



YOUR LANES | OUR PASSION

INSTALLATION INSTRUCTIONS

PART NUMBER	158-8430F
PART DESCRIPTION	DUO Transfer Brush System Upgrade
REV DATE	4/6/2015
MACHINE MODELS	ALL Painted Lane Machines



Basic knowledge on ALL aspects of the lane machine. Including mechanical, electrical and operating software

TOOLS NEEDED:

3/8" Ratchet
 9/16" Wrench
 Drill
 5/16 Wrench

7/16" Socket
 1/2" Wrench
 1" ; 25/64" drill bits
 Phillips Screwdriver

Allen Wrench Cluster
 Prybar
 3/8" Wrench



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



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REMOVAL OF OLD TRANSFER / BUFFER BRUSH

Remove the side covers from the machine

1. Put power to the machine and menu to the output to lower the buffer brush into the down position. Once in the down position, remove power.
2. Remove the side guards from the machine to allow access to both sides of the buffer brush hardware shaft. Clean the inside of the covers and place the fasteners inside the covers and set inside for reinstallation.



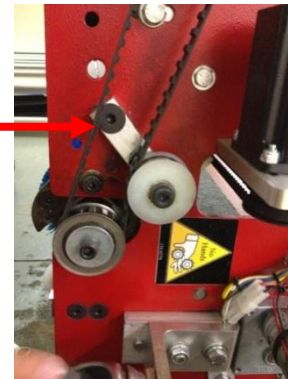
Remove the lid assembly

3. On the 10 pin, side or right side of the lane machine, remove the lid mounting bracket along with the fasteners. Remove any ground wires from the 7 pin side of the lid that may be attached from the lid assembly to the frame of the lane machine. Set the lid assembly and hardware aside.



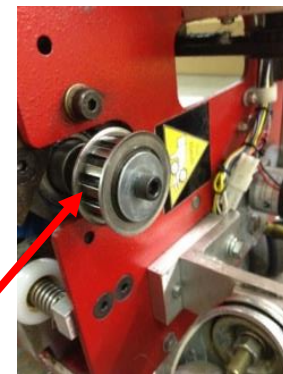
Remove the buffer idler mount block and assembly

4. With the Lane Machine in the Transport position, remove the buffer idler pulley mount block from the lane machine. To do this, you should only need a 9/16 wrench and remove the nut and hardware on the inside of the machine. Next, push the allen bolt and mounting block assembly from the frame.



Remove the Buffer Brush pulley Assembly

5. Remove the large 1/4" allen bolt at the end of the buffer brush. It will be necessary to grab the buffer brush to keep from spinning while doing this.
Loosen the set screw on the inside of the clogged part of the pulley. Slide the pulley, key, and spacer from the buffer brush shaft. Set aside for reinstallation.



Set Screw



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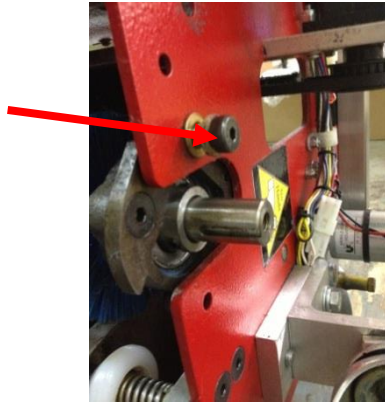
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Removal of 2 Piece Transfer Systems (If you have the 1 piece continue to step 8)

6. Remove the (4) bolts that mount the existing Transfer Brush in the machine. There are two (2) ¼-20 bolts on the left side of the machine and two on the right side. Remove the transfer brush from the machine.
7. Using a Phillips screwdriver and an 11/32 wrench, remove the existing drip pads that are mounted to the 7-pin and 10-Pin side wall. These will not be used again.
8. Using the 3/16 Allen wrench, remove the four shoulder bolts that hold the Transfer Brush Assembly into the machine. There are two that go through the frame and into the bearing and the other two go through the lowering link and into the bearing.



