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# *RWF*

## **REPLACEMENT MOTOR & COMPRESSOR MOUNTING PROCEDURES**

**Purpose:**

The purpose of this procedure is to outline the process for mounting replacement motors and compressors on RWF packages in the field. The goal is to ensure a stress-free compressor and motor arrangement to assure the designed life of the bearings and shaft seals. In addition, a stress-free arrangement will yield proper slide valve operation and minimize vibration.

**Replacement Motor Mounting Procedure:**

1. Using a spring scale, weigh the motor prior to assembly to the compressor. Reference Figure 1. If a spring scale is not available, contact Frick or the motor manufacture for the weight of the motor (Appendix A may also be used as a guide).

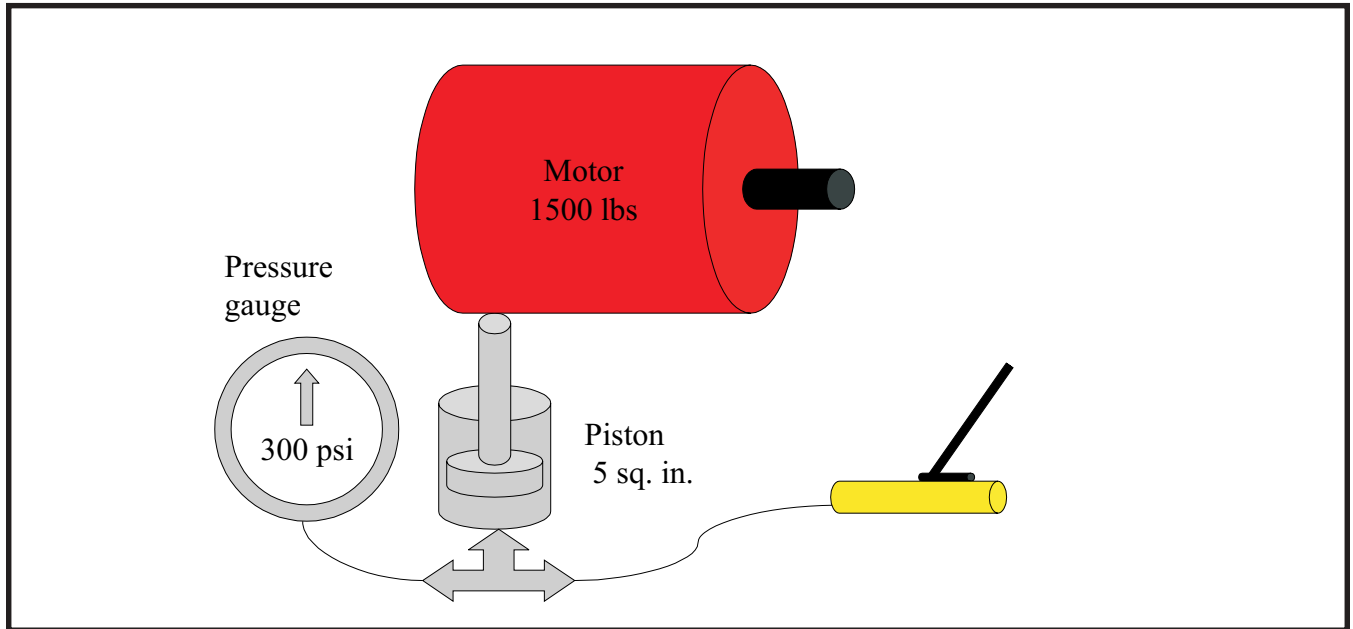


**Figure 1. Weigh replacement motor.**

2. Align the D-flange or C-face motor holes to the compressor tunnel holes while supporting the weight of the motor.
3. Insert the bolts through the flanged motor holes and into the compressor tunnel and tighten by hand.

4. Continue to support the motor weight by maintaining the same weight on the spring scale. If a spring scale and/or overhead support is not available, then a hydraulic piston may be used underneath the motor. Reference Figure 2. (Contact the Frick Baltimore Parts Center for a piston type lifting kit, Ph:800-336-7264)

