

## FVO-SERIES: Freeing-Up Seized Pumps

### Background

On the FVO series of units, if the heater remains outside unused for a significant period of time, the pump may seize up. The seized pump can usually be freed up on a test bench, but the pump must first be removed from the unit. This Notice Bulletin covers the process of checking the unit for a pump seizure, removing the pump from the unit, and freeing-up the pump.

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**Time required: 20-30 minutes**

**Parts required: NONE**

### Tools required:

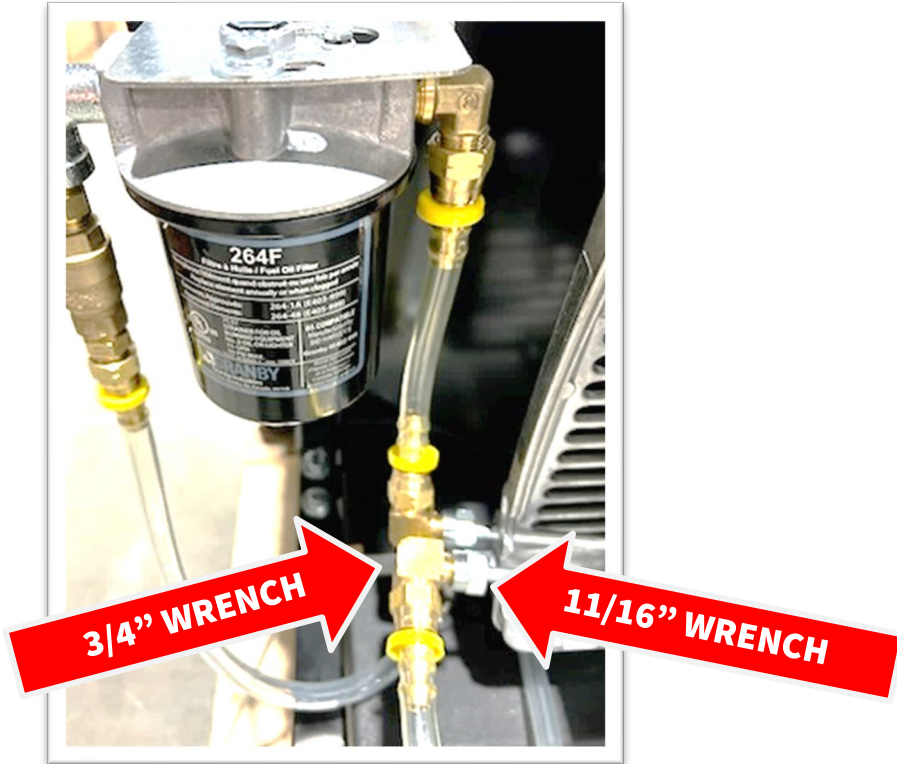
SIZE	DESCRIPTION	QUANTITY
STANDARD	ADJUSTABLE WRENCH	1
3/4"	OPEN-END WRENCH	1
11/16"	OPEN-END WRENCH	1
12 MM	OPEN-END WRENCH	1
4 MM	ALLEN KEY	1
2.5 MM	ALLEN KEY	1



