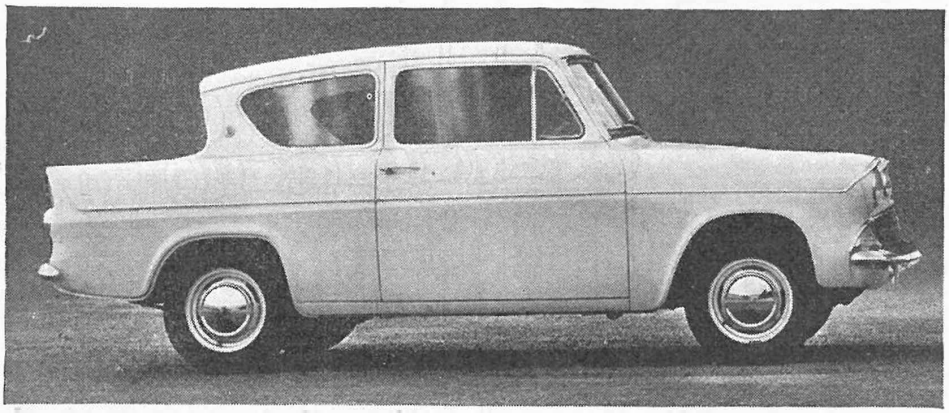
Motor Trader SERVICE DATA NO. 389

FORD ANGLIA 105E SERIES

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



Distinguishing Features. *This Ford model is recognisable from almost any standpoint due to its completely revised styling which incorporates a reverse-raked rear window*

COMPLETELY new in concept, the 105E series car was first introduced in 1959. The vehicle was noticeable, at once, for its body styling and was the first mass-produced car to have a reverse-raked rear view window. Two doors give access to the four-seater interior and in respects other than that mentioned above the bodywork of the model may be said to be conventional.

From a mechanical standpoint, there is much innovation. The engine, gearbox and steering gear are completely new and the remaining major components, notably the suspension units at the front, the rear axle and the braking system while retaining similarity with comparable units on other Ford models are developed to the point where little mechanical interchange of parts is either possible or permissible.

The engine is a four-cylinder unit, with considerably larger bore than stroke. It has overhead valves, is of 997 c.c. capacity and in the high compression state (8.9:1) has a power output of 39 b.h.p. at 5,000 r.p.m. Maximum torque of 52.85 lb ft occurs at 2,750 r.p.m., in the same compression ratio state. Transmission of the drive is taken through a single dry plate clutch to a four-speed syncromesh gearbox. Worthy of note at this stage is that this is the first time that the Ford concern have fitted a four-speed gearbox to an English made car. Transmission of the drive is from the output shaft of the gearbox via open tubular steel propeller shaft to the bevel pinion flange of the semi-floating hypoid bevel geared rear axle unit.

Front suspension is independent, of the enclosed coil spring pattern and each unit incorporates a hydraulic damping device. Rear suspension is effected by means of asymmetrical leaf springs mounted on the axle tubes and to the body unit and the system is damped in operation by separate lever-type hydraulic shock absorbers. Steering gear is now a recirculating-ball unit. Also new to the range of smaller Ford cars is a 12 volt electrical system.

Cars are numbered in serial and are prefixed by the symbols 105E. These numbers and letters are to be found stamped on the portion of the car around the front suspension unit upper mounting on the right-hand mudguard. Engines are also numbered in serial and these numbers are stamped on the top face of the right-hand engine mounting pad. It is essential that these numbers and letters are quoted when referring to the makers or when ordering spare parts.

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 are of the Unified thread series pattern and form.

ENGINE

Mounting

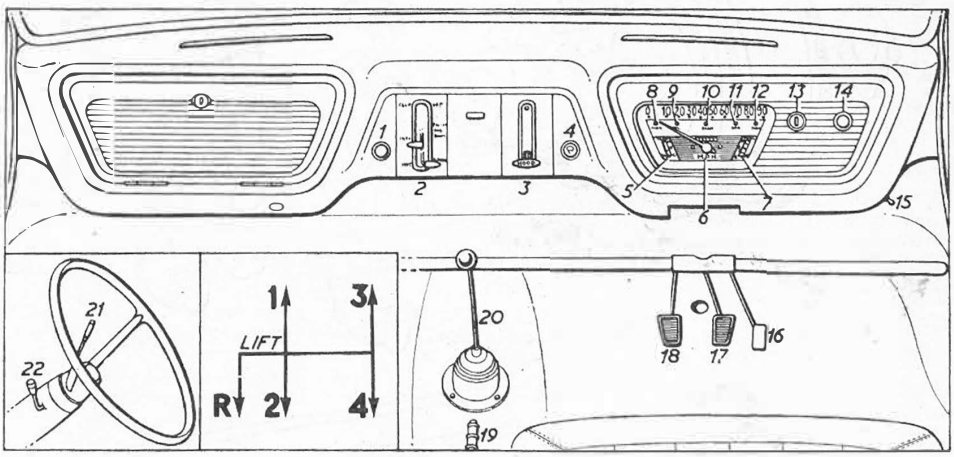
At front, rubber mounting rubbers are bolted up to brackets bolted to either side of crankcase and to abutment brackets on body frame. At rear, engine/gearbox unit is flange bolted to frame extensions; flange is on underside of gearbox extension and rubber mounting is sandwiched between.

Tighten all bolts fully.

Removal

Engine may be removed with or without gearbox. Manufacturers recommend removal of engine as separate unit.

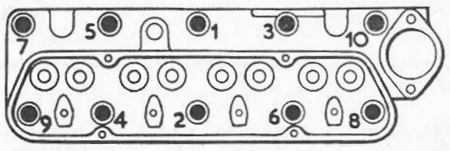
To remove engine alone, drain water from



INSTRUMENTS, CONTROLS, GEAR POSITIONS AND BONNET LOCK

1. Choke control (pull)
2. Heater direction and distribution controls (pull right hand lever for boost)
3. Bonnet safety catch (pull)
4. Screenwiper control
5. Water temperature gauge
6. Speedometer
7. Fuel gauge
8. Indicator warning light (l/h)
9. Oil pressure warning light
10. Main beam warning light
11. Generator warning light
12. Indicator warning light (r/h)
13. Ignition/starter switch
14. Lighting switch
15. Panel light switch
16. Accelerator
17. Brake pedal
18. Clutch pedal
19. Handbrake
20. Gearlever
21. Direction indicator switch (horn push at end)
22. Headlamp dip switch

Inset outside left shows the siting of the steering column mounted controls, inner left, the operative positions of the gear lever.



