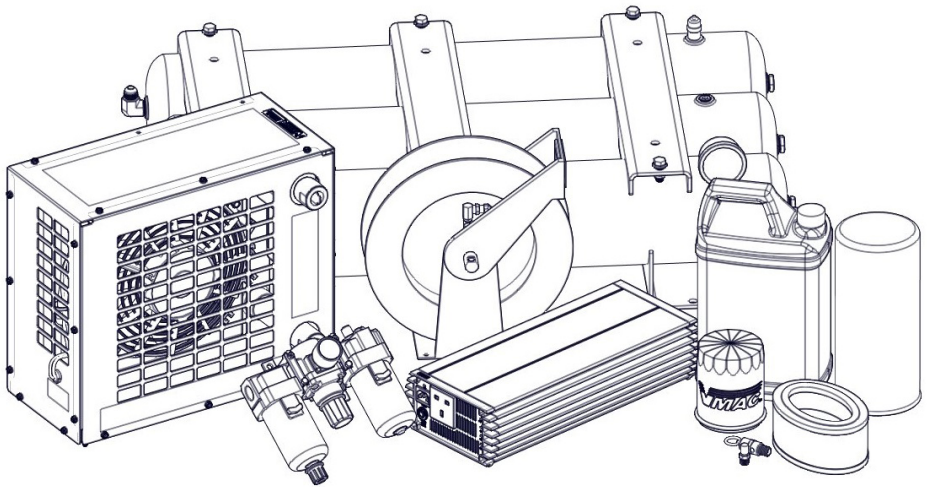




VMAC[®]

AIR INNOVATED[®]



Installation Manual for VMAC Accessory

**Diesel Driven Air Compressor
Service Kit
(Kubota Powered)**

**A500001 500 Hour / 6 Month Service Kit
A500017 1,000 Hour / 1 Year Service Kit**

www.vmacair.com

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Revision	Revision Details	Revised by	Checked by				Implemented
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			Mech.	Elec.			
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Additional Application Information

For use with all Kubota powered Diesel Driven Air Compressor Systems (D60).

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KUBOTA® is a registered trademark of Kubota Corporation.

Important Information

The information in this manual is intended for certified VMAC installers who have been trained in installation and service procedures and/or for anyone with mechanical trade certification who has the tools and equipment to properly and safely perform the installation or service. Do not attempt installation or service without the appropriate mechanical training, knowledge and experience.

Follow all safety precautions. Any fabrication for correct fit in modified vehicles must follow industry standard "best practices".

Notice

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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, service techniques and running OEM changes. If a discrepancy is found in this manual, contact VMAC Technical Support prior to initiating or proceeding with installation, service or repair. Current information may clarify the issue. Anyone with knowledge of such discrepancies, who proceeds to perform 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 ensure that their safety and that of others is not being compromised, and that there will be no adverse effects on the operational safety or performance 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 anyone to properly adhere to the procedures set out in this manual or standard safety practices.

Safety should be the first consideration when performing any service operations. If there are any questions concerning the procedures in this manual, or more information is required, please contact VMAC Technical Support prior to beginning work.

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 attention to instructions concerning 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 aware of the possibility of personal injury or death. As it is impossible to warn of every conceivable hazard, common sense and industry standard safety practices must be observed.



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



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

Warranty

VMAC Standard Warranty (Limited)

For complete warranty information, including both VMAC Standard Warranty (Limited) and VMAC Lifetime Warranty (Limited) requirements, please refer to our current published warranty located at: www.vmacair.com/warranty



If you do not have access to a computer, please contact us and we will be happy to send you our warranty.

VMAC's warranty is subject to change without notice.

VMAC Lifetime Warranty (Limited)

A VMAC Lifetime Limited Warranty is offered on the base air compressor only and only on UNDERHOOD, Hydraulic Driven, Transmission Mounted, Gas and Diesel Engine Driven Air Compressors, Multifunction Power Systems, and other products as defined by VMAC, provided that (i) the purchaser fully completes and submits a warranty registration form within 3 months



of purchase, or 200 hours of operation, whichever occurs first; (ii) services are completed in accordance with the Owner's Manual; (iii) proof of purchase of applicable service kits are made available to VMAC upon request.

The VMAC Lifetime Warranty is applicable to new products shipped on or after 1 October, 2015.

Warranty Registration

Warranty registration for VMAC systems can be completed online or by filling in the form at the back of each system installation manual. Warranty registration must be completed and sent to VMAC at the time the system is put into service for any subsequent warranty claim to be considered valid.

There are 4 ways the warranty can be registered with VMAC:



www.vmacair.com/warranty



warranty@vmacair.com



(877) 740-3202



VMAC - Vehicle Mounted Air Compressors
1333 Kipp Road, Nanaimo, BC, Canada V9X 1R3

VMAC Warranty Claim Process



VMAC warranty work must be pre-authorized by VMAC. Claims are processed via our dealer network. If you are not a VMAC dealer, please select one to work with via our Dealer Locator: <https://www.vmacair.com/dealer-locator/>



- 1) Communicate with VMAC Technical Support at 1-888-241-2289 or tech@vmacair.com to help diagnose/troubleshoot the problem prior to repair. VMAC technical support will require the VMAC System ID, and the hours on the compressor.
- 2) VMAC will provide direction for repair or replacement of the failed components.
- 3) If requested, failed parts must be returned to VMAC for evaluation.
- 4) Dealers may login to the VMAC website to view the "VMAC Labour Time Guide" (under "Agreements") to see the allowable warranty labour times.
- 5) Warranty invoices must include the Service Ticket number, VMAC System ID#, hours on the compressor, and a detailed description of the work performed.
- 6) VMAC Warranty does not cover consequential damages, overtime charges, mileage, travel time, towing/recovery, cleaning or shop supplies.
- 7) Dealers submit warranty claims on behalf of the Vehicle Owner/End User affected by the defective part(s). The dealer ensures that all warranty credits are refunded back to the Vehicle Owner/End User who made the initial warranty claim.



