

Hudsonotes

Column of Mechanical Miscellany
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Auxiliary Lights

DIRECTIONAL TURN SIGNALS for U.S. cars and trucks probably had their beginning with the add-on Protex Safety Signal, offered 1920 and up. Other prototype signal devices were developed later and were occasionally reported in magazines of the 1930's — for example, a lighted wand which was to be hung at each windshield pillar, and which could be swung up horizontally to indicate a turn. But directional lights as we know them, offered as a factory option on Hudson and a few other makes, evidently date only from the 1940 model year in this country.

Hudson's 1940-41 directional signal switch on steering column featured three pushbuttons (with pilot light), rather than a switch lever, and it was not self-cancelling — the signals had to be turned off manually, using center button. Circuitry was arranged so that brake-lamp filaments at rear could also be used for signalling, as on many modern cars. In front, the small parking-lamp bulbs were changed to the larger dual-filament type (#1158), with '40 models using the two hood panel lamps for this purpose, and '41-47's usually the front fender "eyebrow" lamps.

For 1942-47 models, Hudson used a conventional directional-light switch similar to the one on '48-51 stepdowns — lever-operated, self-cancelling (with two small taper pins added to steering wheel hub to operate cancelling fingers), and with the switch box mounted on column as part of upper support for gearshift lever. Pilot light was now on dashboard, at left. In addition, pre-stepdown models used a two-unit relay to coordinate brake and rear signal light operation, while also reducing circuit resistance somewhat.

The total percent of cars equipped with directional signals during most of these years was not large, although it varied widely from state to state. Wisconsin, for example, in 1951, was neither the first nor the last to pass a compulsory turn-signal law — and one typical result was the disfigurement of many attractive older cars, with added external lamps being patched on for signalling. Many also were converted properly, using either factory or aftermarket parts to fit signals into tail and parking lamps.

Among the most familiar add-on lamps were bullet or beehive-shaped types by Unity and by Auto Lamp, both of which (in the clear versions) were also used much more attractively on many

Hudsons as backup lamps. There were a number of aftermarket steering-column switches available, nearly all lever-operated and with pilot light(s) built in. Most also included extra contacts and wires (as on most modern switches) to coordinate use of the same lamp filaments for brake and rear signal lights — or if this feature was not needed at rear, it could be used instead at front to allow retention of single-filament bulbs in hard-to-convert parking lamps. One switch model from Auto Lamp even had a built-in rubber friction wheel to run in contact with base of steering wheel, thus making the unit self-cancelling. A few non-cancelling models, intended mainly for trucks, included a built-in 4-way flasher control; but since signals in those years were rarely used to indicate merely a change of lanes, the halfway or momentary-contact switch position was not introduced till later, in the 1960's.

ON HUDSON STEPDOWNs for 1948-51, the triangular taillight assemblies, both large and small type, were made with an extra socket hole (and second bullseye in glass lens), so that a separate bulb (#1129 single contact) could be used for rear signals, thus eliminating the need for relays or extra switch circuits. At the same time, dual filament bulbs for parking/front signal were changed to the newer #1154 type, with one bayonet pin on base set higher to prevent reversed installation. (Hudson had already made this bulb change for tail/brake lamps shortly before the war, although the older #1158 can also be used as a substitute in any of these sockets, if it is installed with care.

A large number of stepdowns were signal-equipped either by factory (wires behind headliner) or by dealer (wires under rug). Normally the entire steering column tube was changed to one with hole pre-cut for switch cancelling fingers, and with upper thrust bearing moved about ½ inch lower (a corresponding extra spacer being added on steering shaft), thus allowing more room for the cancelling parts. Both painted and chrome-plated columns were available with the factory-cut hole.

However, it is also possible to modify a standard column tube for use with directional signals, if no pre-cut one can be found — as is often the case with 1942-47 models. For these cars, the National Automotive Service Data manual specifies that the hole should be cut ½ inch wide, with square ends, and should extend around tube for a total distance of 130 degrees (or almost exactly 2 inches). Top edge of hole should be ¾ inch down from top edge of jacket tube. Along with this, the steering column bushing (which supports the bearing) should be pressed downward until its upper edge is 1½ inches from end of tube. With care, the job can be done without

removing column tube from car.

Holes are provided in lower edge of steering wheel hub for installation of the cancelling pins. Usually these pins can be removed from a spare wheel (any year) by careful twisting and pulling, using vise or vise-grip pliers. Pins should be driven in to project just ⅜ inch.

Inspection of 1948-49 (and most 1950) parts shows that dimensions are the same as those listed above, and installation can be made in the same way. If bushing and thrust bearing are not to be pressed downward, the hole can be placed about ⅜ inch higher on column, and no extra spacer will be needed on shaft — but extreme care will be necessary when installing switch, to prevent any interference with cancelling fingers. Switch lever may also need to be straightened slightly for use with some steering wheels. For temporary installation of non-cancelling signals, switch box can simply be bolted to plain column tube, although the two cast-in lugs may need to be filed down somewhat.

On later stepdowns, steering wheel designs varied, and the exact height of thrust bearing, cancelling hole, etc. on column had to be varied accordingly — usually an inch or more lower.

Switch box, wire conduit, etc. are painted or plated to match the column used on car. Box covers are accordingly plastic or chromed metal, although the plastic may be preferred on any '48-49 with large deluxe wheel, since it matches the center ornament on this wheel.

With the large steering wheel particularly, and with signals today often being needed for lane changes as well as for turns, some drivers may find the original switch handle rather short. Since this knob and handle use 8-32 thread, an inconspicuous extension for them can be made from a short piece of threaded brass tubing (tap it inside if necessary), and an extra 8-32 stud. The added length of ¾ inch or so is surprisingly helpful in traffic.

