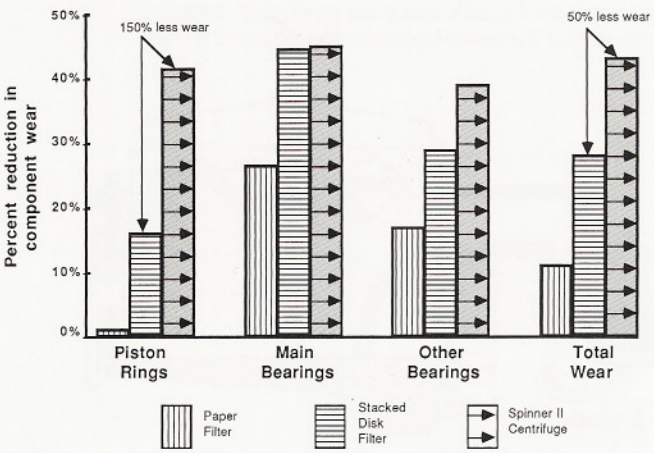
# Cut Engine Wear and Lower Your Operating Costs With a Spinner II® Centrifuge.

Removing dirt from your engine's lubrication system is the key to cutting engine wear and lowering your operating and maintenance costs. Effective, continuous dirt removal is what the Spinner II centrifuge is all about. Its oil cleaning efficiency remains constant between service intervals, and it won't plug up and quit working like a typical bypass filter does.

## Compare the Spinner II's Ability to Reduce Wear Better Than Conventional Filters.



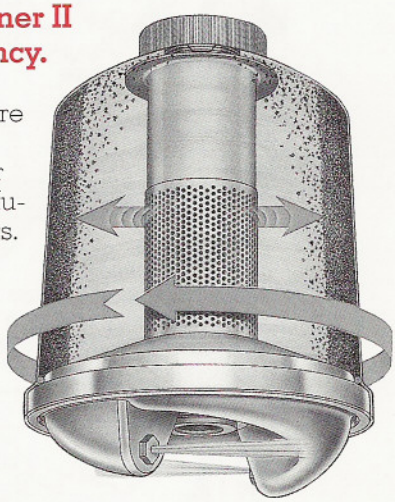

*Reduction in component wear with bypass filters when AC fine test dust is fed at one gram per hour (400-hour test using component weight loss method).*

The graph above illustrates the results of tests that prove the Spinner II oil cleaning centrifuge's efficiency. It is 150 percent more effective in reducing ring wear and 50 percent better in overall wear reduction than the factory element bypass filter supplied on the most popular diesel engines today.

Typically, element full-flow filters remove wear particles down to about 40 microns. Even adding an element bypass filter still allows most particles under 10 microns to stay in your oil.

Yet, modern engines operate with very thin oil films. For example, the film between the piston rings and the cylinder wall can be as thin as one micron during certain portions of the stroke. Only a Spinner II unit can remove these very small particles down to one micron and below. The removal of these small wear particles translates to significantly more miles between overhauls and lower operating costs per mile.

## Centrifugal Force: The Key to the Spinner II Centrifuge's Efficiency.



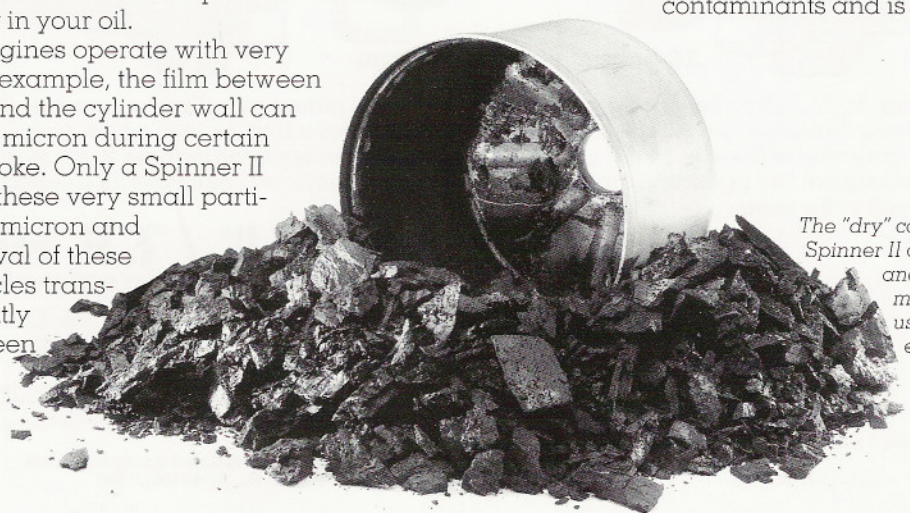
The Spinner II unit uses your engine's oil pressure to generate centrifugal force 2,000 times greater than gravity. The centrifugal force does two things. First, it slings the tiniest dirt particles (down to tenths of a micron) out of the oil and onto the centrifuge bowl surface, where they accumulate and are kept from recirculating. Second, the force is so great, it compacts the dirt particles into a solid cake on the bowl wall.

## Holds Five Times as Much Dirt.

The Spinner II centrifuge compacts dirt so tightly that its bowl can hold up to five times as much as an element bypass filter. Because of the centrifuge's design, the dirt cake doesn't interfere with the flow of oil through the unit, even when the bowl is full. And, oil additives don't lose their potency as they do in element filters when they continually pass through layers of dirt.

## The Spinner II Serves the Environment

The Spinner II centrifuge uses no expensive filter elements which must be drained, crushed and hauled away. You only dispose of the easily removed, compacted "dry" dirt, reusing the separation bowl indefinitely. The cleaner, used oil contains fewer contaminants and is easier to recycle.