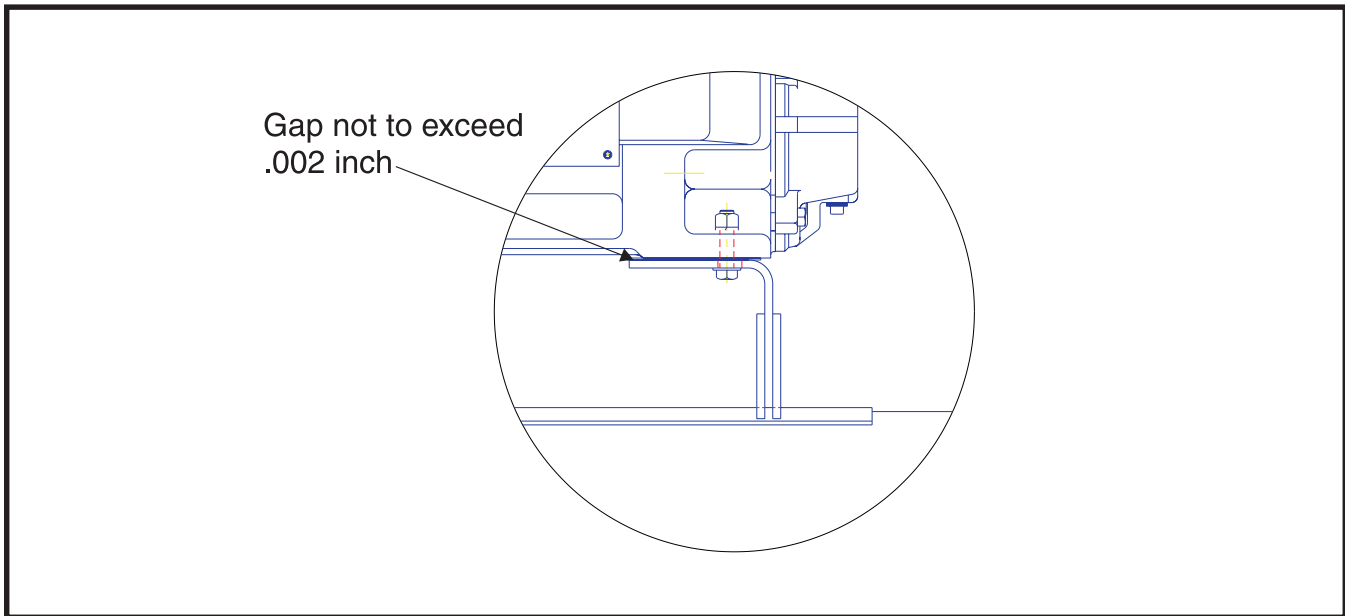
**NOTE: The motor weight must be supported to avoid stressing the compressor or motor. Do not over or under support the motor. The scale or pressure gage reading must be within +/- 10% of the motor weight!**



**Figure 2. Hydraulic piston supports motor weight.**

5. If a hydraulic piston is used, then proceed with the following guidelines:
  - A. Determine the area of the piston ( $\text{Piston Area} = \pi * \text{Diameter}^2 / 4$ ).
  - B. Calculate the required pressure ( $\text{Pressure} = \text{Weight of motor} / \text{Piston Area}$ )
  - C. Using a pressure gage between the hydraulic piston and pump, increase the pressure until the gage reaches the calculated required pressure.
6. Torque the bolts between the motor and compressor tunnel to the required specification (Reference Appendix C).

7. While the motor is still supported, shim the motor feet to less than .002 inch gap between each motor foot and the support base. Then, bolt the motor to the mounting base and torque the motor mounting bolts to 250 ft-lb. Reference Figure 3.



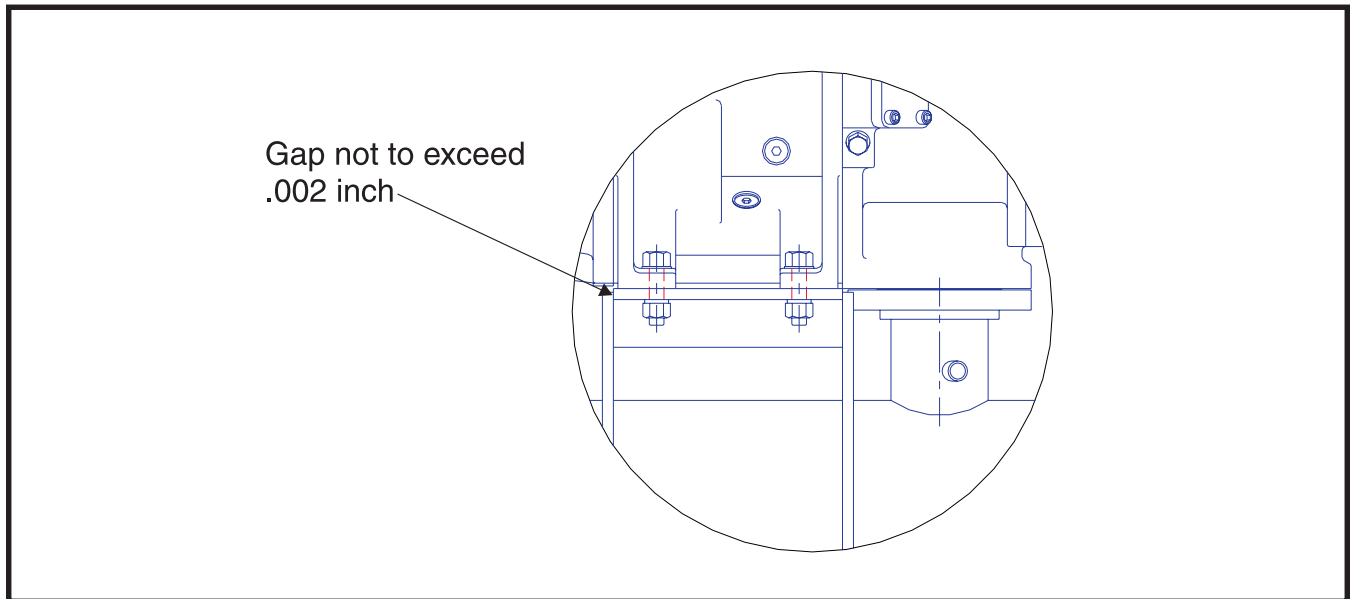
**Figure 3. Shim motor feet to less than .002 inch gap.**

