

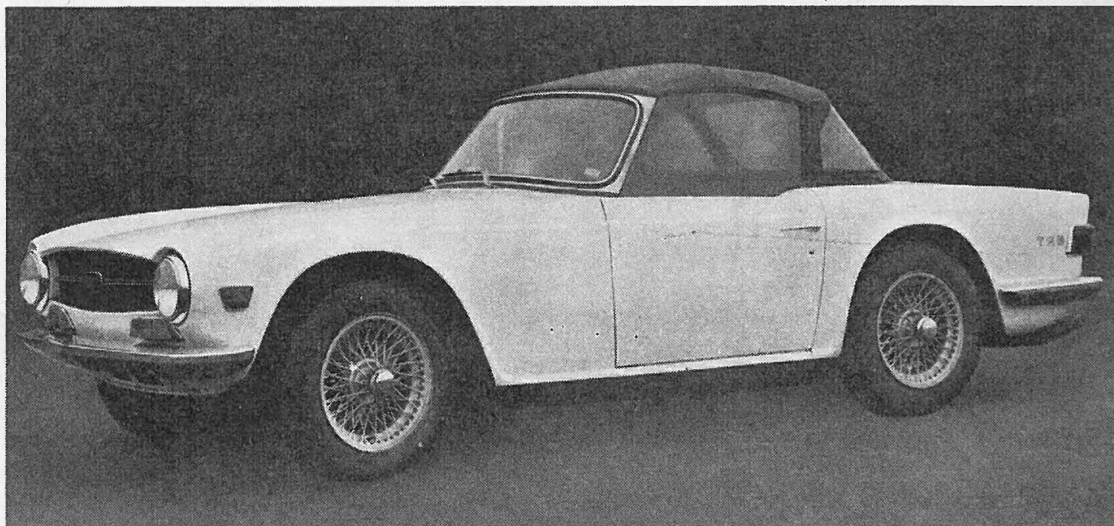
Motor Trader

SERVICE DATA No. 487

Triumph TR6

Manufacturers: Standard-Triumph International, Coventry

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Front-end treatment and a matt-black tail readily distinguishes the TR6 from its earlier counterparts.

LATEST and fastest of the line of sports cars produced by S-T I, the TR6 is the only current production British sports car to use petrol injection equipment as standard.

In other respects the vehicle is a conventional sports car, using the uprated six cylinder 2,498cc engine as fitted to the Triumph 2.5 saloon. The engine produces a peak performance of 150bhp at an engine speed of 5,500rpm working at a compression ratio of 9.5:1.

Transmission of the drive is taken through a single dry plate diaphragm clutch to a four speed all synchromesh gearbox and from the output shaft of the gearbox via an open propeller shaft to the hypoid bevel drive unit contained within the axle casing. Overdrive is available as an extra.

Suspension is independent all round and the drive to the rear road wheels is taken through short universally jointed drive shafts.

The suspension system is mostly TR4A with coil springs and wishbones at the front. Telescopic shock absorbers are situated within the coil springs.

Rear suspension comprises semi trailing arms with coil springs controlled by direct acting hydraulic lever dampers, the only immediately obvious divergence from TR4A specification being the repositioning of the suspension bumpstops to afford greater protection to the brake feed pipes and handbrake adjusting mechanisms.

As is customary with Triumph vehicles, the TR6 model is identified by commission and unit numbers. The commission, paint and trim numbers are located on the scuttle panel and are visible on lifting the bonnet.

Threads and hexagons are, in the main, of the Unified thread series, pattern and form.

ENGINE

Mounting

At front, composite steel/rubber units are bolted up (2 screwed studs) to front mounting brackets which are, in turn, bolted up to threaded crankcase casting bosses. Outer ends of mounting rubber units are bolted up to extensions on chassis frame (2 bolts).

At rear, rubber block is mounted to removable cross-member which supports rear end of gearbox tailcase. Tighten all mounting bolts and nuts fully when refitting.

Removal

Although the engine may be removed without gearbox, S-T. I don't recommend that it is, as they say there is a 50-50 chance of breaking the diaphragm clutch.

Assuming use of a suitable hoist, engine and gearbox removal procedure is as follows: Drain cooling system and remove bonnet. Remove battery and air intake manifold. Release water hose connections and undo bolts securing radiator before lifting it out. Remove "U"-clamps securing steering box to the cross-member, then remove cross-member.

Draw the steering box assembly forwards otherwise it will not clear the crankshaft pulley.

Disconnect all pipes, wires and controls to and from the engine unit. Note: If fuel in tank is above

metering unit, fuel will syphon through feed pipe which should therefore be plugged.

Remove inlet and exhaust manifolds and also starter motor. Unfasten and remove both seats, then remove carpets from footwells and gearbox tunnel. Reversing light and overdrive relay cables, if fitted, should be removed. Unscrew gear lever knob and remove gear lever boot. The gearbox tunnel can now be removed from the passenger's side. Disconnect prop shaft at gearbox flange and also the exhaust bracket and gearbox mounting. Disconnect clutch slave cylinder bracket from bell housing and remove clevis pin from actuating rod. Slacken gearbox mounting and support bracket.

Speedometer cable end must then be removed, after which remove the gearbox cover. These operations complete, attach sling to engine lifting eyes and adjust to take the engine's weight. Then remove the front mounting bracket adjacent to steering mast and remove two securing bolts from its opposite counterpart. Next support the weight of the engine at the gearbox. Remove the gearbox mounting and its support plate. Lower gearbox clear of vehicle then commence lifting operation.

Replacement of engine/gearbox assembly is a reversal of the dismantling procedure, taking care to renew locking devices and all nuts, bolts, etc., which may be defective and unsuitable for use.

Crankshaft

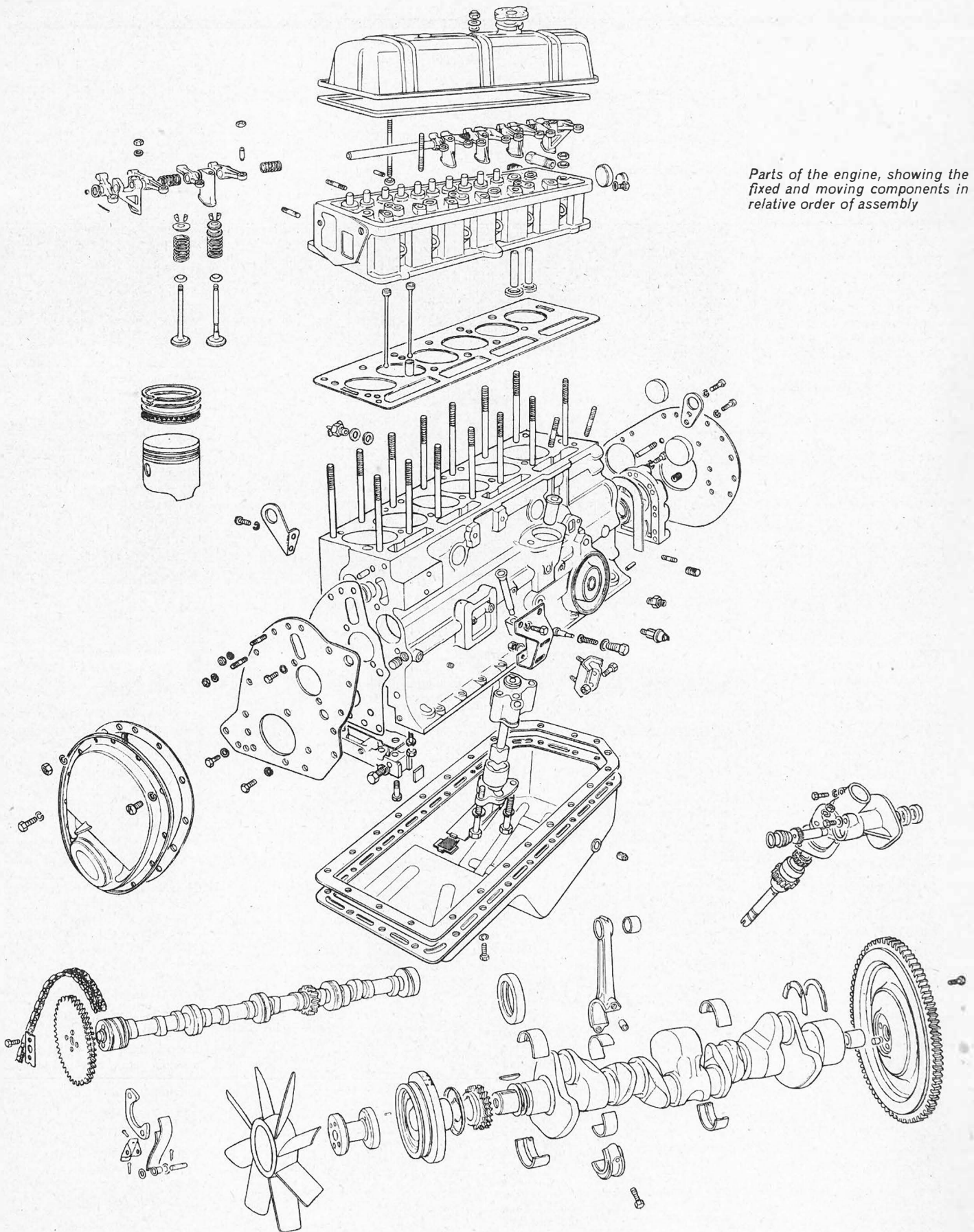
Four main bearings. Steel-backed white metal-lined shells located by tabs in block and caps. No hand fitting permissible. Shells may be removed and replaced with engine in position, but only in emergency. End float controlled by split thrust washers fitted either side of rear main bearing. Oversize sets of washers available.

