HINTS FOR THE MOTORIST

by ALBERT L. CLOUGH

Editor Motor Service Bureau Review of Reviews

The Defective Condenser

An Infrequent But Material Factor In Ignition Trouble

THE ELECTRICAL CONDENSER of the ignition system is such an unobtrusive little affair that many a motorist does not know that he has one. Usually it is tucked away inside the distributor head, but it may be inside the coil-unit or mounted elsewhere. It is only rarely that it gives trouble, but sometimes, from manufacturing defects, extreme exposure to heat or moisture or to excessive voltage it may fail and, as it is absolutely essential to good ignition, engine operation will at once suffer. This possibility should never be forgotten where ignition trouble is being investigated. If the internal insulation of a condenser breaks down completely, it forms a "dead short-circuit" around the breaker-points, preventing their opening the circuit and making the production of sparks impossible. When this insulation does not fail completely, but becomes deteriorated and electrically leaky, ignition becomes weak and uncertain. In case the connections of the condenser to the circuit become broken or unreliable or the condenser loses its full capacity, the spark will be weakened or even practically cease, while at the same time, there will be severe arcing and burning of the timer contacts. When obscure ignition trouble occurs and the coil and other units are all right, it may be desirable to put in a new condenser to eliminate trouble possibilities in this quarter. Defective condensers are not usually repaired.

ENGINE FALTERS ON HILLS

W. C. H. writes: Of late, as soon as I start up a steep hill, my engine begins to miss and often I have to stop and let the engine idle for half a minute, before I can make it pull on high gear again. When this trouble occurs, I can generally climb the hill on second, without a miss. I have cleaned the screens in the carburetor and vacuum tank. What causes this trouble?

Answer: This seems like a fuel feed difficulty. Sometime, when the engine nearly stops in this way, immediately shut off the ignition, open the drain of the vacuum tank and see how much gasoline will run out. If only a small quantity escapes, you may be sure that the vacuum tank is not filling properly and among the reasons for this may be: Draft tube from main tank obstructed; vent in main tank clogged up; leakage in the vacuum line, and lack of tightness of the vent valve or flapper valve.

ENGINE OIL INQUIRY

A. M. B. asks: What grade of oil is best adapted for use in a ——— engine, which has driven its car about 2,700 miles? I have been using light oil and getting good results, but have been wondering if a somewhat heavier oil would not be better for use in the spring.

Answer: The light grade is recommended for this engine and we cannot see the slightest reason for your changing to a heavier grade. As a rule, the grade of oil advised by the manufacturer should be adhered to, the only possible exception being in the case of a very old engine, that has been run tens of thousands of miles and is considerably worn as to its pistons and bearings and has begun to pump oil badly. Some people recommend the use of heavy oil in such cases, but even under such circumstances the proposition does not always work out satisfactorily. The parts of your engine have hardly more than "worked in" as yet.

OIL LEAKS

J. E. D. asks: Why is it that the muffler of my ——— engine becomes covered with oil, which seems to come from the inside of same? What can be done to stop an oil leak at the front end of my engine's cam-shaft? I removed the fan pulley, which is mounted here, and found 1-16 in. wear in the timing gear case, around this shaft.

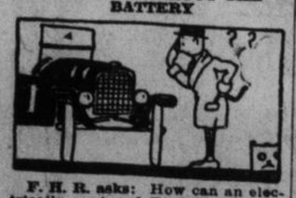
Answer: When an engine pumps oil excessively, it is perfectly possible for oil to be carried into the muffler in such amounts as to leak out through any looseness existing between the heads and shells and to creep out onto the muffler's external surface. Ordinarily, however, the muffler is hot enough to burn this off as fast as it appears. Are you sure there is no oil or grease thrown onto the muffler from the universal joint or some other operative part? It seems unlikely that the cam-shaft could have worn the gear case cover to this extent. There should be a felt-washer, in a retaining ring, set into the case at this point, and this has probably become displaced.

