

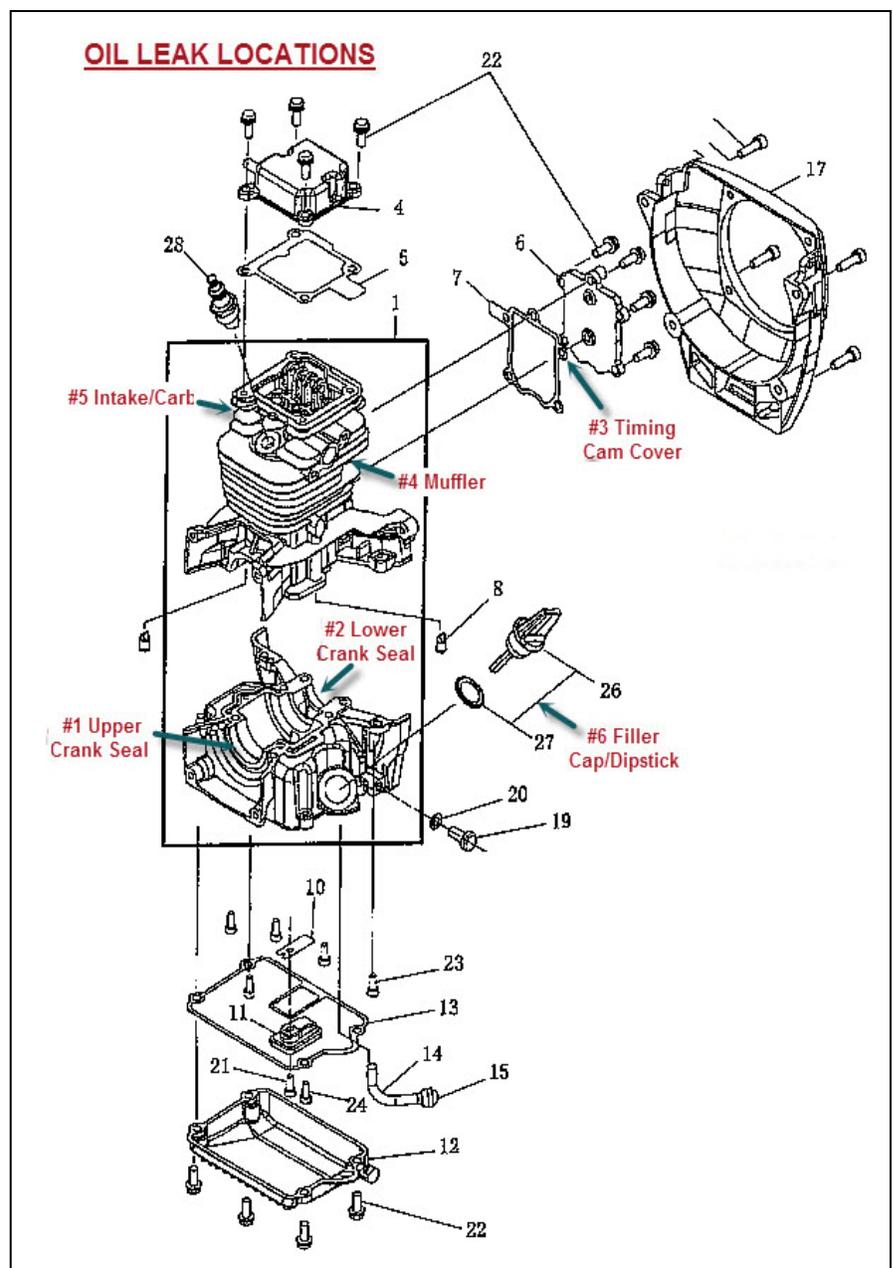


Robin Engine Oil Leakage Service Advisory March 2013

There have been instances where the Robin Subaru EH035 Four Stroke Engines used on the Strikemaster Strikelite Four Stroke Ice Auger has had moisture in the oil vent lines freeze and allow higher than normal internal pressures to occur and cause oil leaks to then develop when used in extreme frigid conditions. The following information has been provided by Strikemaster to help diagnose and repair this condition.

