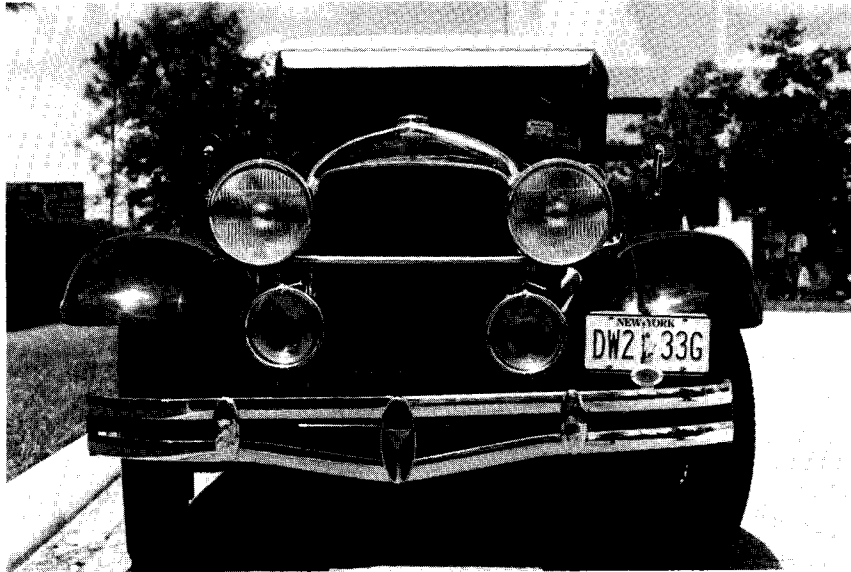


**S**LIGHT INWARD SLOPING of automotive side-window glass, along with that of windshields and rear windows, became practically universal in the early 1930's. It was a styling and streamlining feature, and it also served another purpose. Before that, most cars with glass windows all around—especially the large number built after Hudson and Essex pioneered low-cost but rather box-shaped



closed bodies in 1922-24—had their flat glass windowpanes installed practically perpendicular to the ground, and hence parallel to each other.

One result when driving in one of these pre-1930's closed bodies at night may be some unexpected extra reflections from the vertical glass surfaces, which could be distracting to a driver who is not accustomed to them. On later cars, the slight angling of glass surfaces much reduces night reflection problems, as it also does on present-day vehicles.

If you are planning an extended trip which will include much night driving, in your old-style "foursquare" sedan or coupé (whether Essex, Hudson, or otherwise), it may be advisable first to make several shorter night trips of this kind, as practice runs. Include some driving in the country, and some under city lights, freeway illumination, and other conditions (perhaps even some in rain or fog). Note whether there are any special problems with reflections or visibility for which the driver must make due allowance.

**EVEN IF YOUR** car is a slightly newer one with non-parallel window glass, or is one with open sides and/or flexible side-curtains, these short preliminary trips at night are useful. They offer the best opportunity to make certain that the car's original headlamps (and auxiliary lamps, if any), including

## Reflections and Illuminations

Reflections and Illuminations

By George Schmidt

the lenses, bulbs, reflectors, focus, grounding, switches, etc.—not to mention the car's battery, generator, and charge regulator—are in good reliable condition for use. Obviously much of this is unimportant if the car is never driven at night, or if it is hardly ever driven at all—but old cars, and Hudson products in particular, deserve better than that, I suggest.

Aim of the old headlamps (and newer ones) should be checked with especial care for present-day driving. If you have the original specific aiming instructions for your car's lights, try following those, and then test the car both on unlighted rural roads and in typical night traffic. Note that antique headlamps were commonly to be aimed straight ahead, and almost level, without the 1% downward slope of the high beam (0.25 foot or 3 inches down at a distance of 25 feet) which has been

conventional for sealed-beam lights since 1940. Final adjustment of old lamps, however, should be done only after road testing (with rear of car carrying its normal load, if possible).