9. You should now be able to remove the Buffer Brush assembly and transfer system from the machine.

Remove the Splash Guard assembly

10. Remove the oil tip hose from the oil control valve, pull hose through the splash guard, take out the oil tip and set aside or discard and replace this later with the one in your kit.
11. If the machine is equipped with the keypad attached to the Splash guard, remove the cable from the bottom of the Keypad assembly. Also, if the machine is equipped with the power button located on the splash guard, remove the wiring from the bottom of the button assy.
12. Loosen the ¼-20 bolts on the LDS block, holding the splash guard assembly in place.
13. Carefully remove the splash guard from your lane machine, being careful to disconnect keypad (if needed)



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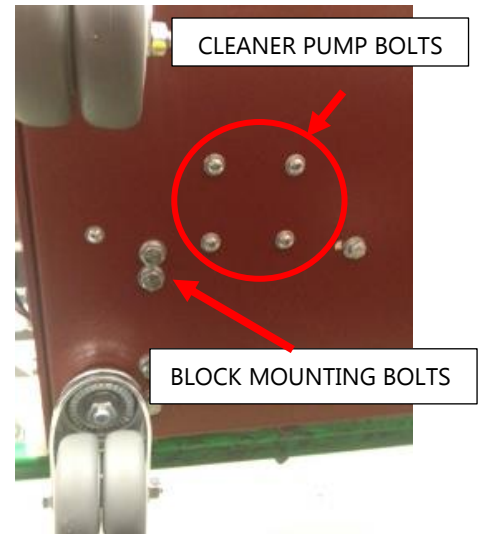
Remove the Cleaner Pump assembly

Machines with 4 spray Jet style cleaner pump:

14. Remove the cleaner pump assembly from the rear panel and leave it lying to the side. Use a towel for any dripping.
15. Now that the cleaner pump is out of the way, remove the LDS adjustment block (shown below) and set aside.

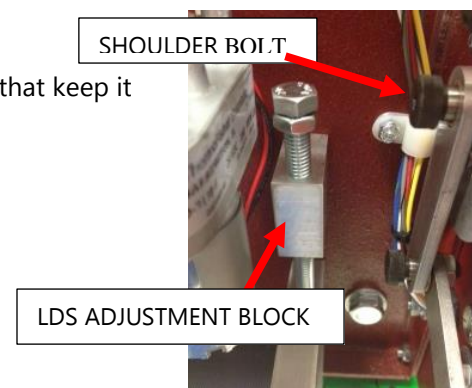
Machines with Peristaltic Cleaner pump assembly:

16. With a towel on underneath the machine to catch any drips, disconnect the tubing coming from the cleaner pump assembly.
17. Remove the four screws from the rear panel that mount the cleaner pump assembly and set the pump aside.



Installing the Buffer Motor support bracket

18. Remove the LDS adjustment block assembly by removing the mounting bolts from the front of the rear panel.
19. Remove the shoulder bolt that fastens the lower link to the cam. It may be necessary to heat this up as these are fastened with Loctite. VERY important to make note of the hole in the cam that the bolt is mounted in.
20. Next, remove the cam assembly by loosening the set screws that keep it tight to the brush up/down motor shaft.



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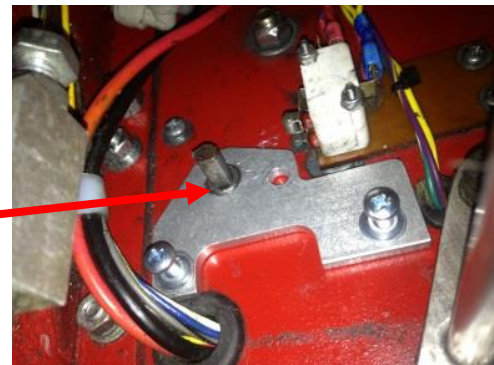
21. Remove the two bottom motor mounting screws to the frame.

