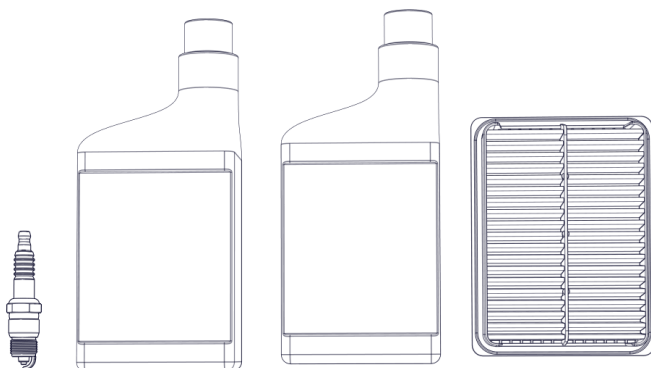


Installation Manual

A500039 100HR Tune Up Kit



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Changes and Revisions

Version	Revision Details	Revised by /date	Checked by /date	Reviewed by /date	Implemented
A	Engineering Release	REF 19 October 2015	RAR 19 October 2015	NAC 19 October 2015	19 October 2015

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.

Notice

Manuals are subject to change without notice.

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General Information

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 service. 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, 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 service or repair and the possibility that improper 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.

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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	M8	M10	M12	M14	M16
Foot-pounds (ft-lb)	19	41	69	104	174
Newton meter (N•m)	25	55	93	141	236

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 1-800-738-8622 or online at www.vmacair.com

Part List

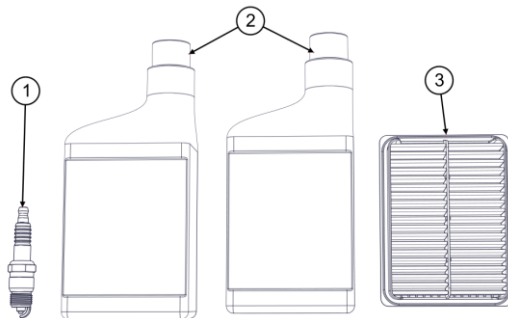


Figure 1- A500039 contents

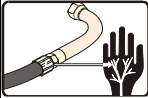


Item	Part Number	Quantity	Description
1	5800145	1	SPARK PLUG
2	5400729	2	OIL, 10W30 1L
3	5800144	1	AIR CLEANER, DUAL ELEMENT

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Safety Precautions

	<h2>Compressor Air and Oil Hazard</h2> <ul style="list-style-type: none">• The compressor system is under sufficient pressure that a leak could force the air/oil mixture through the skin directly into your bloodstream. This could cause serious injury or death.• Ensure the system is completely depressurized before attempting maintenance or repair.• Do not use compressor air to clean off clothing or skin, compressed air can penetrate the skin causing serious injury or death.• Do not move or service the compressor while it is pressurized or operating.• Do not move the compressor by pulling on any hoses.• Components and hoses under pressure could separate suddenly, fly out and cause serious injury or death. If equipped, the auxiliary air tank must be drained before servicing any components in the compressor system.• Never adjust or attempt to make any repairs to the system while the engine is running. Components and hoses under pressure could fail and cause serious injury or death.
	<h2>Burn Hazard</h2> <ul style="list-style-type: none">• The engine, exhaust and the compressor system get very hot during operation, contact with the components or the oil can cause serious injury. Allow sufficient time for the system to cool before performing service.• Never allow any part of your body to contact the engine or compressor components.
	<h2>Moving Parts Hazard</h2> <ul style="list-style-type: none">• Before performing service, disconnect the battery and disconnect the spark plug wire to prevent unexpected engine start.• Do not operate the compressor without guards in place. If the guards are damaged or missing, replace them before operating the equipment.

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Installation



The spark plug wire must be disconnected before attempting any repair or service. Turning the crankshaft may cause the engine to start, and cause serious injury.

