

PUBLISHED BY FORD MOTOR COMPANY OF CANADA, LIMITED, FORD, ONTARIO, CANADA

No. 7

DECEMBER, 1924

Vol. 6

49

## Sell Your Service During the Christmas Season

**D**URING the month of December you will doubtless be making preparations for your "Winter Service Campaign." It is essential, therefore that you give your garage and repair shop thorough cleaning, in order to make your service as attractive as possible. Do not wait until January to clean up; but clean up your premises now, along with your Christmas merchandising plan.

The Christmas season is a time of intensive merchandising and you will doubtless have your showroom, parts and accessory display arranged in an attractive manner. Why not spend some time in the garage and repair shop and put it in good shape as well? It is important that your back shop be as attractive as the front of the building.

You will be seeing a larger number of owners during this season than any other. These owners will be imbued with the Christmas purchasing spirit and you cannot afford to dampen their enthusiasm by taking them into a dirty and untidy garage and repair shop, when every other department is decorated to attract attention.

We do not mean to infer that you should decorate the garage and repair shop to the same extent that you do the front, but it is essential that you clean this department and a little decorating will have a good effect.

Do not fail to meet every owner with courtesy and endeavor to sell him on your "Winter Service" at this time.

Do not only endeavor to sell merchandise during the Christmas season but make an effort to sell your service as well.

## Instructions for Charging Batteries Shipped Dry

### Exide

1. Unpack the battery, keeping the packing case right side up to avoid spilling the battery solution.

2. Examine the battery carefully to see if there are any indications of injury received in transit. If such are found, claim should be made against the carrier.

3. Determine whether the battery has been shipped "charged," shipped "unfilled" or shipped "dry."

"A"—A storage battery shipped "charged" is one which has had solution added and has been given its initial charge at the factory. It leaves fully charged and contains the proper amount of solution and is intended to be put in service shortly after receipt.

"B"—A storage battery shipped "unfilled" or shipped "dry" is one which has never had solution added and, therefore, not been given its initial charge at the factory. To it is attached a tag reading either "unfilled" or "dry". Such a battery may stand a considerable length of time before being put into service, the time limit being given on the tag. Before being put into service, however, electrolyte of the proper strength must be added and the battery given a long initial charge, all in accordance with the tag attached to the battery.

If you do not intend putting the dry battery into service for some time store it in a dry, clean location and keep temperature above freezing and below 110 degrees Fahrenheit.

However, battery must be put into service before the expiration of time limit given on the tag attached to the battery. The process of putting into service will require about five days.

If the battery has been allowed to stand beyond the time limit, a cell must be opened up and the separators examined just before putting the battery into service. If the separators are cracked, warped or split, the entire battery must be provided with new separators, otherwise, reassemble the cell and put the battery into service.

### Putting Battery in Service

Fill with electrolyte of the proper strength and give a long initial charge at the proper

rate. To fill with electrolyte and pour carefully into cells until level with bottom of filling tube, use china or glass vessel or rubber syringe.

For Ford type Exide Battery use electrolyte of the following strength:

For cool climate use . . . . . 1.360

For tropical climate, use . . . . . 1.260

If electrolyte of the proper strength is not available, it can be easily made. The electrolyte is the solution in the Battery and consists of a definite mixture of "pure" sulphuric acid and distilled or other pure water. The sulphuric acid must be "chemically" pure to a certain standard, which is sold in drug stores as "C. P." (Chemically Pure) or by the chemical manufacturers as "battery acid". Do not confuse "chemically pure" sulphuric acid with "full strength". For example, if a small quantity of some impurity be introduced into the acid which is both "chemically pure" and "full strength", it would not materially reduce the strength but would make it impure.

When mixing the acid and water in making electrolyte, use a glass, china, earthenware, rubber or lead vessel. Never use any other metallic vessel than lead.

