

VMAC Extreme Duty Bearing Upgrade Kit Instructions

A700237

www.vmacair.com

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Changes and Revisions

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Important Information

The information in this manual is intended for certified VMAC installers who have been trained in installation procedures and for people with mechanical trade certification who have the tools and equipment to properly and safely perform the installation. Do not attempt this installation if you do not have the appropriate mechanical training, knowledge and experience.

Follow all safety precautions for mechanical work. Any grinding, bending or restructuring operations for correct fit in modified trucks must follow standard shop practices.

Ordering Parts

To **order parts**, contact your VMAC dealer. Your dealer will ask for the VMAC serial number, part number, description and quantity. To locate your nearest dealer, call 1-877-912-6605 or online at www.vmacair.com

Notice

Manuals are subject to change without notice.

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VMAC – Vehicle Mounted Air Compressors

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Safety

Important Safety Notice

The information contained in this manual is based on sound engineering principles, research, extensive field experience and technical information. Information is constantly changing with the addition of new models, assemblies and service techniques. If a discrepancy is noted in this manual, contact VMAC prior to initiating or proceeding with installation, service or repair. Current information may clarify the issue. Any person with knowledge of such discrepancies who performs service and repair assumes all risks.

Only proven service procedures are recommended. Anyone who departs from the specific instructions provided in this manual must first assure that their safety and that of others is not being compromised and that there will be no adverse effects on performance or the operational safety of the equipment.

VMAC will not be held responsible for any liability, consequential damages, injuries, loss or damage to individuals or to equipment as a result of the failure of any person to properly adhere to the procedures set out in this manual or standard safety practices. Safety should be your first consideration in performing service operations. If you have any questions concerning the procedures in this manual or require any more information on details that are not included in this manual, please contact VMAC before beginning repairs.

Safety Messages

This manual contains various warnings, cautions and notices that must be observed to reduce the risk of personal injury during installation, service or repair and the possibility that improper installation, service or repair may damage the equipment or render it unsafe.



This symbol is used to call your attention to instructions concerning your personal safety. Watch for this symbol; it points out important safety precautions, it means, "Attention, become alert! Your personal safety is involved". Read the message that follows and be alert to the possibility of personal injury or death. Be alert; your safety is involved. While it is impossible to warn about every conceivable hazard, let good common sense be your guide.



This symbol is used to call your attention to instructions on a specific procedure that if not followed may damage or reduce the useful life of the compressor.



This symbol is used to call your attention to additional instructions or special emphasis on a specific procedure.

Warranty General Information

Before You Start

Read this manual before attempting installation so that you can familiarize yourself with the components and how they fit on the vehicle. Identify variations for different engine models and different situations that are listed in the manual. Open the package, unpack the components and identify them.

Torque Specifications

All fasteners must be torqued to specifications. Use manufacturers' torque values for OEM fasteners. **Apply Loctite 242 or equivalent on all engine-mounted fasteners.** Torque values are with Loctite applied unless otherwise specified.

STANDARD GRADE 8 NATIONAL COARSE THREAD								
Size	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4
Foot-pounds (ft-lb)	9	18	35	55	80	110	170	280
Newton meter (N•m)	12	24	47	74	108	149	230	379

STANDARD GRADE 8 NATIONAL FINE THREAD					
Size	3/8	7/16	1/2	5/8	3/4
Foot-pounds (ft-lb)	40	60	90	180	320
Newton meter (N•m)	54	81	122	244	434

METRIC CLASS 10.9						
Size	M6	M8	M10	M12	M14	M16
Foot-pounds (ft-lb)	4.5	19	41	69	104	174
Newton meter (N•m)	6	25	55	93	141	236

Special Tools Required

- None

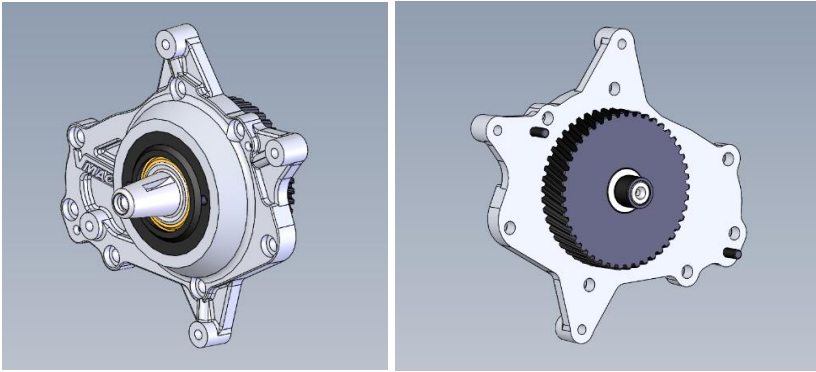
Hose Information

Depending on other installed equipment, it might be necessary to move the air/oil separation tank from its intended location. The hoses used in VMAC compressor systems have a specific inner liner that is compatible with VMAC compressor oil. Use of hoses other than those supplied or recommended by VMAC may cause compressor damage and may void your warranty. Please contact VMAC for replacement hoses and further information.

