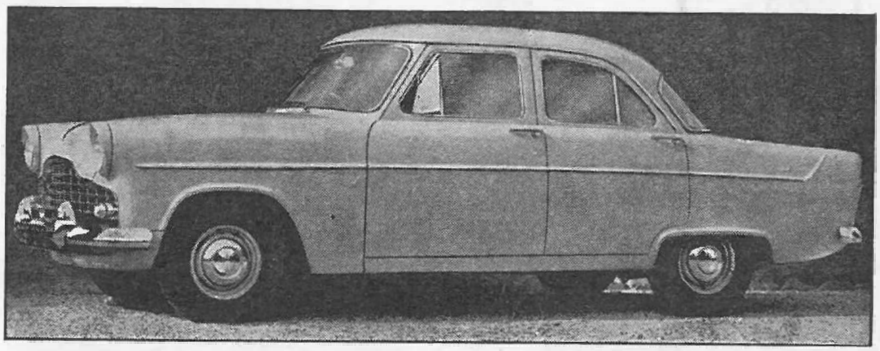
"MOTOR TRADER" Service Data

No. 295

FORD CONSUL AND ZEPHYR MARK II

Manufacturers : Ford Motor Co., Ltd., Dagenham Essex



DISTINGUISHING FEATURES. Each of the models of the range is readily identified by the different radiator grille types. Shown above is the Zephyr, Consul cars have closer square pattern grille, and Zodiac cars have horizontal slats. Front and rear screens are of the wrap-around type and the headlamps are now hooded.

FOLLOWING the well-known Ford policy of car production, the new range of Consul and Zephyr models was introduced in the summer of 1956, five years after the original Mark I cars were made. From a service angle, current models retain orthodox features of unit construction and design which makes for conformity with other British designs. Mechanically, the engine units of the two models have been so designed that there are the maximum number of parts and components common to each. The four-cylindered Consul is now of some 1,703 c.c. capacity and the six-cylindered Zephyr and Zodiac units of 2,553 c.c. swept volume capacity. Power output has been raised as a result of the increase in internal engine size, and this is transmitted to the rear road wheels through the media of a single dry plate clutch, three-speed synchromesh gearbox and three-quarter floating hypoid bevel drive rear axle. As is now the case with most production cars, there are several options for varying forms of transmission; overdrive is available as is also automatic transmission on the six-cylindered cars. These are, as are all other components used in the manufacture of Ford cars, of particular application to the Ford range, but the basic principles of design shown in Trader Service Supplement sheets Nos. 258/C18, 260/C19 and 272/C25 will be found to apply in most cases of service adjustment or in overhaul.

Cars are numbered in serial and are prefixed by the letters 204E Consul, 206E Zephyr and Zodiac. These numbers and letters are to be found stamped on top of the offside front suspension support member under the bonnet. Engines are stamped with the same prefix and serial number on the top face of the offside engine mounting pad when the engines are installed.

Names of makers of proprietary components are not mentioned to avoid confusion. Most of them are well known, but in many cases the components are modified to suit Ford requirements and cannot be serviced with standard replacement parts. For this reason, the Ford Motor Co. insist that all components should be serviced through their own organization.

Special tools for repair work are made and marketed by Messrs, V. L. Churchill & Co., Ltd., Great South West Road, Bedfont, nr. Feltham, Middx., and carried by all Ford dealers. They are designed to speed up certain jobs, and in many cases save costly dismantling. Tools which are considered most essential are listed in these pages and many of them will be seen to have alternative application to other vehicles in the range. All threads and hexagons, except those on a few proprietary components, are of the Unified thread series.

ENGINE

Mounting

At front brackets bolted on either side of engine block rest on rubber blocks bonded to studs and bolted to front suspension cross-member.

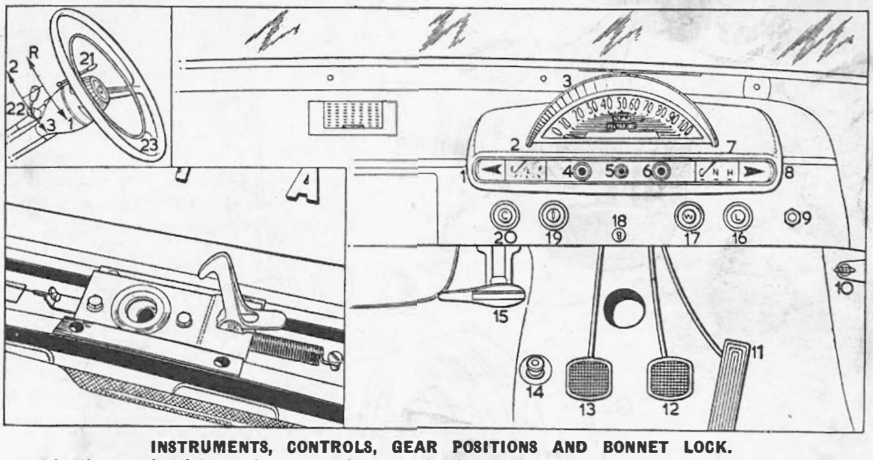
At rear extension casing bolted to sandwich rubber block type. Mounting on cross-member. Tighten all bolts fully.

Removal

Lift out engine, leaving gearbox in place. Detach bonnet, disconnect radiator hoses and lift out radiator core (two setscrews each side). Disconnect all pipes, wires and controls, and remove all auxiliaries, including combined fuel and vacuum pump, oil filter, dynamo, carburettor and fan. Take weight of engine on slings round mounting brackets, remove mounting nuts, setscrews round bell-housing flange and lower cover from front of bell-housing, with clutch operating cylinder. Draw engine forward clear of clutch spigot, and lift out, swinging round to clear body.