8. The overhead support or hydraulic piston may now be removed.

**Replacement Compressor Mounting Procedure:**

1. Prior to removing the compressor from the RWF package, the motor must be blocked up and properly supported. The entire weight of the motor must be supported.
2. Disconnect all tubing and pipe connections from the compressor, remove the bolts and the drive coupling, and lift the compressor and tunnel assembly from the package. Reference Appendix B for compressor weights. Note that the tunnel must be disconnected from the motor.
3. Place a new gasket on the oil separator flange. *(Contact the Frick Baltimore Parts Center for replacement gaskets, Ph:800-336-7264)*

4. Set the new compressor on the support base and align the oil separator flange bolt holes to the compressor discharge flange bolt holes.
5. Insert the bolts through the oil separator flange and into the compressor discharge flange and torque the bolts to the required specification (reference Appendix C).
6. The compressor feet should rise above the support base. If not, remove the compressor, add another gasket on top of the oil separator flange and repeat steps 4 & 5.
7. Shim the compressor feet to less than .002 inch gap between each compressor foot and the support base. Then, bolt the compressor to the support base and torque the mounting bolts to 250 ft-lb. Reference Figure 4.



**Figure 4. Set replacement compressor and motor assembly on separator flange.**

8. Reconnect all tubing and pipe connections to the compressor.
9. Follow the motor mounting procedure as outlined above for attaching the motor to the compressor.

RWF REPLACEMENT MOTOR & COMPRESSOR  
MOUNTING PROCEDURES



Motor HP	Frame	Approximate Wt. (lbs.)
125	LN405TDZ	1000
134	LN405TDZ	1000
150	LN405TDZ	1070
154	LN405TDZ	1070
175	LN405TDZ	1080
200	LN405TDZ	1080
235	LN445TDZ	1440
250	LN445TDZ	1540
263	LN445TDZ	1540
284	LN447TDZ	1630
300	LN447TDZ	1730
305	LN447TDZ	1730
335	LN447TDZ	1730
350	LN447TDZ	1880
368	LN447TDZ	1880
400	LN449TDZ	2180
407	LN449TDZ	2180
437	LN449TDZ	2180
450	LN449TDZ	2310
482	LN449TDZ	2310
500	LN449TDZ	2310
529	LN449TDZ	2310
570	LN5008DZ	3200
600	LN5008DZ	3200
643	LN5010DZ	3450
687	LN5010DZ	3990

Appendix A.

Note: The weights listed are for reference only, and are approximate, based on standard open drip proof motors operating at 60 Hz. Contact Frick or the motor manufacture to confirm the motor weight.

Package Model	Compressor Model	Approximate Wt. (lbs.)
RWF 100	SGC 1913	2071
RWF 134	SGC 1918	2291
RWF 177	SGC 2313	2965
RWF 222	SGC 2317	3265
RWF 270	SGC 2321	3918
RWF 316	SGC 2813	4906
RWF 399	SGC 2817	5256
RWF 480	SGC 2821	6406

Appendix B.

Note: Weights do not include the drive coupling.

Package Model	Compressor Model	Motor Flange to Compressor Tunnel		Compressor Flange to Separator Flange	
		Bolt Size (in.)	Torque (ft-lb.)	Bolt Size	Torque (ft-lb.)
RWF 100	SGC 1913	3/4	144	M20 X 2.5	167
RWF 134	SGC 1918	3/4	144	M20 X 2.5	167
RWF 177	SGC 2313	3/4	144	M20 X 2.5	171
RWF 222	SGC 2317	3/4	144	M20 X 2.5	171
RWF 270	SGC 2321	3/4	144	M20 X 2.5	171
RWF 316	SGC 2813	3/4	144	M22 X 2.5	280
RWF 399	SGC 2817	3/4	144	M22 X 2.5	280
RWF 480	SGC 2821	3/4	144	M22 X 2.5	280

Appendix C.

**NOTE:**

1. The bolt torque requirements for the motor flange to compressor tunnel are based on metal to metal contact.
2. The bolt torque requirements for the compressor flange to separator flange are based on:
  - a. Gaskets: Garlock blugard 3300
  - b. Bolts: class 8.8 or stronger hex head bolts, lightly oiled and clean



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