

FAN MOTOR KIT for Model 2000 and 2000Plus Heat Recovery Ventilators (HRV)

March 07

Replacement for the following HRV's with the fan motor models listed:

HRV Name and Origin: ENEReady™ (built in Burnaby by Eneready. Prior to 2000, built in Saskatoon by Conservation Energy Systems)
ENEReady™ vanEE® (built in Saskatoon by Conservation Energy Systems)
vanEE® (only those built in Saskatoon by Conservation Energy Systems)

Fan Motor Models: FASCO #7164-1479 FASCO #7190-0369 FASCO #7190-2492
FASCO #7164-1651 FASCO #7190-0156

Parts List (not all will be needed):

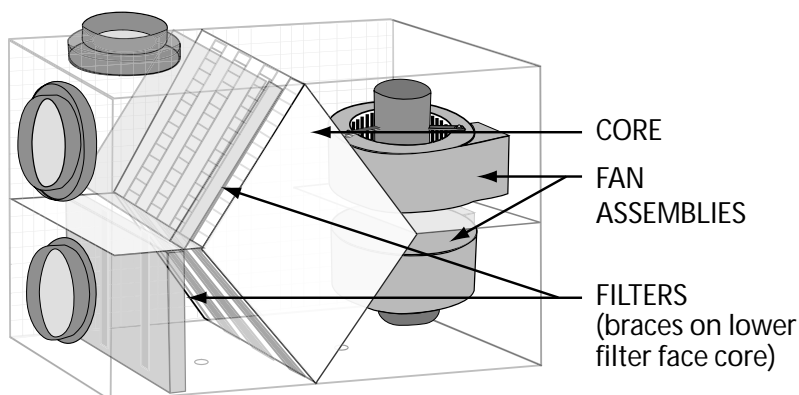
1 Fan Motor Model FASCO #7190-2492 c/w 4-pin connector	3 Rubber Grommets
1 Connector 4-pin to 3-pin adaptor	6 Shoulder Grommets
1 Capacitor 4 µfd 370V	3 Weld Screws
1 Allen Wrench 1/8" (for some older models)	3 Pop Rivets
1 Allen Wrench 5/32"	3 Flat Washers
1 Tapping screw #8 Type B (if needed to mount new capacitor)	3 Nyloc Nuts
1 Self-drilling screw #8 x 1/2 (if needed to mount new ground wire)	Instruction Sheets

Tools you may need:

- 3/8" wrench for motor mount nuts and air inlet ring nuts
- 11/32" wrench for motor mount nuts on some HRV's
- #2 Phillips screw driver to remove capacitors on some HRV's
- 1/4" nut driver or wrench to remove capacitors on some HRV's
- 2- 5/16" wrenches to remove threaded rod fan housing retainers on some HRV's
- Drill with 9/64" bit and pop riveter if available (if weld screws need replacing)
- Permanent marker pen to mark original alignment of motor arm, fan air inlet ring and fan housing.

Note: When replacing one motor of a 2000/2000Plus HRV, carefully check the other motor for bearing drag. If it slows down faster than the replacement motor, it may soon need replacing. You can try adding oil per instructions or change it out as a precaution.