In order to qualify for Lifetime Warranty (Limited), the completed warranty registration form must be received by VMAC within 3 months of the buyer receiving the Product(s), or 200 hours of operation, whichever occurs first.

If the completed warranty registration form has not been received by VMAC within 3 months of the buyer receiving the Product(s), or 200 hours of operation, the "Standard" warranty period will be deemed to commence 30 days from the date of shipment from VMAC.

Failure to follow the warranty claim process may result in denial of the warranty claim.

VMAC Product Warranty Policies & Warranty Registration can be found on the VMAC website (see previous page for URL).

General Information

Optional Equipment Compatibility

While VMAC strives to design systems compatible with optional OEM equipment (such as running boards), it is impractical to develop systems that accommodate every OEM and aftermarket option or add-on. Whenever possible, VMAC endeavors to advise of compatibility issues in the "Additional Application Information" section of the manual. Even when specific optional equipment is determined by VMAC to be incompatible, it does not preclude the vehicle upfitter or end user from modifying the optional equipment to make it compatible with the installed VMAC system. VMAC does not warrant or accept responsibility or liability for the fitment, function, or safety of any products modified in any way not expressly outlined in the installation manual.

Before Starting

Read this manual prior to beginning the installation to ensure familiarity with the components and how they will fit on the vehicle. Identify any variations from the application list such as vehicle model, engines, or optional equipment (e.g., dual alternator, active steering assist, etc.).

Open the package, unpack the components and identify them using the Illustrated Parts List (IPL) included in the Fastener Pack.

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.

Ordering Parts

To order parts, contact a VMAC dealer. The dealer will ask for the VMAC serial number, part number, description and quantity. Locate the nearest dealer online at www.vmacair.com/dealer-locator or call 1-877-912-6605.



Special Tools Required

- None.

All fasteners must be torqued to specifications. Use manufacturers' torque values for OEM fasteners.

The torque values supplied in Table 1 are intended for VMAC supplied components, or for use as a guide in the absence of a torque value provided by an OEM.



Apply Loctite 242 (blue) to all fasteners (except nylon lock nuts) unless otherwise stated.

Torque values are with Loctite applied unless otherwise specified.

Standard Grade 8 National Coarse Thread								
Size (in)	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 (in)	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 (mm)	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

Table 1 — Torque Table

Maintenance and Repair Safety



Prior to performing any service, ensure the vehicle is parked on level ground and that the transmission is in "PARK" with the parking brake applied and the wheels chocked (if applicable).



It is impossible to warn of all the possible hazards that may result from operating, servicing, or repairing this system.

Wear all appropriate Personal Protective Equipment and follow all industry standard safety practices.



Confirm that the system is shutdown (not in "STANDBY") with the key in the "OFF" position, depressurized and has cooled prior to performing any service work.



Never use flammable solvents to clean any components. If a flammable solvent has been used, rinse the component thoroughly with water and dry it before reinstalling it to prevent the possibility of explosion.



Use only genuine VMAC parts to maintain the system.

Genuine VMAC parts are designed to work with the high pressure and heat generated by the compressor. Substituting genuine VMAC parts may void the warranty and could cause equipment damage, injury, or death.



This information is intended for people with mechanical trade certification who have the tools and equipment to properly and safely perform the service or repair. Do not attempt to service or repair this system without the appropriate mechanical training, knowledge and experience.

Follow all safety precautions and industry standard "best practices".

Safety Check List

- Open the ball valve or connect an air tool to the system to ensure all of the stored air is released.
- Gently pull up on the ring, on the pressure relief valve (located inside the service panel), to confirm the system is depressurized.
- Disconnect the negative battery terminal.



Do not use the pressure relief valve as a means of depressurizing the compressor system. Doing so will prematurely wear the internal spring or the seat, preventing the valve from maintaining normal system pressure.

General Service Information



Read the "Maintenance and Repair Safety" section prior to performing any work on the system (beginning on page 8).

Wear appropriate Personal Protective Equipment and follow all industry standard safety practices.

- If the system is cold, bring the engine to operating temperature and then operate the compressor system for a few minutes to bring the compressor oil to operating temperature. Warming the system will improve oil flow and will allow the oil to flow better and will also help to suspend contaminants in the oil, so that they can be removed from the system with the old oil.
- Allow the system to build to full system pressure and for the engine speed to drop to 2,400 rpm.
- Shutdown the system.
- Ensure the system is fully depressurized prior to beginning any service work.
- Observe all safety procedures relating to moving belts, hot oil and compressed air. Use all appropriate Personal Protective Equipment and follow all industry standard safety practices.
- Check the old oil for any evidence of metal filings or contamination. If any metal filings are found, flush the hoses and the AOST using the VMAC flushing kit (P/N: A700214).

Push-To-Connect Fittings

- Lubricate the tube and firmly push it into the fitting so that the tube fully seats in the fitting.
- Slide the collet out, away from the body of the fitting to lock the tubing in place.
- Ensure the tube does not have any "play" to prevent the O-ring from wearing.

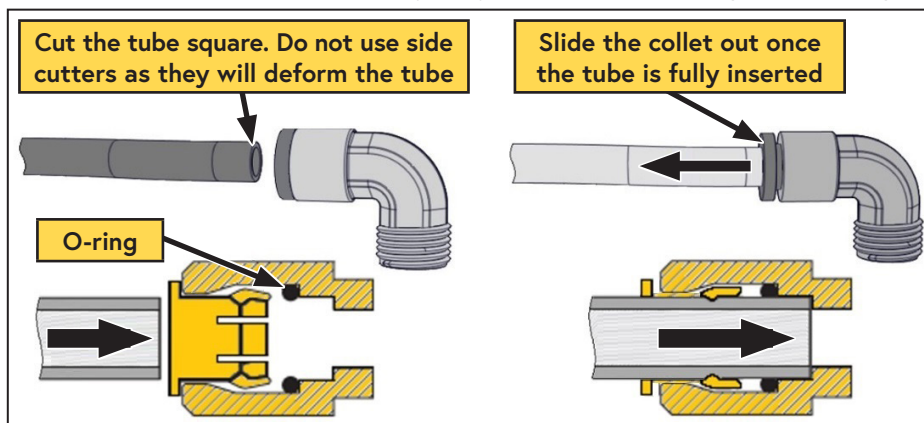


Figure 1 — Push-to-connect fittings

500 Hour / 6 Month Service



Read the "Maintenance and Repair Safety" section prior to performing any work on the system (beginning on page 8).
Wear appropriate Personal Protective Equipment and follow all industry standard safety practices.



