



INSTALLATION INSTRUCTIONS

PART NUMBER	164-8227
PART DESCRIPTION	PINDECK TREATMENT UPGRADE
REV DATE	4/13/2020
MACHINE MODELS	FLEX AND FLEX WALKER



Should only be performed by a Kegel Certified Level 2 Technician

TOOLS NEEDED:

Phillip Screwdriver	Allen set	Needle Nose pliers
Right Angel Drill	Wire Strippers	Towels
Silicone	Utility Knife	Super Glue
Wire joint crimpers	Drill Bits: 3/16", 11/32", 1/2", 3/4" (or Stepper Bit)	SD Card
Wrenches 11/32, 5/16, 7/16, 9/16	Socket 9/16	
Card Reader		

IMPORTANT: MUST HAVE THE ABILITY TO DOWNLOAD NEW SOFTWARE!

You will need the correct download cable and usb serial adapter. Also, you must have a Flashcard to load the software program into the touchscreen. This may be purchased through Kegel or locally.



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

KEGEL TECH SUPPORT:
 Within USA - 1-800-280-2695
 Outside USA - +1 863-734-0200
 via e-mail at LMC@Kegel.net
 website www.kegel.net



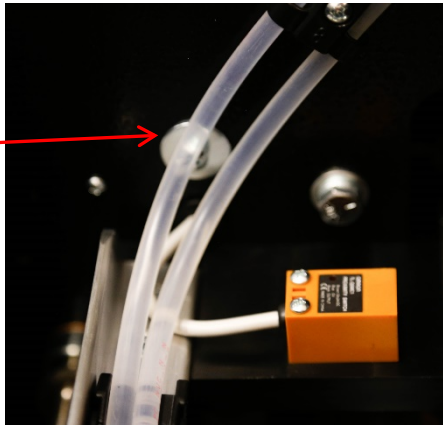
Remove the Side Guards

1. With the machine in the up-right transport position, locate the three (3) screws that mount the bottom of the side cover as shown to the right.

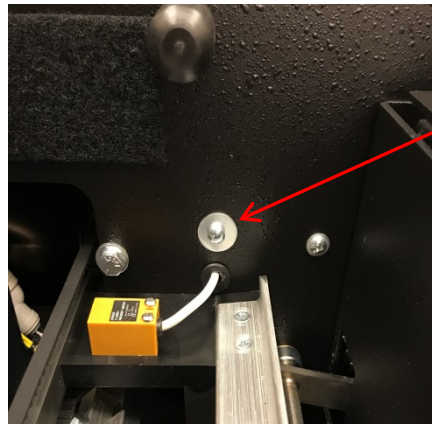


STEP 2 FOR FLEX WALKER ONLY

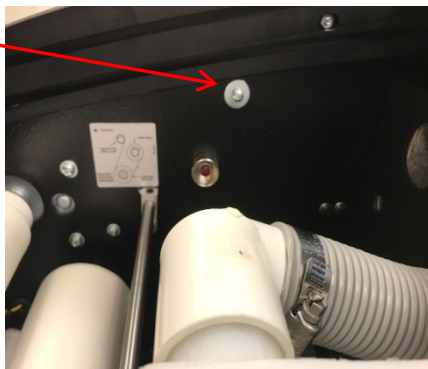
2. The FLEX Walker, you will have an additional fastener that will fasten the bottom of the guard into a mounting post. Also, it will be necessary to remove the bumper wheels on both sides of the lane machine.
3. While in the operating position, open the cleaning compartment lid. Remove the two (2) screws that fasten the side covers to the side plate of the machine.