Flywheel fitted with shrunk-on ring gear, spigoted on rear flange of crankshaft and retained by four $\frac{1}{2}$ in bolts and located by one dowel. Oilite spigot bush in crankshaft boss. Camshaft drive sprocket and fan pulley keyed to front end of shaft with long Woodruff key, and retained by bolt. Dished oil thrower fitted between crankshaft sprocket and timing cover. Hub of fan pulley passes through lipped renewable oil seal pressed into timing cover.

Sealing block fitted to front end of cylinder block, rear oil seal, retained on rear face of block by seven set-screws. When fitting front sealing strips, tap in wooden filler pieces and trim flush with crankcase face. Rear oil seal is lip type seal contained in housing. Composition seal fitted around sump flange.

Connecting Rods

"H"-section stamping. Big ends thin wall steel backed white metal-lined shells located by tabs in rod and cap. No provision for hand fitting, rod split diagonally for removal



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

through bores and cap, dowel located on rods. Clevite split small end bush pressed in. Fully floating gudgeon pin located by circlips in piston. Fit with short shoulder of big end to camshaft side. Tighten bolts to torque figure specified.

Pistons

Aluminium alloy, flat topped cut-away skirt. Pistons graded into three sizes of standard dimensions, "F", "G" & "H", identified by one of these letters stamped on the piston crown. Grades of piston are matched with grade of cylinder bore by selective assembly. Identification mark of bore grade stamped on casting adjacent to bore in cylinder block.

Two compression rings and one 3-piece scraper ring are fitted above fully floating gudgeon pin.

Remove rod and piston assembly complete through bore; fit with arrow on piston head pointing towards the timing cover. When renewing gudgeon pin bushes, they should be broached to .0024in. Fit of pin is selective and should be tight push fit at room temperature.

Camshaft

Duplex roller chain drive with spring tension. Shaft runs in machined bores in cylinder block casting. End thrust is taken and location is effected by "C"-plate fitted to front engine plate, and retained by two setscrews. Driven wheel retained by two setbolts on camshaft end boss. Provision made for adjustment of chain wheel to give 1/4-tooth variations in valve timing.

Valves

Overhead non-interchangeable inlet larger than exhaust. Double springs for each valve, secured by split cone collets. Fit springs with close coils to cylinder head. Valve guides plain, no shoulder, press in from top until guide projects 3/4in from top of cylinder head. Inserts pressed in when required.

Tappets and Rockers

Plain barrel tappets sliding directly in crankcase. Tappets may be removed with long-nosed pliers after removal of cylinder head. Rockers

are offset left- and right-handed in pairs, drilled for lubrication and run direct on hollow shaft. Each pair operates either side of rocker post and intermediary rockers are separated by long coil springs. Oil fed from gallery is metered by grooved camshaft rear bearing and delivered via head drillings to rear rocker pedestal, and thence to shaft and individual rockers. Tappet clearance must be set to .040in for timing and .010in (cold) for normal running.

Lubrication

Hobourn-Eaton eccentric double rotor type pump, spigoted and flange bolted in sump. Centre rotor driven by shaft pressed into rotor and pegged in position. Upper end of rotor drive shaft engages with tongue on distributor shaft. Three long bolts attach pump body to cylinder block. Pump may be removed with engine in position. Oil pressure warning light provided on dashboard and cuts out at an oil pressure of 3-5 psi. Normal running pressure above 40 psi. Full flow filter fitted.

Non-adjustable spring loaded

release valve housed on near side of crankcase.

Cooling System

Pump and fan. Non-adjustable wax element thermostat retained in outlet port of pump body by outlet elbow. Fan belt adjustment provided by swinging alternator unit. Correctly adjusted belt has 3/4in play in longest run.

TRANSMISSION

Clutch

Laycock single dry plate, diaphragm spring pattern, hydraulically operated. Actuating cylinder mounted on bulkhead and connected to slave cylinder mounted on bell-housing, by pressure hose. Access to clutch unit for servicing after removal of gearbox.

Gearbox

Four-speed, synchromesh engagement on all forward gears, control by remote centre lever.

NUT TIGHTENING TORQUE DATA		
	Bolt size (in)	lb.ft.
ENGINE		
Con. rod bolts	3/8UNF	38-42
Cylinder head studs	7/16UNF	65-70
Front engine plate	5/16UNF	18-20
Main bearing bolts	7/16UNF	55-60
Rocker pedestals	3/8UNF	24-26
Rear engine plate	5/16UNF	18-20
Distributor to P1 pump pedestal (stud)	5/16UNF	12-14
Distributor to pedestal (set-screws)	5/16UNF	18-20
Petrol injection nozzle attachment	1/4UNF	6-8
GEARBOX		
Clutch housing cover attachment	5/16UNF	16-18
Clutch slave cylinder attachment	5/16UNF	18-20
Gearbox extension	5/16UNC	14-16
Gearbox front cover	5/16UNC	16-18
Overdrive adaptor plate	5/16UNC	16-18
Propshaft flange/mainshaft	3/4UNF	80-120
Propshaft attachment	3/8UNF	24-26
Gearbox top cover	5/16UNC	14-16
Top-up and drain plugs	3/8UNF	20-22
REAR AXLE		
Bearing caps/housing	3/8UNF	34-36
Crown wheel/housing	3/8UNF	34-36
Hypoid housing/rear cover	5/16UNF	18-20
Inner driving flange/inner axle	5/8UNF	100-110
Oil seal housing/hypoid housing	5/16UNF	16-18
Prop. shaft flange/pinion	5/8UNF	90-100
FRONT AND REAR SUSPENSION		
Brake disc attachment	3/8UNF	32-35
Caliper and shield attachment	7/16UNF	50-55
Lower wishbone mounting bracket/frame	3/8UNF	28-30
Lower wishbone to vertical link	9/16UNF	45-60
Lower wishbone to mounting bracket	1/2UNF	45-50
Stub axle/front hub (see text)	1/2UNF	—
Upper wishbone/fulcrum pin	7/16UNF	26-40
Upper wishbone/fulcrum/chassis frame	3/8UNF	28-30
Rear hubs	5/8UNF	100-110
Wheel attachment	7/16UNF	55-60

SPECIAL TOOLS	
	Part No.
ENGINE	
Con. rod arbor adaptor	S336-3
Con. rod arbor adaptor	S336-4
Con. rod aligning jig	335
CLUTCH AND GEARBOX	
Clutch assembly fixture	99A
Multi-purpose hand press	S4221-A
Shaft remover—main tool	4235
Constant pinion shaft remover (adaptor)	S4235A-2
Mainshaft ball bearing replacer	S.314
Mainshaft ball bearing remover	S.4421A-15
REAR AXLE	
Differential case spreader	S.101
Pinion holding adaptor	S.316
Rear hub adjusting nut wrench	S.317
Halfshaft assembly holding jig	S.318
Outer hub taper bearing remover replacer adaptors	S.4221A-16
FRONT SUSPENSION	
Front suspension spring clips	S.320
Rigid wing spats	S.321
Spring compressor	S.112

CAMSHAFT	
Drive type	
Bearing journal: diameter	1.8402-1.8407in
Bearing clearance	.0026-.0046in
End float	.004-.008in
Timing chain: pitch	.375in
no. of links	62

VALVES		
	Inlet	Exhaust
Head diameter	1.441-1.445in	1.256-1.260in
Stem diameter	.3107-.3112in	.310-.3105in
Face-angle	45°	45°
Overall length	Inner	Outer
Spring length: free	1.56in	1.57in
outer dia.	.73in	—
inner dia.	—	.795in
rate fitted	28.5lb/in	150lb/in—3°/s

ENGINE DATA	
General Type	
No. of cylinders	6
Bore x stroke: mm	74.7 x 95
in	2.94 x 3.74
Capacity: cc	2,498
cu in	152
Max. bhp at rpm	150-5500
Compression ratio	9.5:1