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

Parts of the engine showing the fixed and moving components in relative order of assembly.

GENERAL DATA	
Wheelbase	7ft 6in
Track: front	3ft 10in
rear	3ft 10in
Turning circle	32ft
Ground clearance	6½in
Tyre size: front / rear	5.20—13
Overall length	12ft 9½in
Overall width	4ft 9⅜in
Overall height (unladen)	4ft 8⅜in
Weight (kerb)	14½ cwt

ESSENTIAL TOOLS	Tool No.
Front hub bearing cup remover and replacer (main tool)	PT1024
Front hub bearing cup remover and replacer (adaptors)	PT1024-7
Rocker shaft bush broaching kit (for steering box)	P3076
Broach detail "a" (for steering box)	P3022
Steering rocker shaft bush remover and replacer and oil seal replacer	P3066
Drop arm remover	P3041
Rear axle half shaft and main drive gear bearing remover	P4090-1
Universal taper base	370
Crown wheel and pinion backlash gauge	P4008-1
Rear axle shaft bearing and inner retainer replacer	P4090-2
Differential bearing adjusting nut wrench	P4079
Rear axle shaft slide hammer (main tool)	PT3072
Rear axle shaft slide hammer (adaptor)	P3072-2
Rear axle shaft slide hammer (oil seal remover adaptor)	P3072-3
Differential bearing hand press (not required if hydraulic press available)	CP4000
Differential bearing cone remover adaptors	P4000-27A
Drive pinion bearing cup and oil seal replacer (main tool)	P4013
Drive pinion bearing cup and oil seal replacer (adaptors)	P4013-3
Drive pinion depth gauge (main tool)	P4075
Drive pinion depth gauge (adaptors)	P4075-4
Drive pinion bearing cone remover and replacer (adaptors)	P4000-28
Spring indicator for press	P4084
Differential bearing pre-load gauge	P4009
Pinion bearing cup remover	P4015
Drive pinion pre-load gauge	P4030
Drive pinion pre-load gauge adaptor	CP4030-1
Crown wheel and pinion backlash gauge (main tool)	P4008
Front suspension thrust bearing locknut wrench	P5025
Front suspension thrust bearing locknut wrench (torque adaptor)	P5026
Front spring clips	P5010
Front spring compressor	P5008
Front suspension unit piston rod upper guide seat wrench	P5017
Camshaft bushing remover and replacer (main tool)	P6031
Camshaft bushing remover and replacer (adaptors)	P6031-3
Crankshaft gear remover	P6116
Crankshaft gear replacer	P6032
Valve guide bore reamers	P6056
Oil seal remover for extension housing (main tool)	7657
Transmission extension housing oil seal remover (adaptor)	7657-4
Mainshaft hubs remover	P4090-3
Mainshaft bearing and hubs replacer	P4000-31
Dummy countershaft	P7090
Mainshaft nut wrench	P7098
Extension housing bearing remover/replacer	P7038
Clutch pilot bearing remover (main tool)	7600
Clutch pilot bearing remover (adaptor)	CPT7600-3
End plate bushing reaming fixture (main tool)	CPT9505
End plate bushing reamer	CPT9505-1
End plate bushing, remover and replacer	CPT9507
End plate replacer	CPT9508
Pole expander	CPT9509

NUT TIGHTENING TORQUE DATA	lb/ft
ENGINE	
Cylinder head bolts	65–70
Main bearing bolts	55–60
Flywheel/crankshaft bolts	45–50
Big end bolts	20–25
TRANSMISSION	
Diff. carrier housing/axle housing	15–18
Diff. bearing cap bolts	45–50
" " " lockplate	12–15
Drive gear/Diff. case	30–35

cooling system, and oil from engine. Take off engine splash shield. Remove bonnet by disconnecting its support, unscrew pivot bolt (lock washers and flat washers on each side) and lift off bonnet unit complete. Disconnect and remove battery, remove air cleaner. Disconnect and remove upper and lower radiator hoses also heater hoses. Undo mounting bolts and take out radiator matrix. Disconnect all pipes, wires and controls to engine unit including exhaust pipe at manifold flange joint. Detach heater motor unit, place to one side to increase access to engine.

Remove starter motor unit—two retaining bolts, take off crankcase breather pipe and disconnect fuel feed pipe from lift pump. Unclip and remove distributor cap, disconnecting HT lead from coil and LT lead from CB terminal on distributor. Remove splash shield on front of clutch housing. Support gearbox on suitable platform or trolley jack and remove bell housing bolts. If special lifting bracket is available (Tool No. P.6115) remove Nos. 2 & 3 sparking plugs and 2nd and 4th cylinder head securing bolts on the l/h side of head. Locate bracket ends in spark plug and recesses and bolt in bracket to cylinder head wing bolts ½in longer than those removed. When bracket is not available, position rope sling around engine unit and support weight with suitable lifting tackle. Remove two bolts securing each engine mounting to cross-tube, draw unit forward so that gearbox primary shaft clears clutch unit and lift out and up clear of car.

Replacement is reversal of removal process, care being taken to see that clutch unit is eased on to gearbox primary shaft carefully to avoid damage to shaft splines.

Crankshaft

Three main bearings, thin-wall steel backed white metal lined shells located by tabs in block and caps. Endfloat controlled by split thrust washers fitted either side of centre main bearing (grooves to crankshaft web). Washers are available .0025, .005, .0075 and .010in oversize on thickness. Undersize main bearing shells are available either standard, or .015in oversize on outside diameter.

Main bearings and thrust washers can be removed with crankshaft in place. No hand fitting permissible, bearing shells are prefinished to size.

Flywheel, with shrunk on starter ring gear is spigoted on rear flange of crankshaft, located by one dowel and retained by four setscrews and lockplate. Oil impregnated bronze pressed into flywheel, stepped side towards flywheel.