Do not use compressed air or perform any other tasks around the air filter and cover until both are replaced. Never clean the filter element with compressed air as this may allow contaminants to enter the compressor system. Always replace the air filter element during this service.



A clean engine compartment, in addition to being more efficient, makes detecting issues (i.e. oil or coolant leaks, etc.) easier. VMAC recommends cleaning the D60 as part of regular servicing.

- Clean the area around the AOST and the oil filter to prevent contamination.
- Place appropriate absorbent material under the filter to collect oil spills.
- Remove the oil drain plug and drain the oil into a container with a capacity of at least 1.3 USG (5 L) (Figure 2).

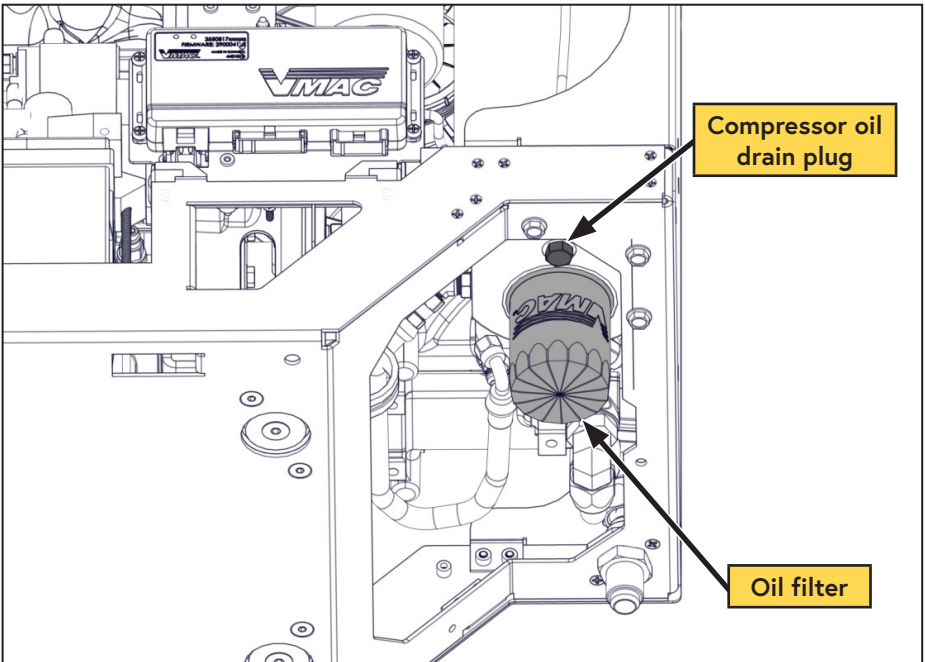


Figure 2 — Drain compressor oil

- Remove the oil filter (Figure 2).
- Install and tighten the oil drain plug.

- Ensure the threaded nipple did not unscrew with the oil filter (Figure 3).

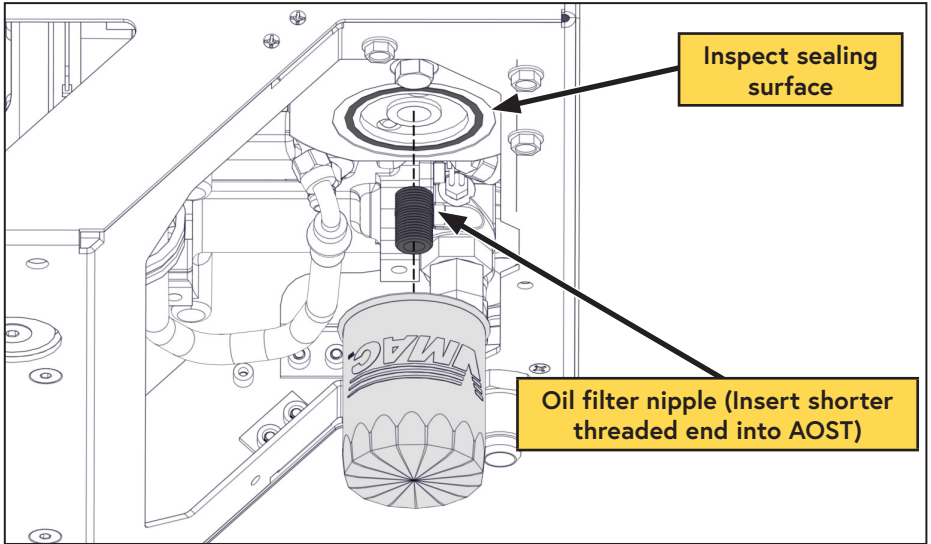


Figure 3 — Replace oil filter

- *If the nipple came out with the oil filter, remove it from the filter, being careful to avoid damaging the threads (Figure 3).
- *To reinstall the nipple, thoroughly clean the threads and apply Loctite 242 (blue) to the end with the short threads and replace it in the AOST (Figure 3).
- Clean the gasket sealing surface on the front of the AOST and inspect it for damage. The surface must be free of old gasket material, and smooth, to ensure a good seal (Figure 3).
- Apply a thin coat of compressor oil to the rubber gasket on the oil filter.
- Spin the filter onto the threaded nipple until the gasket contacts the sealing surface on the tank, then tighten the filter an additional 3/4 to 1 turn to seat the gasket.
- Remove the oil fill plug from the top of the AOST (Figure 4).