Model 2000 Heat Recovery Ventilator*



*shown with cold climate defrost collar

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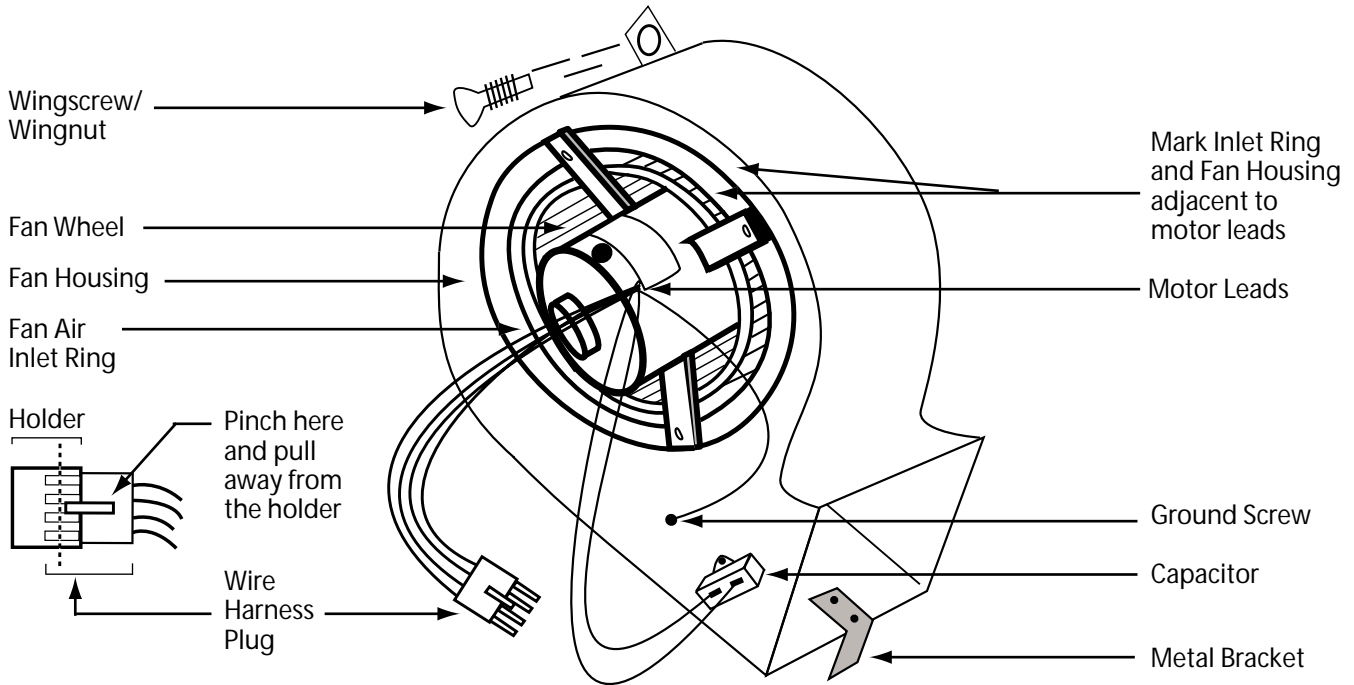
REMOVAL of a Model 2000 FAN ASSEMBLY from the HRV

- 1) **CAUTION: ALWAYS UNPLUG THE HRV BEFORE SERVICING OR CLEANING.**
- 2) Remove door, fully supporting its weight as it slides off its hinge pins.
- 3) Remove the filters and core.
- 4) Disconnect the motor wire harness. It will be 3 wire (older HRV) or 4 wire (newer HRV).
- 5) Remove the wing nut (3 on older HRV's) or the single wing screw (newer HRV).
- 6) Shipping support methods have varied: On some older HRV's, remove the vinyl covered, all-thread shipping support stud and discard it and its nuts. On some more recent HRV's, peel back the velcro band. On newer HRV's, rotate fan assembly to release the metal bracket.

REMOVAL of a Model 2000Plus FAN ASSEMBLY from the HRV

The Model 2000Plus has 2 heat recovery cores. Remove the top fan assembly as per above. The lower fan assembly is accessed externally by removal of the 8 screw access panel located on the right hand end of the HRV.

DISASSEMBLING a Model 2000 FAN ASSEMBLY



1. Before disassembling the fan housing, mark the fan housing and fan inlet ring adjacent to the wire leads bundle.
2. Locate the notch in the blower wheel blade that allows you to access the set screw. Loosen the fan wheel from the motor shaft by releasing the set screw with the allen wrench. Older HRV's need the 1/8" wrench; more recent HRV's need the 5/32" wrench.
3. Remove the capacitor from the fan housing.
4. On newer HRV's, disconnect the green/yellow ground wire from the fan housing.
5. Remove motor/fan wheel/fan inlet ring sub-assembly from the fan housing.
6. Carefully slide off the fan wheel. Do not pry it off. If separately mounted, remove the fan air inlet ring from the motor.