Timing sprocket, boss and timing marks to front, and fan pulley keyed on front end of shaft with long single Woodruff key and retained by setscrew and large washer in shaft end. No provision for hand starting. Composition oil seal fitted between pulley and timing gear, pulley hub passes through seal in timing cover. Rear main bearing cap bolted up with seal housing, which contains half-round oil seal, which fits around rear end of crankshaft. Lower half of similar type seal is located in grooved portion in rear face of engine sump. When refitting rear oil seal, ensure that ends do not protrude more than 1/32in from housing top face and fit new gasket to housing. Note that two bolts adjacent to sump flange are dowelled for correct location, and these should be tightened first.

Connecting Rods

"H"-section forgings, big ends, split horizontally, retained by bolts and located by dowels. Rods offset, and marked "FRONT," this side to show to front of engine when refitted. Big end bearing shells are thin wall, steel backed, white metal lined and are located by tabs in rods and caps. Gudgeon pins are fully floating, retained by circlips in piston bosses.

Pistons

Autothermic aluminium alloy, flat topped with solid skirts. Pistons are graded for size and selective fit. Four grades, 1, 2, 3, 4, sizes vary .0003in in each grade and .0012in from lower limit of grade 1 (smallest) to upper limit of grade 4 (largest). Cylinder block bores are similarly graded and grade numbers are stamped on the top face of the block. Piston grade numbers are stamped on piston crowns, also word "FRONT" for correct fitting to engine.

Graded pistons should be matched to similarly graded bores and when refitting, correct clearance is established when an 8-11lb. pull on a feeler strip .0015in thick and .50in wide is required to extract it from between a piston and cylinder when the cylinder has been wiped dry from an oiled condition.

Two compression rings and one oil control ring fitted, all above gudgeon pin. Upper compression ring is chrome plated, all rings are marked "TOP." Pistons will not pass crank throws, but big ends will pass through bores. Remove and reassemble through top.

Camshaft

Duplex single roller endless chain drive. Camshaft sprocket spigoted on end of shaft, located by one dowel and retained by two setscrews with lockplate. Remove both sprockets with chain. Thrust plate trapped between front bearing journal and spigot and retained by two bolts and lockplate.

Camshaft runs in three steel backed white metal lined bushes pressed into housings in cylinder block. When renewing bushes ensure that oil holes are in line, no hand fitting required.

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

Valves

Overhead in-line, non-interchangeable, inlet longer than exhaust. Split cone cotter fixings, single springs with close coils fitted

ENGINE DATA	
General:	
Type	ohv.
No. of cylinders	4
Bore × stroke: mm	80.9625 × 48.41
in	3.1875 × 1.906
Capacity: c.c.	996.6
cu. in	60.84
R.A.C. rated h.p.	16.5
Max. b.h.p. at r.p.m. (nett): at 8.9 : 1 C.R.	39 @ 5,000
Max. torque at r.p.m.: at 8.9: : 1 C.R.	52 lb.ft. @ 2,700
Compression ratio	8.9 : 1 std. 7.5 : 1 opt.

CRANKSHAFT AND CON. RODS.	Main Bearings	Crankpins
Diameter	not quoted	1.9370–1.9375in
Length	1.00in	1.062–1.064in
Running clearance: main bearings		.0005–.0020in
big ends		.0005–.0022in
End float: crankshaft		.003–.011in
big ends		not quoted
Undersizes		not quoted
Con. rod centres		4.611–4.612in
No. of teeth on starter ring gear/pinion		not quoted

PISTONS AND RINGS		
Clearance (skirt)		.0005–.0011in
Oversizes		+.030in. available
Weight without rings or pin		not quoted
Gudgeon pin: diameter		.8120–.8123in
fit in piston		zero to .0002in clear
fit in con. rod		.0001–.0003in
	Compression	Oil Control
No. of rings	2	1
Gap	.009–.014in	.009–.014in
Side clearance in grooves	.0016–.0036in	.0018–.0038in
Width of rings	.0775in	.1555in

COPPER LEAD WITH .001" LEAD OVERLAY.

to head. Umbrella oil seal fits around valve stems.

Valve guides plain, integral with head. Provision is made for reaming out .003in, and .015in to accommodate valves with stems oversize to these dimensions in service. After reaming, valve seats should be re-cut.

Tappets & Rockers

Plain mushroom tappets working directly in crankcase. Remove camshaft to extract.

Rockers, all unbushed and interchangeable work on hollow shaft supported in four pillars, secured and located on cylinder head by hexagon headed setbolts. Oil feed to shaft is through head drillings to No. 1 (front) rocker pillar, radial holes drilled in rocker shaft for oil way to individual rocker arms. Rockers are assembled either side of pillars, separating springs between.

Adjuster screws fit in rocker ends, secured by lock-nuts and lower ends of screws are ball-shaped for location in upper cup ends of pushrods. End rockers are retained against pillars by split pins and each has two thrust washers and a spring cup washer. Pushrods may be removed singly after adjustment has been slackened right off, but better to remove rocker shaft complete for pushrod removal.

Lubrication

Gear driven eccentric rotor type pump externally flange mounted to external oil filter element housing, which, in turn, is flange bolted to engine crankcase. Pump unit comprises an inner and outer rotor, inner rotor is shaft driven by gear pinned to drive shaft end from skew gear on camshaft. Pump may be removed after withdrawal of flange mounting bolts, as unit for further dismantling, if necessary. Non-adjustable plunger and spring relief valve fitted in pump/filter housing. Valve set to blow off at 35-40 lb/sq in and dash warning light indicates at low pressure of 5-7 lb/ sq in. Normal running pressure may be less than "blow-off" pressure, no gauge fitted.

Cooling

Pump, fan and thermostat. System is pressurized, thermostat retained in outlet elbow in cylinder head. Pump has spring loaded carbon and rubber seal unit.

Adjust fan belt by swinging dynamo (slotted link and adjuster bolt) until there is ½in slack in belt between dynamo and water pump pulleys.

TRANSMISSION

Clutch

Single dry plate, carbon thrust release bearing. Hydraulic operation of release lever, which pivots on ball-ended stud in bellhousing. Running adjustment provided on operating cylinder pushrod, 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 pressure plate and centre plate are serviced as assemblies only.