LEAKAGE LOCATIONS

- The Robin Subaru EH035 engine only has 6 previously recorded locations from which oil can physically get from inside the engine to the outside. Causing an oil “leak”
- First we must determine which location the “leak” is originating from, most likely in the following locations:
 1. **upper crankshaft seal**
 2. **lower crankshaft seal**
 3. **timing cam cover**
 4. **muffler**
 5. **intake/carb**
 6. **dipstick/ fill cap**
- The places we have most commonly seen “leaks” are from either the timing cam cover or the upper crank seal.
- Leakage at all other areas is very rare. Normally any of these “leaks” occur from having too much pressure in the system, either from overfilling (more than 1.7 oz. in the crankcase reservoir) or a buildup of condensation, normally in the air intake backing plate baffles, eventually with the moisture freezing and causing blockage in the oil venting system.
- Any of these situations can be repaired, and if performed correctly oil leakage should never occur again.



1 Upper crank seal

- If you look below the recoil through cylinder cover cooling fins, you will see a brown colored seal. It should be flush with surrounding aluminum housing.
- If the brownish colored seal is up out of housing, you will see the side of seal approx. ¼" and below it, exposed ball bearing.
- Normally this is from an overfill oil level or condensation building oil pressure.
- If this is the case not only does this crank seal need to be pressed back into housing, further steps like removing recirculation baffles in the oil system must be done to prevent a future reoccurrence. If you have notice an audio-able increase in noise level while running, this normally indicates that the upper seal has been forced out (See THE REPAIR below).

#2 Lower crank seal

- Leakage at this point is very rare and the only way to check it though, is to remove the gear case and clutch assembly. Again only high oil levels or high internal pressure can force this seal out, and the oil vent baffles should be removed from inside air filter intake plate.

#3 Timing cam cover

- This is located below the recoil assembly. If ever oil is visibly collecting on the fuel tank, this is normally the cause. The cam is mounted above flywheel under an aluminum plate which doubles as the ignition coil mount, this plate has a thin metal pressed coated gasket between plate and engine casting. If there is a leak here, normally excessive pressure is the cause again from overfill, or condensation. The gasket needs to be replaced and resealed, along with removing recirculation baffles in oil system.

#4 Muffler

- If oil is coming from muffler, overfill is normally the cause, also a valve lash check/adjust would be recommended (Both Intake and Exhaust valve (Cold) clearance is 0.13mm - 0.17mm (0.0051" - 0.0067"))

#5 Intake carb

- If oil is coming from mouth of the carb, overfill is normally the cause, also a valve lash check/adjust would be recommended (Both Intake and Exhaust valve (Cold) clearance is 0.13mm - 0.17mm (0.0051" - 0.0067"))

#6 Filler cap/dipstick

- Easy and fast to repair, but not to common, if found, usually due to damaged threads on dipstick portion or a distorted seal on the dipstick is the cause.

LOCATING THE LEAK

- The easiest way to locate the leak is to see if you can determine by the path of the oil residue, where it is originating from or obvious failures (top oil seal or filler cap). If the unit is fairly covered in oil then a quick cleaning and then running the unit at various speeds to see if you can pinpoint the source would be the next choice. If the leak still is not visible, then block off one of the oil vent lines and apply a low pressure (less than 3 PSI or .2 Bar) to the other vent line. If the leak is still not obvious then try spraying a soap and water mixture to the fore mentioned areas and see if you can locate it that way. There will more than likely be some leakage at the intake and the exhaust valve shafts and/ or seats (which will not be the cause of the external oil residue), so expect to hear and see on the gauge a small amount of air leakage at these areas (from the carb and the muffler).

THE REPAIR

- In every case, we tend to remove all baffles (except the outer rubber covered baffle plate) in the oil recirculation system from the corner of the air filter housing.
- Two vent lines enter from the back of the air filter assembly, one from the side of crank case, and the other from valve cover.
- Remove the air filter cover and filter elements. In the bottom right corner a rectangle shaped (aluminum and black rubber) baffle plate is pressed into the air filter/carb backing plate. (It will have an elongated tube pointing to left). Gently remove this outer baffle as it will be reused.
- Behind it, you will find a flat pressed baffle with a small 1/8" hole. Remove it
- Behind that will be a round white plastic disc with an O-ring. Remove it.
- Beside that will be a small red-orange "duck bill" baffle, recessed into housing. Using a pair of needle nose pliers or a hooked awl, remove this item as well.
- Make sure that you remove the two rubber vent lines and using compressed air, blow these passages clear as you may find water inside one of these lines. This would freeze and block the return lines, thus causing internal pressures to build up, again.
- Once these 3 components are removed and the hoses and the housing is clean, reinstall the outer plate (with tube) back into backing plate.
- The air filter elements and cover can now be reinstalled. The "duck bill", the white disc with O-ring and the pressed gasket are not reinstalled and are discarded as they will not be used any longer.