- 1) Disconnect the negative battery terminal (Figure 2).

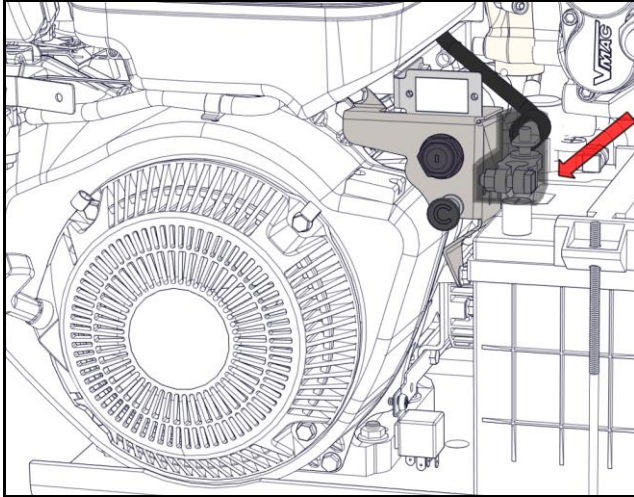


Figure 2 – Negative battery cable

- 2) Disconnect the spark plug wire (Figure 3).

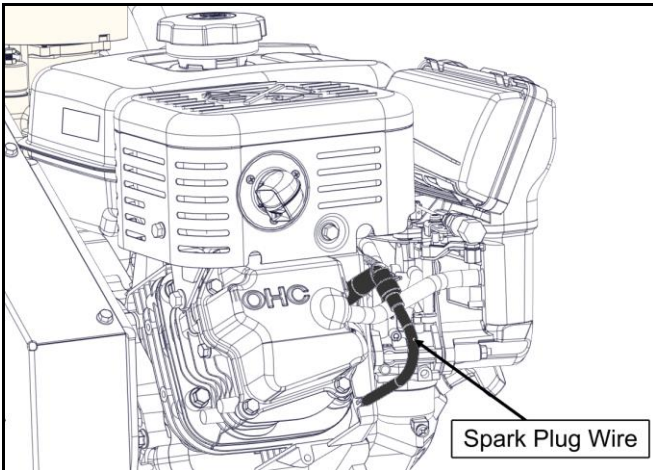


Figure 3 – Spark plug wire

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Changing the Engine Air Filter



- Read the Subaru® engine manual before working on the system.
- Never run the compressor, drive the vehicle or even allow the vehicle to sit parked without the recommended air filter and filter cover installed.

- 1) Clean loose debris from the area around the filter cover to prevent contamination entering the engine.
- 2) Undo the two latches on the air filter box, remove the filter cover and the filter element (Figure 4).
- 3) Immediately cover the engine filter opening by masking with tape or with a clean cloth to prevent contamination. Do not use compressed air or perform any other tasks around the engine until the filter and cover are replaced.
- 4) Clean the inside of the filter cover with a clean, dry cloth. Do not use flammable solvents to clean the inside of the cover.
- 5) Remove the cloth or masking and install a new air filter.
- 6) Replace the cover and secure it with the two latches.