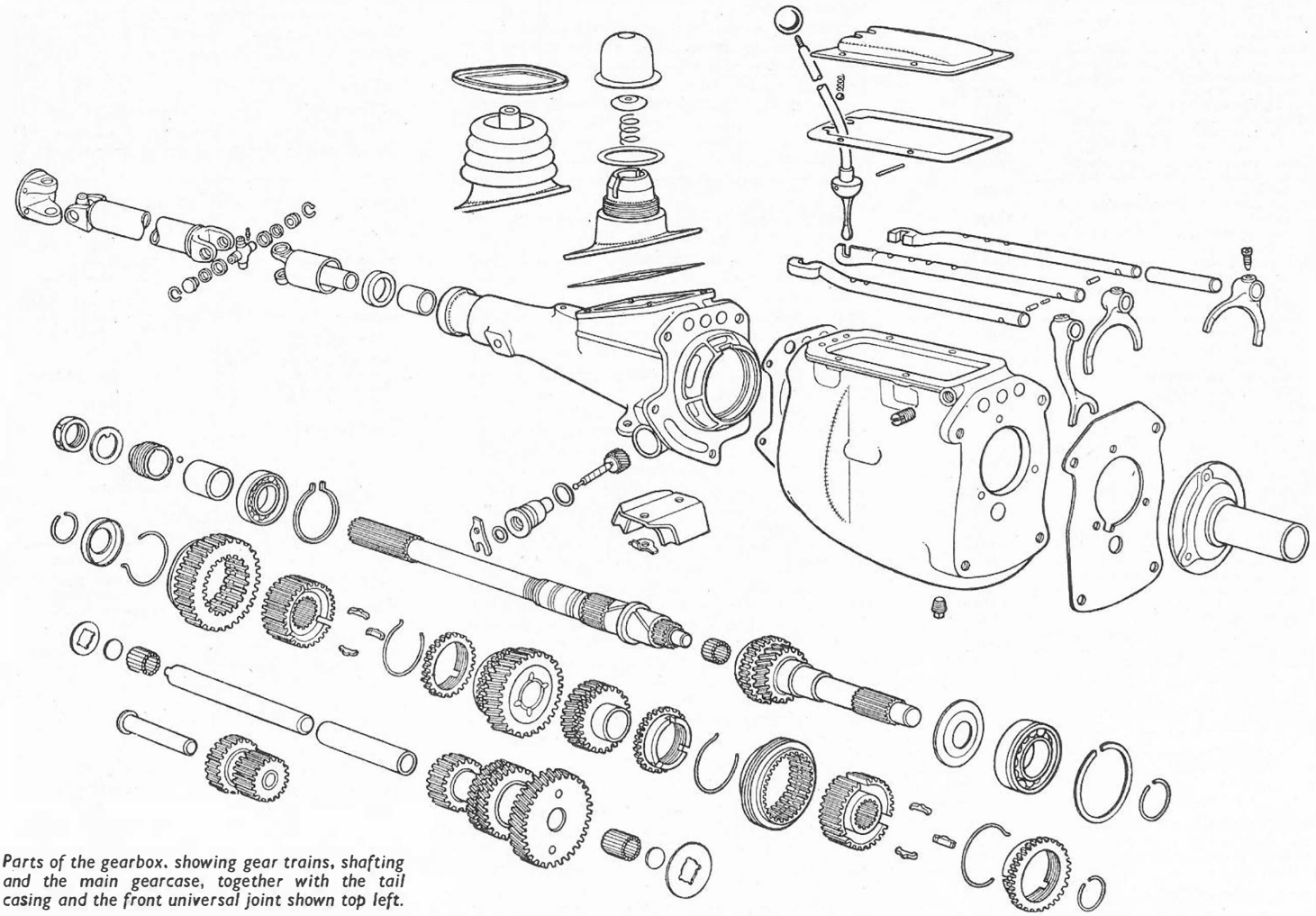
Gearbox

Four-speed synchromesh engagement on 2nd, 3rd and top gears. First and reverse are spur gears. Centre change lever of semi-remote control pattern operating selector forks and rods through simple "gate" device. Propeller shaft yoke end slides on splined end of extended mainshaft, and in bush in rear extension housing.

To Remove Gearbox

Drain oil from gearbox and disconnect battery and starter motor leads. Unscrew two flange bolts securing starter motor, withdraw motor and either remove from car or allow it to rest on engine splash shield. Remove bolts securing bellhousing to crankcase and remove splash shield from lower half of flywheel housing. Disconnect clutch release arm retracting spring, take off rubber boot from operating cylinder and remove retaining circlip from around cylinder body. Push out of its location removing boot and push rod simultaneously. (Refit boot to prevent displaced piston and subsequent loss of fluid.)

Unscrew bolt and remove speedometer cable retainer, and cable. Undo earth strap from bracket on floor. Unscrew and remove four self-locking nuts at propshaft drive flange, mark for correct replacement and pull shaft out of gearbox extension casing. Disconnect exhaust pipe at engine manifold. place gearlever in neutral, remove gaiter, unscrew ball cap and remove gearlever. Support engine as necessary, remove four bolts and lockwashers from gearbox rear



Parts of the gearbox, showing gear trains, shafting and the main gearcase, together with the tail casing and the front universal joint shown top left.

support ... ber and extract gearbox, complete with rear support from car. Release lock tabs on two bolts securing gearbox mounting to extension housing, unscrew bolts and detach mounting and crossmember.

To Dismantle Gearbox

With gearbox on bench or mounted upright in suitable stand, first remove clutch operating mechanism. To do this, remove gaiter and slide release arm out of spring clip on release bearing hub and while lifting arm off fulcrum pin, slide release bearing off main drive gear bearing retainer. Remove clutch release arm from within bellhousing. Take off bellhousing by removing four bolts and lockwashers securing it to gearcase. Drive out clutch release arm fulcrum pin if necessary.

Take off gearlever housing by removing four bolts and lockwashers securing it to extension housing. Remove gearbox top cover plate—four bolts and lockwashers, taking care to preserve selector shaft locating springs which are located in cover plate end flange. Take out selector shaft springs and balls, with gearbox in neutral, remove locking wire from selector bolt heads, unscrew square-head taper bolts selector forks to shafts. Draw out reverse selector shaft to rear, support sleeve for 3rd/4th shaft then take out shaft, followed by sleeve.