TUNE-UP DATA	
Firing order	1-5-3-6-2-4
Tappet clearance (cold): inlet	0.010in
exhaust	0.010in
Valve timing:	
inlet opens	35° BTDC
inlet closes	65° ABDC
exhaust opens	65° BBDC
exhaust closes	35° ATDC
Standard ignition timing	11° BTDC
Location of timing mark	Timing cover pointer/fan pulley
Plugs: make	Champion
type	N9Y
size	14mm
gap	.025in
Fuel injection equipment: make	Lucas Mk. II
metering unit	vacuum controlled
fuel pump pressure	shuttle type
injectors open	106-110psi
	40-50psi

GENERAL DATA	
Wheelbase	7ft 4in
Track: front	4ft 2 1/4in
rear	4ft 1 3/4in
Turning circle	33ft
Ground clearance	6in
Tyre size	185SR-15*
Overall length	12ft 11in
Overall width	4ft 10in
Overall height	4ft 2in
Weight	2,324lb (dry)
*15X optional	

CRANKSHAFT AND CON. RODS			
Diameter	Main Bearings		Crankpins
	2.311-2.3115in		1.875-1.8755in
Width (in)	Inter	Rear	0.9066-0.9085in
	1.111-1.121	1.36-1.362	
Running clearance: main bearings			.001-.0025in
big ends			.0016-.0035in
crankshaft			.004-.006in
big ends			.008-.012
Undersizes (in)			.010, .020, .030
Con. rod centres			6.250+ .002

PISTONS AND RINGS		
Clearance (skirt)		.008-.015in
Oversizes		.010, .020, .030in
Weight		4dr
Gudgeon pin: diameter		.8123-.8125in
fit in piston		fully floating
fit in con. rod		fully floating
No. of rings	Compression	Oil Control
	2	1
Gap { top	.012-.017in	ring ends to butt
second	.008-.013in	
Side clearance		
in grooves	.0025-.003in	.0007-.0027in
Width of rings	.0615-.0625in	.1265-.1275in

Removal

The gearbox can be removed without taking out the engine in following manner: Take out floor section and unscrew gearlever, first removing cover housing which is held *in situ* by long, screwed pin-bolt.

Remove speedo cable and cables for overdrive/reverse light.

Take weight of gearbox with a suitably placed jack and uncouple front propeller shaft flange (four bolts). Arrange overhead slings or pulley to take weight of engine and after making sure the engine will remain in position, remove gearbox rear mounting and cross-member and steady bracket. Uncouple bolts around the flywheel housing and lift gearbox unit rearwards and upwards so as to clear the dash panel and out of car.

To Dismantle Gearbox

With box on bench, remove securing bolts, spring washers, top cover, and gasket. Withdraw taper bolt, cross-shaft, release bearing, sleeve and fork. Remove Wedglok bolts and washers, detach front cover and plate. Remove rear extension by extracting peg bolt and spring washer, draw out speedo drive gear assembly; remove split pin, slotted nut and plain washer and withdraw flange, remove bolts and spring washers securing extension and draw off (Churchill Tool No. 20 S/63).

Insert Phillips screwdriver and remove layshaft securing screw and retaining plate. Withdraw shaft, and

reverse pinion shaft. With Tool No. S4235A extract primary shaft from box, after which, remove locating circlips and spacer washer. To draw off race use Tool No. S4221-2 and if necessary extract spigot needle roller bearing. Detach mainshaft rear race (Tool No. S4221 A/15), and manoeuvre shaft assembly out of box, lift out layshaft cluster and reverse pinion. Remove laygear from hub, if necessary, and needle bearings from hub bore. With Tool No. 20 SM69 remove securing circlip from mainshaft (3rd speed gear) and draw off gears and components. Remove 1st/2nd and 3rd/4th synchro inner hubs from outer sleeves, preserve spring and balls.

To Re-assemble Gearbox

Reverse dismantling procedure noting following points: Layshaft: when assembling, use stepped drift and fit new needle roller bearing (lettered face outwards) into each end of hub. Refit gears to shaft in reverse order of dismantling. Stick on thrust washers with thick grease, lower cluster into box and fit layshaft. Check end-float which should be .007-.012in. Reduce excessive end float by selective use of thrust washers and distance pieces. End float of mainshaft gears on bushes should be .004-.006in. Fit new bush to increase float, reduce bush length to decrease float. Overall end float of mainshaft with gears and bushes assembled may be .003-.009in, obtain minimum end-float by selective use of thrust washers. Following thrust washers available (coloured

for identification), in sizes: .120-.118in—self finish; .123-.221in—green; .126-.142in—blue; .129-.127in—orange. Check end-float of 1st speed gear to be .003-.009in.

When re-assembling synchro units fit synchro springs, shims and balls to hubs, together with outer sleeves. Axial release load should be 3rd/4th: —19-21lb; 2nd/1st:—25-27lb. Add or decrease shims beneath synchro hub springs to achieve release load figures within these tolerances. Assemble mainshaft components on shaft and install in box, assemble primary shaft and ball-bearing; note, circlip groove to front. And replace front cover. Refit layshaft, using tapered pilot bar followed by layshaft; refit keeper plate, etc., and refit rear extension housing and speedo drive gear components; insert selector forks, and, finally, refit top cover, complete with selector shaft mechanism.

CHASSIS

Brakes

Servo-assisted dual braking system is used with Girling disc type at front, leading and trailing arrangement on rear wheels.

Disc brakes take the form of two segmental pads, hydraulically operated, and are housed in cast iron framework, which work on steel plates bolted up to wheel hubs. These plates replace the brake drums. Linings for the disc brakes are bonded to steel plates. Each is easily accessible for replacement or

wear checks to be made. To replace the pads, remove retaining clips and pins. Remove pads and shim plates. Fit plates with arrow in D.O.R. of wheels.

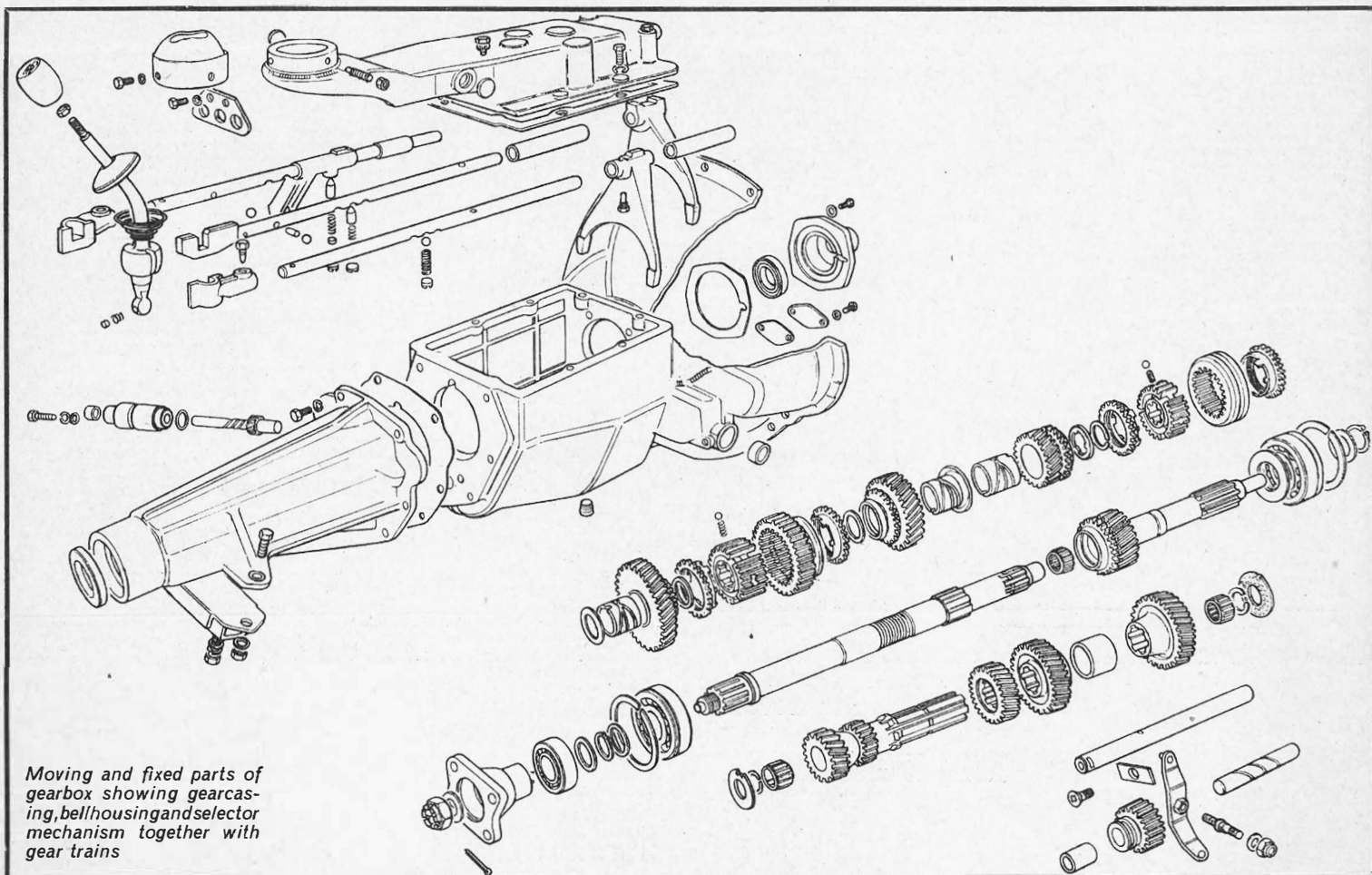
Adjustment of front hub bearings is critical, due to rotational plane of friction discs, excessive clearance in hub bearings showing up as "rock" of discs. To permit fine adjustment of hubs, two holes are drilled in stub axle thread which allows hub nut adjustment of half-a-flat. Do not preload bearings.

