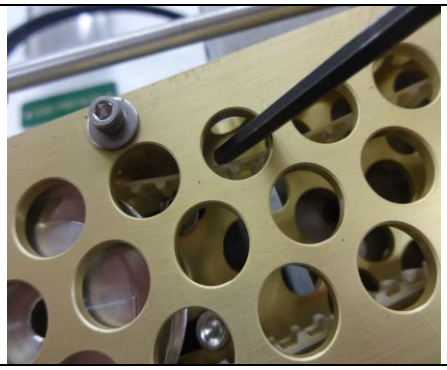
MRT-1046.2 (11/08/17)
Single Solder Pump Maintenance & Repair for Belt & Pulley

Tool List:
Safety Glasses
High Temp Gloves
Standard Allen Wrench Set
Scotch-Brite 3M # 4774
Precision Pick
Tap Handle
10-24 Tap
Phillips Screwdriver
Cleaning Brush
Spatula
5/16” Wrench or Socket
0.254” Reamer

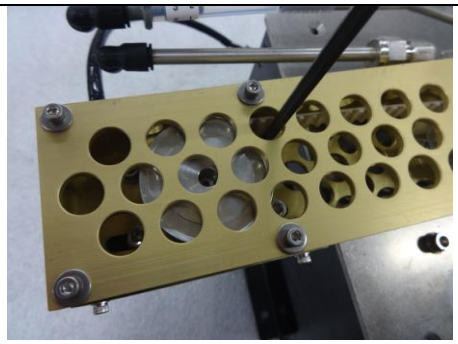
“Always wear safety glasses while performing maintenance on Nordson SELECT solder pumps”

KEEP SOLDER POT CLEAN!!
NOTE: If the Belt runs while too tight it will wear out the graphite sleeve & top cover bushing!
DAILY! Make Sure Belt Tension is checked prior to running!

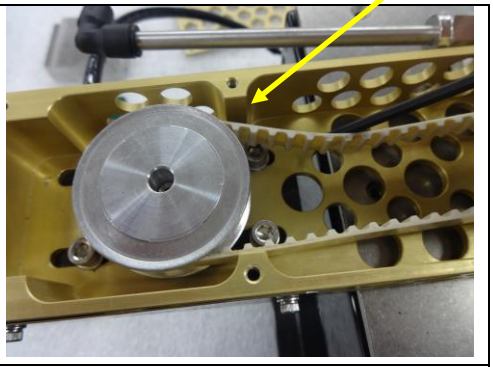
1. Belt Maintenance



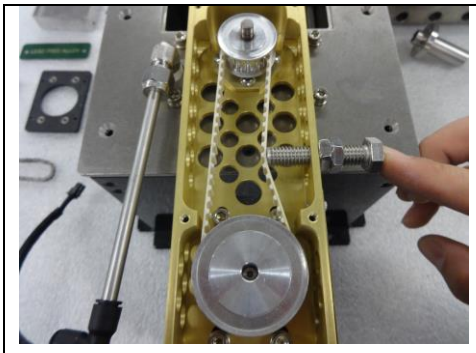
Daily - Verify Belt Tension
while pump is at operating temperature use an Allen wrench or similar device to feel belt tension. Make sure Belt is not too tight or too loose. The belt must have some deflection.
Single Pump Belt
P/N M0239



Adjust Belt Tension
Loosen the 4, 10-32 3/8” motor mount screws using a 5/32 t-handle wrench. (As seen above) **Slide the motor** to get the **proper Belt tension** and tighten the 4 screws firmly. Next check the Belt for approx.1/4” of deflection.

