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Kohler Service Manual

K482, K532 & K662 2 Cylinder Engine

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Service Manual

KO-S-K482+

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TROUBLE SHOOTING

CONDITION	POSSIBLE CAUSE
A. <u>Hard Starting or Loss of Power</u>	- Faulty Ignition. - Loose or grounded high tension or breaker point leads. - Improper breaker point gap and timing. - Defective breaker points. - Faulty spark plug or improper gap. - Faulty condenser or coil. - Faulty Fuel System. - Gasoline not getting to carburetor. - Dirt or gum in fuel line. - Fuel pump faulty. - Dirt in carburetor. - Carburetor improperly adjusted.
B. <u>Overheating</u>	- Insufficient available cool air. - Dirty air intake screen, shroud or cooling fins. - Improper fuel. - Fuel mixture too lean. - Improper ignition timing. - Engine overloaded. - Tight tappet clearance.
C. <u>Backfiring</u>	- Fuel mixture too lean. - Improper timing. - Valve "sticking".
D. <u>Occasional "Skip" at High Speed</u>	- Spark plug gap too wide. - Improper carburetor setting or lack of fuel. - Wrong type spark plug. Use recommended spark plug. - Improper timing.
E. <u>Operating Erratically</u>	- Clogged fuel line. - Water in fuel. - Faulty choke control. - Improper fuel mixture. - Loose ignition connections. - Air leaks in manifold or carburetor connections. - Vent in gas cap plugged. - Fuel pump faulty.
F. <u>Engine Will Not Idle</u>	- Improper carburetor idling adjustment. - Carburetor clogged. - Spark plug gap set too close. - Leaking carburetor or manifold gaskets.

OIL FILTER

K482 and K532 engines use full flow type oil filters while by-pass type filters are available as an option on K662 models. Failure to change oil and oil filter elements at the recommended intervals can lead to serious damage to the engine. This is especially true when using detergent oils which have the ability to hold a specific amount of unfilterable impurities in suspension; however, when a saturation point is reached, the oil may suddenly break down to form a gelatin-like substance which seriously impairs and can even stop flow of lube oil. An oil filter does a very effective job; however, it must be replaced each 100 hours of operation (every other oil change) under normal conditions or more often if the engine is subject to extremely dirty conditions.

Two basic types of oil filters are in use on the 2 cylinder engines. The replaceable cartridge (full flow) type is fitted to an adapter which is mounted directly on the crankcase. The other type (bypass) is usually mounted at a point remote from the crankcase and uses external oil inlet and outlet lines.

When replacing the cartridge type unit or the element in the remote type filter--use only genuine Kohler replacement parts from the Kohler blue and white parts cartons. The gaskets, where necessary, are included in each parts carton. Be sure to follow instructions pertaining to the type of filter used.

