1	80123
D	Flat washer for #10 screw	1	80763
E	Hex lock nut 10-32UNF thread	1	80684
F	Round head machine screw - #10-32 UNF x 7/8" long	2	80122
G	Lock washer split for #10 screw	2	80747
H	Cable tie	2	61052

4. Slide the latching section of the new pawl assembly in place as shown in Figure 4. Install the latching section in place and secure it using lock washers (F,G) and blue thread locker, applied 3/16" to 5/16" from the head and end of the screw. Note: A small pin or drill bit can be used to align the latch block with the master cylinder holes.
5. After the installation is complete, engage the holding brake and release it a few times to insure it is working properly.

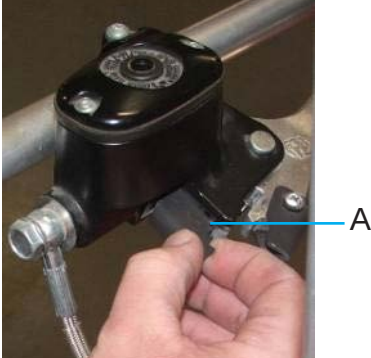


Figure 4

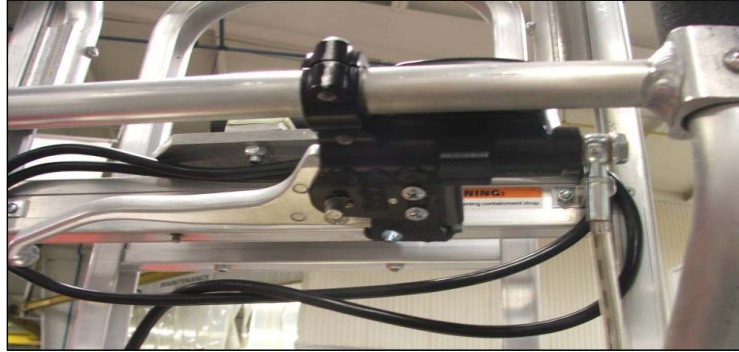


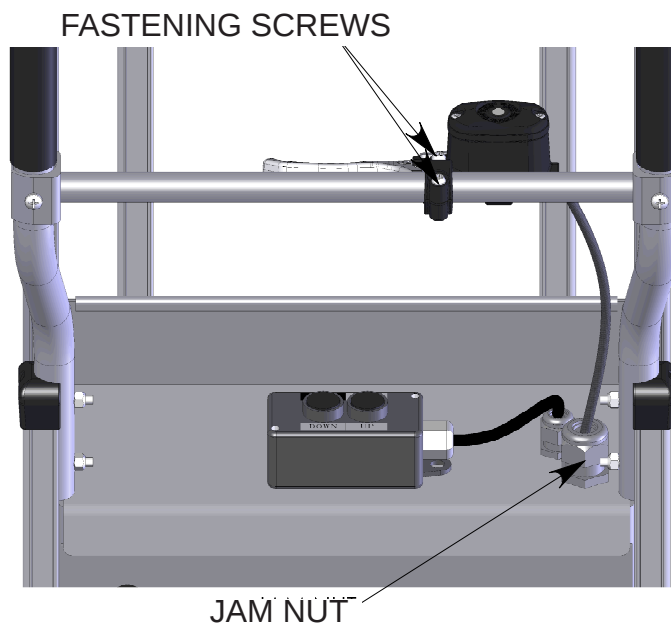
Figure 5

RELOCATING MASTER CYLINDER

TOOLS NEEDED:
TORX T30 WRENCH

Note: It is important to keep the CooLift upright at all times.

- 1) Place the CooLift on a level flooring surface.
- 2) Loosen the two screws that hold the master cylinder to the horizontal brace using the T30 wrench.
- 3) Loosen the top jam nut on the cord grip if more brake line needs to be released from the inside of the cabinet and retighten after repositioning.
- 4) The master cylinder can now be slid into another location. NOTE: Keep the master cylinder upright during this process to keep from introducing air into the brake system.
- 5) Tighten the screws to secure the master cylinder in the new location.



Troubleshooting

The unit does not turn on.

- ✓ Is the main switch turned on?
- ✓ Has the battery been charged?
- ✓ Has the circuit breaker been tripped?
- ✓ Is the battery box fully plugged in?
- ✓ Check electrical connections for tightness, including battery terminals within the battery box.

The pump is running but the deck is not lifting.

- ✓ Is the fluid level correct in the reservoir?
- ✓ Do you see any leaks in the hydraulic system?
- ✓ Is the manual pump release valve open?
- ✓ Is the breather cap for the pump reservoir plugged?

