RAMVAC® Utility
A DentalEZ® Integrated Solutions Brand

BELT REPLACEMENT, ALIGNMENT, and TENSIONING SERVICE INSTRUCTION

How to properly replace, align and tension belts on the following models: Standard, Bulldog, and Bison.

STANDARD MODELS

- **550**
  (955.xxxx.xxx)
- **1400**
  (914.xxxx.xxx)

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*Note: Instructions relating to Standard 1400 models also apply to Standard 1200 and 2800 models.

BULLDOG MODELS

- **550**
  (855.xxxx.xxx)
- **QT**
  (809.xxxx.xxx)
- **QT E**
  (809E.xxxx.xxx)

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BISON MODELS

- **BISON**
  (818.xxxx.xxx)
  (826.xxxx.xxx)
- **BISON E**
  (818E.xxxx.xxx)
  (826E.xxxx.xxx)

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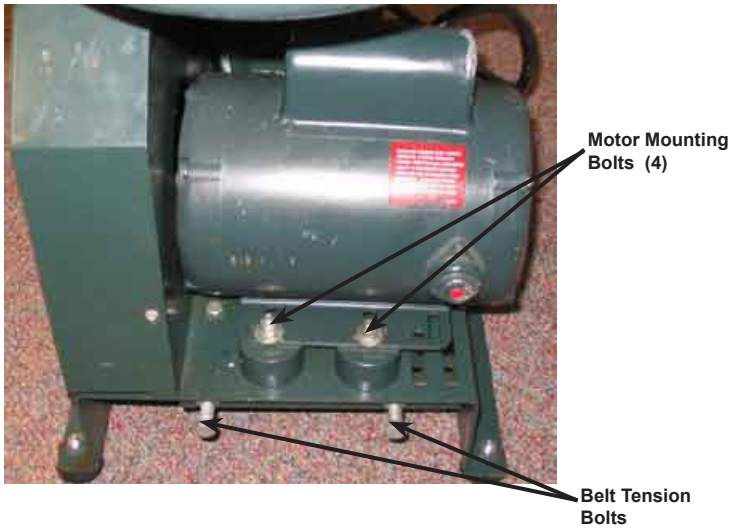
Belt Replacement, Alignment, and Tensioning

WARNING

To prevent any chance of electrical shock, always disconnect power when indicated.

