Service Manual

Innovative Concepts in Entertainment
10123 Main Street
Clarence, New York 14031

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Rev F 10/11/2019

SAFETY AND WARNINGS BEFORE YOU BEGIN

WARNING: WHEN INSTALLING THIS GAME, A GROUNDED A.C. RECEPTACLE MUST BE USED. FAILURE TO DO SO COULD RESULT IN INJURY TO YOURSELF OR OTHERS. FAILURE TO USE A GROUNDED RECEPTACLE COULD ALSO CAUSE IMPROPER GAME OPERATION, OR DAMAGE TO THE ELECTRONICS.

NOTE: THIS GAME IS INTENDED FOR INDOOR USE ONLY.

DO NOT DEFEAT OR REMOVE THE GROUNDING PRONG ON THE POWER CORD FOR THE SAME REASON AS GIVEN ABOVE. USING AN IMPROPERLY GROUNDED GAME COULD VOID YOUR WARRANTY.

HAVE A QUALIFIED ELECTRICIAN CHECK YOUR A.C. RECEPTACLE TO BE SURE THE GROUND IS FUNCTIONING PROPERLY.

THIS GAME IS DESIGNED TO DISSIPATE STATIC ELECTRICITY THROUGH THE GROUNDING PLANE OF THE GAME. IF THE A.C. GROUND DOES NOT WORK, THE GAME COULD DISCHARGE STATIC ELECTRICITY THROUGH THE GAME CIRCUITRY, WHICH COULD CAUSE DAMAGE.

THE POWER SUPPLY IS NOT VOLTAGE ADJUSTABLE. TO OPERATE THE GAME AT VOLTAGES OTHER THAN THOSE IT WAS DESIGNED FOR. PLEASE CONTACT OUR SERVICE DEPARTMENT FOR VOLTAGE CONVERSION INFORMATION.

WARNING

DO NOT remove any of the components on the main board (e.g. compact flash and eproms) while the game is powered on. This may cause permanent damage to the parts and the main board. Removing any main board component part while powered on will void the warranty.

ALWAYS REMOVE POWER TO THE GAME, BEFORE ATTEMPTING ANY SERVICE,

UNLESS NEEDED FOR SPECIFIC TESTING. FAILURE TO OBSERVE THIS PRECAUTION

COULD RESULT IN SERIOUS INJURY TO YOURSELF OR OTHERS.

THIS GAME IS NOT SUITABLE FOR INSTALLATION IN AN AREA WHERE A WATER JET COULD BE USED.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

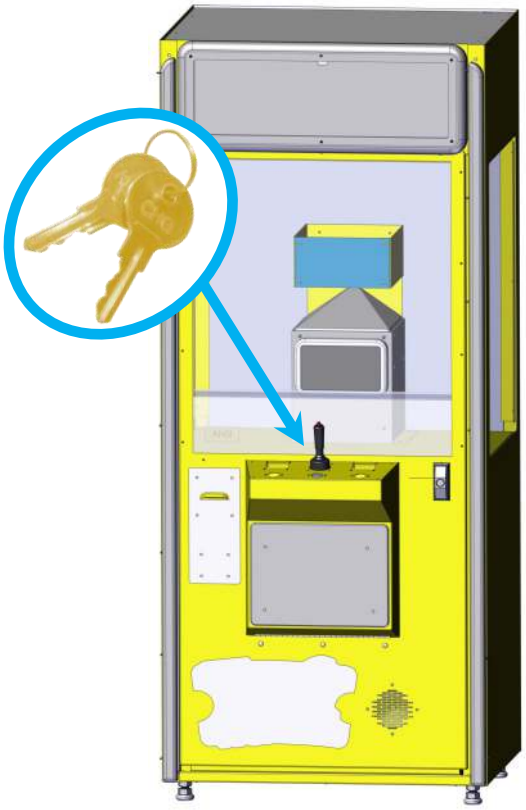
AC Power Information

The games main fuse is accessed through the back of the game at the power mod. Above the power cord is a small panel that contains the main fuse.

The value of the fuse for 120 volt users is 4 AMPS at 250Volt type slow blow.

The value of the fuse for 230 users is 2 AMPS at 250Volt type slow blow.

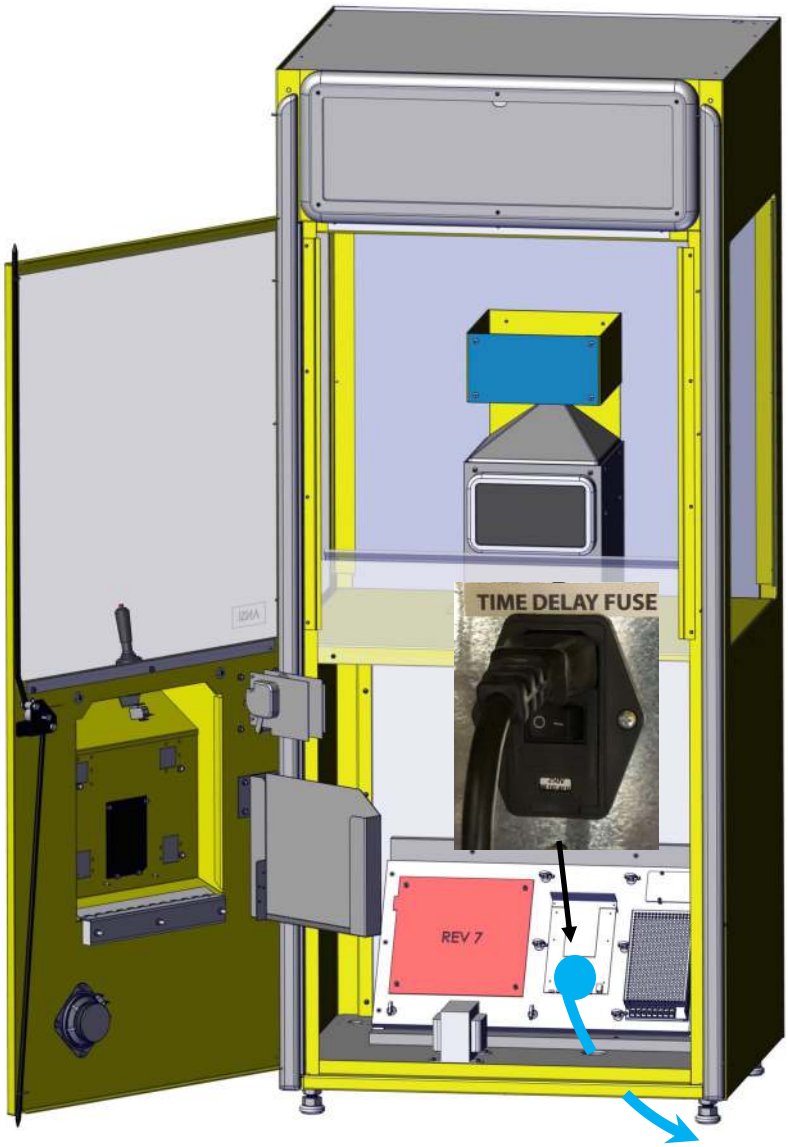
GAME SETUP



Step 1:

Located at the front of the crane usually attached to the joystick are the keys to the crane.

The cash box contains any hardware kit and power cords. The manual is located here too.



Step 2:

Insert the key and turn. The handle will pop out. Twist the handle to open the door.

Located all the Yellow tie wraps and using a wire cutter, cut all ties. Make sure you cut all yellow ties. These will limit the movement of the crane assemblies.

Plug the AC power cord into the power mod and push the other end through the bottom of the cabinet. Plug this into an AC outlet.

Step 3:

The game includes a box full of ticket bundles. These bundles are specific to the cost of play. If you choose to change the cost of the game, you must also update the ticket bundles to match. When placing the bundles into the crane, it is recommended to level them as best as possible.

TONS OF TICKETS™

10-8-19

25¢ Game

Average Tickets Per Play 5-7 Tickets

Part #	Value	Color	Qty	Graphic
GG73GRN001	1	Green	100	
GG73PUR002	2	Purple	250	
GG73RED003	3	Red	50	
GG73BLU005	5	Blue	25	
GG73PNK010	10	Pink	25	
GG73YLW025	25	Yellow	20	
GG73ORG050	50	Orange	10	

50¢ Game

Average Tickets Per Play 10-14 Tickets

Part #	Value	Color	Qty	Graphic
GG73GRN003	3	Green	100	
GG73PUR005	5	Purple	250	
GG73RED010	10	Red	50	
GG73BLU025	25	Blue	25	
GG73PIN050	50	Pink	25	
GG73YLW125	125	Yellow	20	
GG73ORG250	250	Orange	10	

Tons of Tickets $1 Game Rev1

Part #	Value	Color	Qty	Graphic
GG73PUR010	10	Purple	250	
GG73RED025	25	Red	50	
GG73BLU075	50	Blue	25	
GG73PIN100	100	Pink	25	
GG73YLW250	250	Yellow	20	
GG73ORG5000	500	Orange	10	
GG73GRY080	80	Gray	20	
GG73BLK150	150	Black	20	
GG73BRN300	300	Brown	20	
GG73LTY1000	1000	Lt Yellow	20	

Tons of Tickets $1.50 Game Rev1

Part #	Value	Color	Qty	Graphic
GG73PUR015	15	Purple	250	
GG73RED050	50	Red	50	
GG73BLU75	75	Blue	25	
GG73PIN100	100	Pink	25	
GG73WHT200	200	White	20	
GG73YLW250	250	Yellow	20	
GG73BRN300	300	Brown	20	
GG73LTB500	500	Lt Blue	20	
GG73ORG1000	1000	Orange	10	
GG73LTY1000	1000	Lt Yellow	20	

