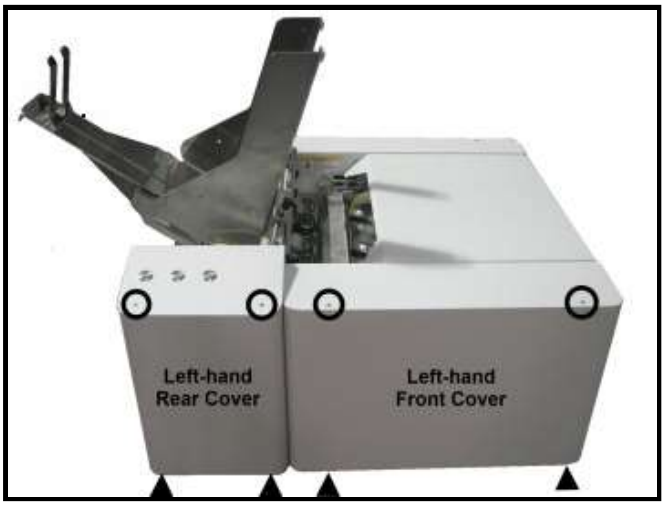
Removing the Print Engine

Note: There is a “service video” available for this procedure.

1. Open the Top Cover. Open the Toolbox, press the Release Printhead button. Printer will "deprime" pumping all the ink back to the ink tanks, then the Printhead Cover will open. Remove the Printhead Cartridge and carefully put it back in the original packaging. Shut the printer down by first pressing the Control Panel Power button, then the Main Power switch on the rear panel. Unplug the unit.

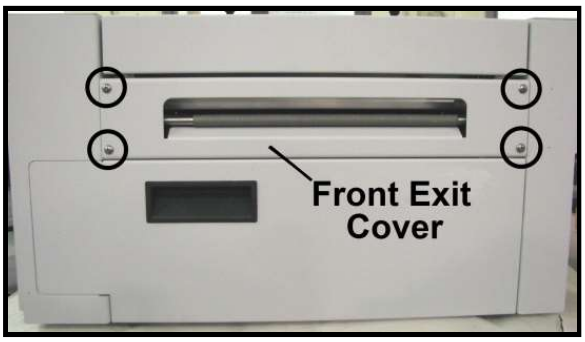
2. **Remove the Left hand Rear Side Cover** by removing the (2) screws at the top and bottom of the Cover.

3. Remove two screws at the top and bottom of the Front Left-hand Side Cover. Pull Cover away from machine slightly.



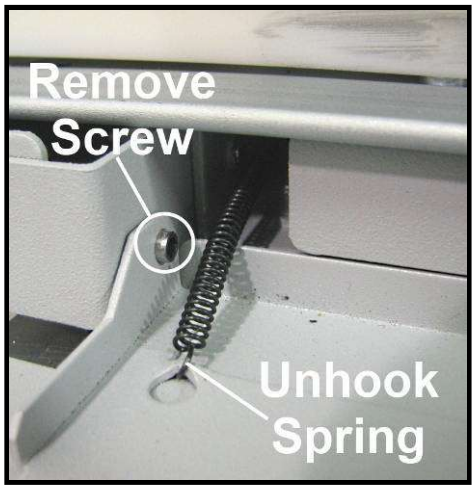
4. **Remove the Right-hand Side Cover** by removing the (3) screws at the top of the Cover. Then remove the (3) screws from the bottom of the Cover.

5. **Remove Front Exit Cover** by removing (4) screws.



6. **Remove Ink Tank Door.** Carefully unhook the (2) springs (*one each side*), then remove the mounting screw from the left-hand side (Control Panel Side). Remove Door and set aside.

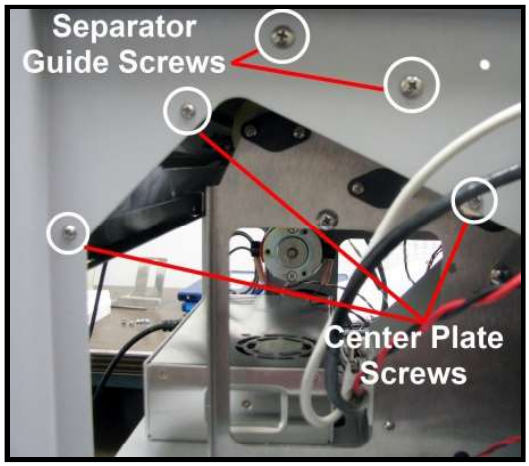
   Tip: To save time; you can skip this step. Ink Tank Door will be released once you remove the operator side-frame (step 12).