Standard 550 Motor Bolts



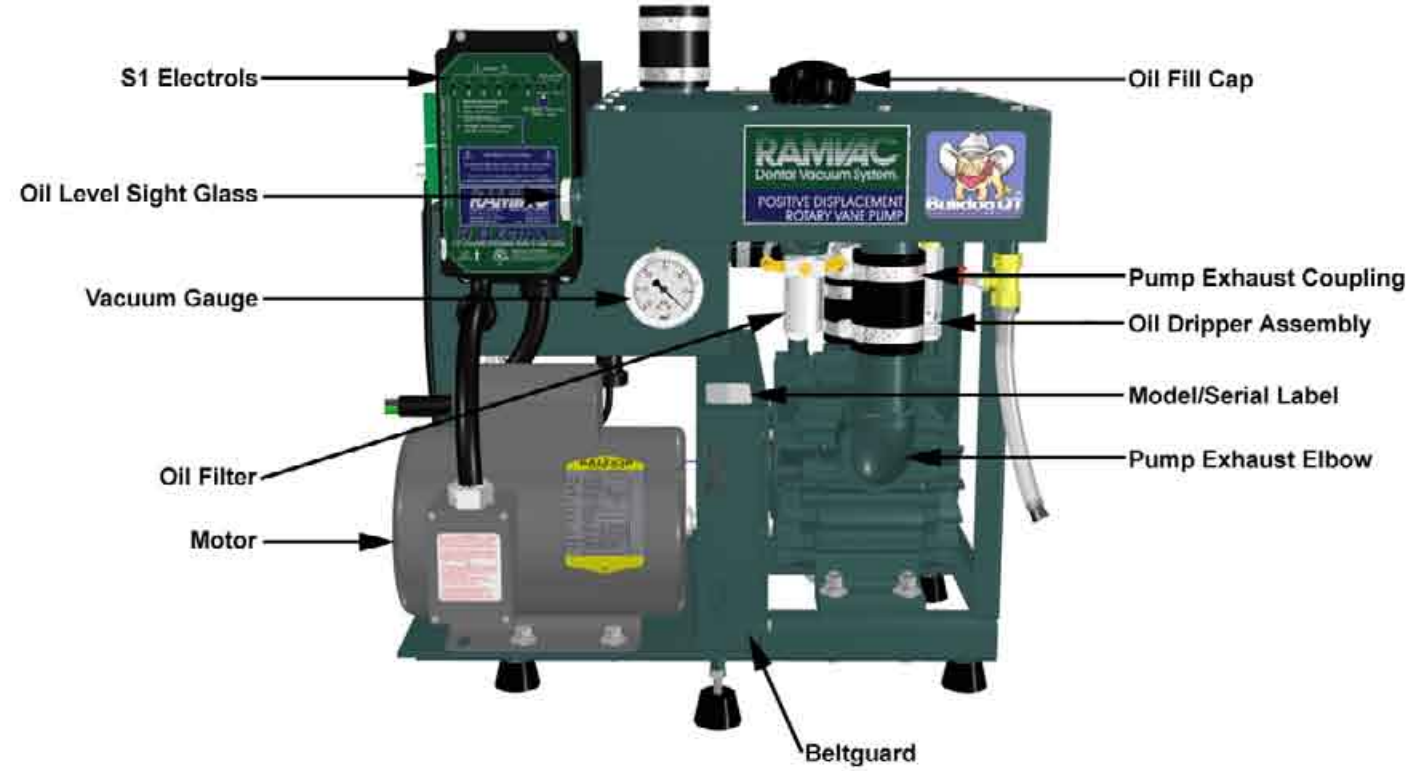
1. Secure disconnect.
2. Move vacuum unit into open area if needed.
3. Remove Beltguard.
4. Loosen four motor mount bolts ½ turn from full tight.
5. If not replacing belt(s) go to step 7.
6. Belt replacement instructions:
   a. Loosen belt tension bolts enough to remove existing belt(s).
   b. Place new belt(s) on pulleys.
7. Use belt tension bolts to tension belt:
   a. New belt = 120 lbs (±2 lbs).
   b. Existing belt = 80 lbs (±2 lbs).
   c. If belt tension gauge not available, set tension at 3/16" deflection under 4 lbs. of force.
8. Align pulley:
   a. **Set Screw Pulleys:**
      i. Check pulley alignment with straight edge.
      ii. If pulley needs to be moved on shaft, loosen motor pulley set screws and adjust motor pulley.
      iii. Check pulley alignment and belt tension. Re-adjust if needed.
      iv. Apply Loctite 243 to pulley set screws.
      v. Torque pulley set screws to 75 in-lbs.
   b. **Taper Lock Pulley:**
      i. If pulley needs to be moved on shaft, see *"Taper Lock Pulley Remove and Replace"* procedure.
      ii. Check alignment with straight edge. When pulleys are aligned, move motor pulley 1/8" toward motor.
      iii. Tighten hub bolts to 75 in-lbs.
      iv. Check pulley alignment and belt tension. Re-adjust if needed.
      v. Apply Loctite 290 to pulley hub bolts.