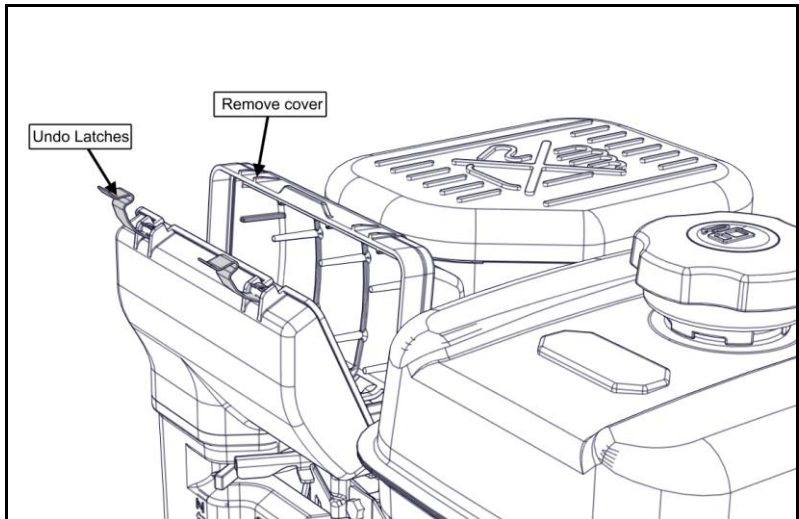


Figure 4 – Engine air filter

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Changing the Engine Oil



- Read the Subaru® engine manual before working on the system.
- Do not attempt to change the oil until the oil has cooled. Hot oil can cause severe burns.

- 1) Locate the engine oil drain (Figure 5).
- 2) Clean the area around the drain plug to prevent contamination.
- 3) Remove the plug to drain the oil into a container large enough to hold at least 1-1/2 US Gallons (6 liters). After the oil has drained, replace the plug.

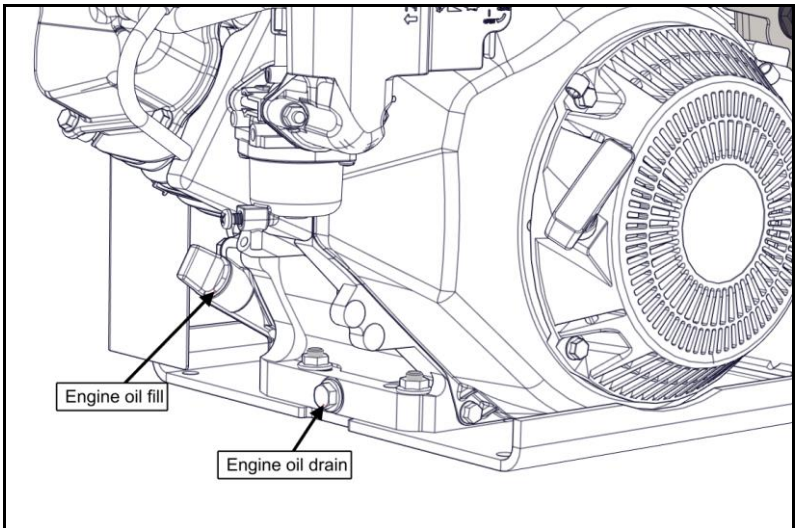


Figure 5 – Engine Oil Drain

Adding Engine Oil

- 1) Locate the oil fill cap. The oil fill cap is located adjacent to the oil drain (Figure 5).
- 2) Clean the area around the fill cap to prevent contamination.
- 3) Oil can be added using an accordion funnel (engine oil capacity is 1.2L)

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Changing the Engine Oil with Remote Drain

- 1) Clean the area around the drain plug to prevent contamination (Figure 6).
- 2) Use a 7/8" wrench to hold the oil hose fitting, and a 13/16" wrench to remove the oil drain plug.
- 3) Drain the oil into a container large enough to hold at least 1-1/2 US Gallons (6 liters).