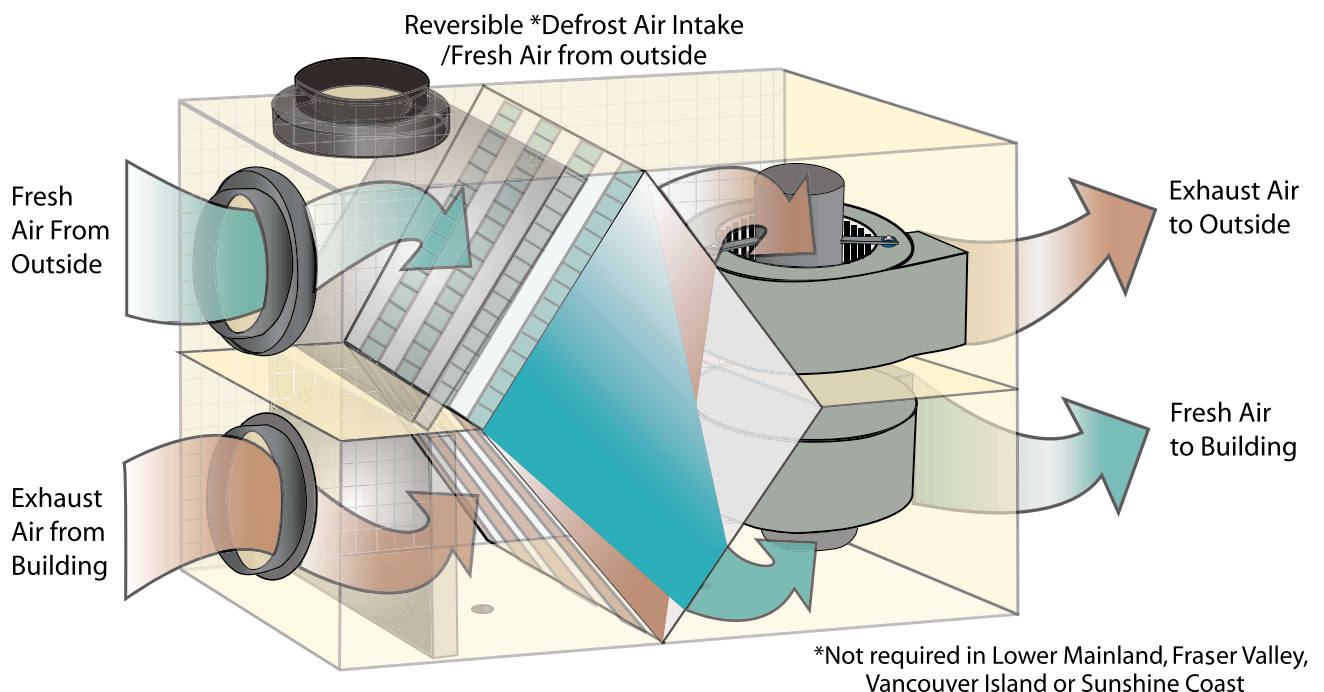
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RE-ASSEMBLING a Model 2000 FAN ASSEMBLY

1. Wash the fan wheel with soap and water using a clean, small brush. Wash the fan housing.

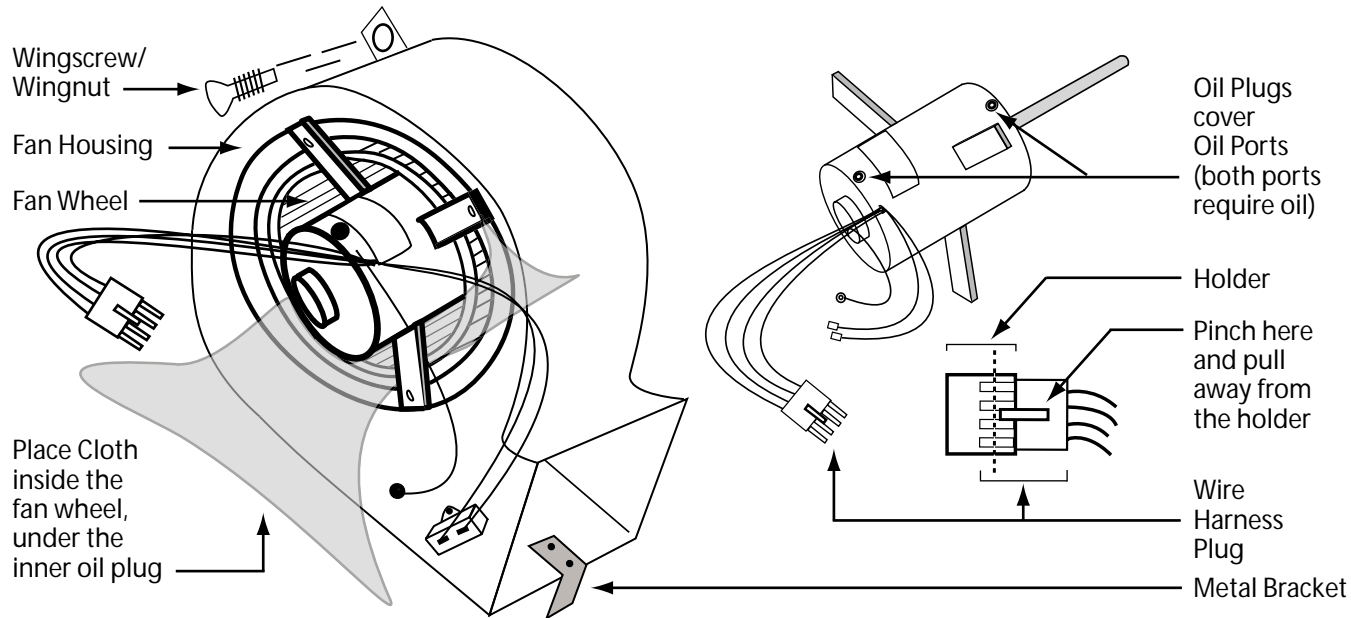
Re-assemble in reverse order with following notes.

