

Hudsonotes

Column of Mechanical Miscellany
by George Schmidt
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More Garden State Hints

THIS MONTH we are again happy to present Vernon Holt of New Jersey as guest columnist, in the concluding portion of the Hudson Technical Hints which he has prepared for H-E-T Club members, based upon information gathered at club meet tech sessions during numerous past years, and also upon the questions most frequently asked of him as the club's Tech Advisor for 1948-54 Hudson "stepdown" models. Most items appear here as originally written; in some instances comments in brackets [] have been added.

BRAKES SELDOM FALL without warning, but when they do it is important to remember to push the brake pedal all the way to the floor as hard as possible, to engage the Hudson safety back-up mechanical brake linkage to the rear wheels. Emergency hand brake may also be used; this helps to engage the same rear brake shoes. It is a good idea to check, lubricate, and adjust these mechanical systems when brakes are being worked on [and again when car is raised on hoist for a grease job].

Rupture of rusted brake lines or of old cracked brake hoses can cause very sudden brake failure without warning. Test ahead of time by pressing the brake pedal down very hard with the car not moving, and repeat several times and then hold to make sure that the pedal stays there and does not gradually sink almost to the floor.

Replacement brake hoses and lines are available at many auto parts stores. Preserve the shape of the old lines, even if they come off the car in pieces. Measure lineal length and buy flanged lines, complete with steel fitting nuts, in that length or even slightly longer. Lines come in straight lengths, and you can bend them to match the original contour of the old line which you removed. [Avoid any sharp bends which might kink the line. Purists may prefer to buy new line and cut it to the precise length of the original, re-flaring the cut end and also using only original-type short flare nuts (not the longer type supplied with some modern

brake line); but this is not really necessary. If a brake line end must be flared on the job, be very sure that it is correctly double-flared, using a proper tool - this is essential for safety. The heavy-duty brass fittings used with steel brake lines can nearly always be cleaned and re-used, but be careful not to distort or damage them when old lines are removed.]

Do not clean brake parts with gasoline or water. Use brake fluid or alcohol. Keep the master cylinder filled to the top to help prevent condensation of moisture which will cause pitting of the master and wheel cylinders. Also, use only the best heavy-duty brake fluid.

Pump the brake pedal at least once a month when the car is not being run. This will help to keep the residual pressure on the cylinder cups so that they keep their shape and seal, and will also help to minimize moisture effects.

Brake drag can be caused by 1) shoes adjusted too tight at the wheels; 2) master cylinder vent in cap plugged; 3) too little free pedal travel (this may also cause brake lights to continue burning); [or, 4) at rear, occasionally, brake cables sticking]. If drums are scored or out-of-round, they should be turned true on a lathe. A professional shop will also grind the new brake linings to fit the drums.

High-friction lining, like some of the "Scandia" lining, is almost as effective as having power or disc brakes, for fast braking power at moderate speeds. Linings of this type will wear out a bit faster, but that is not often a problem for the usual Hudson driven modest amounts. [However, high-friction or "soft" linings of inferior quality will not only wear rapidly, but will also "fade" or lose most of their grip when hot. Such linings are unsafe for any severe use, and should be avoided. For additional brake suggestions, see manuals and also the 4-part Hudsonotes brake series in *WTN*, August 1978 through February 1979 issues, and "Help for Handbrakes," April 1975. The March 1977 Tech Service Bulletin shows adjustment of mechanical safety linkage, 1941-47 and later.]

BRAKES CAN BE messed up by over-greasing front wheels, or by bad seals at front or rear wheels [or by use of incorrect grease]. Note that there are seals on both sides of the rear wheel bearings. The inner seal keeps the

differential lube (SAE #90) out, and the outer seal keeps the wheel-bearing grease in and the dust out. The rear wheel bearings can be greased in place, using a grease gun with a threaded fitting, or a standard grease fitting may be screwed into the axle housing in place of the threaded pipe plug. This plug is located near the brake backing plate on each side, on the rear surface of the axle housing. It is a good idea to replace the original threaded plug after greasing [since a grease fitting left at this point may cause someone in the future mistakenly to use ordinary chassis grease and a power gun here. Rear wheel bearings should be greased only with good-quality heavy wheel bearing grease (same as for the front wheels) and a hand-operated grease gun (or an old-fashioned threaded grease cup, of the type used on older farm machinery and on a few Brand X rear-wheel bearings).] Once every 30 to 50 thousand miles is often enough to grease these bearings. Do not over-grease or you will blow the seals. Just a few shots [or a few turns of an older threaded-type grease gun] are enough. Proper greasing here, and new lube in the differential (do not over-fill) will help to keep the seals from leaking.

