

GRADE CROSSINGS MUST GO ON FEDERAL-AID HIGHWAY SYSTEM



Grade Crossings Will Be Eliminated to Save Human Lives.

(Prepared by the United States Department of Agriculture)

The grade crossings must go and they will be eliminated wherever possible on the roads of the federal aid highway system, which will be built as a result of the passage of the federal highway act. When the roads which form the primary or interstate system are constructed, no grade crossing will be allowed to remain that it is at all practicable to avoid. Every effort will be made to make the roads of the secondary system equally safe, but in this case it is recognized that elimination may not be practicable in all cases at this time.

Policy Meets Approval.
In making this announcement the bureau of public roads, United States Department of Agriculture, under whose supervision the fund is allotted and construction is undertaken, is putting into effect a policy which it has long advocated in principle, and whose adoption it has urged with increasing effectiveness upon state highway officials for some time past. The policy is meeting with hearty co-operation on the part of the states, and the American Association of State Highway Officials by resolution has pledged its best efforts to co-operate to eliminate grade crossings on new construction.

In addition, the policy finds favor among the railroads, some of the lead-

ing carriers already having lent cheerful aid in avoiding the construction of more grade crossings.

Instead of grade crossings there will be constructed, wherever possible, in the future either a bridge or an underpass where roadway and railway intersect. Important roads, which now cross and recross railroad lines at grades, hereafter will be located entirely on one side of the railroad, even though to do so may increase the cost of construction.

Where crossings are unavoidable, or where local interests justify construction of highways to cross railroad lines, the road will be so located as to pass over the track or under it. In most instances of this sort the railroads bear one-half of the cost of building the bridge or underpass.

Saving of Human Lives.
The prime object of the department's policy to eliminate grade crossings on federal-aid roads is the saving of human lives. This policy probably will involve increased expense of construction in the case of some roads, but it is believed this is justified by the saving of life. During the three years ending with 1920, according to the best records available at the department, 3,636 lives were lost at grade crossings in the United States and 10,644 persons were injured.



	1918	1919	1920
CASUALTIES			
KILLED	1852	1784	1791
INJURED	4683	4616	5077
TOTAL	6535	6400	6868
PEDESTRIANS	778	698	687
OCCUPANTS OF			
AUTOMOBILES	4240	4790	5250
OTHER VEHICLES	1517	812	931

Distribution of Highway Grade Crossing Casualties.

VIBRATION WILL LOOSEN ENGINES

Driver Immediately Begins to Realize That There Is Something Wrong.

SEARCH UNNECESSARY NOISES

Clicks and Slaps of Valve May Be Detected by Rhythmic Regularity—Cause of Several Other Troubles.

One of the greatest enemies of the modern motorist is vibration. The effect of vibration is to loosen the various parts of the mechanism and the immediate effect of this is felt by the driver of the car, who realizes that his car is beginning to be the seat of numberless noises, which are a far from pleasant accompaniment to a drive. But the noises are only the beginning because the looseness that causes the noise will result in breakage at no distant date, if it is permitted to continue. The car owner, therefore, should take engine and chassis noises, not as mere passing annoyances, but as symptoms of something far more serious and should earnestly hunt them down, just as soon as they make their presence known.

Engine Seat of Trouble.
The engine is the seat of the greater part of the unnecessary noises that seem inevitable in the operation of the car. The commonest engine noises are valve clicks and slaps, both of which may be detected by the rhythmic regularity of their occurrence.

The reason for noisy gear operation is too great clearance between the valve and its seat. In the case of overhead valves too great a clearance between lifter and push rod will cause the trouble. The remedy is obviously the reduction of the clearance to the correct distance and this work should be done while the engine is heated, because of the expansion of metal when heated, in which condition the valves necessarily run.

While the valve system is the commonest seat of noise troubles in the engine it is not the sole location where this trouble may be looked for. The bearings in most engines are of soft metal, which must be kept copiously lubricated or it will burn and flatten out with a knock as the result. The ordinary remedy for this is to take up the bearing by removing the shim between the two halves, or else to trim the metal on the movable part. Care must be used in performing this operation to see that the bearing touches the shaft all around without being too tight.

Reason for Many Noises.
Transmission noises are not at all uncommon and generally result from one of the shafts being out of line by reason of a worn bearing or a binding gear. Sometimes the entire transmission is out of line, so that both shafts are out of true. Very often a gear may be broken because the shaft has been out of line. The car owner has a new one installed, but this does not help for long, because the entire unit is out of alignment.