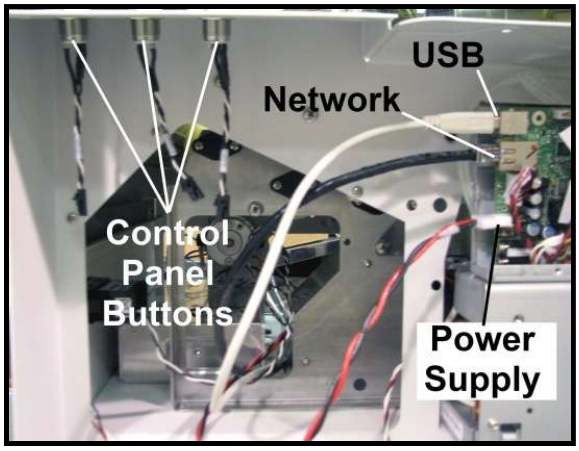
7. **Remove Top Cover.** Remove "cover pivot screw", at non-operator side. Remove Top Cover and set aside.

   Tip: To save time; you can skip this step. Top cover will be released once you remove the operator side-frame (step 12).

8. **[A]** Remove the (2) screws holding the left-hand side Media Separator Guide.
   [B] Remove the (3) screws on left-hand side of the machine that hold the Center Plate in place.



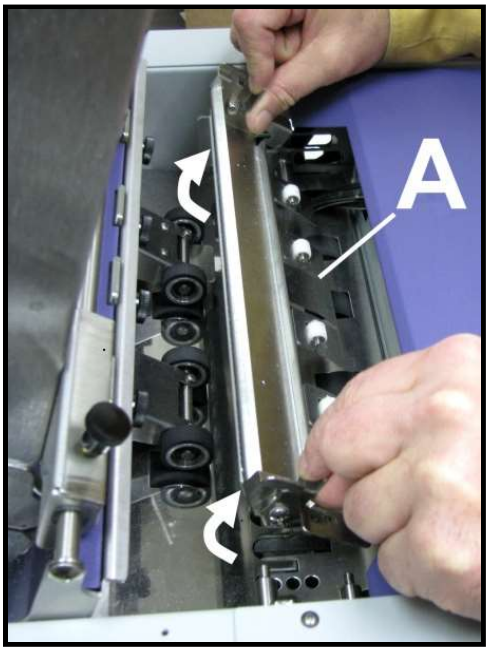
9. Unplug Network, USB and Main Power connectors from Print Engine Circuit Board. Disconnect the wires attached to the Power, Paper and Cancel Buttons at connectors. **NOTE:** Wires are labeled to simplify reconnection.



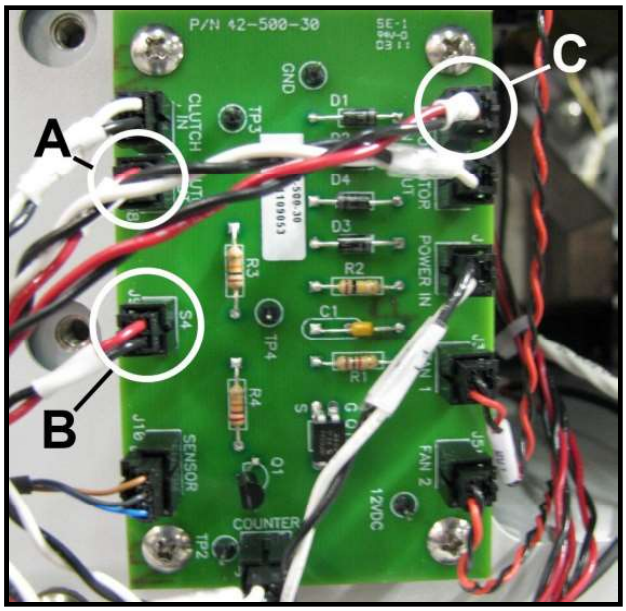
10. Remove Antistatic Brush Assembly **[A]** from mounting studs. Unlatch the two latches (*one on either side of the Assembly*) and lift the assembly off the four mounting pins as shown. **Do not bend the brushes!**