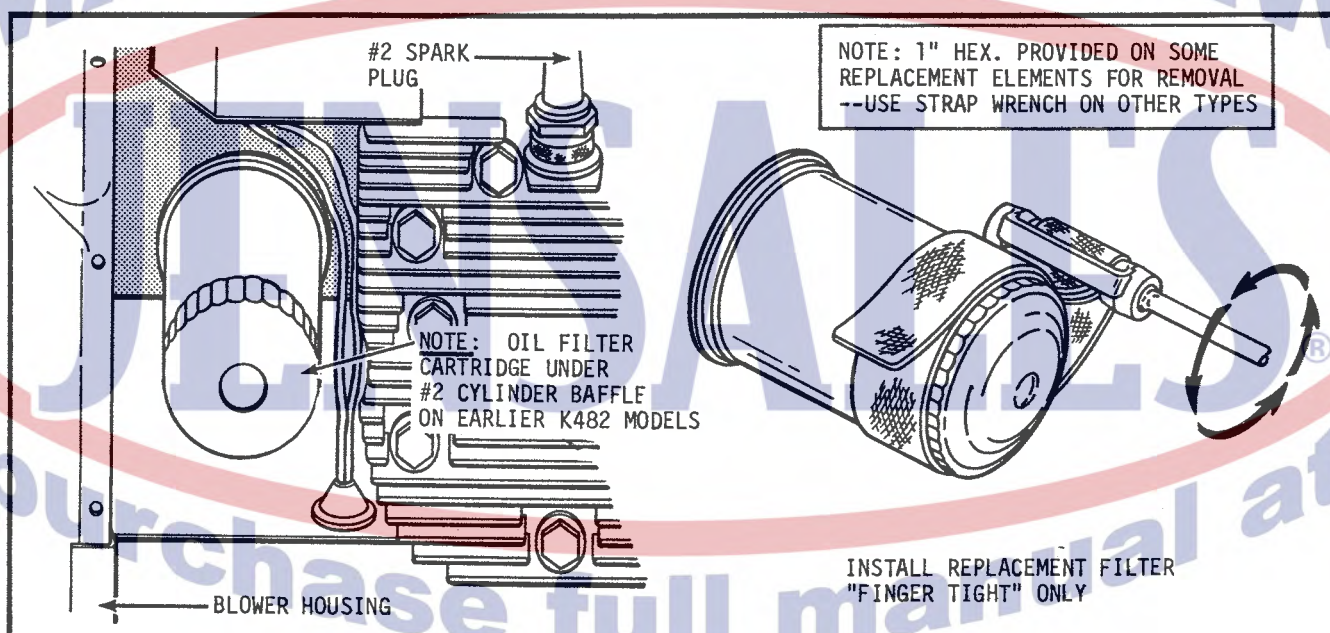


FIGURE 2-1 -- K482 CARTRIDGE TYPE OIL FILTER -- LOCATION

Cartridge Type Oil Filter: On some K482 models, it will be necessary to remove the air baffle on #2 cylinder to gain access to the cartridge--on latest K482 and all K532 models, the cartridge protrudes thru the baffle making removal of the air baffle unnecessary. Earlier models can be converted for direct access with Kit #277577--after this kit is installed, the cartridge element can be replaced without removing the air baffle. On K662 models, the cartridge, when used, is located in a readily accessible point at the rear of the #1 cylinder--baffles do not have to be removed on the K662.

A special strap wrench can be obtained to facilitate easy removal and installation of the cartridge type filters. See "Special Tool" section for further details. Use following procedure for replacing cartridge.

1. Place pan or rags below cartridge to catch oil that may drip from the cartridge as it is loosened and removed.
2. Place strap wrench around cartridge--turn in counterclockwise direction to remove. Discard old cartridge and gasket.
3. Thoroughly clean filter adapter and wipe up any oil that may have spilled on crankcase.
4. Grease gasket then turn new cartridge (with new gasket in place) into adapter--hand tighten only.
5. Reinstall #2 air baffle on K482 models where removal was necessary.

After the proper amount of lubricating oil is added to engine (additional pint required when filter replaced) and after the engine is restarted and again placed in operation, check area around cartridge for evidence of oil leakage--correct if necessary by turning cartridge tighter into adapter (clockwise direction).

AIR INTAKE

The importance of maintaining an air cleaner in proper condition cannot be overemphasized! Dirt induced through improperly installed, improperly serviced or inadequate elements, wears out more engines than does long hours of operation. Even a small amount of dirt will wear out a set of piston rings in just a few hours. Furthermore, operating with a clogged element causes the fuel mixture to be richer which can lead to formation of harmful sludge deposits in the engine. Always cover carburetor or air intake horn when air cleaner is removed for servicing. Do not neglect servicing air cleaner at recommended intervals and use only genuine Kohler parts for replacement. Keep other air intake components such as adapters, hoses, clamps, etc. secure and in good condition to prevent entrance of unfiltered air.

