

Hudsonotes

Column of Mechanical Miscellany
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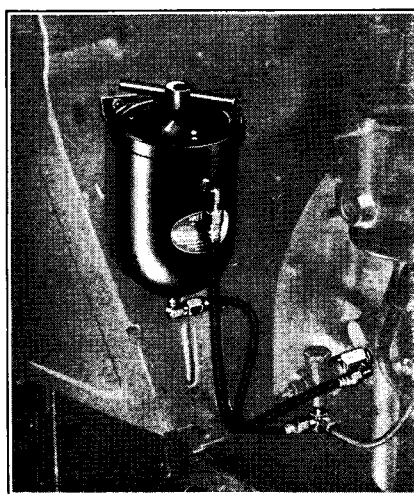
OIL PRESSURE light switches on Hudson engines with full pressure-type lubrication, including the Sixes 1948 and up, were by Carter and were of ordinary sealed-unit construction similar to present-day types. However, the switches on Hudson splash-lubricated (Duo-Flow) engines — the Eights and earlier Sixes 1936 and up — were Hudson-built, evidently the first such devices used on auto engines, and were entirely of "teardown" construction, easily opened for repair or cleanout. The unit is a dual-purpose one, including switch contacts (insulated brass pin and spring-loaded plunger) along with a ball-type check valve. Plunger has a small bleed hole which should be kept open to ensure proper operation of oil warning light (unimportant on models with oil filter, since filter serves as an alternative bleed). If replacement gasket rings for insulated pin are not at hand, they can be cut from thin leather, using an ordinary looseleaf punch and small scissors. Do not over-tighten nut, or insulator on pin may break.

OIL FILTERS, today taken for granted as part of a basic engine assembly, were wholly optional or add-on equipment during most of Hudson's years of production. "Oil purifiers" made their appearance on U.S. cars during the 1920's — perhaps a reader can tell us the specific year and brand — and by the 1930's were a staple item on option and parts lists, even though the phrase "standard equipment" for years continued to be understood to mean "without oil filter."

Before oil filters became nearly universal, engines and maintenance schedules were often designed to compensate somewhat for the lack of filtration. The most obvious feature was oversize oil capacity, such as the total of nine quarts on most Hudson Eights. Purpose was to reduce contaminants in oil by sheer dilution, and also to provide more reliable oil cooling under severe use. Another feature was Hudson's floating intake pipe, feeding oil to the pump only from the upper surface of liquid in sump, with several inches of depth below this for sedimentation. To trap ferrous particles, optional magnetic drain plugs were available for engines and transmissions (those on most Hudson models used standard pipe thread). In addition to this, there was the advice in Hudson owner manuals as late as the 1950's that the oil pan should be removed from engine

once or twice a year for cleaning. During the 1920's and '30's, motorists were also advised — by oil companies, at any rate — to "change your oil every 500 miles," especially in winter.

With oil change intervals as short as this, the filter would perhaps be redundant. Filters have an especial value, however, during engine break-in and after an overhaul or valve grind, when the oil is sure to pick up more than its usual quota of stray abrasive particles. While the exact gain in engine life and reliability from the use of a filter in normal driving is harder to prove quantitatively, it unquestionably exists. At any rate, the oil filter at present is one of those accessories which the well-dressed collector car will wear, if there was one offered during its year of manufacture.



Oil filter installation, 1946 models.

Oil filters on Hudson-built vehicles, like nearly all others of the period, were of the "bypass" type, able to trap finer particles than typical modern full-flow units, but of course accepting only a portion of the engine's oil supply with each circulation. Since oil pressure on Hudson splash-lubricated engines is limited to a nominal 4-13 pounds, oil flow through the filter is slower than on most other engines, and it is essential that a filter unit or cartridge without excessive flow resistance be used here. Factory-specified type during the stepdown years and earlier was the Fram F-3, available with a "Hudson" decal and using the C-3 cartridge. Replacement cartridges in several brands are still available to fit. Originals were filled with a cotton material, but pleated-paper versions can also be found. "Channeling" in the cotton filler is not a problem here, as it may be at very high pressures.

Early-production filter canisters had the cover held on by a large wingbolt; most later ones used a hex-head cap-screw instead, and usually also had a small drain plug at bottom, thus elimi-

nating the need for a suction gun when replacing cartridge.

Oil is fed into this filter through a fitting at its outer perimeter, and the cleaned oil passes into center tube of filter through a small hole, and flows out bottom of tube. Size of hole in tube is carefully metered, although it can safely be enlarged a trifle for low-pressure use with the Duo-Flow system.

Feed line to filter on these models connects to either end of rear output line from oil pump, using a brass T-fitting. Outlet line from filter connects to a special large brass T-fitting or extension that fits between the light switch/check valve assembly and the engine. On these engines the oil pressure can be increased slightly by stretching the coil spring inside switch (under hex cap at top), or perhaps by adding a few spacers to the spring. This will not increase the oil flow to engine bearings, but it will increase the proportion of oil passing through the filter.

FOR HUDSON'S pressure-lubricated Sixes, with normal oil pressure specified as about 40 pounds at 30 MPH vehicle speed, the factory listed a choice of either the Fram F-3 filter or a filter by Michiana. Of the aftermarket brands, one which is occasionally seen on Hudson engines is Walker. This filter mounted on top of engine and was available with an angle steel bracket to fit over headbolt studs. Because of the large size of the unit, oil flow was fairly good even at low pressures.

Connections for Hudson oil filters sometimes used standard steel line, but more often flexible oil-resistant hoses, made up in proper length with a brass fitting at each end. Replacement hoses were available for years from Walker, AC, Weatherhead, and several other sources, but have recently become hard to find. One brand which has the hose covered by a protective metallic braid will work satisfactorily, but does not look original, and this is also true of some of the hoses which may be made up specially to fit.

If oil filter must be mounted off-engine, possibly because an original-type mounting bracket is not available, flexible hoses must of course be used. Hudson Sixes '48 and up have cast bosses on engine block with pre-threaded holes for filter mounting so that no special bracket is required. When installing, two 1/8" pipe plugs are removed from left side of engine, and filter lines are connected to these points. If the car also has Vacuum Clutch or Drive-Master, check to be sure that filter cannot interfere with linkage at side of engine, and add longer mounting bolts, along with washers or spacers, if necessary.

GASOLINE FILTERS on Hudson and other cars for many years were nearly all

designed with a reusable filter element fitted into a conventional "jelly glass" sediment bowl. Hudson parts books listed an accessory fuel filter, #SP 166534, without specifying the brand; perhaps it included more than one at various times. This writer has seen filters in several versions by Carter, AC, and Skinner on Hudson-built cars. Carter still has sintered-glass or ceramic replacement elements available in two sizes which will fit a number of filter models.

It should be possible to blow or breathe quite freely through a fuel filter; if not, the unit probably needs cleaning or replacement. Some finely-divided dirt particles may eventually clog filter element so that it cannot be cleaned, but most other contaminants can be removed by washing or soaking in a solvent such as Gumout, and blowing dry with compressed air (in a direction opposite from fuel flow).

Symptoms of a clogged filter are usu-

ally similar to those caused by a weak fuel pump, notably a miss at high speeds which does not appear immediately, but only after a few seconds as reserve fuel in carburetor bowl is exhausted. Clogging of filter can be somewhat reduced if fuel pump bowl and screen are also removed occasionally for cleaning.

Modern inline throwaway-type fuel filters are efficient and convenient, but unfortunately anachronistic on a pre-1960's vehicle.