Oil Compartment 10-pin side



Cleaner Compartment 10-pin side



Oil Compartment 7-pin side

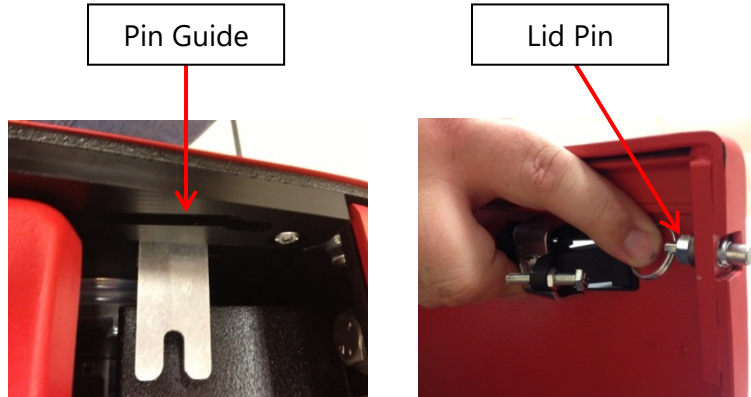


Cleaner Compartment 7-pin side

LID ASSEMBLY REMOVAL

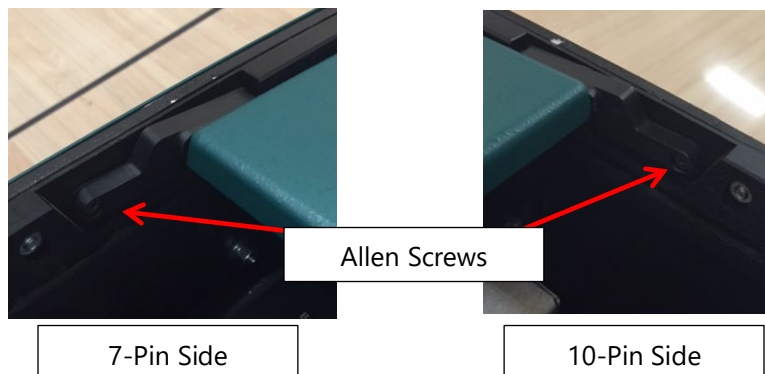
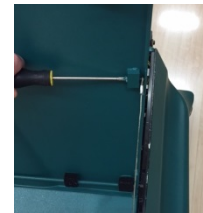
Conditioner Compartment Lid Removal:

1. Slide the conditioning compartment lid back as shown in the pic below left.
2. Reach your hand under the lid and pull back the spring-loaded pin from the pin guide. Do the same for both the 7-pin and 10-pin sides.
3. Lift the lid assembly up and out of the lane machine while sliding the back lid pins up and out of the guides.



Cleaning Compartment Lid Removal:

1. Lift the lid all the way up and back as far as the attaching cables will allow.
2. For Flex machines prior to 2016, take a Phillips screwdriver and remove the cables located on both the 7-pin and 10-pin side of the Lid assembly as shown to the right.
3. Remove the two allen screws that fasten the lid assembly to the lane machine. As with all the hardware, it's very important to store these in a safe place for reassembly. Original models have screws directly fastened to the Lid assembly.

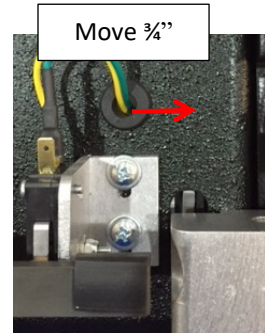


FRONT BUMPER REMOVAL

1. With the machine standing in the upright position, remove the 3 screws along the bottom of the front bumper. (This step is not needed on older models)
2. With machine in the down position, remove the four screws along the top of the front bumper and set the front bumper aside.

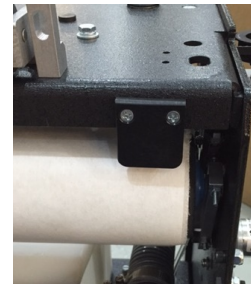
RELOCATING BUMPER SWITCH WIRE (WALKER ONLY)

1. On the FLEX Walker, it will be necessary to relocate the wire hole for the 7-pin whisker switch.
2. Prior to removing the wires, make a note of which terminals the wires are located on the switch and pull them back through the wall and remove the old grommet.
3. Measure over $\frac{3}{4}$ " from the center of the existing hole towards the 7-pin wall and drill a $\frac{3}{8}$ " hole. Remove any wires behind your drill mark and be **VERY CAREFUL** not to hit them. Drill the hole and deburr. Insert the grommet.
4. Pull the wires back through and replace on the same terminals that they were removed from.



