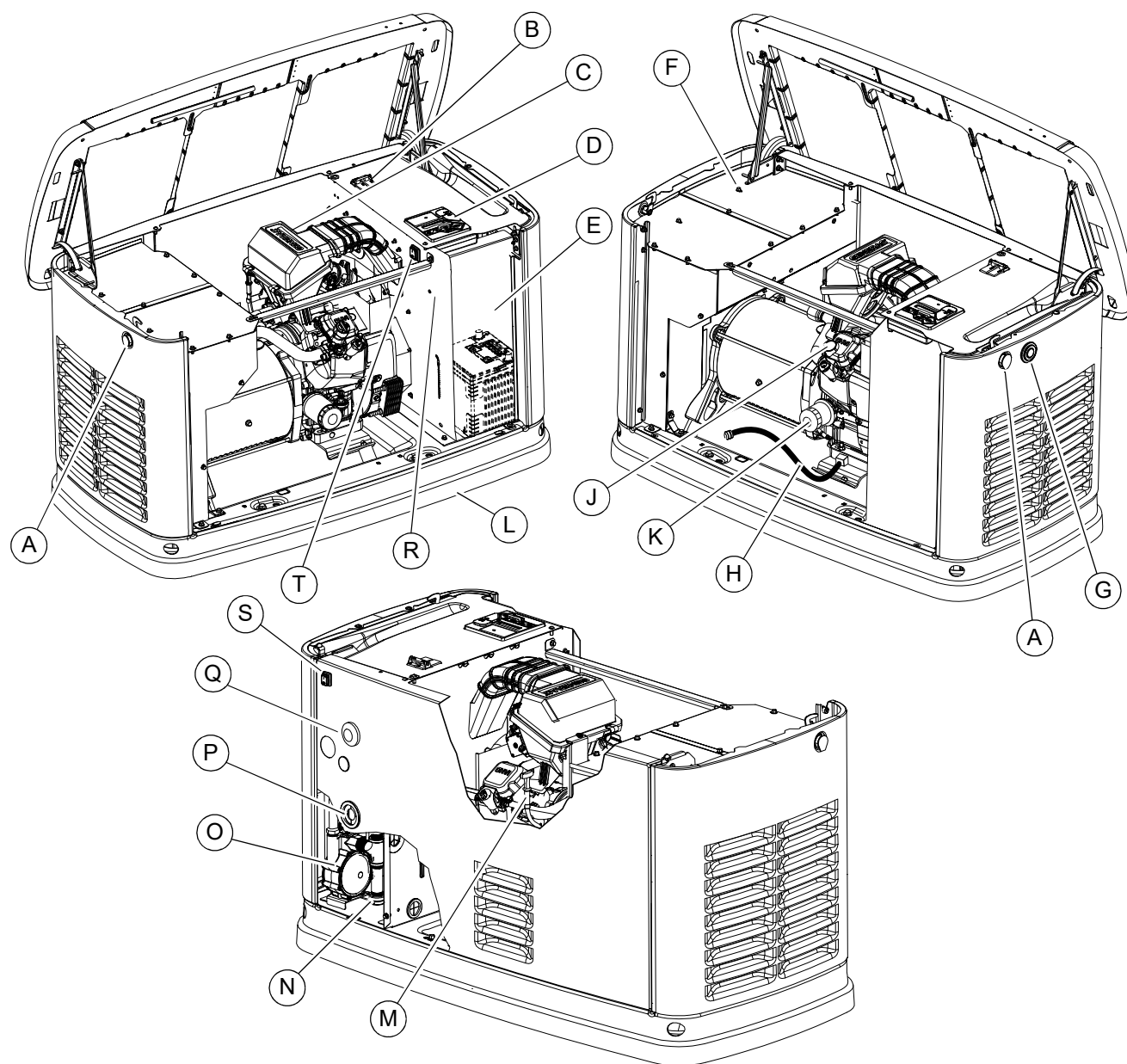




001786

Figure 2-3. 20 kW–24 kW—Components and Control Locations

A Lock with cover	F Exhaust enclosure	L Composite base	Q Wi-Fi module
B Main line circuit breaker (generator disconnect)	G Status LED indicators	M Oil dipstick	R Data decal location
C Airbox with air cleaner	H Oil drain hose	N Sediment trap	S Auxiliary shutdown switch
D Control panel	J Oil fill cap	O Fuel regulator	T Auxiliary shutdown switch
E Battery compartment (battery not supplied)	K Oil filter	P Fuel inlet	

Checking Engine Oil Level



⚠ WARNING

Risk of burns. Allow engine to cool before draining oil or coolant. Failure to do so could result in death or serious injury.