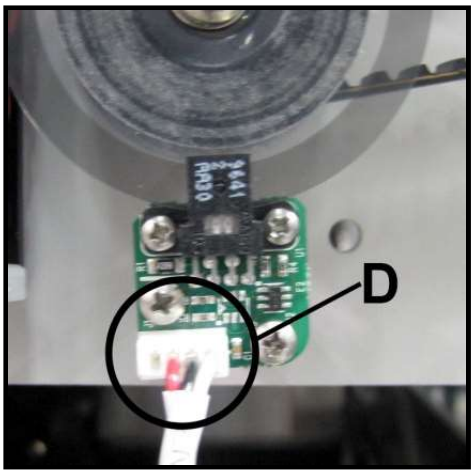
CAUTION
DO NOT BEND, PINCH OR CUT THE INK LINES LOCATED DIRECTLY IN FRONT OF THE BRUSH ASSEMBLY.

NOTE – Make sure Brush Assembly is correctly reinstalled and aligned before starting to print. Assembly should sit flat on transport area surface.

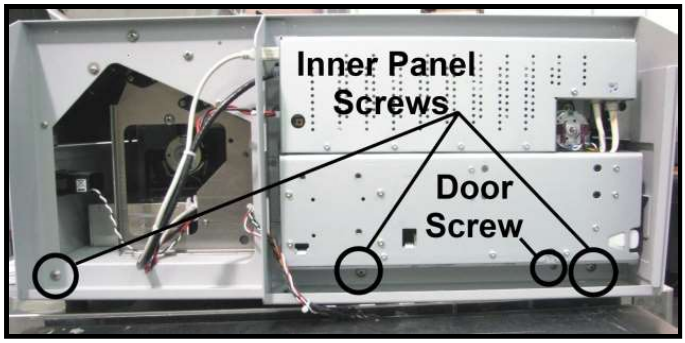


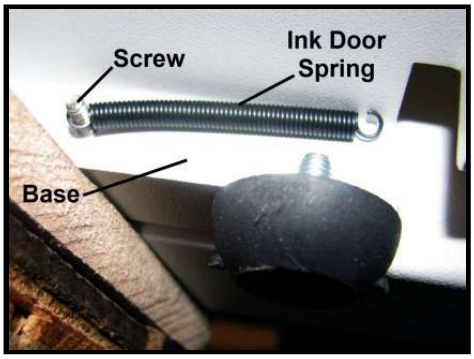
11. Disconnect the following wires from the Interface Printed Circuit Board located on the right hand side of the Printer Frame.:
[A] Clutch Out (J8),
[B] S4 (J9)
[C] Motor In (J2).
NOTE: Connector location **[C]** on Rev B boards is different than shown here.
[D] Disconnect the Encoder wire from the Encoder Printed Circuit Board. Pull these wires clear from the other wiring so they won't snag when the Print Engine is removed.



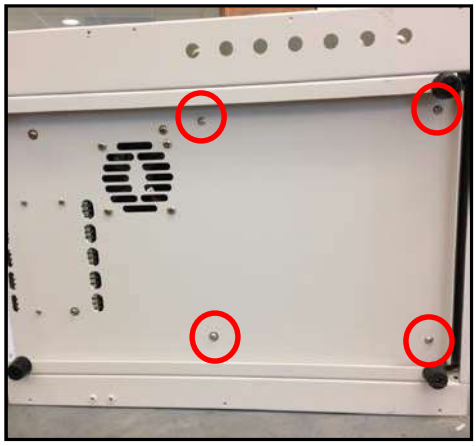


12. Remove Left-hand Inner Side (operator side) Frame (3 screws). Remove the Ink Tank Door Spring mounting screw. First remove the Door Spring attached to the screw under the Base Plate. Then remove the screw. Then carefully remove the Inner Side Frame from around the Print Engine and Ink Lines. **NOTE: be careful not to lose the Ink Door Spring.**



