Hudsonotes

Column of Mechanical Miscellany
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Milwaukee Memories

AS YOU READ this, the 1982 H-E-T National Meet already is history. Although your columnist is not among those who were able to attend, he certainly has pleasant memories of the '81 National Meet at Milwaukee, a year ago, and would like to share a few more of these with readers.

Some of the most interesting moments were provided by an unrestored but mechanically very healthy '17 Hudson Super 6 touring car belonging to Harold Bellson of Indiana. Harold took several dozen of us for rides during the afternoon and evening (the car has an ample rear seat, and folding jump seats as well). Driving was of course limited to city pavement, but the car kept up very easily with traffic, and anyone expecting a swaybacked or bone-jarring ride from a car of this age must certainly have been surprised at the feeling of comfort and smoothness, along with an impression that the ride would not be at all tiring even on long trips. Car had an accessory spotlight and an improbable non-stock radiator cap. Tires were O.K. except for one somewhat ragged spare.

The engine, Hudson's famous L-head, in this instance had an iron head as well as block, though the crankcase was aluminum. Heat riser valve was equipped with a single manual control in combination with the choke. Another manual control adjusted the radiator shutters. Clutch was multiple-disc, cork-faced, with conventional 3-speed transmission (and the speedometer was driven from there, rather than from a front wheel). The brakes (rear only) were operated by rods, not cables, and an internal brake band at each drum was engaged by the hand lever, with external contracting brake bands being controlled by the pedal.

Another interesting car was the '33 Terraplane Eight owned by Fred Pinder, Michigan. The engine (originally 244 cubic inches on this model) has impressive low-RPM torque, Fred said, but had required complete rebuilding (partly because of rust). Originally this engine had roller tappets, and pistons with all rings above the wristpin, but a few compromises were necessary when rebuilding. The original distributor was dual-point type. This engine had a single-piece head similar to the ones on later models, but no thermostat as standard equipment. The car looked splendid with its dark blue paint, and the interior, including grained surfaces, was also in fine condition. The big headlamps were of the "Stabilite" type.

TECH SESSIONS at Milwaukee '81 included a presentation by Mike Bohm, representative for DuPont paints. The presentation was quite detailed, and included a 16-mm. color film showing proper bodyshop procedures for preparation and painting. The implicit assumption that, since nitrocellulose or pyroxylin lacquers are now no longer made by the DuPont company (which pioneered them in the late 1920's), car owners should be willing to use modern acrylic lacquers on pre-1956 collector vehicles, may be distinctly controversial; but Mike's many practical tips for surface preparation, use of primer, etc., were certainly of value to restorers.

Among his most important suggestions: when working at home on a prized older car, don't try to hurry the undercoat and preparation steps before painting (as might be necessary in a commercial body shop). Take your time as needed to do the best possible job. Paint and materials, too, should be selected with this in mind. For example, he definitely recommends an enamel-base rather than a lacquer-base primer for old-car restoration (DuPont makes both). Reason is that the enamel-base material, while not a favorite with bodymen due to its longer drying time, gives better protection to the metal underneath, with less chance of rusting and chipping in the future.

Mike also pointed out the difference between the mere drying of a paint coat (usually quite rapid), and its complete curing, which is partly a chemical process and takes considerably longer. This is especially important to note when sanding down enamel-base undercoater. Then, after this type undercoater is cured and sanded, if a dissimilar (lacquer-type) top coat is to be used over it, an "intercoat" or sealer material will need to be applied first. This product, he noted, is still available, although sometimes hard to find.

Also available, and fairly new, he said, is DuPont's acrylic-type undercoater, which gives some, though not all, of the extra protection offered by the older enamel-base material.

In response to a question, he stated that DuPont has changed its system of paint numbers, and exact changeovers for most of the old numbers are not available, except for some of the Dulux enamel colors.

He then discussed proper spray gun operation, reminding us that the nozzle orifice must be kept perfectly clean (or a misshapen spray pattern will result). Normal spray pattern is about 10 or 12 inches high. When spraying on an additional coat of paint, do not overlap it at the same points on car as the previous one. Lacquers may be sprayed with as little as 25 or 30 pounds of air pressure (*vs.* 50-60 for enamels). Thinners are available in fast, normal, and slow-drying types to compensate for special temperature and other conditions when necessary. For use in undercoater, a slow-type thinner is recommended.

Correct paint viscosity is necessary for uniform results, and a method of checking this, using a "viscosity cup" and a watch, was shown. Also shown was a protective face mask which, though it had somewhat the look of an OSHA invention, is recommended, Mike said, for use when spraying any paint, but particularly modern enamels which contain special catalysts or hardeners.

