

C O N T E N T S

SUBJECT	PAGE	SUBJECT	PAGE
GENERAL INFORMATION	329	Universal Joint Lubricant	333
VISCOSITY	329	Wheel Bearing Grease	333
TYPES OF LUBRICANTS AND RECOMMENDED		Rear Spring Cover Lubricant	333
USAGE	329	LUBRICATION CHART — KAISER	334
Engine Oil	329	LUBRICATION CHART — FRAZER	335
Transmission Lubricant	332	POINTS REQUIRING MISCELLANEOUS	
Hypoid Gear Lubricant	333	LUBRICATION	336
Steering Gear Lubricant	333	BRAKE MASTER CYLINDER	337
Chassis Lubricant	333	POINTS REQUIRING NO LUBRICATION	337

GENERAL INFORMATION

This section contains complete information on lubrication for Kaiser and Frazer models. The lubrication charts included in this Section specify chassis lubrication points, established lubrication intervals, recommended lubricants and concise instructions. Additional information, including a brief description of recommended lubricants and their proper application, is provided in the text.

It is important that all working parts of the vehicle be properly lubricated at prescribed intervals as indicated on the lubricating chart. Attention is called particularly to the types of lubricants recommended. Failure to lubricate, or the use of improper lubricants, will result in premature wear, noisy operation and ultimate failure of parts. The use of too much lubricant may also cause trouble, in addition to being wasteful.

It is recommended that specified lubricants be obtained only from recognized, reliable oil companies. Their reputation is a dependable guarantee of quality. Your lubricant dealer will give assistance in selecting lubricants that will meet the recommended specifications. Lubricants as recommended in this text are generally recognized by the specifications and descriptions provided herein and are widely available.

VISCOSITY

Viscosity of a fluid lubricant is an indication of its resistance to flow at a given temperature. The S.A.E. numbers classify lubricants in terms of viscosity but with no reference to other characteristics or properties. Recommended viscosities for the various lubricants are indicated on the lubrication chart. Note that where more than one viscosity is specified for a lubricant, the proper viscosity to be used is de-

pendent on temperature. A lubricant of viscosity that flows more readily is used in cold weather.

The NLGI numbers on the chart are an indication of the consistency of semi-fluid or grease type lubricants and, like S.A.E. numbers, if more than one number is specified, the proper grade to use is dependent on temperature.

TYPES OF LUBRICANTS AND RECOMMENDED USAGE

Various types of lubricants have been developed to meet special lubrication requirements of various components of automotive vehicles. The lubricants described in the following paragraphs have been recommended after considerable research, testing and experience. Therefore, it is important that only these recommended lubricants be used.

a. ENGINE OIL

To supply the type of oil best suited to different operating conditions, the oil industries produce and markets several types of engine or crankcase oils. For standardization The American Petroleum Institute has classified these types as "Regular Motor Oil," "Premium Motor Oil," and "Heavy Duty Motor Oil." A general definition of these oils is given in items 1, 2 and 3 which follow, together with information on suggested usage.

1. Regular Motor Oil. A straight mineral oil generally suitable for use in internal combustion gasoline engines in passenger cars under moderate operating conditions. This type of oil is acceptable for use.

2. Premium Motor Oil. An oil having proved oxidation stability and bearing corrosion preventive properties for use in internal combustion gasoline engines where operating conditions are such that

KAISER-FRAZER SHOP MANUAL

regular oils do not give satisfactory service. This type of oil is more desirable than regular oil.

3. Heavy Duty Motor Oil. An oil having proved oxidation stability, bearing corrosion preventive properties and detergent-dispersant characteristics which tend to hold in suspension foreign contaminants which would normally deposit on engine parts. Oils of this type, in addition to having the qualities of premium type oils will keep the interior of the engine cleaner and, for extensive sustained high speed driving, will not have to be changed as frequently as would regular type oils.

WARNING: Do not change to heavy duty type oil after prolonged usage of other types of oil in the engine, unless the engine is thoroughly cleaned. If the engine interior is dirty or badly coated with sludge or other contaminants complete disassembly and thorough cleaning may be advisable. Otherwise, oil of this type will loosen dirt already accumulated in the engine and carry it to bearings or other parts of the engine where extensive damage may result.

If changing to a heavy duty type oil or to one of the premium type oils having detergent-dispersant characteristics now being marketed and the engine is reasonably clean, special precautions may not be necessary. However more frequent oil changes may be required at first until any contaminants in the engine are eliminated.

When purchasing oil if the oil containers do not indicate the type of oil, inquire of the refiner as to which type it is.

4. Adding Engine Oil in the Crankcase. The oil level gauge or dipstick is marked "Full" and "Add." The oil level should be maintained between these two lines, which is the "Safe" driving range, neither going above the "Full" line nor below the "Add" line. The oil level should be checked frequently, as whenever gasoline is purchased, and oil added when necessary to maintain level between these two lines. It is important that the oil level in the crankcase be up to the "Full" line before a long drive is started.

5. Changing Engine Oil. Oil in a new car should be changed after the first 500 miles and again after the first 2,000 miles of operation, refilling with S.A.E. 10 or S.A.E. 10 W oil. The oil should be changed thereafter, using the proper seasonal grade, at 2,000 mile intervals, or more or less frequently depending on the type and quality of oil used, the

severity of operating conditions and the condition of the engine.

At temperatures below freezing, vehicles operating on short runs such as city driving, or permitted to idle excessively, do not warm the engine sufficiently and the crankcase ventilation operating efficiency is decreased. This causes condensation of water and fuel vapors in the engine and dilution and contamination of the engine oil, necessitating more frequent oil changes.

Regular motor oil in an engine operated at sustained high speeds, with resultant high engine temperature, may oxidize forming sludge and varnish. When used under these conditions the engine oil should be changed more frequently. If the oil becomes discolored, dirty or thinned in less than 2,000 miles of operation need for more frequent changing is indicated.

Oil changing is also closely related to cleaning of the air cleaner and changing of the oil filter. Oil in the engine must not be permitted to become abrasive or corrosive before it is changed or engine parts will be damaged.

Drain the oil from the crankcase only when the engine is at operating temperature and the oil is hot. Five quarts of oil are required to fill the engine crankcase after draining. When the oil filter is replaced another quart of oil must be added to the five quarts normally required.

6. Oil Filter. The engine oil is continually circulated through an oil filter in the system (Fig. 449) which removes particles of dust, carbon and other foreign materials. Under normal operating conditions, the filter (Fig. 450) should be changed every 10,000 miles, replacement to be at the time of an engine oil change. Dirty oil on the dipstick is an indication that the oil filter or element should be replaced as described in Section 1B, "Engine Repair."

7. Crankcase Ventilation. The engine crankcase is ventilated by circulating air through it for the purpose of removing fuel and water vapors which would otherwise condense and contaminate the engine oil. Air is drawn into the crankcase through the breather cap on the oil filler tube. After circulating inside the crankcase, the air is drawn out through a tube on the valve tappet chamber cover (Fig. 451). The end of the tube extends down into the slip stream of air generated by the forward motion of the car, producing suction at the tube

outlet. The breather cap on the oil filler tube should be cleaned and serviced as indicated on the lubrication chart.

8. Carburetor Air Cleaner. The air cleaner used on all Kaiser and Frazer models is the oil bath type, using S.A.E. 40 or 50 grade engine oil for temperatures above 32° F. and S.A.E. 20 grade engine oil below 32° F. Air passes through the air cleaner before it enters the carburetor. Inside the air cleaner, abrasive road dust is removed from the air and accumulates in the air cleaner. Therefore, the air cleaner should be cleaned and serviced, adding clean oil of the grade specified every 2,000 miles. This interval should be satisfactory for normal operating

conditions but more frequent cleaning will be necessary on vehicles operating on dusty or sandy roads. Refer to Section 2, "Fuel," for instructions for cleaning and servicing the air cleaner. Do not fill the oil reservoir above the indicated level.