Manifolds and Cyl. Heads

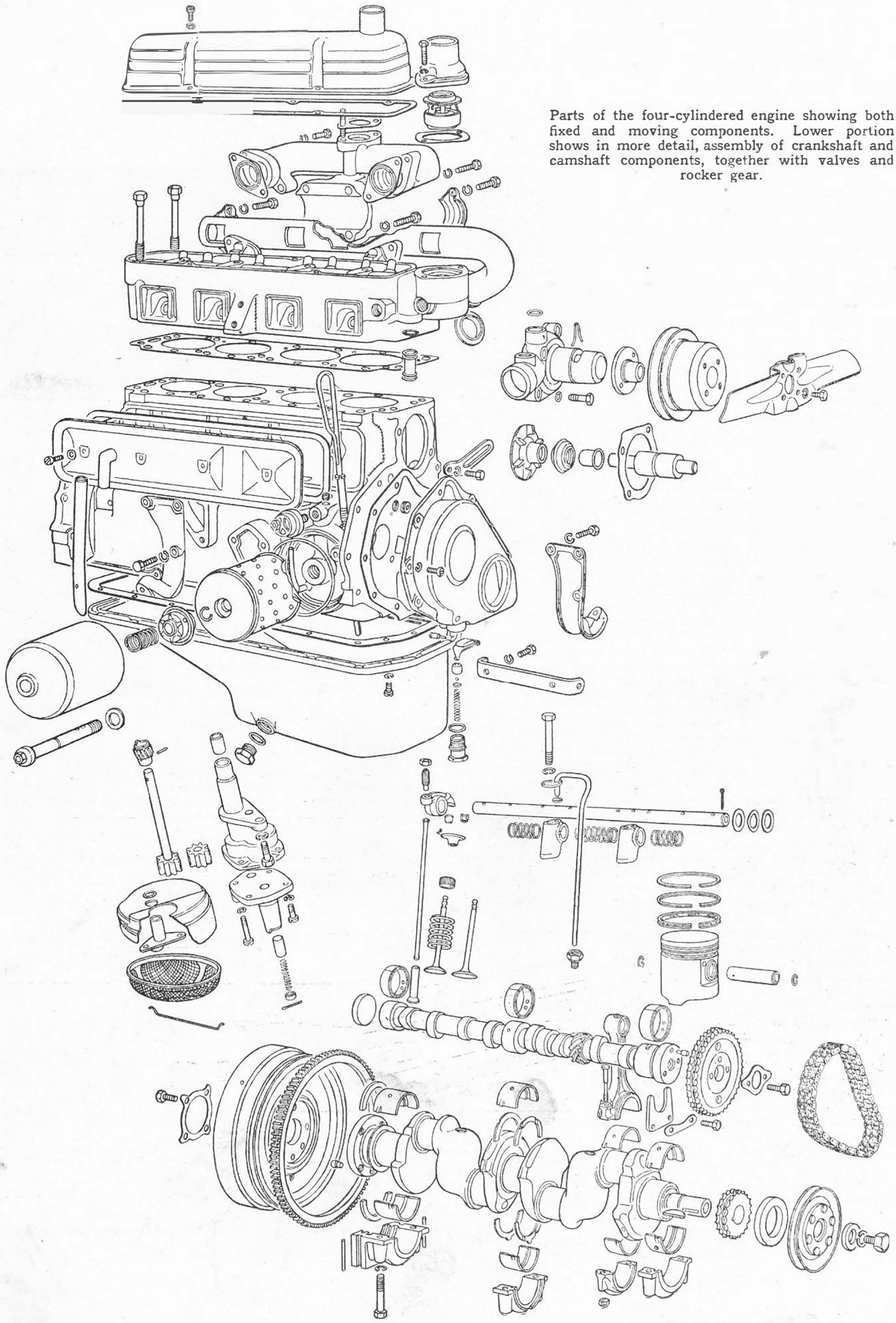
Ported exhaust pipe, blanked off at rear end, clamped directly to ports in cylinder head. Inlet manifold, flange-bolted to head with gaskets, also clamps exhaust pipe. Assemble exhaust pipe to head (rear clamp welded to pipe) and insert clamp setcrews finger-tight. Assemble



INSTRUMENTS, CONTROLS, GEAR POSITIONS AND BONNET LOCK.

1. Direction warning light. (L/H)
2. Fuel tank contents gauge.
3. Speedometer
4. Oil pressure warning light.
5. Main beam warning light.
6. Ignition warning light.
7. Water temperature gauge.
8. Direction warning light (R/H).
9. Screen washer button.
10. Bonnet release.
11. Accelerator.
12. Brake pedal.
13. Clutch pedal.
14. Dipper switch.
15. Handbrake lever.
16. Lighting switch.
17. Screen wiper control.
18. Panel light switch.
19. Ignition switch (twist for starter).
20. Choke control.
21. Direction indicator switch.
22. Gear lever.
23. Horn ring.

Inset upper left shows position of controls on steering wheel boss and operative positions of gear lever. Lower left shows exterior bonnet catch.



Parts of the four-cylindered engine showing both fixed and moving components. Lower portion shows in more detail, assembly of crankshaft and camshaft components, together with valves and rocker gear.

SPECIAL TOOLS	Part No.
ENGINE	
Cylinder head locating studs ...	P6015
Crankshaft gear remover	P6039
Crankshaft gear replacer	P6032
Pulley remover	CP6041
Main bearing liner remover and replacer	P6035
Valve spring compressor	P6062
Valve guide bore reamers	P6056
CLUTCH AND GEARBOX	
Oil seal remover (main tool) ...	7657
Transmission mainshaft oil seal adaptor	P7657-3
Transmission extension bearing remover and replacer	P7040
Transmission mainshaft oil seal replacer	P7064
Main drive gear bearing remover and replacer	P4000-22
Dummy layshaft	P7048
Shifter shaft and overdrive control shaft oil seal replacer	P7056
FRONT SUSPENSION	
Upper guide seat wrench adaptor ...	P5017-1
Spring clips	P5009
Unit mounting sleeve	P5012
Thrust bearing locknut spanner and unit locator...	P5016
Upper unit assembly and thrust bearing remover and replacer	P5013
Unit piston rod upper guide seat wrench	P5017
REAR AXLE	
Diff. bearing adjusting nut wrench ...	P4007
Crown wheel and pinion backlash gauge	P4008
Diff. bearing pre-load gauge	P4009
Diff. bearing cone replacer	P4012
Drive pinion bearing cups remover ...	P4015
Drive pinion pre-load gauge ...	CP4030
Diff. bearing cone remover	CP4000
Rear axle housing oil seal replacer ...	P4035
Drive pinion bearing spacer comparator	P4029-1
(gauge block)	P4029-2

inlet manifold, and tighten all setscrews evenly.

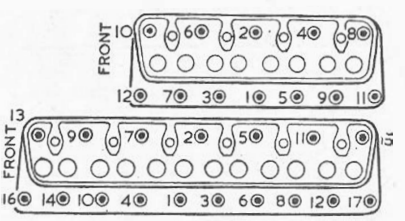
Cylinder head gasket can be assembled upside down. See that water transfer ports are at rear.

Crankshaft

Three main bearings on Consul, four on Zephyr. Thin wall, steel-backed, white-metal lined shells located by tabs. End float controlled by split thrust washers on either side of centre bearing (Consul) or No. 3 bearing (Zephyr), located by tabs in cap. Fit with oil grooves towards shaft. Washers are available .0025, .005, .0075 and 010in oversize on thickness. All undersize bearings are available either standard or .015in oversize on outside diameter.

Main bearings and thrust washers can be removed with shaft in place. No hand fitting permissible.

Flywheel, with shrunk-on starter ring gear, spigoted on rear flange of crankshaft, located by one dowel and retained by four setscrews with locking plate. Oil impregnated bronze clutch spigot bush pressed into flywheel with stepped side towards flywheel.



Cylinder head stud tightening diagram. See also table of "Nut Tightening Torque Data."