PENETRATING OIL is certainly one of a car restorer's best friends, particularly if it is allowed sufficient time to do its work. In this way many bolts, studs, and other parts can be successfully taken apart which would otherwise twist off and break, or else would require a "hot-air wrench" (torch) to loosen. On stubborn parts is is helpful to apply penetrating oil as much as a week or two in advance of disassembly; then again a day beforehand, and finally once more just before starting work. Along with the second application, an effort should be made to budge the parts just enough so that the added oil will penetrate more thoroughly: this will usually make final disassembly easier a day or two afterward.

In many instances a threaded part can be loosened by a series of taps or impacts even though it would merely break if a hard steady force were applied. An air impact wrench is extremely useful, if it is not too heavy (or fed excessive pressure) for small jobs. However, a similar effect can be achieved with hand tools. Impact-type hand wrenches are available (for use with hammer); and for moderate applications, a standard 6-point box wrench is usually an acceptable substitute.

An impact-type screwdriver, with both flat and Phillips blades, is another helpful tool, and some models will also accept wrench sockets. Sheet-metal screws, incidentally, which have relatively little holding power against side thrusts, can often be loosened in their holes sufficiently to permit turning if they are first given a few taps with a blunt tool at one side, and then the opposite side, of the screw head.

Penetrating oils are available in many varieties, in both plain and aerosol cans. Nearly all of them consist of a light lubricating oil plus one or more added solvents. Indeed, the traditional homemade mixture of ½ to ¼ oil (light or heavy) and ½ to ¾ good-quality kerosene is still very effective, especially if given enough time. Lacquer or enamel thinner can also be substituted for the kerosene.

Among the prepared brands, WD-40 (from a California firm) is one of the best known. This writer has also had very good results with CRC 5-56 (from CRC Chemicals, Pennsylvania), and with a product named Jax (from Pressure-Lube, Inc., Wisconsin). In addition, there is Parts-Ease (from makers of Door-Ease, American Grease Stick Co., Michigan), which is costlier but is quite effective on balky heat-riser valves and similar exhaust parts, and can also be used for anti-seize purposes when parts are being assembled.

For those who prefer a grease-type anti-seize product, several brands are available including one from Permatex. Use of anti-seize compound when assembling body bolts and screws and similar parts can save much trouble and damage later, especially in the case of future disassembly.

WATER PUMP problems were not a concern for owners of the early Essex models, since these engines did not have a water pump, but depended entirely on convection or thermo-syphon action to circulate the cooling water. This system required large water passages for adequate flow, and — since hot water is lighter than cold water of equal volume — a radiator placed somewhat higher than the engine. It also required special care when installing a hot-water heater in the car (see *WTN* Tech Service Bulletin for September 1978). Thermo-syphon cooling was similarly used on numerous other early cars, notably the Model T Ford, and on many farm tractors and stationary engines of the period. Although it was adequate under most conditions, one hears of an occasional Ford or Essex which was fitted with an add-on accessory water pump for better circulation.

When water pumps came into use on cars, they required a seal to prevent leakage around the pump shaft. This was made in the traditional way with a "gland," or a chamber which held a special packing (early models simply used greased candle wicking, sometimes also containing graphite), and an adjustable threaded bushing or nut around the shaft to compress the packing. This nut required slight tightening periodically, sometimes every few hundred miles, to prevent leakage. One problem with this type of seal was the temptation to overtighten, thus causing abnormal wear of the shaft, which would then need to be replaced to stop a chronic leak.

Although pumps with packing-nut type seals were used on some Brand X models into the 1940's, Hudson and a number of others had changed by 1936 or earlier to some form of "packless" seal, usually spring-loaded, which needed no adjustment (and could not be overtightened). Lubrication for most of the packing-nut type pumps, and also some packless ones including Hudson and Terraplane through 1947, was provided by a grease fitting, often equipped with a small screw-on cap to help distinguish it from the other lube fittings on car. On Hudson pumps the fitting included a device to prevent overfilling of grease reservoir.