Leading and trailing shoes in rear drums, with floating cylinder incorporating expander adjuster unit for cable operation through hand-brake.

Rear brakes have square adjuster on backplates. Turn each clockwise until brakes bind then back-off until drum rotates freely (one or two clicks).

The dual braking system incorporates a pressure differential warning actuator (PDWA). If the PDWA shuttle needs to be recentralised, a fact spotlighted by the brake warning light glowing brightly (probably during air-bleeding), then adopt the following procedure:—

Fit a rubber tube of approximately 1/4in bore diameter to a brake bleeding screw at the opposite end of the car to that which has just been bled. Open the bleed screw. Switch the ignition on *but do not start the engine*. The brake warning light will glow but the oil warning light will remain extinguished. Exert a steady pressure on the brake pedal until the brake light dims and the oil light



Moving and fixed parts of gearbox showing gearcasing, bellhousing and selector mechanism together with gear trains

glows. A click should be felt on the pedal as the shuttle returns to its mid-position. Tighten the bleed-screw.

NOTE: If the pedal has been pushed too hard the shuttle will move to the other side of the valve, thus requiring the procedure to be repeated on a brake at the opposite end of the car.

Rear Axles

Final drive unit of the hypoid bevel swing-axle is bolted up to a carrier, which is, in turn, bolted to the body. Pinion shaft housing is carried at apex of "V"-shaped channel section axle/suspension unit mounting member. Outer extremities of the member carry mounting plates, rubber insulation buffers and centre bolt for attachment to body. Drive is transmitted to road wheels via short universally jointed drive shafts, coupled to driving flanges either side of differential casing. Hubs, keyed to outer tapered ends of drive shafts, run on ball bearing at outer ends, and needle roller races at inner ends. Four-stud hub flanges have lipped oil seal behind, and hubs are retained by $\frac{1}{2}$ in slotted nut. Outer ends of drive shafts and hubs are carried by wishbone type aluminium alloy castings, inner ends are bushed and pivot on hardened steel bolts. Pivot carriers are bolted up to rear side of either arm of mounting member.

These specifications are identical to those of the TR4A, with the

exception of the differential housing, which has been strengthened.

Rear Suspension

Semi-trailing arms, cast in an alloy material, incorporate lugs behind drive shafts for the lever arm shock absorbers. Coil springs are used.

Front Suspension

Independent with coil spring and double wishbone link. Inner pivots of upper and lower links have rubber bushes. Stub axle pins are spigoted in their respective vertical links and retained by nuts and split pins. Complete suspension assemblies are symmetrical and interchangeable from side to side except for steering arms. Upper end of each vertical link terminates in ball pin working in sealed ball socket bolted through both arms of upper wishbone. Lower end of each vertical link is threaded, working in bronze swivel housing. Serrated pin pressed into housing carries bronze bushed outer ends of lower link arms. Assembly on each side of housing consists of inner thrust washer with rubber seal link arm, outer thrust washer with rubber seal, link arm, outer thrust washer with rubber seal (same as inner) registering in stepped washer with serrated bore, which fits serrations on outer end of pin. Assembly retained by plain washer and split pinned nut. With oil seals removed, tighten nut until .006in feeler is

nipped between thrust washer and link arm giving .004-.008in end float when nut is locked and seals correctly replaced.

Alternative method is to tighten nut fully, all slack removed, and back of nut 1-1 $\frac{1}{2}$ flats to obtain state of free movement, without slack.

To remove spring (telescopic shock absorber inside); jack up front of vehicle: remove road wheels. Remove damper. Assemble special tool No. S112 and compress road spring until lower wishbone arms are horizontal. Remove spring pan securing nuts, bolts and spring-washers. Fit two guide rods to spring pan and lower wishbone arms ($\frac{3}{8}$ x 6in). Support suspension unit, unscrew wing nut on special tool and release spring tension. Dismantle spring compressor, detach spring pan, pads, spring and packing.

To dismantle suspension assembly: remove spring and shock absorber, disconnect brake fluid pipe, and track rod from steering arm. Undo nut inside upper link, holding upper ball joint to two halves of upper link. Detach lower link inner pivot brackets from chassis and remove vertical link and lower link assembly.

When reassembling the vertical link in lower swivel housing, screw in until rubber seal is just nipped, and back off until full movement is available.

Tighten inner pivot bearing nuts (upper and lower) when weight of

car is on springs. Tighten lower inner pivot brackets to chassis last.

Hubs run on taper roller bearings. Adjust by tightening castellated nut to tolerances mentioned previously. Felt oil seals in retainers pressed into hubs outside inner bearings.

Track rods have sealed ball joints. Tie rod ends screwed left- and right-hand for track adjustment, and locked by nuts.

Suspension Arm Removal

After removal of spring, drain brake system and disconnect brake hose and handbrake cable from backplate. Support suspension arm with a jack under the spring well and disconnect the damper. Release suspension arm by removing 4 bolts, noting number and location of shims removed.

Steering

Rack and pinion. Outer ends of rack connected to each stub axle by short track rods. Column universally jointed and provision for mesh adjustment is made by shims under damper pad flange nut. Provision for adjustment of end float of rack is made by insertion or removal of shims under pinion end plate cover.

Shock Absorbers

Telescopic units are fitted to front of car and lever arm dampers to rear. Replacement units available.

CHASSIS DATA

Clutch Make	Laycock
Type	diaphragm
Diameter	8 $\frac{1}{2}$ in
Flywheel face cover	2.05in
Maximum travel	.290in
Centre springs: no colour	6
Linings: thickness (under 90lb load)	.290in
Dia. ext.	8.0in
Dia. int.	5.75in

GEARBOX

Type	synchromesh
No. of forward speeds	4
Final ratios: 1st	10.83:1
2nd	6.94:1
3rd	4.59:1
4th	3.45:1
Rev.	11.11:1
Overdrive ratio	.82:1

PROPELLER SHAFT

Type	needle roller brg U.J.
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FINAL DRIVE

Type	hypoid bevel
Crownwheel/bevel pinion teeth	38/11

STEERING BOX

Make	Alford & Alder
Type	rack and pinion
Adjustments:	
column end float	} shims
cross shaft end float	
mesh	
	shims under damper pad

BRAKES

Type	Girling-disc front, drum rear	
	Front	Rear
Drum diameter	—	9in
Disc diameter	10 $\frac{7}{8}$ in	—
Disc run-out	.002in	—
Lining: length	—	8.66in
width	—	1.75in
thickness	—	$\frac{3}{16}$ in
No. of rivets per shoe	—	12

COIL SPRINGS

	Front	Rear
Wire diameter	0.48in	0.505in \pm
	.002in	.002in
No. of working coils	5 $\frac{1}{4}$	6 $\frac{3}{4}$
Rate	312lb/in	349lb/in
Free length	10.03in	10.92in
Fitted length	8.12in \pm	7.45in \pm
Fitted load	925lb	1,280lb

SHOCK ABSORBERS

Type	Telescopic front and rear replacement
Service	

FRONT-END SERVICE DATA

Castor	2 $\frac{3}{4}$ ° \pm 1 $\frac{1}{2}$ °
Camber: front	1 $\frac{1}{4}$ ° neg. \pm 1 $\frac{1}{2}$ °
rear	1° neg. \pm 1 $\frac{1}{2}$ °
King pin inclination	9 $\frac{1}{4}$ ° \pm 3 $\frac{1}{4}$ °
Toe-in	parallel to $\frac{1}{16}$ in toe-in
No. of turns lock to lock	3 $\frac{1}{4}$
Adjustments: castor	Nil
camber	
toe-in	screwed track rod ends

