

MOTORS AND MOTORING: A Page Full of Interest to the Owner or Prospective Owner of an Automobile.

MISSING BEARING MAY SEND MOTOR TO REPAIR SHOP

Types and Engines Best Fitted for Them—As Long as Oil is Kept in Engine, Every One Will Perform Function Assigned to it.

Care of the bearings in an automobile is as necessary as observing the rules of health in the life of the individual. A bearing is a support for the moving part, made so as to minimize friction, stand wear and achieve fine adjustment. There are hundreds of these things in an automobile, so one could hardly be blamed for losing just a few. But the loss of only a few might raise a merry havoc with a machine, and put it in that dry dock of the automobile world—the repair shop.

There are many types of bearings, some in which the metals are selected with the idea of obtaining strength rather than non-friction qualities; others have long metal shells lined with a comparatively soft non-friction metal. In these bearings moving members slide over each other. In addition to this there are the so-called anti-friction bearings, in which balls, or straight, taper, or ball rollers are used, giving a rolling rather than sliding contact.

On the engines alone there are more than one hundred bearings. This is figured on the average six-cylinder motor; some of them have more than double the number. There are for instance, the following: Six cylinders, six wrist-pin bearings, six crank-pin bearings, four main three cam-shaft, twelve cam, twelve push rod, twelve valve stem, two fan, two water pump, eight ignition, six spark control, six carburetor control, six carburetors, three oil pump, four self-starter, and four self-starter linkage bearings; total 102.

The first named cylinder and piston, not generally termed bearings, are usually of cast iron which gives comparatively long wear and in which friction is not great if well lubricated. When wear does occur at this point it is necessary to re-bore and have large pistons fitted.

The wrist-pin bearings usually are in the form of a bronze shell called bushings, surrounding the wrist-pin; when wear occasionally occurs it is necessary to drive out the bushing and replace with a new one which fits. In some cases it is necessary to replace the wrist-pin also.

The crank-pin bearings are usually in halves, the metal babbit or bronze, surrounded by a steel strap or casing. When wear occurs the adjustment is made by taking out thin sheets of metal, called shims, which allow the halves to be brought together. The main crankshaft bearings are of the same type.

The cam-shaft bearings are usually in bushing form, or of ball type, which must be replaced with new ones when they become worn. The cam-follower bearings may be just flat plates resting directly upon the cam, or rollers running on a pin in the valve push rod. Wear in these parts would usually be compensated for by adjusting screws on the valve push-rods.

The push-rods guides are sometimes made of cast iron or other metal, with babbit or bronze shell in bushing form, and would require replacement when worn.

The oil pump bearings consist of a plunger working in a small cylinder,

with the end bearing against a cam, or a pair of gears driven from the cam shaft. These bearings, being perfectly lubricated, seldom or never require adjustment.

All of the bearings considered so far are cared for by the lubricating system of the engine, which starts when the engine starts to run, and as long as oil is kept in the engine they are quite certain to be taken care of, barring accidental stoppage of the oil lead.

The fan usually runs on ball bearings, which are lubricated with a squirt can, being usually of the cup and cone type, that are adjusted by tightening the cone. The water pump bearings are lubricated by compression grease cups. When the bearings become badly worn it is necessary to drive out the bushings and replace them; generally the shaft also will need replacing. When this shaft becomes worn out of round no amount of tightening of the stuffing box will prevent water from leaking out.

The valve stem guides are sometimes bushings, but more usually are holes bored through the cylinder casting. In the former case, when wear occurs, the bushing may be driven out and a new one, with new valve, installed; in the latter case, the holes must be reamed true and larger, and valves with larger stems be inserted.

In the ignition system ball bearings usually are employed with or without means of adjustment. These are lubricated with an oil can or packed in grease. There is one bearing of the ignition system which is unique in that some manufacturers advise keeping it free of lubrication substances of any kind. This is the rocker arm of the interrupter on certain makes of magnetos. Other forms of interrupters are so constructed that lubrication is advisable.

The carburetor air-valve bearing operates better if not lubricated, but does wear and need replacing at times. The throttle bearings may be lubricated and would certainly wear longer if this was done. When they do wear air is admitted which is noticeable at low engine speed causing skipping and irregular running.

The throttle and spark-control linkage have a number of bearings which may be of the steel ball and socket type or of wire bent to fit in an eye. These pins should be frequently lubricated with a squirt can. Usually they are not adjustable, so that parts must be replaced when they become badly worn.

The self-starter, motor and generator are usually equipped with ball bearings and are lubricated with a squirt can. Both the motor and generator have a copper commutator on which carbon brushes bear. These are not bearings, strictly speaking, but they do require a very slight trace of oil. The commutator becomes worn occasionally and must be smoothed up with fine sand paper, or if badly worn, must be removed and trued in a lathe.