Tons of Tickets $2.00 Game Rev1

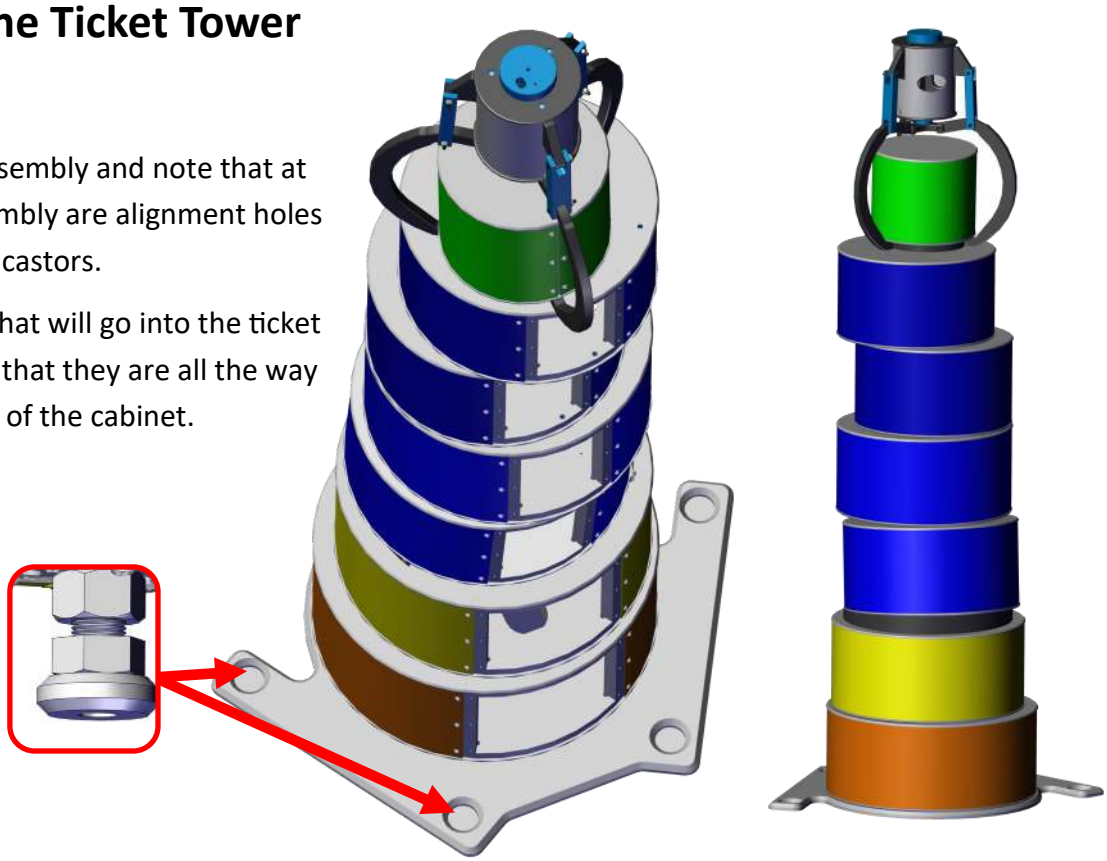
Part #	Value	Color	Qty	Graphic
GG73PUR020	20	Purple	250	
GG73RED050	50	Red	50	
GG73BLU100	100	Blue	25	
GG73PIN200	200	Pink	25	
GG73LTG250	250	Lt Green	20	
GG73YLW250	500	Yellow	20	
GG73BRN300	300	Brown	20	
GG73DKB750	750	Dark Blue	20	
GG73ORG1000	1000	Orange	10	
GG73LTY1000	1000	Lt Yellow	20	

Assembling the Ticket Tower

Step 1:

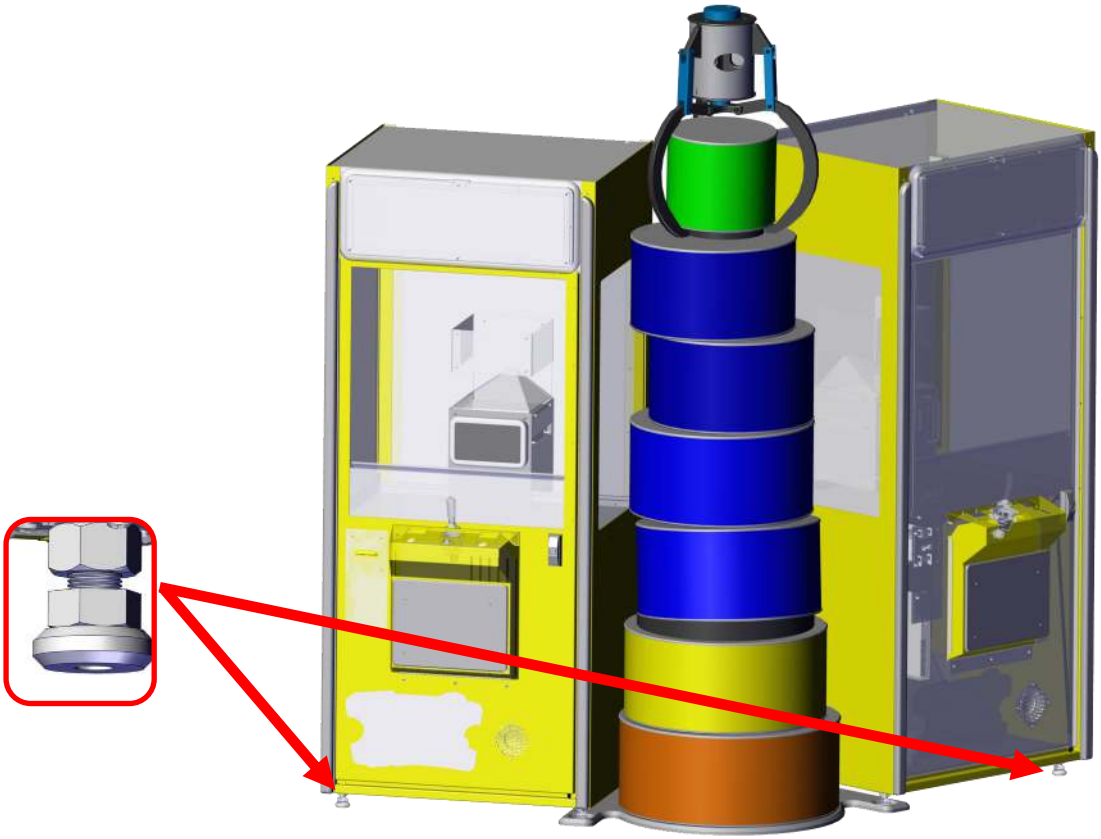
Locate the center assembly and note that at the floor of the assembly are alignment holes to insert the crane's castors.

On the two castors that will go into the ticket tower, turn them so that they are all the way up again the bottom of the cabinet.



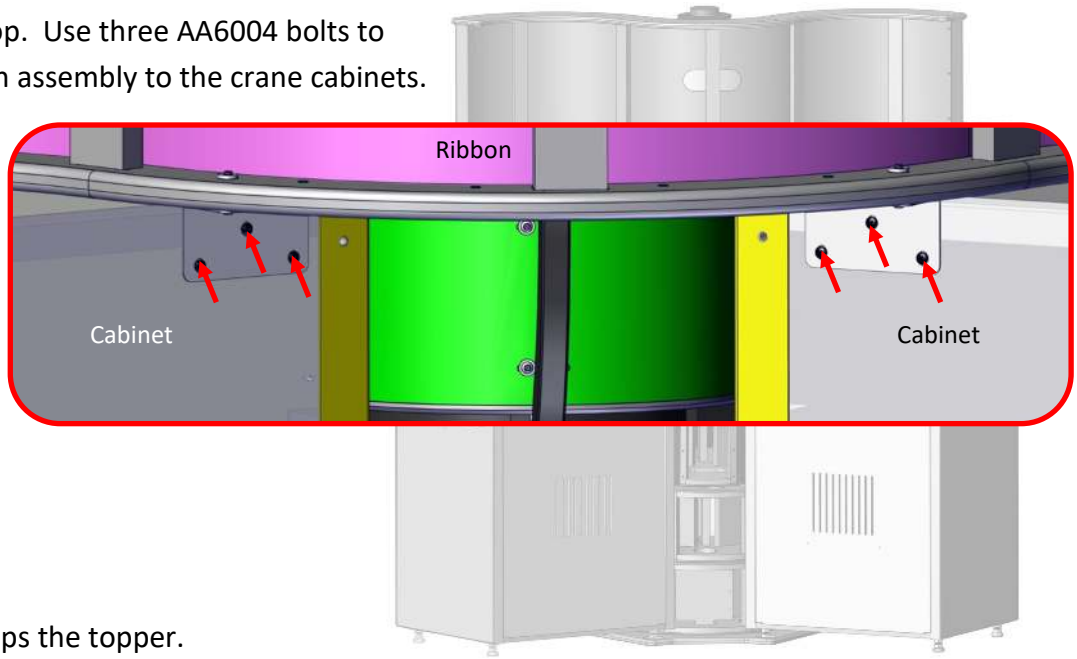
Position two crane cabinets as shown.

Make sure the cabinets are leveled by extending the outer castors about 1/2". DO not continue until the cranes are leveled.



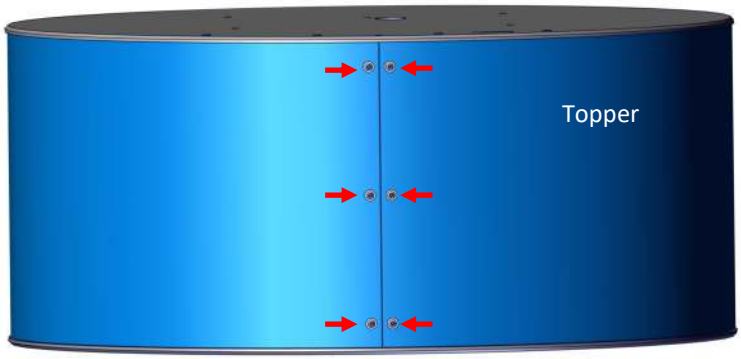
Step 2:

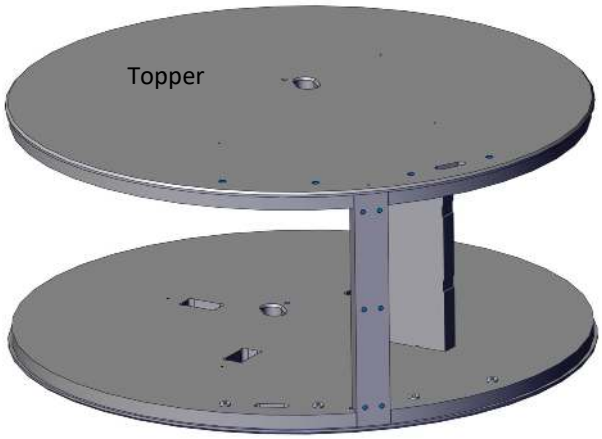
Place the Ribbon assembly top. Use three AA6004 bolts to attach each side of the ribbon assembly to the crane cabinets.