Timing sprocket (flat face with timing mark to front) and built-up fan pulley (with rubber bushed torsional vibration damper on Zephyr) keyed on front end of shaft with single Woodruff key and retained by setscrew and large washer in end of shaft (no provision for hand starting). Pulley hub passes through lipped oil seal in timing cover.

Rear main bearing cap fits in square recess in crankcase with rubber seals in side grooves (assemble with cap) and split composition seal in groove fitting round shaft. Sump flange gasket is in four sections, dovetailed together.

To remove sump on Zephyr, disconnect anti-roll bar U-bolts, and pull bar down to clear front of sump.

Connecting Rods

Big ends thin wall, steel-backed, white-metal lined shells located by tabs. No hand fitting permissible. Big end bolts have self locking nuts (see "Nut Tightening Torque Data").

Gudgeon pins fully floating, retained by circlips in piston bosses.

Pistons

Autothermic aluminium alloy, solid skirt, Invar strut. Pistons have gudgeon pin hole offset $\frac{1}{16}$in to off side, stamped "Front" on crown. Cylinder bores correspondingly offset to crankshaft centreline.

Lower compression ring recessed on lower face. All rings marked "bottom."

Big ends will pass through cylinder bores, but pistons will not pass crank throw. Remove and assemble through top.

Camshaft

Duplex roller endless chain drive (same chain as for Anglia and Prefect). Camshaft sprocket spigoted on end of shaft, located by one dowel and retained by two setscrews with locking plate. Remove both sprockets with chain.

Camshaft runs in three (Consul) or four (Zephyr) white-metal lined steel bushes pressed into crankcase. When renewing bushes see that oil holes are in line. No hand fitting needed. End float controlled by bronze fork in groove at front end.

Valve timing marks on sprockets should be together and in line with centres. No fine adjustment for timing.

Valves

Overhead. Not interchangeable, inlet larger than exhaust. Split cone cotter fixing, single springs with close coils to head.

Umbrella oil seal fits around valve stem.

Valve guides plain, integral with head. Provision for reaming out .003, .015 and .030in oversize for service.

Tappets and Rockers

Mushroom tappets working directly in crankcase. Remove camshaft to extract.

Rockers are unbushed, all interchangeable, working on hollow shaft supported in four (Consul) or six (Zephyr) pillars. Shaft located in No. 3 pillar (Consul) or No. 4 pillar (Zephyr) by end of oil feed pipe, which is held by collar on pillar stud, with rubber seal below. Rockers assembled on either side of each pillar, with separating springs between cylinders. Longer spring between Nos. 2 and 3 cylinders on Consul, between Nos. 2

ENGINE DATA		
General Type	o.h.v.	
	Consul	Zephyr
No. of cylinders ...	4	6
Bore x stroke: mm ...	82.5 x 79.5	
in ...	3.25 x 3.13	
Capadity: c.c. ...	1703	2553
cu in ...	103.9	155.8
R.A.C. rated h.p. ...	16.8	25.4
Max. b.h.p. at r.p.m.		
H.C.	59 @ 4200	86 @ 4200
L.C.	55 @ 4200	80 @ 4200
Max. torque at r.p.m. (lb ft.)		
H.C.	92 @ 2300	136 @ 2000
L.C.	87 @ 2300	128 @ 2000
Compression ratio		
H.C.	7.8 : 1	
L.C.	6.9 : 1	

CRANKSHAFT AND CON. RODS				
	Main Bearings			Crankpins
Diameter ...	2.3760–2.3765in			2.1255–2.1260in
	Front	Centre*	Rear	
Length	1.173–1.183 in	1.354–1.356 in	1.650–1.655 in	1.256–1.258in
*Zephyr & Zodiac:—				
No. 1 intermediate:				1.350–1.360in
No. 2 intermediate:				1.354–1.356in
Running clearance:				
main beairngs				.001–.0025in
big ends				.0005–.002in
End float: main bearings ...				.004–.012in
big ends ...				.006–.010in
Undersizes (thous. of an inch)				2, 10, 20, 30, 40
Con. rod centres				5.312in
No. of teeth on starter ring gear/ pinion				105/9

*Consul only

PISTONS AND RINGS		
Clearance (skirt)		.0002–.0008in
Oversizes (thous. of an inch)		2½, 5, 15, 30, 45, 60
Gudgeon pin:		
diameter		.8745–.8748in
fit in piston		push fit
fit in con. rod		floating
	Compression	Oil Control
No. of rings	2	1
Gap ...	.009–.014in	.010–.020in
Side clearance in grooves		
Top ...	.002–.0035in	
Lower ...	.002–.003in	.001–.0025in
Width of rings ...	.0775–.0780in	.1860–.1865in

CAMSHAFT				
Bearing journal: diameter:	1.7655–1.7670in			
	No. 1	No. 2	No. 3*	No. 4
length ...	1.06in	.82in	.89 in	.82in
Bearing clearance	.001–.002in			
End float	.002–.007in			
T'ming chain: pitch ...	.375in			
no. of links	52			

*Zephyr & Zodiac only

VALVES		
	Inlet	Exhaust
Head diameter	1.432–1.442in	1.182–1.192in
Stem diameter	.3097–.3109in	.3088–.3100in
Face-angle	45°	45°
Spring length: free ...	2.09in	
fitted ...	1.270in	
at load ...	102–112.25lb	

and 3 and 4 and 5, on Zephyr. End rockers retained by split pin with two plain washers and flat spring washer between. Split pins must be vertical before oil feed pipe will locate in hole in shaft. Feed pipe slides into union at lower end, inside tappet cover, on early type engines. On current engines, oil seal is located on pipe which is push fit in block.

All except end push rods can be removed singly, but usually easier to remove rocker assembly.

Lubrication

Gear pump in sump, spigoted by integral drive housing and flange-bolted to bottom face of crankcase. Remove with skew drive gear.

Non-adjustable spring-loaded plunger relief valve in pump cover, retained by split pin and thimble. Valve set to blow off at 50-60lb, but normal running pressure (no gauge fitted) may be less.

Cooling

Pump and fan, pressurized. Thermostat in cylinder head, retained by outlet union. Pump has spring-loaded carbon and rubber unit seal.

Adjust fan belt by swinging dynamo until there is ½in slack either way on longest run of belt.

TRANSMISSION

Clutch

Single dry plate, sealed ball thrust release bearing. Hydraulic operation of release lever, pivoted on ball-ended stud in bell-housing, replaces normal linkage.

Running adjustment on operating cylinder push rod, by nut and locknut to give $\frac{1}{16}$in free movement of release lever. Unhook return spring before adjusting. Clevis pins on pedals are eccentric for levelling adjustment.

Access to clutch for service after removal of gearbox. Clutch backplate and pressure plate serviced only as assembly.