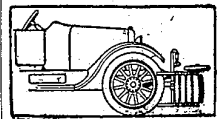
Propeller shaft and universal joints are not usually troublesome through body operation, but the rear axle frequently is. While the driving pinion and differential master gear are not running true there will be a loud hum, with an accent or stress once in a revolution. Most units have some means of adjusting to take up wear in this location, the adjustment consisting of moving the entire differential unit, which is a job for expert hands.

This eliminates the major noises, but there are several minor ones to look out for. Minor squeaks and rattles from springs and body come in this class. The springs also squeak, if kept properly lubricated will not be noisy. Body noises may be avoided by keeping nuts and bolts tightly drawn up. Felt inserts will stop door squeaks. Strips of rubber wedged under the supports will cure fender rattles.

AUTO BODY IS DETACHABLE

Object of Recent Invention Is to Provide Frames Which May Be Applied or Removed.

The Scientific American in illustrating and describing a detachable automobile body, the invention of W. H. Wechner, 1608 Stone Street, Falls City, Neb., says: The inventor relates particularly to an arrangement whereby the body of an automobile may be quickly applied or removed, the object being to provide a simple



Perspective View Showing Automobile With Invention Applied.

construction which may be formed as part of the automobile or which may be made independently and attached thereto. Further object is to provide frame forming a runway, one of which is mounted on the chassis, the other on the body of the automobile, whereby the body may be slidably fitted into position.

RIGHT WAY TO PLACE INNER TUBE IN CASE

First Thing to Do Is to Partly Inflate It.

Bad Practice to Allow It to Rest on Ground or Garage Floor, Thus Picking Up Particles of Sand, Cinders or Oil.

Unexpected outbursts from inner tubes originate from slight omission and commission. By omitting the more glaring ones it is altered the motorist can be saved the dollars that would otherwise be wasted.

Haste in replacing punctured or blown-out tubes is a trouble. The right way to place a tube into a casing is to first partly inflate it. Then it should be applied carefully, the side bearing the stem always being kept in sight. When it is in the casing it should be tugged carefully and the fingers forced all around the tire to make sure that tale has been evenly distributed. A tube never should be inserted unless partially inflated.

In pumping a tube before insertion most motorists allow it to rest on the ground or on the floor of the garage. This practice is wrong. It allows the tube to pick up particles of sand, cinders and oil, which create friction and eventually tiny holes.

The right way is to place the tube over the left shoulder and pump with the right hand. Thus a portion of the tube will be above the touch the road or pavement. When the tube is well rounded with air and free from wrinkles it is ready for insertion in the casing, and then should be pumped to the prescribed pressure.

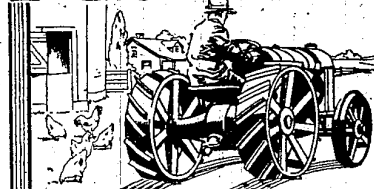
AUTOMOBILE GOSSIP

Deflating an inner tube is a slow business when this means holding open the valve. Try using a Gosnell quill which has been cut in the form of a pen.

Mud, wet or dry, silt and removed with flowing water from a squeezed sponge, or flowing from a hose with very little pressure, rather than with a water blast.

Insurance companies in New York, in the future, will pay rewards only for the arrest and conviction of thieves of automobiles instead of offering rewards for the return of stolen cars.

Fordson



In the Day's Work

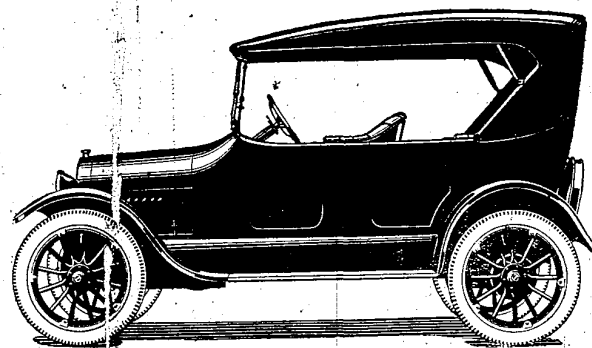
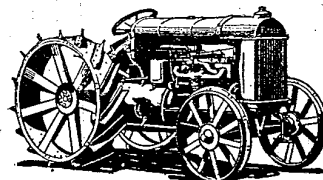
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