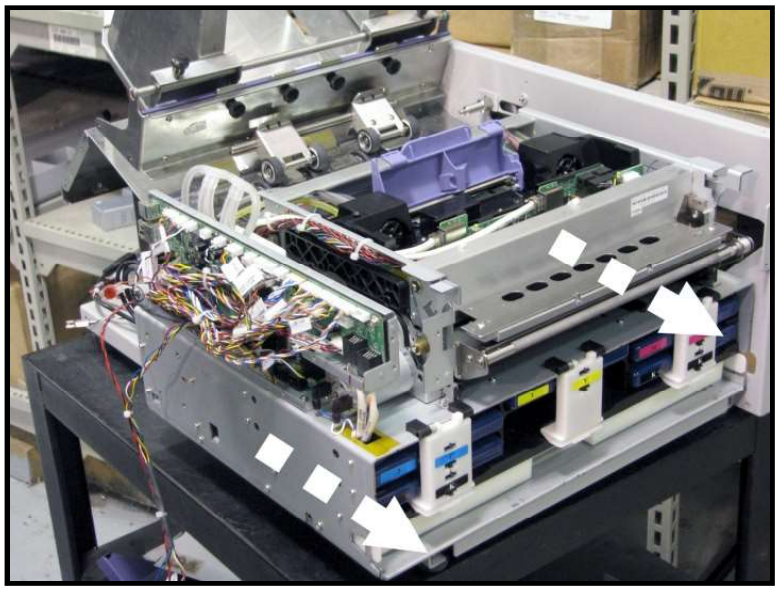


13. Slide the printer off the side of the work table so you can reach underneath to access and remove the four Allen screws; securing the Print Engine to the Base Plate.



NOTE: The image above shows a printer on its side to help identify screw locations only. This is NOT the suggested way to access and remove these screws.

14. Carefully slide Print Engine out of Printer. (Print Engine is entire unit including the Ink Station)



15. Reassemble in reverse order.

IMPORTANT!

WHEN REINSTALLING THE PRINT ENGINE, MAKE SURE THAT THE ALIGNING PINS ARE FLUSH WITH EACH OTHER WHEN THE PRINT ENGINE IS PUSHED AGAINST THE FRONT CENTER PLATE ASSEMBLY. EVEN A SLIGHT MISALIGNMENT MAY CAUSE FEEDING AND PRINTING PROBLEMS. ALSO BE CAREFUL NOT TO PINCH WIRES OR INK TUBES IN THIS PROCESS.

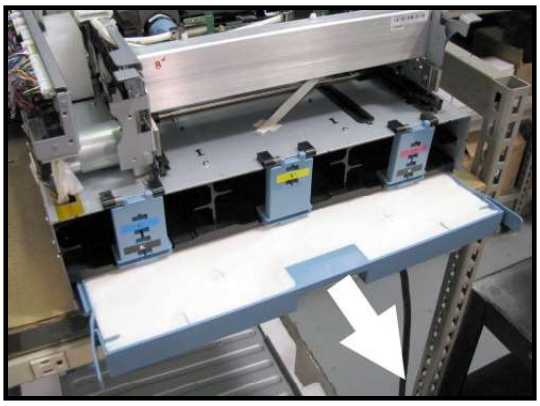
Print Engine Basic Disassembly

The Print Engine must be removed from the Printer for these procedures. See "Removing the Print Engine" in previous pages. It is also assumed that the ink tanks, printhead and service station are removed.

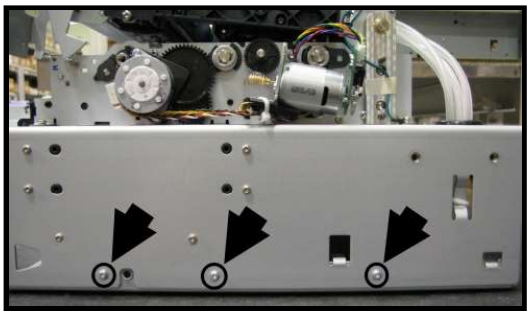
Removing the Print Engine Base

Provides access to parts located underneath the Print Engine.

1. **Remove Ink Waste Tray** from below Ink Reservoirs and put aside.