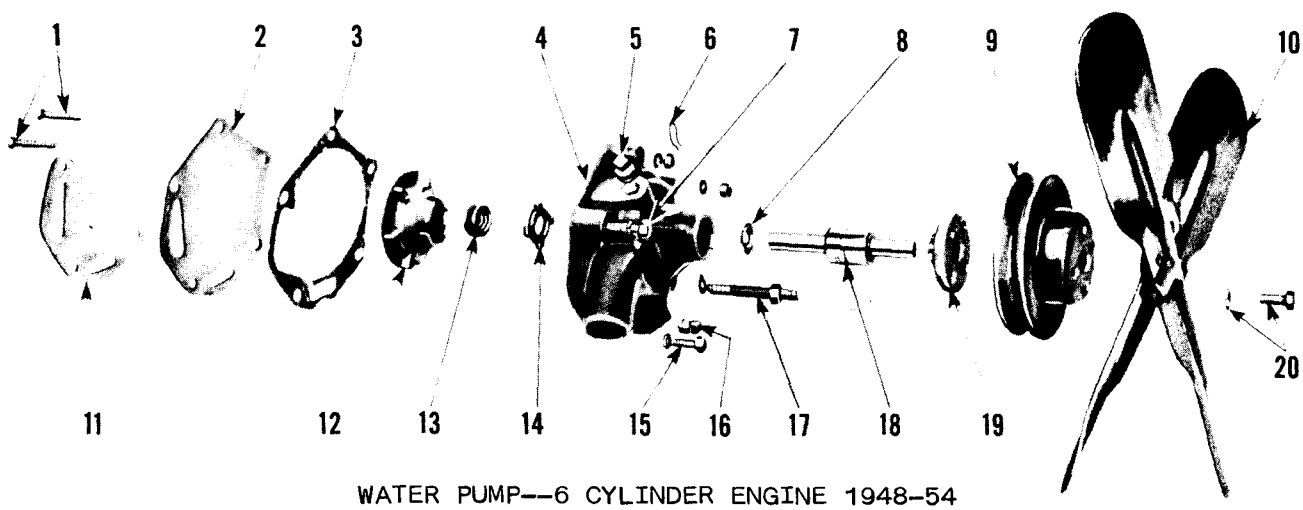
Ordinary chassis grease, or the use of a power-operated gun, was not recommended for water pumps. A small amount of special water-pump grease, applied with a hand gun every 1,000 miles, was recommended. This grease was water-resistant and was of an especially heavy, waxy consistency. Manuals for Hudson specified an aluminum soap base grease for use here. At present these special greases appear to be practically gone from the market (except perhaps from industrial sources), and the *WTN* would like to know, if a reader will please write and tell us, what is currently being used by collector-car owners for the purpose; and with what success. This writer suggests that heavy lithium-soap base (light colored) wheel-bearing grease, used very sparingly, might be a possible substitute here, if nothing better is available.

Water pumps on Hudson stepdown models 1948 and up are of a revised packless type, running on a double ball bearing, and require no greasing. As with the pumps on most modern Brand X's, however, wear on the seals can be reduced by the occasional use of a "water pump lubricant" which is sold in emulsified form as an additive for the cooling water. This product is not a stop-leak or a cleaner or flush, though is is usually a conditioner and corrosion inhibitor. It is available in several brands, and can be used with or without anti-freeze.

These stepdown-type pumps, like most modern ones, have a relief hole below the shaft, to prevent any possible leakage at seal from reaching the ball bearing. When a used Hudson pump of this type has been in dry storage for some time, the seal tends to take a set which may cause leakage when it is placed back in service. Though alarming, the leak is rarely serious, since it usually clears up within about 100 miles of driving, except on pumps which have bearings noticeably worn or loose. Plain water, rather than anti-freeze solution, may be preferred during this interval, although a can of lubricant/conditioner is suggested.

Pumps rebuilt by an outside firm, and sold on an exchange basis, were not in wide use during most of the Hudson years. Most often pumps were rebuilt by a local dealer or mechanic, using new seals or a complete repair kit supplied by factory. Rebuilding instructions can be found in the National Automotive Service, Hudson Mechanical Procedure, and other manuals. On 1936-47 pumps, the job (including bushing replacement) was made easier by the use of a special tool set, #J-733. A special pump holding fixture, #J-2778, was available for models '48 and up.

Orville Voeks, a member of the H-E-T Club for many years, reports that the dried-out seal on an old pump (1948-54 type), if it leaks when placed back in service, can sometimes be revitalized by placing entire pump in a kettle of water and simmering it on stove for a few hours before replacing it on car. We are checking to find out whether or not this can be considered a lasting repair; but it apparently does work in an emergency.



WATER PUMP--6 CYLINDER ENGINE 1948-54

1. Cover bolt
2. Body cover
3. Body to cover gasket
4. Body
5. Body pipe plug
6. Bearing retainer
7. Body to block bolt
8. Shaft slinger
9. Pulley assembly
10. Fan blade assembly
11. Body cover to block gasket
12. Impeller
13. Shaft seal
14. Shaft seal washer
15. Body to cyl block bolt
16. Body pipe plug
17. Body to cyl block stud
18. Bearing & shaft assembly
19. Pulley hub
20. Fan blade bolt and lockwasher