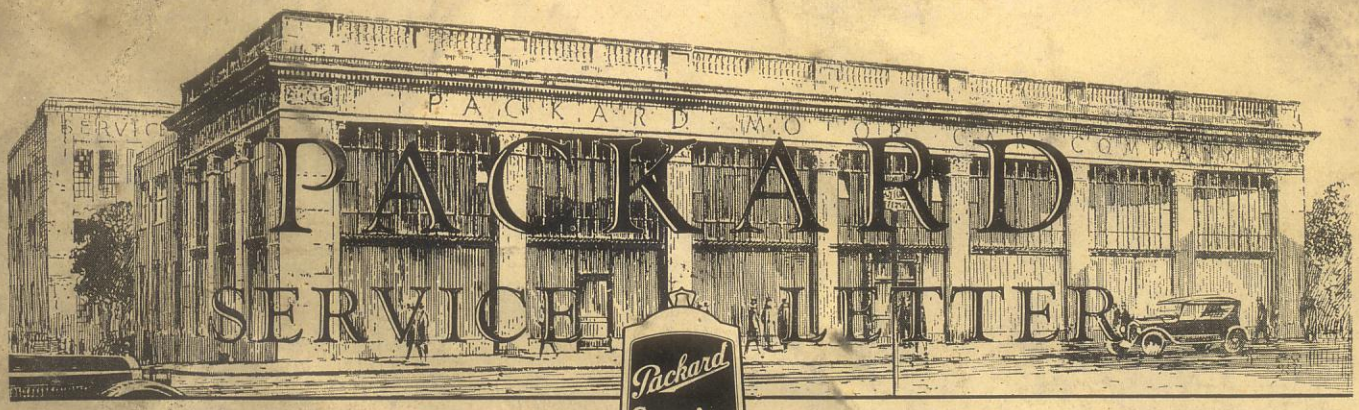

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LUBRICATION

It is important that the lubrication schedule be followed and that the proper lubricant be used if the car is to give quiet and efficient performance. The use of high grade lubricants will prolong the life of the wearing parts and prove most economical.

It is now common practice of oil companies to designate their oil by the S.A.E. classification, instead of the old method of designation as light, medium or heavy. The application of the S.A.E. viscosity number to a lubricant is intended only to indicate the body or fluidity of the oil and has no bearing on the quality of the product. Only high quality oils furnished by reputable companies should be used and for accuracy they should be ordered by S.A.E. numbers.

It is essential to add oil, as required, to maintain the correct oil level.

Choose the proper viscosity from the following table in accordance with the lowest temperature expected to be encountered.

ENGINE OIL VISCOSITY

Below minus 10° F.	10-W plus 10% kerosene
Minus 10° F.	10-W
Plus 10° F.	20-W
32° F.	S.A.E. 30
90° F.	S.A.E. 40

The best performance of the engine will be obtained by using the correct body (S.A.E. number) of engine oil in the engine crankcase as specified in the above table. The oil should be of a low S.A.E. number in cold weather to provide proper starting, and a higher number in warm weather to provide economical consumption.

Under normal driving conditions it has become the conventional practice to change the engine oil and lubricate the chassis every 1000 to 2000 miles, depending on driving conditions.

At present time, however, car mileages in general are greatly reduced. Many cars will require three to four months to accumulate this mileage, and it is obvious that the engine oil should not be used for so long a period.