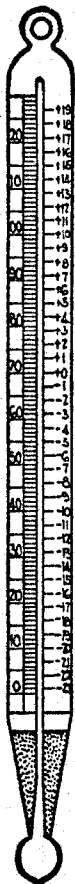
Carefully pour the acid into the water, not water into the acid.

Stir thoroughly with a wooden ladle and allow to cool before taking a hydrometer reader of strength.

Electrolyte, like most substances, expands when not, affecting the hydrometer reading. To compare different hydrometer readings, therefore, the temperature should be the same. It is not necessary, however, to actually bring the temperature to the same value, because it is a known fact that every three degrees increase in temperature decreases the hydrometer one point. This fact can be used in estimating what the hydrometer should be at a normal temperature. The normal is taken at 70 degrees Fahrenheit.

For the convenience of the user, a thermometer Fig. 38 has been designed with a special red ink scale opposite the temperature scale, and a glance at it tells how many points to add or subtract from the hydrometer reading in order to correct for temperature. For example, an electrolyte temperature of 95

degrees means add 8 points (plus 8) the actual hydrometer reading.



After filling, allow battery to stand ten or fifteen hours before starting the initial charge. It is important the full time be allowed.

In charging, always use direct current.

The positive terminal of battery must be connected with positive of charging circuit and negative of battery to negative of charging circuit. The battery positive terminal is marked "Pos." or +, or painted red, the negative is marked "Neg" or -, or painted black.

Arrange resistance in series with battery so that charging rate will be 4 amperes for 96 hours—four days.

No sooner than 10 or 15 hours after filling the battery with electrolyte, add more electrolyte to restore level if it has fallen and replace filler plugs, screwing them tight. Never charge with filling plugs out or loose. The initial charge is not complete until the hydrometer reading in every cell goes as high as it will and then remains there for ten hours. Be sure that the charge is absolutely complete, as the entire future of the battery depends upon this.

Keep temperature of solution below 100 degrees, cool climate and 125 tropical climate—interrupt charge if necessary.

After charge is complete, the strength of solution should be between 1.270 and 1.300 or 1.200 and 1.230 for tropical countries. If not between these limits adjust strength.

For more detailed explanation, see *Exide Manual*.

(To be Continued)

### Top Bow Rests

Bow Rests No. 3314B Touring and No. 3876B Roadster used with latest style tops.

When lowering top care should be taken when folding so as top deck will not be placed between the sockets at points where socket clips will cut through same.

The best method of folding top deck on Touring (1) fold top sockets back over rear of body; (2) from the rear pull out deck as far as

possible and roll up from the centre into space between No. 3 and 4 bow; (3) fold in ends free from sockets; (4) bow rest strap can now be secured pulling same up tight to prevent sockets from shifting.

### Do You Oil The Commutator?

Keeping the commutator well oiled is a matter of far greater importance than many drivers believe, and is necessary in order to have a smooth operating engine. Don't be afraid to put a little oil into the commutator every other day, say every 100 miles. Remember that the commutator roller revolves very rapidly, and without sufficient lubrication the parts soon become badly worn.

When in this condition perfect contact between the roller and the four contact points is impossible, and as a result the engine is apt to misfire when running at a good rate of speed.

### Cold Weather Lubrication of Lincoln Rear Axle and Transmission

The specifications for Lincoln engine oil for Winter use are as follows:

Viscosity @ 210° F—	59" Min.
Viscosity @ 100° F—	500" Max.
Flash - - -	400° F Min.
Fire - - -	460° F Min.
Cold - - -	34° F
Gravity - - -	22° Max.