ORDER OF CYLINDER HEAD STUD NUT TIGHTENING

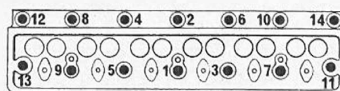
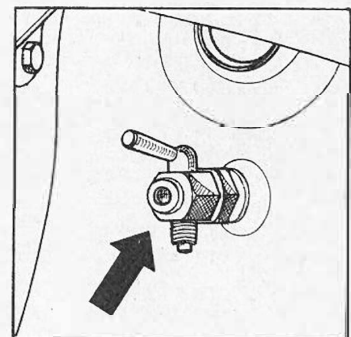
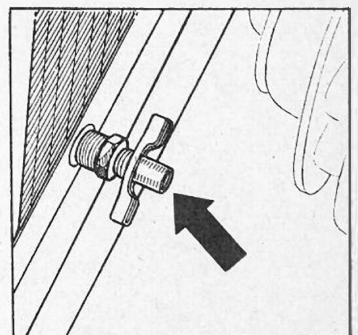


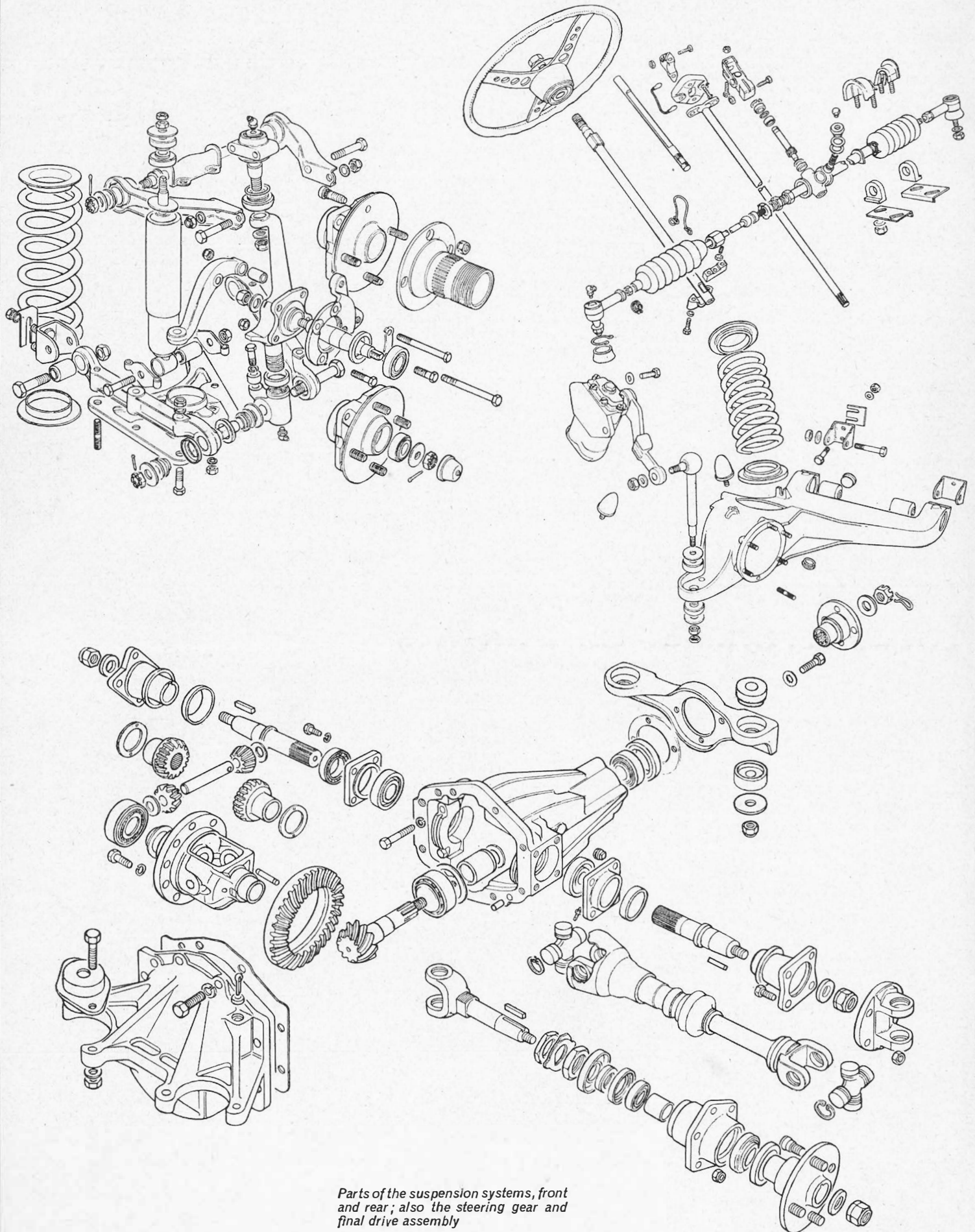
Diagram showing order of tightening cylinder head stud nuts. See also table of "Nut Tightening Torque Data" p iii col. i

DRAINING POINTS

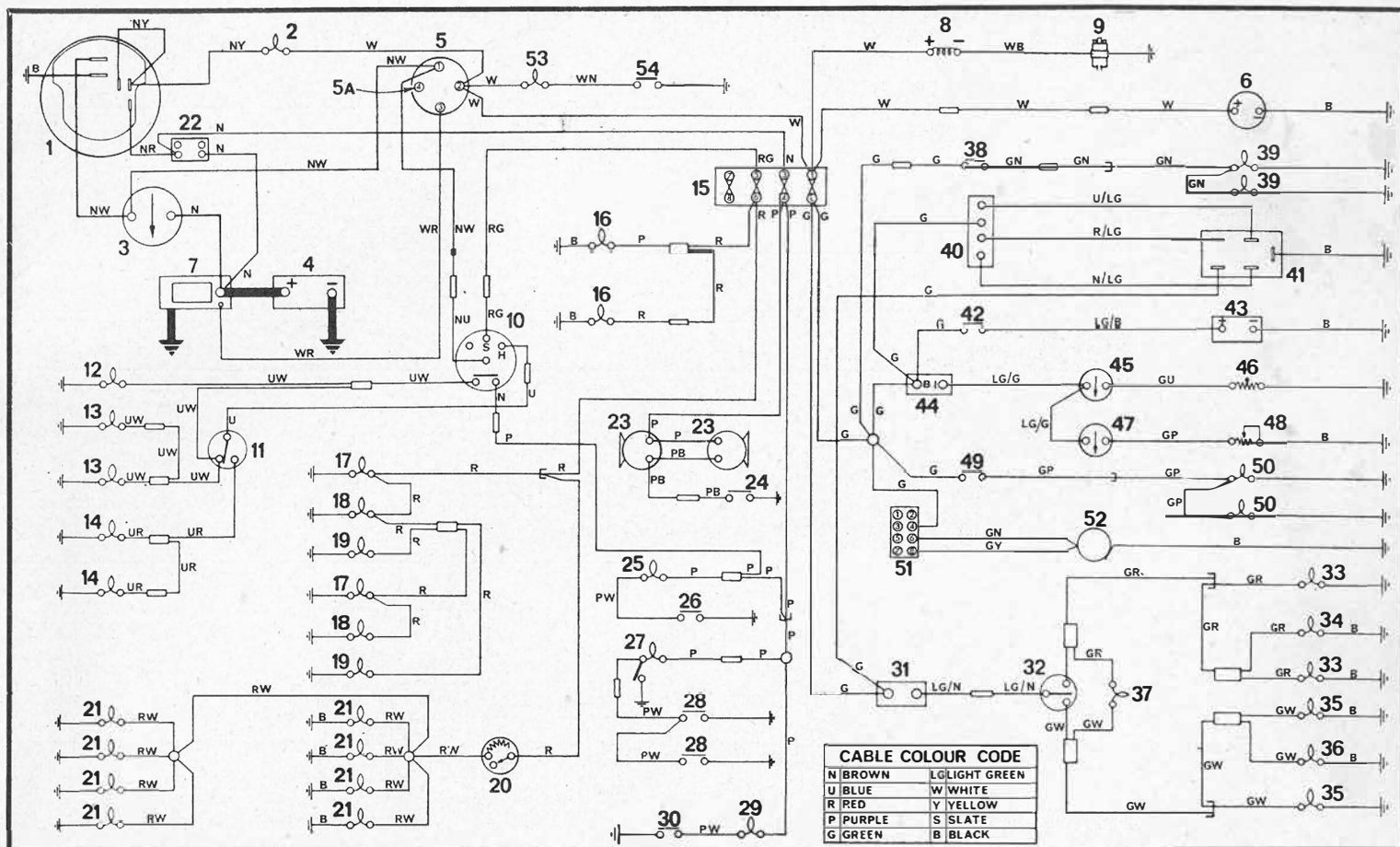


Above: shows the cylinder block drain plug and right: the radiator matrix drain tap, access from above





Parts of the suspension systems, front and rear; also the steering gear and final drive assembly



Wiring diagram by courtesy of Standard-Triumph International

LUCAS ELECTRICAL COMPONENTS

HORNS, WINDSHIELD WIPER, SUNDRY ITEMS AND OVERDRIVE EQUIPMENT

SWITCHES	Model	Part No.
Ignition (combined with starting motor control switch)	47SA	35856
*Head	102SA	35783 (RHD)
*Side		35782 (LHD)
*Headlamp-flash	103SA	34536
Headlamp-dip	125SA	35774
Direction indicator	CC9	33577
Horn	SS10	34460
Reverse	3R	78391
Panel light	58SA	34477
Heater		

Note: Switches identified by a common symbol are combined in a dual or multi-purpose switch.