9. Distributor. The Delco-Remy distributor on the Kaiser models has four points which require periodic lubricating with engine oil. An oil reservoir at the shaft bushing is filled at original assembly and the filler hole is sealed with a pipe plug. Initial lubrication is good for 20,000 miles, then the plug should be removed and S.A.E. 20 engine oil added as necessary to fill the reservoir to the level of the filler hole. Avoid overfilling. Install the pipe plug, sealing it with sealing compound.

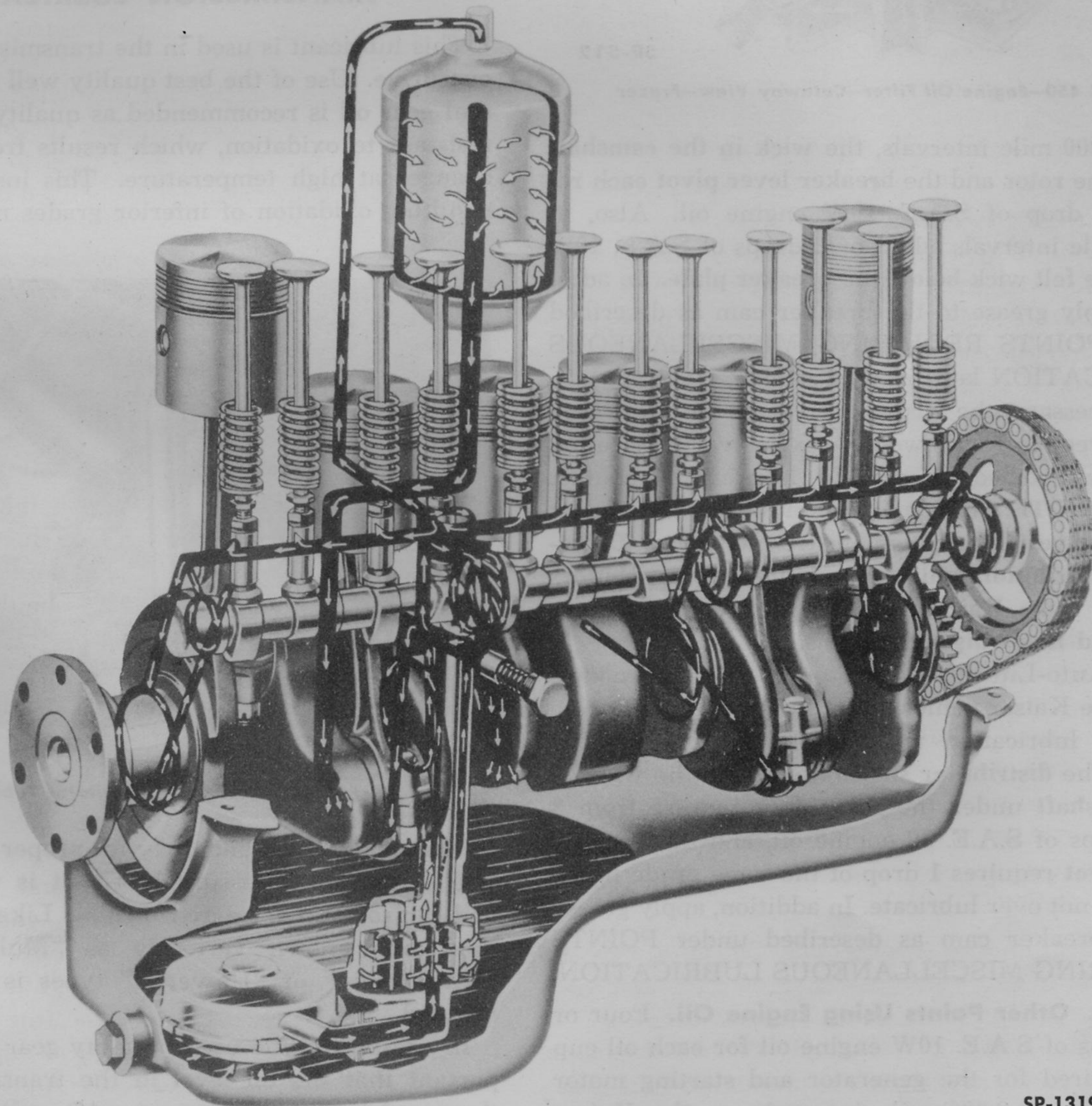
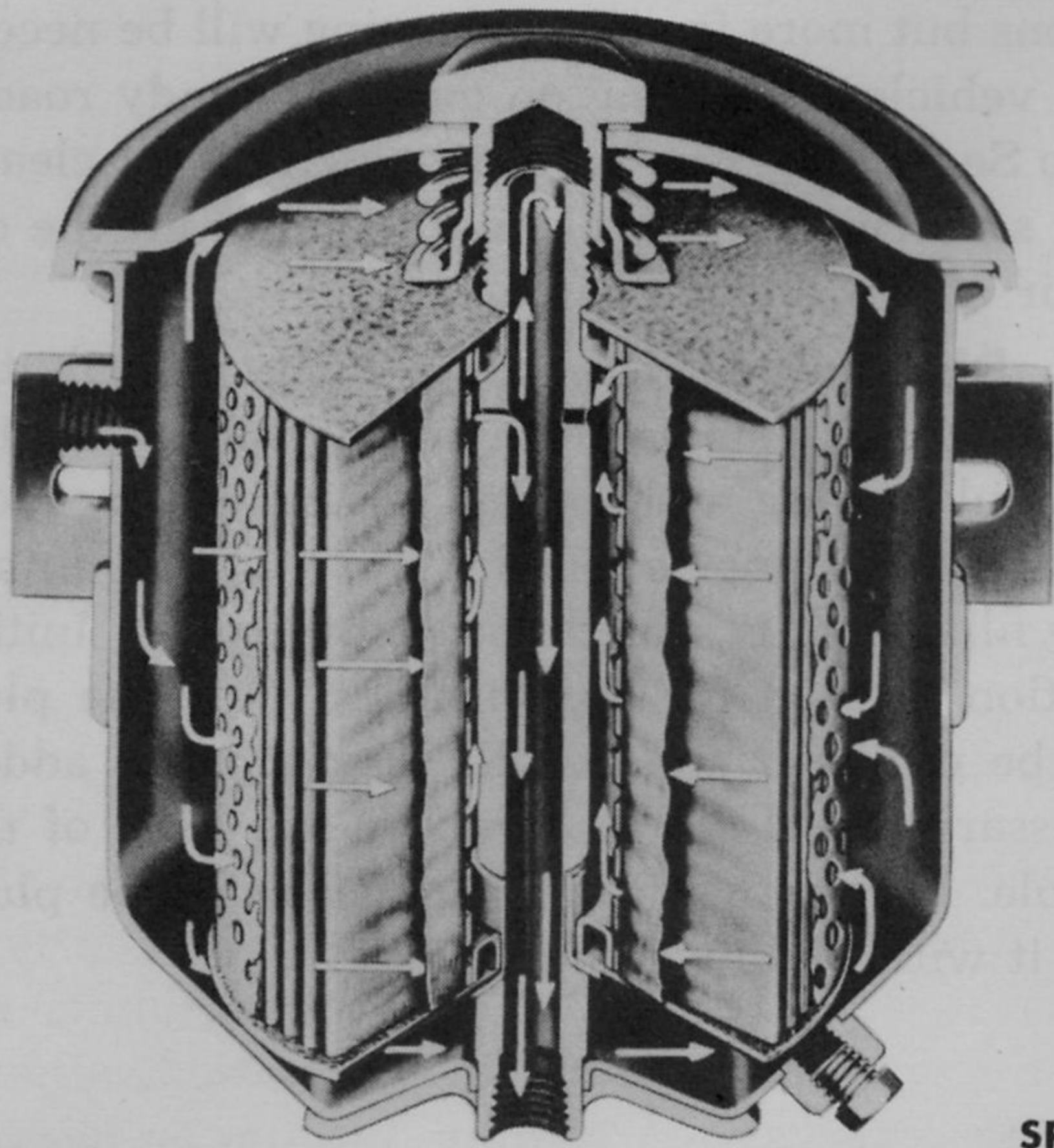