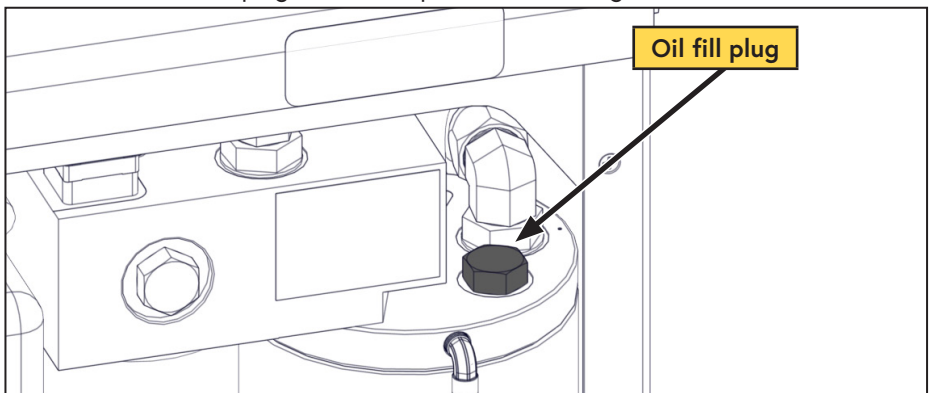


Figure 4 — Add compressor oil

- Using a funnel, add oil to the AOST until it reaches the "MAX" line on the sight glass on the front of the AOST. The air compressor system holds approximately 1 USG (4 L) of oil when dry (Figure 5).

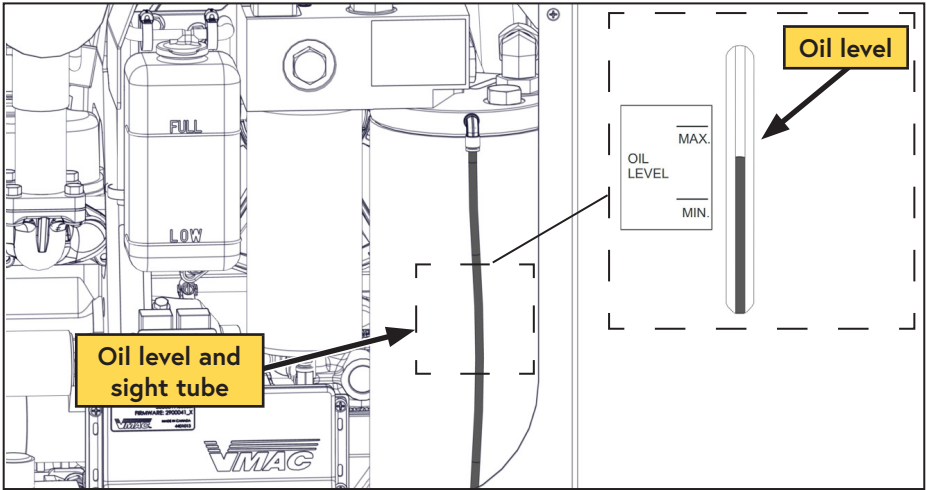


Figure 5 — Add compressor oil

- Replace the oil fill plug and tighten it securely.
- Clean any loose debris from around the air filter housing to prevent contaminants from entering the system.



To avoid any possibility of contamination, ensure the air inlet is covered with masking tape or a clean cloth whenever the air filter is removed.



Do not attempt to clean the filter element, or use compressed air to perform any tasks around the compressor until the filter and cover are replaced.

- Remove the air filter cover (Figure 6).

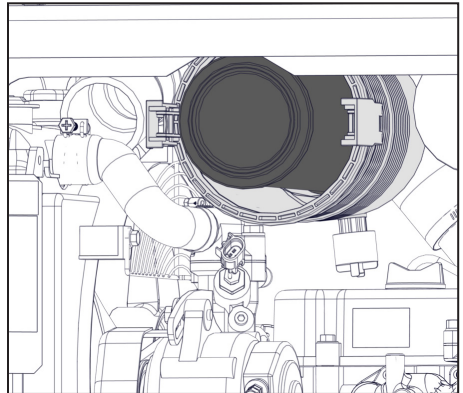
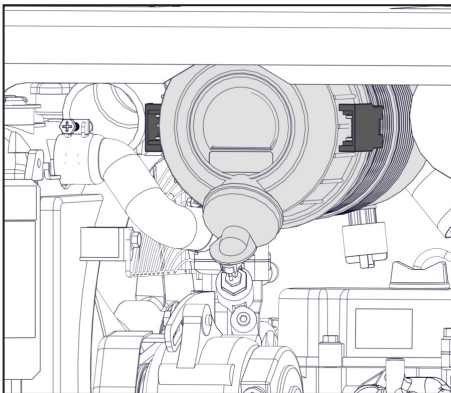


Figure 6 — Replace air filter

- Remove the air filter.
- Immediately cover the air inlet opening with a clean cloth or masking tape to prevent contaminants from entering the system.
- Clean the inside of the filter cover with a clean, dry cloth.
- Remove the cloth or masking tape from the air inlet and install the new air filter element.
- Install and latch the air filter cover.

Completing the service

- Visually inspect the pressure relief valve to ensure it is not corroded and that the vent holes are not plugged (Figure 7).



While the pressure relief valve can be accessed and changed from the service panel side of the D60, removing the top panel may provide the easiest access.

