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INSTALLATION INSTRUCTIONS

PART NUMBER	158-8732
PART DESCRIPTION	3 INCH CASTER UPGRADE
REV DATE	4/6/2015
MACHINE MODELS	KPLUS, ION MODEL A/B



Basic knowledge of the lane machine including mechanical and electrical

TOOLS NEEDED:

9/16" Wrench	1/2" Wrench	1/4" Wrench
#1 Phillips Screwdriver	Ratchet & 9/16" Socket	Electric Drill
1/8" Drill Bit	3/16" Allen Wrench	(2) 7/16" Wrench
Ruler	Permanent Marker	Template Decals
Dremel Tool & Cutting/Shaping Tool #543 <u>OR</u> Handheld Jigsaw		5/16" Drill Bit

PARTS NEEDED:

(2) 153-0001 3" Transport Caster	(2) 153-6421S Lane-to-Lane Front Caster Spacer
(2) 158-6454 Rear Caster Spacer	(2) 153-9402 Flanged Bushing – 3/8" x 1/2" x 1/2"
(2) 153-2068 HHCS 3/8-16 x 1-1/2"	(4) 153-2066 HHCS – 3/8-16 x 1"
(2) 153-2027 3/8-16 Jam Nut	(2) 153-2025 3/8-16 Hex Nut
(8) 153-2016 3/8" Lock Washer	(10) 153-2006 3/8" Flat Washer
(2) 153-2069 HHCS 3/8-16 x 2"	(4) 153-2004 1/4" Flat Washer
(2) 153-2020A 1/4-20 Lock Nut	(2) 153-2054 HHCS – 1/4-20 x 1-1/4"
(2) 153-2304 1/4-20 Jam Nut	(2) 153-6042 Corner Guard Wheel – UHMW
(4) 153-2061A BHSS – 5/16-18 x 1"	(4) 153-2015 5/16" Lock Washer
(4) 153-2015 5/16" Lock Washer	(2) 158-6661 Guard Mounting Bracket
(2) 153-2087 8-32 x 3/4" MS	(2) 153-2013 #10 Lockwasher
(2) 153-2953 #8 Fender Washer	(2) 153-2511 8-32 Spring Nut



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TECHNICAL NOTE

Please thoroughly read the instructions prior to performing the installation of this assembly.

To avoid any potential problems, if at any time during the process you have a question, stop and contact our Tech Support department at the numbers listed below.

Please visit our growing library of videos to see if these instructions are available!



www.youtube.com/user/KegelBowling81

- 1) Ensure that the power is off to the machine. Lay the machine down in the operation position, and remove the molded guards from both sides
- 2) Stand the machine upright, in the transport position.
- 3) Remove the lower guide wheel assembly from the side plates. This will allow for more room when installing the new caster assemblies.
- 4) Using the 9/16" & Ratchet, remove the existing 2" dual caster from the caster-mounting angle. Next, remove the mounting angle from the side of the machine.
- 5) Next, replace the lower corner guards. Remove the existing corner guard wheels from the frame assembly and dispose. Replace these wheels with the new narrower corner guard wheels supplied in the kit using (2) HHCS – ¼-20 x 1-1/4", (4) ¼" Flat Washer, (2) ¼-20 Jam Nut & (2) 153-2020A ¼-20 Lock Nut. Tighten bolts completely.

IF UPGRADING AN 'ION MODEL' MACHINE, SKIP TO #8

- 6) On the 10 pin side or right hand side of the machine, remove the two 4-40 screws the wago block assembly.
- 7) Using a ruler, measure up 5/8" from the two existing holes and carefully drill two new holes making sure that you do not make contact with any wires on the inside.
- 8) Re-install the wago block assembly into the relocated holes.
- 8) Place a 3/8" Lock Washer & 3/8" Flat Washer onto each of the four 3/8-16 x 1" bolts. Push



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a bolt through the top hole in the caster-mounting angle and screw into the top (angled cut) tapped hole in the Rear Caster Spacer until finger tight. Do not tighten completely at this time.