Take out 1st/2nd gear selector shaft, remove floating pin from cross drilling at forward end, rotate through 90° and withdraw it from casing. Lift off selector forks. Preserve interlock plungers. Remove extension housing by undoing five securing bolts and lockwashers, prise housing approx. ¼in away from rear face of gearbox, rotate 90° to reveal layshaft end. With brass drift free layshaft at bellhousing end and drive out layshaft with dummy shaft, allow laygear cluster to rest on casing bottom. Draw off reverse gear idler shaft and gear and with housing uppermost, gearbox on end, remove extension housing from casing. Remove primary shaft bearing retainer, three bolts and lockwashers, detach bearing circlip and press out gear and bearing into gearbox. Take out laygear and pressure needle roller thrust washers (20 each end), tubular spacer and two washers.

To Dismantle Mainshaft

Remove speedo drive gear from extension housing. Compress circlip retaining mainshaft bearing in extension housing and draw out mainshaft. On latest models nut, tab washer retains speedo drive gear. Extract locating ball and remove spacer. On earlier models expand circlip on rear of speedo gear, and slide off. Extract locating ball and remove front gear retaining circlip. Remove mainshaft bearing retaining circlip. Locate adaptors (Tool No. P4090-3) on face of 2nd gear and remove items in following order: mainshaft bearing, 1st/2nd gear synchronizer, 2nd gear blocker ring, 2nd gear. N.B. 1st and 2nd gear synchronizer/hub and sleeve are mated and bear mating marks etched on corresponding splines of hub and sleeve and hub and mainshaft. 1st/2nd gear synchronizer and hub are serviced as unit only.

Remove 3rd/4th gear synchronizer sleeve from hub also blocker bars and front spring. Using tool No. P4090-3 remove 3rd/4th synchro hub, block ring, and 3rd gear. Ball bearing may be removed from primary shaft and main drive gear, note oil slinger fitted between bearing and gear.

To Assemble Gearbox

Reverse process of dismantling, noting following points. Mainshaft: assemble 1st/2nd gear synchro unit. Reassemble mainshaft ensuring that mating marks on synchro unit correspond with those on shaft splines. Press hub on to shaft until hub rear face is level with bearing shoulder on shaft. Position large mainshaft bearing circlip over mainshaft, locate bearing on shaft and press bearing home. (Early models fit small mainshaft bearing retaining circlip to shaft.) Slide on 3rd gear, teeth to thrust collar, locate blocker ring on taper face of gear. Insert one blocker bar spring in rear of 3rd/4th synchro hub locate hub on shaft, long boss to front. Support assembly, Tool No. P4090-4, match up mating marks and press synchro hub home on shaft. Fit circlip in its locating groove. Install blocker bars and front spring. Refit sleeve to hub, note mating marks. Fit speedo drive gear, shoulder to rear on latest models and tighten retaining nut to 20-25lb/ft. Retaining circlip on earlier cars.

Install mainshaft assembly in extension housing two circlips legs locate in cutaway portion of housing. Refit speedo drive gear, note "O" ring seal. Assemble layshaft components and fit to box with dummy shaft. Install reverse idler gear (large gear to rear) allow gear to rest in box. Assemble and install primary shaft and bearing in gear, refit circlips, install 13 needle rollers in gearbox and press shaft and bearing into casing. Fit bearing retainer, ensuring that oilways, etc., line up and fit mainshaft and extension housing, inserting mainshaft assembly through rear of box, locating spigot in primary shaft bore. Fit reverse gear, also refit layshaft, reversing dismantling procedure, and bolt up rear housing. Refit bellhousing and then assemble clutch release mechanism followed by selector forks, rods, etc., ensuring that gears are correctly meshed and in neutral. Finally wire up selector shaft lock bolts and refit lever and cover, using new gaskets throughout.

Propeller Shaft

Needle roller bearing universal joints. Nipples for lubrication. No external sliding joint, front yoke end slides on gearbox output shaft.

Rear Axle

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

To remove rear axle unit complete, jack up vehicle placing supports under frame side members, in front of rear springs. Remove wheels, support axle, disconnect prop. shaft at bevel pinion flange and handbrake at N/S brake backplate, rod at O/S brake backplate and fabric strap from axle casing. Disconnect shock absorber links from spring seats, unscrew brake fluid union on flex pipe above driff carrier, fit blanking plug to prevent fluid loss. Remove spring clips, nuts and plates. Note cut out on inner side of inner clips. Always replace clips as dismantled. Draw out axle unit from O/S of vehicle. When refitting tighten spring clip nuts to 20-25lb/ft.

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

CAMSHAFT	
Bearing journal: diameter	1.5615–1.5635in
length	Front & Rear: 79in Centre: .68in
Bearing clearance	.001–.0035in
End float	.002–.007in
Timing chain: pitch	not quoted
No. of links	not quoted

VALVES	Inlet	Exhaust
Head diameter	1.262–1.272in	1.183–1.193in
Stem diameter	.3095–.3105in	.3086–.3096in
Face-angle	45°	45°
Spring length: free	1.48in	
Test length	1.263in	
at load	42½–47½lb	

CHASSIS DATA	
Clutch	
Make	Enfo
Type	sdp
Springs: no.	6
colour	not quoted
free length	not quoted
Centre springs: no.	4
colour	not quoted
Linings: thickness	.125–.135 in
dia. ext.	7.22–7.25in
dia. int.	5.00–5.01in

GEARBOX	
Type	synchromesh
No. of speeds	4
Final ratios: 1st	16.987 : 1
2nd	9.884 : 1
3rd	5.826 : 1
4th	4.125 : 1
Rev.	22.292 : 1

PROPELLER SHAFT	
Make	Enfo
Type	Open tubular, needle roller u.j.