Step 3:

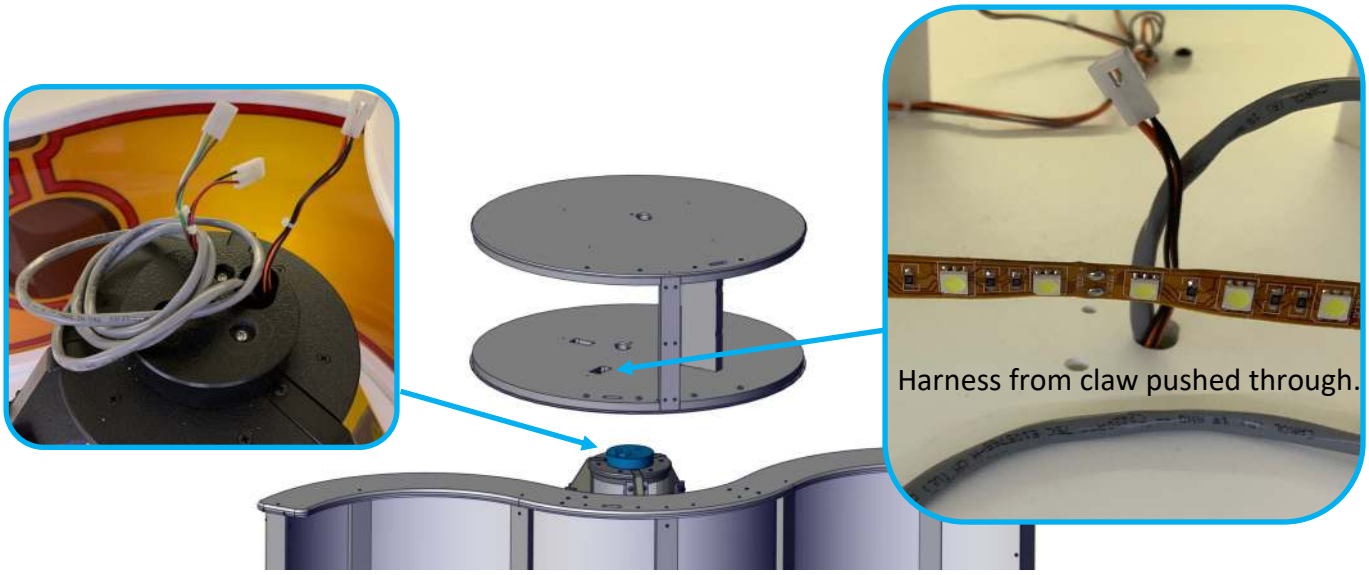
Remove the graphic that wraps the topper.





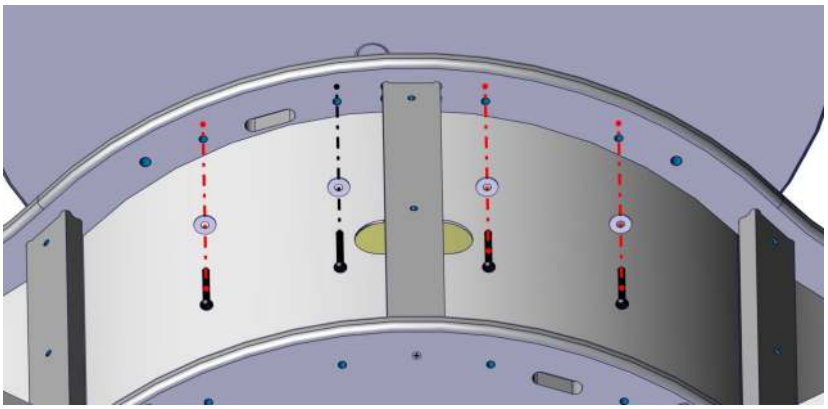
Step 4:

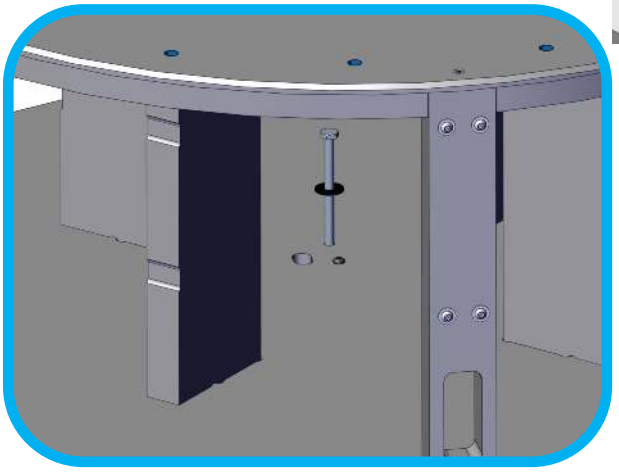
Insert one connector at a time through the wire access hole at the bottom of the Topper. When all three are through, place the topper on top of the Ribbon.



Step 5:

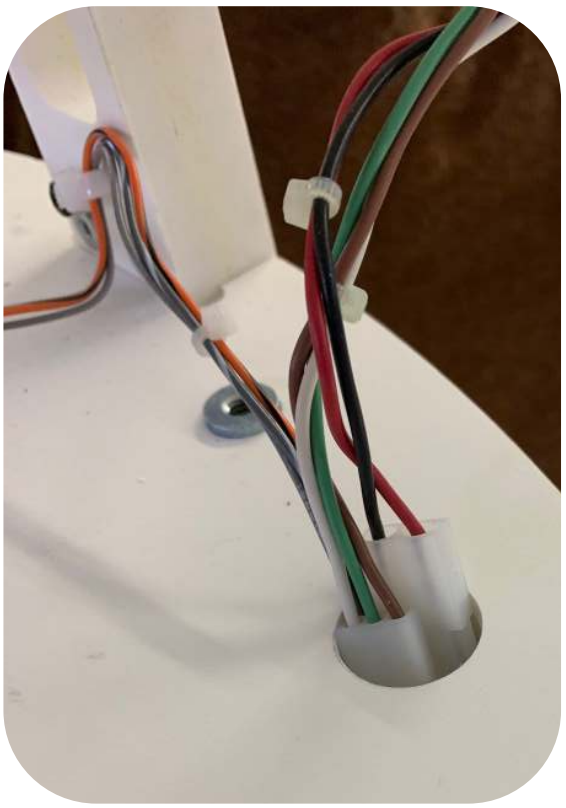
Use four AA6584 Allen heads and six AA6212 washers to attach the topper to the ribbon assembly.





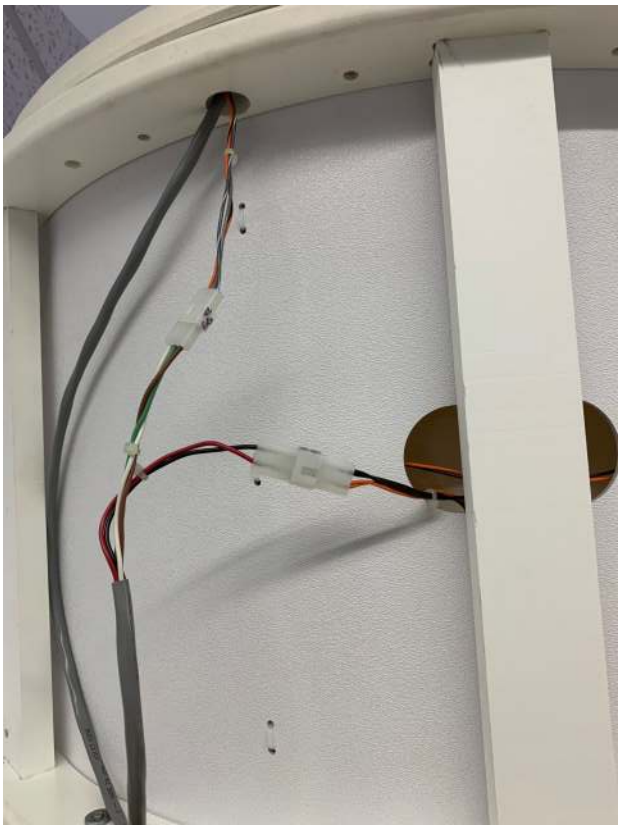
Step 6:

Use one AA6085 bolt and AA6075 washer to attach the topper to the top of the large claw assembly on top of the ticket stack.



Step 7:

Locate the wire hole at the back and push the grey wire that comes from the claw you inserted in step 4. Insert both of the back down the backside of the Topper.

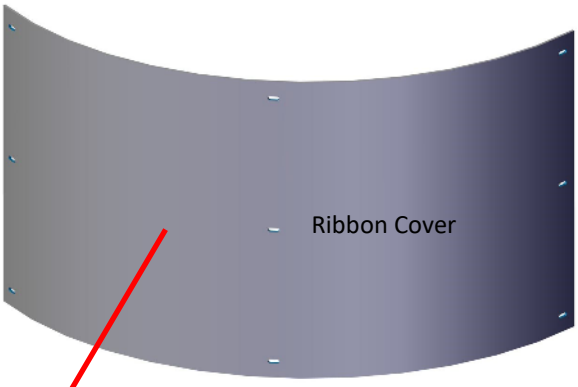


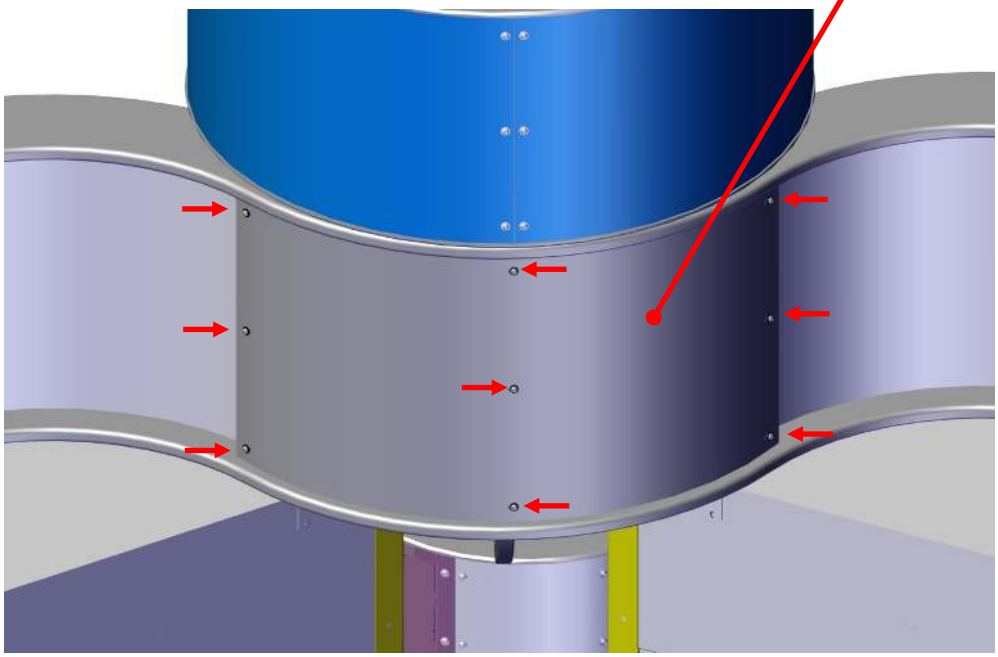
Then connect them to the existing plugs at the back. One is a two plug connector, the other a three.

Reinstall the graphic around the topper.