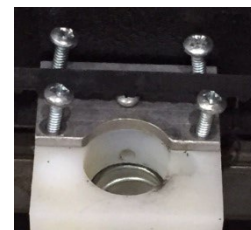
INSTALLING DRIP TRAY

1. Using the other half of the template, drill the two holes for the drip tray.
2. Line the template up with the inside of the 7-pin side plate. Make a scribe on the two holes marked $\frac{3}{16}$ ".
3. Drill two $\frac{3}{16}$ " holes and bolt on the tray using the supplied hardware.

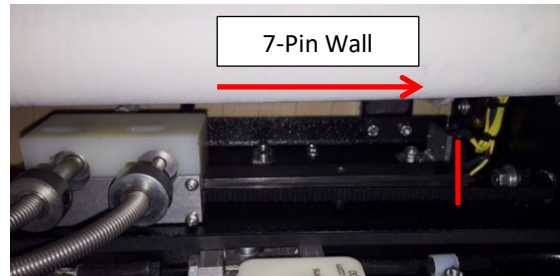


CLEANER HEAD BAR ASSEMBLY

1. Remove the recovery tank and duster cloth from the lane machine. In some cases, it may be just as easy to dispose of the remaining cloth and replace with a fresh roll (Don't forget to reset the cloth!) Leave the cleaner tip assembly out of the cleaner head block.
2. Cut the cleaner head belt on both sides of the head block assembly and dispose of the belt.
3. With the cleaner head positioned in the middle of the head bar, take a long screwdriver and insert it through the hole at the top of the panel. This will help prevent the back two screws from being stripped. After loosening all four screws, remove the one center screw located on the plate on top of the cleaner head assembly. The screws and plate can be discarded.

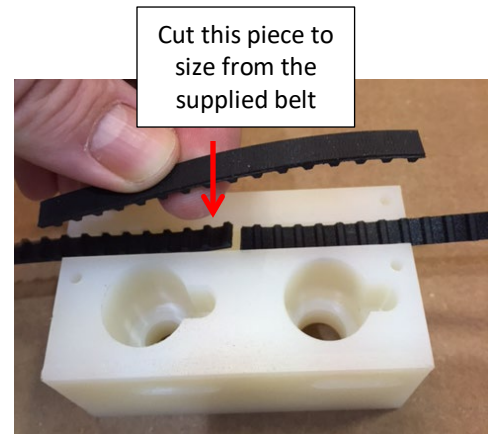


4. Remove the head bar assembly from the lane machine by removing the three ¼" bolts holding it to the front wall. You can dispose of the bar as a new one will be reinstalled.
5. Locate the new cleaner head bar assembly and the new dual cleaner and treatment head assembly in the kit.
6. Before installing the head bar in the lane machine, you must first install the new dual head assembly onto the bar. Hold the bar assembly with the longer end towards the 7-pin wall. By 'longer end', this means the end that has more length from the end to the first mounting hole. Now take the head assembly and slide it onto the head bar with the belt track aligned with the head bar track as shown.
7. Next, place the bar into the lane machine and reattach with the three 1/4" bolts previously removed, a drop of loc-tite on each bolt is recommended.
8. Place a lite film of oil on the head bar assembly so that the head moves freely back and forth.



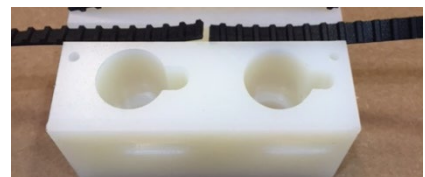
INSTALLING THE NEW CLEANER HEAD BELT ASSEMBLY

1. Loosen the cleaner head belt idler pulley located on the 7-pin side.
2. Move the oil head assembly to the center of the lane machine in line with oil head assembly in the conditioning compartment
3. Locate the new head belt assembly in the kit. Cut a length of belt that will fit in the channel of the new head assembly from edge to edge as shown.

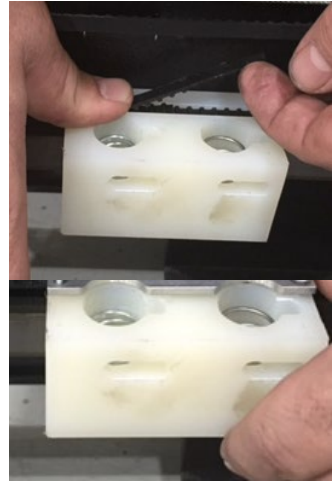


You will be routing the new belt through the 7 and the 10-pin side walls to have both ends meet at the head block assembly to be fastened down by the new plate assembly in the kit.

