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Correct and Uniform Tire Information for Customers

We may all have pet theories regarding tire wear and tire pressures, but when talking to customers we should supply only authoritative information. Correct information on the subject is obtained from the Rubber Manufacturers Association.

Since it is air that carries the load, no tire can give satisfactory service unless correct air pressure is maintained. **The correct pressure for low pressure type tires is 24 pounds.**

When a tire is under-inflated, the car weight distorts the normal contour of the tire body. The tire bulges with an extreme flexing action. This generates excessive internal heat, weakening the cord and resulting in bruises or broken cords. Under-inflation also leads to rim bruises. Insufficient resistance is provided to prevent the tire from being jammed against the rim and crushed or cut when the tire strikes a curb, rock or rut.

When a tire is over-inflated, the increased tension caused by excessive pressure prevents proper deflection of the sidewalls and the tire loses its ability to absorb road shocks. Under this increased strain the cords in the tread area eventually snap under impact, causing either the characteristic X-break or diagonal break, both of which frequently result in blow-outs.

Five simple rules are given which prevent costly inflation failures.

1. Make sure that tires are kept inflated to the recommended pressure. Check *at least once a week.* Inflate when cool.

2. Never try to make an OLD valve core do the job. Replace with a new one. Don't match dollars against pennies.

3. See that valve caps are kept screwed on finger-tight.

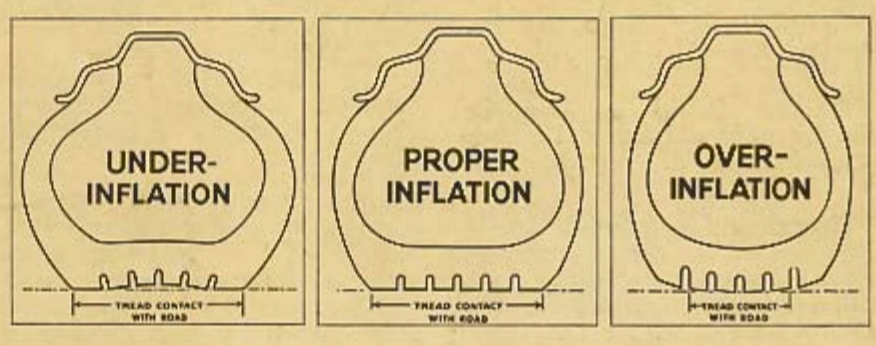
4. Check for slow leaks whenever air pressure shows a decided drop. Have slow leaks repaired immediately.

5. It is normal for tires to "Build Up" a few pounds of air after being run. Do not reduce ("Bleed") this pressure or use any automatic device for this purpose. "Bleeding" of tires causes a dangerous increase in running temperature and will be badly underinflated when cool.

6. Always inflate tires when they are cool.

A tire is no better than a driver's habits, and the service a tire delivers is largely in his hands. It is, therefore, the Dealer's responsibility to give correct information to Owners. The Rubber Manufacturers Association suggests these tire saving practices.

1. Maintain correct air pressure.
2. Do not drive over curbs.
3. Avoid riding edge of pavement.
4. Avoid speeding over rough roads.
5. Start slowly and avoid spinning wheels.
6. Avoid sudden stops.
7. Drive at moderate speeds.
8. Check for soft tires, flats, and misaligned wheels.



Aside from inflation and driving habits, there are three other items affecting tire life, — balance, alignment, and switching — all important.

Unbalanced wheels in addition to giving uneven tire wear and shorter tire life generate these troubles.

1. Vibration affects the steering mechanism.

2. Shock absorber links may be loosened.

3. Frame and body of the car may be loosened.

4. Excessive vibration damages radiator, lamps; loosens fenders, floorboards.

5. Grease and oil are pounded out.

6. Abnormal spring flexing is caused.

7. Uniform and effective brake application is impaired.

There are two kinds of unbalance. Static unbalance means a wheel is out of balance when stationary. Dynamic unbalance means a wheel is out of balance when rotating. Both types can be corrected and proper balance provides the following advantages.