Step 8:

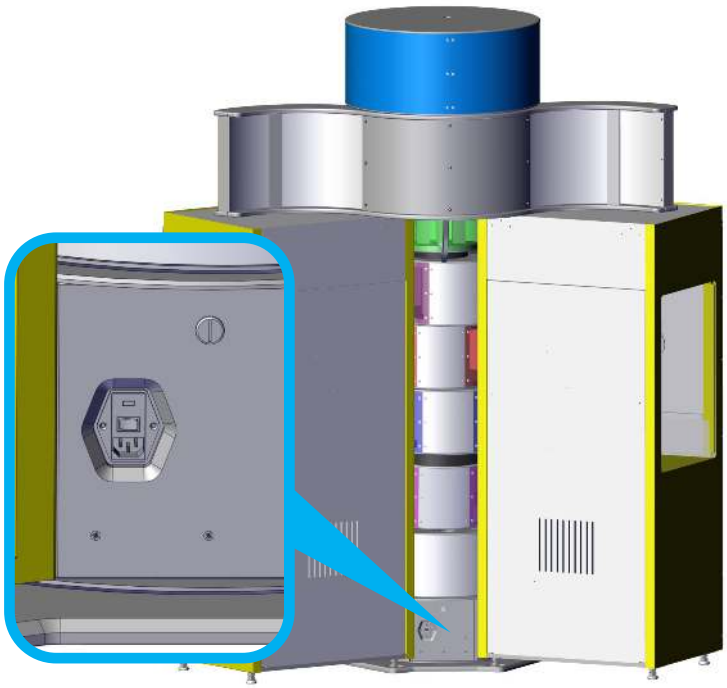
Attach the back Ribbon cover using nine AA6155 screws.



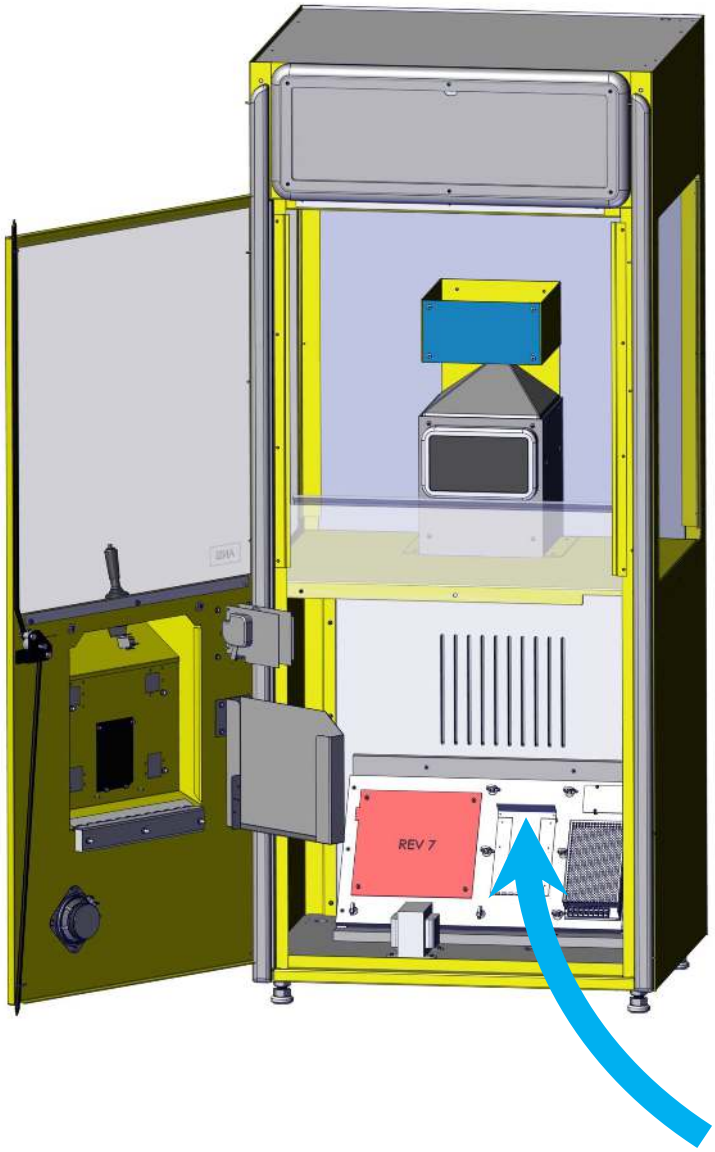


Step 9:

Locate the AC power cord and plug this into the AC power module.



Programming Options



Open the door to access the programing button.

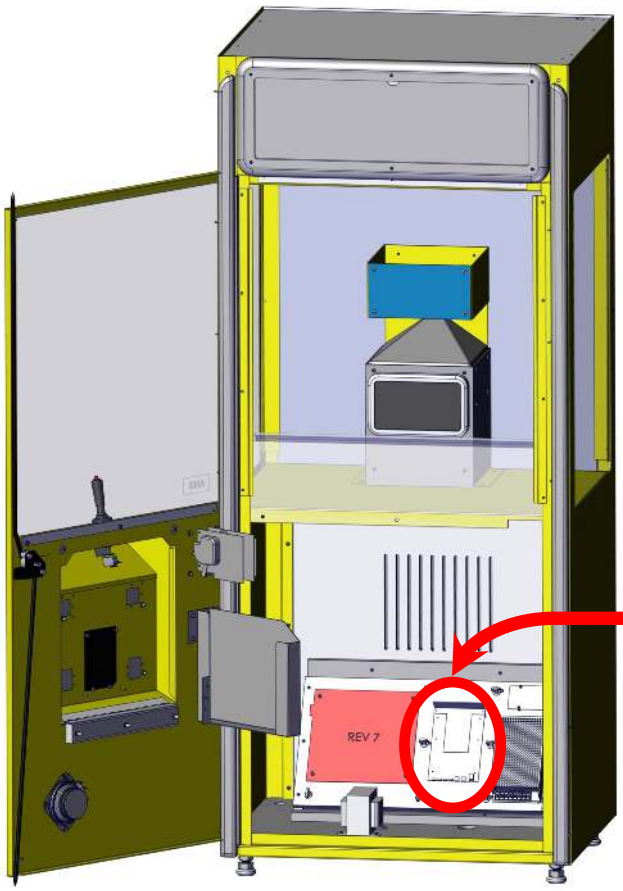
The Acct button is also located on this panel.

The volume knob is located at the top of this panel.

The AC power switch is located at the bottom of the AC cord.

Both the Coin and Prize meters are located at the bottom of this panel.

How to Program your Crane: Joystick Mode



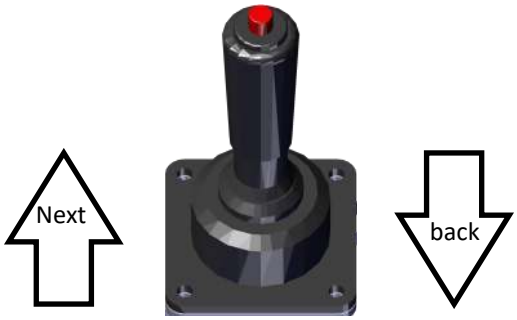
The crane must be powered on and in attract mode.

It will not enter programming mode when in play.

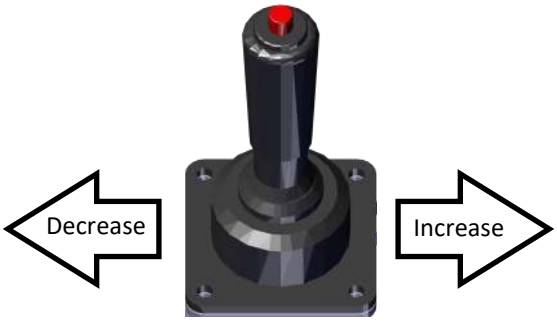
Unlock and open the front door to access the control panel drawer and press the “PROG” button. The control panel display will show “PP” in the credits display and “PP” in the time display. You must move the joystick back to enter program mode. The credit display will show a 0. The Time display will show the value stored for option 0.

Moving the joystick forward will advance to the next option while moving the joystick back will revert back to the previous option. Moving the joystick left will decrease the current option’s value and moving the joystick right will increase the current option’s value.

See “Programming Options” for the list of settings their descriptions. When finished, press the red button to save and exit.



Option Number



Option’s Stored Value

Programming Options for Tons Of Tickets

Description for Version 2.16	Default	Min	Max
0 Do not change - Factory setting	21	21	21
1 Game Cost - How many pulses to start a game.	1	0	20
2 Coin 2 Cost - How many more pulse coin line 2 is worth to coin line 1.	0	0	20
3 Minimum Claw Power - Claw Strength	50	20	99
4 Max Claw Power - Claw Strength	60	20	99
5 Ticket Multiplier - Allows to divide tickets 1/2 for two point tickets.	1	0	2
6 Minimum Tickets - Pays at least this much if not won by claw	0	0	20
7 Attract Time - How long to wait between doing attract function.	3	1	60
8 Attract Type - 0 = disable, 1 = only audio, 2 = only motion, 3 = both.	3	0	3
9 Attract Volume - 0 = predetermined lower volume than game play, 1 = disable.	0	0	1
10 Game Time - How long a game should be.	20	10	60
11 Dig Time - Allows the claw to continue past the down switch.	0	0	5
12 Settle time - How long to sit at the bottom of the crane before closing the claw.	6	0	8
13 Pickup time - When a value is set will cause the claw to remain closed at the bottom of the cabinet for this period of time.	0	0	8
14 Pull Time - How long to stay at Max Claw until reverting to Min Claw.	0	0	24
15 Top Pause - When a value is set the crane will pause at the top for this amount of time.	0	0	16
16 Home Pause - When a value is set the claw assembly after dropping the prize in the prize chute will wait for this period before returning to the home position.	0	0	16
17 Discount - How many games purchased before given any discount.	0	0	10
18 Games given for a Discount Trigger - How many games given per discount.	0	0	10
19 Play until you win - Allows play until player wins tickets.	0	0	1
20 Game over Delay - How long to wait before starting next game.	8	8	24
21 Snap - Snap close the claw at start if set to 1.	1	0	1
22 Edge - This option enables motor protection by detecting end of travel. 0 disables.	1	0	1
23 Blink - The game will either blink the outside LED's or leave them solid. 0 = solid.	1	0	1
24 Factory Reset - Reset everything back to factory settings.	0	0	1

Theory of Operation - How does the crane work?

This crane is unique and unlike any other ICE crane. The crane has two independent boards that work together, the CG2134X main board and the GG2000 board. The main CG2134X board is tasked to process credits, move the claw around, pay tickets, and operate lights while the GG2000 board is tasked in processing the RF tags in the tickets, playing videos, and determining tickets won. Both the CG2134X crane board and GG2000 board will be in attract mode until a credit is detected. Once a credit is detected in the CG2134X board, it will wait for a moment to see if another credit is inserted and if not continue to game mode. If the player inserts enough credits to match option 17 (discount), the crane will award the player with additional game credits depending on the value of option 18 (games given for discount). Credits must be inserted continuously with no game play between for discount to work.

Once the crane board is in game mode, it will send a command to the GG2000 board to display the screen "Move claw to grab as many ticket rings as you can", begin to play music, execute option 21 (snap) and await the player to move the joystick. It will remain this way until the joystick is moved. Once the crane detects the movement of the joystick, the game's timer will begin to count down. This value is set in option 10 (Game Time). Once the player presses the red button on the joystick, the crane board will send another command to the GG2000 board to change the display to ready "On our Way!". It will then lower the claw to the playfield. Once the crane detects the down switch the crane will then execute option 12 (settle time). The claw will remain open until this value is counted down. The claw will close using minimum claw strength (option 3). The claw will then begin to ascend to the top. When the claw reaches the top the claw will revert to maximum claw strength for the remaining time of play.