Fig. 449—Engine Lubrication System

SP-1319

KAISER-FRAZER SHOP MANUAL



SP-512

Fig. 450—Engine Oil Filter—Cutaway View—Frazer

At 2,000 mile intervals, the **wick in the camshaft** under the rotor and the **breaker lever pivot** each require 1 drop of S.A.E. 10W engine oil. Also, at 2,000 mile intervals add 1 or 2 drops of S.A.E. 10W oil to the felt wick **below the breaker plate**. In addition, apply grease to the breaker cam as described under POINTS REQUIRING MISCELLANEOUS LUBRICATION later in this Section.

If necessary the distributor may be lubricated more frequently; however, excessive lubrication must be avoided to prevent burning of contact points. **NOTE: The lubrication chart for Kaiser models gives lubrication instructions for Delco-Remy distributors only. For Auto-Lite distributors used on some Kaiser vehicles refer to the Frazer chart and following paragraphs.**

The Auto-Lite distributor on the Frazer models and some Kaiser vehicles has three points requiring periodic lubrication with engine oil every 2,000 miles. The **distributor shaft oil cup** and the **wick in the camshaft** under the rotor each require from 3 to 5 drops of S.A.E. 20 engine oil, and the **breaker lever pivot** requires 1 drop of the same grade lubricant. Do not over lubricate. In addition, apply grease to the breaker cam as described under POINTS REQUIRING MISCELLANEOUS LUBRICATION.

10. Other Points Using Engine Oil. Four or five drops of S.A.E. 10W engine oil for each oil cup are required for the generator and starting motor lubrication at 2,000 mile intervals on the Kaiser models as indicated on the Kaiser lubrication chart.

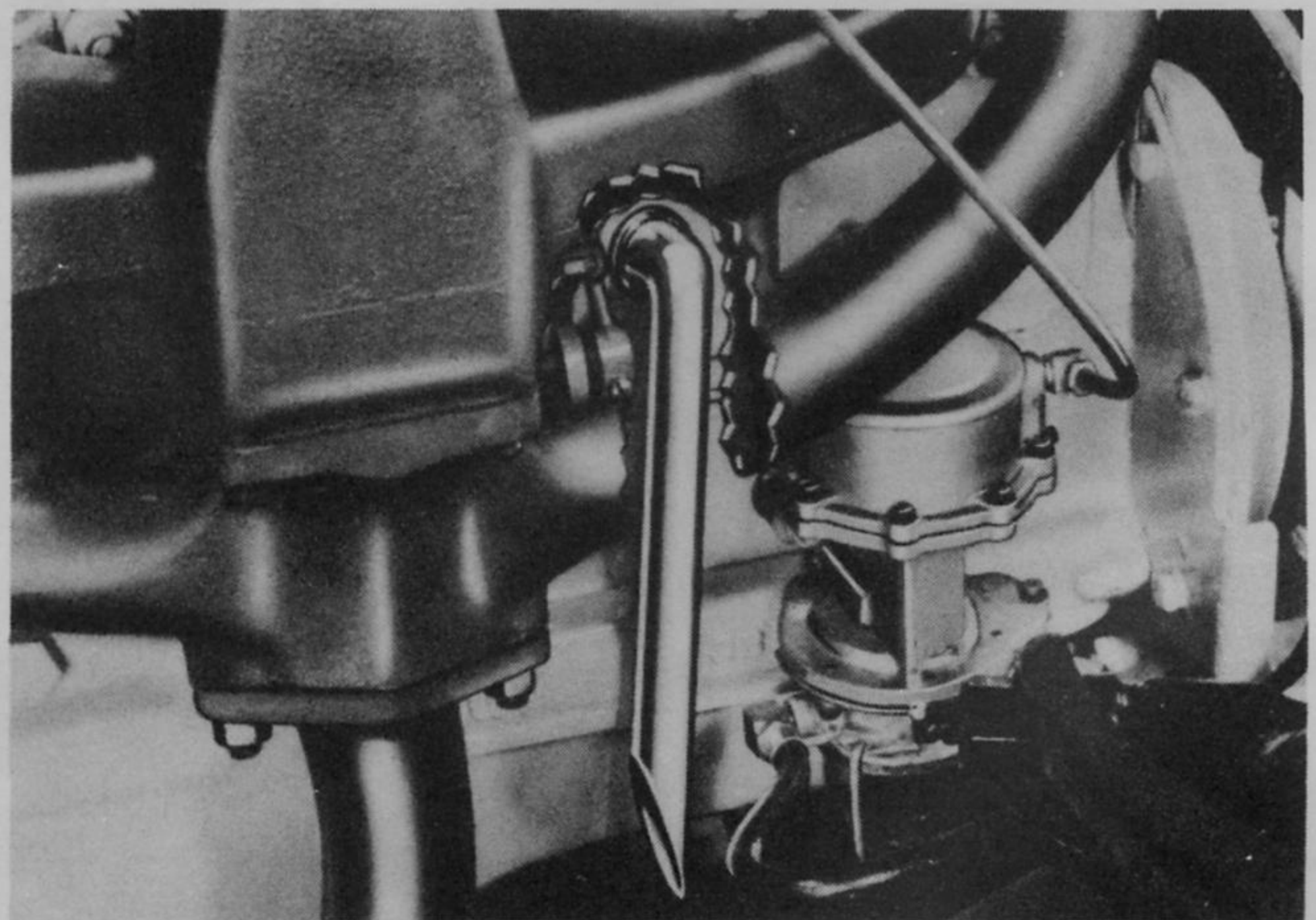
This applies to vehicles with Delco-Remy electrical equipment—for those with Auto-Lite equipment, information below applies.

Two drops of S.A.E. 20 engine oil are required at each of two points for generator lubrication at 2,000 mile intervals on the Frazer models and some Kaiser vehicles as indicated on the Frazer lubrication chart.

Other points which should be lubricated with engine oil, using an oil can, on both Kaiser and Frazer models are the windshield wiper arm bodies, the vacuum type windshield wiper motor, clutch and brake linkage (points not lubricated with a pressure gun) accelerator pedal linkage, hand brake linkage, hood hinges, hood latch, and door and rear lid hinges.

TRANSMISSION LUBRICANT

This lubricant is used in the transmission and the overdrive. Use of the best quality well refined mineral gear oil is recommended as quality oil is more resistant to oxidation, which results from chemical changes at high temperature. This instability and resulting oxidation of inferior grades may produce



SP-513

Fig. 451—Crankcase Ventilator Tube

oil that is too thick and dirty for proper lubrication. Use of extreme pressure lubricant is unnecessary and can sometimes be detrimental. Likewise, use of lubricants known variously as "Multi-Purpose," "All-Purpose" or "Universal" types is not recommended.