2. **Remove Engine Base.** Remove (6) T-10 screws, (3) on each side) of the Print Engine Assembly. **(Set aside for reassembly).**



Print Engine Components -- Underside

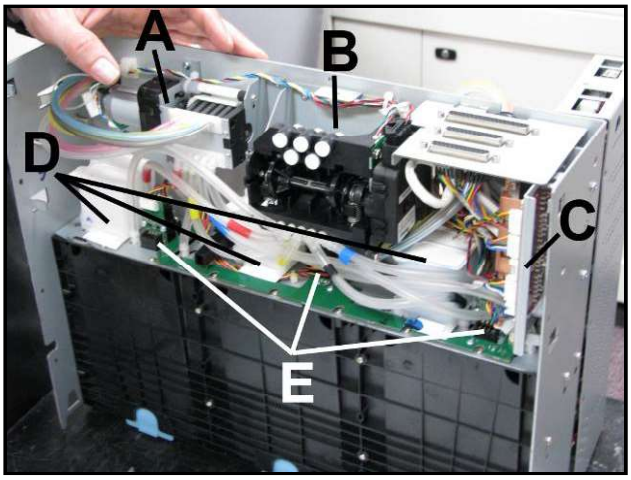
[A] Peristaltic Pump

[B] Dual Pinch Valve

[C] DPCA Board

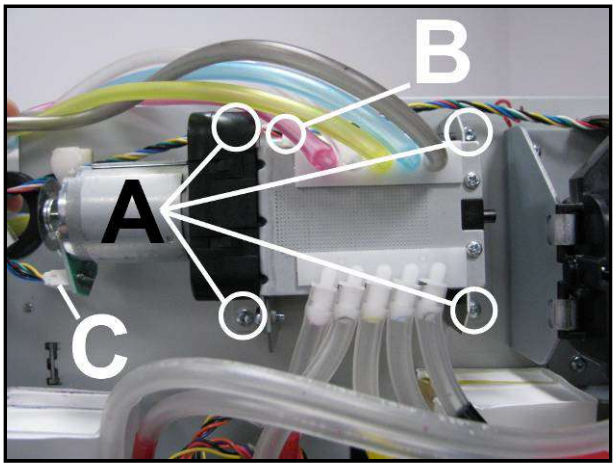
[D] Buffer Boxes (3 Sets of 2)

[E] Q/A Chip Assembly for Ink Tanks (3 – one per Buffer Box)



Replacing Peristaltic Pump Assembly

Remove old Pump Assembly:



[A] Remove (4) screws that hold bracket to chassis.

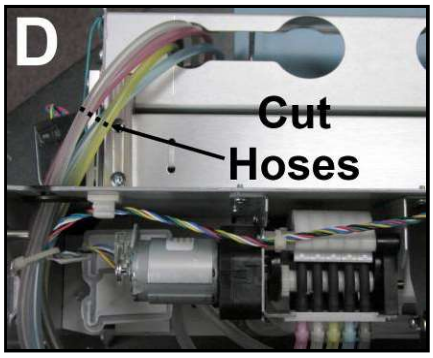
[B] Cut cable tie holding wiring harness to Assembly.

[C] Unplug connector from pump motor circuit board.

[D] Cut as shown or remove hoses from barbs. **IMPORTANT! Make sure you know where each ink hose connects**.

Remove old Pump Assembly.

Install new Pump Assembly:



Plug wire connector into new Pump Assembly Motor circuit board **[C]**.

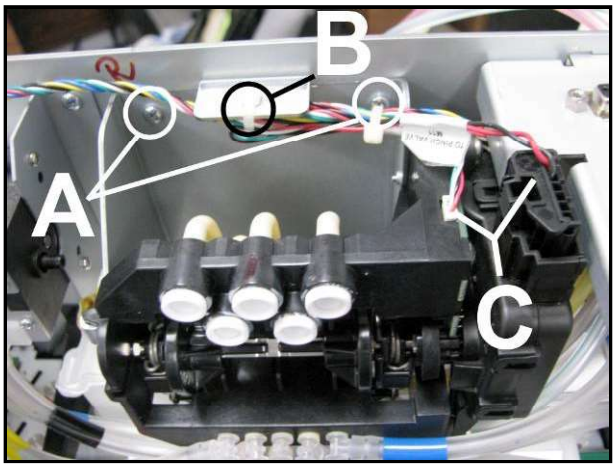
Attach to chassis with (4) screws **[A]**.

Cable tie wire harness to assembly as shown in Step 1 **[B].**

Attach ink hoses in order shown to hose splice connectors (*included with kit*) **[D].**
IMPORTANT! Make sure you know where each ink hose connects for reassembly.