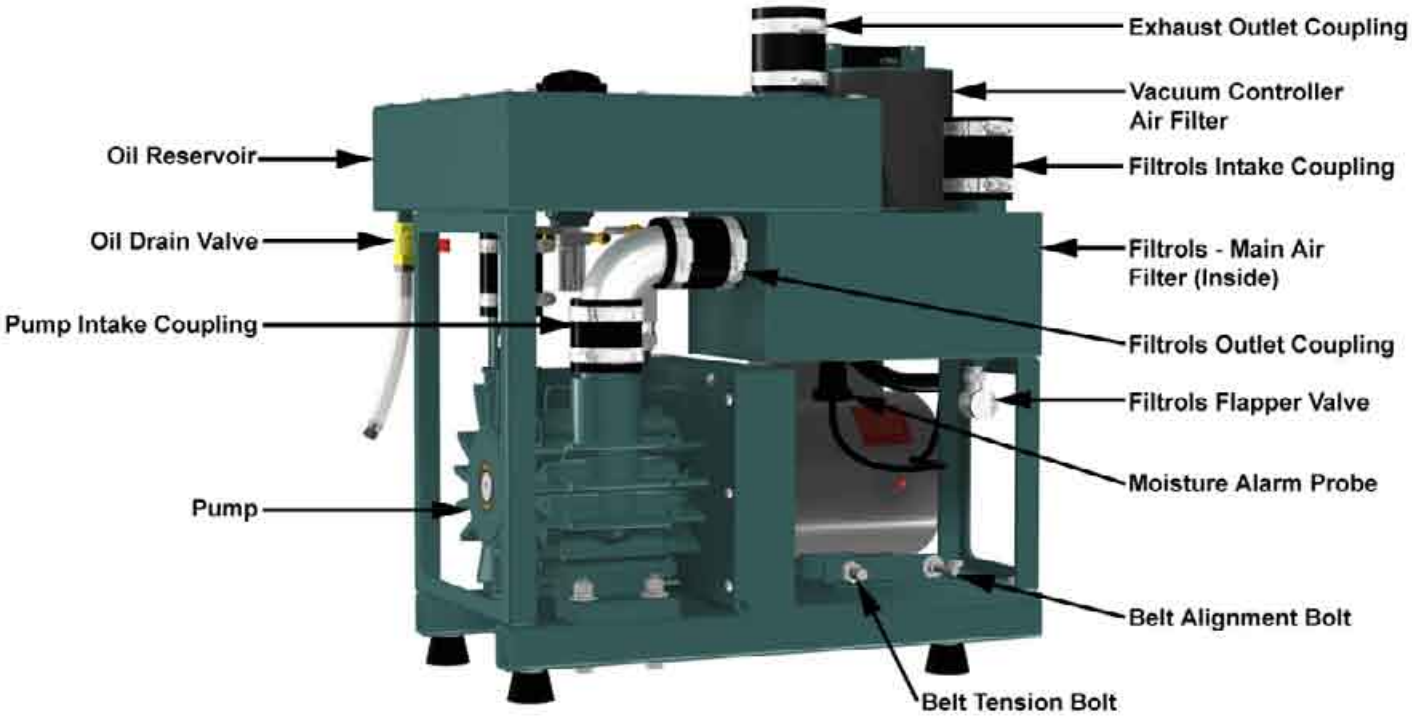
Pulley Alignment on Standard Models

Note: Belt tension could change when motor mount bolts are tightened.

9. Securely tighten the four motor mount bolts.
10. Verify pulley alignment and belt tension. Re-adjust if needed.
11. Securely tighten belt tension locknuts.
12. Apply a drop of Loctite 290 to motor shaft on front of pulley hub at shaft key.
13. Replace beltguard.
14. Replace vacuum unit in original spot. Reattach exhaust outlet and Filtrols intake couplings. Reconnect wiring.
15. Reconnect power to unit, then cycle unit to test for proper function.

Bulldog Model Important Features





Belt Replacement, Alignment, and Tensioning

WARNING

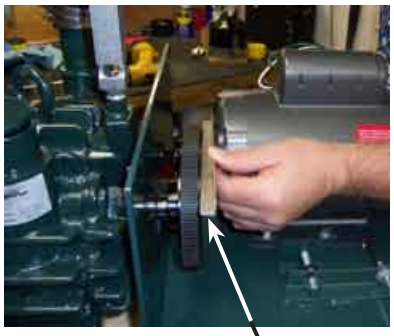
To prevent any chance of electrical shock, always disconnect power when indicated.

1. Secure disconnect.
2. Move vacuum unit into open area if needed.
3. Remove beltguard.
4. Loosen four motor mount bolts ½ turn from full tight.
5. If you are not replacing a belt go to step 7.
6. Belt replacement instructions:
   a. Loosen belt tension bolt and, if present, belt alignment bolt to remove existing belt.
   b. Place new belt on pulleys.
   c. Use belt tension bolt to pre-tension belt to 45 lbs.
7. Pulley alignment:
   a. Check pulley alignment with straight edge. See *"Bulldog Belt Alignment Diagram"*.
   b. If pulley needs to be moved on shaft, loosen motor pulley set screws, and adjust motor pulley.
   c. Use belt alignment bolt or bar clamp to tweak alignment.
8. Final belt tension when pulleys are aligned:
   a. **Bulldog 550:**
      i. New Belt = 75 lbs (±2 lbs).
      ii. Existing Belt = 70 lbs (±2 lbs).
      iii. If belt tension gauge not available, set tension at 3/16" deflection under 4 lbs. of force.
   b. **Bulldog QT and Bulldog QT E:**
      i. New belt = 60 lbs (±2 lbs).
      ii. Existing belt = 50 lbs.
      iii. If belt tension gauge not available, set tension at 1/4" deflection under 4 lbs. of force.

