

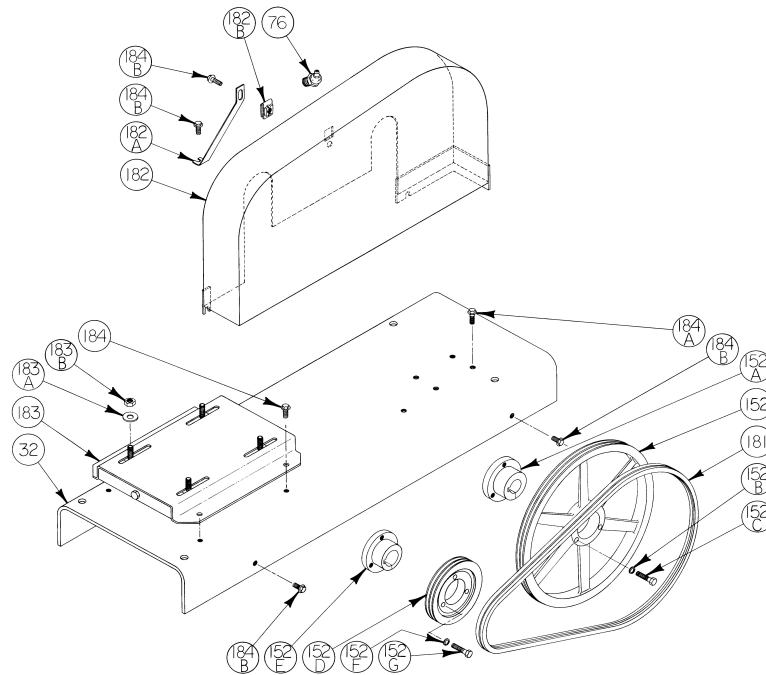
# **BLACKMER V-BELT DRIVE - STYLE VB** **PUMP MODELS: LGLD4B, CRL4B, SGLD4B**

Parts List with Installation, Operation and Maintenance Instructions  
 \* Page Numbers 701-G00 & 801-E00 also apply

962003  
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**PARTS LIST**  
**501-H03\***

Section 501, 701  
 Effective Apr 2020  
 Replaces Nov 2010



## **PARTS LIST**

Ref. No.	Description	Parts Per Unit	Part No.	Ref. No.	Description	Parts Per Unit	Part No.
32	Pump Base	1	See Table	181	V-Belt	See Table	See Table
76	Grease Fitting	1	317809	182	V-Belt Guard (3)	1	See Table
152	Pump Sheave	1	See Table	182A	V-Belt Guard Brace	1	804076
152A	Pump QD Hub Assembly	1	902458	182B	Speed Nut	1	922407
152B	Lockwasher	3	(1)	183	Motor Base Assembly – Includes:	1	See Table
152C	Capscrew	3	(1)		183A Washer	4	
152D	Motor Sheave	1	See Table		183B Nut	4	
152E	Motor QD Hub Assembly	1	See Table	184	Capscrew - Motor Base	4	See Table
152F	Lockwasher	3	(1)	184A	Capscrew - Pump	4	920951
152G	Capscrew	3	(1)	184B	Capscrew - Guard	4	920955

(1) Included with QD Hub Assembly.

(3) Consult Factory for ATEX Compliant (Non-Sparking) Guards.

## **V-BELT DATA - 3V & 5V TYPE BELTS**

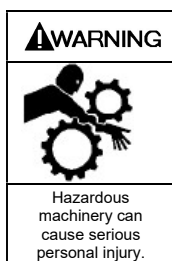
<b>Pump Speed with 1750 RPM Motor</b>		330	330	410	410	515	515	630	630	630	795 <sup>2</sup>	795 <sup>2</sup>
<b>Pump Speed with 1450 RPM Motor</b>		275	275	340	340	425	425	525	525	525	660	660
<b>Speed Ratio</b>		5.26	5.26	4.26	4.26	3.41	3.41	2.77	2.77	2.77	2.20	2.20
<b>Motor Frame Size</b>		213T	215T	215T	254T	254T	256T	254T	256T	284T	286T	324T
Ref. No.	Part Name											
32	Pump Base	901943	901943	901943	901943	901943	901943	901943	901943	901943	901931	901931
152	Pump Sheave	902412	902412	902412	902412	902412	902412	902412	902412	902412	790532	790532
152D	Motor Sheave	902414	902414	902410	902410	902411	902411	902413	902413	902413	790530	790530
152E	Motor QD Hub Asy.	902453	902453	902454	902459	902459	902459	902460	902460	902461	902461	790585
181	V-Belt	902003	902003	902003	902003	902003	902003	902003	902003	902003	790508*	790508*
182	B-Belt Guard (3)	804062	804062	804062	804062	804062	804062	804062	804062	804062	804201	804201
183	Motor Base Asy.	905083	905084	905084	905085	905085	905086	905085	905086	905087	790070	790496
184	Capscrews - Motor Base	920957	920957	920957	920958	920958	920958	920958	920958	920958	920958	920638

<sup>2</sup> 795 rpm drive should not be used with CRL3 and SGLD3

No (\*) requires Four Belts

\* requires Two Belts

## INSTALLATION AND MAINTENANCE



**Failure to disconnect and lockout electrical power or engine drive before attempting maintenance can cause severe personal injury or death**

Hazardous machinery can cause serious personal injury.