FINAL DRIVE	
Type	semi-floating hypoid
Crownwheel/bevel pinion teeth	33/8

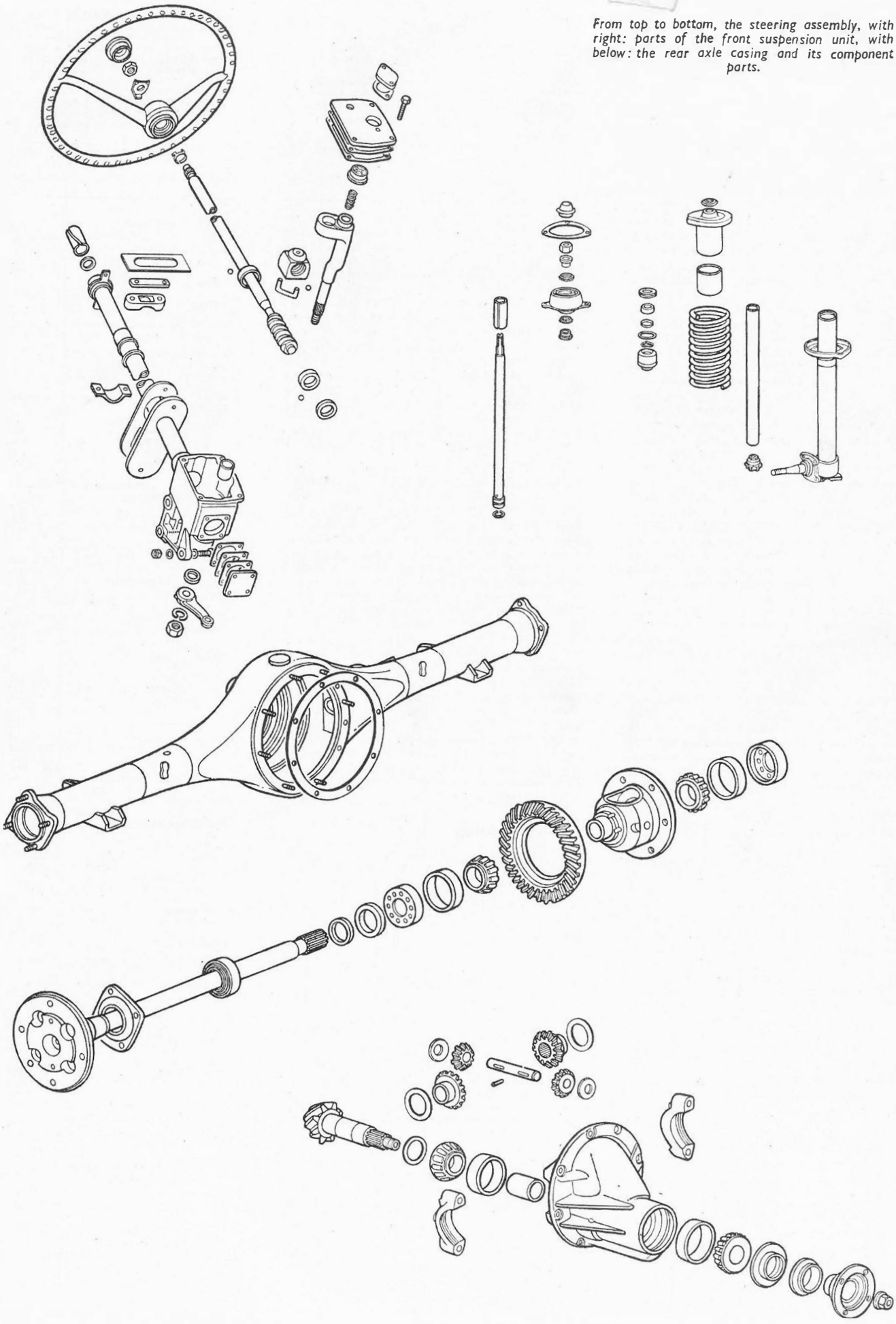
BRAKES	
Type	hydraulic: 2LS front, L & T rear
Drum diameter	8.0in
Lining: length	7.68in
width	1.25in
thickness	.187in
No. of rivets per shoe	bonded shoes

SPRINGS	Front		Rear
	Std.	Heavy Duty	
Length (eye centres, laden)	—	—	45in
Width (or wide dia. of coils)	.417-.432in	.444-.450in	2.0in
No. of leaves (or colour code coil)	Brown	Red	4 main + 1 aux.
Free (camber length, coil)	14.06in	13.25in	not quoted
Loaded camber (length, coil) at load	7.66in	8.13in	not quoted
Deflection rate	80 lb/in	100 lb/in	—

SHOCK ABSORBERS	
Make	Enfo
Type: Front	Telescopic double acting hydraulic
Service: Rear	Hydraulic-lever/arm replacement

STEERING BOX	
Make	Enfo
Type	Recirculating ball
Adjustments: column end float	shims
cross shaft end float	shims
mesh	nil

FRONT-END SERVICE DATA	
Castor	1° 30′-3°
Camber	0° 30′-2°
King pin inclination	4° 45′-6° 15′
Toe-in	⅛-3/16 in
No. of turns lock to lock	not quoted
Adjustments: castor	nil
camber	
toe-in	screwed track rod ends



From top to bottom, the steering assembly, with right: parts of the front suspension unit, with below: the rear axle casing and its component parts.

housings, with lipped oil seals (lip to bearing) behind. Bearing 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 9-11lb/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 13 thicknesses in .010in steps from .1304 to .1428in.

Crown wheels 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.

SUNDRY EQUIPMENT	Part No.
Mirror	105E-17700
Screen Jet	105E-18293 (kit)
SWITCHES	
Lighting	105E-11654-A
Foglamp / Long range driving lamp	204E-15224
Direction indicator	105E-118010
Dip	105E-13532
Stop light	105E-13480
Wiper	105E-17535
Horn push part of direction switch	
Interior combined with lamp body	
Choke	105E-9700

CHASSIS

Brakes

Hydraulic. Two leading shoe front brakes with separate wheel cylinder for each shoe. Square ended 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 two 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 mechanical linkage through cable to rear wheels. Equalizer mounted on rear of rear axle casing relays pull on handbrake by cable to backplate of one side and by a rod to other side of car. Linkages at each operating lever are pivoted in ends of wheel cylinder expander housings.

ELECTRICAL EQUIPMENT FOR FORD ANGLIA

BATTERY
Model 12 v. 38 amp hr.

GENERATOR
Part No. 105E-10001-B

CONTROL BOX
Part No. 105E-10505-B

STARTING MOTOR
Part No. 105E-11001

DISTRIBUTOR
Part No. 105E-12100-A
Max. centrifugal advance (Distributor degrees) 12/14°.
No advance below 900 r.p.m.
Centri ugal advance springs Part No. E277-CQ-1
Max. vacuum advance (dist. degrees) 5/7°.
No advance below 4 in. Hg.