Make sure that the rear axle vent cap on top of the housing is not plugged. It should be free. If it is not, this can be a source of pressure which will force grease out onto the brakes.

FUEL PROBLEMS range from dirt and rust in the gas tank to plugged vents, or anti-percolator valves (of the "saxophone key" type on many models) not opening at the carburetor under idling conditions. The first problem causes too little fuel, and requires gas line and tank cleaning. Usually the gas line has to be opened at the fitting midway under the car to rod it out and flush with gasoline, and the add-on filter near carburetor (a must) needs to be replaced [or given a new replaceable element, still available from Carter]. The second problem causes too much fuel at idle, and also forces gasoline into the engine when hot and not running, thus flooding the engine and causing hot-start difficulties. (Twin pushbutton-type valves are used on some 2-barrel carburetors.)

Between the two extremes may be found the usual wear or lack of sufficient pressure at fuel pump, dirt or water in the carburetor, filter, or pump bowl; dirty air cleaner; and carburetor out of adjustment or possibly leaking internally. Water in the gasoline is a perennial problem in many areas. Use "drygas," or alcohol added to the fuel, and if possible keep the fuel tank full to avoid condensation or frost collection inside.

CYLINDER HEAD GASKETS on the engine have been a problem sometimes in the past, with coolant or compression leaks and occasional "blown" gaskets. Most people now follow the February 1953 *Hudson Service Merchandiser Service Note* which revised the earlier cylinder head bolt torque specification, raising it from 65 to 80 foot-pounds tightening torque, cold, for 6-cylinder engines. Torque again after running, and again after 1000 miles. Torque wrenches tend to weaken sometimes with overuse, so some people regularly torque to an indicated 80 to 90 ft.-lb. Always tighten headbolts gradually, from the center outward. [Note also the revised headbolt tightening sequence in this same 1953 *Service Merchandiser* issue. Instead of tightening each crosswise row of three bolts in turn, the entire lengthwise center row of seven is to be tightened first (starting with the middle bolt); then similarly the long row nearest the valves; and finally the third long row. A diagram of this sequence is shown in the later repair manuals and also in the *WTN Technical Service Bulletin* for July 1977.

However, this revision is for Sixes only 1948 and up. Hudson straight-Eights retain the original crosswise bolt tightening sequence, and should not be tightened much over 50 foot-pounds (the factory-specified figure is 45). Excessive tightening can actually distort valve seats in the block sufficiently to cause slight leakage and hence rapid burning of the valves and seats.]

Using studs, flat washers, and nuts (high strength), similar to those on Eights, in place of the cap-screw headbolts which are standard on Sixes, will also help a lot. The head gaskets are usually pre-treated with a sealant, but a light spray painting of both sides of the gasket with high-temperature aluminum paint, with assembly when almost dry or tacky, will help - especially on a gasket you are attempting to re-use. Ferrules and printing on the

gasket should preferably face up.

Check the surface of the head with an accurate straightedge. Head should be milled flat if warpage exceeds about .010 inch. Never mill more than .060" at the very most. The head is 2" thick to start with. Do not mill of more than just enough to make the head surface flat. Clean the mating surfaces of head and block, first with scraper if necessary, and then with a small flat sharpening stone. [Be sure that bolt and stud holes, and the threads on bolts, studs, and nuts, are clean and smooth. The heavy flat washers are required with aluminum heads, and are a good option for iron ones as well.]

File flat any raised threads in block - and for the perfectionist, it is a good idea to chamfer very slightly the holes at underside of head, to provide stress relief and better gasket flow near the headbolts and studs.

MOTOR MOUNTS and transmission mounts, and propeller-shaft center bearing supports, are being rebuilt or remanufactured at present, but repairs can also be made on the car. Bernie Siegfried often brings a box full of tricks to club meets. One of these is a front motor mount that has separated and has been bolted together again with a long bolt replacing the stud. [For description, see the September-October 1981 issue of *WTN*, p.33.] A shock-absorber bushing or similar rubber piece is used underneath, along with large flat washers, nut, and locknut. This will hold the engine down and still allow some resilience.

Surprisingly, the engine can also be bolted down solidly, with unexpectedly little vibration sensed - but it must be solidly fastened, at front and also at the transmission mount at rear. The Hudson six is well-balanced, and imparts surprisingly little vibration to the car.

A similar bolt-and-shock-absorber-bushing arrangement can be used for the driveshaft center bearing support bushings. Two of the rubber shock bushings are required, one above and one below the lower mounting bracket, for each center bearing bushing replaced. This will keep driveshaft in place and stop the rumble and tumble.