Gearbox

Three-speed. Synchromesh (inertia lock type) on second and top gears. Helical gears throughout, including reverse. Steering column control, with "cross-change" on column and separate links for top/2nd and 1st/reverse gears. Propeller shaft yoke end slides on splined rear end of extended mainshaft, and slides in bronze bush in rear extension cover.

To remove gearbox, disconnect rear end of propeller shaft, and slide front end out of gearbox. Support rear end of engine. Disconnect speedo drive, gear change linkage and handbrake relay lever (equalizer clevis and pivot pins, leaving lever hanging on front cable end) and take off nuts holding gearbox support cross-member to body floor. Detach cover over lower front of bell-housing, with clutch operating cylinder, and take out bell-housing flange setscrews. Detach clutch operating cylinder and leave hang-on pipe. Gearbox and cross-member can then be drawn back and lowered out. Oil trapped in rear extension will drain out of shaft hole when box is tilted.

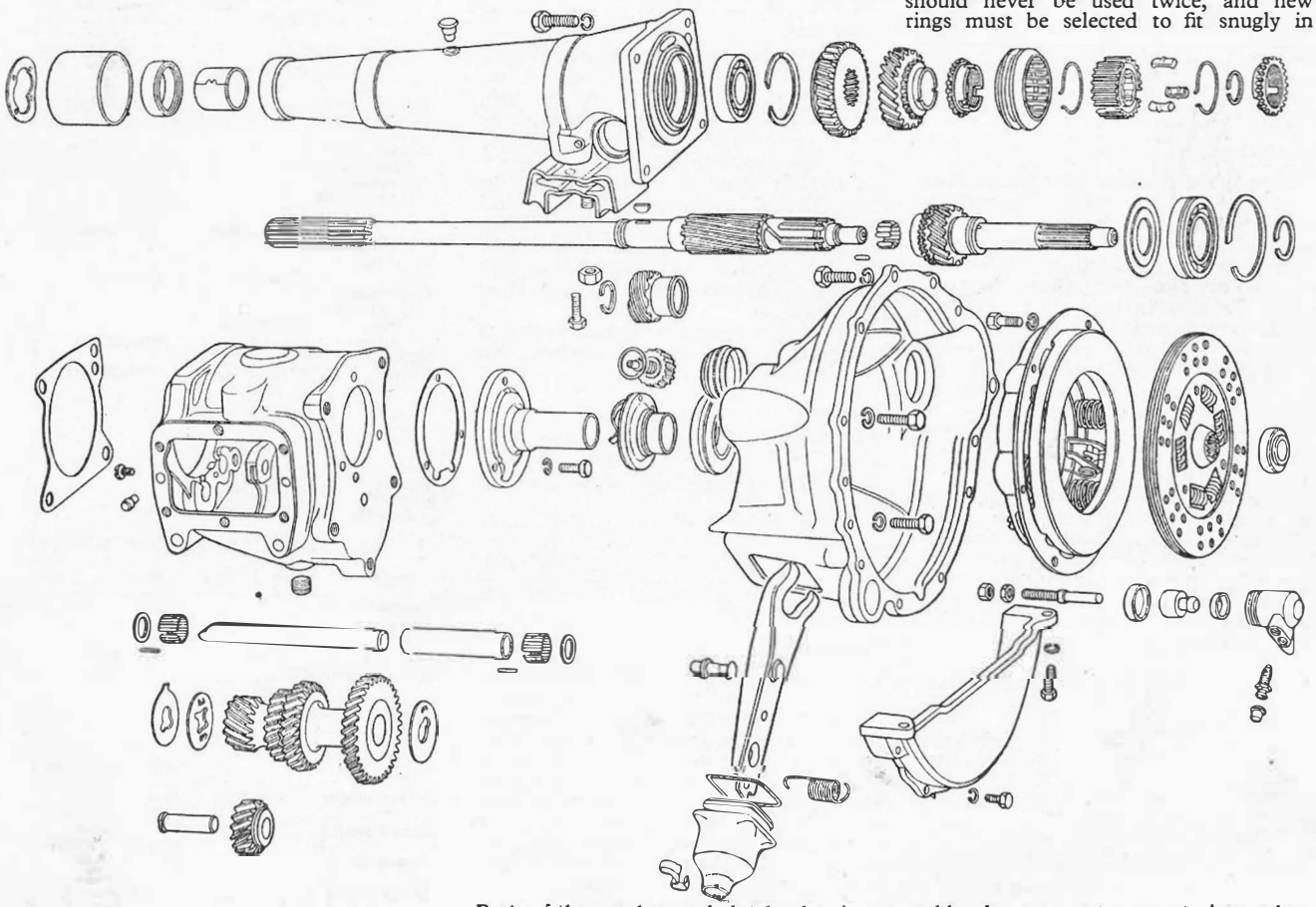
To dismantle gearbox, remove bell-housing and selector housing. Unscrew speedo drive pinion housing, and take out rear extension cover setscrews. Push synchro sleeve forward as far as it will go without engaging top gear, and pull extension cover, with mainshaft assembly, back clear of spigot bearing, then lift front end over layshaft and extract through rear opening.

Drive out layshaft spindle to rear, using copper drift to start, and following up with dummy layshaft ($5\frac{11}{16}$in long × 43/64in dia.), allowing cluster to drop. Detach front bearing cover and drift out primary shaft with ball bearing. Take out reverse idler spindle locking setscrew and draw out spindle ($\frac{5}{16}$in × 24 T.P.I. drawhole). Lift out layshaft cluster with needle roller bearings, and bushed reverse idler, through rear opening.

To dismantle mainshaft and rear extension cover assembly, pick off top gear baulk ring (if it has not stayed on top gear cone), extract spring ring from front end of mainshaft and slide off synchro assembly, 2nd gear baulk ring, bushed 2nd gear and sliding 1st gear. Extract spring ring retaining ball bearing in extension cover, and press out shaft with bearing. Extract spring ring on shaft behind speedo drive gear and draw off gear (Woodruff key). Press shaft out of bearing.

To reassemble gearbox, reverse dismantling procedure, noting following points:—

Spring rings on front bearing outer race, retaining front bearing on primary shaft, rear bearing in housing, and speedo drive gear on mainshaft are available in three or four selective thicknesses. Rings should never be used twice, and new rings must be selected to fit snugly in



Parts of the gearbox and clutch, showing assembly of components, gear trains and their respective shafts, together with selector mechanism and gearcase.

groove when component is pressed right home. When assembling front bearing on primary shaft, note chip shield behind.

If split bronze bush in rear end of extension cover is renewed, new bush must be pressed in with split at top.

When assembling mainshaft gears after building mainshaft into rear extension cover, slide on 1st gear with fork groove to rear, 2nd gear and baulk ring (two baulk rings are identical, but should not be interchanged after use). Slide synchro sleeve on to hub same way round as found, so that longer boss of hub is to front, and insert three detents in slots in hub. Insert detent springs under detents, so that one end of each spring locates in same detent. Slide assembly on to shaft and secure with spring ring.