The deck lifts to the top position but then gradually lowers.

- ✓ Is the manual release valve fully closed?
- ✓ Do you see any leaks in the hydraulic system?

The deck lifts OK but lowers slowly.

- ✓ Does it go down quicker when opening the manual release valve?
- ✓ Do you see any fluid leaking out of the gas springs?

The deck lifts slower than usual.

- ✓ Is the manual release valve closed all the way?
- ✓ Is the fluid level correct in the reservoir?
- ✓ Do you see any leaks in the hydraulic system?

The brakes are not working or braking unevenly side to side.

- ✓ Do you see any leaks in the brake system?
- ✓ Is the brake fluid level correct in the reservoir?
- ✓ If you pump the brake lever several times, does it start working?
- ✓ Are both of the calipers mounted tightly to the rail?

The CooLift is not charging up.

- ✓ Is the charger working correctly?
- ✓ Is the battery box connected correctly?
- ✓ Will the batteries charge up when using the charging port located on the side of the battery box?
- ✓ Have all electrical connections been checked?
- ✓ Is the internal charger switch in the ON position?
- ✓ Is the power plug plugged in the charger socket?
- ✓ Is the charger output cord plugged into the battery pack charger port?

The deck is in the up position and will not go down.

- ✓ Is there any foreign matter in the linkage system?
- ✓ Check for loose wire connections from the switch plate.

The pump runs and will not shut off.

- ✓ Turn off main power switch.
- ✓ Check the continuity of the starter solenoid.
- ✓ Check the continuity of the operator on/off switch.

Hydraulic or brake fluid has dripped into the drip pan underneath the CooLift deck.

- ✓ Wipe up any fluid that may have leaked into the drip pan using shop towels.

Replacement Part Description	Part Number
AC charger for 24v battery (for use with common 110v domestic or 230v international outlet)	63004
Axle - 14.3" long for center CooLift wheels	309020
Axle assembly (includes axle and lock nut) for CooLift casters	84501
Back access panel	309077P
Banjo bolt - 10mm x 20mm	80124
Banjo bolt with bleed screw	80135
Battery box (batteries not included)	309101
Battery box assembly (includes batteries)	309100
Battery box cover	309102
Battery cell 12v - 18Ah	61018
Battery charge meter	62033
Brake disc	309050
Brake fluid - 12 oz. container	309026
Brake line clip	61019
Brake pads (pair)	309594
Brake pawl for master cylinder	309183
Brake pawl kit	309219
Brake U-bracket for master cylinder	309182
Bulk head for CTA43	309790
Bulk head for CTA48	309332
Cable tie	61052
Caliper assembly	309595
Caliper assembly upgrade kit (required for CooLift units with serial number 4608 and lower when replacement of brake pads or caliper are required the first time after March 2015 upgrade)	309596
Caliper brake line assembly	309145
Carriage bolt - 3/8"-16 x 1" long	80127
Caster wheel - 6" x 2" gray flat tread	130014
Center wheel - 10" x 2" with deep groove ball bearings	309059
Charger mount bracket	309207
Circuit breaker - 35A	62015
Clamp block for axle/brake caliper mount	309022
Containment strap	309152
Containment strap mounting spacer - all models	309150
Containment strap tongue	309133
Copper washer	80712
Cord for internal battery charger	64018
Cord grip - PG-9	309177
Cord grip - PG-16	309122
Cord grip - PG-21	309124
Cord grip hex lock nut - PG-9	309178
Cord grip hex lock nut - PG-16	309123
Cord grip hex lock nut - PG-21	309125
Corner post assembly	309108