In addition to the use of quality gear oil, it is important that the oil level in the transmission and the overdrive (if vehicle is so equipped) be checked periodically (see chart) and lubricant added as re-

quired. Use S.A.E. 80 lubricant for all temperatures except when driving extensively where consistently high temperatures are encountered—then change to S.A.E. 90. The transmission requires 2½ pounds of transmission lubricant to fill it to the proper level after draining. The overdrive unit requires 1 pound of lubricant for a refill. Do not mix different types of lubricant in the transmission or overdrive.

HYPOID GEAR LUBRICANT

Passenger car type hypoid gear lubricant is used in the rear axle. The recommended lubricant must be a well refined mineral oil with Sulpho-Chloro-Lead type load carrying ingredients to provide proper lubrication under the most severe conditions at high speed. This differs from truck type hypoid lubricant which is compounded to provide lubrication under severe conditions in low gear under heavy load. **Do not** use truck type hypoid lubricant.

Rear axle lubricant should be checked periodically (see chart) and lubricant added as required. Use S.A.E. 90 hypoid lubricant for all temperatures except where extremely low temperatures are consistently encountered—then change to S.A.E. 80. Rear axle lubricant capacity is 3 pounds for Model 41 axles and 3½ pounds for Model 44 axles.

STEERING GEAR LUBRICANT

The lubrication for use in the steering gear housing should be a special all-season gear lubricant which does not require seasonal changing. It must be fluid at low temperatures and should not "channel" or cause hard steering. It must also provide satisfactory lubrication at summer temperatures. Quality "Multi-Purpose" lubricants of S.A.E. 90 viscosity, or special "Steering Gear Lubricant" marketed by reputable companies, are satisfactory lubricants for use in steering gears.

As directed on the lubrication chart, add lubricant in the steering gear housing only as required to maintain the proper level—it is not necessary to change the lubricant periodically. Steering gear housing lubricant capacity is 5½ ounces.

CHASSIS LUBRICANT

This lubricant is used for steering linkage, steering knuckle, front suspension, gear shift linkage and clutch and brake pedal linkage lubrication at points

called for on the lubrication charts. Kaiser propeller shaft universal joints should also be lubricated with chassis lubricant. The recommended lubricant is a semi-fluid high grade calcium or equivalent soap pressure gun lubricant with a mineral oil base. This type lubricant is insoluble in water.

Refer to the lubrication chart for all the various lubrication points which require chassis lubricant and the correct seasonal grade to use, to be applied with a pressure gun.

UNIVERSAL JOINT LUBRICANT

This lubricant is used for lubricating the propeller shaft universal joints of the ball and trunnion type used in Frazer models. These universal joints require disassembling and repacking periodically at 20,000 mile intervals. A sodium, lithium or barium soap fiber grease is recommended. Soft greases such as chassis lubricant and calcium soap base lubricants should **not** be used for packing the universal joints.

WHEEL BEARING GREASE

This lubricant is used for front and rear wheel bearings and for packing the bearing at the top of the steering column at installation. The recommended lubricant is a high melting, sodium, lithium or barium soap, fiber grease.

Front wheel bearings require periodic packing with wheel bearing grease. Use approximately 2½ ounces of lubricant per wheel—do not fill the hub. Be sure that the lubricant is packed into all spaces in the bearings, either by hand or using a bearing lubricator. Apply a thin coat of lubricant on the spindles and the inside of the hubs to prevent rusting.

Lubricate rear wheel bearings periodically with approximately ½ ounce of lubricant for each wheel, using a low pressure gun. The plug near each end of the axle housing must be removed and a suitable lubrication fitting installed temporarily in order to lubricate the bearing. After lubrication, remove the fittings and install the plugs.

Refer to the lubrication chart for the proper grade of wheel bearing lubricant and the correct interval between lubrications.

REAR SPRING COVER LUBRICANT

Covered rear springs are not to be lubricated oftener than every 10,000 miles unless squeaks develop and then only with the proper lubricant.