SUNDRY ITEMS	Model	Part No.
Flasher unit	8FL	35049
Fuse/Junction box	7FJ	37420
Ammeter	CZU60	36427

WINDSHIELD WIPER	Model	Part No.
Motor	14W	75655
Wiper blade	—	54711613
Wiper arm (right hand and left hand)	5SJ	54715416 (LH)
Screen jet		54711536 (RH)
		54071621

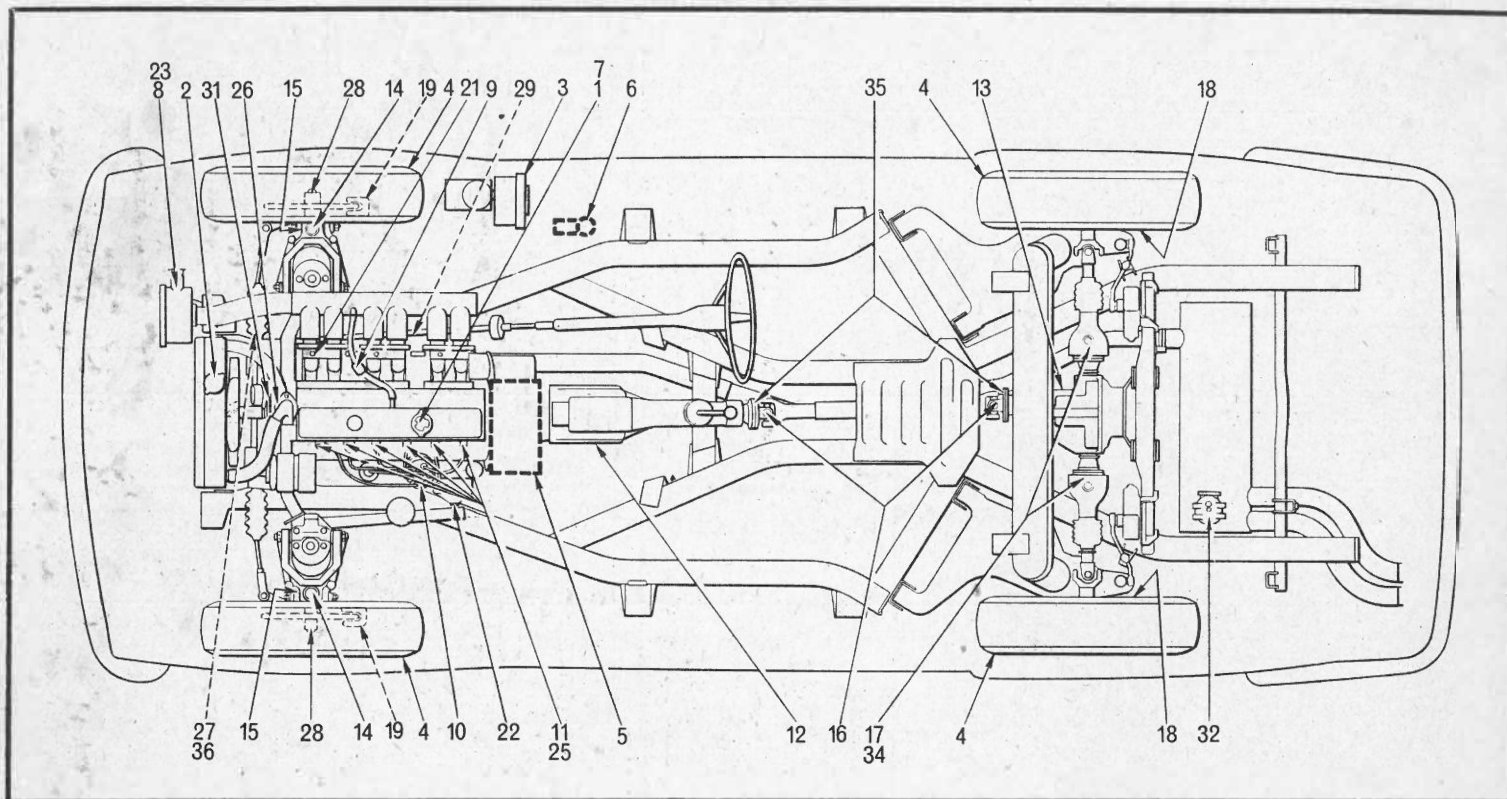
HORN(S)	Model type & note	Part No.
Current consumption 3.5-4.0 amp per horn	9H W/T (LN)	54068078
	9H W/T (HN)	54068164

P.I. EQUIPMENT	Model	Part No.
Control metering disbrt.	—	54073029
Pump & motor	—	54073012
	—	54073009
Relief Valve	—	73064
Nozzle	—	73045

OVERDRIVE	Model	Part No.
Solenoid (transmission)	11S	76515
Switch, centrifugal (gearbox)	SS10	31849
Relay	6RA	33213
Control switch	90SA	35780

Part numbers quoted are basic equipment for right-hand drive vehicles. Variations may be found according to the Country in which the vehicle is used.		
BATTERY and STARTING MOTOR SYSTEM		
	Model	Part No.
Battery	C9	54027393
Starting Motor	M35G	25079
Starting Motor (later fitment)	M418G	25626
Solenoid Switch	4ST	76766
CHARGING SYSTEM		
Generator	15ACR	23562
Regulator	—	37541
IGNITION SYSTEM		
Distributor	22D6	41219
Max. centrifugal advance (crank degrees)	8-12	
Max. centrifugal advance (crank rev/min)	4000	
No advance below 600 (crank rev/min)	—	54413186
Centrifugal advance springs (set of 2)	—	
Ignition Coil	HA12	45212
Primary resistance (ohms) at 20°C.	3.0-3.5	
Running current (amps) at 1000 rev/min	1.0	

LAMPS		Bulb or Sealed Beam Unit			
		Model	Part No.	Lucas No.	Wattage Cap
FRONT LAMPS					
Head (right hand & left hand) (inner lamp, non-dip)		F700 53/4	59103	54521872	60/45 SBU
Head (outer lamp, dip)					
Side & Flasher		827	{ 52943 (RH) 52944 (LH)	{ 382(F) 989(S)	21 6 S.C.C. M.C.C.
Side Marker		826	{ 52941 (RH) 52942 (LH)	989	6 M.C.C.
REAR LAMPS					
Stop/Tail, Flasher & Reverse		832	{ 54609 (RH) 54610 (LH)	{ 380 (ST) 382 (FR) 989 (S/M)	21/6 21 6 S.B.C. S.C.C. M.C.C.
Side Marker					
Number Plate		766	54632	207	6 S.C.C.



KEY TO MAINTENANCE DIAGRAM

DAILY

1. Engine sump—check and top up.

WEEKLY

2. Radiator } check and
3. Brake master cylinder } top up
4. Tyres—check pressures and examine for safety and/or legal tread depth

MONTHLY

5. Battery } check and
6. Clutch master cylinder } top up

EVERY 6,000 MILES

7. Engine sump—drain and refill
8. Air cleaner element—de-dust
9. Crankcase breather valve—wash in paraffin
10. Ignition distributor—oil auto. advance mechanism, contact breaker pivot and shaft bearing, smear cam with grease. Clean points and reset to .015in gap.
11. Sparking plugs—clean and reset to .025in. gap.
12. Gearbox and/or overdrive } Check and
13. Rear axle } top up
14. Upper ball joints }
15. Lower steering swivels } grease
16. Prop. shaft }

17. Inner drive shafts—five strokes of grease gun
18. Rear brakes—adjust
19. Front brake pads—examine
*20. Hydraulic pipes and hoses—check for leakage and chafing.
21. Petrol injection—check for leakage. If required, adjust slow running.