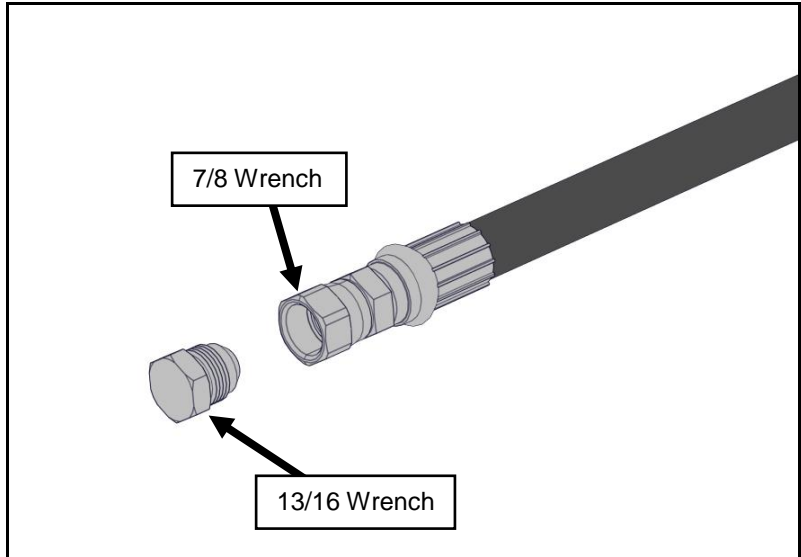


Figure 6 – Using the remote drain

Adding Engine Oil

- 4) Locate the oil fill cap. The oil fill cap is located adjacent to the oil drain (Figure 5).
- 5) Clean the area around the fill cap to prevent contamination.
- 6) Oil can be added using an accordion funnel (engine oil capacity is 1.2L)



Due to the addition of the A500036 remote oil drain hose, the system oil capacity may be increased. Verify engine oil level on the dipstick before running the system.

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Changing the Spark Plug

- 1) Clean the area around the spark plug so that no contaminants get into the engine.
- 2) Remove the spark plug by rotating it counter-clockwise (Figure 7).

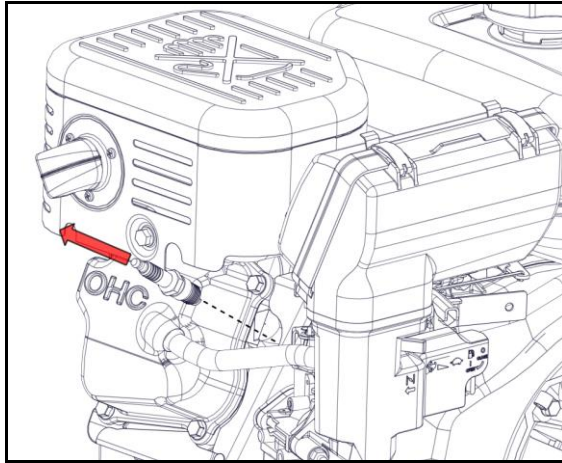


Figure 7 – Removing spark plug

- 3) Install the new plug by rotating it clock-wise (Figure 8).

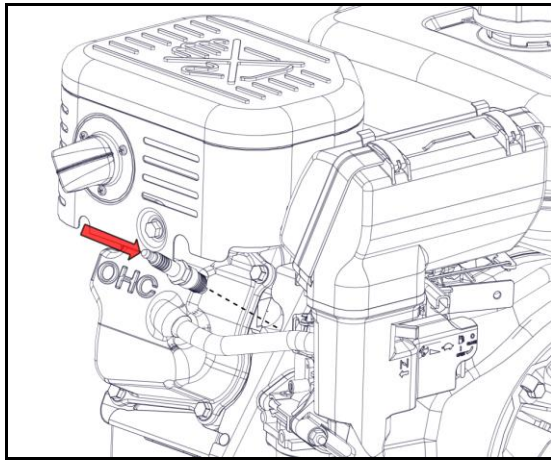


Figure 8 – Installing spark plug



For information on spark plug gap refer to the Subaru® Engine manual supplied with the system. (VMAC P/N: 1901022). Not following the Subaru® Engine manual supplied can result in poor engine performance or engine damage.

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Completing the Service

- 1) Connect the spark plug wire (Figure 9).