Replacement Part Description	Part Number
Deep groove ball bearing for center Coolift wheels	309060
Flat head machine screw 82 degree 5/16"-18 x 3/4" long	80261
Flat washer #10 Type-A	80763
Foam handle sleeve - 9"	302285
Front caster yoke	309098
Grommet - 5/8" ID x 1-1/8" OD x 3/8" wide	309024
Handle mount bracket	302721
Hex head cap screw - 5/16"-18 x 1-1/4" long	80012
Hex head cap screw - 3/8"-16 x 1" long	80025
Hex head cap screw - 3/8"-16 x 1-1/4" long	80026
Hex head cap screw - 3/8"-16 x 1-1/2" long	79988
Hex lock nut - 1/4"-20	80675
Hex lock nut - 5/16"-18	80676
Hex lock nut - 3/8"-16	80603
Hex lock nut flange - 3/8"-16	80624
Hex lock nut w/ nylon insert - #10-24 UNC	80683
Hex lock nut w/ nylon insert - #10-32 UNF	80684
Hex socket head cap screw - 5/16"-18 x 1" long	80038
Hex socket head cap screw - M6 x 20mm	80003
Horizontal brace (handle)	309048
Hydraulic cylinder assembly (includes hydraulic cylinder with fitting, 80396 screw and 80754 washer)	59006
Hydraulic fluid - 32oz. container	55407
Hydraulic fluid additive - 32 oz. container	55418
Hydraulic hose	55408
Hydraulic pump assembly	63013
Hydraulic pump reservoir	59501
Internal charger mount kit	309209
Junction block	309051
Lock washer split ring for #10 screw	80747
Manual pump handle	63014
Master cylinder	309218
Master cylinder brake line	309083
On/off toggle switch - 30A	62016
Operator up/down switch	63019
Pallet stop for CTA43 and CTA48 models	309206
Pan head screw - #8-32 x 1/2" long with external lock washer	80218
Pan head cross recess screw - #10-24 x 2-1/2" long	80004
Pan head machine screw - #10-32 x 3/4" long	80121
Pan head machine screw - #10-32 UNF x 1" long	80123
Pan head machine screw - 1/4"-20 x 3/4" long with locking patch	80257
Pan head machine screw - 1/4"-20 x 1" long	80102
Pan head machine screw - 1/4"-20 x 1-1/2" long	80105
Pan head machine screw - 1/4"-20 x 1-3/4" long	80106

Replacement Part Description	Part Number
Pan head machine screw - 1/4"-20 x 2-1/2" long	80108
Pan head machine screw - 1/4"-20 x 2-3/4" long	80111
Pan head machine screw - 1/4"-20 x 3" long	80110
Pan head machine screw - 5/16"-18 x 1-1/4" long	80313
Plug male - 115v 5-15p	61053
Pump mount plate	309831
Pump starter - 24v DC (solenoid)	63015
Round head machine screw - #10-32 UNF x 7/8" long	80122
Round head machine screw - 5/16"-18 x 1-1/2" long	80115
Saddle plate for CTA43 and CTA48	309341
Saddle plate for CTA53	309151
Spacer - 3/4" square foam, self adhesive backing	309217
Steel end cap for vertical loop handle	309049
Straight cotter pin	81142
Switch plate full assembly (includes switch plate with all wiring harnesses installed) - use only for CooLift units with serial numbers 3999 and lower and does not have a battery meter	309181
Switch plate service kit (includes switch plate with only charge port harness installed) - use only for CooLift units with serial numbers 3999 and lower and does not have a battery meter	309181S
Switch plate full assembly for units with battery meter (includes switch plate with all wiring harnesses installed) - use only for CooLift units with serial numbers 4000 and higher or if your CooLift has a battery meter	309357
Swivel caster 6" x 2" gray thermoplastic rubber flat tread	130066
Vertical handle mount assembly	309087P
Vertical loop handle - LH	309039
Vertical loop handle - RH	309053
Washer for #6 screw - neoprene bonded	80730
Washer for CooLift wheel	80718
Wiring harness for battery box connector plug	62025
Wiring harness for battery charge meter	62032
Wiring harness for battery interconnect	62024
Wiring harness for charge port	64001
Wiring harness to connect battery box to on/off toggle switch	62023
Wiring harness to connect cabinet charge port to on/off toggle switch	62030
Wiring harness to connect circuit breaker to on/off toggle switch	62020
Wiring harness to connect circuit breaker to pump	62022
Wiring harness to connect pump to on/off toggle switch	62021
Yoke brush	309259

Cart Serial No: _____ Inspection Date: _____
 Customer: _____ Inspector's Name: _____
 Estimated Usage: _____

Area	Description	Method of Inspection	Normal Condition	Findings Pass or Fail	Timing	Notes
General Inspection	Cart is straight and properly aligned	Visual inspection	- Frame is not twisted or bent - User enclosure is perpendicular to the frame - Deck is angled slightly toward enclosure when retracted - Handles are not bent or damaged		Daily	
General Inspection	No damage or excessive wear	Visual inspection	- Straight sections - Smooth curves - Flat surfaces		Daily	
General Inspection	Cart rolls smoothly	Push cart and let roll	Cart should travel in nearly a straight line for several feet		Daily	
General Inspection	Brakes are responsive when applied	Roll cart at walking speed and apply brakes	- Brakes should feel responsive and not "soft" - Brake lever should not contact handle		Daily	
General Inspection	Holding brake remains active over time	Lock brakes for 10 minutes then push on cart with brake still locked	Brake should remain engaged		Daily	
Hydraulics	Electrical operation	Operate hydraulic pump up and down several times electrically	- No excessive noise or extraneous sounds from pump or pump motor - No rattles from tubing - No squeaks or groans from cylinders - Manual bypass valve should not leak		Daily	