Note: Belt tension could change when motor mount bolts are tightened.

9. Securely tighten the four motor mount bolts.
10. Check pulley alignment and belt tension. Re-adjust if needed.
    a. Apply Loctite 243 to motor pulley set screws.
    b. Torque pulley set screws to 75 in-lbs.
11. Securely tighten belt tension lock nut and, if present, belt alignment locknut.
12. Apply a drop of Loctite 290 to motor shaft on front of pulley at shaft key.
13. Replace beltguard.
14. Replace vacuum unit in original spot. Reattach exhaust outlet and Filtrols inlet couplings. Reconnect wiring.
15. Reconnect power to unit, then cycle unit to test for proper function.

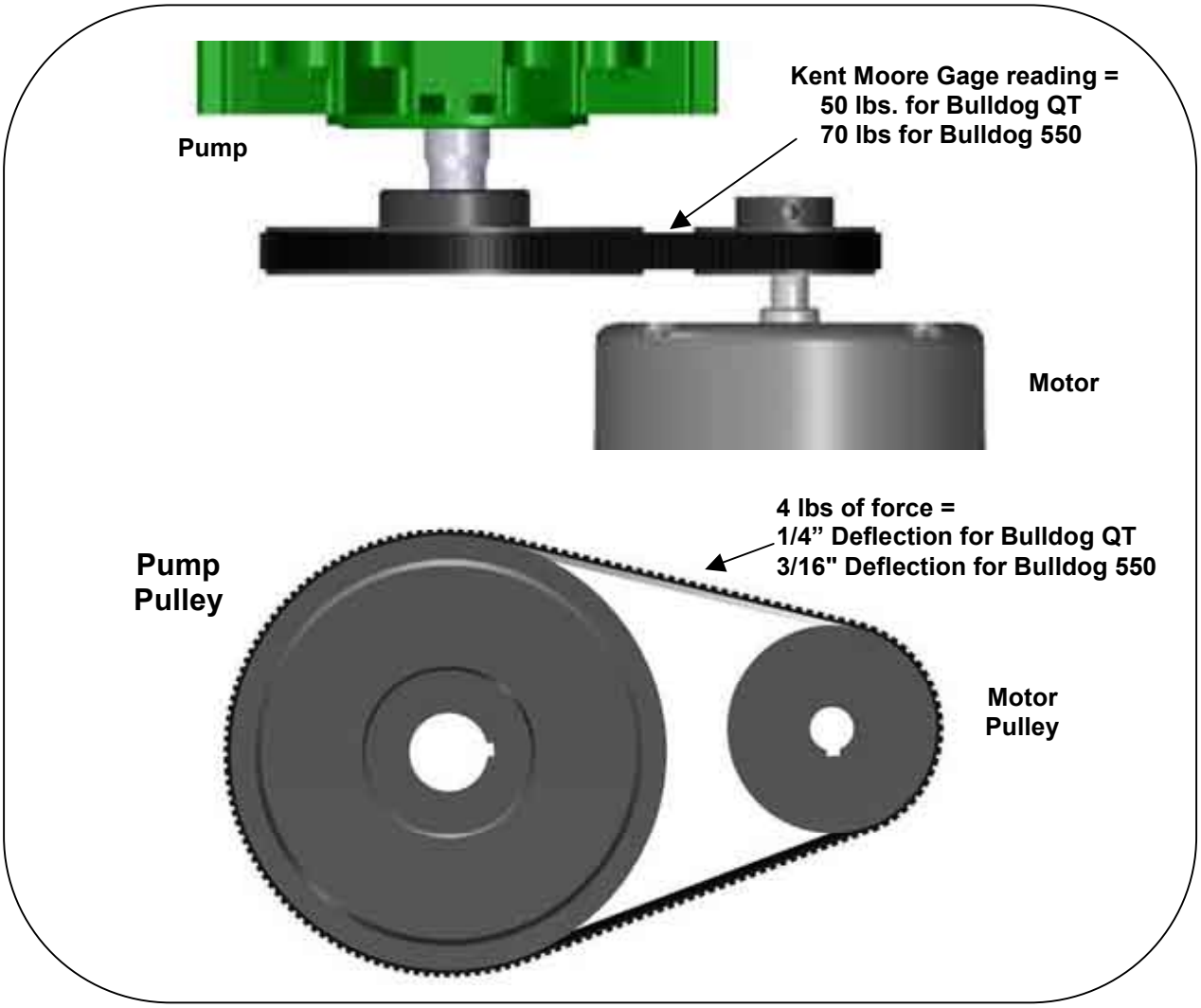
Pulley Alignment on Bulldog Models



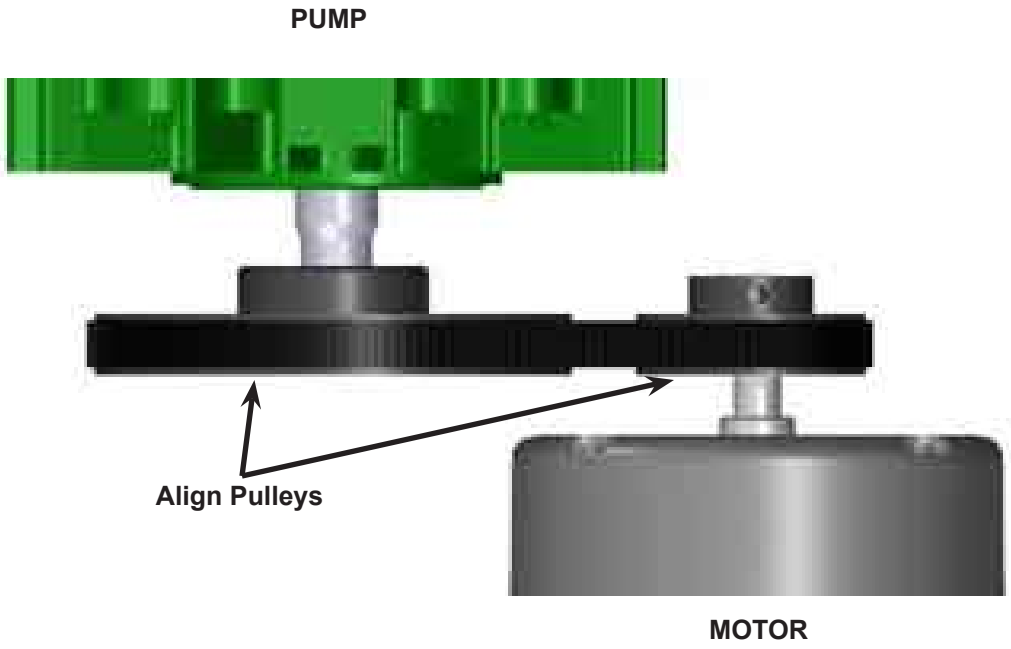
Use straight edge to align pulleys

Use a bar clamp to align pulleys if no alignment bolt present.