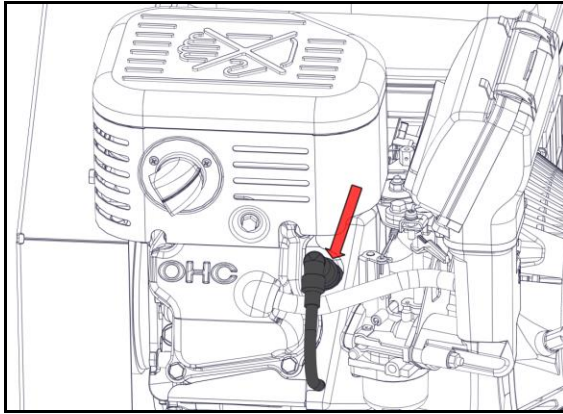


Figure 9 – Connecting spark plug wire

- 2) Connect the negative battery cable (Figure 10).

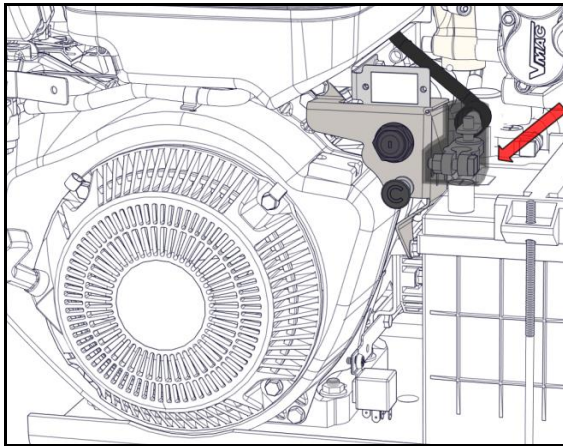


Figure 10 – Connecting negative battery cable

System Testing

- 1) Start the G30 Gas drive and allow it to build to pressure.
- 2) Ensure system is operating normally, and that there are no leaks or loose components.
- 3) If system does not operate normally ensure lines are connected correctly and that there are not air leaks. If the problem still exists contact VMAC technical support at 1-888-241-2289 or tech@vmacair.com.

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Engine Maintenance Schedule

The VMAC gas drive compressor uses the Subaru® EX40 engine. For engine service intervals refer to the Subaru® Engine manual supplied with the system. (VMAC P/N: 1901022). Not following the Subaru® Engine manual supplied can result in poor engine performance or engine damage. **The following information is provided as a guide only, refer to the Subaru engine manual for service intervals and instructions.**

After first 20 hours

- Change engine oil.

Every 100 hours

- Change engine oil.
- Change spark plug.
- Change air filter (*Subaru® recommends every 200 hours*).

Spark Arrester

The gas drive is equipped from the factory with a spark arrester. The spark arrester must be cleaned regularly for optimal engine performance (Figure 11).

For information on servicing the spark arrester refer to the Subaru® Engine manual supplied with the system. (VMAC P/N: 1901022). Not following the Subaru® Engine manual supplied can result in poor engine performance or engine damage.

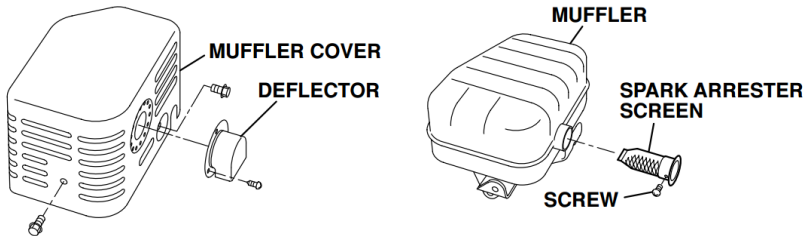


Figure 11 – Spark arrester

Image taken from Subaru® Owner's manual

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Service Records

Engine and Compressor must be serviced per manufacturer's specifications for the warranty to be considered valid. ***Fill out and store this page with every service***

Initial 20 Hour Service

Date:

Performed by:

Address:

System Hours:

Parts replaced:

or notes:

100 Hour Engine Service

Date:

Performed by:

Address:

System Hours:

Parts replaced:

or notes:

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