Parts List

A700237

Gear case cover assembly.



A700237			1X	UPGRADE KIT, CSX
	1901046		1X	INSTRUCTIONS, A700237
	4800736		1X	ASSEMBLY, GEAR COVER, CSX
		1500252	1X	KEY, WOODRUFF
		1500591	2X	DOWEL, PIN, 3/16 X 3/4
		1530526	7X	BOLT, SHCS NC, 1/4 X 3/4 PLATED
		5830023	1X	O-RING, VITON, 4 1/4 ID X 3/32
	A700205		1X	500 HR SERVICE KIT - S700170/172
	A700214		1X	FLUSHING KIT, UNIVERSAL

Flushing Procedure



Confirm that the system is depressurized prior to performing any service work.

You will receive a new gear case cover assembly. It will have a yellow marking along the top of it to indicate it has the new extreme duty bearing (Figure 1)



Figure 1 – Extreme duty bearing identification



Warning- Do NOT install on a used compressor that has been run as the worn gears will not mesh well with the new gears and lead to premature failure of the compressor.

Tools required to replace gear cover assembly:

- 1/2 in socket for clutch bolt
- 3/8 in socket for clutch stator bolts
- 3/16 in Allen key for gear cover bolts
- 5/8 in NC Bolt for clutch pulley removal
- Torque wrench



Figure 2 - Required tools



See instruction video at <https://youtu.be/f4v6y2GTCxw>



The video shows an experienced VMAC assembly technician using a calibrated impact driver. We recommend you use hand tools so that threads or bolts do not get damaged during assembly.

1. Remove the clutch pulley retaining bolt and thick washer (Figure 3).



Figure 3 – Removing the clutch pulley

2. Use 5/8 in NC bolt to remove clutch pulley from the tapered shaft (Figure 4).



Figure 4 – Removing the clutch pulley

3. Use 3/8 in socket to remove the 4 clutch stator bolts (Figure 5).



Figure 5 - Remove clutch stator

4. Remove the support bracket and clutch stator.
5. Use 3/16 in Allen socket/wrench to remove the 7 gear cover retaining bolts (Figure 6).



Figure 6 - Remove gear cover

6. Remove the front gear cover assembly. Pull up on one side and gently tap up on the other (Figure 7).



Figure 7 - Remove gear cover

7. Remove the 2 alignment dowels (Figure 8).



Figure 8 - Remove dowels

8. Install the new gear cover assembly.
9. Apply Loctite 242 (blue) and snug the 7 gear cover bolts by hand.
10. Install the 2 alignment dowels. Push in through the gear cover into gear case. These should be almost flush with the gear cover.
11. Torque the 7 gear cover bolts in a crisscross pattern to 9 ft.lb.

12. Seat the dowels flush with the cover using a flat drift (Figure 9).



Figure 9 - Seat dowels

13. Apply Loctite 242 (blue) to the 4 clutch stator bolts.

14. Position the clutch stator so that the clutch wire is at 11:00 position when looking from the bottom of the compressor (Figure 10).



Figure 10 - Install clutch stator

15. Install the 2 longer (1/4 in x 5/8 in) clutch stator bolts, with the additional brace, in the bottom holes.
16. Install the 2 shorter (1/4 in x 1/2 in) clutch stator bolts in the top holes (Figure 11).



Figure 11 - Install clutch stator

17. Torque the clutch stator bolts to 9 ft.lb.
18. Install the clutch pulley ensuring that the keyway on shaft is lined up with slot in the pulley (Figure 12).



Figure 12 - Install clutch pulley

19. Apply Loctite 242 (blue) to the clutch pulley retaining bolt and install it by hand. Ensure the thick washer is installed (Figure 13).



Figure 13 - Install clutch pulley

20. Torque the clutch retaining bolt to 18 ft.lb.



If you have any questions call 1-888-241-2289 or email tech@vmacair.com and reference "A700237".

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