Replacing Dual Pinch Valve Assembly

Remove old Valve Assembly:



[A] Remove (4) screws that hold bracket to chassis.

[B] Cut cable tie holding wiring harness to top flange on Bracket Assembly.

[C] Unplug the (2) connectors from the Valve Assembly.

[D] Disconnect ink hoses. **IMPORTANT! Make sure you know where each ink hose connects**.

Remove old Pinch Valve Assembly.

Install new Pinch Valve Assembly:

Plug wire connectors into new Pinch Valve Assembly **[C]**.

Attach to chassis with (4) screws **[A]**.

Cable tie wire harness to top flange on Pinch Valve Assembly as shown in Step 1 **[B]**.

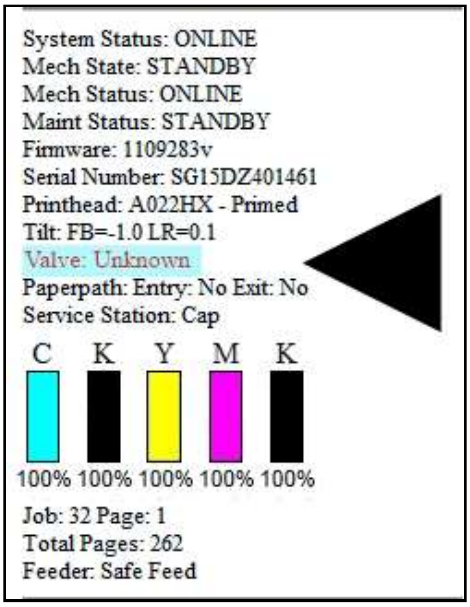
Attach ink hoses in order shown to hose splice connectors (*included with kit*) **[D]**.

Cleaning Dual Pinch Valve Sensors

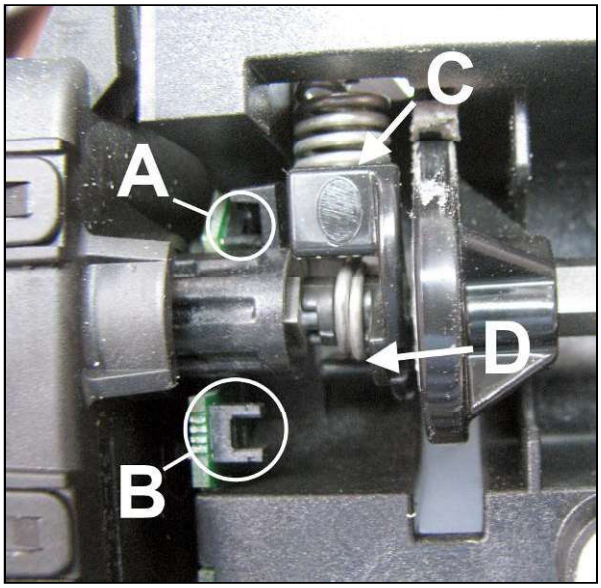
If **"Valve: Unknown"** appears for other than a few seconds in the **"Valve:"** line of the Printer Toolbox, it may indicate that the DPV Sensors are blocked (dusty/dirty).

The Print Engine must be removed and turned on its side for this procedure. See **"Removing the Print Engine"** on previous pages.

CAUTION! Please be sure the Waste Ink Tray and Service Station are removed from the Print Engine, before turning the print engine on its side. This will help reduce the chance that waste ink will run out of these items and into areas it should not be; causing damage and creating allot of cleanup time. Try to finish this procedure as quickly as possible.
Once the print engine is upright again, re-install the Waste Ink Tray as soon as possible.



1. **Remove the Print Engine Base.**
2. **Locate the Dual Pinch Valve (DPV) Assembly.**
3. Use canned air to blow the debris off the two Sensors **[A & B]** located on the DPV Sensor PC Board.
4. As a preventive measure, apply a small amount of Super Lube 21030 grease (or equivalent) to the space between the springs and the DPV Adaptor **[C & D]**. (*You will need a small brush or toothpick to reach these small, tight areas*.)



CAUTION

DO NOT GET GREASE ON THE SURROUNDING AREAS INCLUDING THE DPV SENSOR PC BOARD, SENSORS OR SENSOR FLAGS.

