

SECTION B

LUBRICATION

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## LUBRICATION

### LUBRICATION IS IMPORTANT

Lubrication is important and only the best is good enough for the Daimler "SP. 250" and a choice of one of the "RECOMMENDED LUBRICANTS" listed must be made. Choose one that is readily available in your neighbourhood and carry a small quantity in a suitable container when on tour. When checking the oil level in the engine sump, gearbox or rear axle units, a truer indication of the oil level will be determined when the car has been standing for some considerable time, for instance overnight; when the oil has drained to the bottom of the unit and become less aerated.

Before "topping up" the engine sump, gearbox or rear axle units ensure that not only is the viscosity of the "topping up" oil correct but also the same brand as that already in the unit. Should a different brand have to be used, the unit should be drained, flushed and completely refilled.

When changing the oil in the engine sump, gearbox or rear axle units, effect the draining after a long run when the units are hot. The oil will then be at its thinnest and have most of the impurities and sludge in suspension and will assist in flushing out the unit. Effect the filling operation when the units have cooled, exercising care to avoid overfilling.

After filling the engine sump, it is advantageous to crank the engine over for a few moments by using the electric starter motor with the ignition switched off and so fill the oil filter before the engine is started avoiding undue wear caused by momentary oil starvation while the oil pump is filling the oil filter unit instead of lubricating the engine bearing surfaces. This cranking can be effected by pressing the rubber covered push button on the solenoid starter situated in the engine compartment and not by turning the ignition key. On the completion of a short journey, allow the engine unit to cool down, examine for oil leaks, check the oil level and top up with the same viscosity and brand of oil if necessary.

When it is desired to flush out the engine sump, gearbox or axle unit, drain and refill the unit with a recommended brand of flushing oil. Make a short run of no more than 5 miles (8.047 kms) and then drain off on return while the unit(s) is (are) still hot then refill with the new oil, of the recommended viscosity and brand. The use of paraffin as a flushing oil is strongly discouraged as, not only is it a poor lubricant but it will considerably reduce the quality of the new refill oil as it is difficult to effect a 100% draining of the unit.

The purpose of lubrication is to provide a fluid cushion between the bearing surfaces, to cool them and keep them apart thus reducing friction to a minimum and prevent undue wear. It will be appreciated, therefore, that only sufficient lubrication is necessary and any excess could exude attracting unwanted foreign matter. This foreign matter may find its way between the bearing surfaces, during subsequent lubrication operations, act as a cutting agent and promote rapid wear. It will be realised then, that not only must the road dirt be prevented from entering the engine sump, gearbox and rear axle through the failure to clean the immediate areas around the dipstick, oil filler caps, oil filter, drain plugs and grease nipples before effecting any lubrication operation; it is also necessary to ensure that the item is not over lubricated and when this occurs the excess is cleaned away.