Spigot bearing in primary shaft has 13 needle rollers. If unworn, they should lock in place when last roller is added. Stick in place with thick grease, and screw on top gear baulk ring before inserting mainshaft.

Layshaft cluster has 20 needle rollers in each end, with distance-piece between and locating rings outside. Large thrust washer at front of layshaft is steel-backed bronze, tab locating in slot in box. Two smaller thrust washers at rear. Steel-backed bronze washer is tabbed to cluster, and bronze face is towards steel washer, which is tabbed to box. Test assembly for end float (.005-.018in).

Before assembling selector housing, test that interlock sleeve, which carries selector locating balls and spring, effectively prevents two gears engaging at once. Selector sectors are slightly eccentric, so that either one can move only when other is in neutral, owing to interference of interlock sleeve. Sleeves available in six lengths. If external levers are detached, note that front lever (top/2nd) is slightly twisted. When assembling selector housing place forks on gears, and offer up housing, making sure that forks enter levers. Selector housing is located by two dowels.

Speedo drive gear and pinion ratios are: Consul 24/6, Zephyr Six 29/8.

When gearbox has been reassembled in car and filled with oil, it should be topped up after running, as oil runs into rear extension housing and does not drain back.

Propeller Shaft

Needle roller bearing universal joints. Nipples for lubrication of joints. No external sliding joint, as front yoke end slides in gearbox.

Rear Axle

Hypoid bevel drive, ¾-floating shafts. Rear cover welded to banjo casing. Final drive assembly detachable.

Complete axle assembly can be passed out sideways through springs. (Disconnect brake rods at relay levers and pull out through bell-crank eyes.)

Half-shafts (interchangeable) upset at outer end to form flange on which hub bearing housing, carrying wheel studs, registers. Inner ends splined in differential side bevel gears.

Hubs run on ball bearings pressed into housings, with lipped oil seals (lip to bearing) behind. Bearings retained on axle tube ends by ring-nuts and tab-washers.

Bevel pinion shaft runs in taper roller bearings, outer races pressed into final drive housing. Distance-piece between inner races, which are nipped up by driving flange nut. Flange hub passes through lipped oil seal in housing.

Bearings adjusted to give 12-15 lb/in preload with oil seal fitted, by selective distance-pieces, available in 10 lengths in .002in steps from 2.004/2.005 to 2.022/2.023.

Pinion mesh adjustment by shim between pinion and inner race of rear bearing. Shims available in ten thicknesses in .006in steps from 0.1510 to 0.1600in.

Crown wheel spigoted on one-piece differential cage and retained by eight self-locking setscrews. Differential side bevel gears have flat thrust washers behind, planet bevel pinions have spherical thrust washers.

Differential assembly carried in taper roller bearings in split housings, with ring-nuts for bearing and mesh adjustment. Bearing caps have hollow dowels. Tighten ring-nuts to spread bearing housings .005-.007in overall (special fixture advisable for checking spread), then turn both ring-nuts equally to adjust mesh for .005-.007in backlash.

CHASSIS

Brakes

Hydraulic. Two leading shoe front brakes with separate wheel cylinder for each shoe. Snail cam adjustment for front brakes. Tighten each adjuster until shoe is binding, then back off until free. Rear brakes have square ended adjusters and snail cam on leading shoe, tighten square ended adjuster and back off four clicks, releasing snail cam until free. Adjustment completed by retightening wedge adjusters and slacking off until shoes are just clear of drum. Car must be jacked up for each wheel to be adjusted.

Handbrake operates on rear wheels through cable in conduit to relay lever below rear of gearbox, thence through equalizer and cables to small relay levers at each spring anchorage, and from then on through rods and bell-cranks to expanders.

Rear Springs

Semi-elliptic. Loose rubber shackle bushes, bonded rubber anchorage bushes. Tighten all bolts fully with car in static laden position.

Rubber inserts in tips of three main leaves. Latest Consul models have zinc interleaves.

Front Suspension

Independent, coil springs. Telescopic shock absorbers form structural part of suspension units, being located at top in double taper roller thrust bearings anchored in rubber to top of wheel arches, and at bottom in ball joints at outer ends of lower links. Anti-roll bar, joined to outer ends of lower links by rubber bushes, gives fore-and-aft location and takes brake reaction stresses.

Suspension compares with that employed on Mk. I cars, and readers are referred to Service Data No. 184 for full details of assembly and overhaul procedure.

Steering Gear

Cam and lever, with ball bearing peg, later type recirculatory ball.

Cam runs in cup-and-cone ball bearing with 14 loose balls at each end of cam, adjusted by shims under lower cover. Upper end of column supported in tallow impregnated split felt bush, renewable with column in place.

CHASSIS DATA

CLUTCH

Type	s.d.p.	
	Consul	Zephyr
Springs: no.	6	6
colour	yellow	Brown
free length	1.90in	1.92in
Centre springs: no	6	6
colour	Mauve	Green
Linings: thickness	.155–.165in	.155–.165in
dia. ext.	8.0in	8.5in
dia. int.	5.25in	5.75in.

GEARBOX

Type	synchromesh
No. of forward speeds	3

Final ratios:	Consul	Zephyr
1st	11.67 : 1	11.08 : 1
2nd	6.75 : 1	6.40 : 1
3rd	4.11 : 1	3.90 : 1
Rev.	15.86 : 1	15.06 : 1
Overdrive ratio	—	0.7 : 1

PROPELLER SHAFT

Make	Enfo
Type	needle roller bearing U.J.

FINAL DRIVE

Type	¾-floating hypoid

	Consul	Zephyr
Crownwheel/bevel pinion teeth	37/9	39/10

BRAKES

Type	Hydraulic
Drum diameter	9in
Lining: length	8.65in
width: front	2.5in
rear	1.75in
thickness	.188–.203in
Total lining area	147 sq in

SPRINGS

	Front	Rear
Length (eye centres, laden)	—	41.94–42.06in
Width (or mean dia. of coils)	4.3in	2in
No. of leaves (or coils)	10.44	6
Free camber (length, coil)	16.7in	5.898in
Loaded camber (length, coil) at load	9.24in @ 698–722lb*	.058in