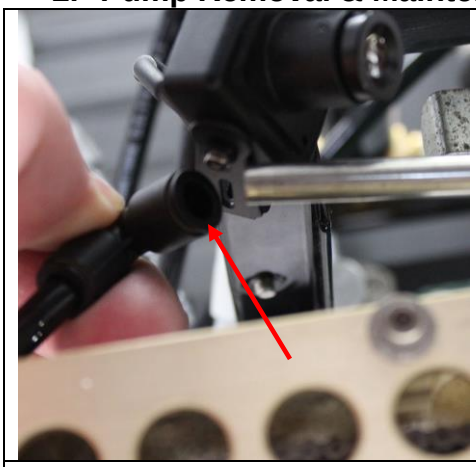
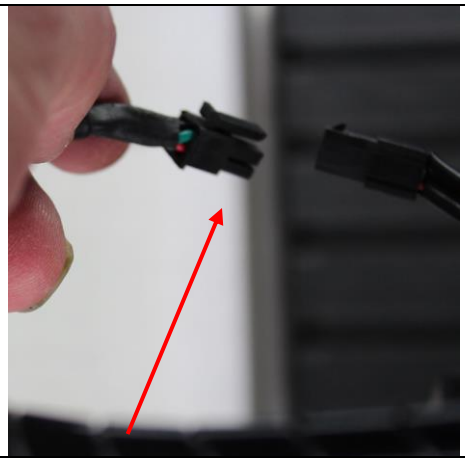
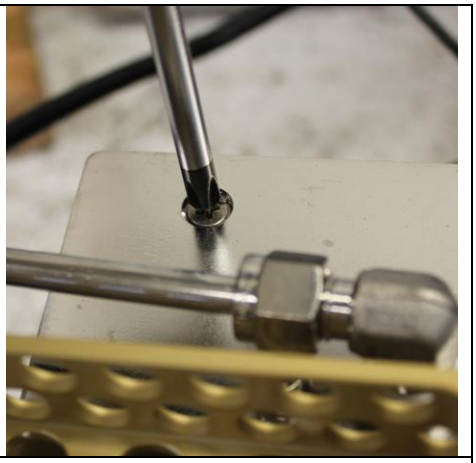


Proper Belt Tension
The belt must have some slack & pull away from the drive cage wall approx. 1/4" as seen above.

	**Note:** The tool being used for belt deflection is a 3/8-16 hex head bolt set at .860” from the jam nut to the end of the bolt and it is not necessary. It is a reference used here at Nordson SELECT for a new pump. The idea of the first picture in this step is the shape of the Belt when you put pressure on it. If the belt is too loose it can cause an unstable solder dome. If the belt is too tight it will wear out the graphite sleeve and bronze bushing prematurely.
The Belt deflection should look as it does here once the motor is tight. Note the hole position & shape of the Belt with pressure applied.	

Note: Turn Motion “Off” at the Machine before disconnecting Pump!

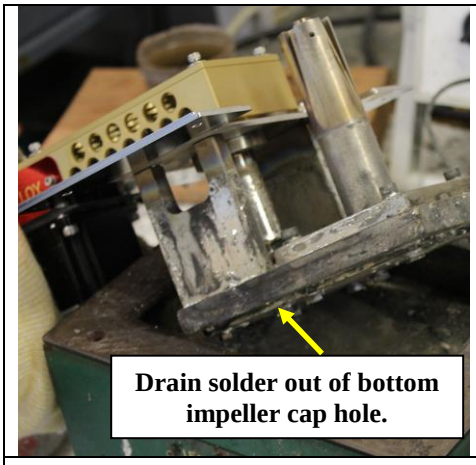
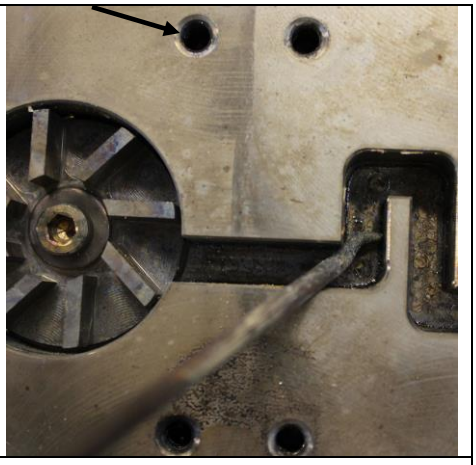
2. Pump Removal & Maintenance

		
Unplug Nitrogen Fitting P/N P0060 **Turn Motion OFF!**	**Disconnect Motor Plug** P/N E0090	**Remove** the 4, 8-32 1/2” screws from **N2 Cover** using a Phillips screwdriver and save hardware.

Always wear safety glasses & high temp gloves while performing maintenance on HOT solder pumps!