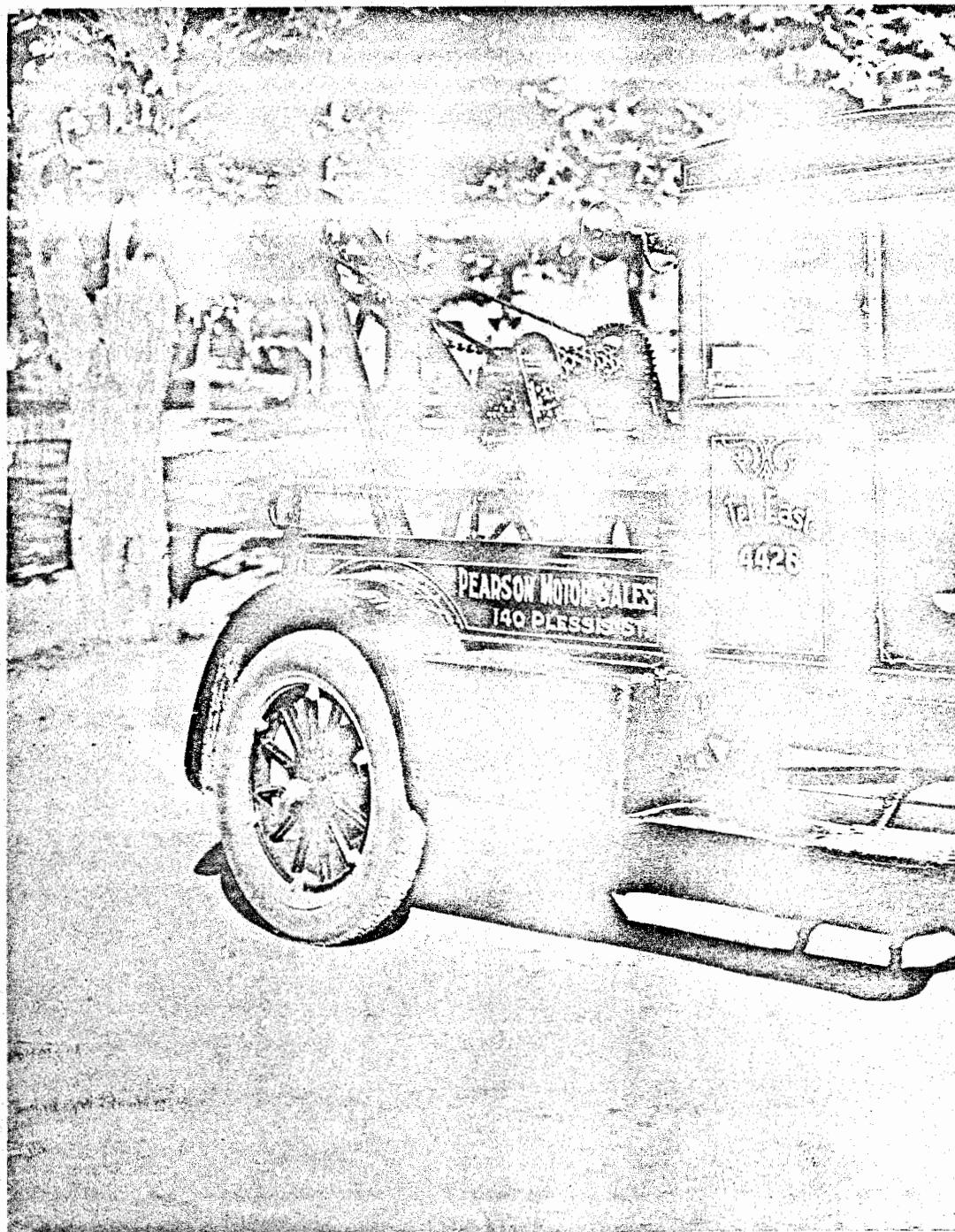
The above oil which conforms to our specifications should be used whenever freezing temperatures prevail.

At this time of the year the lubricant in the rear axle and transmission should be thinned by using a mixture of 50% engine oil and 50% gear lubricant. Also make certain that the front pinion shaft bearing is thoroughly lubricated, using a similar mixture of gear lubricant and engine oil.

This is of *vital importance*. Failure to thin gear lubricant means that it will become congealed at low temperature, with the result that it will not be distributed to the moving parts.