* Zephyr and Zodiac 777–803 lb

SHOCK ABSORBERS

Type	Hydraulic double acting twin cylinder
Service	Top-up

STEERING BOX

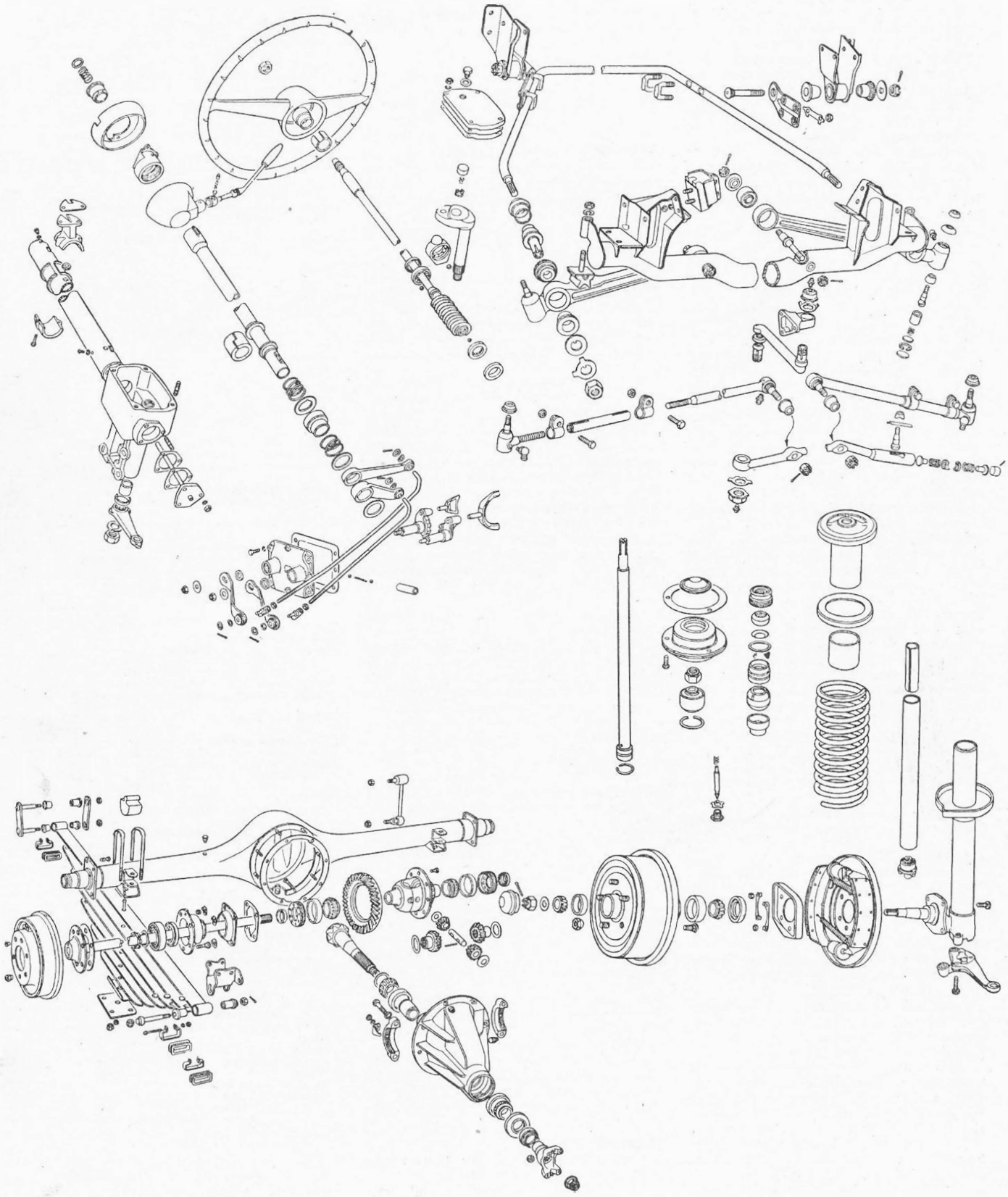
Type	Worm and ball peg*
Adjustments: column end float	shims
cross shaft end float	shims
mesh	grubscrew and nut

* Latest type: recirculating ball.

FRONT-END SERVICE DATA

Caster	$-\frac{1}{4}°$ to $+\frac{3}{4}°$
Camber	$1\frac{1}{4}°$–$2\frac{1}{4}°$
King pin inclination	$3\frac{1}{2}°$–$4\frac{1}{2}°$
Toe-in	$\frac{1}{16}$–$\frac{1}{8}$in
No. of turns lock to lock	
Adjustments: castor	nil
camber	nil
toe-in	screwed track rod ends

Lever peg carried in ball thrust bearing with eight loose balls running directly in lever and retained by spring ring. End play of lever shaft restrained by spring-loaded plunger in screwed sleeve in top cover, with locknut, which governs mesh of peg in cam. Lever shaft runs directly in casing.



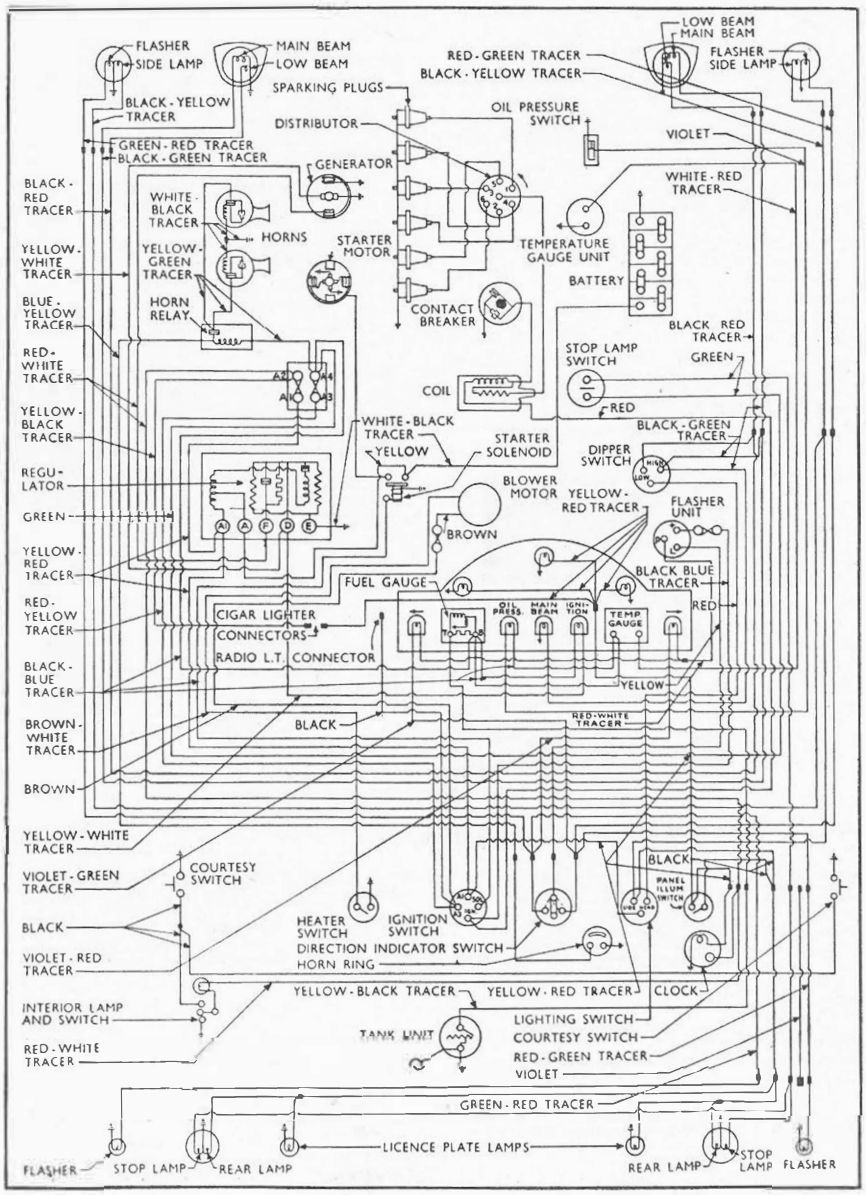
Parts of the front and rear suspension assemblies, with below rear axle components and hub assembly and above left, steering box unit and linkages.