(000139)

⚠ WARNING

Skin irritation. Avoid prolonged or repeated contact with used motor oil. Used motor oil has been shown to cause skin cancer in laboratory animals. Thoroughly wash exposed areas with soap and water.

(000210)

⚠ CAUTION

Engine damage. Verify proper type and quantity of engine oil prior to starting engine. Failure to do so could result in engine damage.

(000135)

IMPORTANT NOTE: Verify oil level daily when power outages necessitate running generator for extended periods. Generator will shut down if oil level is low.

Proceed as follows to check engine oil level:

1. Set utility MLCB to OFF (OPEN).
2. Set generator MLCB (generator disconnect) to OFF (OPEN).
3. Allow generator to run for a cool-down period of approximately one minute, if generator was running during an outage.
4. Press OFF button to turn generator off. Wait five minutes.
5. See **Figure 2-1**, **Figure 2-2**, or **Figure 2-3**. Remove oil dipstick and wipe it dry with a clean cloth.
6. Completely insert oil dipstick into oil dipstick tube and remove.
7. Observe oil level. Oil level should be at FULL mark on oil dipstick.
8. If necessary, remove oil fill cap and add recommended oil to engine (with oil dipstick removed) until oil level reaches FULL mark. Insert oil dipstick and install fill cap. See **Engine Oil Requirements**.

To restart generator:

1. Press AUTO button on control panel.
2. Allow generator to start and warm up for a few minutes.
3. Set generator MLCB (generator disconnect) to ON (CLOSED).

The system is now operating in AUTO. The utility MLCB can be turned ON (CLOSED).

Engine Oil Requirements

⚠ CAUTION

Engine damage. Verify proper type and quantity of engine oil prior to starting engine. Failure to do so could result in engine damage.

(000135)

Engine oil should be serviced in accordance with the recommendations of this manual to maintain product warranty. Generac maintenance kits consisting of engine oil, oil filter, air filter, spark plug(s), a shop towel, and a funnel are available through an IASD.

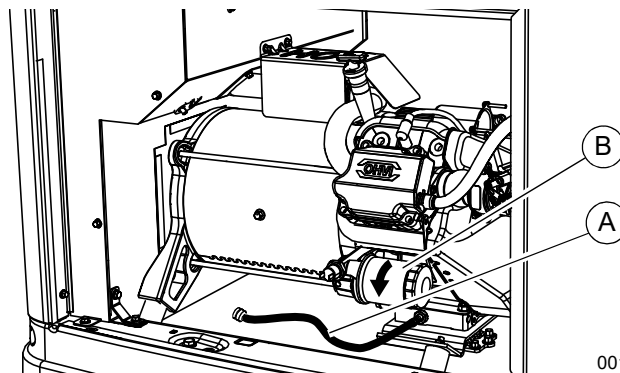
All Generac oil kits meet minimum American Petroleum Institute (API) Service Class SJ, SL, or better. Do not use special additives.

After the 25 hour break-in period (and at every interval there-after), it is recommended to use Generac's proprietary 5W-20 oil for continuous use. It is specifically formulated for use in gaseous powered Generac generators.

Changing the Oil and Oil Filter

Proceed as follows to change oil and oil filter:

1. Lift lid and press MANUAL button on control panel to start engine, and run unit until it is thoroughly warmed up. Press OFF button on control panel to shut down engine.
2. See **Figure 4-1**, **Figure 4-2**, or **Figure 4-3**. Remove front panel when unit has cooled. Pull oil drain hose (A) free of retaining clip. Remove cap from oil drain hose and place free end into a suitable container. Drain oil.