Carburetor Fuel Level

Trouble Results If It Is Either Too High Or Too Low

PROPER CARBURETOR ACTION is dependent in no slight degree upon the maintenance of the correct level of gasoline in the float chamber or carburetor bowl, which should be at such a height that fuel will not overflow from the spraying nozzle or nozzles and yet will stand high enough so that a very slight suction at the jet will cause gasoline to be emitted from it. The general practice is to keep the level a very little, perhaps 1-16 inch below the spraying orifice, the directions accompanying each model of carburetor usually stating the proper level, which is generally given as a certain fraction of an inch below the top edge of the fuel bowl. This can readily be checked up with a scale, when the fuel bowl cover has been removed. If the fuel level is maintained very much too high, gasoline will escape continuously through the spray nozzle and drip from the carburetor noticeably, but if it is only slightly too high it will escape very slowly—mainly when the fuel is warm—and may not be discovered, but it is likely to collect in the carburetor passages and cause an extremely rich mixture when the engine is started. Many cases of black smoke, loading and irregular firing at starting, result from slightly overflowing carburetors. On the other hand if the gasoline level is too low—considerably below the spraying orifice—more than the normal suction is required to cause fuel to flow out of the jet, and some weakening of the mixture will be the result. When suction is slight, as at very low idling or cranking speeds, too weak a mixture to fire reliably may be produced and very slow operation and easy cranking thus be interfered with. Moreover, missing and weak power at very low speeds, with open throttle, as in severe hill climbing, may be caused by the suction being inadequate to lift gasoline through an abnormal distance out of the spraying nozzle in sufficient quantity to keep the mixture sufficiently rich. Carburetor float levels are supposed to be correctly adjusted at the factory, but on account of the widely varying densities of gasoline, they sometimes have to be readjusted. The higher the gravity of the gasoline used and the colder it is, the more the float rises in it and the lower the level is maintained. Old carburetors, designed for lighter fuels, generally run too low fuel levels on this account and can sometimes be greatly improved by float mechanism readjustment. Wear of the float mechanism, including that of the float needle-valve, tends in general to cause a high level.

RUNNING WITHOUT THE BATTERY



F. H. R. asks: How can an electrically equipped Ford be changed over to dispense with the storage battery, but so that it can be cranked by hand and the lights run from the magneto. My battery froze recently and I am not going to get another immediately.

Answer: Remove the storage battery and ground the generator permanently, by connecting its terminal securely with a wire to some part of the block. Install a set of five dry-cells, with one side grounded, and connect the other side of this battery to the battery side of the ignition switch in place of the storage battery connection. Remove the horn wire from the connection board and connect it also to the dry battery. Remove the headlights and replace them with a pair of the magneto operated kind, wiring them in series and grounding one side. The other side should be led to the magneto contact of the switch box, through an ordinary lamp switch. You can also arrange to run the tail lamp from the dry battery, if you wish. By following the above directions, the wiring will be left so that you can readily go back to the storage battery if you so desire.

COMMUTATOR BECOMES "GUMMY"

A. M. B. writes: The commutator of the generator on my car gums so badly that it requires cleaning at the end of each week. When it is clean, it operates perfectly. What is the cause of this trouble, and what is the remedy?

Answer: This is probably a case of lubricating oil or grease reaching the commutator from the generator bearings and future trouble should be preventable by very sparing lubrication of these bearings. Five drops of a very light oil in each bearing, once in each 500 miles, is usually plenty, and the less oil that is used the smaller the chance of its being carried up onto the commutator and into the windings. If this trouble has originated from overoiling, it might be wise to take the generator off and have excess of oil removed from the shaft and other parts.

Questions of general interest to the motorist will be answered by Mr. Clough in this column, space permitting. If an immediate answer is desired, enclose self-addressed, stamped envelope.

An old bachelor says that a woman's change of mind is an example of an effect without a cause.

Many a man makes his mark in the world because he is unable to write.

BENEFITS OF ROTATION

It Maintains Both the Humus and Nitrogen Supplies.

Too Frequent Grain Growing Exhausts the Soil — Rotation Will Help to Destroy Weeds, Insects, and Fungus Pests—Currants and Gooseberries.

(Contributed by Ontario Department of Agriculture, Toronto.)