KAISER-FRAZER SHOP MANUAL

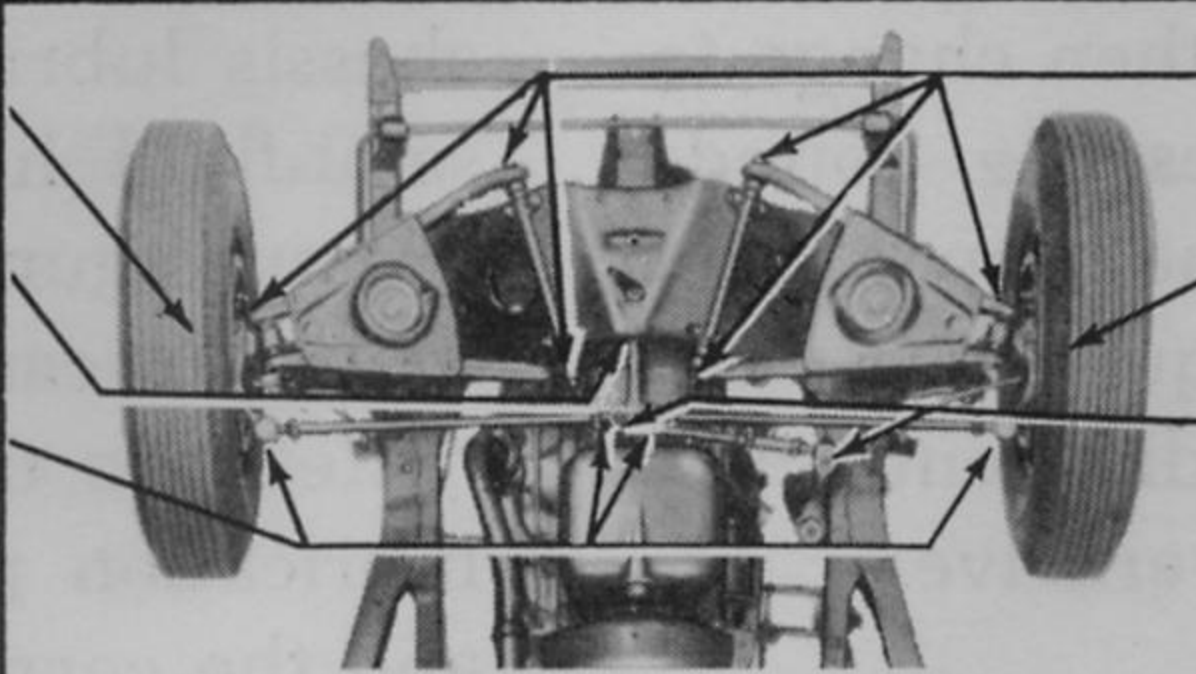
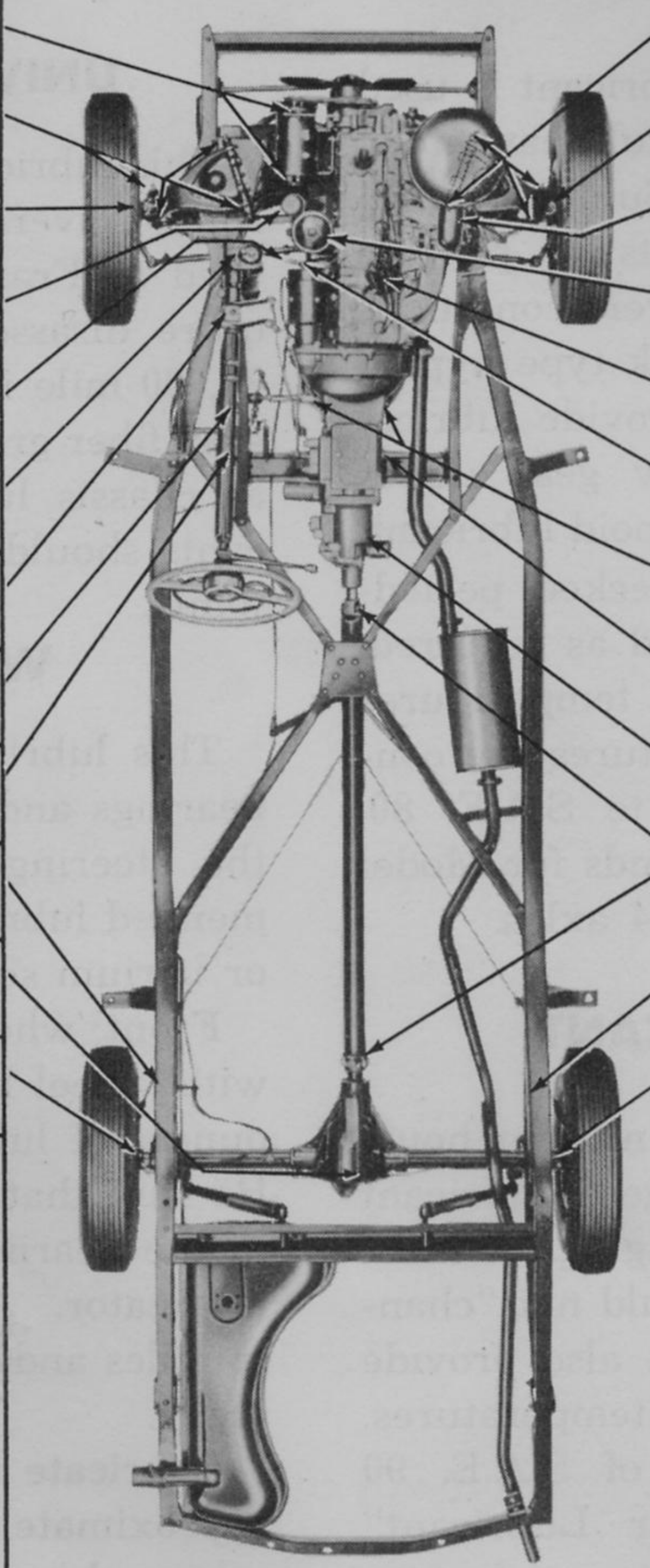
Note	1951 KAISER				LUBRICATION CHART	MODELS K-511, K-512				Note
	20,000	10,000	2,000	1,000		1,000	2,000	10,000	20,000	
1	WB					SUSPENSION BUSHINGS 6 Fittings	CG			2
2			CG			FRONT WHEEL BEARINGS Remove, Clean, Repack			WB	
2			CG		TIE ROD JOINTS 4 Fittings			CG		2
					UNDERSIDE OF CHASSIS					
			EO		GENERATOR 2 Oil Cups, 4-5 Drops Ea.	SUSPENSION BUSHINGS 4 Fittings	CG			2
2			CG		SUSPENSION BUSHINGS 4 Fittings	STEERING KNUCKLE 2 Fittings	CG			2
2			CG		STEERING KNUCKLE 2 Fittings	AIR CLEANER Remove, Clean, Refill		EO		11
3			EO		CRANKCASE FILLER TUBE	OIL FILTER Replace			EO	12
4			EO		BREATHING CAP - Clean	DISTRIBUTOR 5 Points - 4 Oil, 1 Grease		WB	EO	13
5					OIL DIP STICK Check Oil Level	STARTING MOTOR 1 Oil Cup, 4-5 Drops		EO		
6			SG		STEERING GEAR Check, Refill	CLUTCH CROSS SHAFT 2 Fittings	CG			2
7					GEARSHIFT HOUSING Check, Refill - Use CG	TRANSMISSION Check, Refill			GL	6
2			CG		BRAKE PEDAL 1 Fitting	OVERDRIVE Check, Refill			GL	6
8			BF		BRAKE MASTER CYLINDER Check, Refill	PROP. SHAFT "U" JOINT 2 Fittings	CG			2
9			GG		REAR SPRING COVER	REAR SPRING COVER			GG	9
6			HP		REAR AXLE Check, Refill	REAR WHEEL BEARING Remove Plug, Install Fitting			WB	10
10			WB		REAR WHEEL BEARING Remove Plug, Install Fitting					
	LUBRICANT SYMBOLS EO - Engine Oil CG - Chassis Lubricant GL - Transmission Gear Lubricant HP - Hypoid Gear Lubricant SG - Steering Gear Lubricant BF - Hydraulic Brake Fluid GG - Graphite Grease WB - Wheel Bearing Grease NOTES 1. Use 2½ ounces per wheel—do not fill hub. 2. Apply with pressure gun. 3. Drain and refill—5 qts. See text. 4. Wash in kerosene, dry and dip in same oil as used in engine.					NOTES - Cont'd. 5. Check when refueling—add 1 qt. when near "add" mark on dipstick. 6. Maintain lubricant level to filler hole. 7. Check and refill if shift is sticky. 8. Maintain fluid level to ¼" below filler hole. 9. Use special tool C-408 and pressure gun. 10. Apply ½ ounce per wheel with low pressure gun. 11. Refill sump to indicated level. 12. Engine oil refill 6 qts when filter is replaced. 13. EO—Shaft bushing reservoir at 20,000 miles—cam shaft wick, 1 drop; breaker pivot, 1 drop; breaker plate felt wick, 1 or 2 drops; all at 2,000 miles. WB—Wipe cam lightly at 2,000 miles.				
	EO ENGINE OIL Engine - Above 32° F. use S.A.E. 20 or 20W + 32° F. to +10° F. use S.A.E. 20W + 10° F. to -10° F. use S.A.E. 10W Below -10° F. use 5W Select oil for lowest expected temperature. Generator - S.A.E. 10W Starting Motor - S.A.E. 10W Distributor - Reservoir S.A.E. 20 Cam Wick, Breaker Lever Pivot and Felt Wick Below Breaker Plate - S.A.E. 10W Air Cleaner - Above + 32° F. use S.A.E. 40 or 50 Below + 32° F. use S.A.E. 20 CG CHASSIS LUBRICANT Use NLGI No. 1 - Below 32° F. use No. 0. GL TRANSMISSION GEAR LUBRICANT Use S.A.E. 80, except when high temperatures prevail, then use S.A.E. 90. HP HYPOID GEAR LUBRICANT Use S.A.E. 90, except when extremely low temperatures prevail, then use S.A.E. 80. SG STEERING GEAR LUBRICANT If using Multi-Purpose, use S.A.E. 90 GG GRAPHITE GREASE Use NLGI No. 1 WB WHEEL BEARING GREASE Use NLGI No. 2									