TUNE-UP DATA

Firing order (Consul)	1-2-4-3
(Zephyr)	1-5-3-6-2-4
Tappet clearance: (cold): inlet	.014in
exhaust	.014in
Valve timing (no clearance):	
inlet opens	17° BTDC
inlet closes	51° ABDC
exhaust opens...	49° BBDC
exhaust closes	19° ATDC
Standard ignition timing ...	8° BTDC-H/C
	4° BTDC-L/C
Location of timing mark ...	Pulley & pointer
Distributor: type and service No.	Enfo
Advance range (dist. deg.):	
centrif.	10°-12° at 4,000 r.p.m.
vacuum	4°-6° at 4,000 r.p.m.
	HC 4-cyl.
Advance starts (crank r.p.m.) ...	600-800
Max. advance (crank r.p.m.) ...	4,200
	4,000-7.8
	4,000 Consul H/C & L/C
Cam angle (percentage dwell) ...	64-69 Consul
	55-60 Zephyr
Contact spring tension ...	18-22 oz
Contact set No. (Consul) ...	EOTA-12162/C
(Zephyr) ...	EOTA-12162/B
Contact breaker gap	.014-.016in
Condenser: capacity	.18-.22 mfd.

		Consul	Zephyr
Plugs: make		Champion	
type		N8	
size		14mm	
gap		.032in	
Carburetter: make		Enfo	
type		downdraught single venturi	
Settings: Choke		26	31
Main jet		115	145*
Power jet		65	107†
Idling jet		45	50
Progression jet ...		2 × 80	2 × 80
Accelerator pump jets		70	70
High speed bleed		70	100*
Needle seating		2mm	
Float level		16mm from face of float chamber	
Air cleaner: make		Enfo	
type (home)		oil wet	
(export)		oil bath	
Fuel pump: make		Enfo	
type		mechanical	
pressure		1½-2½lb/sq in	

*Prior to Nov. 1956
After: Main 155 Power 110 High speed bleed 70



ELECTRICAL TEST DATA

	Consul	Zephyr
BATTERY		
Type	lead acid	
Voltage	12	
No. of plates	9	9
Capacity	45 ah	57 ah
Spec. gravity: charged ...	1.27-1.285	
discharged ...	1.110	
	72 amp/hr	
DYNAMO		
Type	shunt wound	
Service No.		
Rotation (comm. end)	clockwise	
Cut-in volts at r.p.m.	13 @ 964	
Max. output	228 watts	
Max. reverse current	5 amps @ 12 volts	
Field resistance	6.1 ohms	
Brush tension	22-25 oz	
CONTROL BOX		
Service No.	EOTA 10505-D	
Cut-out: cut-in voltage ...	12.7-13.3 volts	
Regulator voltage: 10°C (50°F)	15.7-16.1	
20°C (68°F)	15.6-16.0	
30°C (86°F)	15.5-15.9	
40°C (104°F)	15.4-15.8	
STARTER		
Service No.	EOTA-11001-3	
Rotation (comm. end)	clockwise	
Lock torque (lb/ft amps) ...	9.6/380	
Brush tension	30-40 oz	
COIL		
Type	oil filled, 12v	
Service No.	100E-12024	
Primary resistance (Lucas type)	3.2-3.4 ohms*	
Primary resistance (Delco-Remy type)	4.15-4.55 ohms*	
Secondary resistance (Lucas type)	4700-4800 ohms*	
Secondary resistance (Delco-Remy type)	5500-7100 ohms*	

*At 68°F.

ADDITIONAL ELECTRICAL DATA

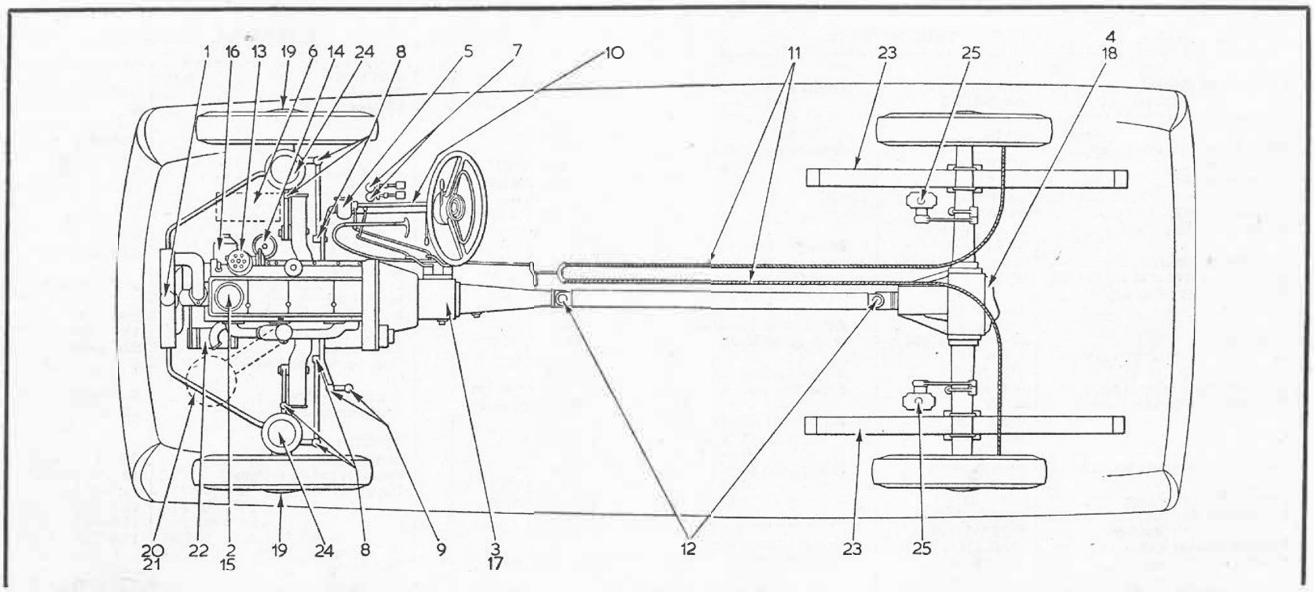
	Model	Service No.
Headlamps	All	204E-13005-B
Side lamps	Consul	204E-13200-B
Zephyr 10/57 ...	Zodiac	206E-13200-A
Flasher Zephyr 12/56/ 10/57		206E-13200-C
Stop/tail lamps ...	Consul	E111-NC-2
	Zephyr	206E-13407-A
Flasher	Zodiac	208E-13407-B
Reversing lamp ...	All	204E-15500
Number plate lamp ...	All	204E-13550-A
Starter solenoid switch	All	EOTTA-11450
Lighting switch ...	All	100E-11654-B
Ignition switch ...	All	204E-11572-A
Fog lamp switch ...	All	EOTTA-15224
Trafficator switch ...		206E-13341-B
Flasher unit	All	100E-13350-B
Screenwiper	All	204E-17500-A
Fuse box		2E-14525
Horns: high note ...	All	204E-13802 / EOA-13802-B
low note ...	All	204E-13801 / EOA-13801-E
Horn relay	All	EOTTA-13842-A