When the claw reaches the top, it will then execute option 15 (top pause). This allows everything to settle down before moving the claw over the RFID reader. The claw is moved over the RFID reader and lowered to a predetermined position. It then sends a command to the GG2000 to read the values of the ticket bundles collected. Once the values are determined the GG2000 board sends the information to the main crane board. The GG2000 board displays "Thanks for playing". The crane will check option 5 (Ticket Multiplier) to see if 1/2 tickets are used and then compare the amount won to option 6 (minimum tickets) and pay accordingly. The last two options, 16 (home Pause) and 20 (game over) are executed and the crane returns to the home position. It then looks if more credits are needed to be played. All credits are played out and the crane will return to the attract mode. If credits are still available and a game was played prior to those credits, additional credits will not yield any discounts unless the credits are inserted continuously with no game play between.

When power is applied to the main crane board it will perform a few tests then go into attract mode. If any errors were encountered, the crane display will display dots. At the same time, the GG2000 will power up in a console mode. It will auto start some applications and briefly display the pay table and version number of the software. If at any time the RF pad loses communication with the GG2000 board, the GG2000 will reboot and display Type error: time out.

ERROR CODES on the CG2134X:

3 = L/R Motor ; Left and Right movement is not functioning.

4 = F/B Motor ; Forward and backwards movement is not functioning.

5 = Up ; Claw moving up movement not functioning or up switch not seen.

6 = Down ; Claw moving down movement not functioning or down switch not seen.

7 = Not Valid Error

8 = SD Card ; Unable to read SDCARD

If any error codes are generated by the crane it will be displayed when you press the "ACCT" button.

Crane Revision 7 - PCB Technical Details

LED indicators:

D4 - SDCARD's write protect switch status.

D5 - SDCARD present or not.

D6 - Power to SDCARD.

D17 - Central Processor's heart beat.

D18 - Indicates when it is reading the SDCARD.

D19 - Not used.

D20 - Not used.

D21 - Indicates that there is 16 volts present from the transformer.

D22 - Indicates that there is 12 volts present from the transformer.

D23 - Indicates that U6 is providing voltage for the claw.

D24 - Indicates that U5 is providing 12 volts to the audio section.

D25 - Indicates that U7 is providing 12 volts is present to provide 3.3 and 5 volts DC for logic.

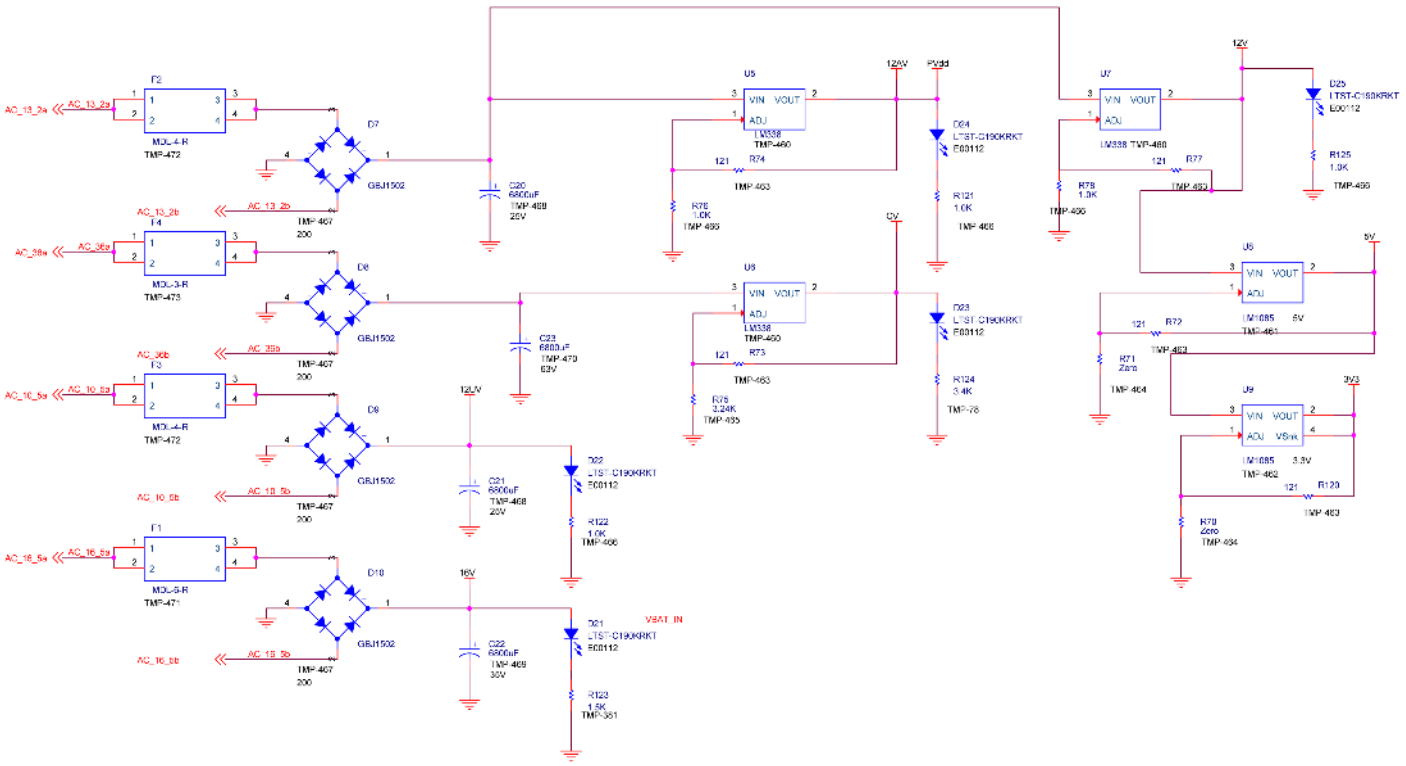
Test Points for Voltages

C16 - Positive side has 3.3 volts of DC.

C17 - Positive side has 5 volts of DC.

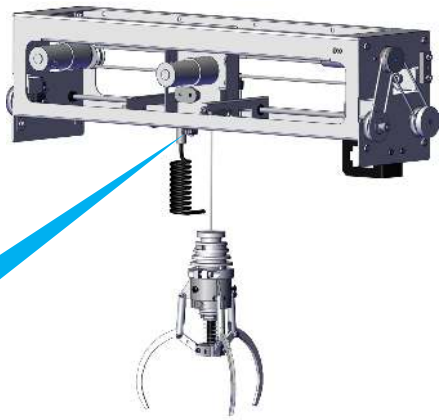
C18 - Positive side has 12 volts of DC.

C19 - Positive side has 12 volts of DC.



Testing the coil

Unscrew the claw harness counter-clock wise from the crane assembly and disconnect the harness.



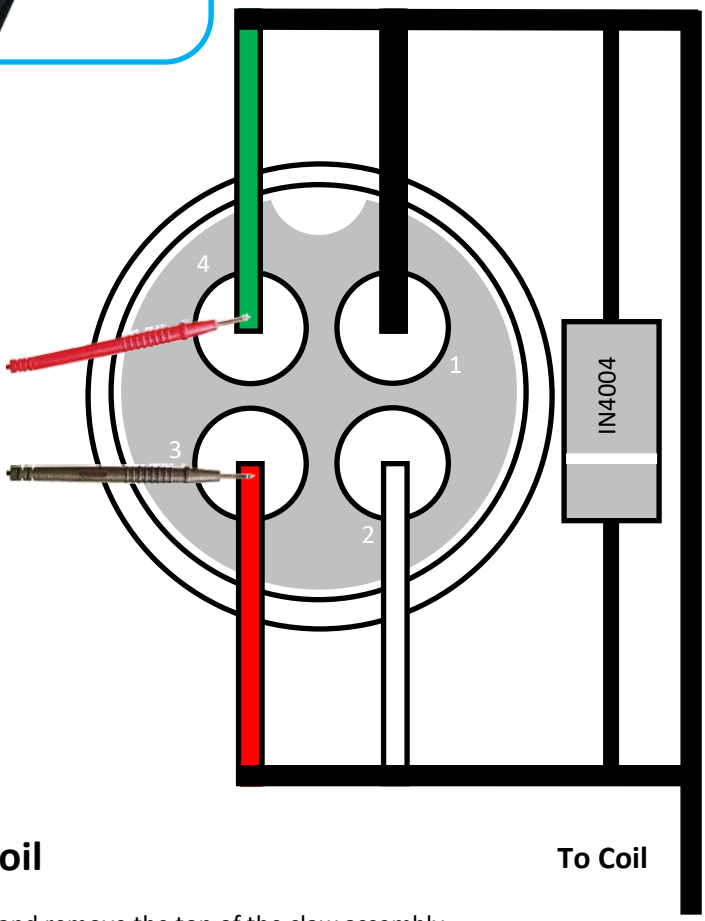
Looking at the plug on the cable, locate either pin 1 or 4. Place either probe in either pins.

Use the other probe and insert this into either pin 3 or pin 2.

Set your multi-meter to “OHMS”.

The meter should read around 19.6 ohms.

If the meter is less than 19 either the diode is bad or the coil is bad. The diode goes across the two tied connections as shown in the diagram.

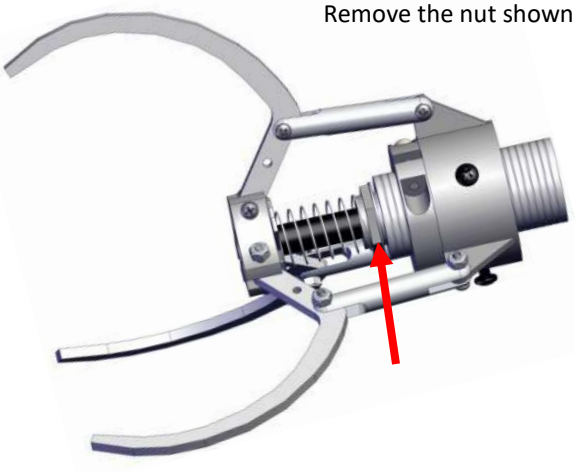


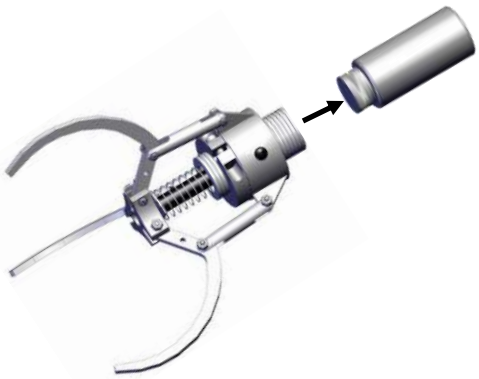
Accessing the Coil

Use a 9/64 Allen wrench and remove the top of the claw assembly.

Then unplug the claw assembly from the main claw harness.