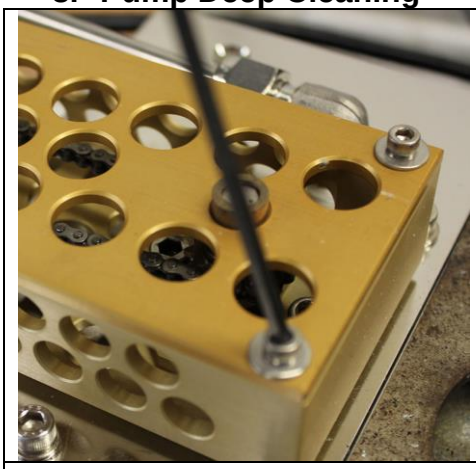
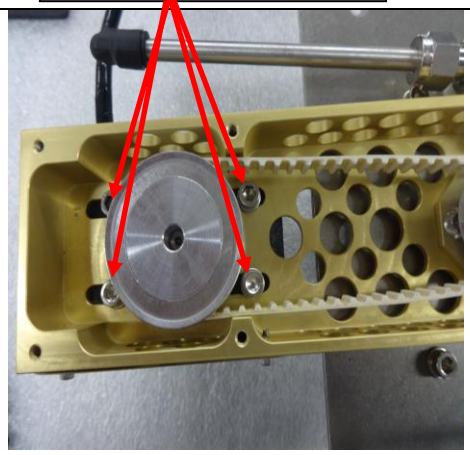
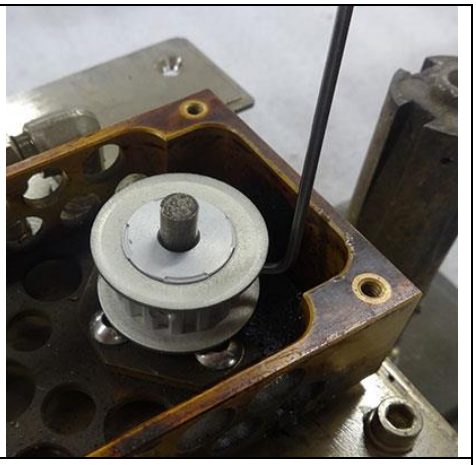
Note: The best practice is to disassemble & clean the solder pump while it is HOT!

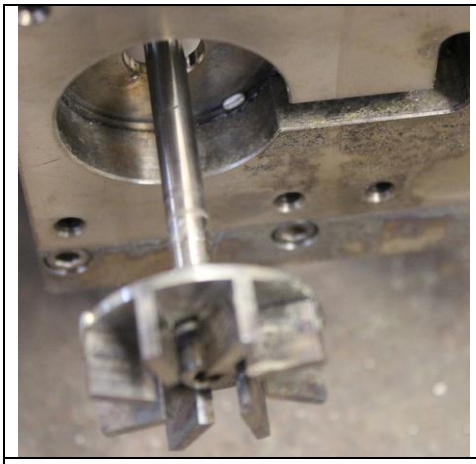
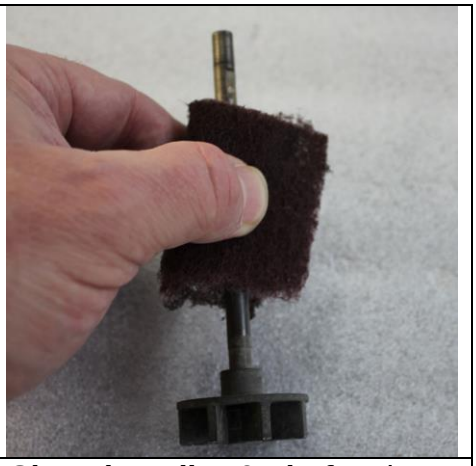
Flush Solder from All screw holes while HOT!

		
Remove pump from tank making sure to **drain all solder** into tank. Remove pump to a **safe** working surface.	**Remove Bottom Impeller cap screws while pump is Hot!** use a 5/16 wrench or socket to remove the 8,10-24 3/8" hex head screws. P/N 10000168 (for Lead Alloy) P/N 10000168T (for Lead-Free)	**Inspect impeller chamber** and **solder channel** for scaling and debris. Clean surfaces using a precision pick. Clean bottom of pump base of all solder and all build up so base is clean and smooth.