4. Route the belt through the top hole of the 10-pin wall and around the pulley located on the outside of the machine. Pull the belt through until you reach the head assembly.
5. Take the other end of the belt and route it through the top hole on the 7-pin side and around the idler pulley located on the outside of the lane machine. Once wrapped around the pulley, pull it back through the bottom hole and meet up with the other end. **MAKE SURE THERE ARE NO TWIST'S IN THE BELT.**



6. Place two small drops of super glue in the channel to help hold the belt in place while assembling.
7. Take one of the ends and lay it halfway in the bottom of the channel. Take the other end and pull tight overlapping the other end. Cut the excess off to make it meet flush with both ends. Now lay that end in the channel.
8. Take the piece that you cut earlier in step 3 and lay it over the two split ends so that the cogs of the belts mesh with each other.
9. Locate the new plate assembly from the kit and pinch the assembly all together as shown.
10. There should be some slack in the belt. With the conditioner head assembly in alignment with the cleaner head assembly, push the idler pulley assembly on the 7 pin side away from the lane machine to tighten, ensuring that there is no movement of the head while tightening. **THIS MUST BE EXACT**, take your time and triple check this step before continuing.



SPRING AND HOSE GUIDE ASSEMBLY

1. Drill an 11/32" hole directly above the existing fitting in the 7-pin side panel. After deburring the hole, insert the grommet from the kit into the hole.

Drill 11/32" hole and insert grommet

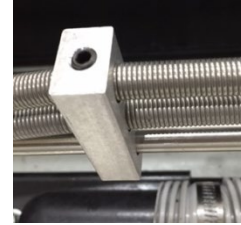


2. Remove the Cleaner hose assembly from the quick connect fitting from inside the 7-pin side wall. (Any cleaner in your tip will leak out so it may be necessary to place a towel around the tip)
3. Loosen up the set screw that holds the cleaner hose guide spring in place and remove the spring from the block.

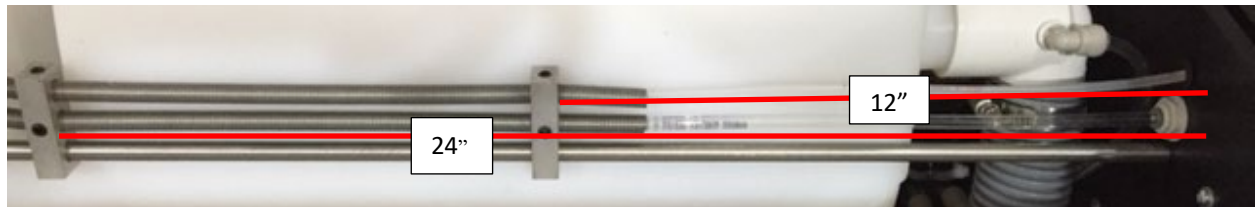


4. Loosen up the set screw located on the bottom side of cleaner hose mount block assembly.
5. Remove the screw located on the 10-pin side that holds the cleaner tube rod assembly to the frame. On the 7-pin side, loosen and remove the screw all the way from the cleaner tube rod assembly.
6. Remove the cleaner rod assembly from the machine and slide both of the cleaner hose mount blocks from the cleaner tube rod assembly by sliding off towards the 7pin side.

7. Locate the new cleaner hose mount block assemblies from the kit and slide them onto the cleaner tube rod assembly. The new block assemblies have 3 holes and will slide onto the cleaner hose rod assembly through either hole on the outside of the block, as shown to the right.



8. Fasten the rod assembly back into place.
9. Using your allen wrench, fasten the cleaner hose mount blocks into place with one block 12", and the other 21" inches from inside of the 7-pin side wall assembly.