Replacing Dual Pinch Valve Sensor PC Board

The Dual Pinch Valve Sensor PC Board Replacement Kit (**42-900-85**) includes a new Sensor Printed Circuit Board, three (3) metal Inserts and a Pinch Valve Wrench.

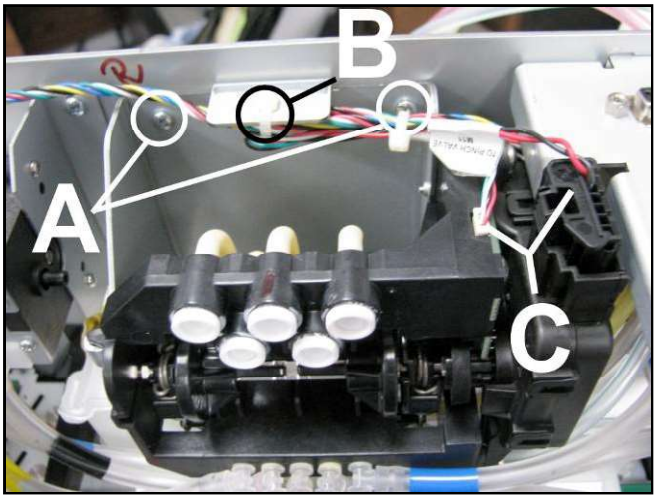
Remove the Dual Pinch Valve Assembly.

[A] Remove (4) screws that hold Bracket to Chassis.

[B] Cut cable tie holding wiring harness to top flange on Bracket Assembly.

[C] Unplug the (2) connectors from the Valve Assembly.

IMPORTANT! Ink hoses are still attached. Carefully pull Pinch Valve Assembly away from chassis without kinking or pulling out hoses.

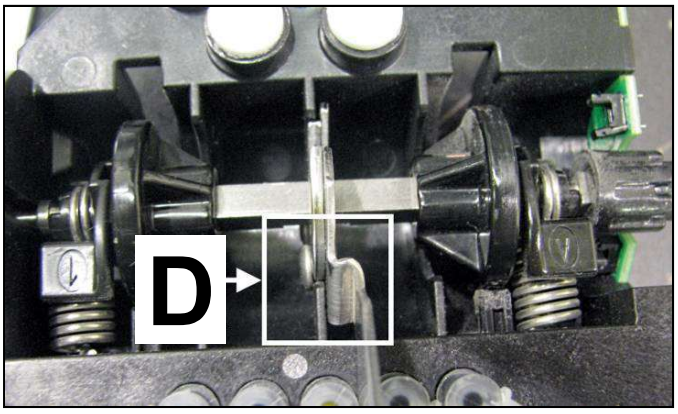


Sensor Board Replacement Procedure

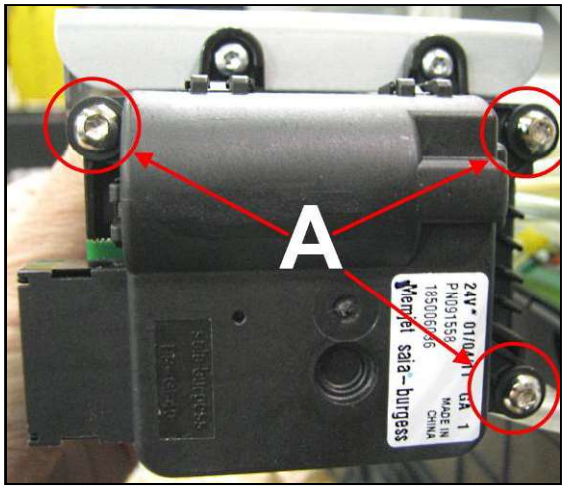
1. **Secure the spring-loaded shaft** using the **Dual Pinch Valve Wrench** included in Kit. Position the wrench exactly as shown.
   The **Pinch Valve Wrench** holds the spring-loaded Pinch Valve Shaft in alignment while the Motor Assembly is detached from the Valve Body.

NOTE: The Wrench fits around the shaft as shown. Please be sure that the Wrench head and the screw head **[D]** fit around the Pinch Valve housing Rib; as shown.

IMPORTANT! Make sure the Wrench is positioned correctly before proceeding. If this step is not done correctly; damage to the Sensors on the Dual Pinch Valve Sensor PC Board may result.