EVERY 12,000 MILES (as for 6,000 miles plus following)

22. Engine oil filter element } renew
23. Air cleaner element }
*24. Valve clearances—check and adjust to .010in necessary
25. Sparking plugs—renew
26. Water pump } grease
*27. Steering unit }
28. Front hubs—check and adjust, and repack with grease
29. Accelerator linkage—lubricate
*30. Handbrake cable and linkage—lubricate and adjust
31. Fan belt—check and adjust if necessary
32. Fuel filters—renew in-line filter situated under luggage floor panel
*33. Exhaust system—check for leaks, etc.
34. Inner drive shafts coupling bolts
35. Prop. shaft coupling bolts
36. Steering unit attachments, "U"-bolts, steering tie rods and levers, etc. } Check for tightness

*—Not shown on diagram.

FILL-UP DATA

	Pints	Litres
Engine sump	8	4.54
Gearbox from dry	2	1.14
Rear axle	2 1/2	1.42
Cooling system (inc. heater and bottle)	11	6.24
Fuel tank	11 1/4 galls	51
Tyre pressures:		
front	20psi	1.41 kg/cm ²
rear	24psi	1.69 kg/cm ²

PERFORMANCE CHART

Maximum speeds	mph	kph
1st gear	37	60
2nd gear	58	93
3rd gear	88	142
4th gear direct	119	192

FUEL CONSUMPTION

	mpg	l/km
70 mph cruising	30	9.41
Town driving	20	14.12
Typical mpg	22	12.84

RECOMMENDED LUBRICANTS

Component	Mobil	Shell	Esso	B.P.	Castrol	Duckhams	Regent
Engine, oil can	Mobiloil Special 20W/50 or Mobiloil Super	Super Motor Oil 100	Uniflo	Super Visco-Static 20W/50	GTX	Q20/50	Havoline Motor Oil 20W/50
Gearbox & overdrive rear axle	Mobilube GX90	Spirax 90EP	Gear Oil GP90/140	Gear Oil SAE90EP	Castrol Hypoy	Hypoid 90	Multigear Lubricant EP90
Front and Rear Hubs, Brake Cables and Grease Gun	Mobilgrease MP	Retinax A	Multigear Grease H	Energrease L2	Castrolase LM	LB10	Marfak All-Purpose

Approved Anti-Freeze Solutions:—Smith's Bluecol, B.P. Anti-Frost, Castrol, Duckhams, Esso, Mobil Permazone, Fina Thermidor, Regent PT, Shell

Clutch and Brake Fluid Reservoir:—Castrol Girling crimson fluid.
Where this proprietary brand is not available, other fluids to S.A.E.70R3 specification may be used.
NOTE: Similar grades of Petrofina lubricant are also recommended.

Bodywork Repair Data

TRIUMPH TR6

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3.34in (8.5cm) below the datum line. Once this level has been established it is possible to measure all other points in relation to the datum line, and so establish the exact amount of distortion.

Checking for squareness

Position the vehicle as previously described and referring to Fig. 1 transfer the letter points to the floor using a plumb-bob and fine cord as shown in Fig. 2.

Connect the letters in pairs by drawing a line between them using a straight edge. Measure from each point in turn to the centre and join up the centres, thus producing the datum line.

Continue a further check on squareness as follows:—

Using a straight edge, mark the diagonals as shown dotted in Fig. 2. If the frame is square then each pair of opposite diagonals must be equal in length and the points of intersection of each pair of diagonals must lie on the same straight line.

Chassis distortion is assessed by the amount and direction which any central point on the transverse line and/or the point of intersection of any pair of diagonals deviates from the centre line.

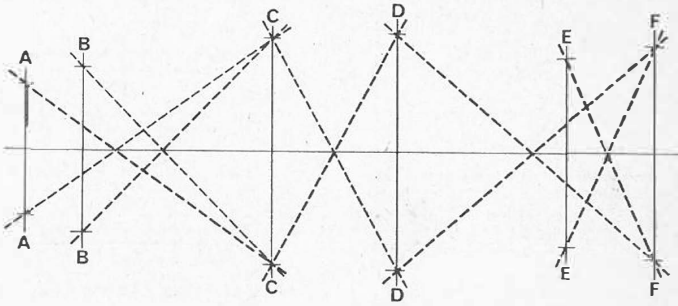


Fig. 2.

Diagram enables the car to be spot checked for alignment in conjunction with details shown in text and Fig. 1.

Strong cruciform brace chassis has the advantage of having various body components bolted directly to it, thus facilitating easy replacement. Body parts are available through the Standard-Triumph distributor network.

Checking for twist

With the vehicle on a level surface place bottle jacks under the jacking points and raise the frame to any convenient height which can be measured accurately.

From the side elevations shown in Fig. 1, it will be seen that point 53 is 3.13in (7.9cm) and point 68 is

	in		in		in		in		in
1	15.04	15	43.14	29	60.06	43	21.81	58	32deg 71
2	25.31		43.02		59.94		21.69	59	6.06
	25.19	16	11.94	30	63.63	44	10.72	60	6.53
3	24.03		11.81		63.50		10.66		6.47
	23.97	17	10.31	31	2.97	45	1.00	61	18.75
4	11.06		10.19		2.91		.94	62	8deg
	10.94	18	20.36	32	10.69	46	4.00	63	1.70
5	19.56		20.30		10.56		3.88		1.64
	19.44	19	10.56	33	39.59	47	2.44	64	5.25
6	11.06		10.44		39.53		2.31		5.13
	11.00	20	16.00	34	43.91	48	4.97	65	4.94
7	3.03		15.85		43.85	49	3.59		4.81
	2.97	21	7.56	35	88.13		3.53	66	5.38
8	24.44		7.44		87.88	50	3.94	67	4.75
	24.31	22	31.81	36	21.92		3.81	68	3.34
9	10.56		31.69		21.87	51	4.28		3.28
	10.44	23	33.50	37	14.71		4.22	69	7.44
10	22.31		36.62		14.65	52	2.03		7.31
	22.19	24	36.50	38	12.31		1.97	70	13.23
11	42.31		36.50		12.19	53	3.25		13.17
	42.19	25	11.06	39	10.63		3.13	71	6.76
12	16.71		10.94		10.56	54	5deg		6.70
	16.65	26	9.79	40	15deg	55	9.53	72	1.34
13	15.91		9.66		5.06		9.47		1.28
	15.85	27	22.56	41	4.94	56	11.19	73	.75
14	7.81		22.44		4.38		11.06		.63
	7.69	28	36.25	42	4.25	57	.69	74	2.22
			36.13				.56		2.16