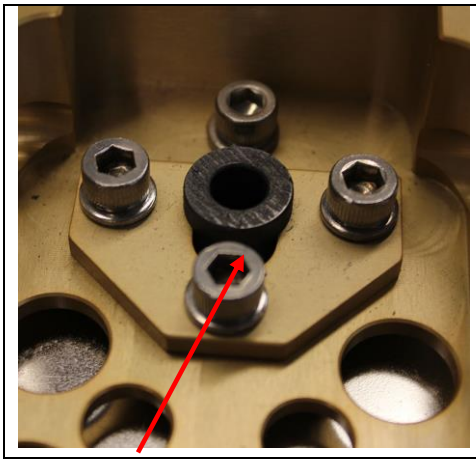
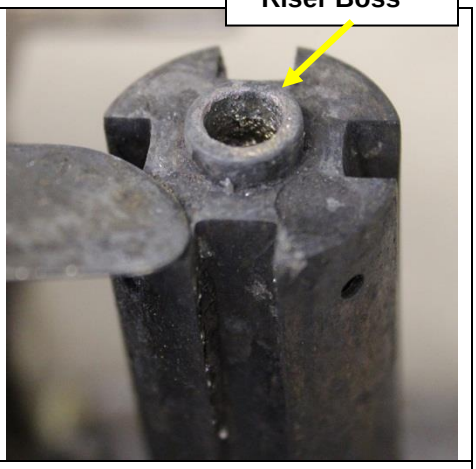
If further cleaning is needed the Impeller must be removed.
See instructions below.

3. Pump Deep Cleaning

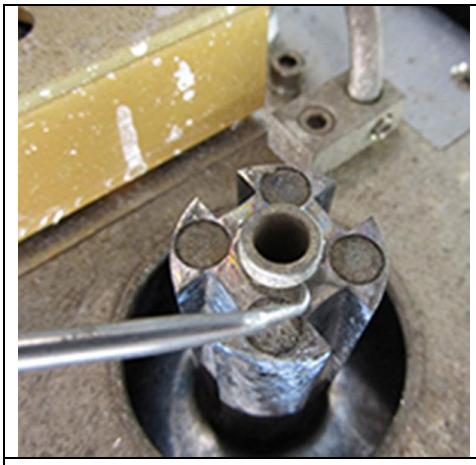
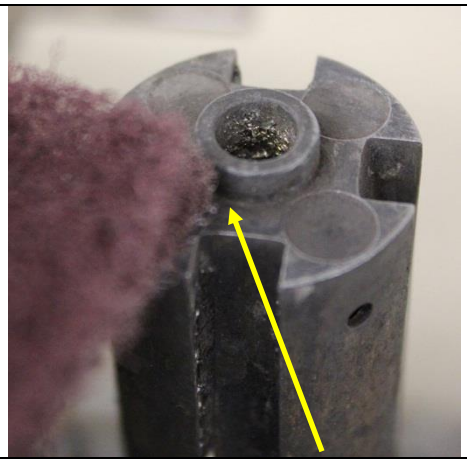
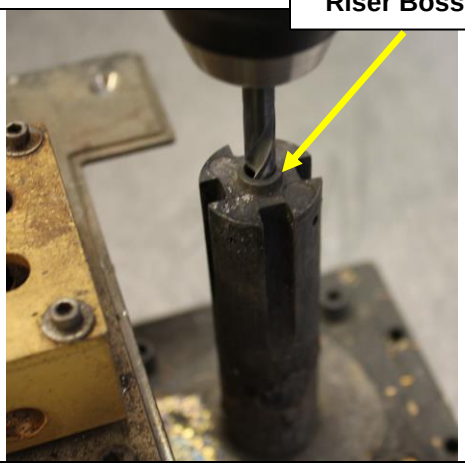
		
Remove Top Cover by taking out 6, 6-32 3/8" socket cap screws w/washers using a 7/64 standard Allen wrench and save the hardware. Top cover P/N 10000184	**Remove Belt** by loosening the 4 motor mount screws using a 5/32 standard Allen wrench or T handle as shown above. Then slide the motor toward the Impeller Pulley and remove the Belt.	**Remove the Impeller Pulley** by loosening 2, 8-32 3/16" set screws using a 5/64 standard Allen wrench. Remove the Pulley and set aside. See instructions below on Pulley installation.