10. Insert the old cleaner hose guide spring into the BOTTOM hole of the mount block assembly until there is 1 1/2" pushed through the hole. Locate the new Treatment hose guide spring from the kit and insert it into the TOP hole of the mount block assembly as shown.
11. Fasten the set screw down on both spring guides with enough pressure to hold them in place in the block but not enough to crimp the tubing.
12. Route the cleaner hose assembly through the bottom spring and into the quick connect fitting that is mounted on the side wall.
13. Locate the Treatment hose assembly from the kit and route it through the top spring and through the grommet that was installed in the earlier steps. Pull all the way through and leave for now.
14. Insert the Treatment hose assembly into the dual head block on the 7-pin side and the cleaner tube assembly into the 10-pin side of the head block assembly.
15. Adjust the collar on the Treatment hose assembly as you would the cleaner hose assembly. This is done by having the tip flush with the front panel and not extending beyond it. The curve of the Treatment hose tip assembly, when inserted into the head, should be bent towards the duster cloth as shown.



REMOVAL OF OIL TANK ASSEMBLIES

1. Take a towel and place under the two oil fittings in the lower corner. Undo the two fittings allowing any oil left in the line to drip onto the towel. (shown right)



2. Unfasten the thumbscrew at the top of the oil plate assembly and tilt forward. Lift the oil assembly up and rest the assembly carefully on the head bar. Disconnect the two Molex plugs on the right side of the assembly. You can now remove the assembly from the machine and set aside.

REMOVAL OF HEAD BAR AND TRACK ASSEMBLIES

To gain the area needed to drill the holes in the wall, it will necessary to loosen up the Head Bar and Track assembly and lay them in the machine out of the way.

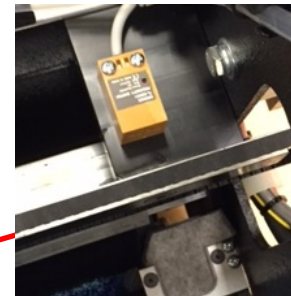
1. Remove the two screws fastening the track to each block on the left and right side and lay the track in the bottom of machine.

Track Screws



2. Remove the 3 head bar bolts with a 5/32" allen wrench. There will be one on the right (as shown in picture), one in the middle, and one on the far left.

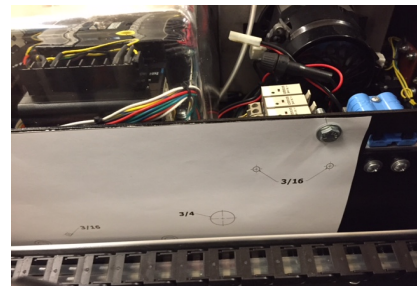
Head Bar Bolts



DRILLING HOLES IN THE MACHINE

ALWAYS BE CAREFUL WHEN DRILLING INTO THE LANE MACHINE. MAKE CERTAIN YOU ARE CLEAR OF WIRES AND OTHER POSSIBLE ITEMS THAT CAN BE DAMAGED.

1. Locate the drill template from the kit.
2. Using your utility knife, cut the drill template in half so that the line on the template will be in line with the top of the inside panel as shown.
3. Your first hole to drill will be located in the upper right corner of the inside panel. This measures 6 1/4" from the inside wall and 1/2" down. Mark the drill spot with a punch or scribe and lay a towel below the drill hole to catch any metal shavings that fall. Drill a 1/4" hole.
4. Take the template and bolt into place using the 1/4" hole. Mark all the remaining holes using a hole punch or scribe.
5. Remove the plastic cover over the electrical components. Remove the three (3) screws that hold the center electrical panel in place.



6. Refer to the template as to what size to drill the remaining holes. And again, always be careful when drilling into the lane machine that there are no wires that can be damaged.
7. After drilling the holes, take a deburring tool and clean up the sharp edges. Remove the towels and the metal debris. Use an air compressor to blow out the machine free from any metal that may be left.

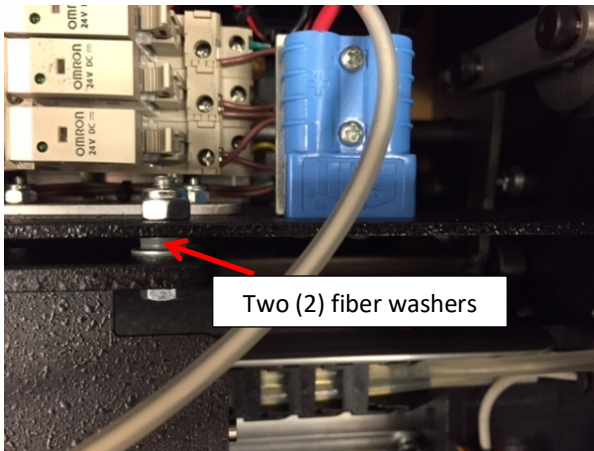
ASSEMBLY OF SOLENOID AND CARTRIDGE HARDWARE