Care and maintenance of headlamp reflectors remained a problem from pre-automotive days until introduction of the disposable sealed-beam units

*Photo: Sam Jackson* in 1940. Reflectors were usually plated with silver since that is the brightest reflective metal known; but it is readily blackened and tarnished by materials containing sulphur. Tarnished reflectors which are in otherwise good condition can be cleaned using any of the mild polishes recommended for household silverware. Copper and chromium polishes will remove the tarnish, but are too abrasive and so should be avoided here. Also to be avoided are any circular polishing strokes on reflector surfaces. Use only straight radial strokes.

Some old lights need to be adjusted for focus as well as for aim, but if original instructions are lacking, these can usually be set to give a beam shape and size much like that from a modern headlamp or driving lamp, even if not as bright. This should be done at night or in a blacked-out garage, and then road tested for effectiveness. After focusing, try to adjust height of beam for best forward vision, on a level road surface (preferably light-colored), one lamp at a time, and then both together.

Despite a few conflicting state lighting regulations in the early days, some factory aiming instructions could be surprisingly casual. Here are quotes from the 1916 Hudson service manual:

"THE CAR SHOULD be placed forty feet from a wall, and the rays focused so that each circle of light measures three feet in diameter. The edges of these circles should just touch each

other in the center. Lower edges should strike the wall one and a half feet from the floor.

"To focus the rays on the Super-Six headlights, remove the front glass by pressing in on the nickel plated rim, and at the same time turning to the left...." Focusing then was done by shifting the bulb slightly forward or back (exact method varied between early and late type headlamps). The manual continues:

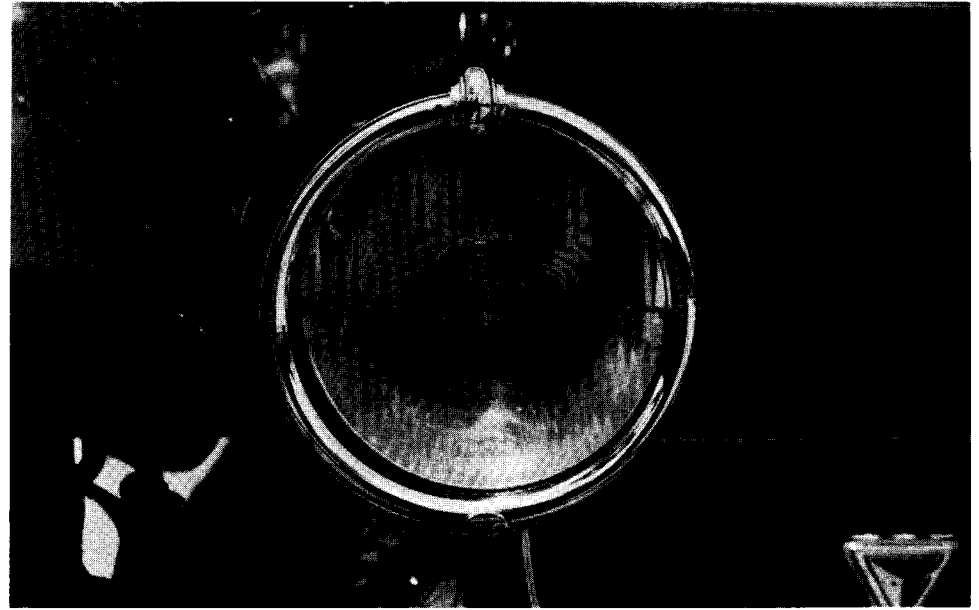
"Many owners have ideas of their own in regard to how headlights should be adjusted.... Those who operate their cars in the city do not need very much light; in fact, the glare directed close to the front of the car is most satisfactory.... Owners driving in rural districts, and especially those who like to drive fast, prefer to have the lamps focused to throw the light a considerable distance down the road. Some consider it an advantage to have one focused for a beam light, and the other for a fan effect to illuminate the entire width of the road...."

Somehow, we think it must have been a bit spooky in 1916 (as it would be today) to meet an approaching Hudson at night which had its two eyes as forlornly out of sync as that. These were single-beam lights, of course, dimmed only by a resistor. The car's electrical system was typical 1916 Delco except for having no side or parking lights (perhaps those were optional, or were kerosene type). During the Teens it appears that conversions of acetylene and kerosene auto lamps to electricity were not unusual, using homemade and/or aftermarket parts.