MOTOR MOUNTING SCREWS



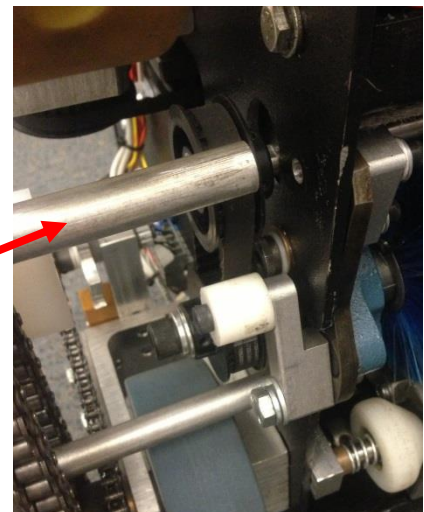
Locate the Buffer Mounting bracket and mounting hardware from the kit. Install the bracket as shown to the right and fasten into place using the two screws, washer and lockwasher provided in the kit.

BUFFER MOUNTING BRACKET



On ALL Walker models, it will be necessary to remove the support post as shown to the right. Failure to do so will cause potential damage to the transfer roller pulley and belt assembly.

REMOVE



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Reinstalling the components

22. Slide the buffer motor cam back into place and fasten the set screw on to the flat spot located on the shaft.
23. Reinstall the lowering link assembly. Take the shoulder bolt removed in step 19 and slide it through the link and fasten into place using Loctite. VERY important to use
24. Reinstall the LDS block assembly removed in step 18.
25. Reinstall the cleaner pump assembly keeping the wires and tubing fastened neatly into place.
26. Reinstall the splash guard assembly.

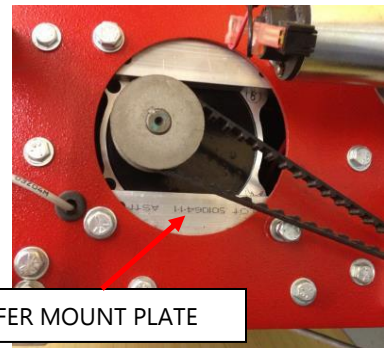
Drilling Holes

First locate the template from the kit that correctly matches your lane machine.

Template A – Any DC lane machine that does NOT have the Buffer Mount plate shown to the right.

Template B – ALL AC model lane machines. Kustodian, Kustodian Plus, Sanction Standard and Phoenix S model C.

Template C – will be used on ALL machines to drill 10 pin side hole.



Template C - ALL Machines

27. On the 10 pin side of the lane machine, line Template 'C' up with the existing holes in the side plate and tape in place.
28. Using a punch, mark the center of the 1" hole to be drilled.
29. Drill the 1" hole and deburr the hole to remove any sharp edges.



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Template B

30. On the 7 pin side of the lane machine, line up Template 'B' with the existing marks.
31. Clear all wiring or items that may potentially come in contact with the drill bit while drilling the hole.
32. Using a center punch, mark the center of the 25/64" hole to be drilled.
33. Drill the 25/64" hole and deburr the hole to remove any sharp edges.



Template A

34. On the 7 pin side of the lane machine, line up Template 'A' with the existing marks.
35. Clear all wiring or items that may potentially come in contact with the drill bit while drilling the hole.
36. Using a center punch, mark the center of the 25/64" hole to be drilled.
37. Drill the 25/64" hole and deburr the hole to remove any sharp edges.