Bulldog Belt Tension Diagram

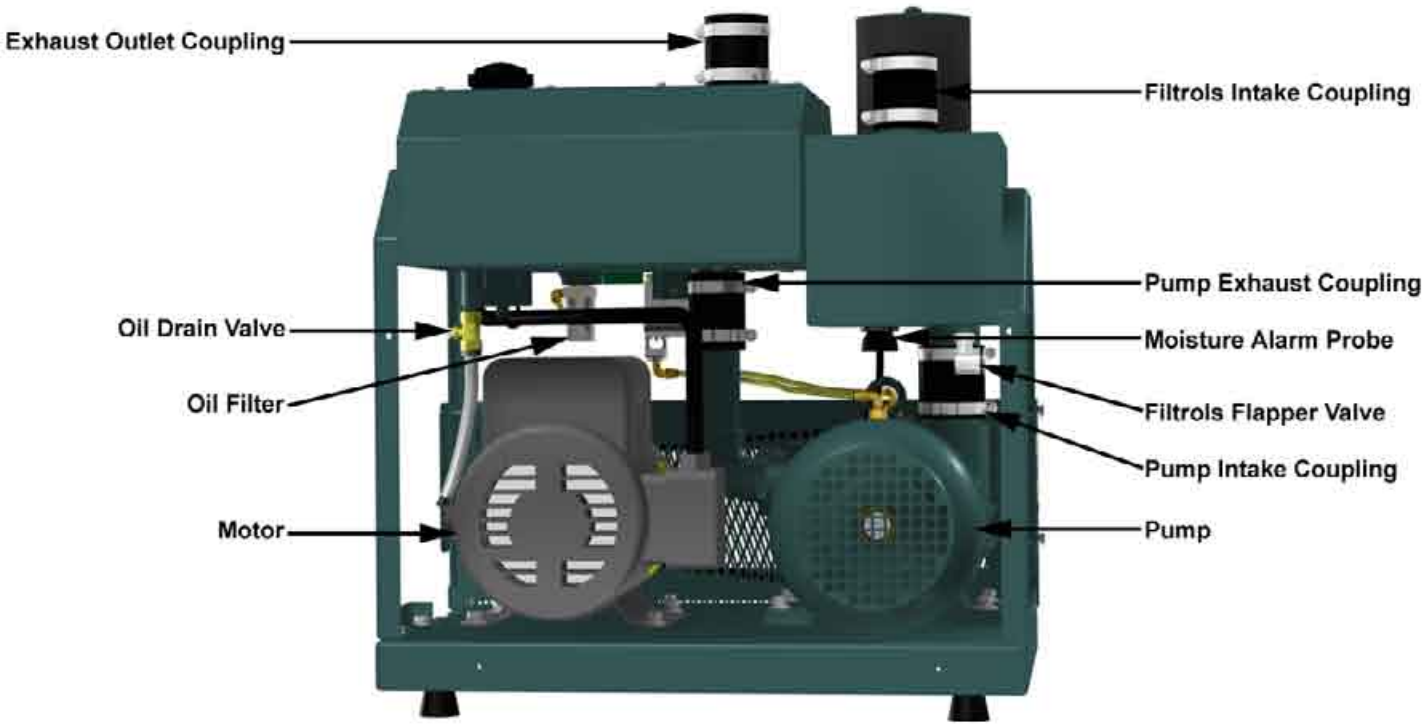


Bulldog Belt Alignment Diagram



Use a straight edge to align pulley faces

Bison Models Important Features



Belt Replacement, Alignment, and Tensioning

WARNING

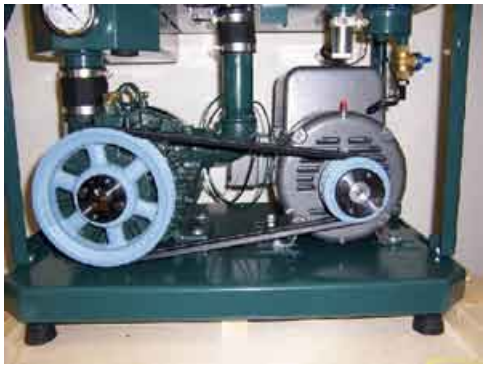
To prevent any chance of electrical shock, always disconnect power when indicated.

1. Secure disconnect.
2. Move vacuum unit into open area if needed.
3. Remove beltguard.
4. Loosen four motor mount bolts ½ turn from full tight.
5. If you are not replacing belt(s) go to step 7.
6. Belt replacement instructions:
   a. Loosen belt tension bolts.
   b. Place new belt(s) on pulleys.
7. Use belt tension bolts to tension belt:
   a. New belt for 1 phase system = 80 lbs (±2 lbs).
   b. New belt for 3 phase system = 100 lbs (±2 lbs).
   c. Existing belt = 70 lbs.
   d. If belt tension gauge not available, set tension at 1/4" deflection under 4 lbs. of force.
8. Use belt tension bolts and straight edge to align pulleys.
   a. If pulley needs to moved on shaft, see *"Taper Lock Pulley Remove and Replace"* procedure.
   b. Check alignment with straight edge. When pulleys are aligned, move motor pulley 1/8" toward motor.
      i. Tighten pulley hub bolts to 75 in-lbs.
      ii. Check pulley alignment and belt tension. Re-adjust if needed.