Crop rotations will, if properly planned and practised, maintain the humus supply in the soil, will restore the nitrogen supply, will give the benefits resulting from alternating crops that have different food requirements and leave different root residues in the soil; will help in weed, insect and fungus disease control; will make business management possible, will distribute the labor and reduce the risk of the loss in poor crop years.

Grain Growing Exhausts the Soil.

Lands that are continually used for grain crops will in time show exhaustion of the humus supply, due to annual tillage creating conditions that favor oxidation. Lands that are given a rest from the action of plough, disc, and cultivator, for two years out of every four while growing a hay or pasture crop will not become depleted of humus material, since the roots of the clover and grass crops will during their period of growth increase the quantity of vegetable matter or humus making material.

The common food plants have quite different root systems, legumes and root crops go deep, the grasses and grains have fibrous roots and feed nearer the surface. The grains develop their feeding roots and are most active during the spring and early summer, while corn and the root crops draw the greater part of their food supply during the late summer.

Use the Soil as a Feeding Ground.

The point is to use the soil as a feeding ground for the various food plants in such a way as to employ all its resources during the rotation period, but not to overwork or exhaust any particular part of what the soil may offer. A soil that is subjected to the task of nourishing a surface feeding type of plant over a long period of years will become exhausted of the food elements within the range of the feeding roots. The same is true when a soil is subjected to supplying the same food elements in excess to classes of plants requiring the same elements.

Alternate Shallow and Deep Feeding Crops.

By planting a rotation that will call for a surface feeding crop one year, a deep feeding crop the next year, and a rest from tillage for two years the soil is not subjected to the same everlasting drain on its fertility that the one crop or no system imposes. The work that the soil is required to do is distributed over a longer period, the soil is given time to rest up while certain food elements are reaching a condition suitable for plant food in quantity large enough to be of use to a developing crop. When crops are alternated, weeds, insects and fungus pests, all of which like the sameness of conditions characteristic of the one crop system, are not given a chance to increase, but are rooted out and destroyed annually through the breaking up of conditions suitable to such pests by employing a suitable rotation system.—L. Stevenson, secretary Dept. of Agriculture, Toronto.

Currants and Gooseberries.

If a currant or gooseberry plantation is properly cared for, at least eight to ten crops may be expected before it becomes unprofitable because of its age. Productive fields over twenty years old are not uncommon in some sections. Although the number of years a plantation will continue in good bearing condition depends to some extent upon location and soil, the most important factor is the care which it receives. The period of productiveness of both currant and gooseberry plants is longer in northern regions than toward the southern limits of their culture and longer on heavy soil than on sandy soil.

In gardens where the available land is limited in extent, currants and gooseberries may well be planted among the tree fruits and left there permanently. The shade of the trees protects the fruits from sun scald, and the foliage is usually healthier in such locations than when grown where it is freely exposed to the sun.

A place with good air drainage is preferred for gooseberries. In low, damp places mildew attacks both fruit and foliage more severely than on higher sites where the air circulation is better. Currants, however, are seldom severely attacked by mildew. Therefore, when the site is a sloping one, currants may be planted on the lower parts and gooseberries above. As both fruits blossom very early in the spring, neither should be planted in low pockets where late spring frosts may kill the flowers.

Gooseberries ordinarily are propagated by mound layers. The plant from which layers are to be procured should be cut back heavily before it begins to grow in the spring. By July it will have sent out numerous vigorous shoots. It should then be mounded with earth half way to the tips of the shoots. By autumn the shoots will have rooted. Those with strong roots may then be cut off and set in the nursery, to be grown for one or two years before planting in the field. If the roots are not well developed, it will be better to leave the shoots attached to the parent plant for a second year.

Humorous Paper Money.

The paper money issued by Lobejun, a small town in Saxony, has evidently been designed by a humorist. On it appears the drawing of a man displaying his empty pockets.

In China there are said to be aqueducts dating back to prehistoric times.

Markets Reports

GRAIN QUOTATIONS.

Montreal.