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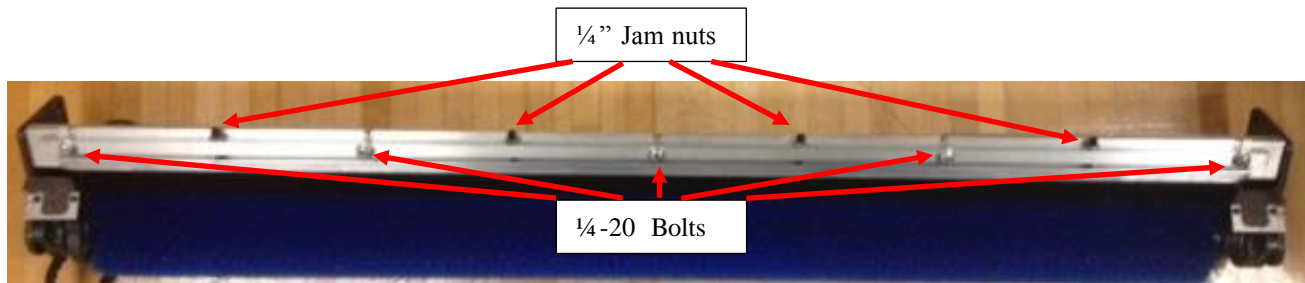
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Before installing the DUO assembly, verify that the factory set adjustment is correct. A 3/16" of crush, or deflection of bristles, evenly across the front side of the brush and 1/8" across the backside of the transfer roller.

DUO Transfer Brush assembly adjustment



38. Loosen the 1/4" jam nuts on each square head bolt and back the bolts out so that the transfer brush can move all the way in and out of the buffer brush assembly.
39. Loosen the five 1/4-20 bolts on the front side that secure the adjustment bar, but keep them snug.
40. Using a 1/4" wrench, screw the square headed bolts into the transfer brush to lower. Do this until the Transfer brush just contacts the buffer brush assembly. Once this happens, turn the screws two full turns and tighten them.
41. If a Transfer Roller adjustment is needed:
 42. Loosen the roller pivot screws.
 43. Then loosen the jam nut on the Roller adjusting crew and turn the screw in or out until the 1/8" – 3/16" crush is obtained.
 44. Tighten the jam nut and the pivot screws back into place.



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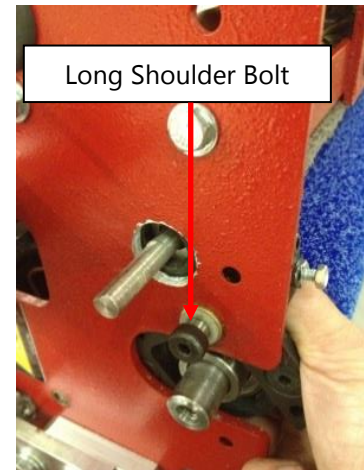
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Installing the DUO Transfer Brush assembly

45. With the machine standing in the transport position, take the DUO Brush system assembly and insert into the machine from the bottom. Make sure the roller shaft goes through the freshly drilled hole on the 10 pin side and set into place.
46. Take the two longer shoulder bolts that were removed in Step 8 and insert them through the top holes of the side panels from the outside in, and hand tighten them into the buffer bearing assembly.
47. Next, locate the shorter cut shoulder bolts removed in step 8, and insert them through the lowering link and hand tighten them into the Buffer Bearing assembly.
48. Fasten all four bolts tightly into place.
49. Locate the two pulleys and the small transfer roller belt from the kit.

Because of the tightness of the belt, the next two steps will be done with the belt around the two pulleys prior to sliding them into place.

50. Take one of the pulleys, and with the hub facing out, will slide onto the buffer brush shaft.
51. The remaining pulley will slide onto the transfer roller shaft with the hub facing in towards the machine.
52. Once on the shafts, fasten the set screws on the pulleys.
53. The allen bolt that will go into the buffer brush shaft will be fastened with a lock washer and is reverse thread. This will tighten up by turning the wrench counter-clockwise.