1. Reduces spotty tire wear.

2. Improves tire mileage.

3. Assures smooth, quiet car operation without objectionable vibration.

4. Reduces wear and tear on the automobile.

5. Promotes stability of operation at high speed.

6. Makes for safety, comfort, and convenient driving.

Wheels should be kept in alignment at all times and brakes properly adjusted.

Tires should be rotated. Rotate them around the car by changing wheel positions every 2000 to 3000 miles or, at the very latest, not over 4000 to 5000 miles. Keep the spare alternately in use. A spare deteriorates quite fast if not put in service.

Improved Electromatic Clutch Action

22nd Series

To provide smoother engagement of the Electromatic Clutch and to provide a wider clutch cushion point adjustment range, the control valve piston assembly and the valve diaphragm spring recently were changed.

Control valve assemblies having this later type piston and spring are now being installed on all Electromatic-equipped cars in production. These assemblies are identified by a yellow paint mark in the pocket of the rear cover plate as pointed out by the arrow in the accompanying illustration.

Prior to this recent change, a fine or critical adjustment of the engine speed screw was necessary to prevent either a sharp clutch engagement or a sluggish or retarded engagement. This critical setting sometimes is difficult to obtain. Lost motion in the control linkage, clutch wear, and the "stack-up" or accumulation of other normal variations, which develop as car mileage increases, tend to make this setting even more critical. With the new type piston and spring, however, the speed screw setting is much less critical and proper adjustment is more easily obtained.

These later type pistons and springs are available for service and may be used to replace the early type when adjustment difficulties are encountered. The piston assembly and the diaphragm spring both must be installed when replacements are made. The new parts may be ordered under part number 410457—Control Valve Diaphragm Spring and Piston Kit.

After replacing the early type piston and spring with the later type, the pocket in the rear cover plate should be marked with yellow paint to indicate that the valve assembly is equipped with the late type piston and spring.

When a valve assembly carries the yellow identification mark, the diaphragm spring and the piston assembly may be replaced separately if necessary. These may be ordered under part number 410450 — Control Valve Diaphragm Spring, and 410451 — Control Valve Piston Assembly.

Electromatic Control Valve Repair Kit

The reconditioning of electromatic control valves as outlined in Serviceman's Training Booklet "Clutch and Electromatic Clutch" will be facilitated by the use of part number 410488, Electromatic Control Valve Repair Kit. This kit consists of the following parts:

338752	Clevis Clip Left
338753	Clevis Clip Right
394242	Beam (Fulcrum Lever)
394243	Pin
394244	Pin
394245	Pin
394353	Washer
394263	Retainer
5695	Lockwasher
394264	Spring
394265	Disc Direct Speed Valve
394250	Gasket
394260	Gasket
394253	Gasket
389906	Gasket
394252	Gasket

Other detail parts to be ordered as required are:

410457	Valve Piston and Spring Kit
394241	Diaphragm and Shaft
394257	Diaphragm Spring 21st Series Only
394246	Valve Operating Rod
389900	Throttle Operating Lever
398898	Valve Operating Lever
389905	Pin
389907	Valve Operating Link

Engine Number Suffix Letters

22nd Series

A number of 22nd Series engines carry suffix letters after the engine serial number. When suffix letters appear, the engine is equipped with one or more parts which have been changed in design or which differ from corresponding parts in engines having no suffix letter after the engine number. The various changes in 22nd Series engines are indicated by suffix letters as follows:

"A"—Eight and Super Eight.

Oversize valve guides. Refer to Service Technical Bulletin, Dealer 48T-16.

"B"—Not used.

"C"—All Models.

Late type pistons and rings. Refer to Service Technical Bulletin, Dealer 48T-9.

"D"—Eight and Super Eight

Large oil pan but previous design pistons and rings. Refer to Service Technical Bulletin, Dealer 48T-21.

"E"—Eight and Super Eight.

Late type camshaft and large oil pan but previous design pistons and rings. Refer to Service Technical Bulletin, Dealer 48T-25.

"CD"—Eight and Super Eight

Late type pistons and rings (see suffix "C") and large oil pan (see suffix "D")

"CE"—Eight and Super Eight.