THE MID-TWENTIES brought headlamps with two-filament bulbs, offering both a high and a low beam from one unit. Not all of them were equally efficient, but numerous brands were offered on U.S. cars—Parabeam, Depress Beam, Hall, Delco, Corcoran-Brown, and others. When replacing a light bulb, be sure to match the filament layout of the original (several types were made) for proper control of both beams.

If higher-wattage replacement-type bulbs can be found to fit your car's head and tail lights, these are recommended for today's driving conditions,

but should be test-run long enough to be sure they will not overload old wiring, connectors, etc. Check for "warm spots," especially at wire terminals or ends, and at switch and light socket contacts. If any of these points show dirt or looseness or corrosion, they should be cleaned and polished with fine steel wool, reassembled, and then given a coat of light protective lubricant, perhaps WD-40, CRC 5-56, or LPS #1. This can remove much



unwanted electrical resistance. "Lubriplate" or a similar lithium grease can be used inside an old switch that must be opened for cleaning of contacts, but these switches also require good internal spring pressure to operate reliably. Check to be sure springs have not weakened with heating or age. Check old wire also for any broken or corroded copper strands. On a later Hudson with foot dimmer switch, check for terminals corroded by exposure underneath the car.

Because modern headlight aiming equipment cannot be used, several road tests may be necessary before your old car's lighting system is optimized for night driving. Accessory road lamps (of the car's own period and style, please!) should not be essential, but can add much to both safety and appearance. These too must be aimed with special care (perhaps just beyond range of the standard headlamps, or perhaps to a shorter range as fill-in lights) in order to illuminate the roadway but not the eyes of oncoming dri-

vers. As a final nighttime check, you may wish to let a friend drive the car while you meet it along the road test route in another vehicle. How will the car and its lights appear to other motorists? Bear in mind that on a few special occasions the head and/or driving lamps may also be required in daylight.

ALL OF THE OTHER usual pre-trip checks—of the car's brakes, tires, lubrication and fluids, engine tune,

*Pg. 5 and above: Art Healy's Biddle & Smart '29 lighting array. Right: 1940 was the first year for sealed-beam headlights Photos: Mary Ann Jackson*

belts and hoses, etc., etc.—are of course essential too. These can be done easily in daylight, and very few old-car owners would be likely to neglect them. On the other hand, one occasionally finds owners who are able mechanics except that they are not quite comfortable with electrical work, and probably need to give added attention to that area. Often, too, it is found that an old car in moderate regular use is likely to be more reliable on long tours than one which has merely been in storage.

If some further useful suggestions have been overlooked here, we hope that a few readers who have driven their prewar or older Hudson-built cars on longer trips in the past will write and advise us. Perhaps they can also suggest the best parts of the U.S. for such travel. Owners should be sure

too, to take along the HET Club Roster, including its TEH (Tourist Emergency Help) listing.

And have a happy trip. Those Hudson-built pre-streamlining vehicles, like most other Hudson models, were—and are—good driveable and durable cars; in fact this was one reason for their quick original success. It would be dismal indeed to think of all of them now becoming merely stationary fair-weather objects of display, as has already happened to so many

beam. All had the foot-operated dimmer switch. Aiming instructions varied slightly from year to year, but these for 1937-38 Hudsons are typical, and brief: Aim headlamps (lenses in place) straight ahead with top of light beam at lamp center height, at 25-foot distance (car unloaded; upper beams lighted). "Prefocus" bulbs had a collar or other device to hold them precisely in one position, and needed no focus adjustment.

Be sure the tail lamp is clean and

bright. The second tail light per car was not yet universal in the mid/late 1930's. It was standard on deluxe models, but still optional on some of the others. The brake light at the rear, however (helpful in today's traffic) had generally been included since 1927. The brake light switch should be checked occasionally (and perhaps given a drop of oil, if it is of the mechanical type, pre-1936). On an older car without a brake light, or without turn-signal lights, the driver should be prepared to give the appropriate hand signals when necessary.