001831

Figure 4-1. Oil Filter and Drain Location (10 kW)

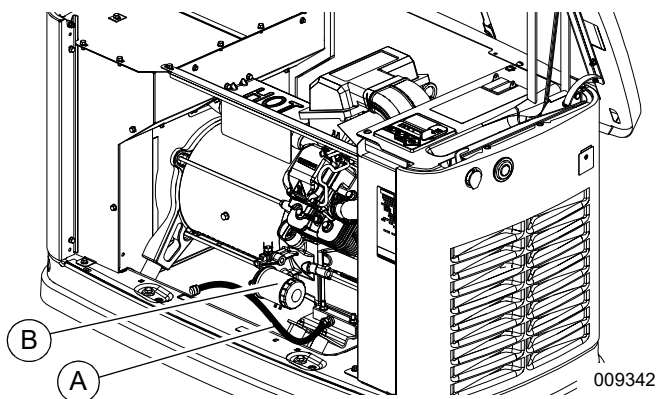


Figure 4-2. Oil Filter and Drain Location (14–18 kW)

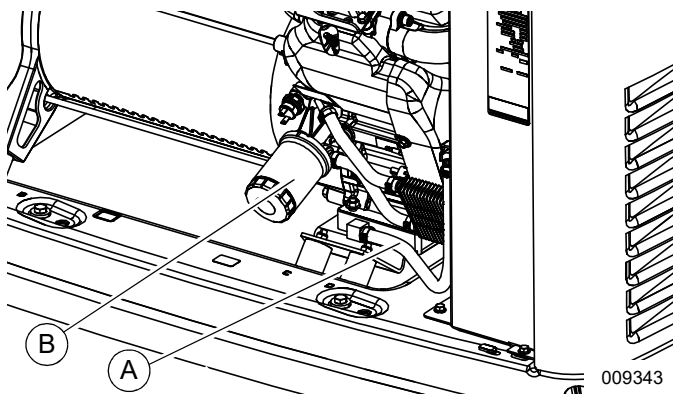


Figure 4-3. Oil Filter and Drain Location (20–24 kW)

3. Install cap on oil drain hose. Position and secure oil drain hose with the retaining clip.
4. Remove oil filter (B) by turning it counterclockwise.
5. Apply a light coating of clean engine oil to gasket of new filter.
6. Screw new filter on by hand until gasket lightly contacts oil filter adapter. Tighten filter an additional three-quarter to one full turn.
7. Fill engine with recommended oil. See **Engine Oil Requirements**.
8. Press MANUAL button on control panel to start engine. Run for one minute, and inspect for leaks.
9. Press OFF button on control panel to stop engine. Wait five minutes.
10. Inspect oil level. Add oil as needed. DO NOT OVERFILL.
11. Insert oil dipstick and/or attach fill cap.
12. Press AUTO button on control panel to return unit to AUTO.
13. Close and lock lid.
14. Dispose of used oil and filter according to local, state, or national codes.

Servicing the Air Cleaner



⚠ WARNING

Risk of fire. Never operate engine without the air cleaner installed. Operating engine without the air cleaner could result in death or serious injury.

(000249)



⚠ WARNING

Explosion and fire. Never clean air filter element with gasoline or low flash-point detergents. Doing so could result in death, serious injury, or equipment damage.

(000580)

Proceed as follows to service air cleaner:

1. Lift lid and press OFF button on control panel to stop generator.
2. Remove front panel.
3. See **Figure 4-4** or **Figure 4-5**. Remove cover clips (A) and air cleaner cover (B).

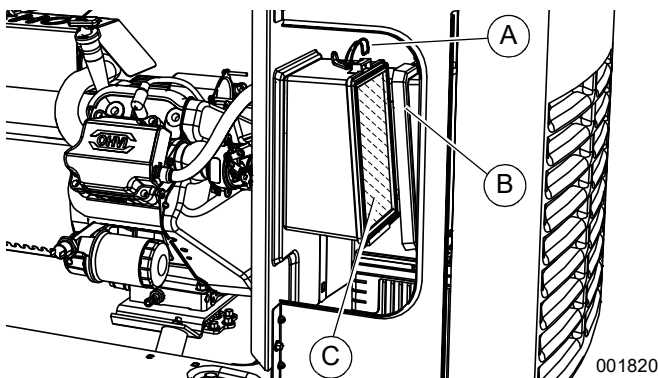


Figure 4-4. Servicing Air Cleaner (10 kW)

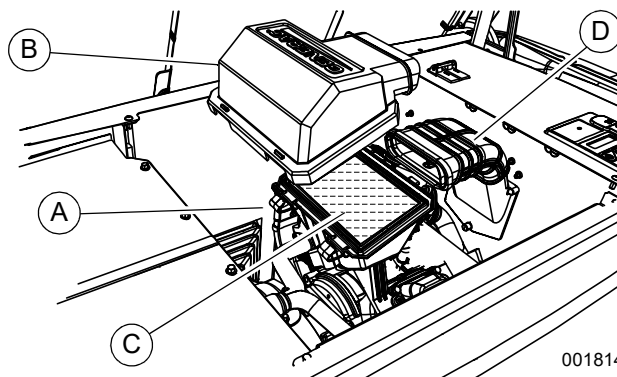


Figure 4-5. Servicing Air Cleaner (14–24 kW)

4. Remove old air filter element (C) and discard.
5. Thoroughly clean air cleaner enclosure of any dust or debris.
6. Install a new air filter element.
7. Install air cleaner cover and fasten cover clips.