Late type pistons and rings (see suffix "C"), late type camshaft and large oil pan (see suffix "E")

Correction Parts Book

In the Clipper Master Parts Book, under code 18.0154, the Rear Propeller Shaft for Model 2126 is listed as being part number 378704. This is in error as the correct part number is 364856.

This correction was covered in the April 15, 1947, issue of the Service Counselor. However, the Factory still is receiving orders for this part under the incorrect part number.

Please order this part under number 364856 and correct your records and parts books.

Rear Spring Squeaks

There have been a number of Product Reports from the field regarding squeaks in the insert type rear springs.

The insert type rear spring uses special leaf inserts which are located in accordance with their resistance to the various frictions occuring during the course of a ride. The upper two spring leaves use rubber inserts between the first and second leaves and silenite fiber inserts between the second and third leaves. This combination applies to all models except the station sedan, taxi, and seven-passenger models, which use various other combinations of inserts to obtain the desired ride. These rubber and fiber inserts in the upper two spring leaves are of sufficient hardness to cushion the ride entirely on good roads and with light loads. The lower spring leaves have antimony lead inserts and each of a certain hardness. These inserts come into action when the lower spring leaves start flexing due to heavy loads or when the roads are increasingly rough.

When squeaks develop they are usually caused by the following conditions: oxidized inserts, inserts not properly seated, and rubber or silenite inserts excessively worn.

To facilitate inspection of the spring leaf inserts, raise the rear of the car to remove the load from the springs.

The antimony lead inserts are placed in brass cups lined with rubber around the top edge to provide a seal. When reinstalling or replacing antimony lead inserts, it is important that these cups should first be filled with grease. This grease is not necessary as a lubricant, but as a seal to prevent oxidation of the lead. When the lead is oxidized, squeaks develop.

When there is insufficient grease in the cups, the antimony lead inserts should be removed and the cup packed with heavy grease. Then clean the inserts and the face of the spring leaves on which the inserts rest with a file or emery cloth. Coat the top of the insert with a light coating of grease, and reinstall. If the inserts are found to be excessively worn or scored, replace with new inserts. If the fiber or rubber inserts are excessively worn permitting interleaf friction, they also should be replaced.

Engine Replacement Parts

Models 2201-02-11-22-32 (With Suffix "D")

Eight and Super Eight engines with the suffix letter "D" after the engine serial number are equipped with oil pans having seven-quart capacities. The capacity is indicated by the marking "7 Qt." on the blade of the oil level indicator.

The adoption of this deeper oil pan necessitated lowering the oil strainer assembly and changing other associated parts to compensate for the increased capacity.

The larger oil pan and the affected replacement parts are carried under the following part numbers:

412640	Oil Pan Assembly
412643	Oil Strainer Bearing and Bracket Assembly
412642	Oil Strainer Bracket
412641	Oil Strainer Suction Tube
412644	Oil Level Indicator Assembly

New Type Camshaft

22nd Series Eight and Super Eight

A new type camshaft now is being used in production in Eight and Super Eight engines. Engines so equipped are identified by the suffix letter "E" after the engine serial number.

This later type shaft differs from the earlier type only in the contour of the cam lobes. The change in cam contour reduces tappet noise and holds the normal tappet noise to a minimum.

Service Technical Bulletin, Dealer 48T-19, recommended reducing tappet clearances from the production setting to reduce tappet noise in cars equipped with the early camshaft. With the later type shaft, however, this is no longer necessary and tappets should be adjusted to the original setting of .007" for intake valves and .010" for exhaust valves.

The new camshafts are carried under part number 412581.

Carburetor Metering Rods

22nd Series Models

In response to inquiries from the field we are listing the part numbers of the metering rods now being used in carburetors, both in production and for service shipment.

The vendor's part number, which is stamped on the shank of the rod, may be used to identify the various rods as to being of the correct type when servicing carburetors.