Cars now being shipped from the factory are lubricated as outlined above.

# A SPLENDID SERV



OPERATED BY PEARSON

# CE ADVERTISEMENT



MOOR SALES, MONTREAL



## Excellent Service Advertising

There is no better advertising than a well equipped, neat appearing service truck. The service truck is invariably a symbol of a dealer's quality of service and tells a true story of the dealer's service facilities.

The Service Manager should be very vigilant regarding this piece of equipment and see that it is always kept clean, neat and in excellent condition.

If you have a certain color or combination of colors throughout your building and billboard advertising, paint the truck the same color so that an owner will know at a glance (even if he is not able to catch the name) who it represents.

The Pearson Motor Sales of Montreal are to be complimented on a service truck on the preceding page. We would call your attention to the spotlight, wrecking crane and tool box carried as standard equipment. This piece of equipment, along with several small items which can be easily carried in the back of the body are very essential in bringing in wrecks.

## Lincoln Motor Generator

(Continued from Page 48, Nov. 1924 Service Bulletin.)

### Regular inspection of the Motor Generator.

(a) All brushes should be of sufficient length and the brush spring tension adequate. All brush arms should be free on the pivot posts. Brushes should not be chipped, cracked, or loose on the brush arms.

(b) Both motor and generator commutators should be free from excess oil. Whip off excess oil and grease. The overflow of oil from the bearings may foul the commutator if the bearings have been excessively or carelessly lubricated. **AVOID THIS.**

(c) Commutator should not be excessively worn or burnt. The mica on the commutators should be undercut approximately  $\frac{1}{32}$  inch. Remember that commutators should be round and concentric with the bearings seats.

(e) Both the motor and generator clutches should be packed with grease of a grade similar to vaseline.

(f) All terminal nuts and screws should be tight.

(g) Squeaking brushes can be easily eliminated in the majority of cases by carefully fitting their seats to the commutator by the use of a strip of sand paper or sand cloth. Never use emery cloth for this purpose. The

squeak may be due either to a poorly seated brush, improper brush spring tension, or to a hard spot in the surface of the brush.

## Winter Care of The Storage Battery

The demands made upon the storage battery in winter are much greater than during the warmer months. This is due, to two causes: first, more current is required for starting at low temperatures on account of congealed oil, and second, owing to less daylight, the lights are in use considerably more than during the summer months.

The battery and electrical system should be inspected regularly during cold weather to see that there are no leaks, grounds, loose connections, or, in fact, any conditions that might have a tendency to discharge the battery.

When starting an extremely cold motor it is good practice to give it several quarter or half turns with the hand crank before using the starter. This relieves the battery of the initial load due to pistons, bearings, etc., being held fast by the congealed oil.

Although a low temperature temporarily reduces the lighting and cranking capacity of a storage battery, it does not damage the battery, providing the electrolyte is not allowed to freeze. The freezing points of electrolyte are shown in the following table:

### Specific Gravity

1300	94° below 0 Fahr.
1270	82° below 0 Fahr.
1250	62° below 0 Fahr.
1230	40° below 0 Fahr.
1200	17° below 0 Fahr.
1150	5° above 0 Fahr.

It is evident that there is no danger of a fully charged battery freezing. If, however, the battery is allowed to become discharged, the electrolyte may freeze, necessitating expensive repairs.

When adding water to the battery in cold weather, the engine should be run at charging speed at least five minutes after the water is added, in order to mix it with the electrolyte. If this is not done, the water will lie on top of the electrolyte and freeze at a temperature much higher than that at which the electrolyte would freeze.

When a battery is to remain idle, for any extended period, it should be examined once a month, distilled water added to all cells and a freshening charge given. Always disconnect the wires from the battery as even a slight leak will cause the battery to discharge.

## Adjustment of Fan Belts

The fan on the Model T motor is designed to draw a certain amount of air through the radiator; the amount of air varying with the speed of the engine. The proper working of the fan at any engine speed, and hence, the suction of the required amount of air, is solely dependent on the fan belt. It is accordingly important that the fan belt be kept in proper working order.