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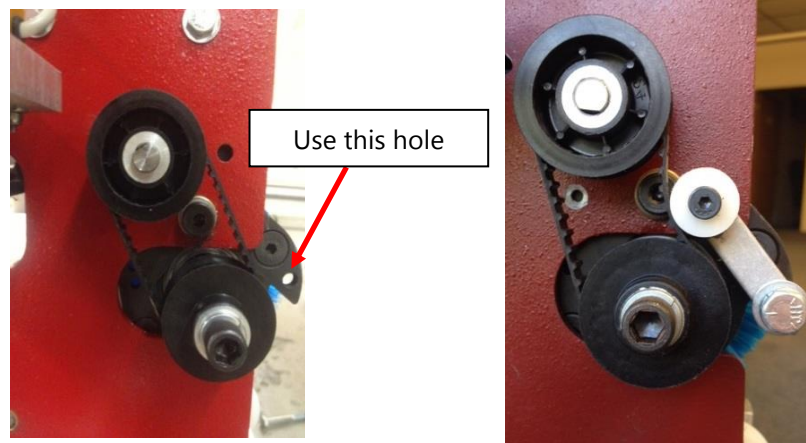
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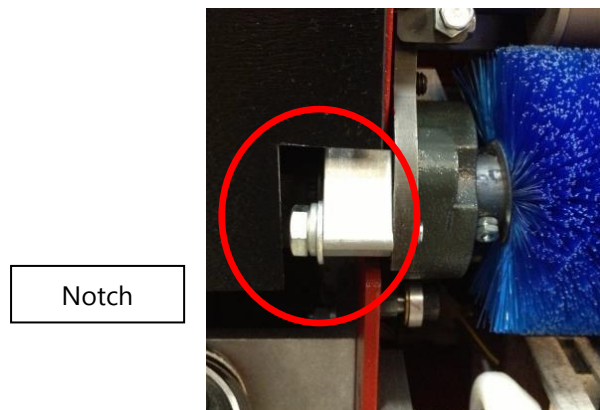
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Idler Pulley assembly installation

54. Remove the Idler pulley assembly and hardware from the kit. This will be fastened through the threaded hole on the buffer bracket as shown below.
55. Tighten up the pulley against the belt giving around a 1/16" of tension.



Once together, it will be necessary to cut a notch in the side cover to fit properly. This will be around a 1 1/2" notch like in the picture below. When cutting metal guards, make sure you have a tool sharp enough to make a clean cut.



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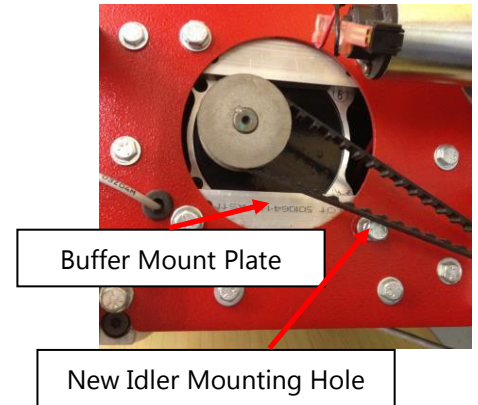
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Buffer Belt and idler pulley installation

When installing the Buffer Belt, the Buffer brush must be in the down position.

ION Model A or B, and machines that utilize the Buffer Mount plate

56. Remove the lower right bolt as shown to the right
57. Locate the new longer idler mounting block and hardware from the kit and mount the assembly into the lower right mounting hole for the buffer motor assembly.
58. Replace the Buffer Belt assembly around the pulleys and tighten up the buffer idler pulley with the belt assembly tight.



If holes were drilled

59. Locate the new Buffer Belt idler mounting block and hardware from the kit and hand tighten into the hole that was drilled in the earlier steps.
60. Route the Buffer Belt assembly around the both pulleys and tighten up the buffer idler pulley with the belt assembly tight as possible.

The positioning of the Idler Pulley assembly is very important!

- On ALL Sport model lane machines, the buffer idler pulley will go on top of the belt.



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- On ALL other models that use the Brush Chop feature, the buffer idler pulley will go on top of the buffer belt assembly.
- If the Brush Chop feature is NOT used, you may position the idler pulley on the bottom side of the belt.



61. Remove the new oil tip and install it. When setting the tip height, the tip should just clear the bristles of the transfer brush. It should also be $\frac{1}{4}$ to $\frac{3}{8}$ inch up from where the Transfer brush meets the Buffer brush.
62. Replace the side guards and power up the lane machine. Menu to the outputs, check the function of the buffer up and down motor, as well as the Buffer Motor assembly.



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