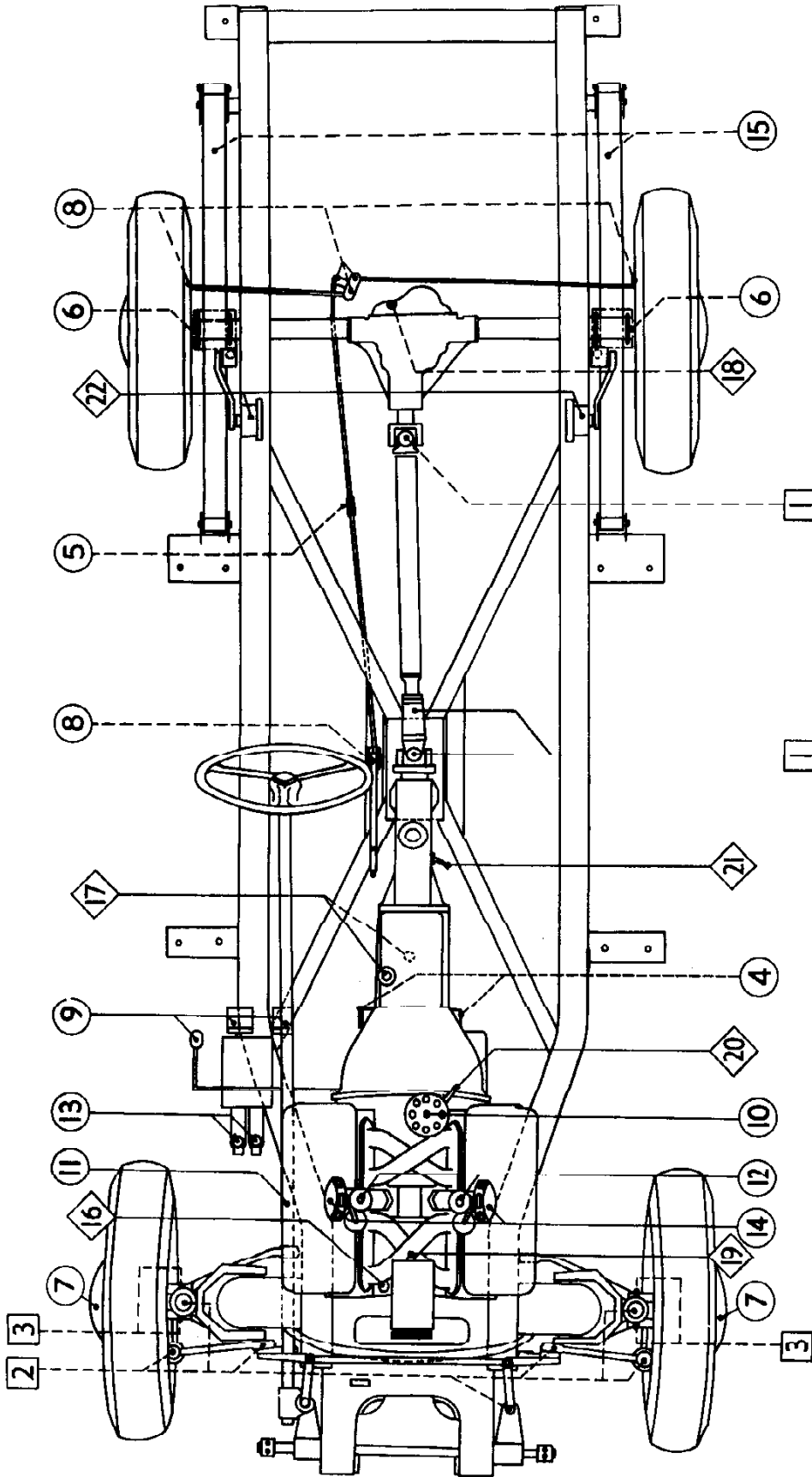
### UNDER CAR INSPECTION DURING LUBRICATION

The engineer who effects the lubrication service performs a responsible duty as he has an opportunity to inspect the underside of the car not readily apparent to the owner. Loose, damaged, broken or corroded components, bolts and other underside fitments, together with any coolant or oil leaks must be reported so that the appropriate action can be taken. While effecting the lubrication service, the air vents in the gearbox and rear axle units can be checked to ensure that they are unobstructed as these vents relieve internal pressure due to the expansion of the lubricant.

### THE ENGINE SUMP DRAINING PERIODS

The frequency of draining and refilling the engine sump should be relative to the journeys, driving and climatic conditions to which the car is subjected. The period specified is recommended for average driving conditions and should be increased or reduced when the driving conditions improve or deteriorate.

THE DAIMLER SP. 230 CHASSIS LUBRICATION DIAGRAM



Points indicated by squares every 1,000 miles (1,610 kms).  
 Points indicated by circles every 5,000 miles (8,050 kms).  
 Points indicated by diamonds every 10,000 miles (16,100 kms).  
 Broken lines indicate points lubricated beneath the car.  
 Full lines indicate points lubricated above the car.

PERIOD SERVICE CHART

Index	Details and Points	Method of Lubrication	Interval	Index	Interval	Method of Lubrication	Index	Interval	Method of Lubrication	Index
1	Propellor shaft - two universal joints and one sliding spline	Oil gun	Miles Km. 1,000 1,610	11	Steering unit - rubber plug in column		11	"	"	"
2	Steering joints - four ball joints, four steering swivels, one idler bracket		"	12	Carburettor cash pots - screw cap	Top up	12	"	"	"
3	Front suspension - four lower wishbone outer bushes		"	13	Hydraulic fluid reservoirs - one screw cap each		13	"	"	"
4	Clutch shaft bearings - two, one each end	Grease gun	5,000 8,050	14	Carburettor air cleaners	Wash & oil wet	14	"	"	"
5	Handbrake cable - one midway		"	15	Rear road springs	Clean & paint	15	"	"	"
6	Rear hubs - (wo, one inside each flange)		"	16	Engine sump		16	"	"	"
7	Front hubs	Pack hub cap	"	17	Gearbox unit	Drain when hot and refill	17	10,000	16,100	"
8	Handbrake linkage		"	18	Rear axle differential unit		18	"	"	"
9	Accelerator, brake, clutch and carburettor linkage	Oil can	"	19	Dynamo	Moisten pad from oil can	19	"	"	"
10	Distributor - cam pac		"	20	Engine speed indicator drive	Withdraw inner cables, clean and grease	20	"	"	"
			"	21	Speedometer drive		21	"	"	"
			"	22	Rear road spring dampers	Top up	22	"	"	"