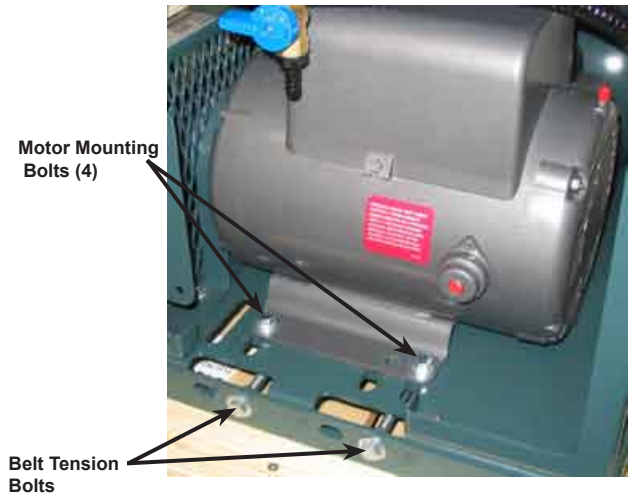
Note: Belt tension could change when motor mount bolts are tightened.

9. Securely tighten all four motor mount bolts.
10. Securely tighten belt tension locknuts.
11. Check pulley alignment and belt tension. Re-adjust if needed.
12. Apply Loctite 290 to pulley hub bolts.
13. Apply a drop of Loctite 290 to motor shaft on front of pulley hub at shaft key.
14. Replace beltguard.
15. Replace vacuum unit in original spot. Reattach exhaust outlet and Filtrols inlet couplings. Reconnect wiring.
16. Reconnect power to unit, then cycle unit to test for proper function.

