

NOZZLE GUARD™ NG 3500 & NG GWS

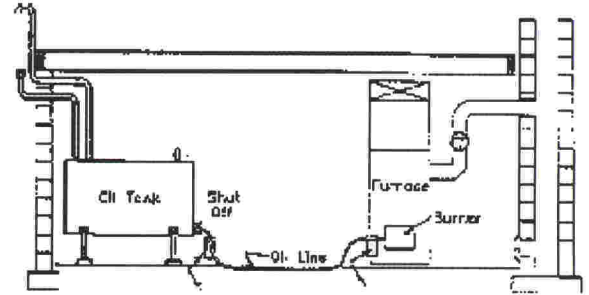
INSTALLATION, CONVERSION, AND MAINTENANCE INSTRUCTIONS:

FILTER SELECTION:

Filters must be installed indoors, in the suction line between the storage tank and the burner. Primary filters should be installed as close to the tank as practical to prevent heavy contaminant from settling out in the suction line and reducing the flow capacity of the line. Secondary filters should be installed as close to the burner as practical to minimize agglomeration (sticking together of small particles to form larger particles) between the Secondary filter and the nozzle.

For installations that are prone to condensation and water production (bottom discharge tanks, or outdoor tanks), a **Nozzle Guard NG GWS Water Separator** is recommended for the Primary filter. The **GWS** will remove water and heavy solids, but will not add any flow restriction to the suction line as do typical felt, gear-tooth, or string wound filters. **THE GWS MUST BE FOLLOWED BY A SECONDARY FILTER.**

A **Nozzle Guard NG 3500 High Efficiency Spin-on Filter** is recommended for the Secondary filter. The **3500** removes small particles that are typically passed by felt, gear-tooth, or string wound filters, so the nozzle is kept cleaner and the system runs more efficiently. The **3500** has 10% more filter media than competitors' spin-ons and has ample capacity for most installations. For installations where additional capacity is required (e.g., 2- pipe systems, or very dirty systems) use the **NG 4200** with 27% more filter capacity



Primary Filter—Nozzle Guard
NG GWS Water Separator

Secondary Filter—Nozzle Guard
NG 3500 Spin-on



Primary Filter
NG GWS



Secondary Filter
NG 3500

INSTALLATION:

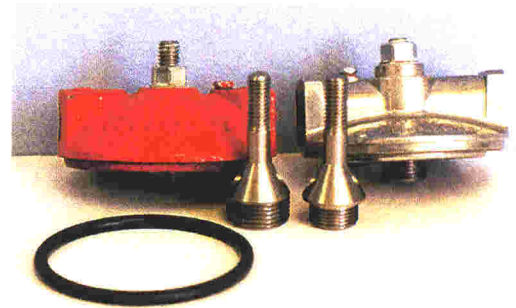
TO PREVENT FUEL SPILLS OR OTHER HAZARDS FROM FAULTY INSTALLATION, FILTERS SHOULD ONLY BE INSTALLED OR SERVICED BY QUALIFIED TECHNICIANS TRAINED IN OIL HEATING SYSTEMS, AND LICENSED BY THE APPLICABLE LOCAL AUTHORITY.

1. Turn off electric power to the system before commencing work.
2. Turn off all oil line shut-off valves.
3. When the desired mounting location has been determined, use 3/8" steel pipe or brass fittings as applicable to make the transitions between the filter and the fuel line. Use suitable pipe joint compound on all pipe joints and tighten all connections using two wrenches. Failure to make airtight joints may result in fuel leakage and performance problems. For proper operation the filter must be oriented so flow from the tank to the burner follows the direction of arrows on the top of the **Nozzle Guard** mounting head. Use **Nozzle Guard** mounting bracket **80001030** to fasten the mounting head securely to the appliance or wall in the selected location. Remove 1/8" NPT plug in mounting head and install vacuum gauge if desired.
4. Turn on all oil line shut-off valves.
5. Turn on electric power and run burner to fill filter. Bleed air at fuel pump bleed port. With burner running, gently tap filter to dislodge any trapped air bubbles. Shut off fuel supply to filter and run burner till vacuum reaches 12-15 inches of mercury, to pull any residual air through the filter. Turn off the burner and check for leaks—vacuum should hold. Open fuel supply and operate the system to ensure it is working properly.
6. Always check the site for leaks before leaving. **Dispose of waste in accordance with applicable regulations.**

CONVERSION:

When converting an existing General 1A25A or Mitco/Sid Harvey #264 cartridge-type filter to accept **Nozzle Guard** NG 3500 or NG GWS spin-on elements, use **Nozzle Guard** adapter **80001109** (-M Series) or **80001110** (-G Series). O-ring **80001244** is required to seal the **Nozzle Guard** spin-on onto a General 1A25A head fitted with the appropriate **Nozzle Guard** adapter.

1. Turn off electric power to the system and turn off all oil line shut-off valves.
2. Remove centre head bolt and filter canister and discard.
3. Install appropriate **Nozzle Guard** adapter with large threaded end under mounting head and small threaded end projecting up through centre bolt hole. Use existing centre bolt seal washer and apply suitable pipe sealant (such as Loctite #592) to seal washer and threads. Tighten 3/8" hex nut to secure **Nozzle Guard** adapter permanently to the mounting head.
4. Install appropriate **Nozzle Guard** spin-on filter per instructions below under "Maintenance—Changing The Spin-on Filter". **NOTE THAT O-RING 80001244 MUST BE USED TO SEAL NOZZLE GUARD NG 3500 OR NG GWS SPIN-ON FILTERS TO GENERAL 1A25A MOUNTING HEADS FITTED WITH AN ADAPTER.**



MAINTENANCE--CHANGING THE SPIN-ON FILTER:

REGULATIONS UL331 IN THE USA AND CSA B140 IN CANADA REQUIRE THAT FUEL OIL FILTERS BE CHANGED ANNUALLY, OR WHEN CLOGGED.

1. Once electric power to the system and all fuel oil line shut-off valves are turned off, the old spin-on filter can be removed by turning counter-clockwise (looking from the bottom of the filter towards the mounting head). A standard strap-type filter wrench may assist on some installations—place band at bottom of filter. Clean sealing surfaces on mounting head.
2. Lubricate gasket sealing surfaces with oil.
3. Spin the new element onto the mounting head clockwise until the gasket makes contact with the sealing surface on the mounting head.
4. Tighten the element an additional 1/2 turn after gasket contact. **DO NOT OVER-TIGHTEN.** If using a band wrench, place band at bottom of filter.
5. Refer to 4., 5., and 6., above under "Installation" to complete the filter change.

INDUSTRIAL & AVIATION FILTERS

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