When installing a fan belt the pulleys should be carefully checked for correct alignment, this can be done by placing a straight edge across the sides of both pulleys. Then loosen the fan bracket allowing the fan to drop to its lowest position. Place the belt over the fan working the belt around the crankshaft pulley with the hands. Never

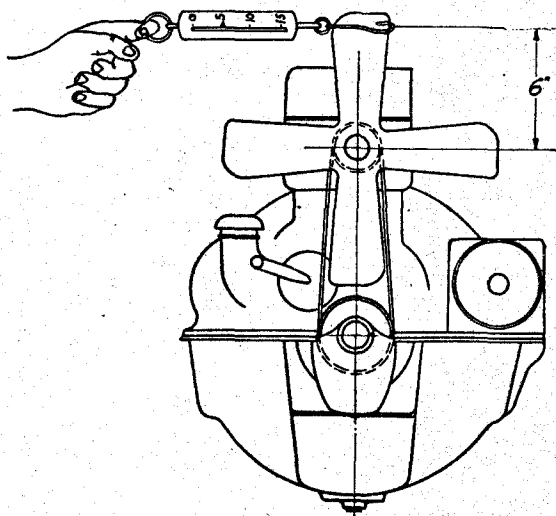


Fig. 39

use sharp tools for this purpose. Next raise the fan until the tension on the belt is fairly tight.

The correct adjustment of the rubber fabric fan belt may be obtained by attaching a spring balance on a blade of the fan as shown in Fig. 39 and adjusting the belt so that a pull of five pounds on the spring balance will just be sufficient to cause the belt to slip on the pulley.

When a fan belt is adjusted too tightly it will have a tendency to force the pulleys out of alignment and cause the belt to become frayed. In fact, a belt with a frayed edge indicates that one of the pulleys over which the fan belt runs, is out of line. If care is taken to prevent this condition, the life of the belt will be prolonged.

When a fan belt slips, it is usually due to being adjusted too loosely and should be

tightened as outlined above. A slipping belt will wear much more rapidly than a belt which is correctly adjusted. Owners should bear in mind, however, that more trouble is caused by belts being adjusted too tightly than too loosely.

Belt dressings or oils should not be used on the fan belt adopted as standard equipment on Ford cars.

## Storing Lincoln Cars

If the car or body is to be stored or taken out of service for any length of time, a few special precautions should be taken for its care.

### Method of Storing Car

Thoroughly wash and dry the car, brush the top and curtains, then jack the car up so that the four wheels are clear of the floor. With a brush, paint all unpainted metal parts with vaseline or heavy oil (600W) to prevent rust and corrosion. This can be easily removed with gasoline on putting the car into service again, while rust and corrosion cannot.

### Protecting the Finish

Varnish should be carefully cleaned of all dirt or oil. Storing the body in total darkness will cause the varnish to assume a green tint. Washing a car once a month will help to preserve the normal color. Varnish that has turned green from darkness will recover its normal shade after being exposed to the light for some time.

### Where to Store the Car

The car should be kept in a dry place, with the heat maintained at an even temperature (approximately 60 degrees). Avoid sudden changes in temperature and the close proximity of steam pipes or other heating apparatus. A subdued light evenly distributed will best preserve the finish. A good plan is to enclose the car completely with a cloth cover. Never store the car in the same building with horses or other animals.

### Draining the Water

Thoroughly drain the water from the cooling system before storing the car.