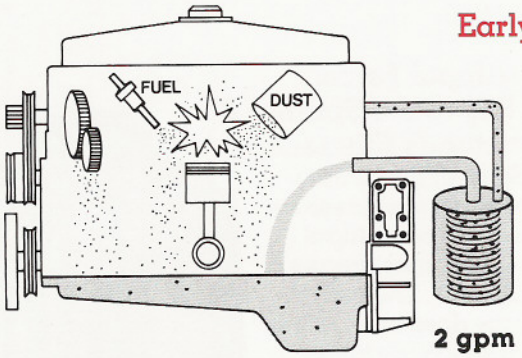


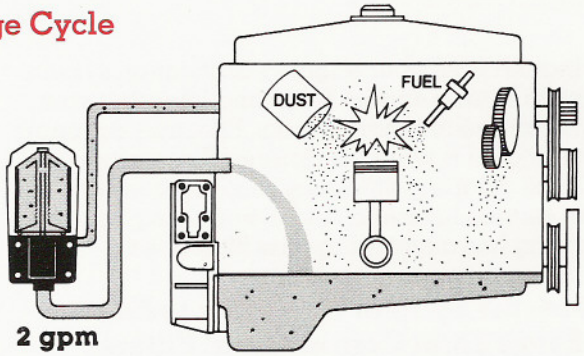
*The "dry" compacted dirt trapped by the Spinner II centrifuge is easily removed and can be disposed of with minimum environmental impact. The used engine oil is cleaner and easier to recycle.*

# See How the Spinner II Oil Cleaning Centrifuge Beats the Elements.

This is a graphic comparison of the operational differences between an element bypass filter (left) and the Spinner II centrifuge (right). Constant-volume oil cleaning is the most important factor in a bypass filtration system because of the constant addition of dirt to the engine oil system from fuel, atmospheric dust, combustion byproducts and wear debris.

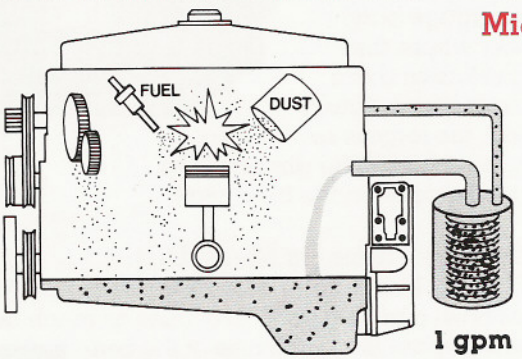
## Early in Change Cycle

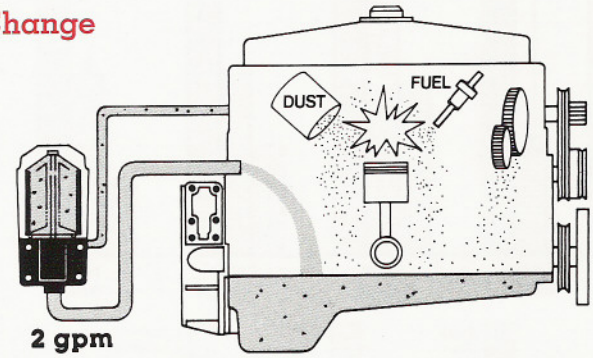



Since the element bypass filter acts as a barrier, it does most of its work on the oil's first pass through it. Initially, the element may be more efficient than the centrifuge at removing larger particles because the Spinner II unit separates particles of all sizes by weight during multiple passes.

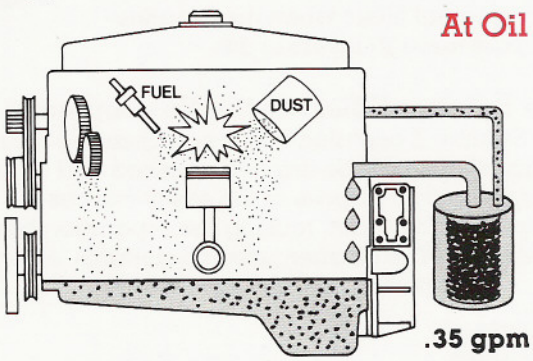
## Midway to Change

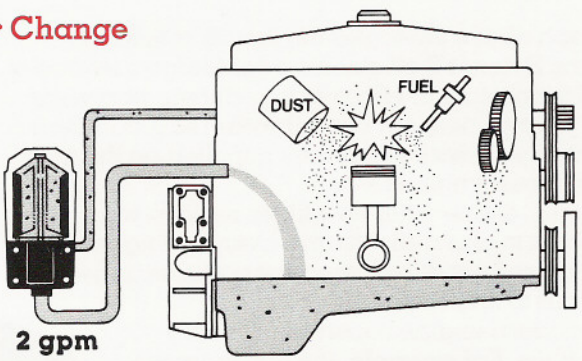



As the engine operates, the amount of dirt being added to the oil is constant. The element bypass filter gradually plugs up, leaving more and more of the larger particles, and almost all of the very small ones, in the crankcase. The Spinner II centrifuge, however, stores both large and small particles out of the way so that its flow and cleaning power remain constant.

## At Oil and Filter Change




At the time of a normal oil and filter change, the element bypass filter is almost completely plugged so that very little oil, if any, is flowing through it. One major engine manufacturer rates a bypass filter satisfactory if it can still pass a .35 gpm flow at the end of the standard qualification test. Compare this to the Spinner II unit's performance. It is still flowing at the original two gpm, removing dirt as it enters the engine, and maintaining a constant, low-dirt contamination level in the sump.



SPINNER II® PRODUCTS / T. F. HUDGINS
INCORPORATED
P.O. Box 920946
Houston, Texas 77292-0946
800/231-7746
Tel: 713/682-3651
Fax: 713/681-9702