Flasher unit used with these signals, usually Tung-Sol's #P229D, is the type with three connector prongs exactly like those on a sealed-beam headlamp. Some early wire harnesses used individual eyelet terminals and screws; later ones had a standard plastic socket for flasher. Standard flash rate is about ⅓ second, or 90 per minute, though this can become slower with age or increased load.

A more common problem with 6-volt signals is the gradual loss of brightness. A replacement flasher (probably standard type, since most heavy-duty units flash too rapidly on light loads) may help, but often there is accumulated resistance at terminals and connectors, feed wire and fuse, switch contacts, lamp sockets, etc. Some of it can be eliminated by cleaning these parts carefully with fine steel wool.

Parking, tail, license, and hood lamps all lose some efficiency when the metal backing inside darkens with age and dirt. Backing can be cleaned and then sprayed with bright aluminum paint; or an even better method, often suggested but worth repeating here, is to line surface with shiny aluminum foil, held in place with rubber trim cement. This will brighten signal and other lights; and if the foil dulls in a few years, it can easily be replaced.

Miniature pilot lights on dash used with Hudson signals 1942-54 were like those found on some older vehicles for indicating headlamp high beams. Hudson used one type through mid-'49, and a second after that. Both fitted a ¼-inch hole and would interchange, but the second was easier to see when lighted, and had springloaded rather than plain retainer cup behind panel. Third type, 1952 and up, was like the second, but green instead of red. Another matching pilot light was used for manually operated backup lamps, and was usually placed about an inch directly below the first one (to allow space for both retainers).

STUDENTS OF the stepdown have noted that there were probably more changes made to these Hudsons for 1952 than for any other one year. Not all of the changes showed, but one which did was the use of more stamped trim parts in place of cast ones, notably at the taillights. Also, these new lights were made to hold only one bulb each, so that some electrical changes were necessary to combine directional and brake lights. To avoid need for relays, extra contacts and wire leads were built into steering column switch, much as on some present-day cars and on a few of the aftermarket signal switches. Hudson's revised switch fitted both the original case and the new one for '54.

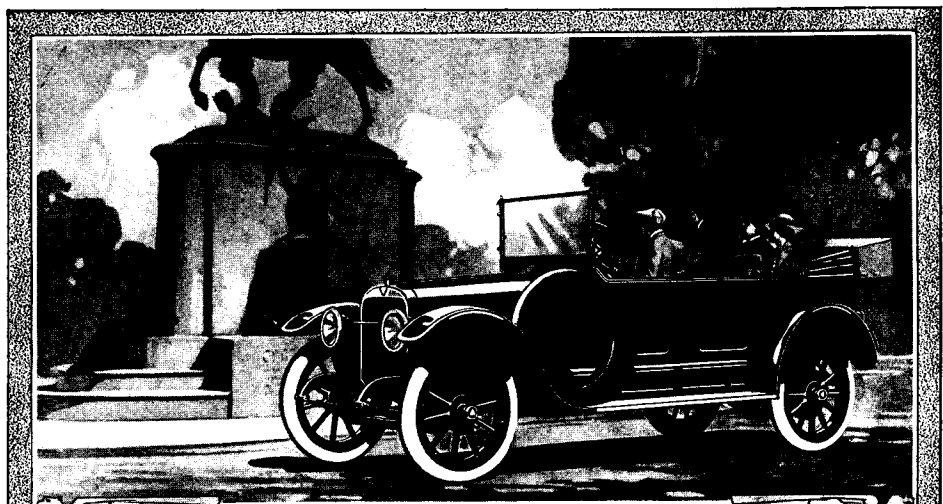
One "safety gadget" easily added to most Hudsons with directional light is the 4-way emergency flasher switch. Warning flashes will not be as bright as on later cars, but may prove useful in case of a nocturnal tire change or other roadside problems. Add-on 4-way switch kits have been available, and can be converted from 12 to 6 volts merely by changing flasher and pilot bulb, but are not necessary. A switch and knob matching others in car can often be found, and on most stepdowns it need have only three terminals, all connected when "on," and separated when "off." This same type switch is often used for fog (plus tail) lights. If one is not available, it can be made up by altering a spare headlight switch, adding a small internal stop (drop of solder, or 6-32 screw and nut) so that only the "off" and "park" positions will be used. In addition, a spare flasher, 3-prong socket, and fuse (14-20 amp.) will be needed. Extra double connectors can be added at Douglas (bullet) terminals in original signal wiring without cutting it;

but all added 4-way wiring should be #14 gauge or heavier. Pre-'48's with relays can use a similar arrangement.

Directional lights are customarily wired through ignition switch (at gauge terminal), but a 4-way system normally bypasses the ignition. Both can safely be connected to the same lamps, however, since each flasher while not in use serves as an effective isolation switch. The third (center) prong of each one is for pilot light, and these too can be connected to use the same bulb on dash. For audible signal clicks, flashers should be clamped to a metal surface behind dash, but to mute the sound, they can be hung merely by their wiring. Most are designated to warn of an inoperative front or rear signal by not flashing the pilot light when load is less than normal.

Signal and all other lights on an older 6-volt car need to be checked periodically. Bulbs, owing to the short, thicker filament shape, tend to outlast their 12-volt equivalents, but poor contact caused by dirt, oxidation, or slight looseness is often more troublesome at the lower voltage, particularly since 6-volt bulbs are no longer made with an added thin protective plating of nickel (or even silver) on base. Steel wool can be used to clean sockets and bases (do not scratch bulb glass), and perhaps a touch of light oil used on socket and its spring. In addition to sockets, wire terminals, switches, etc., the ground connections, including clips, retainers, mounting bolts, etc. at each lamp should be checked for possible poor contact.

Next time: More about lights.



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