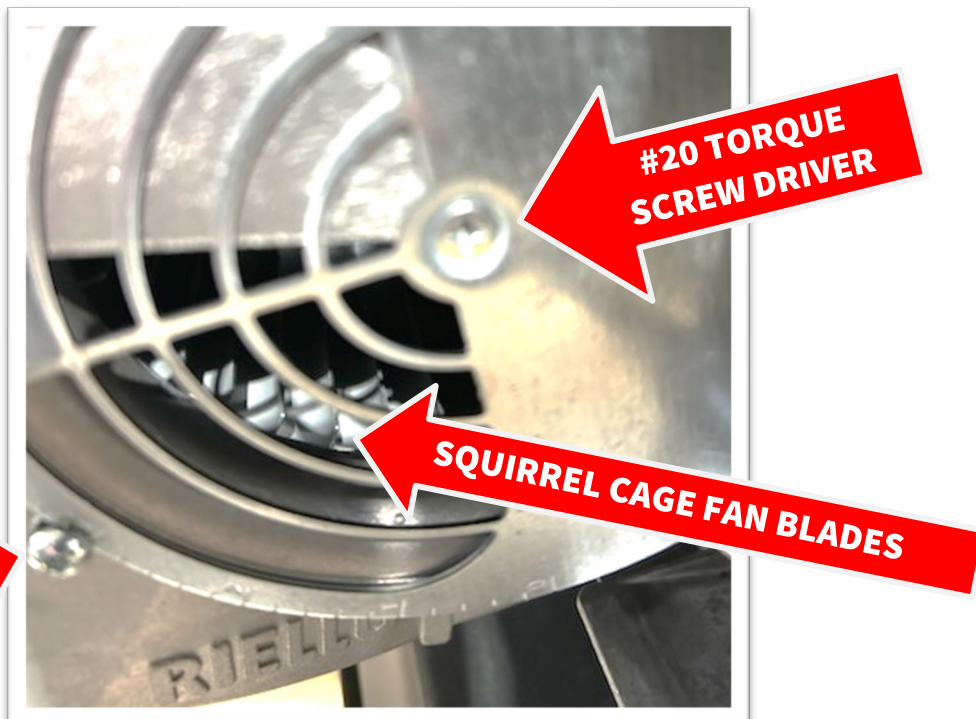
**SERVICE INSTRUCTIONS BEGIN BELOW. BEFORE STARTING THIS PROCEDURE, PERFORM A TAKE-10 AND MAKE SURE THAT THE UNIT IS TURNED OFF AND THAT THE POWER IS DISCONNECTED.**

## Diagnosing a Seized Burner Pump

1. Using a 3/4" and a 11/16" wrench, make sure ALL FUEL LINES ARE TIGHT.

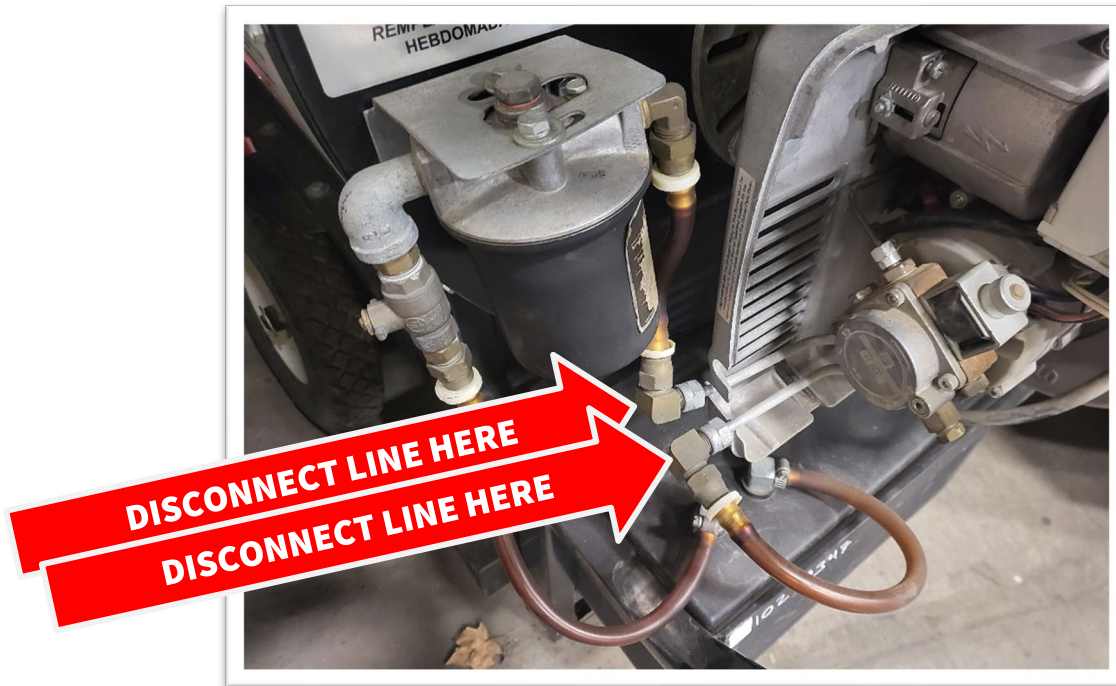


2. TURN ON the heater and make sure that SQUIRREL CAGE IS MOVING. If it is not moving, it means your pump is likely seized, see **Removing a Seized Pump and Freeing the Shaft** section below.