Montreal, March 17.—Oats, Canadian Western, No. 2, 66 to67c; Canadian Western, No. 3, 63 1-2 to 64 1-2c. Flour, Manitoba spring wheat patents, firsts, $8.50. Rolled oats, bag 90 lbs., $3. Bran, $32.50; shorts, $33. Hay, No. 2, per ton, car lots, $28 to $29.

Winnipeg.

Winnipeg, March 17.—Wheat—No. 1 hard, $1.37 1-4; No. 1 northern, $1.37; No. 2, $1.32 3-4; No. 3, $1.24; No. 4, $1.14 3-4; No. 5, $1.03 3-4; No. 6, 96 1-4c; feed, 91 1-4c; track, $1.37. Oats—No. 2 C.W., 48 3-4c; No. 3 C.W., and extra No. 1 feed, 43 7-8c; No. 1 feed, 43 1-8c; No. 2 feed, 40 1-8c; rejected, 37 3-8c; track, 48 3-8c. Barley—No. 3 C.W., 69c; No. 4 C.W., 60c; rejected and feed, 54 1-2c; track, 63c. Flax—No. 1 N.W.C. $2.353-4; No. 2 C.W., $2.30 3-4; No. 3 C.W. and rejected, $2.06 1-4; track, $2.35 3-4. Rye—No. 2 C.W., $1.03 1-2.

Toronto.

Toronto, March 17.—Manitoba wheat—No. 1 northern, $1.53 1-4; No. 2 northern, not quoted; No. 3 northern, not quoted; No. 4 wheat, not quoted.

Manitoba oats—No. 2 C.W., 58 3-4c.; No. 3 C.W., 57 3-4c.; extra No. 1, 58 1-2c.

Manitoba barley—No. 3 C.W., nominal; No. 4 C.W., nominal.

All above on track, bay ports.

American corn—No. 2 yellow, 75c; No. 3, 73 1-2c; No. 4, 72 1-2c; on track, Toronto.

Rye—No. 2, 86c to 89c.

Buckwheat—No. 2, 78c to 89c.

Ontario oats—No. 2, nominal, according to freight outside.

Ontario wheat—Car lots, No. 1, commercial, $1.39 to $1.40, delivered, bid. Quotations purely nominal.

Ontario barley—No. 3, test 47 lbs., 57c to 60c.

Manitoba flour—First patent, $8.50; second patent, $8.

Ontario flour—90 per cent. patent lots, delivered, $5.60 bulk, seaboard.

Millfeed—bran, $28 to $30 per ton; shorts, $30 to $32 per ton; good feed flour, per bag, $1.70 to $1.80.

Hay—Extra No. 2, $22 to $23; mixed, $18; straw, car lots, $12 to $13; loose hay, per ton, No. 1, $25.

Chicago.

Chicago, March 17.—Wheat—No. 1 hard, $1.32; No. 2, do., $1.33. Corn—No. 2 mixed, 57 1-2 to 58c; No. 2 yellow, 57 1-2c. Oats—No. 2 white, 38 to 39c; No. 3, do., 35 1-2 to 39c. Rye—No. 2, $1.02. Barley—60 to 69c. Timothy seed—$5 to $7; clover seed, $15 to $25.

Minneapolis.

Minneapolis, March 17.—Flour—Unchanged. Bran—$26. Wheat—Cash, No. 1 Northern, $1.42 1-8 to $1.46 1-8; May, $1.37 1-8; July, $1.29. Corn—No. 3 yellow, 48 1-4 to 49 3-4c. Oats—No. 3 white, 32 3-8 to 33 1-8c. Flax—No. 1, $2.54 1-4 to $2.58 1-4.

LIVE STOCK MARKETS.

Toronto.