- 9) Place a 3/8" Flat Washer onto each of the 3/8-16 x 1-1/2" bolt. Push this bolt through the top caster mount hole in the frame, from the inside, and through the spacer and caster mount angle. On the outside, place a 3/8" Lock Washer followed by a 3/8-16 Jam Nut until finger tight. Do not tighten completely at this time.
- 10) Push the two remaining 3/8-16 x 1" (from step #8) through the bottom hole in the frame, and screw into the tapped hole in the bottom of the spacer.
- 11) Tighten all bolts completely at this time.



Figure 1

- 12) Place a 3/8" Flat Washer onto one of the 3/8-16 x 2". Push bolt through the hole in the caster mount angle from the topline. Slide a Lane-to-Lane Front Caster Spacer onto each bolt up against the underside of the angle.
- 13) Push the Flanged Bushing 3/8" x 1/2" x 1/2" into the mounting hole of the 3" Transport Caster on the same side as the rubber wheel. Slide the wheel on the mounting bolt. Place a 3/8" Flat Washer and a 3/8" Lock Washer on the bolt & secure using a 3/8-16 Hex Nut. Tighten completely.
- 14) Next, reinstall the guide wheel assembly using the supplied button head bolts. Slide a 5/16" Lock Washer onto each of the 5/16-18 x 1" bolts supplied & re-install the guide roller assys using the button-head bolts. Tighten bolts completely.

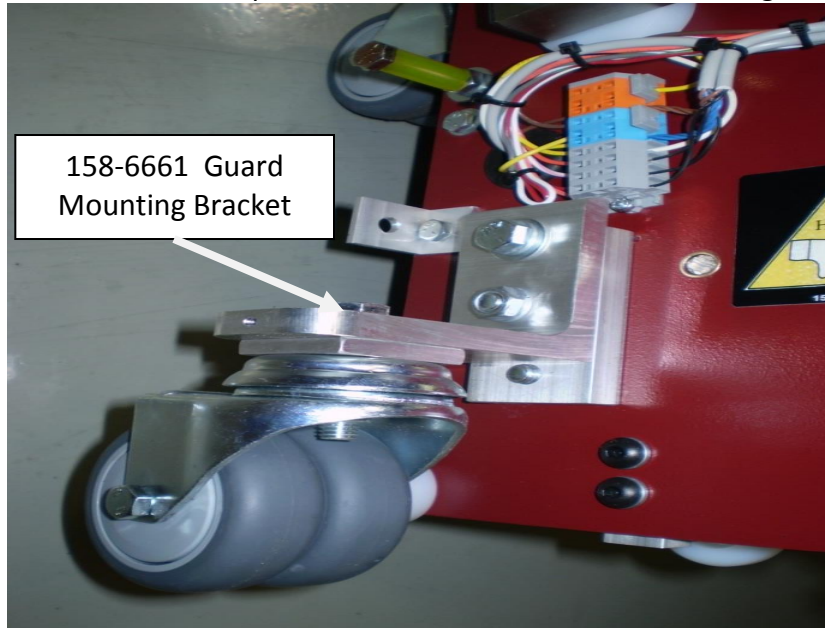


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- 15) Repeat the instructions for the opposite side.
- 16) Lay the machine back down in the operating position
- 17) Remove the center bolt securing the rear wall to the side plate on both sides of the machine. Take the flat washer off each existing bolt and push the bolt through the hole in the shorter leg of the 158-6661 Guard Mounting Bracket supplied in the upgrade (reference picture below). Push the bolt back through the frame and secure on the inside w/ the ¼" flatwasher, lockwasher & nut. Position the bracket so it is squared to the end of the side plate & tighten completely. Push a 153-2511 8-32 Spring Nut onto the end of each bracket so the threaded portion of the nut is over the shorter leg of the bracket.