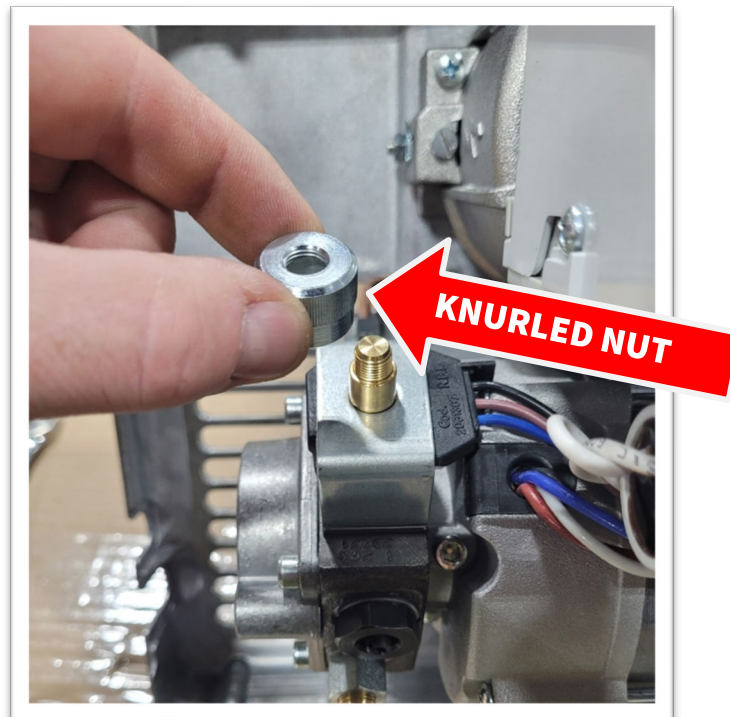


## Removing a Seized Pump and Freeing the Shaft

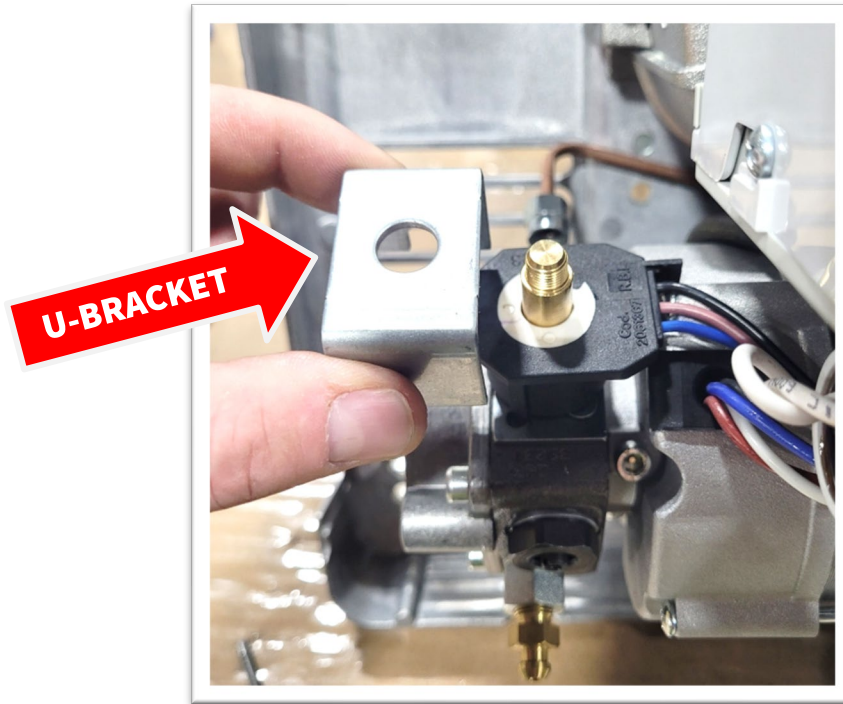
1. To remove the seized pump, DISCONNECT the STEEL SUPPLY and RETURN FUEL LINES at the 90° couplers.