**Failure to disconnect and lockout electrical power before attempting maintenance can cause shock, burns or death**

Hazardous voltage. Can shock, burn or cause death.



**Operation without guards in place can cause serious personal injury, major property damage, or death.**

Do not operate without guard in place

**These units must only be installed in systems which have been designed by those qualified to engineer these systems. The system must be in accordance with all applicable regulations and safety codes.**

### ASSEMBLY

Mount the pump and the motor base to the unit base. Mount the motor on the motor base, but do not draw the motor mounting nuts down tight.

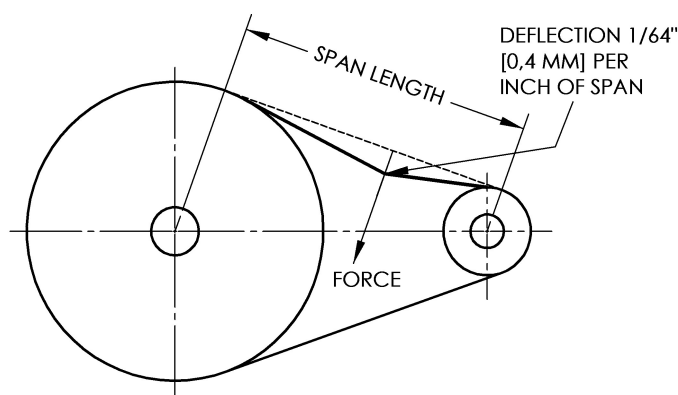
Wipe the cone surface of the pump QD hub and the inside of the pump sheave hub with a clean cloth moistened with a light grade of machine oil. This will allow a more uniform draw and prevent the cone surfaces from "freezing" before being tightened.

With the shaft key in place, align the key seat and slide the QD hub on the shaft, flange end first. Slide the large end of the sheave bore over the taper on the QD hub. Insert the three (3) sheave capscrews through the clearance holes in the sheave, and start them into the tapped holes of the QD hub. Repeat this procedure to assemble the motor QD hub and sheave.

To install the belts, shorten the center distance of the drive by moving the motor towards the pump, until the belts can be put on the sheaves without forcing.

Align the sheaves so that the faces are parallel, then snug up the sheave capscrews.

Measure the span length as shown in Figure 1.



**Figure 1**

Adjust the motor base then apply a force at the center of the belt span, so that the belt is deflected 1/64 inch for every inch of span. For example, the deflection of a 20 inch span would be 20/64 or 5/16 inch. The force required should be within the range given in Table 1. A new set of belts should initially be tensioned to the upper limit. Check again to see that the sheaves are parallel and then tighten the sheave capscrews, the motor mounting nuts and the adjusting screw locknut. Assemble the belt guard and belt guard brace to the unit base.

**DEFLECTION FORCE PER BELT**

Small Sheave Outside Diameter	Belt Deflection Force Range
2.5 - 4.5" (63.5 - 114.3 mm)	3.0 – 4.75 Lb (1.4 - 2.2 Kg)
4.75 - 7" (120.7 - 177.8 mm)	4.0 – 6.0 Lb (1.8 -2.7 Kg)
8" to 9" (203.2 - 228.6 mm)	12.0 – 18.0 Lb (5.5 -18.0 Kg)

**Table 1**

Check the belt tension after 24 - 48 hours run-in. Recheck the tension periodically, and tighten the belts as required. Avoid over-tightening belts, which can shorten bearing and belt life. Belts should be inspected periodically for signs of excessive wear and replaced if necessary.

For information on system installation and pump maintenance refer to the Installation and Maintenance Instructions provided with the pump.

### DISASSEMBLY

Remove the belt guard and guard brace. Loosen the adjusting screw locknut on the motor base and the motor mounting nuts. Ease the tension on the belts by moving the motor towards the pump to shorten the center distance of the drive. Remove the belts by sliding them over the sheaves. Do not force the belts over the grooves.

To remove the sheave from the hub, first remove the three sheave capscrews, then screw two of them into the threaded holes in the sheave hub. If the cone grip is hard to break loose, tap the end of the shaft or the QD hub with a lead hammer, while maintaining pressure on the screw.

The QD hub should slide smoothly off the shaft. If it is tight on the shaft, pry it loose with a screwdriver or a small wedge placed in the split part of the flange.



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