Fig. 452—Lubrication Chart—Kaiser Models K-511, K-512

SP-1385

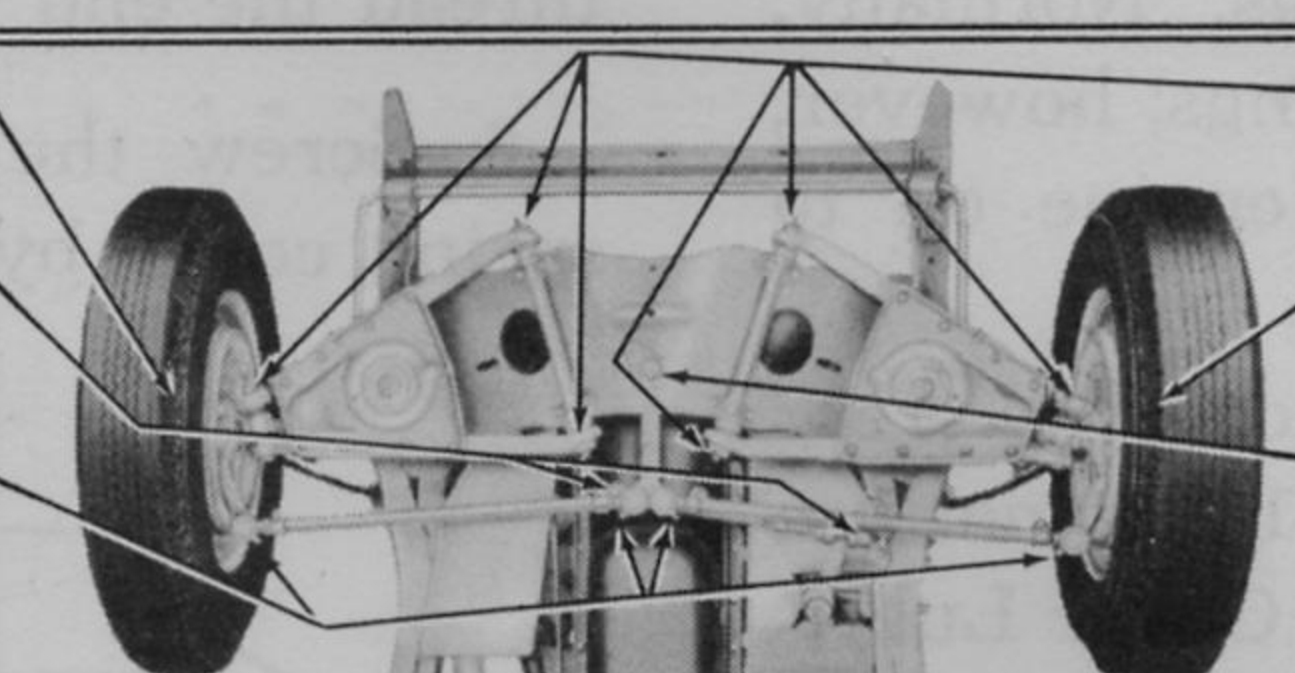
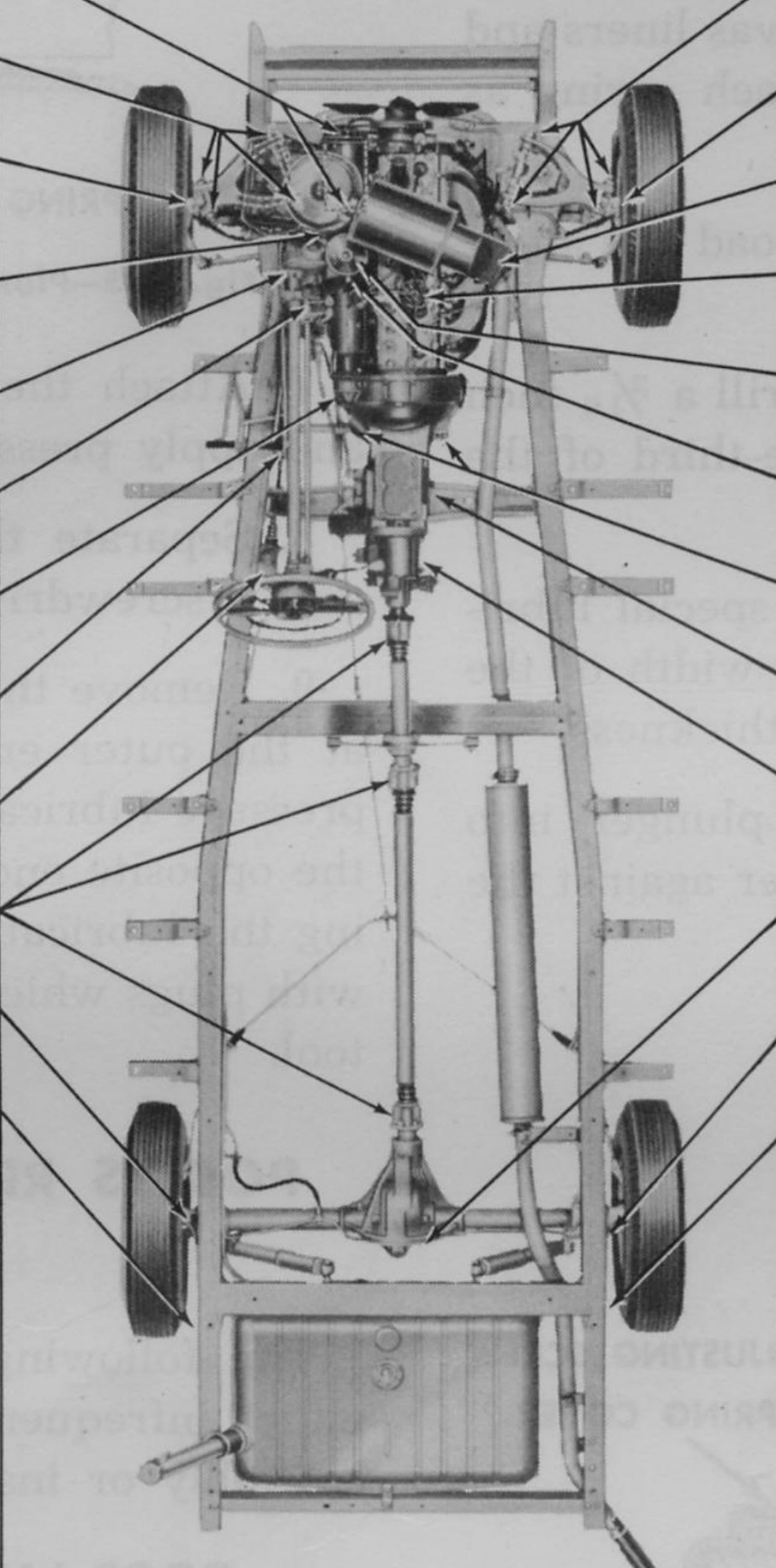
Note	20,000	10,000	2,000	1,000	1951 FRAZER	LUBRICATION CHART	MODELS F-515, F-516	1,000	2,000	10,000	20,000	Note
1		WB			FRONT WHEEL BEARINGS Remove, Clean, Repack		SUSPENSION BUSHINGS 6 Fittings	CG				2
2			CG		DRAG LINK 2 Fittings		FRONT WHEEL BEARINGS Remove, Clean, Repack			WB		1
2			CG		TIE ROD JOINTS 4 Fittings		STEERING IDLER LEVER 1 Fitting	CG				2
			EO		GENERATOR 1 Oil Cup, 1 Hole—2 Drops Ea.		SUSPENSION BUSHINGS 4 Fittings	CG				2
2			CG		SUSPENSION BUSHINGS 4 Fittings		STEERING KNUCKLE 2 Fittings	CG				2
2			CG		STEERING KNUCKLE 2 Fittings		AIR CLEANER Remove, Clean, Refill		EO			9
3			EO		CRANKCASE FILLER TUBE		DISTRIBUTOR 4 Points—3 Oil, 1 Grease		EO	WB		10
4			EO		BREATHER CAP—Clean		OIL FILTER Replace Filter Element			EO		11
5			SG		STEERING GEAR Check, Refill		OIL DIP STICK Check Oil Level					12
2			CG		GEARSHIFT LEVER 1 Fitting		CLUTCH CROSS SHAFT 2 Fittings	CG				2
2			CG		GEARSHIFT BELLCRANK SHAFT 1 Fitting		TRANSMISSION Check, Refill		GL			5
2			CG		BRAKE PEDAL 1 Fitting		OVERDRIVE Check, Refill		GL			5
5			BF		BRAKE MASTER CYLINDER Check, Refill		REAR AXLE Check, Refill			HP		5
6	UJ				PROP. SHAFT "U" JOINTS Disassemble, Clean, Repack		REAR WHEEL BEARING Remove Plug, Install Fitting				WB	
7		WB			REAR WHEEL BEARING Remove Plug, Install Fitting	REAR SPRING			EO	GG		8
8		GG	EO		REAR SPRING							
LUBRICANT SYMBOLS					NOTES—Cont'd							
EO — Engine Oil					3. Drain and refill — 5 qts. See text.							
CG — Chassis Lubricant					4. Wash in kerosene, dry and dip in same oil as used in engine.							
GL — Transmission Gear Lubricant					5. Maintain lubricant level to filler hole.							
HP — Hypoid Gear Lubricant					6. Applies to both ball and trunion and cross type (without fittings) joints.							
SG — Steering Gear Lubricant					7. Apply 1/2 ounce per wheel with low pressure gun.							
BF — Hydraulic Brake Fluid					8. Spray or paint insert type springs with EO. For covered springs use special tool C-408 and pressure gun to apply GG.							
WB — Wheel Bearing Grease					9. Refill the sump to indicated level.							
GG — Graphite Grease					10. EO — Shaft bushing oil cup, 3-5 drops; cam shaft wick, 4-5 drops; breaker lever pivot, 1 drop. WB — Wipe cam lightly.							
UJ — Universal Joint Grease					11. Engine oil refill 6 qts. when filter is replaced.							
NOTES					12. Check when refueling — add 1 qt. when near low mark on dip stick.							
1. Use 2 1/2 ounces per wheel — do not fill hub.												
2. Apply with pressure gun.												
RECOMMENDED SEASONAL GRADES												
EO ENGINE OIL						GL TRANSMISSION GEAR LUBRICANT						
Engine—Above 32° F. use S.A.E. 20 or 20W						Use S.A.E. 80, except when high temperatures prevail, then use S.A.E. 90.						
+ 32° F. to + 10° F. use S.A.E. 20W						HP HYPOID GEAR LUBRICANT						
+ 10° F. to —10° F. use S.A.E. 10W						Use S.A.E. 90, except when extremely low temperatures prevail, then use S.A.E. 80.						
Below —10° F. use 5W						SG STEERING GEAR LUBRICANT						
Select oil for lowest expected temperature.						If using Multi-Purpose, use S.A.E. 90						
Generator—S.A.E. 20						GG GRAPHITE GREASE						
Distributor—S.A.E. 20						Use NLGI No. 1						
Air Cleaner—Above 32° F. use S.A.E. 40 or 50						WB WHEEL BEARING GREASE						
Below 32° F use S.A.E. 20						Use NLGI No. 2						
CG CHASSIS LUBRICANT												
Use NLGI No. 1—Below 32° F use No. 0												