The other principal bearings throughout the car are usually of ball or roller type, which may or may not be adjustable. Usually the directions for the care and replacement are given in the manufacturers' instruction book.

Minard's Liniment for Burns, etc.

MIDDLETON WINS EASTERN VALLEY LEAGUE

Kentville is Defeated by Champions by Thirteen to Nothing

KENTVILLE, Aug. 4—Middleton, by defeating Kentville this afternoon in a one-sided game of ball, on Memorial Park with the score 13-0, wins the championship of the Eastern section of the Valley League. This fine team, second to none in the province, had the honor of winning the championship last season in the Valley League. They are a fine aggregation of players, having worked together for some time. The team has put Middleton on the map in the baseball realm. The team as a whole played so well it would be difficult to specialize. However, V. Reagh as pitcher, J. Reagh in fielding and batting, Appleby as catcher, and Dodge, the team's star first baseman, excelled.

The Kentville team was disappointing after the fine game they put up with Westville Thursday. The fans' expectations were far from realized. Brooks was the best man of the Kentville team. His fielding was great, and he started the only double play of the game when he tagged Fisher and pegged Reagh out at first. He also secured two hits off Reagh, one being a double. Leitch also played real ball, making some fine catches and backing the infielders up well. Metzler made a pretty catch in the outfield, and Walsh retired the side in the first inning by a fine running catch of a high fly.

Hundreds of enthusiastic fans, both from Middleton and Kentville, filled the grand stand, the attendance being the largest of the season.

Hits, off Reagh, 2; off Burrell, 8. Struckout, by Reagh 9; by Burrell, 5. Errors, Kentville, 7; Middleton, 2. Burrell was relieved in the 9th by Caldwell and Leitch.

Middleton—Appleby, c; Reagh, p; Dodge, 1b; Phinney, 2b; Harlow, 3b; Goucher, ss; Fisher, cf; J. Reagh, lf; Fisher, rf.

Kentville—Walsh, c; Burrell, p; Simmonds, 1b; Brooks, 2b; Smith, 3b; Lightle, ss; Caldwell, lf; Metzler, cf; Leitch, rf. Umpires, Bull, Middleton; J. R. Hiltz, Kentville.

TALK INTO NOT ACROSS TELEPHONE TRANSMITTER

In most respects the telephone is such an easy instrument to use that we are very likely to overlook a few simple and really obvious practices that ought to be observed in its use. For instance, the number of people who do not talk directly into the mouthpiece of the transmitter but speak across the mouthpiece and often with their lips several inches away, is really surprising. Let the telephone user observe his own practice in this respect and bear in mind that the correct position is with the lips about a fraction of an inch in front of the mouthpiece. To talk with the mouth six inches away from the transmitter cuts down the volume of sound which enters the mouthpiece thirty or forty times. It is as unsatisfactory as conversation with a person when he is thirty feet away rather than when he is but three or four feet away.

In case either party to a telephone conversation has any difficulty in understanding, a marked improvement will result from talking slowly and distinctly. In fact, at no time when using the telephone is anything gained by rapid speaking.

As an aid to understanding a telephone message when one's surroundings are noisy, the transmitter mouthpiece may be covered with the hand while listening. This shuts out the extraneous noise from the transmitter and prevents the reproduction of this noise in the receiver which the listener holds to his ear, where it would tend to confuse the distant speaker's voice.

Those three practices, although extremely simple will, if consistently observed, be found to yield results amply justifying the slight attention they require.

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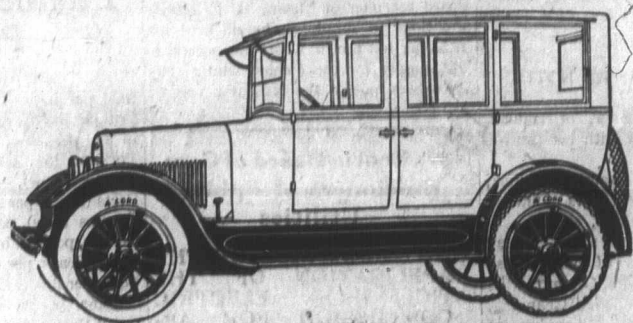
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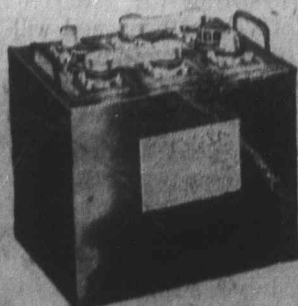
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