Area	Description	Method of Inspection	Normal Condition	Findings Pass or Fail	Timing	Notes
General Inspection	Warning and branding labels are in good condition	Visual inspection	- Labels are in place and not coming loose - Labels are in good condition - Red stripes are in place and in good condition		Weekly	
Frame	Frame is in good condition - No damage - No excessive wear	Visual inspection	- Straight sections - Smooth curves - Flat surfaces - Minor scratches and dings are expected		Weekly	
Frame	Containment strap plate	Visual inspection	- Plate should be flat and free of damage or excessive wear - Plating should not be cracked or damaged - Mounting screw should be tight		Weekly	
Deck	Deck is in good condition - No damage - No excessive wear	Visual inspection	- Straight sections - Smooth curves - Flat surfaces - Minor scratches and dings		Weekly	
Deck	Yoke screws are not loose in deck	Manual inspection	Screws are tight		Weekly	
Brake System	No system leaks - Fittings on master cylinder, connecting block & calipers - Master cylinder body - Caliper body - Hoses	Wipe around fittings and master cylinder with dry rag	No leaks (rag remains dry)		Weekly	
Brake System	Brake lever in good condition and operating properly	Visual inspection Operate brake	- No visible damage - Smooth operation		Weekly	
Brake System	Holding brake pawl in good condition and operating properly	Visual inspection Set brake	- No visible damage - Brake locks in place		Weekly	
Brake System	Mounting screws tight - Master cylinder mount to handle - Master cylinder cap - Connecting block to base of enclosure - Caliper mounting	Manual inspection	Parts are tight to mounting surfaces		Weekly	

Area	Description	Method of Inspection	Normal Condition	Findings Pass or Fail	Timing	Notes
Hydraulics	Cylinders not leaking (note especially front cylinder)	Visual inspection	Thin film of oil on piston rod		Weekly	
Hydraulics	Cylinder condition • No rod scoring • Return springs fully functional	Visual inspection	Cylinder rod is smooth and retracts fully into cylinder body		Weekly	
Suspension	Wheels and tires are in good condition	Visual inspection	Wheels and tires are free of damage		Weekly	
Suspension	Components are straight and undamaged • Front wheel mounting yoke • Main axle • Rear swivel caster frames	Manual inspection	• Components are not damaged and operate freely • Main axle plating is not cracked or damaged		Weekly	
Operator Interface	External mounting screws are tight • Base plate mounting to frame • Enclosure mounting or base plate • Handle mounting screws • Switch plate mounting screws	Manual inspection	Components are tight to mounting surfaces		Weekly	
Operator Interface	Handle, enclosure and door are free of damage and in good condition	Visual inspection	• Straight sections • Smooth curves • Flat surfaces • Minor scratches and dings are expected		Weekly	
Operator Interface	Handle grips	Visual inspection	Grips are not worn or damaged		Weekly	
Operator Interface	Containment strap		• Belt should be free of tears and abrasions • Plating on buckle should not be cracked or damaged • Mounting screws should be tight • Mounting tab should not be bent or damaged • Belt should retract into housing such that only the buckle protrudes • Housing should not be cracked or damaged • Strap tongue should rotate freely		Weekly	

Area	Description	Method of Inspection	Normal Condition	Findings Pass or Fail	Timing	Notes
Electrical	Buttons and housing	Visual inspection	No cracks or damage		Weekly	
Welds	No cracked welds	Visual inspection	Welds intact, no cracks		Monthly	
Brake System	Fluid level	Visual inspection	Fluid level up to notch in master cylinder reservoir		Monthly	
Brake System	Hose without damage, abrasion, wear	Visual inspection	No visible damage or wear		Monthly	
Brake System	Brake discs have minimal rub and warp	Spin wheel	Wheel should continue to rotate several times before stopping		Monthly	
Hydraulics	Fittings not leaking	Wipe around fittings with dry rag	No leaks (rag remains dry)		Monthly	
	- Hose fittings inside enclosure - Tube fittings under enclosure and in frame - Cylinder fittings					
Hydraulics	No cracks or damage to hose or tubing	Visual inspection	No deep scratches or dents		Monthly	
Hydraulics	Manual operation	Operate hydraulic pump up and down several times manually using pump handle and bypass valve	- Deck should lift completely within 35 strokes of pump handle - Manual bypass valve should allow deck to descend and not leak once re-closed		Monthly	
		Manual / Visual inspection				
Hydraulics	Cylinder bearing cap is tight		- Manually attempt to turn the bearing cap - Inspect to determine if bearing cap is flush with top of cylinder - should not see any threads above cylinder body		Monthly	
Hydraulics	Cylinder mount screws to frame and deck are tight	Manual inspection	Cylinder body is tight to frame; deck mounting screw is tight		Monthly	
Hydraulics	Fluid level	Visual inspection	Fluid should be about 1/2 inch below top of reservoir when deck is down		Monthly	
Suspension	Wheels and casters spin freely	Manual inspection	Wheel should continue to rotate several times before stopping		Monthly	