Model	Packard Part No.	Vendor's Part No.
Six	393894	75–535
Eight	410401	75–638
Super Eight	410077	75–606
Custom Eight	410239	75–616

Valve Tappet Clearance

Models 2201-02-11-22-32

To reduce engine noise, the valve tappet clearance specification for 22nd Series Eight and Super Eight engines has been changed. The new tappet clearances are:

Intake —.006" Exhaust—.008"

Reducing the tappet clearance from the production setting substantially reduces the normal tappet noise without affecting the operating characteristics or performance of the engine.

Whenever tappets are adjusted on these models, the new specification should be followed.

Tire Chains on Low Pressure Tires

22nd Series

We have had a few inquiries regarding the use of tire chains on 22nd Series cars equipped with the extra low pressure tires. Investigations and tests conducted by the Engineering Department produced the following results.

Tire chains can be used satisfactorily on cars equipped with the 7.60 inch tires.

On cars equipped with the 8.20 inch tires, chains should be used only in emergencies. The tire clearance at the lower inner edge of the fender and at the wheelhouse is not great enough to prevent interference when making sharp turns or when driving on rough roads.

Preparing Cars for Winter Driving

To successfully maintain trouble-free car operation during the winter months, it is important that proper attention be given to the fuel system and the cooling system.

One of the more common causes for cars not starting in cold weather is water in the gasoline system. Water deposits in the fuel pump sump, carburetor, and the fuel lines will, of course, freeze during cold weather. If the accumulation of water at these points is great enough, the gasoline flow will be restricted or stopped when ice forms.

Keeping the gasoline tank as full as possible during cold weather will greatly reduce the amount of water in the fuel system. When the tank is only partially filled, the portion inside the tank that is not covered by gasoline will "sweat." This "sweat" or condensation runs to the bottom of the tank. When the car is driven, agitation of the fuel then permits a portion of this water to be picked up by the gasoline and carried to the fuel pump sump and the carburetor.

To reduce the danger of ice forming in the fuel system, the fuel pump sump and the carburetor should be cleaned. The gas tank drain plug should be removed and a small amount of gas drained to remove any water that may have settled to the bottom of the tank.

After the fuel system has been cleaned and the water removed, the Owner should be advised to keep the gasoline tank as full as possible at all times. It also is advisable to add 4 ounces (¼ pint) of alcohol to each full tank of gasoline. The full tank will reduce condensation and the alcohol will prevent the freezing of any water that may accumulate.

The cooling system also requires its share of attention. The cooling system includes not only the radiator core, but the hoses, water pump, thermostat, and all water passages.

The condition of the radiator and heater hoses should be checked. Age, heat, and oil affect rubber and, in time, the hose will become soft and mushy and the inside of the hose will disintegrate. When this happens, small particles of rubber may be carried into the radiator core and other parts of the system and restrict the coolant flow. Soft and deteriorated hoses should be replaced.

An inoperative thermostat will cause either an overheating condition or a prolonged warm-up period. If the thermostat remains closed, the coolant is being recirculated through the engine only and the engine then will become overheated in a short time. If the thermostat remains open, the coolant is being circulated through the engine and the radiator core which results in slow warm-up. When this latter condition exists, the efficiency of the heater and defroster also is affected until the engine reaches normal operating temperature. An inoperative or defective thermostat should be replaced.

Before installing an anti-freeze solution, the cooling system should be flushed thoroughly to remove all particles of loose scale, rust, or other foreign matter. All fittings and hose connections also should be checked for leaks.

When installing anti-freeze solutions, the quantity should be determined by the anti-freeze manufacturers recommendation based on capacity of the cooling system. If the car is equipped with a heater the capacity is increased approximately three pints.

Frozen Door Locks

Frozen Door locks are a cause of frequent complaints in cold weather.

The trouble is caused by condensation of water in the lock or by water from outside sources gathering in the lock cylinder and freezing. It takes only a drop or two of water to freeze the lock.

Either park the vehicle in a warm place and allow the ice to thaw, or melt the ice by repeatedly heating the key and inserting it into the lock cylinder.

Then—to prevent further trouble —remove the lock cylinder, clean the parts, and pack the barrel with Trico Wiperlube, number 23-8. Then reinstall the cylinder and wipe off excess lubricant.

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