		
Gently slide the impeller out as shown. P/N KISA-SS (for Lead Alloy) P/N KISA-T (for Lead-Free)	**Remove all scaling and debris** from the impeller chamber using a precision pick. A torch maybe used at this point to help remove solid solder deposits.	**Clean impeller & shaft** using a scotch-brite pad as shown above.

Note: It is best practice to **Lightly clear all threads** with the proper tap before re-assembly.

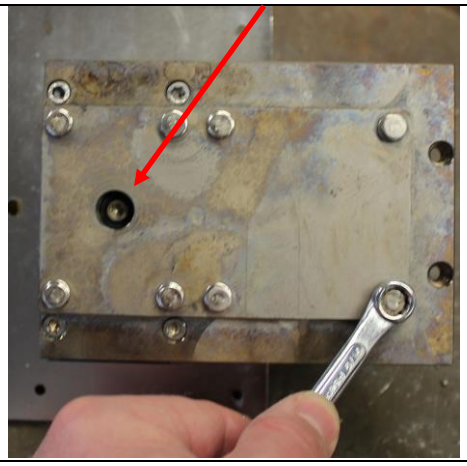
		
Inspect graphite sleeve for cracks and breaks. If damaged it will need to be replaced. **Use MRT-1031** for graphite sleeve replacement. P/N 10000109	**Lightly clear** 8 threaded screw holes in the pump base for the bottom cap using a 10-24 Tap and Tap handle.	**Clean Riser surface** using a spatula or equivalent and gently scrape off all build up around the **Riser Boss** and magnets. P/N 10000105 ASSY (for Lead Alloy) P/N 10000105T ASSY (for Lead-Free)

NOTE: Bottom impeller cap must be removed before reaming the riser!

		
Clean around the Riser Boss using a precision pick so nozzles will seat properly.	**Clean the Riser magnet base** using a scotch-brite pad to thoroughly clean the riser surface so nozzles will seat properly.	**Ream the Riser** using a 1/4-inch drill bit. **Do not hit or nick the Riser Boss!**

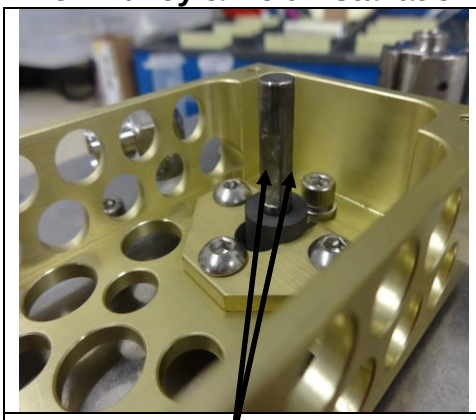
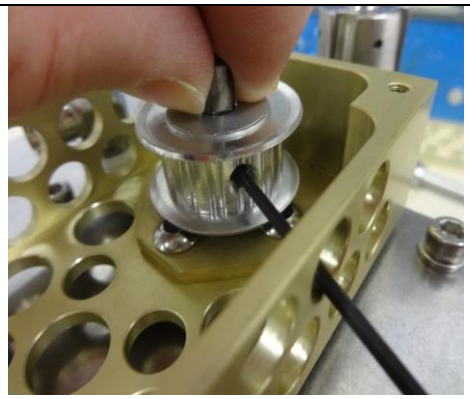
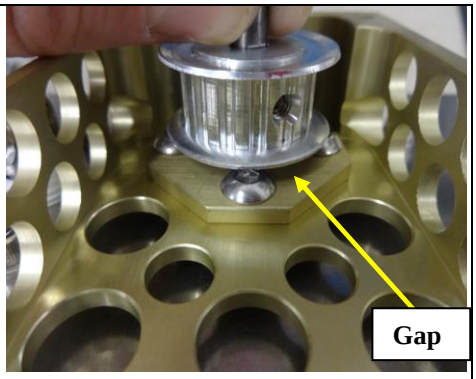
NOTE: Make sure pump base is clean so bottom cap will seat properly!
Make sure the Impeller is properly centered before you put the bottom cap on!