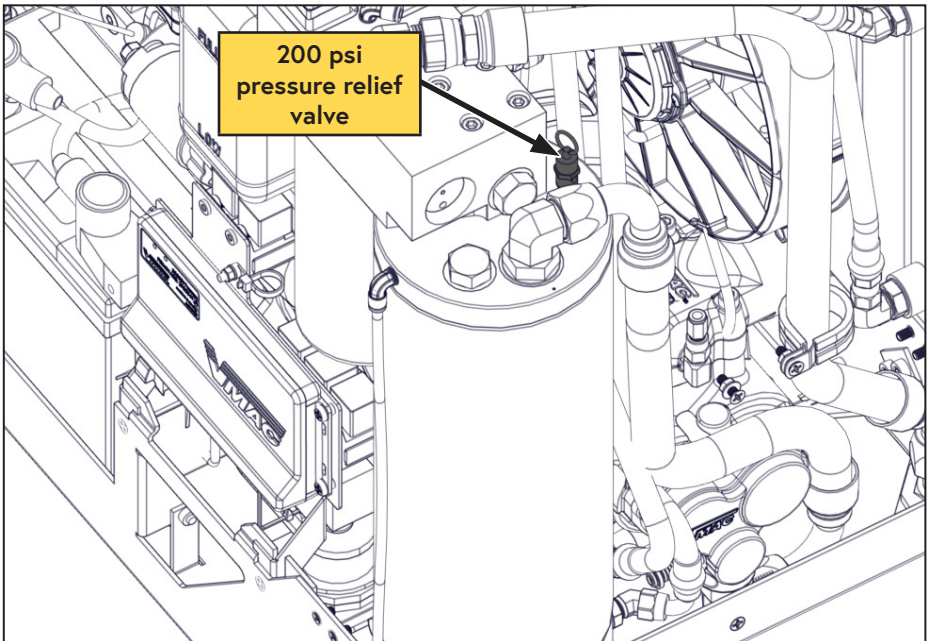


Figure 7 — Pressure relief valve

- Inspect all wire harnesses for signs of wear. If signs of wear are present, apply protective loom as necessary and secure with rubber coated P-clips or cable ties.
- Inspect all hoses for signs of wear. If signs of wear are present, take appropriate action to prevent further wear.
- Connect the negative battery terminal.
- Start the system and check for oil leaks.
- Allow the system to build to full system pressure (factory setting 150 psi).

- Turn the system "OFF".
- Once the system has sat for 5 minutes, check the oil level in the sight glass and add oil as necessary.
- Verify there are no oil leaks.

Wheel Kit Equipped Systems Only



Ensure the D60 is adequately blocked/supported prior to commencing work on the brake, wheels, or caster assembly.

- Inspect the wheel brake and adjust as necessary by rotating the brake adjustment nut until the brake pad holds the unit in place (Figure 8).

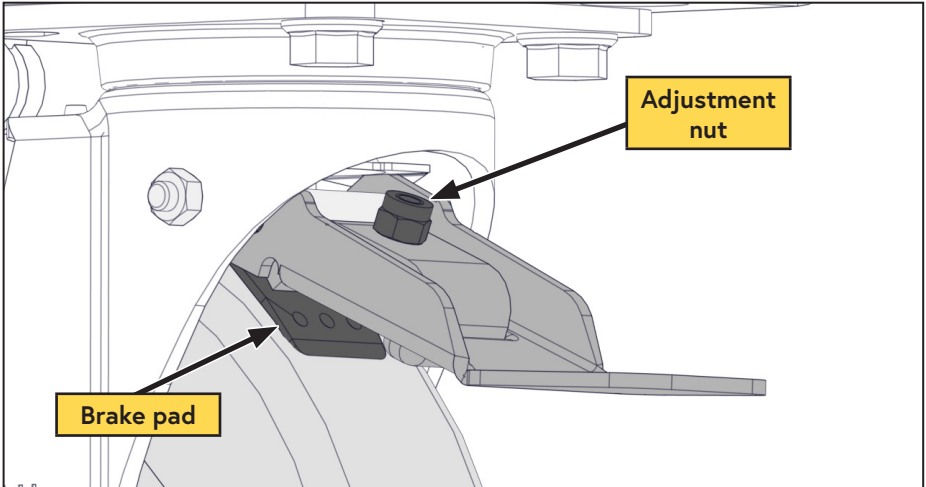


Figure 8 — Brake adjustment

Clearing Service Reminders

For systems that show a service reminder "HRSxxx500HRSVC" on the display panel:

- Turn the key switch to the "ON" position but do not start the system.
- Once the system has completed its self diagnostics, press and hold the "►" and "◄" buttons for 5 seconds to enter the diagnostic mode.
- Cycle through the menu using the "►" button; once "SERVICING" is displayed, press the "ENTER" button.
- Press the "ENTER" button again to log the service.

1,000 Hour / 1 Year Service



**Read the "Maintenance and Repair Safety" section prior to performing any work on the system (beginning on page 8).
Wear appropriate Personal Protective Equipment and follow all industry standard safety practices.**



Do not use compressed air or perform any other tasks around the air filter and cover until both are replaced. Never clean the filter element with compressed air as this may allow contaminants to enter the compressor system. Always replace the air filter element during this service.



A clean engine compartment, in addition to being more efficient, makes detecting issues (i.e. oil or coolant leaks, etc.) easier. VMAC recommends cleaning the D60 as part of regular servicing.

- Clean the area around the AOST and the oil filter to prevent contamination.
- Place appropriate absorbent material under the filter to collect oil spills.
- Remove the oil drain plug and drain the oil into a container with a capacity of at least 1.3 USG (5 L) (Figure 9).

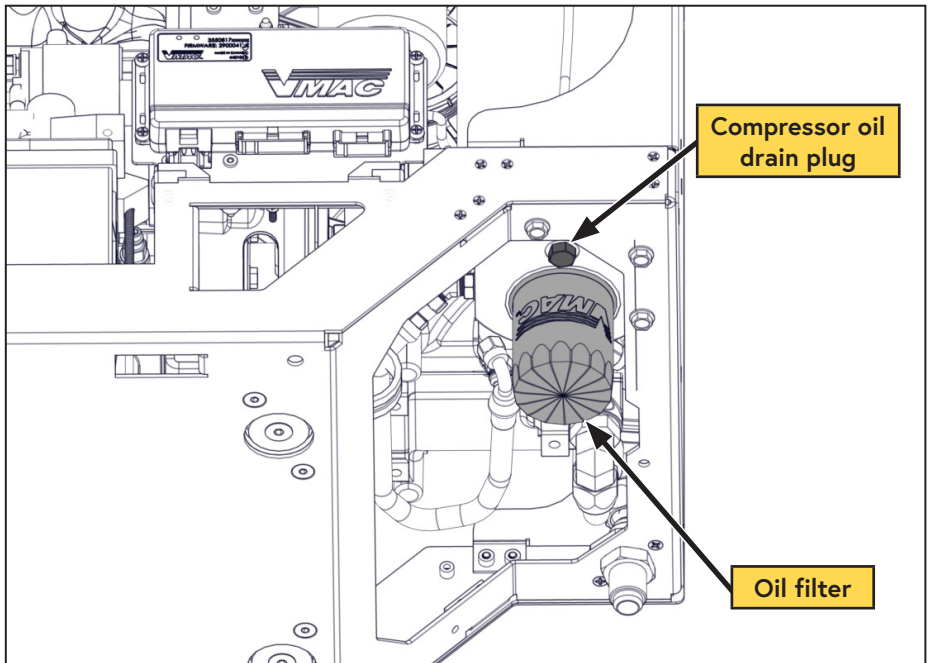


Figure 9 — Drain compressor oil

- Remove the oil filter (Figure 9).
- Install and tighten the oil drain plug.