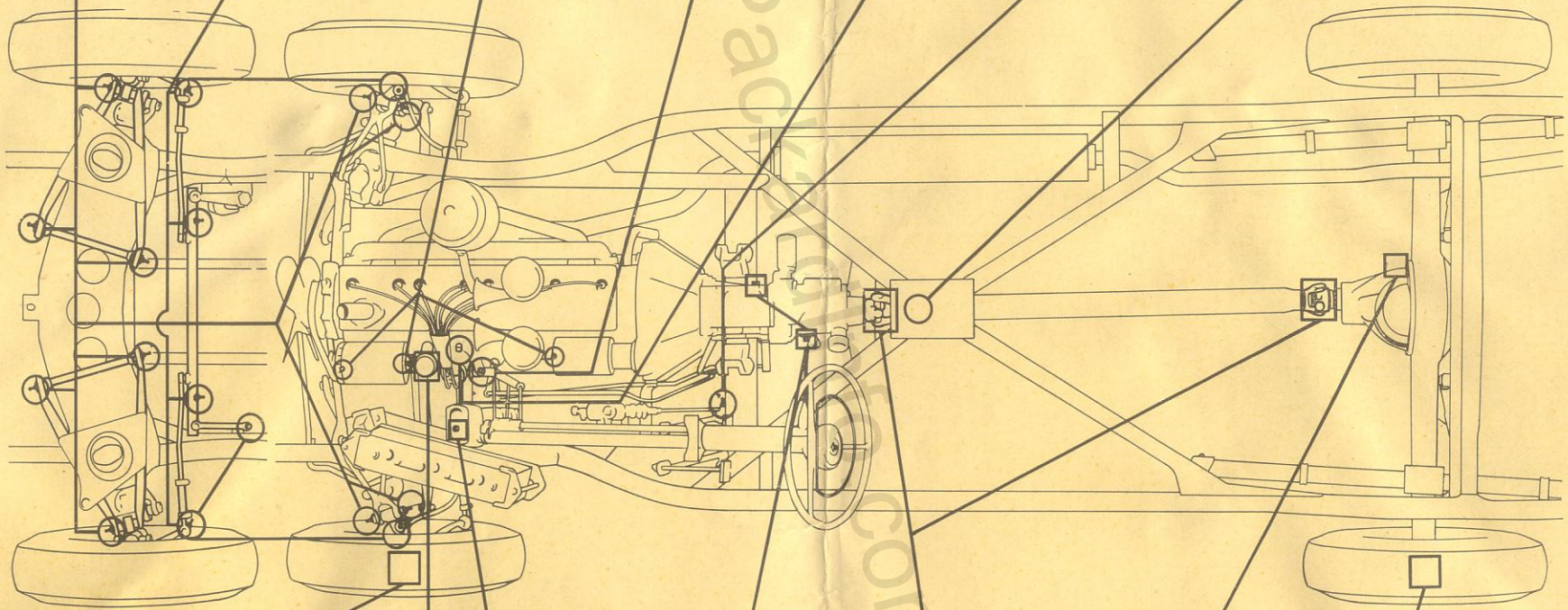
Slow speed driving, particularly in cold weather, causes rapid contamination of the crankcase oil. Water and gas vapors are apt to mix with the oil, diluting it and causing the sludge formation which is familiar to everyone who has removed an oil pan. An acid condition may develop which will corrode the engine parts and water may freeze so as to block the oil circulation.

In normal driving the higher oil temperatures and the increased crankcase ventilation help to keep the oil in good condition, but lacking these aids the oil deteriorates rapidly.

It has been suggested by customers themselves that oil changes be made more frequently. We suggest chassis lubrication and engine oil change at 1000 to 2000 miles and not to exceed 60 days. This takes care of the owner whose driving has been reduced, while the driver whose mileage is still normal will continue to have his changes made on a mileage basis.

LUBRICATION DIAGRAM—(CLIPPER)

1000 MILES



Support Arms Upper and Lower
10 connectors, pressure gun grease

Steering Rods and Knuckles
7 connectors, pressure gun grease

Generator and Starter
3 oilers, S.A.E. 30 engine oil

Gear Shifter Lever Shaft
1 connector, pressure gun grease

Distributor
1 cup, No. 3 cup grease

Clutch and Brake Pedal Shaft
1 connector, pressure gun grease

Universal Joint Spline
(Aero-Drive only)
1 connector, pressure gun grease

Front Wheel Bearings
No. 3 Fibre Grease Repack every 10,000 miles

Engine Oil
Change 1,000-2,000 miles

Steering Gear
Straight transmission oil Maintain level

Transmission and Aero-Drive
Straight transmission oil—Drain and refill in the Spring

Universal Joints
Pressure gun grease Repack every 30,000 miles

Rear Axle
Approved Passenger Car Grade Hypoid Gear Oil—Drain and refill in the Fall