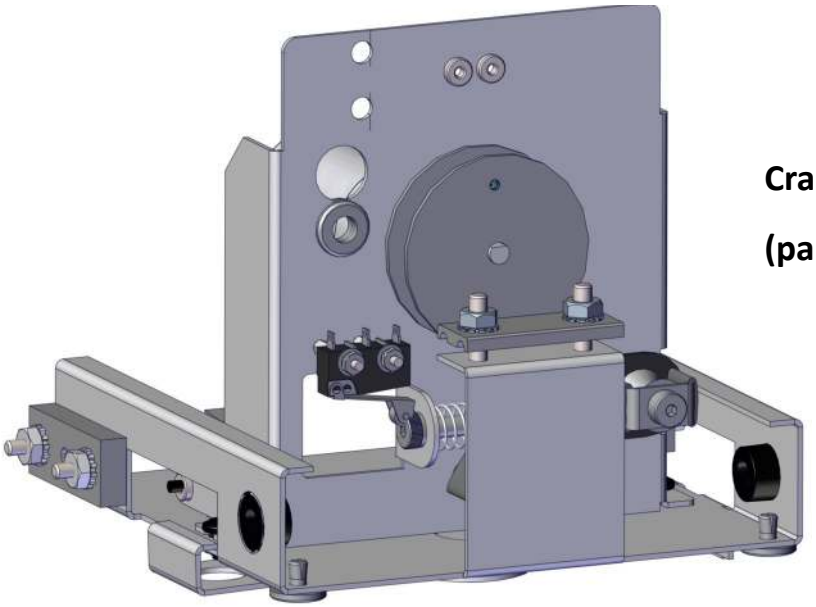
Remove the nut shown below. The coil will slide out.





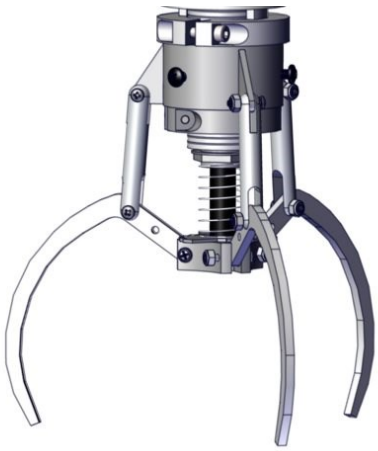
Wagon And Crane Assembly

GG1255X



Crane Assembly

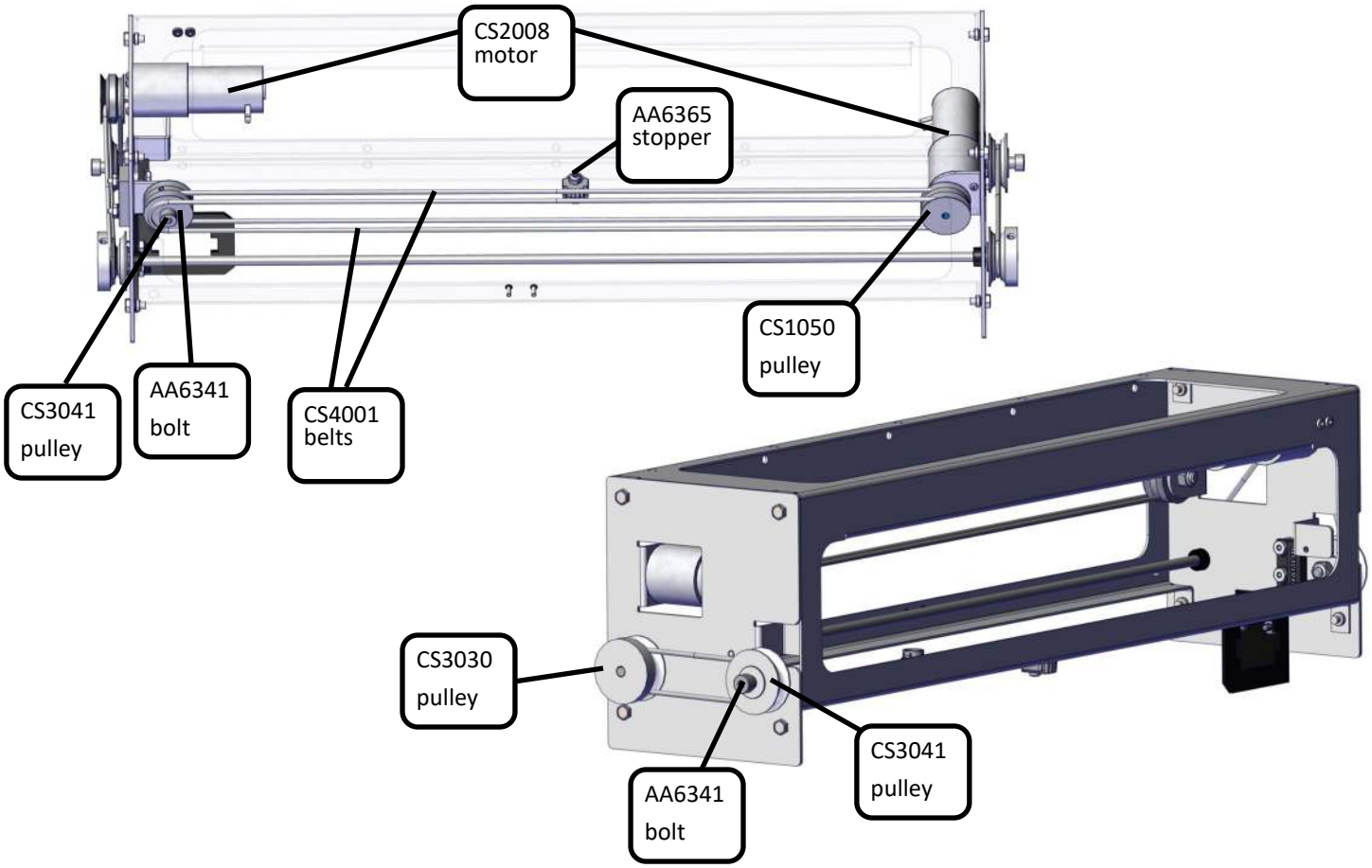
(part of the wagon assembly)