- Ensure the threaded nipple did not unscrew with the oil filter (Figure 10).

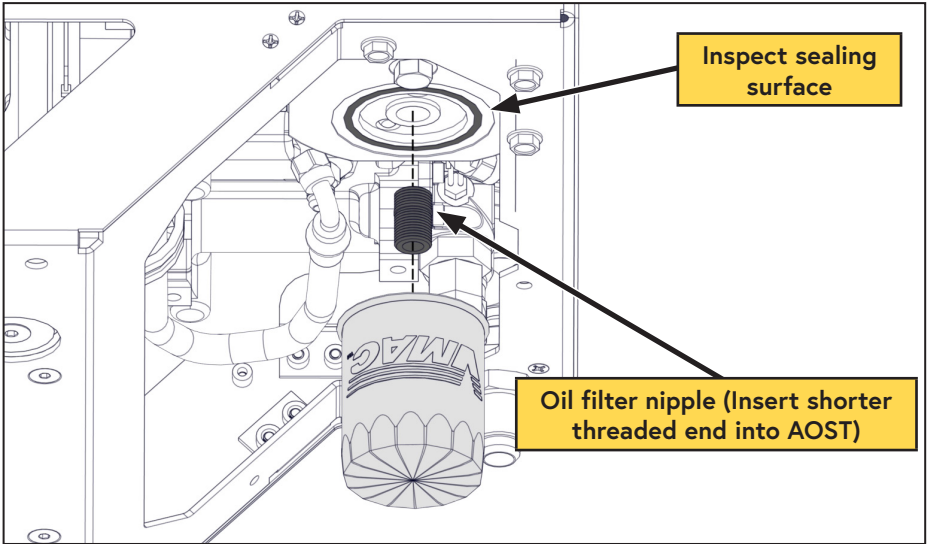


Figure 10 — Replace oil filter

- *If the nipple came out with the oil filter, remove it from the filter, being careful to avoid damaging the threads (Figure 10).
- *To reinstall the nipple, thoroughly clean the threads and apply Loctite 242 (blue) to the end with the short threads and replace it in the AOST (Figure 10).
- Clean the gasket sealing surface on the front of the AOST and inspect it for damage. The surface must be free of old gasket material, and smooth, to ensure a good seal (Figure 10).
- Apply a thin coat of compressor oil to the rubber gasket on the oil filter.
- Spin the filter onto the threaded nipple until the gasket contacts the sealing surface on the tank, then tighten the filter an additional 3/4 to 1 turn to seat the gasket.
- Place appropriate absorbent material under the coalescing filter to collect oil spills.



Only use an appropriate oil filter wrench to remove the coalescing filter, punching a screwdriver (or similar object) into the side of the filter may damage the scavenge tube or screen.

- Remove the coalescing filter, being careful to avoid damaging the scavenge tube or screen that is inside the filter (Figure 11).

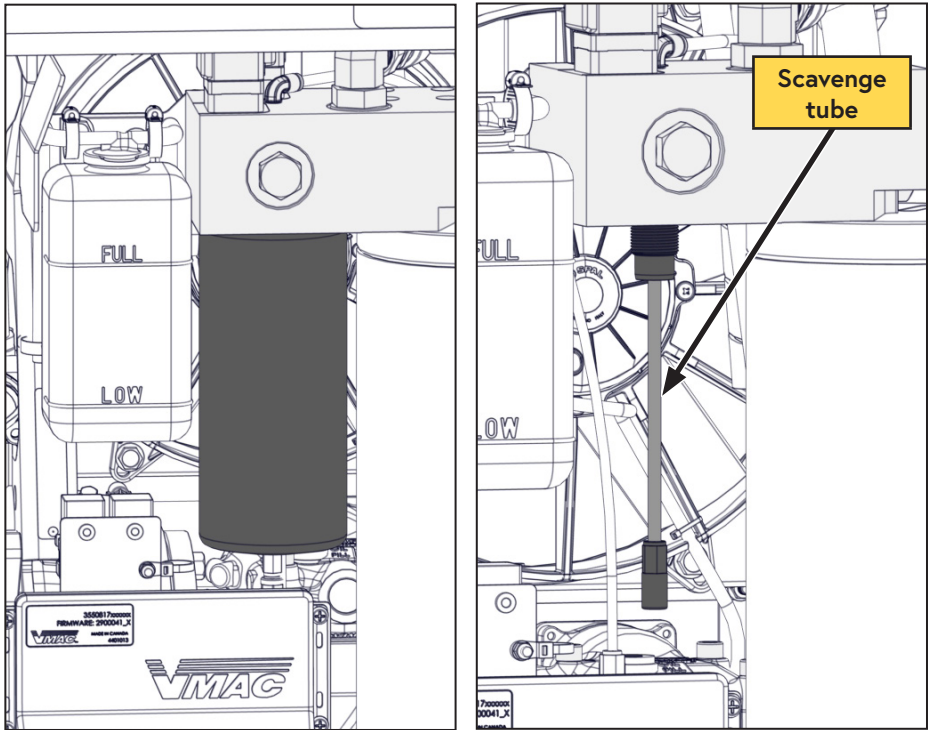


Figure 11 — Remove the coalescing filter

- Ensure the scavenge screen is in place on the scavenge tube (Figure 12).