**⚠ WARNING**

Explosion. Do not dispose of batteries in a fire. Batteries are explosive. Electrolyte solution can cause burns and blindness. If electrolyte contacts skin or eyes, flush with water and seek immediate medical attention.

(000162)

**⚠ WARNING**

Explosion. Batteries emit explosive gases while charging. Keep fire and spark away. Wear protective gear when working with batteries. Failure to do so could result in death or serious injury.

(000137a)

**⚠ WARNING**

Explosion. Batteries emit explosive gases. Always disconnect negative battery cable first to avoid spark. Failure to do so could result in death or serious injury.

(000238)

**⚠ WARNING**

Electrical shock. Disconnect battery ground terminal before working on battery or battery wires. Failure to do so could result in death or serious injury.

(000164)

**⚠ WARNING**

Risk of burns. Batteries contain sulfuric acid and can cause severe chemical burns. Wear protective gear when working with batteries. Failure to do so could result in death or serious injury.

(000138a)

**⚠ WARNING**

Risk of burn. Do not open or mutilate batteries. Batteries contain electrolyte solution which can cause burns and blindness. If electrolyte contacts skin or eyes, flush with water and seek immediate medical attention.

(000163a)

⚠ WARNING

Environmental Hazard. Always recycle batteries at an official recycling center in accordance with all local laws and regulations. Failure to do so could result in environmental damage, death, or serious injury.

(000228)

Always recycle batteries in accordance with local laws and regulations. Contact your local solid waste collection site or recycling facility to obtain information on local recycling processes. For more information on battery recycling, visit the Battery Council International website at: <http://batteryrecycling.org>.

Strictly observe the following precautions when working on batteries:

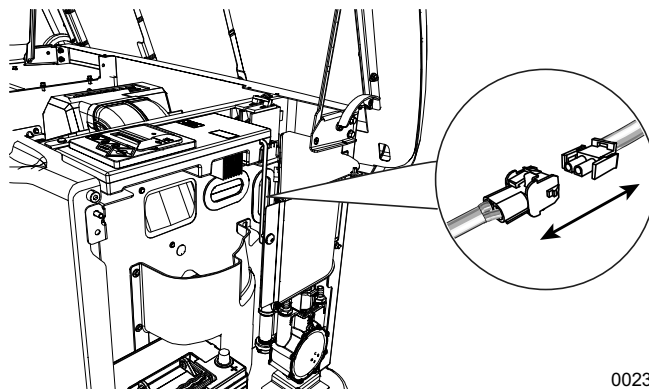
- Remove 7.5A fuse from generator control panel.
- Disconnect battery charger as directed in **Inspecting the Battery**.
- Use tools with insulated handles.
- Wear rubber gloves and boots.
- Do not place tools or metallic objects on top of battery.
- Disconnect charging source prior to connecting or disconnecting battery terminals.
- Wear full eye protection and protective clothing.
- If electrolyte contacts skin, wash it off immediately with water.
- If electrolyte contacts eyes, flush thoroughly with water immediately and seek medical attention.
- Wash down spilled electrolyte with an acid neutralizing agent. A common practice is to use a solution of 1 lb (454 g) bicarbonate of soda to 1 gal (3.8 L) of water. Add bicarbonate of soda solution until evidence of reaction (foaming) has ceased. Flush resulting liquid with water and dry area completely.
- DO NOT smoke near battery.
- DO NOT cause flame or spark in battery area.
- Discharge static electricity from the body before touching battery by first touching a grounded metal surface.

Battery should be regularly inspected per **Service Schedule**. Contact an IASD for assistance if necessary.