THE EARLY SEALED-BEAM headlamp units, used 1940 through the early 1950's,

were #4030 or equivalent. The figures "40" and "30" here referred to nominal wattage (not candlepower), and a claim was made that the 40 to 45-watt high beam was "approximately 50% brighter" than a standard 32 c.p. headlamp bulb.

Apparently most of the prewar sealed beams which Hudson installed were by Hall Lamp and were of the composite type (with inner bulb), similar to GM or Guide, rather than being

the more efficient General Electric/Westinghouse all-glass type (similar to modern units) which was used on some Brand X cars, and for replacement. Patent restrictions reportedly were one of the reasons for this.

The two types were interchangeable, and both of them are easily noticed today since they lack the three molded bosses on the outside of the lens which are used with modern lamp aiming equipment. Although this also gives them the correct authentic appearance on most Hudsons, their light output is not ideal for extensive night driving. Some #5040 units were made also, but would be difficult to find today.

Hence many 1940-54 Hudson owners have installed the #6006 sealed-beam units, which are brighter than the #4030's and are the usual replacement since 1955. As with the oversize bulbs for earlier headlamps, this usually works well provided the old car's wiring, connectors, switch contacts, etc. are in top condition. Excessive resistance can be found using a voltmeter; or for a quick check, turn on headlights, and run a heavy jumper wire from battery "hot" terminal to "hot" headlight prong. Repeat the test using the other headlamp beam, and again using the battery ground terminal and the ground prong of the lamp. In each case the headlights should brighten only very slightly.

AN ACCESSORY ITEM not uncommon in 6-volt days was the headlamp relay, used along with its own heavy wiring and fuse or circuit breaker. If one of these in good condition can be found, it can still be a help in maintaining headlamp brightness, especially on a collector vehicle much used for night driving. These relays were either double type (for both headlamp beams), or single (perhaps for high beam alone, or for driving or fog lights; or sometimes for high-current accessories being operated through the ignition switch). Main feed wire from battery cable to relay should be #10 gauge, minimum (#8 suggested, if not too stiff or unsightly). The relay can often be installed without cutting the car's original wiring harness (as at the



Brand X cars of their era.

LATER HUDSONS are great travel cars too (as everyone knows), and suggestions for night driving, extended trips, etc. apply to them as well. Lighting is usually adequate if in good condition. The 1936-39 Hudsons and Terraplanes had Hall headlamp units, prefocus type, using bulb #2331. This gave a rated 32 candlepower for each beam, although an "export" type bulb, #2520, had one 50 c.p. and one 21 c.p.

radiator terminal blocks on 1948-54 Hudsons, for instance). It will bypass any resistance from switches or long wire runs, but of course the headlamp prongs and their socket plugs, and the eyelet terminals, and ground connections, must all be clean and shiny and tight. Also, do not use a 12-volt replacement headlight plug—it may fit, but its wiring is too light.

The #6006 sealed-beams, like nearly all of the 12-volt units, can be aligned using Hopkins or other modern aiming equipment, although in some instances, especially if the bulbs are not new, one may wish to double-check aim using the standard optical method shown in Hudson and other older manuals. If necessary, use a good penetrating oil on headlight adjusting and retaining screws several days in advance. Most of the Hall Lamp headlight mountings used on step-down Hudsons have proven serviceable, but check the '48-'49 aluminum version for possible bending, corrosion, or loose rivets; and use heavy grease for extra protection. If necessary, an earlier or later Hall inner cup, or complete assembly (which were all-steel) can be substituted.

Brighter aftermarket foreign-made headlamps to fit U.S. cars have been available since the 1960's or earlier. Brand names have included Marchal (French), Lucas (British), Bosch, Hella (German), and others. Most models fitted neatly in place of a standard sealed-beam unit, but featured an efficient extra-bright replaceable internal bulb, sometimes of the quartz/halogen type, along with special optics. Several makers offered 7-inch 6-volt versions suitable for installation on Hudsons 1940 and up. We'd like to know whether any Hudsons in the HET Club are so equipped at present, and how satisfactory these special headlamps are in use on the road. We hope a reader will write and tell us.

**HAPPY EASTER** and a great travel season to all of our Hudson friends!



*George Schmidt may be contacted by mail at 451 Elizabeth Street, Mishicot, WI 54228*