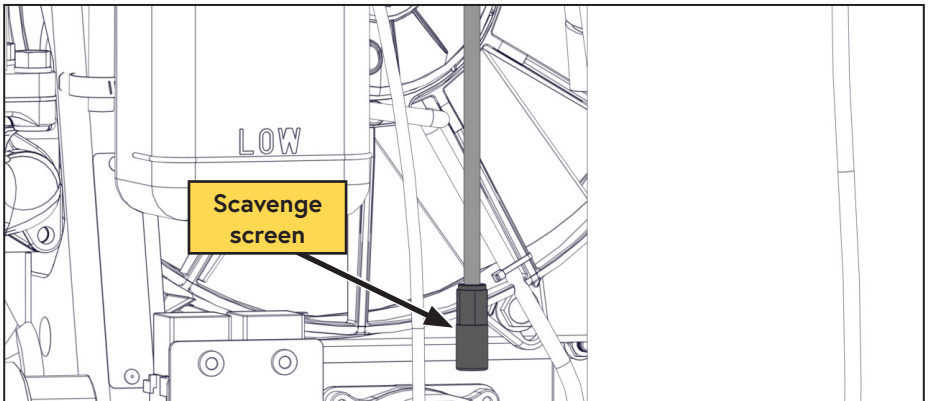


Figure 12 — Scavenge screen

- Clean the gasket sealing surface on the coalescing manifold and inspect it for damage. The surface must be free of old gasket material, and smooth, to ensure a good seal.
- Apply a thin coat of compressor oil to the rubber gasket on the coalescing filter.
- Spin the new coalescing filter onto the threaded nipple until the gasket contacts the sealing surface on the coalescing manifold, then tighten the filter an additional 3/4 to 1 turn to seat the gasket.
- Remove the oil fill plug from the top of the AOST (Figure 13).

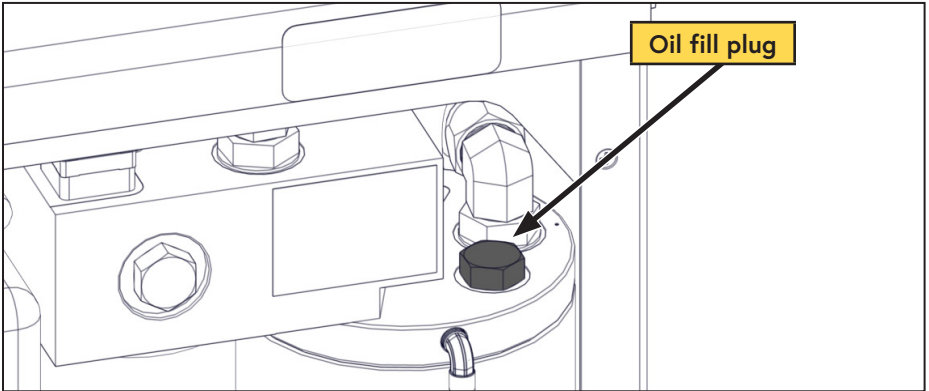


Figure 13 — Add compressor oil

- Using a funnel, add oil to the AOST until it reaches the "MAX" line on the sight glass on the front of the AOST. The air compressor system holds approximately 1 USG (4 L) of oil when dry (Figure 14).

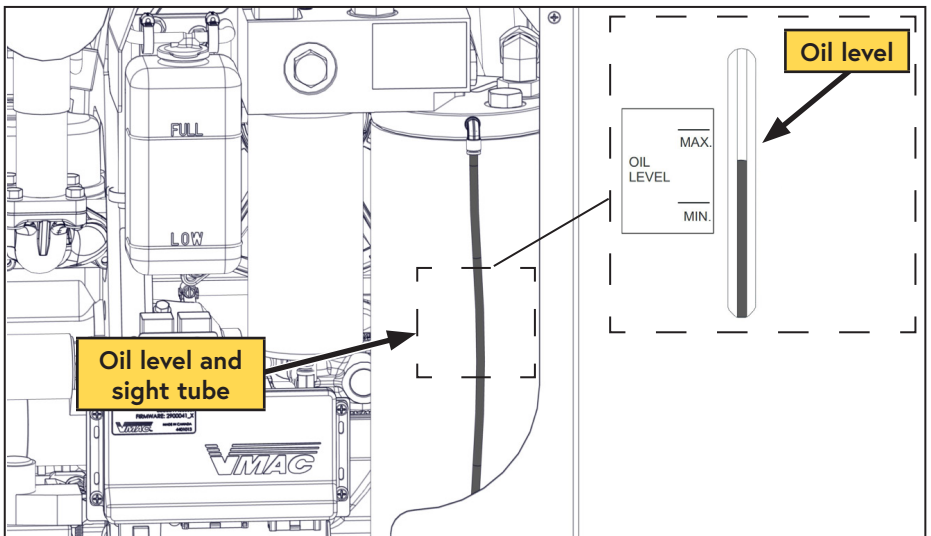


Figure 14 — Add compressor oil

- Replace the oil fill plug and tighten it securely.

- Clean any loose debris from around the air filter housing to prevent contaminants from entering the system.



To avoid any possibility of contamination, ensure the air inlet is covered with masking tape or a clean cloth whenever the air filter is removed.



Do not attempt to clean the filter element, or use compressed air to perform any tasks around the compressor until the filter and cover are replaced.

- Remove the air filter cover (Figure 15).