Inspecting the Battery

Proceed as follows to inspect battery:

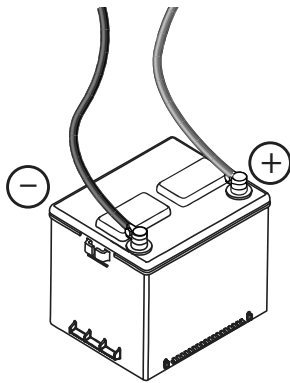
1. Press OFF button to shut down generator, then lift lid and remove front panel.
2. Remove 7.5A fuse from control panel.
3. Remove intake side panel. (See **Intake Side Panel Removal**.)
4. See **Figure 4-9**. Disconnect white battery charger cable.



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Figure 4-9. Disconnecting Battery Charger Cable

5. See **Figure 4-10**. Inspect battery posts and cables for tightness and corrosion. Tighten and clean as necessary.



001832

Figure 4-10. Battery Cables

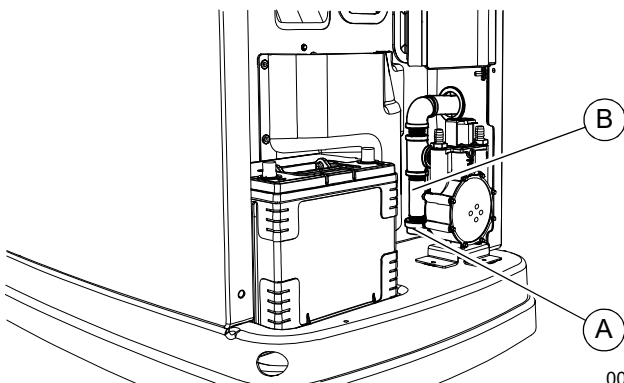
6. **Unsealed batteries only:** Completely disconnect battery, removing negative battery cable first. Check battery fluid level and, if necessary, fill with distilled water only. DO NOT use tap water. Have an IASD or a qualified service technician verify state of charge and condition.
7. Connect positive battery cable, then negative battery cable.
8. Connect battery charger cable.
9. Install intake side panel, and install 7.5 A fuse.
10. Press AUTO button on controller.
11. Install front panel and close generator lid.

Cleaning the Sediment Trap

The sediment trap removes contaminants (moisture and fine particles) from gaseous fuels before they enter the fuel regulator. Accumulated moisture and particles must be emptied from the sediment trap per local codes and guidelines.

Proceed as follows to clean sediment trap:

1. Remove intake side panel. See **Intake Side Panel Removal**.
2. Turn generator fuel supply OFF.
3. See **Figure 4-11**. Unscrew and remove cap (A).



001821

Figure 4-11. Cleaning the Sediment Trap

4. Use a clean-out tool (not provided) to remove accumulated moisture and particles from cap and body (B).
5. Wipe inside of each component with a clean, dry, lint-free cloth.
6. Seal threads of cap with appropriate sealing compound. Install cap and hand-tighten.
7. Tighten cap with an appropriately sized pipe wrench. DO NOT overtighten.
8. Turn generator fuel supply ON. Inspect for leaks by spraying all connection points with a non-corrosive gas leak detection fluid. Solution should not be blown away or form bubbles.
9. Install intake side panel.

Post Maintenance Checks

Proceed as follows to perform post maintenance checks:

1. Perform required maintenance procedure(s).
2. Install intake side panel and front panel if removed. (See **Intake Side Panel Removal** and **Front Access Panel Removal**.)
3. Install 7.5A fuse in control panel.
4. Complete Install Wizard information.
5. Press AUTO button on control panel. Allow unit to run for one minute with no load (if running during a utility outage).
6. Set generator MLCB (generator disconnect) to ON (CLOSED).
7. Set utility MLCB to ON (CLOSED).

The system is now in AUTO.

NOTE: If correct utility is present at this time, generator will perform its usual shutdown process.

Performing Fuel System Leak Test



⚠ DANGER

Explosion and fire. Fuel and vapors are extremely flammable and explosive. No leakage of fuel is permitted. Keep fire and spark away. Failure to do so will result in death or serious injury. (000192)

All products are factory-tested before shipping to verify the performance and integrity of the fuel system. However, it is important to perform a final fuel system leak test before starting the generator. The entire fuel system should be tested from supply to regulator.

See **Figure 4-12**. Perform a final fuel system leak test after generator installation. The test will identify possible leaks at all connection points (A).

It is best practice to perform a fuel system leak test during normally-scheduled maintenance.