- 18) Using a pair of scissors, cut along the dotted lines of the template decals provided. Using the caster mount hole in the guards as reference, stick the left cover decal on the left guard and the right cover decal on the right guard.
- 19) It is recommended to use a Dremel power tool with Dremel Cutting/Shaping wheel #543 to cut the guards. A small hand-held jig saw also works well. Cut along the inside of the template to enlarge the cut-out in the plastic guards. This allows the guards to fit over the new caster assys.
- 20) Remove any burrs or sharp edges that may be present on the guards. Place the guards back on each side, but do not secure.
- 21) Drill a 5/16" hole in the end of each guard where the new guard mounting angle was added to the frame.
- 20) Re-install the guards using the 8/32 x ¾" MS, #10 Lockwasher & #8 Fender Washer, tightening all machine screws completely.



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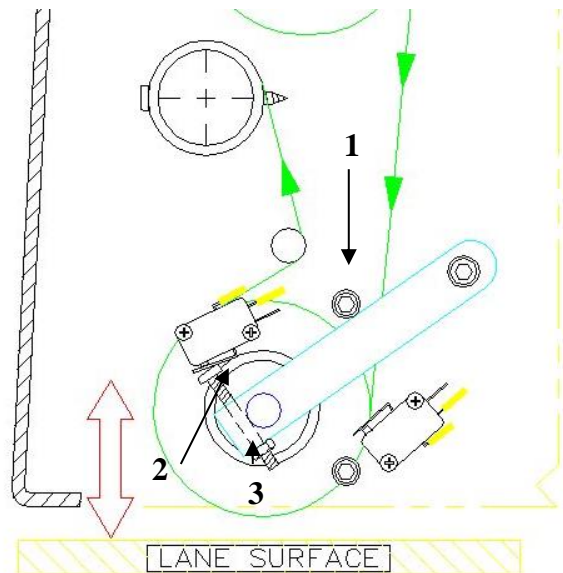


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1. Loosen the Duster Cloth to allow for plenty of slack around the Cushion Roller.
2. With the machine in the transport position, remove the stover nut from the Cushion Roller Pivot Arm shoulder bolt on either side of the machine.
3. Remove the shoulder bolt from the pivot arm, being careful not to lose the 5/16" flatwasher which acts as a spacer between the pivot arm & frame.
4. From the underside of the machine, carefully pull the Cushion Roller towards you on this end and pull it out of the pivot arm on the opposite side where it is still mounted to the frame.
5. Insert the new replacement cushion roller stem into the mounted pivot arm, being careful not to damage the stem in any way. Use the nylon spacers supplied as necessary to allow for minimal side-to-side play.
6. Place the loose pivot arm onto the stem on the opposite end and position the mounting hole back in line w/ the frame hole.
7. Carefully slide the 5/16" flat washer (acts as a spacer) between the pivot arm mounting hole and frame and re-insert the shoulder bolt. Re-install the Stover nut and tighten.

UPGRADE FROM 153-8838 TO A 153-8839

8. Remove existing cushion roller according to instructions/steps #1-4.
9. Remove the bolts that act as the upper stops for the cushion roller pivot arms **(1)**. (One bolt on each side of machine)
10. Using a rat-tail file or rotary tool, elongate the two holes (that you removed the bolts from) about 1/8" taller (toward top of machine when in operating position). Make sure the holes are elongated the same measurement on both sides of the machine. Replace the bolts back in the two holes and hold them up as high as they will go in the holes, secure the bolts in this position.



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11. The actuating screws that are located in the ends of both pivot arms will now have to be adjusted **(2)**.
12. Adjust the screws clockwise. Insert the shoulder bolt through the frame and pivot arm. Raise the pivot arm until the arm stops against upper limit bolt. Adjust the screw so that the switch actuates at this point (after switch is made, rotate screw ½ turn further). Tighten the nut on the bottom side of the screw against the pivot arm to secure this adjustment **(3)**. Repeat for other arm.
13. Install the new cushion roller according to steps #5-7.
14. While still in the transport position, remove the front two lane-to-lane casters and install the supplied square spacer between the underside of the angle and the caster using the new hardware supplied.

NOTE:

Check the adjustment on the momentary wheels when the installation is complete. There should be ¼" between the wheels and the lane when the machine is on the lane surface.



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