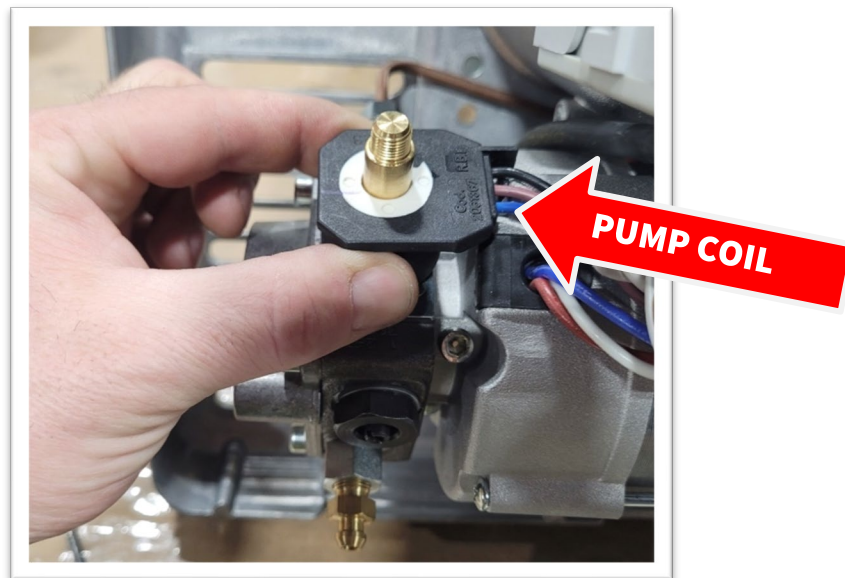
2. REMOVE the KNURLED NUT that secures the U-bracket to the coil.