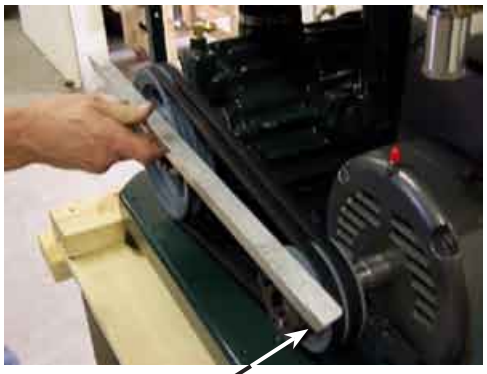
Bison Drive Assembly



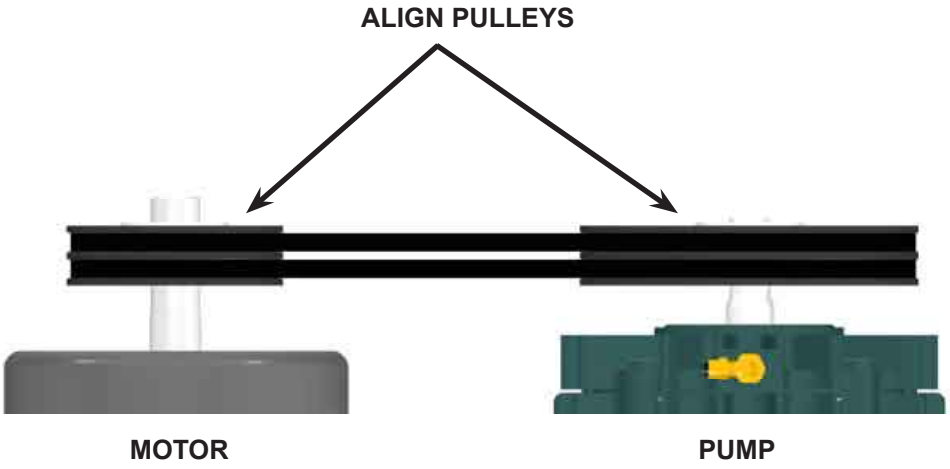
Bison Motor Bolts



Pulley Alignment on Bison Models



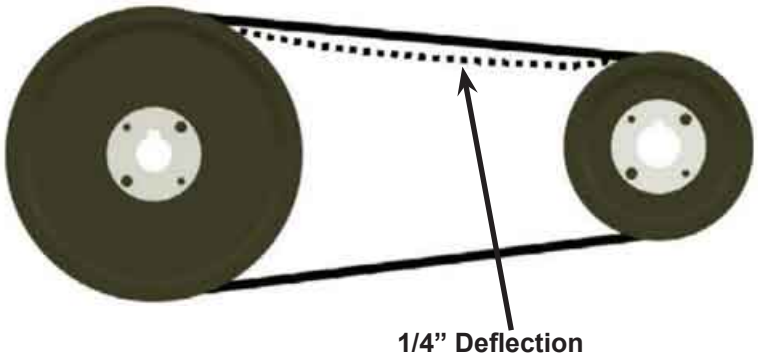