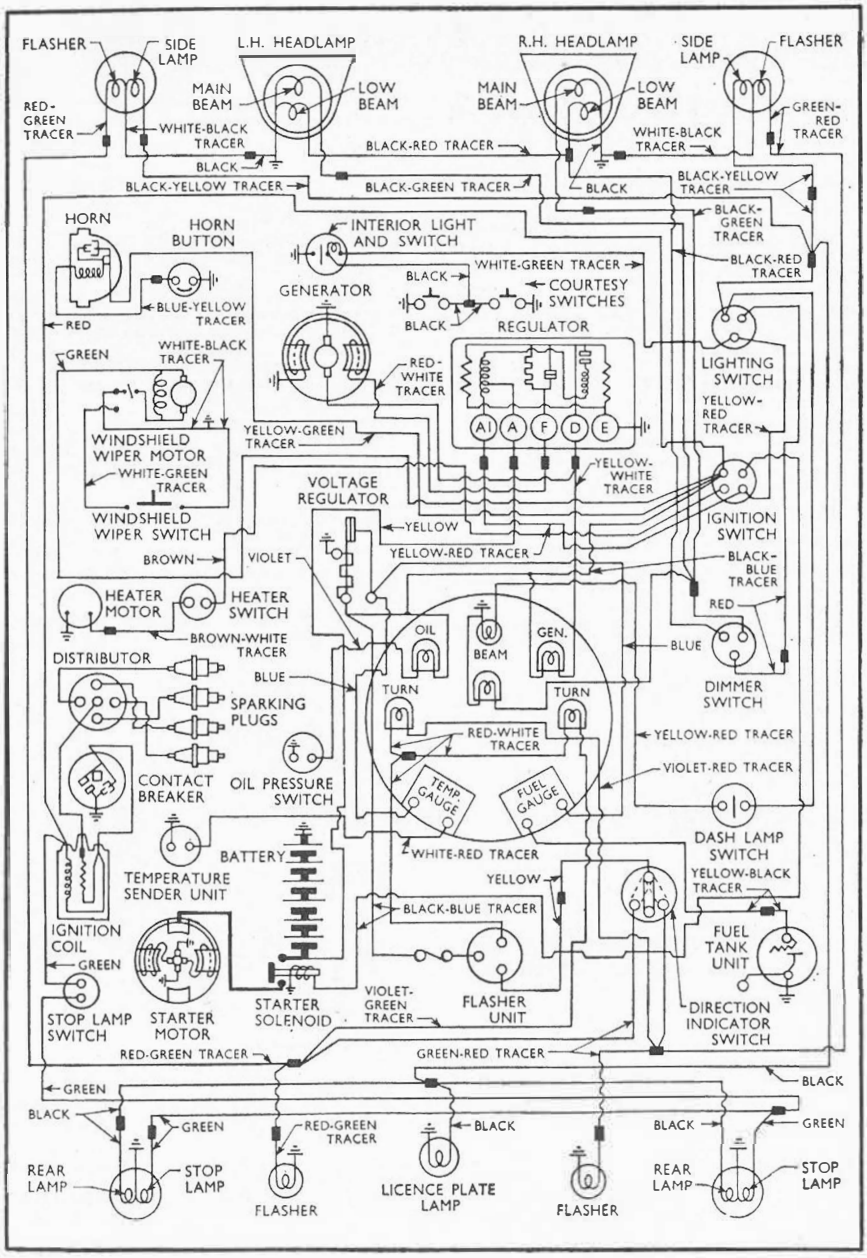
IGNITION COIL
Part No. 105E-12024-A
Primary resistance 3.2/3.4 ohms.

WINDSCREEN WIPER
Part No. 105E-17508

HORN
Part No(s) 105E-13801-B

FLASHER UNIT
Part No. 100E-13350-B

Lamps	Voltage	Wattage
Head	12	50/40
Side/flasher	12	21/6
Stop/tail	12	21/6
Rear flasher	12	21/6
Number plate	12	21
Reverse	12	6
Flasher repeater	12	2.2
Interior	12	3
Panel	12	2.2
Courtesy	12	3
Ignition warning	12	2.2
Main beam warning	12	2.2
Oil warning	12	2.2



Wiring diagram by permission of Ford Motor Co.