Rear Wheel Bearings
No. 3 Fibre Grease Repack every 30,000 miles

LUBRICATION DIAGRAM

1000 MILES

STEERING CRANK
1 Connector
Pressure Gun Grease

GENERATOR
2 Oilers
SAE 30

KNUCKLE PINS
2 Connectors
Pressure Gun Grease

STEERING TIE RODS
4 Connectors
Pressure Gun Grease

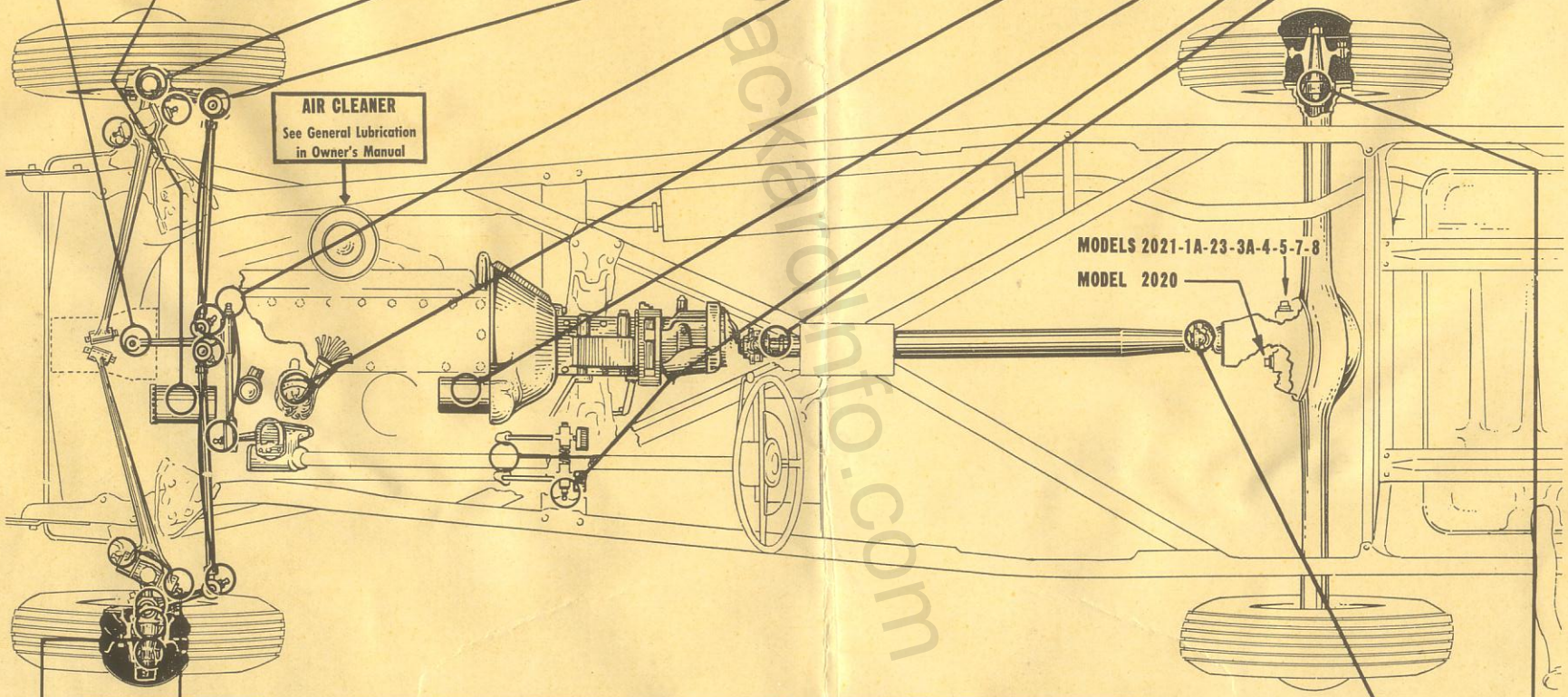
STEERING CONNECTING ROD
2 Connectors
Pressure Gun Grease