1. Insert the 1-1/8" rubber grommet into the 1" hole that was drilled.
2. Insert a ¼-20 bolt with a washer through the hole in the corner of the solenoid assembly. Place a washer along with two fibers (to be used as spacers). Then bolt it into place where the ¼" hole was drilled fastening snug with a locknut.

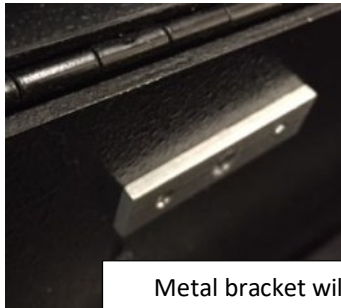
BEFORE installing the relay base in the step below, mark the following wires from the supplied relay base to make wiring easier in future steps

White wire from the bottom terminal of the middle relay
White wire from the middle terminal of the middle relay
Green/Blue wire from bottom terminal of the middle relay
Green/Blue wire from bottom terminal of the middle relay

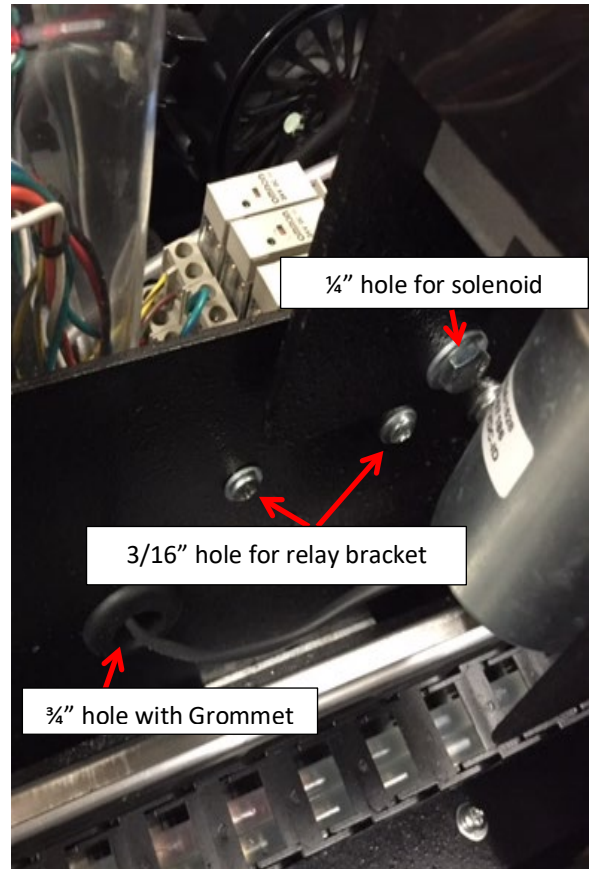
3. Take 2 of the 8-32 screws with a lock washer and washer and mount the metal relay bracket where the (2) 3/16" holes were drilled below the ¼" hole on the right side of the template.
4. Push the Molex plug with wires from the solenoid through the grommet and plug into the Molex plug from the relay assembly.
5. Take (2) 8-32 screws with a lock washer and washer and mount the metal relay bracket where the (2) 3/16" holes were drilled below the ¼" hole on the right side of the template.
6. Take the other (2) 8/32" screws and fasten the metal bracket that will hold the knurled fastener in place. Place the metal bracket into the ½" hole from the front side of the panel, while fastening into place from inside under the electrical panel on the opposite side. As shown on the following pic.
7. Insert a ¼-20 bolt with a washer through the hole in the corner of the solenoid assembly. Place a washer along with two fiber washers (to be used as spacers) and bolt it into place where the ¼ " hole was drilled fastening snug with a locknut.