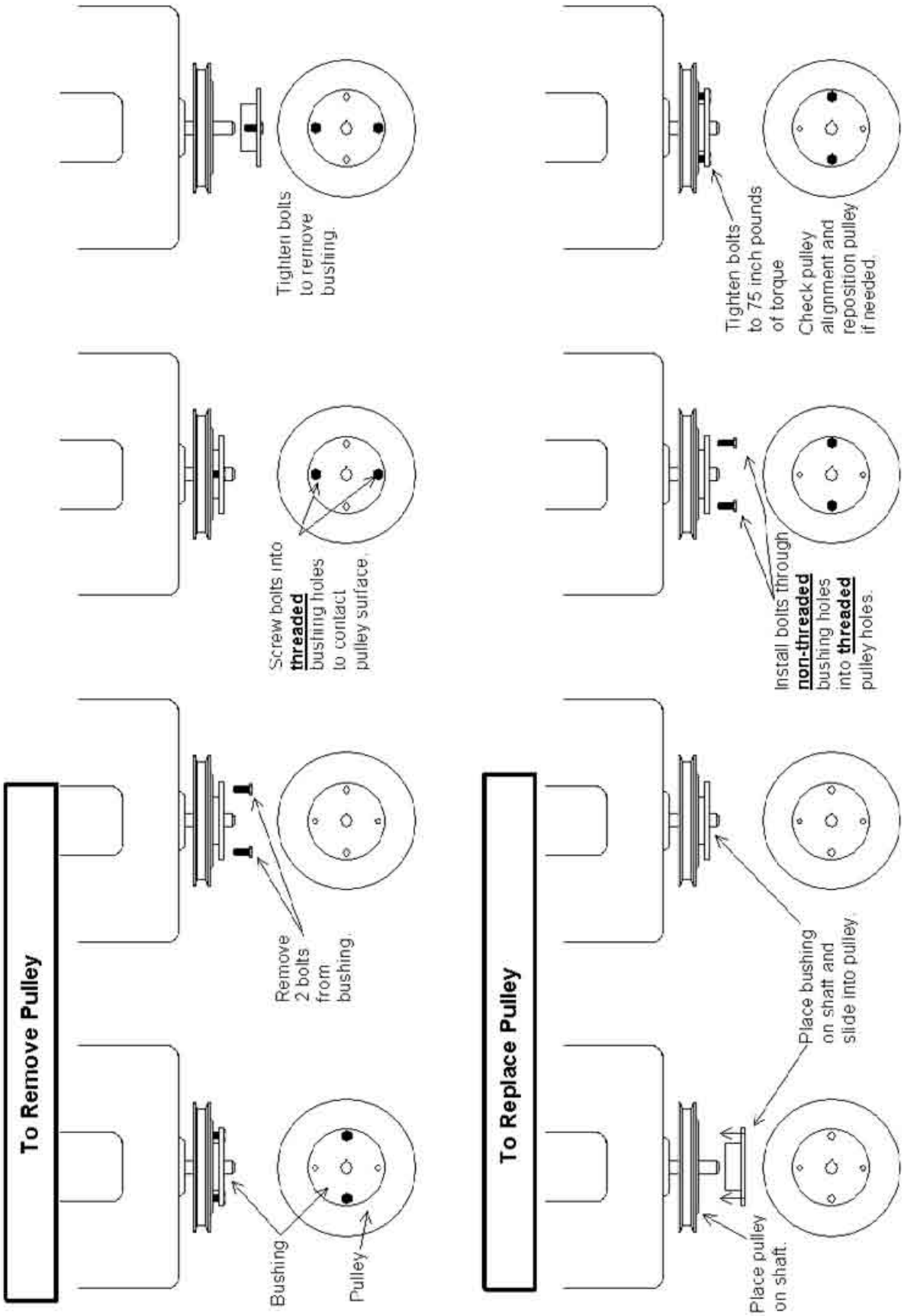
Bison Pulley Alignment Diagram



Use a straight edge to align pulley faces

Bison Belt Tension Diagram

Test Tension at 4 lbs of force



TAPER LOCK PULLEY REMOVE AND REPLACE