Rear Springs

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

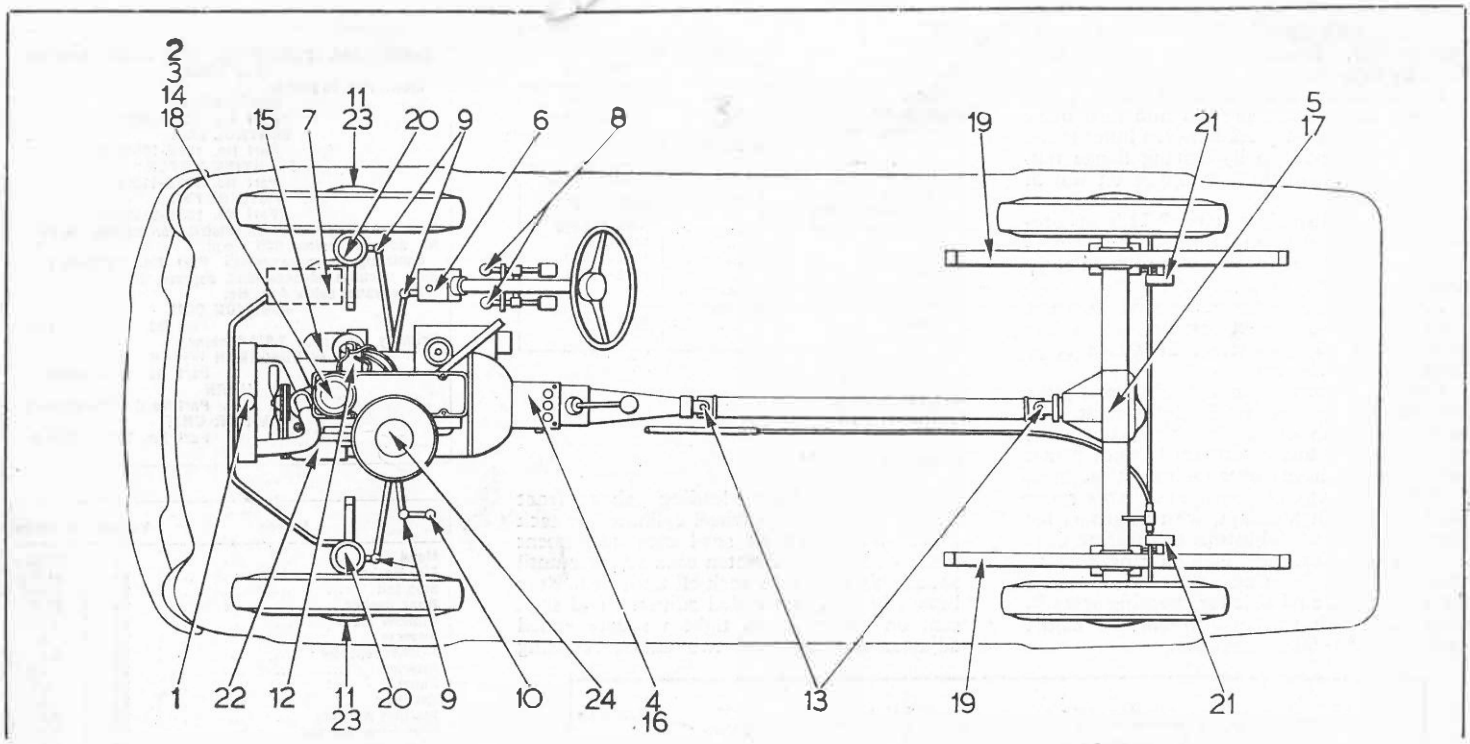
Front Suspension

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 earlier Ford Anglia cars and readers are referred to Service Data 224 for further details of assembly and overhaul procedures.

Steering Gear

Worm and nut, with nut of recirculatory ball pattern. Shaft bearing adjustment provided and controlled by shims at lower end of steering box between housing and end plate. Shims available:—.004in and .010in, with paper gaskets .0025in and .010in. Rocker shaft endfloat may be adjusted or corrected by variation of shim thicknesses between steering gear housing and top cover plate. Shims .0035in and .010in available for service, also gaskets .010in thick. N.B. It is recommended that only rocker shaft endfloat adjustment be attempted with the steering unit *in situ* in the car.



KEY TO MAINTENANCE DIAGRAM

DAILY

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

EVERY 1,000 MILES

3. **Engine sump**
4. **Gearbox**
5. **Rear axle**
6. **Steering box**
7. **Battery**
8. **Clutch and brake fluid reservoir** } check and top up
9. **Steering ball joints**
10. **Relay arm pivot** } grease gun
11. **Front wheel bearings**
12. **Distributor**—oil shaft bearing, auto advance mechanism and contact breaker pivot, smear cam with petroleum jelly
13. **Propeller shaft bearings**—oil gun filled with SAE 250 oil or multi-purpose lithium grease

EVERY 5,000 MILES

14. **Engine sump**—drain flush and refill
15. **Engine oil filter**—renew
16. **Gearbox** } drain and refill
17. **Rear axle** }
18. **Engine breather cap**—clean
19. **Rear springs**—spray with penetrating oil
20. **Front suspension units** } top up
21. **Rear shock absorbers** }
22. **Generator**—a few drops engine oil to end bearing
23. **Front wheel bearings**—remove hubs and repack with grease
24. **Air cleaner**—clean
25. **Fuel filter**

TUNE-UP DATA

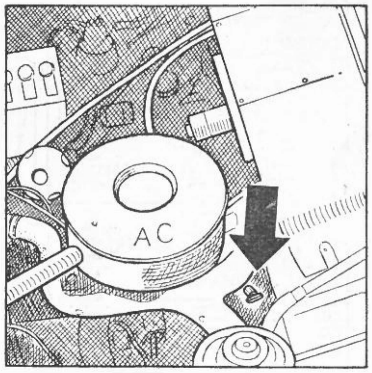
Firing order	1-2-4-3
Tappet clearance (hot): inlet	.010in
exhaust	.017in
Valve timing: inlet opens	10° BTDC
inlet closes	50° ABDC
exhaust opens	44° BBDC
exhaust closes	10° ATDC
Standard ignition timing	10° BTDC
Location of timing mark	c/shaft pulley and pointer on timing cover.
Plugs: make	Champion
type	N5
size	14 mm.
gap	.023-.028in
Carburettor: type	downdraught
Settings: Choke	22 mm.
Main jet	115
Economiser jet	140
Economiser air correction jet	195
Idle jet	40
Idling air correction jet	150
Main air correction jet	175
Starter jet	125
Air cleaner: type	oil wet
Fuel pump: type	mech.
pressure	1½-2lb/sq. in

FILL-UP DATA

	Pints	Litres
Engine sump (including filter)	4½	2.56
Gearbox	1¾	.99
Rear axle	2	1.13
Cooling system (without heater)	10¼	5.82
(with heater)	11¼	6.39
Fuel tank	7 galls	31.82
Tyre pressures: front / rear	22 lb/sq in	1.54 kg/cm²

DRAINING POINTS

Left: shows the radiator matrix drain tap situated directly beneath the radiator, access from below, and right: the cylinder block drain tap at the nearside rear of the engine block casting.



APPROVED LUBRICANTS

	Duckhams	Castrol	Esso	Shell	Mobil	Vigzol	B.P.
Engine: Summer and winter	NOL 20	Castrolite	Extra Motor oil 20W/30	X-100 20/20W or Multigrade 10W/30	Mobiloil Arctic or Mobiloil Special	New D20/20W or Vitaflow 10W/30 Motor oil	Energol SAE 20W or Energol Visco-static
Gearbox, steering box	NOL EP 80	Castrol Hypoy Light	Gear Oil GP 80	Spirax 80 EP	Mobilube GX 80	Hyex 80	Energol EP SAE 80
Rear Axle	Hypoid 90	Castrol Hypoy Gear oil	Gear Oil GP 90	Spirax 90 EP	Mobilube GX 90	Vitapoid 90	Energol EP SAE 90

Approved lubricants of similar grades and SAE ratings are also supplied by Regent Oil Co. Ltd.

Printed in England by Cornwall Press Ltd., Paris Garden, London, S.E.1.