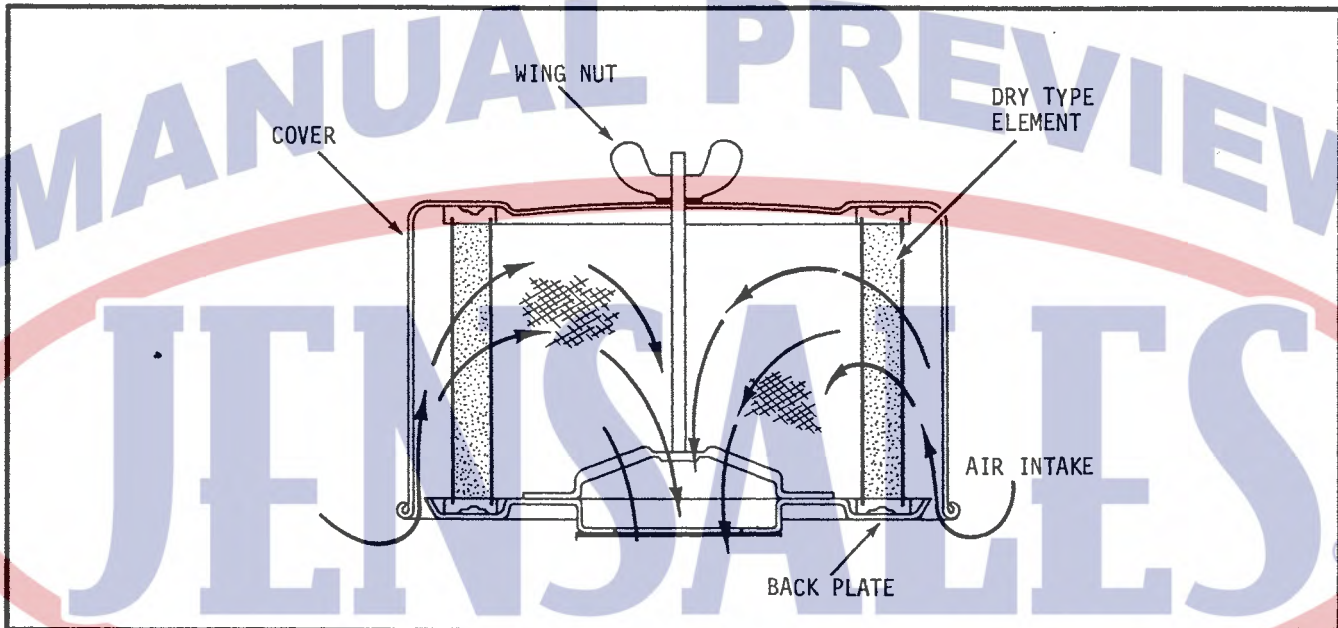


FIGURE 3-1 -- TYPICAL DRY TYPE AIR CLEANER -- CUTAWAY VIEW

DRY TYPE AIR CLEANER (STANDARD)

Under normal operating conditions, disassemble and service air cleaner components every 50 hours of operation. Do this more frequently (even daily) if extremely dusty or dirty conditions prevail. The dry type element is cleaned by gently tapping on a flat surface--when doing this, be careful not to damage gasket surfaces on element. Do not attempt to clean dry type elements in any liquid or with compressed air as this will damage paper filter material. Wipe dirt or dust accumulation from cover including base plate where used.

Dry type elements should be replaced after each 100 to 200 hours--replace at 100 hours if engine operated under dirty conditions--replace every 200 hours under good clean air conditions. Replace element sooner if engine loses power due to clogged filter. If extremely dusty conditions prevail, the use of a special multi-phase air cleaner may be advisable.

When replacing element use only genuine Kohler part. Carefully handle new element--do not use if gasket surfaces are bent or twisted. Not only must the right filter be used but it must be properly installed to prevent unfiltered air from entering the engine. Check the following when installing new or serviced element.

1. Back plate (K482, K532) air horns and adapters must be securely tightened to carburetor. Replace bent or cracked back plate when used. Gaskets between back plate or air horn and carburetor must be in good condition.
2. Gasket surfaces of element must be flat against cover (and back plate when used) to seal effectively.
3. Copper washer (if used) must be positioned between cover and wing nut to seal and prevent unfiltered air from entering through center hole in cover. If wing nut is used that does not require copper washer, make sure lower flange area of wing nut properly seals around hole in cover. Wing nuts must be firmly tightened with fingers--do not overtighten by using pliers.

3. After every 50 hours of operation remove retaining bar and remove element for thorough cleaning. Since element must be allowed to drip dry after washing, keep extra element on hand to prevent down time during the drying period. Wash element as follows:

- (A) Swish element briskly in warm water containing a non-sudsing detergent. DO NOT WASH IN ANY OTHER SOLUTION OR WITH HOT WATER.
- (B) Direct gentle stream of clean water into inside of element to reverse flush element. Rinse thoroughly.
- (C) Shake out excess water then place element on end in clean area--allow element to air dry. CAUTION: DO NOT use compressed air to speed up drying process as this will rupture filter material.
- (D) After element is dry, insert flashlight inside element. An even fine pattern of light as observed through the filter material indicates element is clean and ready for re-use. If a large spot of light is observed, element is ruptured and must be replaced.