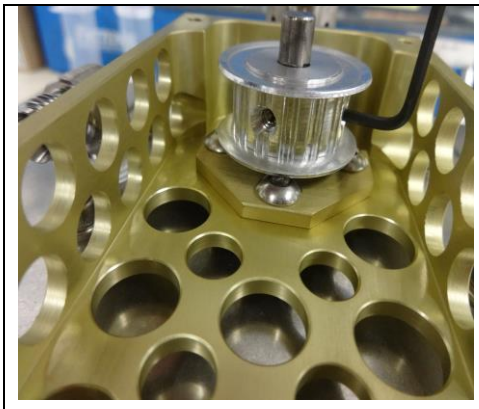
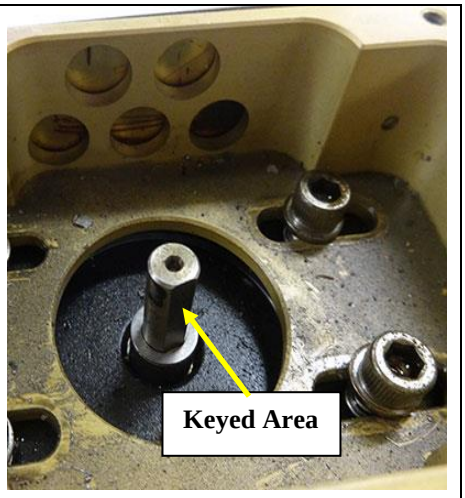
4. Pump Assembly **NOTE: Make sure recessed area on bottom cap faces the impeller!**

		
Insert the clean Impeller into graphite sleeve and slide impeller into chamber.	**Install Bottom Impeller Cap** using a 5/16 wrench and 8 new 10-24 3/8” hex head screws w/ #10, 0.063” thick washers.	**Verify** that both **Pulleys** are not worn out. Above pic shows new Pulleys replace if needed. 15 Tooth Pulley P/N M0235 24 Tooth Pulley P/N M0238.1

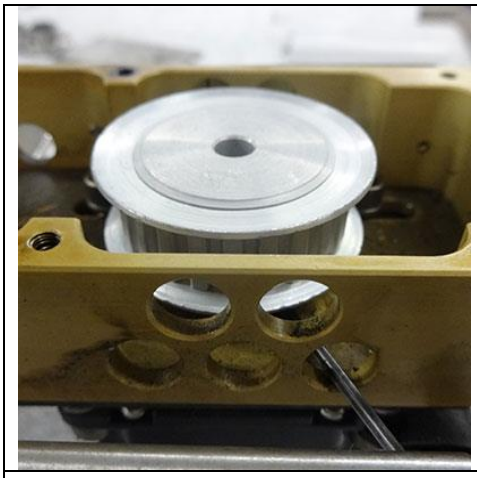
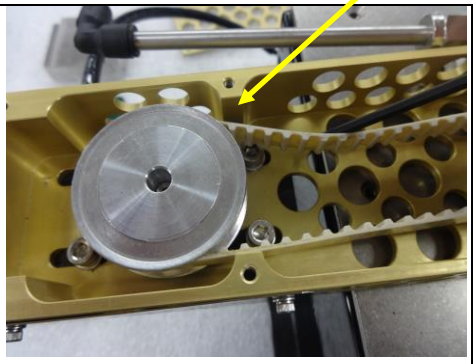
Verify there is approx. 0.020” thousandth Gap!

5. Pulley & Belt Installation

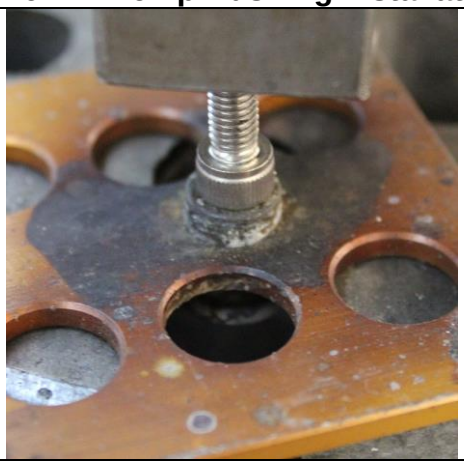
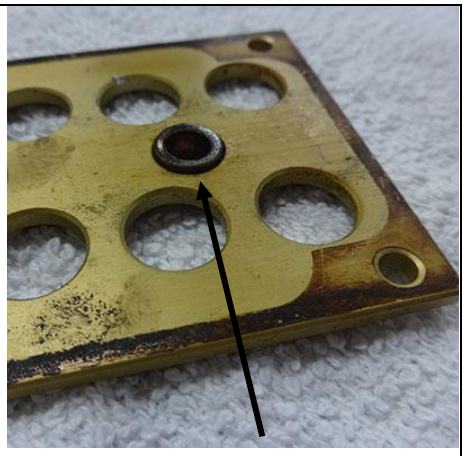
		