Two (2) fiber washers



Metal bracket will fasten into the 1/2" hole from the inside

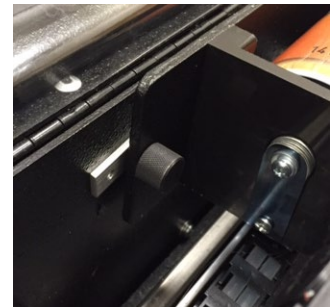


1/4" hole for solenoid

3/16" hole for relay bracket

3/4" hole with Grommet

8. Take the knurled thumb screw from the kit and fasten the solenoid assembly into place as shown to the right.

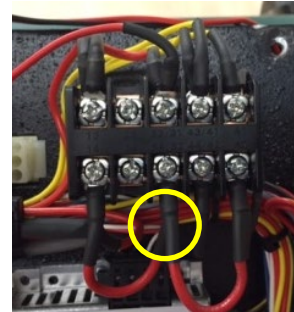


WIRING THE RELAYS

1. Remove the Orange wire on output terminal 100.07 and cut the terminal off. Attach the Orange wire from the relay kit, in its place.
2. Remove the Yellow/Blue wire on output terminal 100.06 and cut the terminal off. Attach the Yellow/Blue wire from the relay kit in its place.
3. Route the Green/White wire with the spade connector on it, around the PLC and to Input terminal 04 along with the existing Green/White wire.
4. Route all the remaining wires under the wire bundle on the output side of the PLC and route them under the electrical panel.

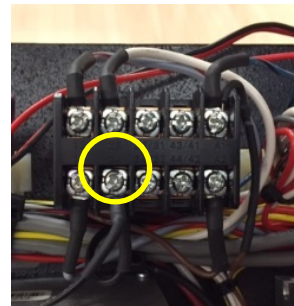
5. Snip the connectors off the Orange wire and the Yellow/Blue wire that were removed from the outputs in step 1 and 2. Route these with the bundle from the relays to under the electrical panel.

6. Take the Orange wire that was snipped and wire nut it together with the Orange wire from the bundle. Take the Yellow/Blue wire that was snipped and wire nut it together with the Yellow/Blue wire from the bundle.

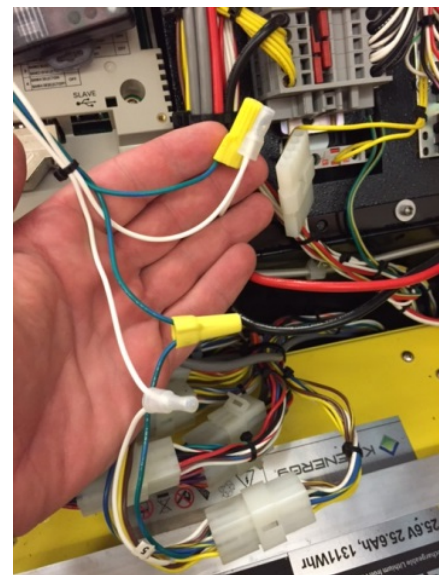


7. Take the Red wire with the spade connector on it and run it over to the 24VDC Power Relay located on the right and connect it on the top middle terminal labeled 33/31.

8. Take the Black wire with the spade connector on it and run it over to the 24VDC Vacuum Relay located on the left and connect it to the bottom terminal labeled 24.



9. Under the electrical panel, locate the 9-pin molex connector. This will have a White wire in the #5 center position and a Green/Blue in the #4 spot. Cut both the White wire and the Green/Blue wire approximately 6" up from the Male plug with female pins.



10. Take one of the White wires from the bottom terminal of the middle relay and wire nut it to the White wire that was cut going to the plug. To help trace the wire you may want to use a voltmeter here to test continuity

11. Take the other White wire from the middle terminal of the middle relay and wire nut it together with the other end of the White wire that was cut from the plug.

12. Take the Green/Blue wire from the bottom terminal of the middle relay and wire nut it to the Green/Blue wire that was cut going to the plug. Take the other Green/Blue wire from the middle terminal of the middle relay and wire nut it together with the other end of the Green/Blue wire that is part of the wire bundle going up towards the relays. As a check, with the fuse and relay removed, the bottom Green/Blue wire will have continuity to the Molex plug. The Green/Blue wire in the middle terminal will have continuity to the wire nut for the wire going to the wire bundle.

13. Once installed, carefully lift the electrical panel up and down to ensure that the wires will not be pinched. Use the supplied wire ties to pull them free of any contact with the panel.