Area	Description	Method of Inspection	Normal Condition	Findings Pass or Fail	Timing	Notes
Suspension	Mounting hardware is tight • Front wheel yoke • Rear caster frame • Main axle mounts to frame and axle clamp • Cotter pins for main wheels	Manual inspection	All hardware is tight		Monthly	
Linkage System	Hardware is properly installed and undamaged • Spring pins • Washers • Springs	Visual inspection	All hardware is in place and in good condition		Monthly	
Linkage System	Link pins	Visual inspection	• Pins are straight with no signs of wear • Pin plating is not cracked or damaged		Monthly	
Linkage System	Links • Minimal play between pins and bushings • Bushings are not working out of links	Manual / Visual inspection	• Links are straight with no signs of damage or wear • Minimal play between pins and links • Bushings are flush with side of the links		Monthly	
Linkage System	Link pins are not loose in deck, frame or sync links	Manual inspection	Minimal play between pins and deck, frame and synch links		Monthly	
Operator Interface	Internal mounting hardware is tight • Vertical slide cover screws • Vertical slide mounting screws • Guide block cotter pins in rod • Pump mounting plate • Pump mounting screws • Pump band clamp • Battery box mounting screws	Manual inspection	Components are tight to mounting surfaces		Monthly	
Operator Interface	Brushes • In front of enclosure • In door	Visual inspection	• Brushes are not worn or damaged • Brushes are properly positioned in holders		Monthly	
Electrical	Switch panel	Manual inspection	• No loose components • Cover for charger port is intact		Monthly	
Welds	Frame - general	Visual inspection	No cracks or damage		Monthly	
Welds	No cracked welds	Visual inspection	No cracks or damage		Monthly	

Area	Description	Method of Inspection	Normal Condition	Findings Pass or Fail	Timing	Notes
Welds	Front caster plate	Visual inspection	No cracks or damage		Monthly	
Welds	Base plate	Visual inspection	No cracks or damage		Monthly	
Welds	Enclosure	Visual inspection	No cracks or damage		Monthly	
Welds	Handle cross bar	Visual inspection	No cracks or damage		Monthly	
Welds	Battery Box	Visual inspection	No cracks or damage		Monthly	
Welds	Vertical slide rod	Visual inspection	- Rod is straight with no signs of wear - Rod plating is not cracked or damaged		Quarterly	
Operator Interface	Guide blocks	- Visual inspection - Cycle deck up and down several times	Blocks are not damaged or worn and move freely in the vertical slide		Quarterly	
Operator Interface	Gas spring mounting - Mounting studs - Rod and body connectors - Preload screws are tight	Manual / Visual inspection	Components are tight and connectors engaged fully with studs		Quarterly	
Electrical	Wiring - Wire connections - Wire crimps and solder joints	Manual inspection	No loose connections, crimps or solder joints		Quarterly	
Electrical	Battery box	Manual / Visual inspection	- Battery box case and cover are free of damage, dents and cracked welds - No loose components - Cover for charger port is intact - Connecting screws to the battery terminals are tight - Battery box cover screws are tight		Quarterly	
Electrical	Operation	Cycle deck up and down several times	- Deck should move through entire range of motion without tripping circuit breaker - Buttons should not stick in down position		Quarterly	

Area	Description	Method of Inspection	Normal Condition	Findings Pass or Fail	Timing	Notes
Operator Interface	Gas spring condition and operation	• Visual inspection • Disconnect cylinders from studs per instructions in manual and try to compress the spring	• Rods should be straight and free of oil • Spring should not compress easily and return to fully extended position if compressed		Annually	



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Form # B9243 October 2019 REV
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