Fig. 453—Lubrication Chart—Frazer Models F-515, F-516

SP-1386

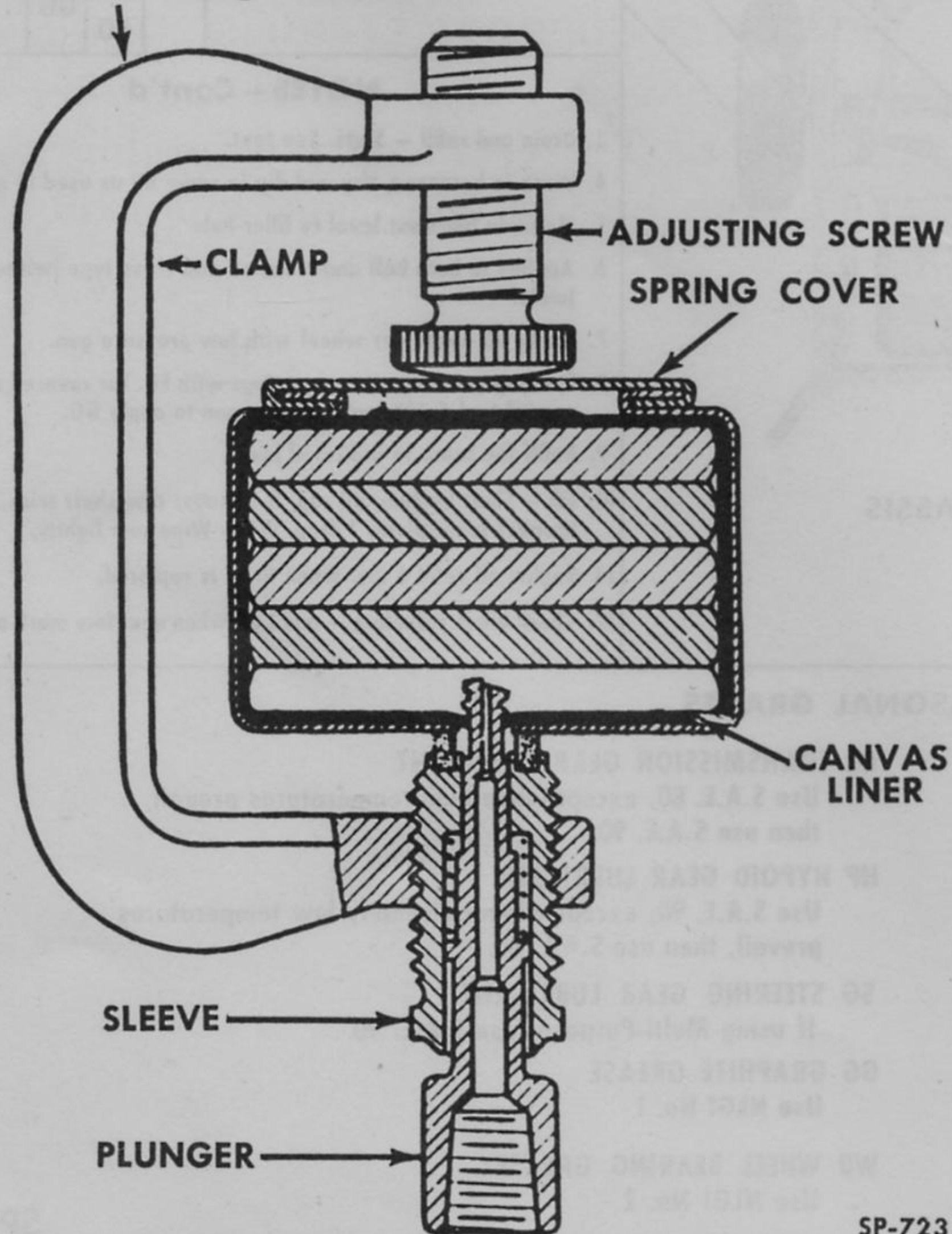
KAISER-FRAZER SHOP MANUAL

On springs which do not have covers, inserts are used between the leaves of the springs. Normally, no lubrication is required on such springs; however, spring leaves may be sprayed with engine oil to eliminate squeaks if they occur.

The recommended lubricant for covered rear springs is Graphite Grease, NLGI No. 1. **Do not use Chassis Lubricant.** The use of Spring Cover Lubricating Tool C-408, is required since the lubricant must be applied so that it is forced between the spring leaves and not between the canvas liners and the metal spring covers. Lubricate each spring as follows.