**FAVOURABLE** Long journeys with very little engine idling on well surfaced road, free from dust.

**AVERAGE** Medium length journeys, with small proportion of idling, stop and starts on good surfaced roads, reasonably free from dust.

**UNFAVOURABLE** Short journeys, with much idling, many stops and starts on dusty roads or in a cold climate necessitating excessive use of the carburettor mixture control.

#### RECOMMENDED LUBRICANTS

	B. P.	CASTROL	DUCKHAM	ESSO	MOBIL	REGENT Caltex/ Texaco	SHELL
<b>ENGINE</b>							
Summer, 32°F - 90°F	Energol 30	Castrol XL	NOL 30	Esso Extra 20W/30	Mobiloil A	Advanced Havoline 30	X-100 30
Winter - below 32°F	Energol 20	Castrolite	NOL 20	Esso Extra 20W/30	Mobiloil Arctic	Advanced Havoline 20	X-100 20/20W
Tropical - above 90°F	Energol 40	Castrol XXL	NOL 40	Esso Extra 40	Mobiloil AF	Advanced Havoline 40	X-100 40
MULTIGRADE ENGINE OILS (These oils should NOT be used in worn engines requiring overhaul)	Energol Visco-Static	Castrolite (U.S.A. - Castrol 10W/30)	Q. 5500	Esso Extra 20W/30 * Esso Extra 10W/30	Mobil Special 10W/30	Advanced Havoline Special 10W/30	Shell X-100 Multi-grade 10W/30
UPPER CYLINDER LUBRICATION	Energol U.C.L.	Castrollo	Adcoild Liquid	Esso U.C.L.	Mobil Upperlube	Regent U.C.L.	Shell UCL or Donax U
GEARBOX - SYNCRO-MESH DISTRIBUTOR OIL CAN POINTS OIL CAN LUBRICATION	Energol 30	Castrol XL	NOL 30	Esso Extra 20W/30	Mobiloil A	Advanced Havoline 30	X-100 30
REAR AXLE	Energol E.P. 90	Castrol Hypoy	Hypoid 90	Gear Oil GP 90	Mobilube GX 90	Universal Thuban 90	Spirax 90 E.P.
STEERING BOX	Energol 140	Castrol D	NOL EP. 140	Gear Oil ST 140	Mobilube C 140	Universal 140 Thuban	Spirax 140 E.P.
PROPELLER SHAFT ROADWHEEL HUB BEARINGS FRONT SUSPENSION STEERING JOINTS HANDBRAKE CABLE	Ener-grease L. 2	Castro-lease LM	LB. 10	Esso Multi-purpose Grease H	Mobil-grease MP	Marfak Multi-purpose 2	Retinax A
AUTOMATIC TRANSMISSION (If fitted)	Energol Automatic Transmission Fluid Type 'A' or Type 'A' Suffix 'A'	Castrol TQ Automatic Transmission Fluid Grade 'A'	Nol-matic	Esso Automatic Transmission Fluid	Mobil Fluid 200	3528 Texamatic Fluid	Shell Donax T6
REAR ROAD SPRINGS (Do not foul brake discs)	Energol Penetrating Oil	Castrol Penetrating Oil	P.F. Oil	Esso Penetrating Oil	Mobil Spring Oil	Cephus Oil D	Shell Donax P
BRAKE AND CLUTCH HYDRAULIC FLUID	CASTROL/GIRLING BRAKE AND CLUTCH FLUID CRIMSON						
REAR ROAD SPRING DAMPERS	ARMSTRONG DAMPER OIL NO. 624						

\* According to the availability in country of operation.