2. If the fan inlet ring and the motor mount onto 3 studs on the fan housing, place the fan inlet ring between the motor and fan wheel before attaching the wheel to the motor.
3. Re-set the fan wheel to the motor shaft by tightening the set screw onto its original location on the **FLAT part of the shaft**.
4. If the fan housing or inlet ring has broken weld screws, replace using parts supplied:
 - drill out original spot weld with 9/64" drill
 - break off original weld screw from remainder of spot weld and remove
 - insert new weld screw **into original location** and temporarily vice grip into place
 - drill through new weld screw (through new hole in fan housing) with 9/64" drill
 - with pop riveter, rivet new weld screw into place in fan housing
 - if you don't have a pop riveter, remove the steel mandrel from the aluminum rivet, install the rivet and peen over or crush with a vise grip.
5. BEFORE INSTALLING THE FAN ASSEMBLY, carefully spin the wheel by hand to ensure that it spins freely while the motor is oriented up and again while the motor is oriented down.
6. Mount the new capacitor.
7. Attach the green/yellow ground wire to the fan housing using the self-drilling screw.
8. Re-install fan assembly.
9. Re-connect the motor wire harness. If original motor had 3 wires, use the 4-pin to 3-pin adaptor.
10. Plug in the HRV.
11. Note the date of the motor changeout to best plan the time to re-oil (5 year intervals minimum).



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MODEL 2000 and 2000Plus HRV FAN ASSEMBLY: OILING & CLEANING



Oil should be added every 5 years. You will need a small, flat blade screwdriver; a clean cloth; a clean, 1" wide brush; a long screwdriver or a plastic straw cut in half lengthwise (see step 9); and the proper oil: **Use SAE 20 or 20W 20 weight non-detergent or electric motor oil.** The oil must have the correct viscosity and be free of automotive detergent/additives.

- Step 1. **ALWAYS UNPLUG THE HEAT RECOVERY VENTILATOR (HRV) BEFORE YOU BEGIN.**
- Step 2. Remove filters and core. EXCEPT for bottom fan of the Model 2000Plus (has 2 heat recovery cores): remove the 8 screws from the fan cover plate on the right end of the HRV.
- Step 3. Disconnect the wire harness plug from its holder. Earlier models have a 3-wire harness.
- Step 4. **CAUTION: SUPPORT BOTTOM FAN ASSEMBLY(F/A).** Undo wingscrew (or wingnut.) Older HRV's have 2 additional wingnuts, **or** a visible velcro strap (undo) **or** a 3" shipping stud (can be permanently removed). Newer HRV's have a right angle metal bracket (see diagram) that hooks around the outside of the HRV cabinet opening. Rotate the F/A to un-hook this bracket: when viewed from above, rotate lower F/A clockwise, and rotate top F/A counterclockwise. Note for 2000Plus: rotate lower 2000Plus F/A counterclockwise.
- Step 5. Use a clean, 1" wide brush to GENTLY clean the dust from each fan wheel.
- Step 6. Use a slightly damp cloth to carefully clean the accessible parts of the fan housings.
- Step 7. Each fan motor has TWO oil ports, one for each bearing. In newer models a plastic plug covers each oil port. Use a small, flat blade screwdriver to lift out the plugs. (Earlier models have oiler tubes with a cap; remove these caps.) Put plugs/caps aside to re-install later.
- Step 8. Orient fan assembly so the oil ports face upwards. Both oil ports require oil. Place cloth inside the fan wheel under the inner oil port to catch any spill. To oil the inner oil port, run the oil down a screwdriver blade. Or, cut a plastic straw lengthwise to guide oil to the port.
- Step 9. Use the correct oil. Do not over-oil. Oil does not run up-hill or down an uncut straw. For **EACH YEAR** run non-stop WITH NO OIL ADDED, add **4 drops per each oil port**. EXAMPLE: **5 years x 4 drops per oil port = 20 drops per oil port (40 drops per motor).** Re-install plugs/caps. Wipe up any oil spillage. Let motor sit with oil ports facing up for at least 30 minutes so the oil can be fully absorbed by the wicks inside the motor ends.
- Step 10. Re-install the fan assembly: Fit the fan housing into the foam-lined cabinet opening. You may have to compress the foam to ease the fan housing back into place. Hook the metal bracket (if used) around the outside of the cabinet. Align the fan assembly with the wingnut mounting hole(s). Re-install the wingnut(s). Re-attach the velcro strap (if used). Re-connect the wire harness. Plug in the HRV.

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