Toronto, March 17.—Heavy steers, choice $7.75 to $8; butcher steers, choice, $7.25 to $7.75, good, $6.75 to $7.25, medium, $6.25 to $6.50, common, $4.50 to $5; butcher heifers, choice, $6.50 to $7.25, medium, $6 to $6.25, common, $4 to $5; baby beeves, $7 to $9; butcher bulls, good, $4 to $5, medium, $2.50 to $3; butcher cows, $3.50 to $5.50; canners and cutters, $2 to $3; feeding steers, good, $6.50 to $6.75, fair, $5.50 to $6; calves, choice, $12 to $13, medium, $9 to $10, common, $6 to $7; milch cows, $50 to $100; springers, choice, $50 to $60; sheep, choice, $7 to $8.50, heavy, $3 to $4.50; lambs, $11 to $13; western lambs, choice, $15; culled lambs, $7 to $8; hogs, f.o.b., bid, $11.50, fed and watered, bid $12.50, to the farmers, bid, $11.50; corn-fed hogs, 75c to $1 less.

Montreal.

Montreal, March 17.—Cattle, steers, choice $7.50 to $8; good, $7 to $7.50; medium, $6.25 to $6.75, common $5 to $6; butcher heifers choice $6.75 to $7.25; medium $5.75 to $6.75; common $4 to $5.50; butcher cows choice, $5.50 to $6, medium $3.50 to $5; canners $2; cutters $2.50 to $3; butcher bulls, good $5 to $6, common $4 to $5. Good veal, $7 to $8; medium, $5 to $6.50. Ewes, $6 to $7.50; lambs good, $10 to $11. Hogs, off car weights, selects $13 to $13.50.

Buffalo.

East Buffalo, March 17.—Cattle—Shipping steers, $7.50 to $8.75; butchers, $7.25 to $8.25; yearlings, $8 to $9; heifers, $5.25 to $7.75; cows, $2.25 to $6; bulls, $3.50 to $5.25; stockers and feeders, $5 to $6; fresh cows and springers, $45 to $110.

Calves—$3 to $13.50.

Hogs—Heavy, $10.75 to $11, mixed, $11.25 to $11.40; yorkers and light do., $11.25 to $11.50; pigs, $11 to $11.25; roughs, $9 to $9.25; stags, $4 to $6.

Lambs, $8 to $16.25; yearlings, $10 to $15; wethers, $12 to $12.50; ewes, $2 to $11; mixed sheep, $11 to $11.50.

Chicago.

Chicago, March 17.—Cattle, top beef steers, $9.35; bulk, $7.50 to $8.50; bulk fat cows and heifers, $5 to $6.40; stockers and feeders, mostly $6.40 to $7.30.

Hogs, top, $10.95 early; practical limit late, $10.85; bulk, $10.25 to $10.75; pigs steady to 25c higher; bulk desirable 100 to 120-pounders, $9.25 to $9.75; some stronger weights up to $10.

Sheep—top woolled lambs, $15.-85; bulk, $15.25 to $15.85; top shorn lambs, $13; fat ewes, $9 down.

GENERAL TRADE.

Montreal.

Montreal, March 17.—Butter—Creamery solids, 38c per lb.; prints, 39c per lb.; cooking butter, 29c; eleomargarine, 22c per lb.

Eggs—New laid, 31c; specials, 35c.

Dressed Poultry—Milkfed chickens, 39c to 42c lb.; selected chickens, 34c to 37c fowls, 24c to 32c; geese, 28c to 30c; turkeys, 48c to 53c; ducks, 33c to 35c; green ducks, 42c per lb.

Dressed hogs—Fresh killed, abattoir stock, $21 per 100 lbs.

Millfeed—Bran and shorts in limited quantities, in mixed car lots, $28.25 to $30.25, less 25 cents for cash. Bran in straight car lots, $32.-50 and shorts, $33.

Rolled oats—Standard grades, $3.10 to $3.20 per 90-lb. bag, delivered to the trade.

Potatoes—Quebec white stock, $1 to 95c per 90 lbs., in bulk, ex-track; Reds, 90c in bags of 90 lbs.

Toronto.