3. REMOVE the U-BRACKET from the coil.

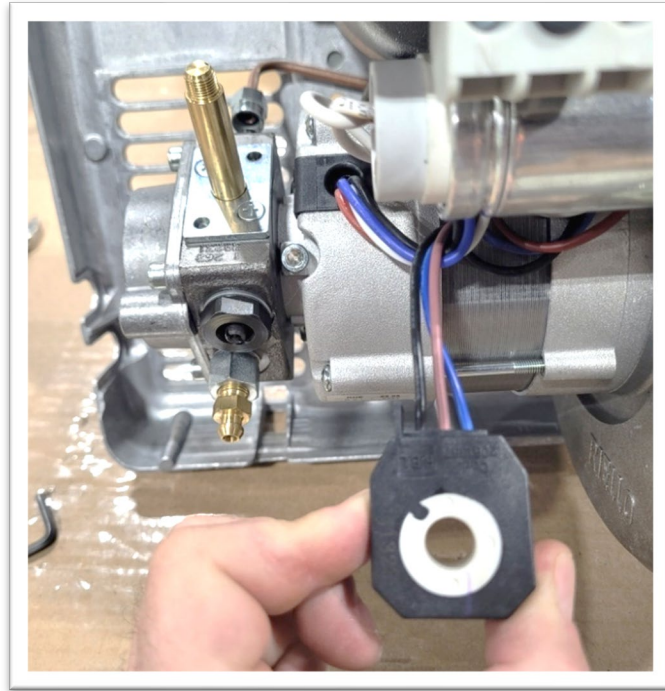


4. GENTLY LIFT the PUMP COIL from the stud on the burner pump.

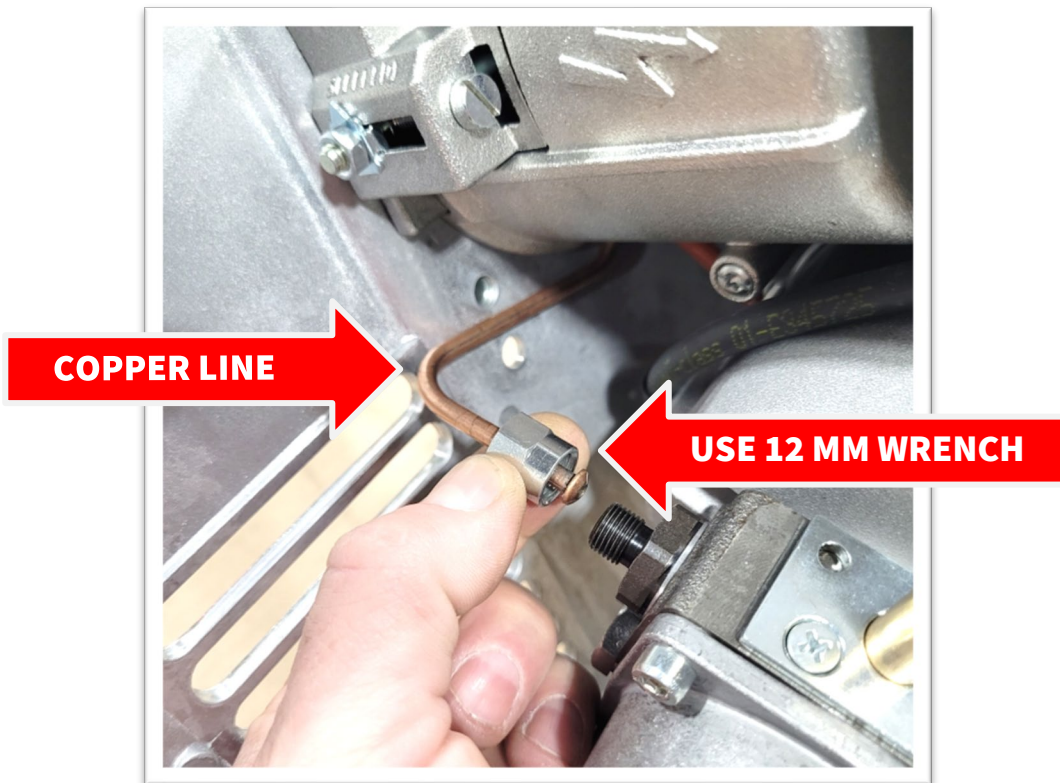