BULBS

	Voltage	Wattage	Cap
Headlamps: dip left...	12	42/36	Prefocus
dip right	12	42/36	Prefocus
vertical dip ...	12	42/38	Prefocus
Side lamps: standard	12	6/21	SBC
flasher	12	6/21	SBC
Stop/tail lamps:			
Standard	12	21/6	SBC
Flasher	12	21	SCC
Number plate lamp ..	12	6	MCC
Ignition	12	3	MES
Oil warning lamp ...	12	3	MES
Panel lamps ...	12	3 (2 off)	MES
Interior lamp ...	12	6	Festoon
Beam and flasher warning lamps ...	12	3	MES

FUSES

Accessories	2 x 35 amp



KEY TO MAINTENANCE DIAGRAM

DAILY

1. **Radiator** } check and top up
2. **Engine sump** }

EVERY 1,000 MILES

3. **Gearbox** } check and top up
4. **Rear axle** }
5. **Steering gear** }
6. **Battery** }
7. **Brake and clutch fluid reservoir** }
8. **Steering ball joints** (6) }
9. **Relay arm pivot** (2) } grease gun
10. **Gear change levers on steering column** (1) }
11. **Handbrake cables** (2) }
12. **Propeller shaft universal joints** (2)—oil gun (S.A.E.140).
13. **Distributor**—oil shaft bearing, auto advance and contact breaker pivot, smear cam with petroleum jelly.
14. **Fuel pump**—clean filter and sediment bowl.

EVERY 5,000 MILES

15. **Engine sump**—drain, flush and refill.
16. **Engine oil filter**—renew.
17. **Gearbox** } drain, flush and refill.
18. **Rear axle** }
19. **Front wheel hubs**—remove and repack with bearing grease.
20. **Air cleaner** (oil wet)—wash in petrol and re-oil.
21. **Air cleaner** (oil bath)—wash element in petrol, refill with engine oil.
22. **Generator**—a few drops of engine oil to oil hole in rear bearing boss.
23. **Rear road springs**—spray with penetrating oil
24. **Front suspension units** } top up with shock
25. **Rear shock absorbers** } absorber fluid

FILL-UP DATA

	Pints	Litres
*Engine sump: Consul ...	6	3.41
Zephyr ...	7	3.98
Gearbox	2¼	1.42
Rear axle	2¼	1.42
Cooling system: Consul ...	18	11.16
Zephyr ...	22	12.49
Fuel tank	10½ gall.	47.73
Tyre pressures:		
front and rear (Consul)	24–28 lb/sq in	1.68–1.97 kg/cm²
(Zephyr)	24 lb/sq in	1.68 kg/cm²

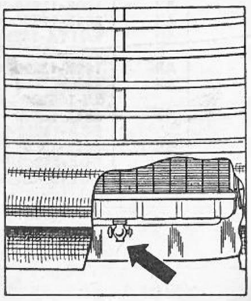
* 1½ pints for dry oil filter.

GENERAL DATA

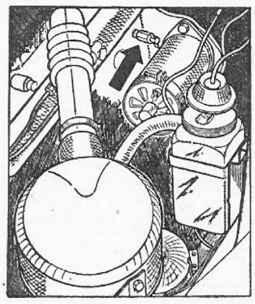
Wheelbase (Consul)	8ft 8½in
(Zephyr)	8ft 11in
Track:	
Front and rear (Consul) ...	4ft 4.8in
Front and rear (Zephyr) ...	4ft 5in
Turning circle (Consul) ...	35ft 0in
(Zephyr) ...	36ft 0in
Ground clearance:	
(Consul and Zephyr)	6½in
(Zodiac)	6¾in
Tyre size:	
Front and rear (Consul) ...	5.90—13
Front and rear (Zephyr and Zodiac)	6.40—13
Overall length (without overriders (Consul)	14ft 4¼in
Overall length (without overriders) (Zephyr)	14ft 10½in
Overall width (Zephyr and Zodiac)	5ft 9in
Overall width (Consul) ...	5ft 8½in
Overall height	5ft 2in*
Weight (kerb) (Consul) ...	2,504lb
(Zephyr) ...	2,691lb
(Zodiac) ...	2,738lb

*Unladen.

DRAINING POINTS



Left : Shows radiator matrix drain tap situated in base plate, access from beneath. Right : Cylinder block drain tap at nearside rear of engine adjacent to starter motor.



RECOMMENDED LUBRICANTS

	Duckhams	Wakefield	Esso	Shell	Mobil	Vigzol	B.P.
Engine: Summer and winter	NOL 20	Castrolite	Extra Motor Oil 20W/30	X-100 20/20W	Mobiloil Arctic	New D.20	Energol SAE 20W
Gearbox, steering box (not automatic transmission)	NOL EP 80 Transmission Oil	Castrol Hypoy Light	Expee Compound 80	Spirax 80 EP	Mobilube GX 80	Hyex 80	Energol EP SAE 80
Rear axle	NOL Hypoid 90	Castrol Hypoy Gear Oil	Expee Compound 90	Spirax 90 EP	Mobilube GX 90	Vitapoid 90	Energol EP SAE 90

Approved lubricants of similar grades and S.A.E. ratings are also supplied by the following: **BRITISH OIL & TURPENTINE CORPN., FINA PETROLEUM PRODUCTS LTD., GERM LUBRICANTS LTD., EDWARD JOY & SONS LTD., MANCHESTER OIL REFINERY (SALES) LTD., MORRIS & CO. (SHREWSBURY) LTD., REGENT OIL CO. LTD., STERNOL LTD.**

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