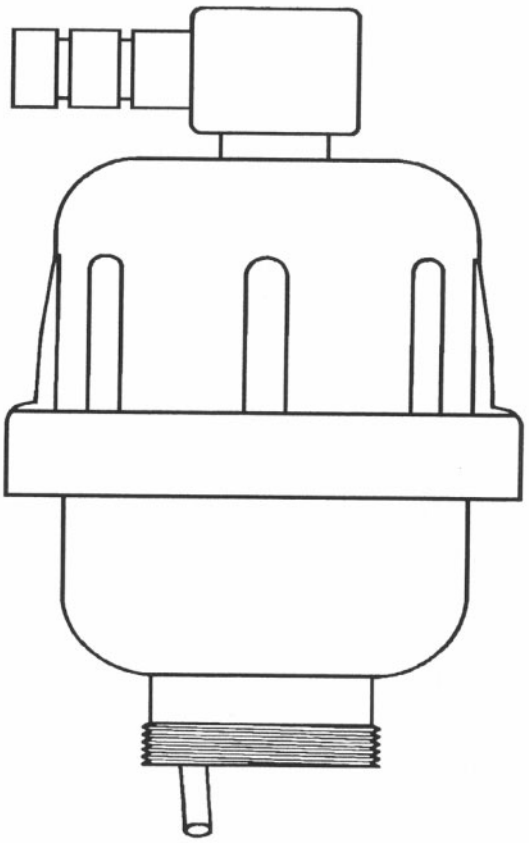
Crankcase Breathers

Crankcase breathers should be inspected and cleaned regularly. Check valves have to be in good working order on those engines with a negative pressure in the crankcase. They should be replaced if faulty, because a nonworking breather will allow moisture to condense in the crankcase. Moisture, in turn, will induce premature bearing failure. Be sure the lower oil drain tube is unplugged.



Spark Plugs

Because spark plugs are at the heart of an engine's operation, they must be kept operational at all times. This begins with using plugs in the proper heat range and with the correct gap settings. Remember that solid state ignition systems require a wider gap than point-type systems. Plug electrodes that show erosion should be replaced. Where any H_2S is present in the fuel, spark plugs with stainless steel electrodes should be used.

Lubrication

Oil should be changed on a regularly scheduled basis. Depending on operating conditions, oil and oil filter should be changed every 30-90 days. It is also advisable to wash out the crankcase each time oil is changed.

When the oil bath air cleaners are being cleaned, it is a good idea to inspect the mesh filter for stoppage. If dirt is present, the filter should be soaked in solvent or some other solution to get rid of the dirt, allowing the air to flow freely.

Air Cleaner Service

Believe it or not, one of the most neglected areas of engine maintenance is servicing of the air cleaner. Upon inspection, many new engines installed in the field are running without oil in the air cleaner. You will often find the oil cup missing entirely. Also common practice is to punch a hole in the top of the air cleaner to enable the operator to squirt gasoline into the carburetor for priming purposes.

All of these practices will drastically shorten the life expectancy of the engine by enabling dust and dirt to enter the engine. It is imperative that the air cleaner oil cup be cleaned regularly and filled to the proper level with clean oil of the same type used in the crankcase, or any SAE 20 or 30 wt. motor oil. On C-46, C-66, and C-96 air cleaners, remove the vortox from the cup and clean also. On C-106 and C-255 air cleaners, along with cleaning the cup and vortox, periodically remove the screen from the bottom of the air cleaner body and wash it in solvent.

One must remember that in a twelve hour period an engine will breathe vast amounts of air; and this air will contain particles of dust, pollen and other impurities. The function of the air cleaners is to remove all foreign particles from the incoming air eliminating abrasive matter getting into the engine. There are four major things that will decrease the life expectancy of an engine. They are:

1. Dirty air
2. Dirty fuel
3. Dirty crankcase oil
4. The dirty mechanic that neglects the above three.

To service the air cleaner, remove the cup assembly. Lift out the chamber and empty the oil. Clean the parts with solvent and refill with clean oil.

Recommended oil viscosity:

Air Temperature	**SAE Number**
100+	30
50-100	20
25-50	10
0-25	5
-35-0	Two parts SAE 10 to one part Kerosene

For temperatures below -30°, dilute further with kerosene.