5. REMOVE the PUMP COIL WIRE HARNESS.

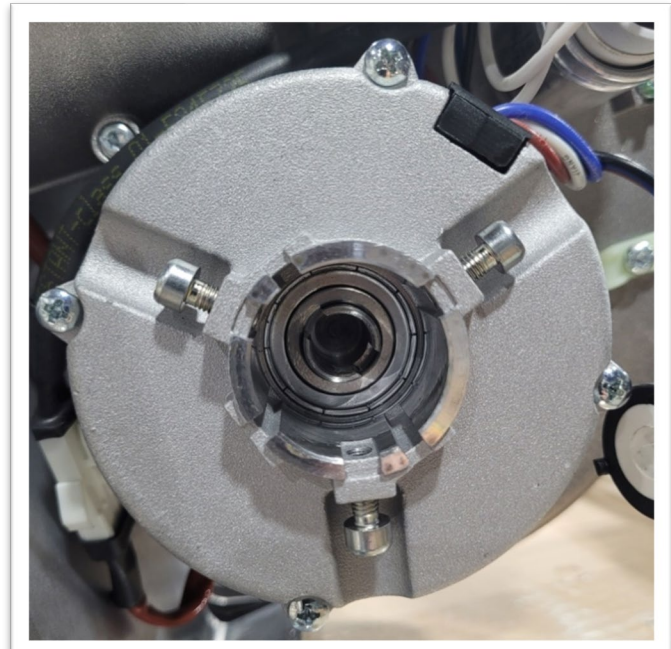
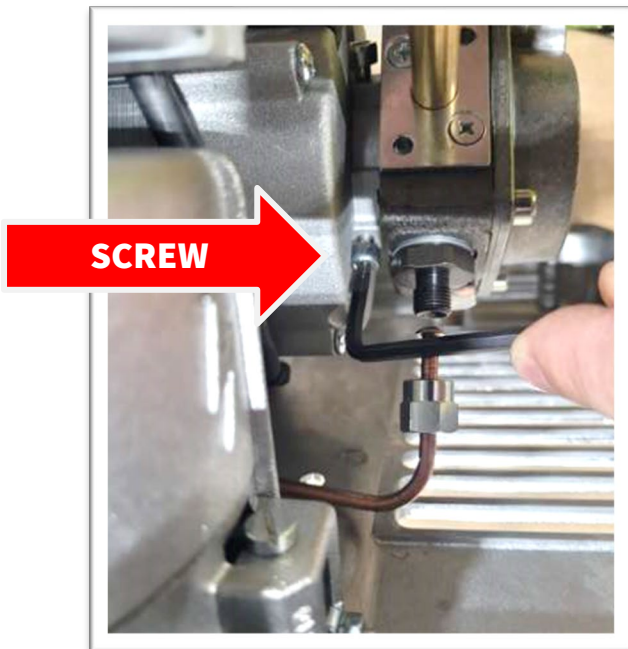
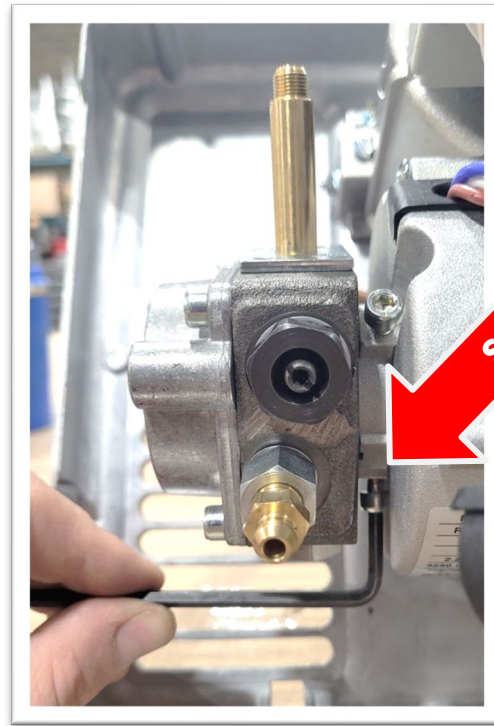
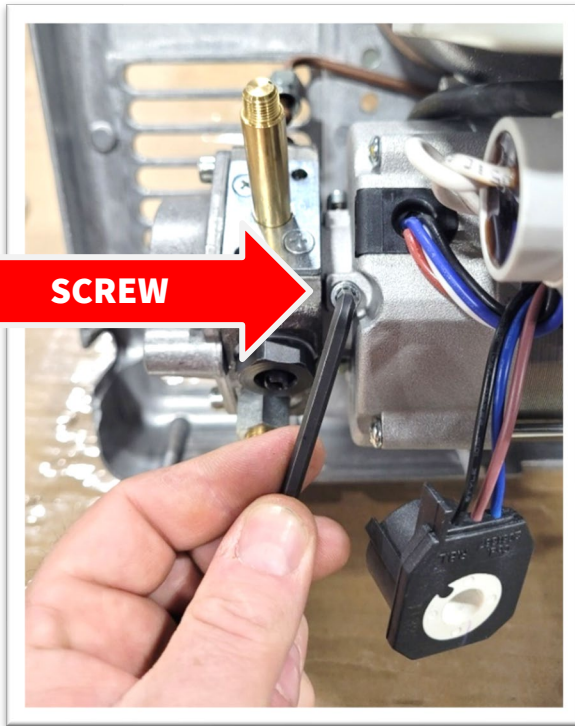