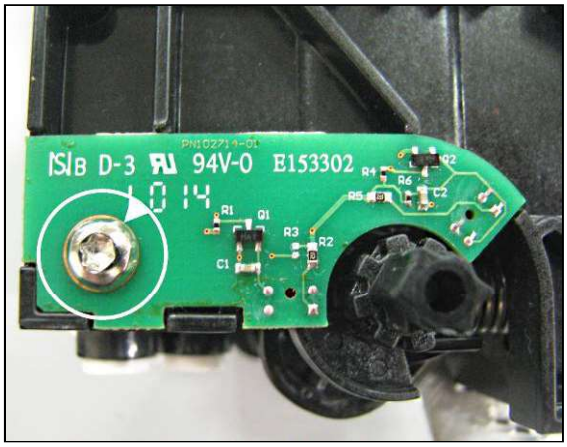


2. **Detach the Motor Assembly.** Remove the three (3) screws **[A]** holding the Pinch Valve Motor Assembly on the Pinch Valve Body. Remove the Motor Assembly.

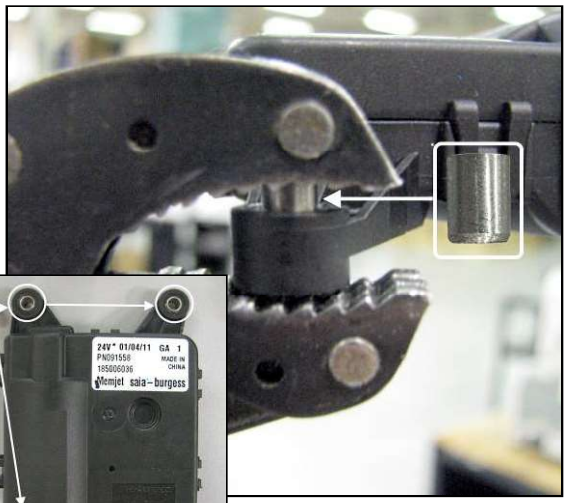


3. Remove the single screw, shown, and then remove the Dual Pinch Valve Sensor PC Board from the Valve body.

4. Install the new Dual Pinch Valve Sensor PC Board using the screw removed in previous. **NOTE:** Make sure the PC Board is installed flush against the Pinch Valve body.

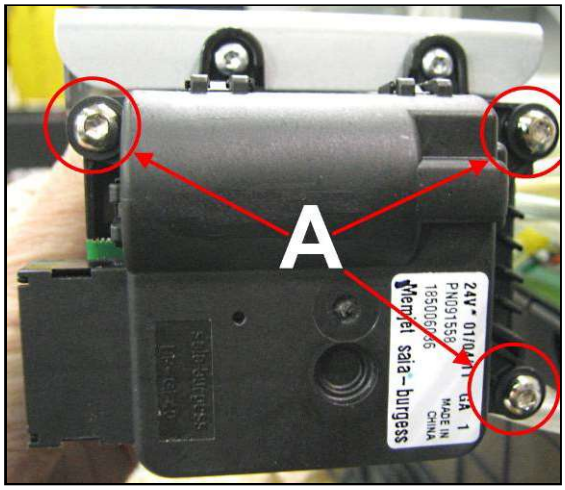


5. **Install (3) metal Inserts in the Motor Assembly mounting holes.**
The **Inserts** are added to align the Motor Assembly with the Valve Body during re-assembly; thereby keeping the Pinch Valve Shaft aligned. Since the Sensor Flag is mounted to the Pinch Valve Shaft, misalignment can cause contact between the Flag and Sensors; causing damage to the sensors.



With the rounded end of the insert facing down, press the three (3) inserts into the Motor Assembly mounting holes as shown.
NOTE: Insert is self-aligning, but to ensure it is evenly aligned with the mounting hole and to prevent accidental damage, use a flat surface (*a flat metal bar for example*) to provide even pressure to press the insert in partially. Then use pliers or another tool to press the insert the rest of the way in.

6. **Attach the Motor Assembly.** Install all three (3) screws **[A]** and then tighten them to secure the Pinch Valve Motor Assembly to the Pinch Valve Body.



7. **Remove the Pinch Valve Wrench.**

8. Reinstall the Pinch Valve Assembly in reverse order.