Before installing serviced element, wipe out inside of filter body. Inspect gasket end of element --replace element if gasket is damaged or missing. Element should be replaced after 10 washings or after one year of use. Also replace automatic dust unloader after one year of use.

OIL BATH TYPE AIR CLEANERS

Oil bath air cleaners are often used where above normal concentration of dust, lint, chaff, etc. is present. Normally, the oil bath cleaner should be serviced after every 25 hours of operation; however, if extremely dusty or dirty conditions exist, service cleaner more frequently--even every 8 hours or twice daily if conditions warrant this.

There are several different types of oil bath air cleaners in use. On most, outside air is drawn in through a screen or rain cap and is then pulled across a pool of oil which absorbs the heavier particles. The partially cleaned air is then drawn through an oil laden filter element for final filtering and then into the carburetor. On some, a series of elements with varying degrees of filtration qualities are used for final filtering.

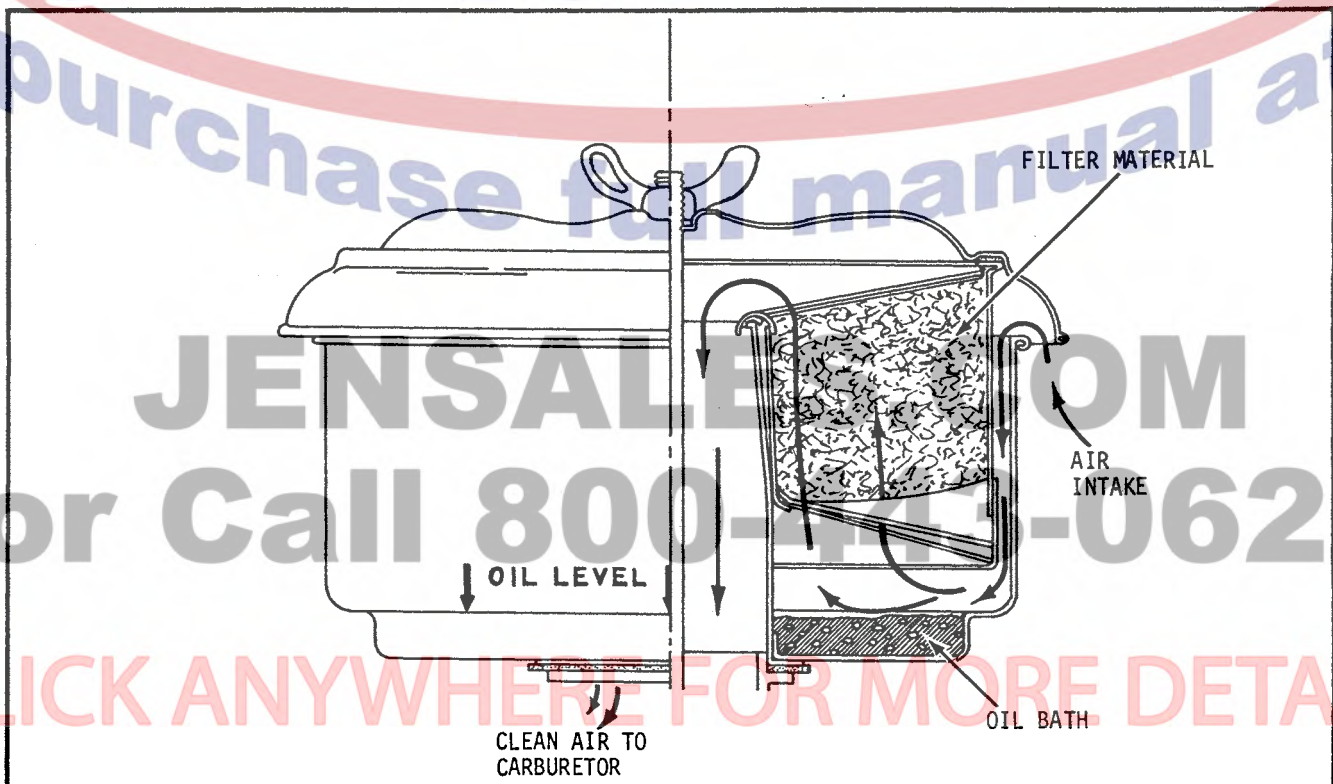


FIGURE 3-3 -- TYPICAL OIL BATH AIR CLEANER (NORMAL CAPACITY TYPE)