One other problem that can cause rumble, especially when going over a dip or bump, is universal joints which are out of phase. This can only happen if a driveshaft has been cut and re-welded shorter [as for overdrive installation], or if the telescoping splined parts of the shaft have been taken apart

and mis-assembled one or more splines away from the correct position. The resulting vibration has driven a few owners nearly crazy when they inherited the problem with a "restored" car. If you clean away all of the grease and rust near the edge of the splined shaft and the splined tube into which it fits, you may be able to see the two aligning arrows; and shaft must be assembled so that the arrows match. On the front section of driveshaft and also on the rear section, the two U-joint yokes at ends of shaft must be positioned as exact mirror images of each other, like this)----((Line between parentheses represents the shaft between yokes. No yokes, Please.)

ENGINE STUCK, or rusted tight? Try Coca-Cola. Years ago, a Rolls Royce mechanic involved in restoration work told me that he always poured Coca-Cola into the spark plug holes and onto the valve stems and guides. I've tried it several times, and it works. Let it set for a day or two, and if the engine still won't move, pour more Coke in and let it set for another day or at least several hours. [Plain club soda is pure carbonic-acid solution without sugar, flavors, or coloring; and one wonders whether this might not work as well, while leaving only water as residue.]

WE HOPE that we can be of some small help in keeping the fine Hudson cars and their tradition of engineering, quality, and service alive - the famous White Triangle. Sunbelters may wonder about the preoccupation here with moisture and rust, but believe me this is a serious problem in many of the northern states. May have more about dry rot, dried-out seals, and other desert-type problems another time!

Ten years ago when I offered to help Bernie Siegfried with the heavy correspondence load he had as Step-down Tech advisor, the emphasis was primarily upon keeping the Hudsons on the road. Art Adams handled the questions about body work and painting for quite a few years, and I tried to field the mechanical questions. We still call Bernie on the tough ones.

Over the years the emphasis in letters to the Stepdown Tech Advisor has gradually shifted to requests for specifications; and then to requests for detailed restoration information in more recent years. People ask: "What Color should the timing chain cover be? Mine is gold colored, but the engine is or was silver. Is that correct?"

Well, that's hard to answer, because Hudson often changed things in mid-year, and sometimes substituted or used parts from last year in order to use them up and to keep those cars coming off the assembly line. This was a common practice with the smaller automobile manufacturers, and some larger ones. We never used to worry much about it.

It's good to see so many people now interested in perfect restoration. Thanks to Bernie and too many others to list here, enough Hudsons were kept running - or at least kept - to provide an invaluable historical supply, now that Hudson is recognized as a "Milestone" car, and a very valuable car to collect. The variety of problems found in letters over the years has certainly helped to make life interesting. But no one has yet said that it wasn't all worthwhile. Happy Hudsoning!

V.H.

A Few Corrections and Notes for Hudsonotes Columns Published During the year:

In "Handy Extra Lights" (June), an accessory light for interior of trunk was mentioned; this item was available from Hudson as early as 1934 (not 1943). Regarding the small light for glove compartment, it should be noted that the hole in dash panel - about 7/16-inch size - provided on Hudson stepdowns 1951 and up is intended for a small pushbutton switch only (to be used along with separate bulb and socket). The later type glovebox light that has pushbutton and lamp socket combined in one unit generally requires a larger hole, about 9/16 inch. The earlier type of glovebox light equipped with mercury switch usually has a mercury capsule of same diameter (about 5/16 inch) as those for trunk and underhood lights, but shorter. Good replacement ones are scarce.

If the mercury switch unit in a trunk or underhood light does not work reliably, and is the type made of metal (not glass), it can sometimes be corrected by carefully removing end cap (without damaging insulator), pouring mercury into a small clean glass, and then cleaning all dust and oxide from inside capsule and cap. Even dull surface of mercury globule can be cleaned a bit with careful use of finger and small rag. Finally pour mercury back into capsule, press cap back on, and reassemble switch in socket of lamp. With the present high cost of replacement lights of this type, this

repair may be worth trying.

Several lines mixed out of order at top of page 37 (June) were confusing, though probably most readers deciphered them. The homemade harness cable, with perhaps 3 to 8 wires of #14, #16, or #18 gauge as needed, is a practical way of connecting added electrical accessories at rear of car.

On many models this cable can be run between rocker panel and frame; but if necessary, it can also be extra-well wrapped and run underneath car floor, beside frame. If headliner cloth is being replaced, some added wires can usually be run inside header or roof panel.

George Schmidt