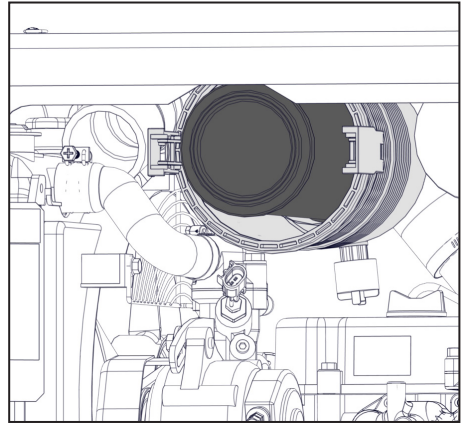
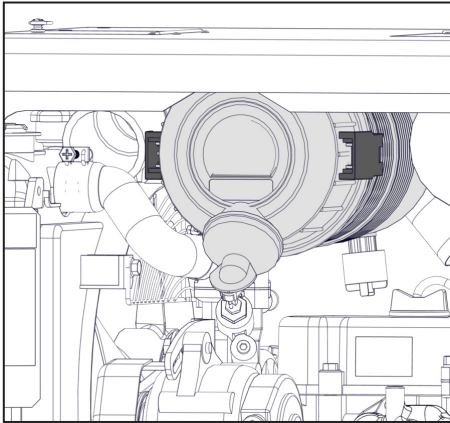


Figure 15 — Replace air filter

- Remove the air filter.
- Immediately cover the air inlet opening with a clean cloth or masking tape to prevent contaminants from entering the system.
- Clean the inside of the filter cover with a clean, dry cloth.
- Remove the cloth or masking tape from the air inlet and install the new air filter element.
- Install and latch the air filter cover.

Completing the service

- Visually inspect the pressure relief valve to ensure it is not corroded and that the vent holes are not plugged (Figure 16).



While the pressure relief valve can be accessed and changed from the service panel side of the D60, removing the top panel may provide the easiest access.

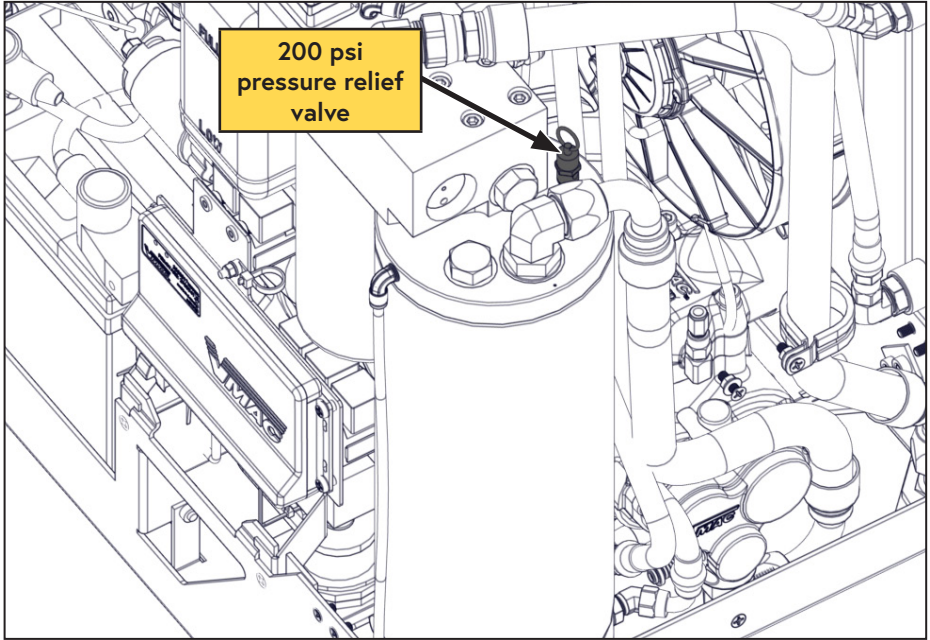


Figure 16 — Pressure relief valve

- Inspect all wire harnesses for signs of wear. If signs of wear are present, apply protective loom as necessary and secure with rubber coated P-clips or cable ties.
- Inspect all hoses for signs of wear. If signs of wear are present, take appropriate action to prevent further wear.
- Connect the negative battery terminal.
- Start the system and check for oil leaks.
- Allow the system to build to full system pressure (factory setting 150 psi).
- Turn the system "OFF".
- Once the system has sat for 5 minutes, check the oil level in the sight glass and add oil as necessary.
- Verify there are no oil leaks.

Wheel Kit Equipped Systems Only



Ensure the D60 is adequately blocked/supported prior to commencing work on the brake, wheels, or caster assembly.

- Inspect the wheel brake and adjust as necessary by rotating the brake adjustment nut until the brake pad holds the unit in place (Figure 17).

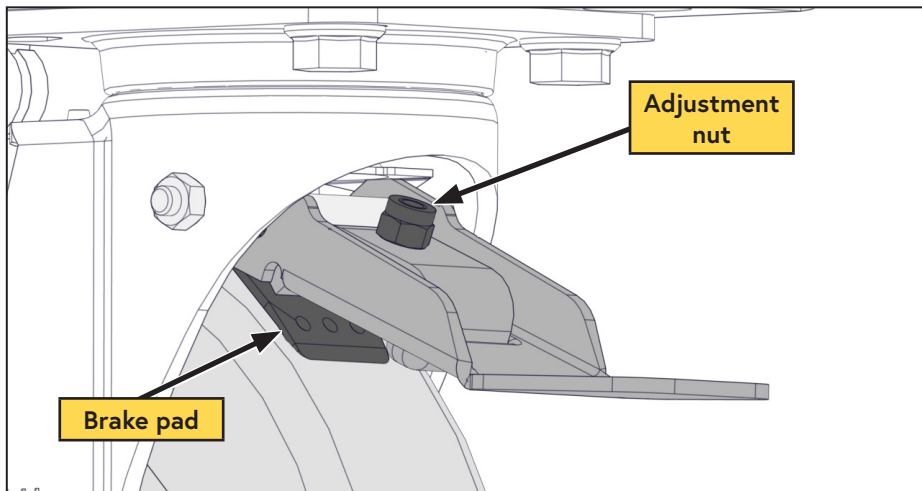


Figure 17 — Brake adjustment

Clearing Service Reminders

For systems that show a service reminder "HRSxxx1000HR SVC" on the display panel:

- Turn the key switch to the "ON" position but do not start the system.
- Once the system has completed its self diagnostics, press and hold the "▶" and "◀" buttons for 5 seconds to enter the diagnostic mode.
- Cycle through the menus using the "▶" button; once "SERVICING" is displayed, press the "ENTER" button.
- Press the "ENTER" button again to log the service.

Manufactured by



888-241-2289



tech@vmacair.com



877-740-3202



warranty@vmacair.com



www.vmacair.com



kb.vmacair.com



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