

Installation Guidelines

Following is a quick step-by-step checklist for installing the “SaveOil” Reconditioner on your truck or equipment. Before you start, take a sample of the old oil with the engine running and send it to an independent lab for analysis. This sample will give a snapshot of the engine's condition at time of installation.

1. Find an appropriate mounting location and mount “SaveOil” Reconditioner securely:
 - a. Check inlet pressure line requirements
 - b. Check return line requirements
 - c. Check filter removal space requirements
2. Drain oil and install new OEM full-flow filter
3. Install a brass body, ball type, lockable shut-off valve (McMaster-Carr catalog #4629K12 lockable lever) at the engine's oil sending unit, or any other point where the engine oil can be taken off under pressure, and to which the “SaveOil” Reconditioner solid filter is to be connected. The adapter fitting for the valve, that connects the valve to either input or output hose connector, is a male 3/8 inch NPT (American). The adapter fitting on the hose would be male 3/8 NPT to JIC 37 degree hydraulic flare. **NOTE:** This valve should be mounted on the engine, or very close to it. (Note : Shut-Off valve is optional and is for your convenience).
4. Then, connect a high pressure inlet hose from the open end of the shut-off valve to a convenient inlet port on the solid particle filter housing of the “SaveOil” Reconditioner (two ports are available, and either may be used). See section ‘Hose and Fittings Installation Guide (OUTLET port, solid particle filter)’ above.
5. Then connect solid particle housing/filter unit to the separator/evaporator chamber of the Reconditioner using a connector hose. See section ‘Hose and Fittings Installation Guide (INLET port, evaporator)’ above.
6. Install return line from the bottom of the separator/evaporator chamber of the “SaveOil” Reconditioner unit to the oil sump port of the engine. See section ‘Hose and Fittings Installation Guide (OUTLET port, evaporator)’ above.
7. Fill crankcase with new oil
8. Hook up heating element electrical connections using a 16A fusible positive wire from the Reconditioner unit to a terminal that is hot only when the engine is running. **NOTE:** the two wires are interchangeable – since the hot wire is to be connected to a heating element, it is not an issue of ‘plus or





minus'. Either of the two wires can be used for the 'hot' connection, the other for ground

WARNING: DO NOT run the 'hot' wire to a terminal connected to the ignition, without a fuse

9. Connect the remaining ground wire to a true system ground. **WARNING:** Do not rely on the engine or vehicle frame as a ground!
10. Start engine and check for leaks. Let engine run for 15-30 minutes
11. Shut engine down
12. Check engine oil level and add more oil as needed. Tighten fittings to fix any leakage.
13. Refer to maintenance schedule for recommended filter change intervals
14. Fill out warranty card and send to MOT

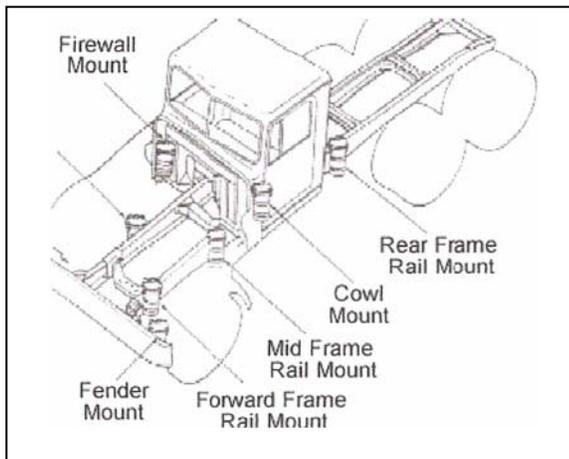


Mounting Locations and Lines

The “SaveOil” Reconditioner can be easily mounted on the fender well, frame rail, firewall and cowl areas. It is not recommended that you drill new holes or weld onto vehicle frame rails without first checking with the OEM for approval. Choose a secure location that meets the following criteria:

- Enough space to mount the unit vertically and not interfere with existing engine parts. Keep the “SaveOil” Reconditioner away from hot, moving, or abrasive parts.
- Sturdy enough so the weight of the “SaveOil” Reconditioner doesn't cause metal fatigue or other damage. The total weight of the unit is about 14.1 lbs (6.4 kg), not counting the MOT steel bracket, if used, which weighs about 4.6 lbs (2.1 kg).
- At least 20" above the oil sump level so the “SaveOil” Reconditioner can gravity flow the processed oil back into oil sump through its return oil line. If space is a problem, you can separately mount the “SaveOil” Reconditioner filter unit in any position where there is room since the oil is under pressure in and out of filter.
- Close to the engine to keep pressure and return hoses as short as possible.
- Low vibration area to avoid fatigue of the anchoring points or loosening of bolts during operation.

Always install both filter and processing units of the “SaveOil” Reconditioner together. Although they may be mounted in separate locations, never install either of them alone on an engine. Mounting location recommendations:



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Installation - Hose Connections

The “SaveOil” Reconditioner operates on pressure supplied by the engine oil pump. There are three generic sections of hose to install the “SaveOil” Reconditioner: a high pressure inlet hose, a high pressure connector hose, and a return hose. You will need to size each hose based on your particular mounting location and requirements (see technical specifications for those requirements).

1. Install a brass, ball type shut-off valve at the engine’s oil sending unit or any other point where the oil can be taken off under pressure. **NOTE:** This valve should be mounted on the engine, or very close to it.
2. Attach the high pressure inlet hose at the shut-off valve installed in No. 1 above. Connect the other end of the high pressure inlet hose to the inlet of the solid filter housing inlet port using the inlet fitting.
3. Attach a high pressure connector hose from the solid filter housing outlet port to the inlet of the separator/evaporator unit with the supplied fittings.
4. Attach the return hose from the Reconditioner separator/evaporator outlet fitting (bottom of the chamber) onto the engine at any point where the oil can flow freely back to the sump.

Examples include:

- A. The port side of the sump
- B. An inspection plug in the lower part of the block, or any port not under pressure
- C. The oil fill tube (if you choose this alternative, you must weld a "Y" fitting onto the oil tube and attach the output hose there)
- D. The valve rocker cover (if you chose this alternative you must install an outlet hose fitting in the rocker valve cover)

WARNING: The return line should take the most direct path to the oil return port with no sharp bends or ‘kinks’ in the hose to impede flow.



Maintenance

Filter Changes

Change the filter element in the “SaveOil” Reconditioner using standard OEM recommended oil change intervals. For most engines this is between 10,000 and 15,000 miles (15,000 to 20,000 kms). To change the filter, follow these simple steps:

1. Take a sample of the oil for analysis, using the oil sampling valve mounted in one of the inlet ports on the top of the solid filter unit.
2. Shut off the engine, and close the inlet (shut-off) valve to the “SaveOil” Reconditioner unit. **NOTE:** This valve should be mounted on the engine, or very close to it.
3. Unscrew and drop the filter housing away from filter using a strap wrench.
4. Unscrew the cotton filter element counter-clockwise by hand. Place dirty filter in appropriate container and dispose of properly.
5. Fit new cotton filter element into place and tighten, gently, by hand only, and replace the filter housing. Tighten filter housing with a strap wrench, so that the O-ring seals to the top. **WARNING:** Do not over-tighten.
6. Open the shut-off or inlet valve to the reconditioner unit, allowing oil to re-enter it.
7. Run engine and check first for leaks, and then for engine oil level. Add oil and fix leaks (i.e., tighten fittings, etc.) as needed.
8. Change OEM full-flow filter at least once a year, or as recommended by the manufacturer.

Oil Sampling

Check oil analysis at regular service intervals.

This allows you to measure engine wear and the degree of contamination in the engine oil and provides you with information on existing or potential problems. The oil sample should be taken with the engine running.