DISTRIBUTOR
1 Cup
No. 3 Cup Grease

STARTER MOTOR
1 Oiler
SAE 30

CLUTCH AND BRAKE PEDAL
1 Connector 2020-1
2 Connectors 2023 to 8
Pressure Gun Grease

UNIVERSAL JOINT SPLINE
1 Connector 2021 to 8
Pressure Gun Grease



SUPPORT ARM PIN
4 Connectors
Pressure Gun Grease

10,000 MILES

FRONT WHEEL BEARING
Repack 4
No. 3 Fiber Grease

STEERING GEAR
Drain and refill in Spring, SAE 140
Thin with kerosene or use SAE 90 for cold weather if desired

CRANKCASE
1000 TO 2000 MILES
See General Lubrication in Owner's Manual

TRANSMISSION and AERO-DRIVE
Drain and refill in Spring, SAE 140
Thin with kerosene or use SAE 90 for cold weather if desired

REAR AXLE
Drain and refill in the Fall
Use Packard approved passenger car grade hypoid lubricant

UNIVERSAL JOINTS
Repack 2
No. 2½ Cup Grease

30,000 MILES

REAR WHEEL BEARING
Repack 2
No. 3 Fibre Grease

NOTES

AIR CLEANER AND SILENCER

Under ordinary conditions, the unit should be cleaned and refilled every 5,000 miles, or as often as every day where all the driving is done on extremely dusty roads. Definite mileage intervals cannot be stated due to the natural variation in conditions. The safe procedure in very dusty territory is to check the unit daily and clean if necessary.

BRAKE PEDAL AND EQUALIZER

The clutch and brake pedal bearings are lubricated by a single pressure gun fitting. The hand brake equalizer should be sprayed with engine oil at each 1,000-mile chassis lubrication.

CLUTCH SHIFTER BEARING

The clutch shifter thrust bearing is packed with lubricant and sealed by the bearing manufacturer.

DISTRIBUTOR

Refill and turn grease cup every 1,000 miles. Apply one drop of oil to the breaker arm pivot, a few drops to the wick under the rotor and a small amount of vaseline to the breaker cam.

ENGINE OIL PAN AND FILTER

To prevent the accumulation of sludge which is injurious to the engine, and is not entirely removed by draining, the lower oil pan and screen should be removed and cleaned at least once a year.

The optional equipment external oil filter cartridge should be renewed every 8,000 miles —in no case should it be used beyond 10,000 miles.

FRONT SUSPENSION LUBRICATION

A clearance is provided between the threads on the pivots and bushings in the front suspension used on the Packard Clipper models. This clearance permits ample space for lubrication, rolling friction and free action. If the bushings are properly lubricated, the rubber seals kept in place, and clearances not more than specified, they will not be noisy when properly adjusted.

The front suspension threaded bushings should be lubricated every 1,000 miles with chassis lubricant.

When lubricating the front suspension, jack up the front so the car is supported at the frame and all weight taken off the front wheels. This will allow the threaded pins to float in the bushings and permit the lubricant to circulate freely all around the bearing.

When, because of the type of hoist used, the load cannot be taken off the suspension by jacking up the frame, the front end should be rocked violently while applying lubricant. The movement of the pins in their bushings will help the lubricant to flow around the pins.

STEERING CENTER CRANK

A steering center crank is used in the models previous to the Clipper.

This crank is hinged on a pin mounted in the frame front cross member and the bushing is lubricated by a Zerk fitting.

There is a tendency to overlook this fitting in performing the chassis lubrication. If it is neglected the bushing will wear rapidly and the replacement of the bushing, and probably the pin, will be necessary.

TRANSMISSION AND AERO-DRIVE

Recommended lubricant for transmission and Aero-Drive is a high grade straight transmission oil of S.A.E. 140 viscosity in warm weather and S.A.E. 90 in extremely cold weather.

The oil level in the transmission should be checked separately from the Aero-Drive unit and maintained flush with the filler plug opening on the side of the transmission housing.

BODY

Hood hinges, fasteners, laces and props.

Windshield wiper shaft.

Door hinges, locks and dove tails.

Seat adjuster mechanism.

Trunk door locks and hinges.

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