6. DISCONNECT the COPPER LINE that runs from the nozzle to the pump.



7. Using a 4 MM Allen key, REMOVE the THREE SCREWS that mount the pump to the motor.

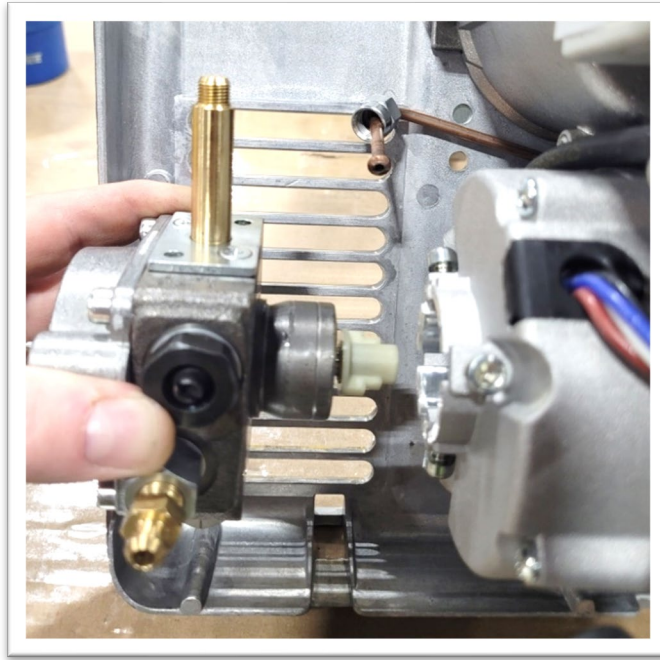
**NOTE:** The back screw is difficult to picture, but will become obvious once the other two screws are loosened. Back-off 1/2 way.



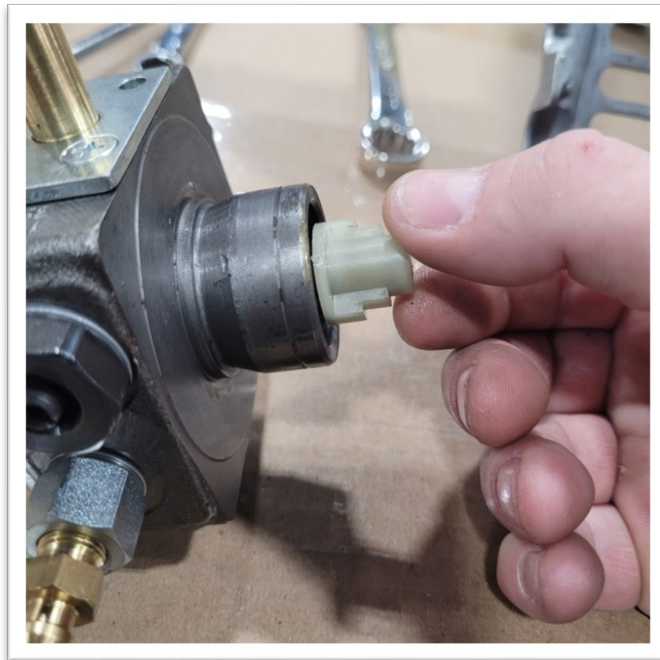
**VIEW WITH PUMP REMOVED  
SHOWING SCREW LOCATIONS**



8. GENTLY REMOVE the BURNER PUMP by pulling it straight away from the burner.



9. CHECK the PLASTIC KEYWAY (PUMP DRIVE KEY) and ENSURE that it is NOT STRIPPED OR ROUNDED OFF. REMOVE the PUMP DRIVE KEY.



10. CAREFULLY SECURE the pump in a vice. GENTLY USE an adjustable wrench to turn the pump shaft to get the pump impeller moving.

**NOTE:** Once the pump is unseized, you should be able to turn the shaft quite easily.

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**IMPORTANT:** Make sure to remove the pump drive key BEFORE using the wrench on the shaft.

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11. REINSTALL THE PUMP. The reinstallation process is the removal procedure in reverse.