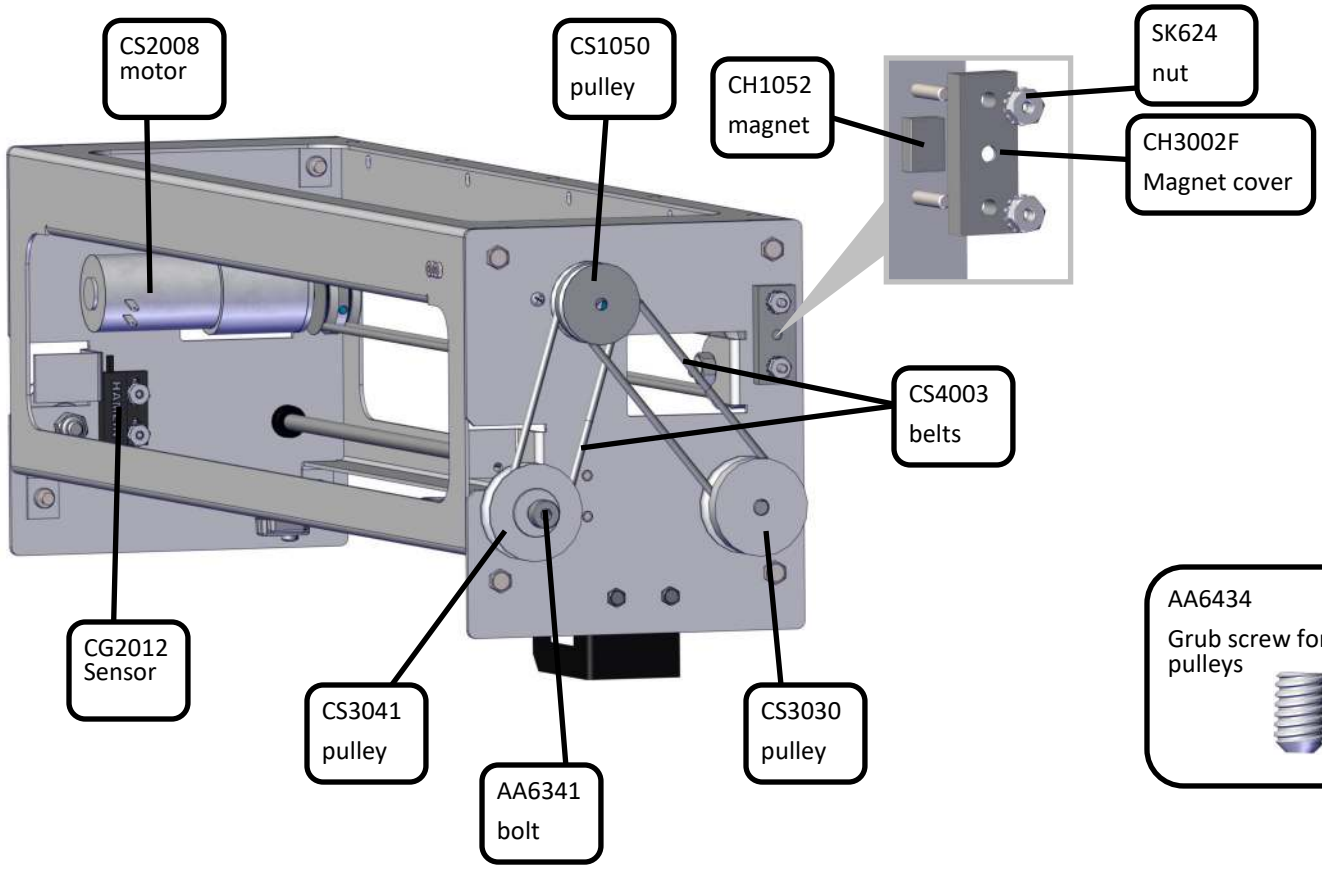


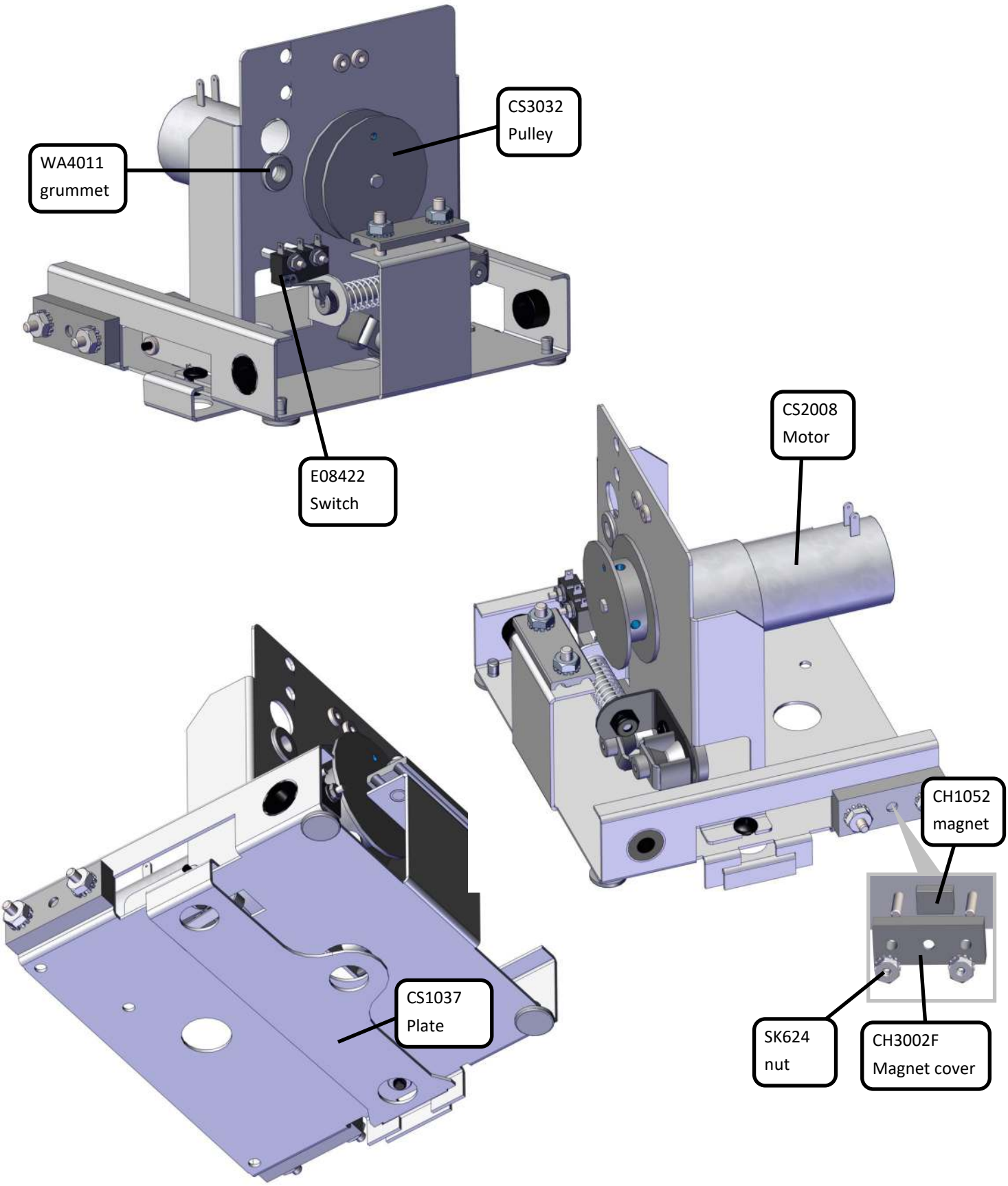
Claw Assembly

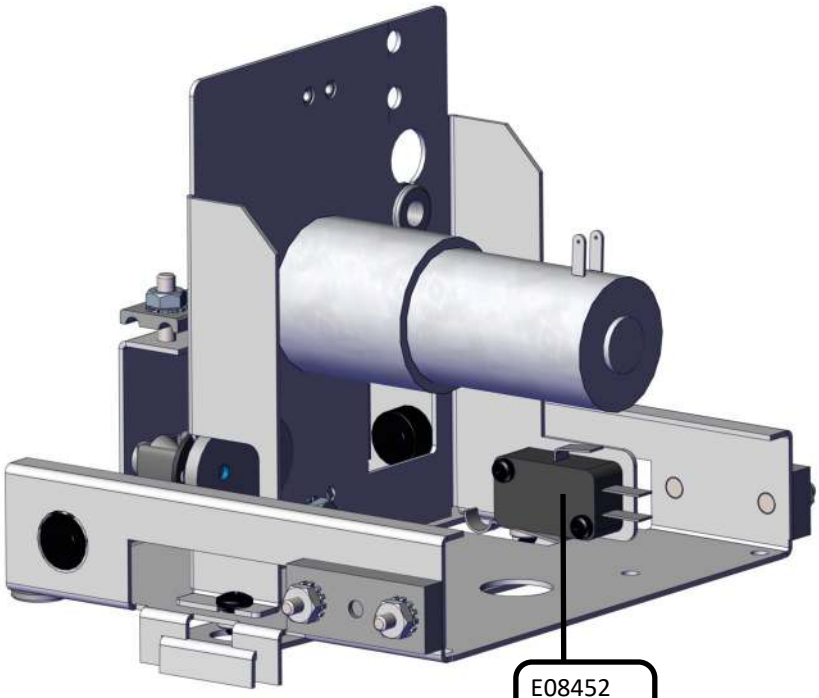
GG1078EX

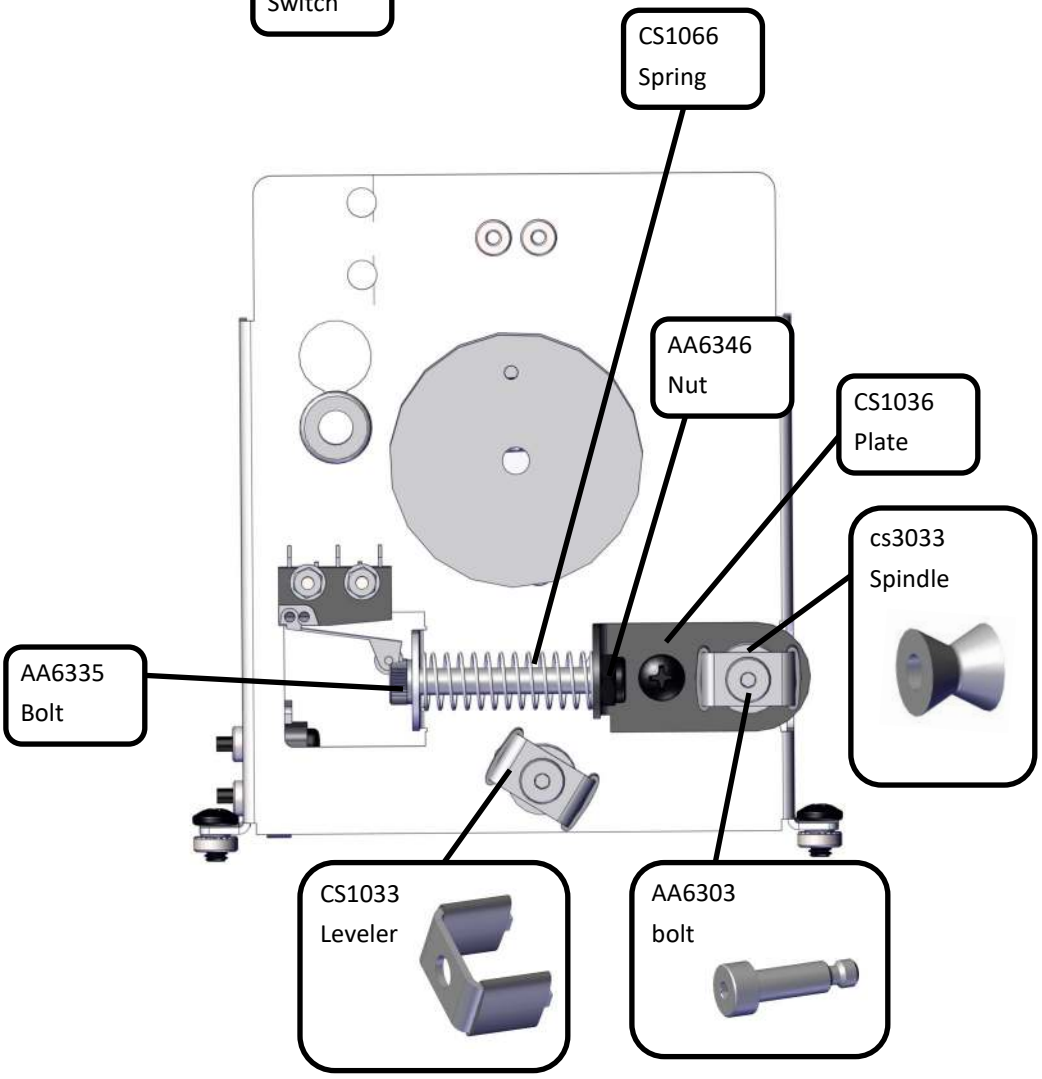
Wagon Assembly Part numbers



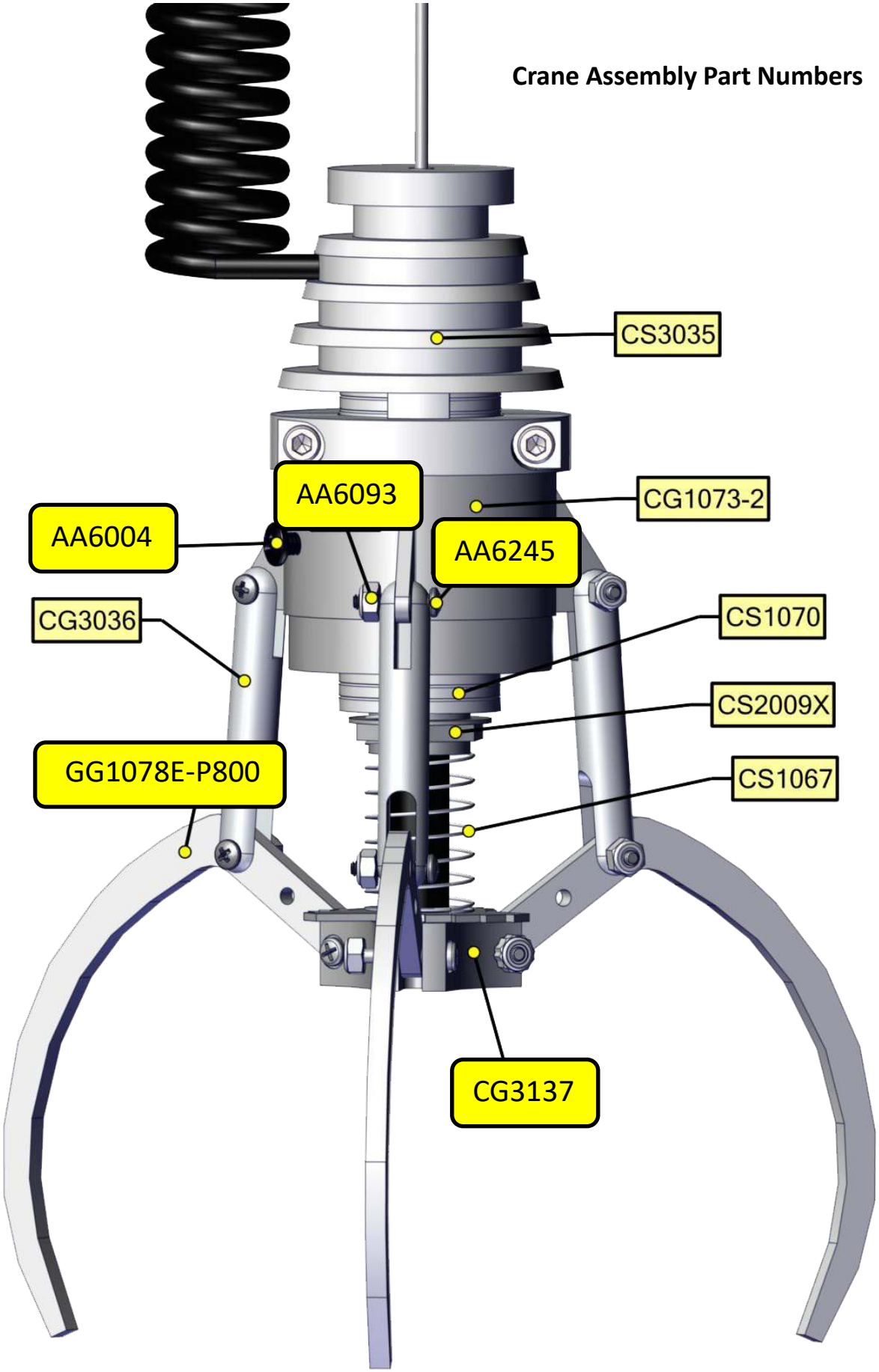


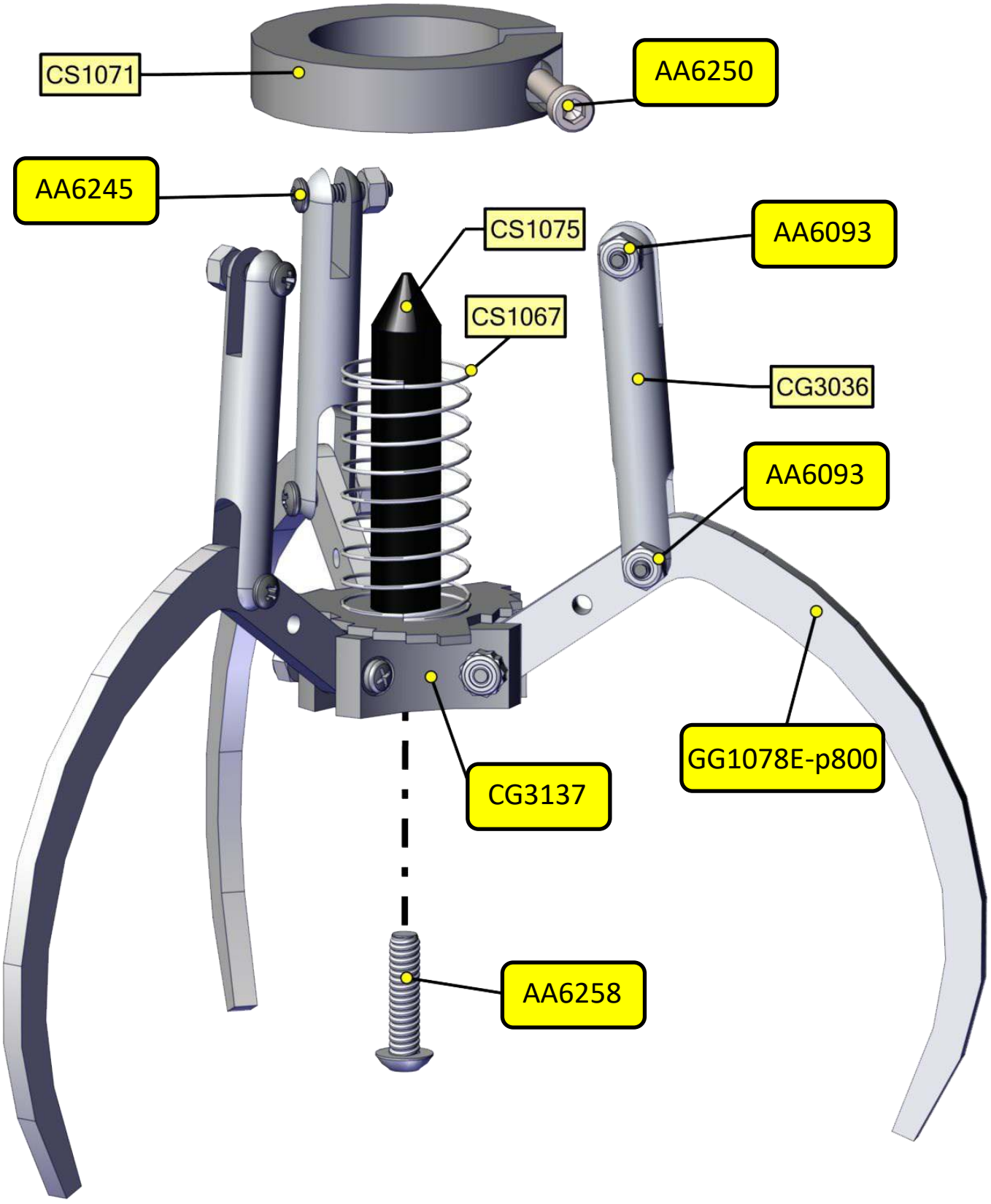

CS3032
Pulley
WA4011
grummet
E08422
Switch
CS2008
Motor
CH1052
magnet
CS1037
Plate
SK624
nut
CH3002F
Magnet cover

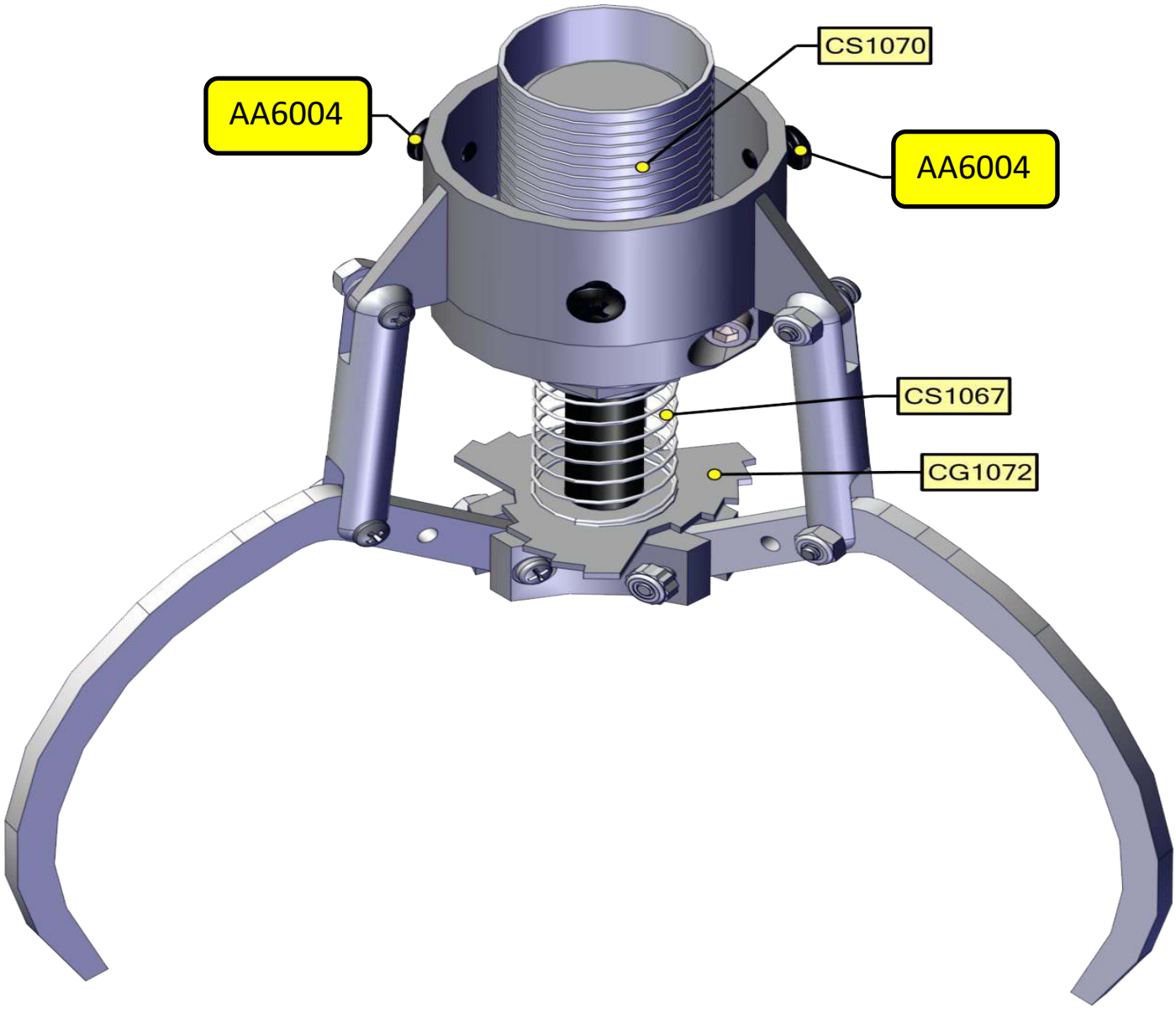

E08452
Switch


CS1066
Spring
AA6346
Nut
CS1036
Plate
cs3033
Spindle
AA6335
Bolt
CS1033
Leveler
AA6303
bolt

Crane Assembly Part Numbers




CS1071
AA6250
AA6245
CS1075
AA6093
CS1067
CG3036
AA6093
GG1078E-p800
CG3137
AA6258


AA6004
CS1070
AA6004
CS1067
CG1072

Tons of Tickets Graphics Guide
1-22-19

GG7300 Rev A

GG7301 Rev B

GG7303 Rev A

GG7312PC Rev A

GG7304PC Rev A

GG7305 RevA

GG7306 RevA

GG7307 RevA

GG7326 Rev A

GG7327PC Rev A
(Fabrication Drawing GG7128)

Tons of Tickets Graphics Guide

3-19-19

WARRANTY POLICY

I.C.E. Inc warrants all components in new machines to be free of defects in materials and workmanship for the period listed below:

- 180 days on Main PCB's, Computers & Motors
- 1 year on all LCD monitor panels
- 90 days on all other electronic and mechanical components
- 30 days on all I.C.E. repairs and parts purchases

I.C.E. Inc shall not be obligated to furnish a warranty request under the following conditions:

- Equipment or parts have failed through normal wear and tear
- Equipment has been subjected to unwarranted stress, abuse or neglect
- Equipment has been damaged as a result of arbitrary repair/modification

Products will only be covered under warranty by obtaining an I.C.E. authorized RMA #. To obtain an RMA # please provide I.C.E. tech support with the game serial # or original I.C.E. invoice # and a detailed description of the failure or fault symptoms.

I.C.E. Inc will assume no liability whatsoever for costs associated with labor or travel time to replace defective parts. All defective warranty covered components will be replaced with new or factory refurbished components equal to OEM specifications.

I.C.E. Inc will cover domestic UPS ground, or comparable shipping costs during the warranty period. International or expedited shipments are available for an additional charge. To obtain credit defective parts must be returned to I.C.E. Inc, at the customer's expense, within 30 days. After 30 days a 15% re-stocking fee will apply to all returns.

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