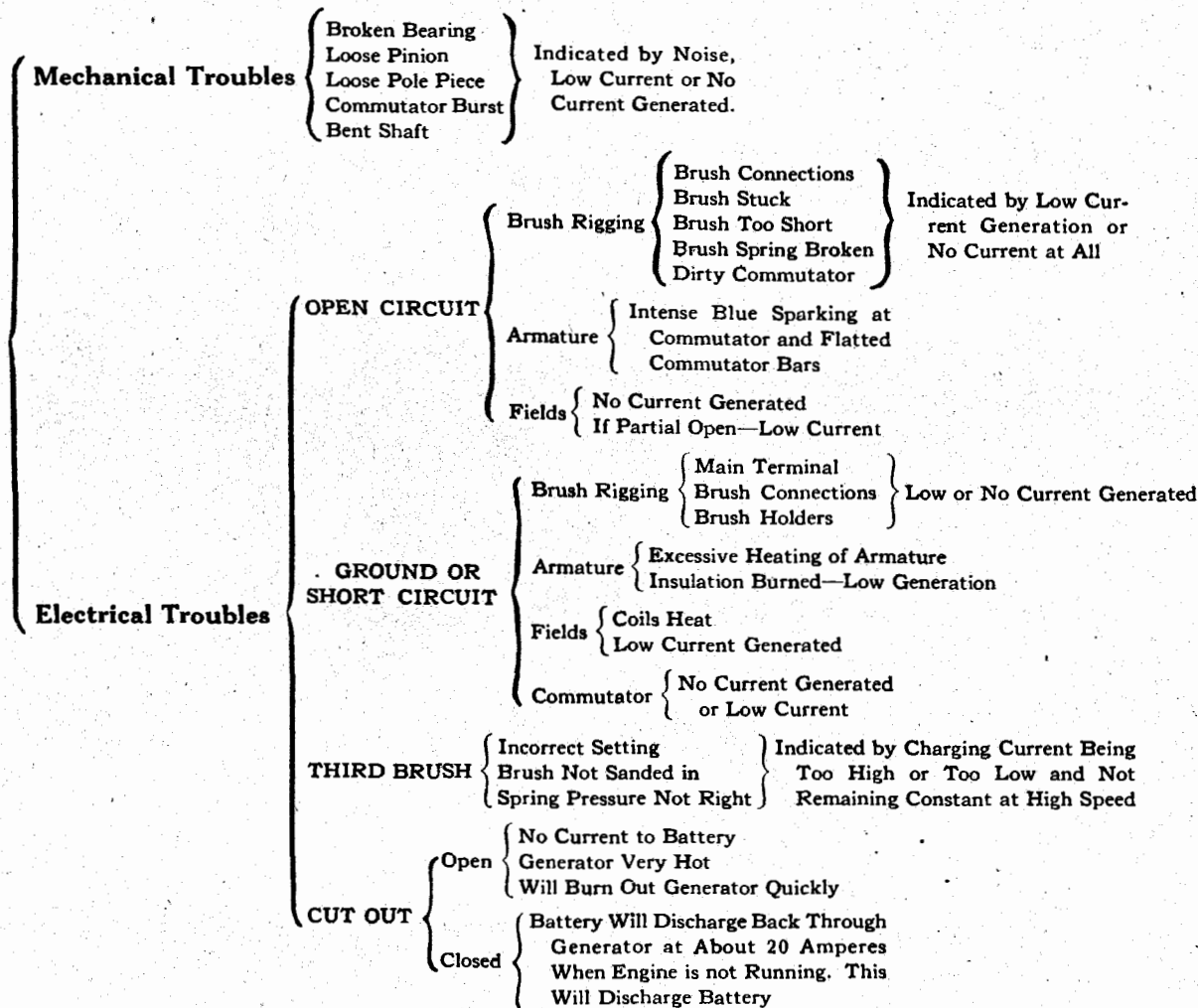
### Care of Engine

The following precaution will help you to prevent the internal mechanisms from rusting during storage. Remove and clean each spark plug, pour three or four tablespoons of engine oil in each spark plug hole and replace the plugs.

# GENERATOR TROUBLE CHART

## GENERATOR TROUBLES

(To be continued)



**Ford Mechanics' Section**  
(Continued from page 43, Nov., 1924, Service Bulletin)