**NOTE:** Make sure that all lines and fittings are tight and that they do not leak or suck air.



12. If the pump is seized, and a replacement pump is needed, VERIFY that the BYPASS/BLEEDER screw is present and tight.

**NOTE:** Use a 2.5 MM Allen key to check the BYPASS screw.

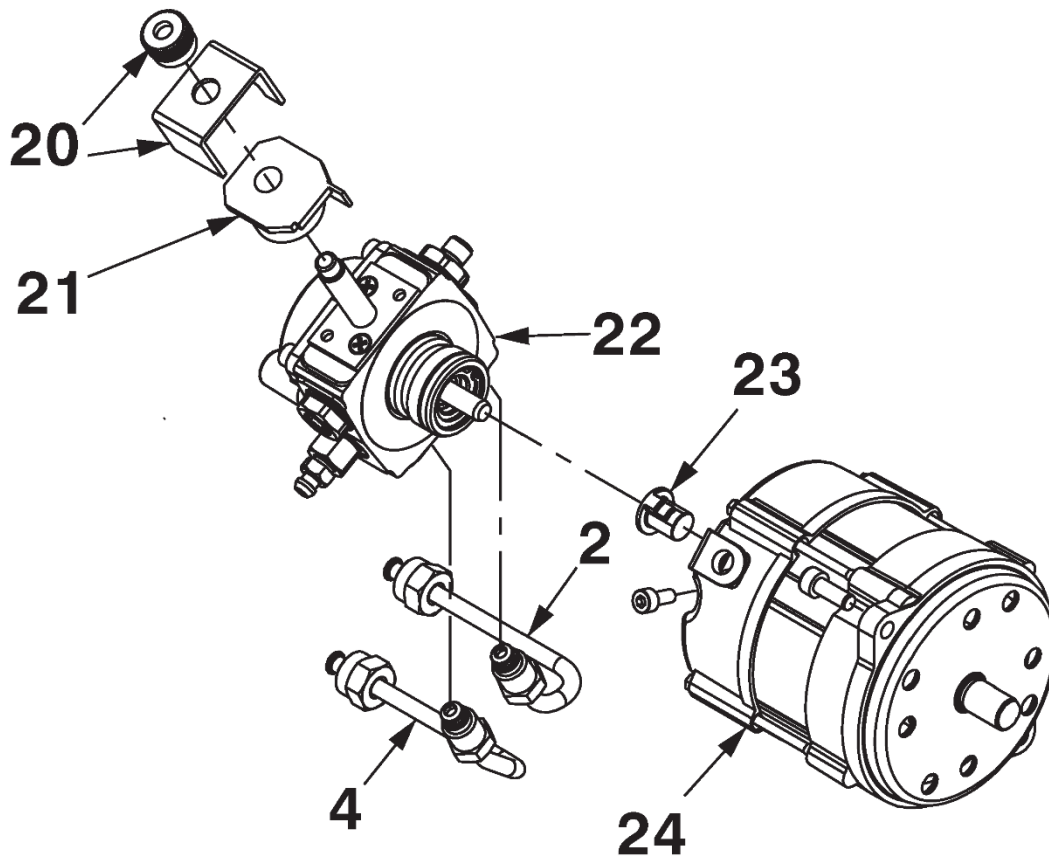


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**IMPORTANT:** This step above is precautionary. It is only required if replacing the pump.

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## RIELLO F-10 Burner Motor and Pump PARTS DIAGRAM



ITEM	PART NUMBER	DESCRIPTION
<b>2</b>	FVO-3006992	SUPPLY LINE
<b>4</b>	FVO-3006993	RETURN LINE
<b>20</b>	FVO-3006553	COIL U-BRACKET C/W KNURLED NUT
<b>21</b>	FVO-3002279	PUMP COIL
<b>22</b>	FVO-20136488	BURNER PUMP
<b>23</b>	FVO-3000443	PUMP DRIVE KEY
<b>24</b>	FVO-C7001034	BURNER MOTOR