1. Jack up the frame to remove the load and allow the spring leaves to separate.
2. If the spring cover has no hole, drill a $\frac{3}{16}$ inch hole in the center of the bottom, one-third of the way from the spring eye.
3. Set the adjustment screw of the special lubricating tool C-408 (Fig. 454) until the width of the clamp is a little more than the spring thickness.
4. Push the threaded end of the plunger into the drilled hole to force the canvas liner against the plate.

Spring Cover Lubricating Tool-C-408

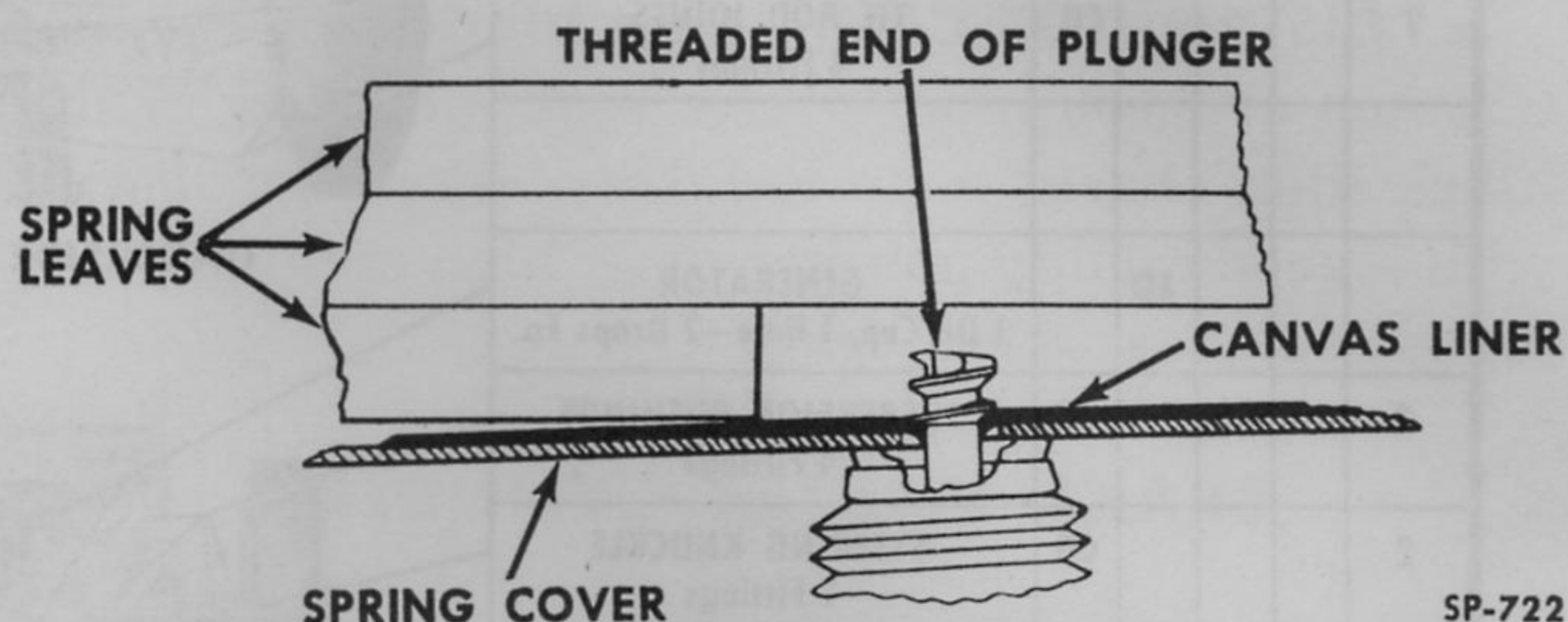


SP-723

Fig. 454—Lubrication Tool for Rear Spring Covers

5. Screw the plunger several times to the right to thread the end through the canvas. (Fig. 455).

6. Screw the sleeve against the bottom of the spring cover by hand. Do not use pliers.



SP-722

Fig. 455—Plunger Threaded Through Spring Cover

7. Attach the pressure gun nozzle to the fitting and apply pressure slowly.
8. Separate the main and second spring leaves with a screwdriver so the lubricant can go between.
9. Remove the screwdriver and attach a C clamp at the outer end of the spring cover. Continued pressure lubrication will force the lubricant toward the opposite end of the spring cover. After removing the lubricating tool, seal the holes in the cover with plugs which are furnished with the lubricating tool.

POINTS REQUIRING MISCELLANEOUS LUBRICATION

The following is a list of items which require either infrequent lubrication or lubrication only at assembly or installation.

a. DOOR LATCH AND STRIKER. Apply pencil or stick type lubricant to the door latches and the striker plate pins at intervals to prevent binding. Pencil lubricant should also be used on the rear compartment lid latch and striker plate as necessary.

b. DOOR CYLINDER LOCKS. Put a small quantity of powdered graphite into each of the front door cylinder locks and the rear compartment lid lock periodically to assure smooth lock action. Blow the graphite into the lock through the keyhole.

c. BATTERY TERMINALS. With battery cables installed on battery terminals, coat generously with petrolatum to prevent corrosion. Cables and battery terminals must be clean before applying petrolatum.

d. SPEEDOMETER CABLE. Before installing the speedometer cable in the cable housing, apply Lubriplate No. 105 or equivalent sparingly to the cable. If properly lubricated at installation, no further lubrication is necessary.

e. DISTRIBUTOR CAM. When lubricating the distributor at 2,000 mile intervals as indicated in the lubrication charts, wipe the distributor cam lightly with a good quality non-bleeding, high melting point grease such as wheel bearing grease.

BRAKE MASTER CYLINDER

Check the fluid level in the brake master cylinder every 2,000 miles and add fluid as required to maintain the level to within $\frac{1}{4}$ inch of the filler hole. Fill with Lockheed No. 21, or equivalent, hydraulic brake fluid. The brake master cylinder is accessible by turning back the front compartment floor mat below the brake pedal and removing the access cover.

POINTS REQUIRING NO LUBRICATION

The following items for various reasons, require no lubrication:

a. CLUTCH RELEASE BEARING. This is a prelubricated sealed bearing which requires no further attention for the life of the bearing.

b. CRANKSHAFT PILOT BUSHING. This bushing in the rear end of the crankshaft, used to pilot the

forward end of the transmission drive pinion, is oil impregnated and does not require additional lubrication.

c. WATER PUMP BEARING. This is also a prelubricated sealed bearing located inside the water pump and it requires no lubrication, during the life of the bearing.

d. STARTING MOTOR. The bushings in the starting motor (Auto-Lite) used in Frazer models and in some Kaiser vehicles are oil impregnated and do not require lubrication.

e. REAR SPRING BUSHINGS. Rubber bushings are used in rear spring hangers and shackles and these points must **not** be lubricated with a petroleum base lubricant. Special lubricants available for use on rubber may be used on the rear spring bushings but lubrication is normally unnecessary.

f. SHOCK ABSORBERS. Front and rear shock absorbers do not require filling. They are filled at original assembly and sealed, the initial filling lasting the life of the unit. Rubber bushings are used at the mountings and these points, like the rear spring bushings, must **not** be lubricated with a petroleum base lubricant. Special lubricants for use on rubber may be used but lubrication is normally unnecessary.

g. CENTER SUPPORT BEARING. The center support bearing at the rear end of the front propeller shaft on all Frazer models is prelubricated and sealed, requiring no additional lubrication.