ROUTING OF PINDECK TREATMENT HOSE

1. Remove the green plug located on top. Take a towel and lay across the speed control board to protect it from metal shavings.

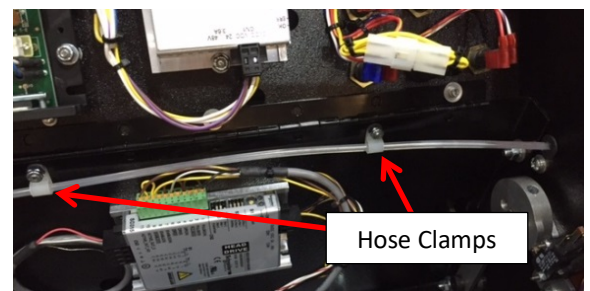
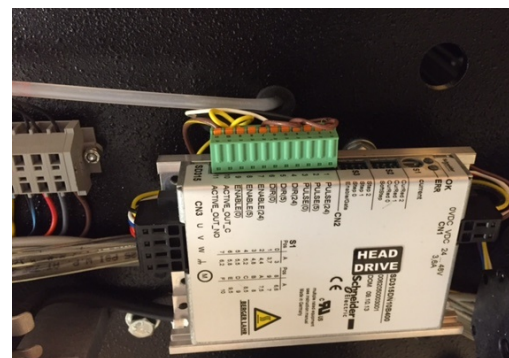
2. The hole does not have to be exact, but it should be in the middle of the plug and directly behind it.

3. Drill the 11/32" hole and deburr. Insert the 3/8" grommet.

4. With the electrical compartment open, run the tubing through the grommet in the 7-pin side wall and through the hose clamps that will need to be installed from the kit.

5. The hose clamps will be fastened to the existing hardware holding the electrical panel hinge in place as shown. There will be a total of four.

6. Once all the way through the take the fitting from the kit and place it on the end of the tubing and connect to the cap.



INSTALLING THE PINDECK TREATMENT BOTTLE

1. Remove the black cap from the new bottle.
2. Take the machine cap from the bag and press down firmly straight on to the top of the bottle.
3. Remove the small protective insert on top of the machine cap.
4. To protect the inside for any potential spills, slide the lid so that it closes enough to cover the center compartment.
5. Pull back on the holding lever and place the bottle in place with the spray nozzle facing in the up position as shown to the right.



Attach the pin deck treatment hose assembly to the nozzle of the can by pressing firmly on the fitting as shown to the right.

6. Before placing the can into the machine, place a rag around the cap and remove the protective cap after installing the actuator cap and press down to break the plastic on the actuator button.
7. After installing the can, you will need to prime the pin deck treatment line to insure proper flow during operation.



PRIMING THE LINE

1. To prime the line, you must first remove the tip and hose assembly from the head block located in the cleaning compartment and remove the black tip cover as shown.



PLEASE READ THE IMPORTANT INFORMATION LOCATED IN CHAPTER 3 OF THE OPERATORS MANUAL

2. Place the tip assembly into a cup or empty water bottle and turn the pin deck treatment solenoid on through your Output feature located in the Menu. (refer to Section 6)
3. continuously press the output key for pin deck treatment until you see a steady stream from the tip assembly.
4. Now that you have a steady stream, this function is ready to go. Replace the black tip cover immediately after priming if not being used.

REPLACING BOTTLE

SPILLAGE CAN OCCUR!

THIS JOB SHOULD BE DONE ON THE SHOP FLOOR, OR DESIGNATED AREA

1. With the hose assembly still attached to the nozzle, pull the holding lever back and lift the bottle up and out of the compartment.
2. Before removing the cap and hose assembly, help free up the cap from the bottle by twisting the cap back and forth on the bottle as shown. (shown without hose attached)
3. Remove the cap and hose assembly as one by pushing up on the assembly as shown to the right. (shown without hose attached)
4. Place the cap and hose assembly on top of the new bottle and push firmly on the outside portion of the cap to attach it to the stem. Be careful to not press the center button during this process! You will have a sticky mess to clean up!
5. Now that the bottle has been properly installed, refer to the PRIMING THE LINE section of these instructions.