Toronto, March 17.—Butter, dairy, 35 to 40c, creamery, 42 to 50c; eggs, fresh, doz., 35 to 40c; cheese, lb., new, 25 to 30c; chickens, spring, lb., 35 to 40c; fowl, lb., 30 to 35c; ducklings, lb., 30 to 40c; turkeys, lb., 50 to 55c; geese, lb., 32 to 35c; oranges, navels, case $5.50 to $6, Florida, case, $5 to $6.50; lemons, Messinas, $6; grapefruit, case, $5.75 to $6; grapes, Malagas, per keg, $15; apples, Spys, No. 1 bbl., $8.50 to $13, cooking, bbl., $7 to $8; apples, delicious, box, $4 to $4.50 apples, Baldwins, per bbl., $9 to $10; potatoes, in small lots, Ontario, per bag, $1.25 to $1.40, New Brunswick, $1.50 to $1.60; potatoes, sweet, hamper, $2.-75 to $3; carrots, bag, $1 to $1.25; beets, per bag, $1.75; turnips, per bag, $1; onions, Can., yellow, sack, $12; Spanish onions, case, $12; onions, Spanish, small crate, $4; cauliflower, case, $6; head lettuce, crate, $6.75; celery, Florida, $5.50 to $6; cabbage, barrel, $3.50; tomatoes, Florida, case, $6.

THE KINGSTON MARKET

Kingston, March 18th.

Poultry.	
Chickens, lb	.35
Hens, dressed, lb	.30
Dairy Products.	
Creamery Butter, lb	.35 to 45
Dairy butter	.33
Farmer's rolls	.33
Eggs, fresh, dozen	.33
Oleomargarine	.25
Cheese	22
Vegetables.	
Beets, 2 bunches	5
Cabbage, for 3	.25
Lettuce, for 3	.25
Carrots, 2 bunches	.5
Potatoes, bag	1.50
Sweet potatoes, 2 lbs.	25
Onions, lb.	9
Celery, for 2	.25
Fruit.	
Bananas, doz.	.30 to .50
Grape fruit	12 to 15
Lemons, dozen	.30
Oranges, doz.	.30 to .70
Grain.	
Barley	.75
Bran, ton	$30 to $32
Shorts	$32 to $34
Buckwheat, bush.	.80
Hay, baled, ton	$28.00 to $29.00
Hay, loose, ton	$28.00
Corn, yellow, feed, bush.	.80
Flour, standard (Gov't) cwt.	$4.50 to $4.90
Oats, local	.50 to 55
Oats, western	60 to 65
Straw, baled, ton	$16 to $18
Straw, loose, ton	$12
Wheat, local	$1.15 to $1.25
Fish.	
Cod, lb.	12 to 15
Eels, lb.	12½
Filets, lb.	22
Finnan haddie, lb.	18
Haddoch, fresh, lb.	12½
Halibut, lb.	25 to 30
Kippers, pair	13
Perch, lb	10
Pike, lb.	12½
Salmon, lb.	20 to 40
Steak, cod, lb.	12½ to 15
Trout, salmon, lb.	18 to 20
White fish	18 to 20
Herring, fresh, lb.	8 to 12½
Meats.	
Beef:	
Porterhouse steak, lb.	30
Round steak, lb.	.25
Boiling cuts, lb.	.10 to .12
Western carcase, cwt.	12½
Western hinds, cwt.	.15
Local	9 to 10
Pork:	
Loin roasts, lb.	.28
Rib roasts, lb.	25 to 30
Pork chops, lb.	.25 to .30
Hogs, live weight, cwt.	$11 to $13
Hogs, dressed, cwt.	$15 to $16
Bacon, breakfast	.30
Lamb:	
Fronts, lb, quarter	25
Hinds, lb., quarter	30
Leg, lb.	.25
Loins, lb	30
Chops, lb	30
Mutton, lb.	18
Sausage meat lb,	30
Hide Market.	
Beef hides, 45 lbs. and down 7c lb.	
Beef hides, 50 lbs. and up	6c lb.
Kips	7c per lb.
Calfskins	10c per lb.
Hides and Wool.	
Wool, per lb., unwashed	8 to 10c
Deacon skins	75c each
Lamb and sheep skins, up to	75c
Horse hides	$2.25
Deer skins	10c per lb.
Tallow, rendered	7c per lb.
Ginseng	$9 per lb.
Beeswax, clear,	33c per lb.