Install the Impeller Pulley line up the 2 set screws of the pulley to the 2, flat areas on the Impeller shaft as shown above.	With the **Pulley** properly aligned, slide the 5/64 Allen wrench into the set screw. Then pull impeller shaft in full up position while holding the pulley down onto the graphite sleeve	Next slide the shaft down **0.020”** and tighten 1 set screw snug pull up on the impeller shaft there should be a .020” Gap. **Note: You can use a feeler gauge or shim to verify Gap.**

		
Once the **proper Gap** is achieved you must **firmly tighten both set screws using the L part of the Allen wrench** as seen above. (be careful not to strip out the threads) **Verify both set screws are tight!** Then spin the pulley, the Pulley & Impeller Shaft should spin freely**!**	**To Replace the Motor Pulley** Start by loosening the 2, 8-32 3/16" set screws in the pulley collar using a 5/64 standard Allen wrench. Then remove the Motor Pulley.	**Verify the 1/4” Bushing** is on the motor spindle as seen above. This is a spacer that will maintain the **proper Pulley height**. Bushing P/N M0248

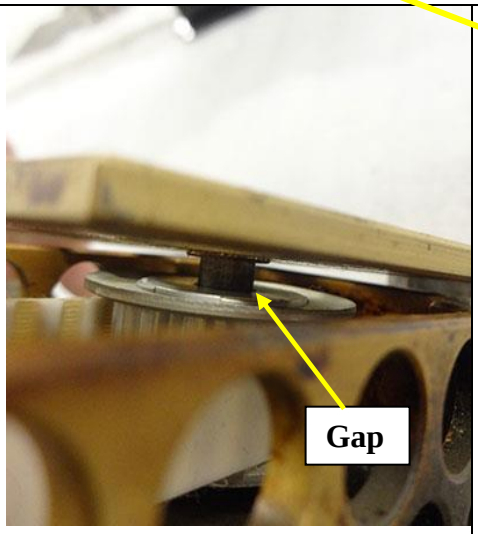
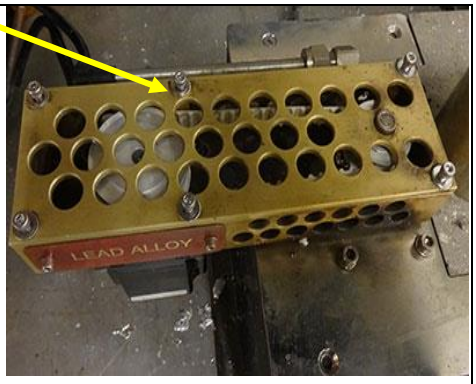
NOTE: **The Motor Pulley set screws are in the lower collar!**

		
Rest the large Pulley onto bushing and line up one of the set screws on the keyed area of the motor shaft. **Tighten both set screws** using a 5/64 standard Allen wrench. **Verify both set screws are tight!**	**Inspect & Install the Belt** if the used belt has splits and too much wear it will need to be replaced. Loosen the 4, 10-32 3/8” motor mount screws and slide the motor toward small pulley and remove the Belt. Then install the new belt and set the deflection and tighten the 4, motor mount screws.	**Set proper Belt tension** The belt should have some slack & pull away from the drive cage wall approx. 1/4" as seen above.

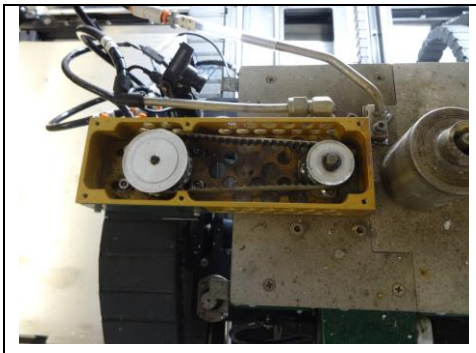
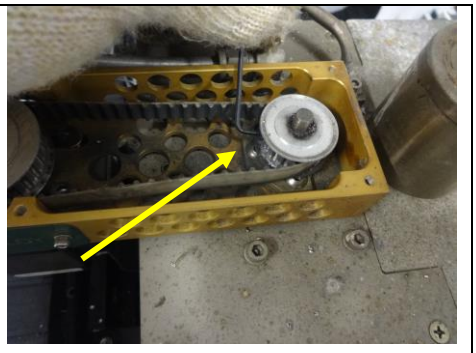
6. Hi Temp Bushing Installation

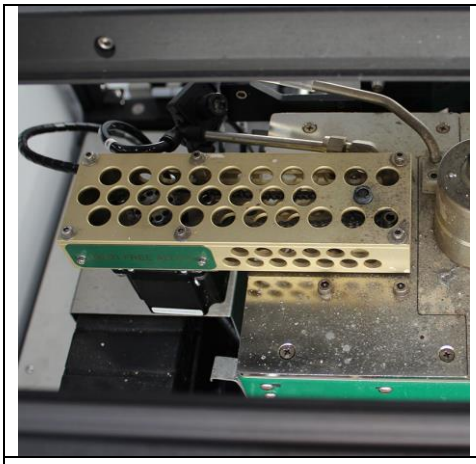
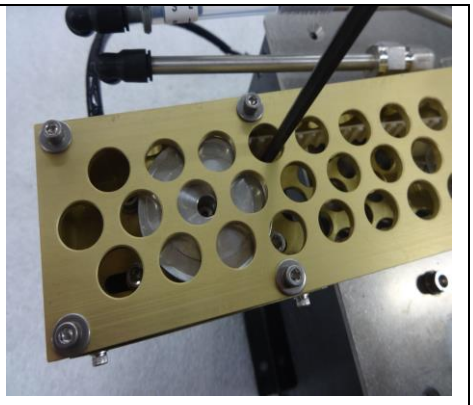
		
Inspect the cage cover **Bushing** replace if needed. Use an Arbor press and a 10-32 1/2” screw head to push the Bushing out as seen above. Bushing P/N M0248	**Press** in the 1/4” **Bushing** using an arbor press, as shown.	**Press** the **Bushing** so it’s approx. 0.050” through on the bottom side of the cover as seen.

NOTE: Leave cover screws loose! (6X)

		
Ream bushing using a 0.254” reamer & drill press.	**Verify the Bushing has a 0.010” - 0.005” gap** between the top of the pulley and the bushing. Make sure the bushing is not rubbing on the pulley!	**Install** 6 of the 6-32 3/8” socket cap screws w/ # 6 washers in cage cover. **Leave the screws loose**. The screws will be tightened later. And store pump or use.

7. Final Operation

	
With the **cage cover removed Submerge pump** in the solder pot & secure n2 cover to pot using 4, 8-32 1/2” Phillips screws, properly attach the motor plug and Nitrogen airline & Solder Level hose.	When the pump reaches **operating temperature**. Verify both impeller pulley set screws are firmly tightened using a 5/64th Allen wrench as shown above.

		
Place the cage cover on the pump drive cage and install the 6, 6-32 X 3/8” socket cap screws w/ # 6 washers in the cover and leave the screws loose.	**Verify the Belt tension** using an Allen wrench or similar device. Make sure the belt is not too tight or too loose!	**Adjust Belt tension if needed** Loosen the 4, 10-32 3/8” motor mount screws using a 5/32 T handle wrench as seen above. **Slide the motor** to get proper belt deflection! See Pages 1 & 2

NOTE: The pump should sound quiet and have no scraping or grinding sounds!

Adjust pump speed to **300 Turn Motion ON!**
Next turn on the Pump**.** Then lightly tighten the **6 cover screws** while the pump is running.
This will help the impeller find center with the bushing.

Next adjust the pump to operating speed. The pump should sound quiet!

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