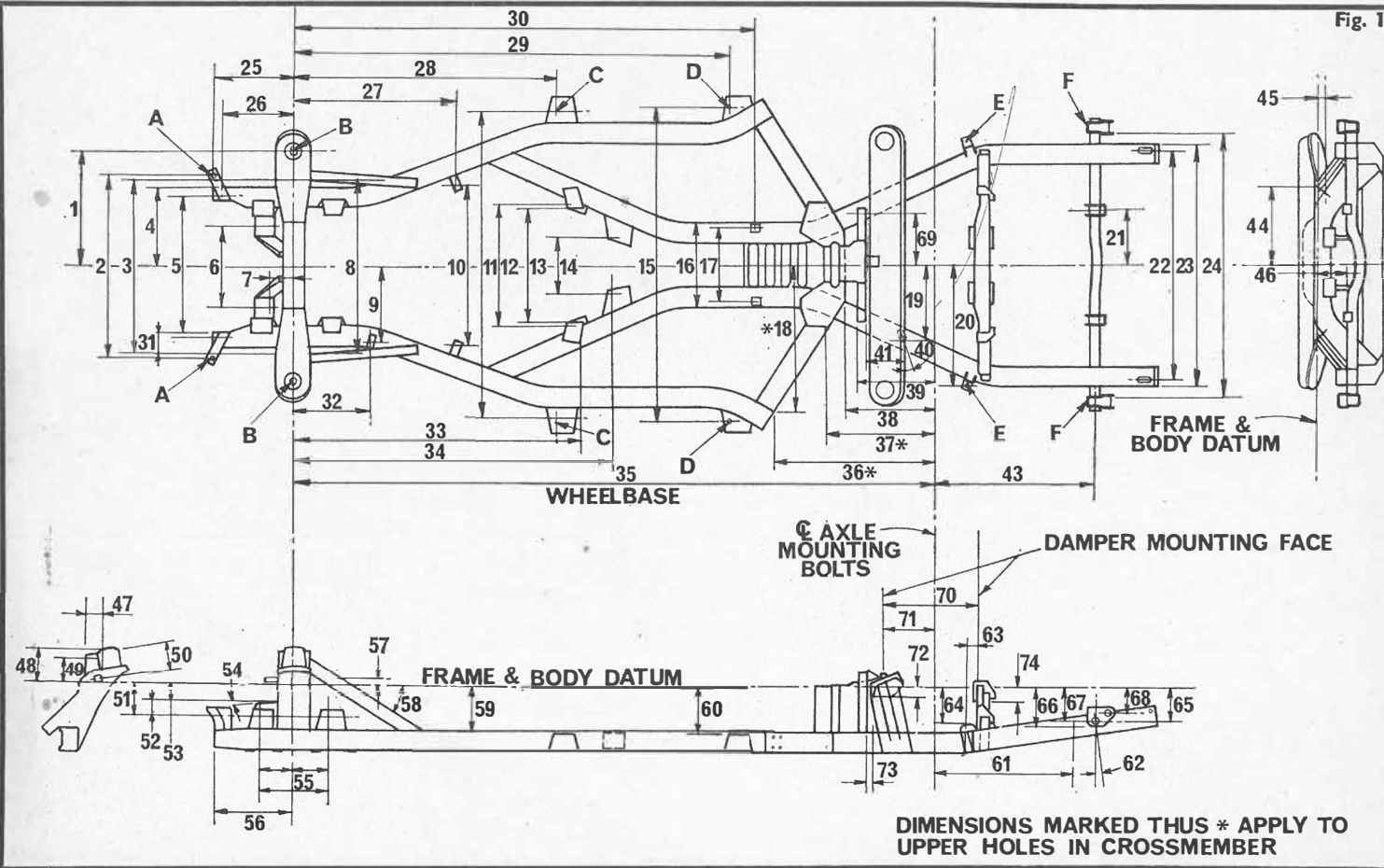


Fig. 1.

DIMENSIONS MARKED THUS * APPLY TO UPPER HOLES IN CROSSMEMBER

KEY TO BODY PARTS

1. Bracket—front number plate

2. Front valance and apron assembly

3. Cowl assembly—air duct radiator

4. Stay rod

5. Front wheelarch—RH

6. Front wheelarch—LH

7. Front wing

8. Bonnet

9. Seal—rubber baffle plate to front wings

10. Plate baffle—bulkhead to front wing—RH

11. Panel—front wheel arch—RH

12. Bulkhead end panel—RH

13. Bulkhead—RH

14. Vent lid

15. Scuttle panel

16. Plate cover—windscreen wiper—cable access

17. Plenum assembly

18. Bulkhead end panel—LH

19. Seal, rubber, baffle plate to front wing

20. Plate, baffle, bulkhead to front wing

21. Front wheelarch

22. Front wing—RH

23. Fibre mounting bracket

24. Windscreen support—RH

25. Rubber glazing

26. Moulding finisher

27. Weather strip header rail

28. Rail listing—front headlining attachment

29. Roof assembly

30. Rail listing centre—headlining attachment
31. Rail listing rear—headlining attachment

32. Weather strip

33. Headlining assembly

34. Finisher, windscreen, upper

35. Frame assembly, windscreen

36. Finisher, windscreen, lower

37. Windscreen support

38. Packing, fibre mounting bracket

39. Finisher, windscreen, side—LH

40. Finisher, windscreen—RH

41. Finisher, side—LH

42. Rubber quarter light glazing—LH

43. Cover—rear shelf, centre

44. Cover—rear shelf—RH

45. Rubber sealing hard-top to deck

46. Finisher, rear pillar—RH

47. Rubber backlight glazing

48. Cover, rear shelf—LH

49. Rear valance

50. Reinforcement—upper main apron panel

51. Rear deck filler side assembly—RH

52. Rear deck

53. Rear quarter panel inner—RH

54. Wheelarch, rear—RH

55. Rear wing—RH

56. Post "B"—RH

57. Post "A"—RH

58. Cover—gearbox

59. Post "A" outer—RH

60. Seal cover to bulkhead—centre panel

61. Panel, sill outer—RH

62. Panel, sill inner—RH

63. Floor panel—RH
64. Seal cover to floor—RH

65. Bracket—handbrake

66. Seal cover to prop shaft tunnel

67. Tunnel—prop shaft

68. Heelboard

69. Seat pan—occasional seat

70. Bracket—support squab bottom LH

71. Bracket support—tank to wheel-arch—LH

72. Floor rear side—LH

73. Pan—spare wheel

74. Floor rear side—LH

75. Panel—lower, closing, tonneau

76. Rear deck, filler side assembly—LH

77. Bracket—mounting rear

78. Rear quarter panel inner—RH

79. Bracket support, tank to wheel-arch—RH

80. Retainer seal, sill

81. Filler, sill end, rear—LH

82. Wheelarch rear—LH

83. Post "B"—LH

84. Gusset, sill to "B" post

85. Reinforcement, sill to Post "B"—LH

86. Rear wing—LH

87. Post "A" outer—LH

88. Post "A" inner—LH

89. Panel, sill outer—LH

90. Filler, sill end, front—LH

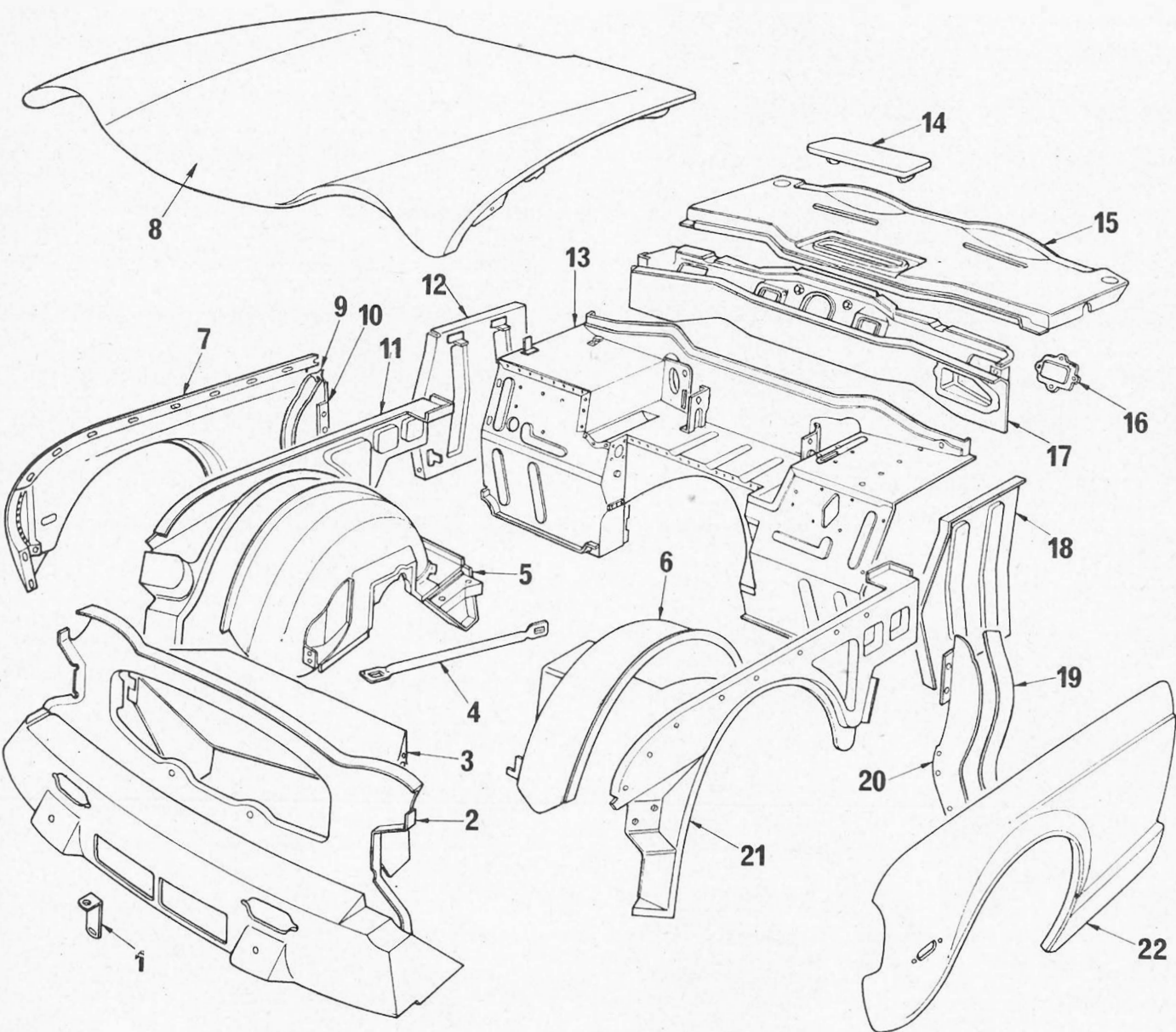
91. Panel, sill, inner—LH

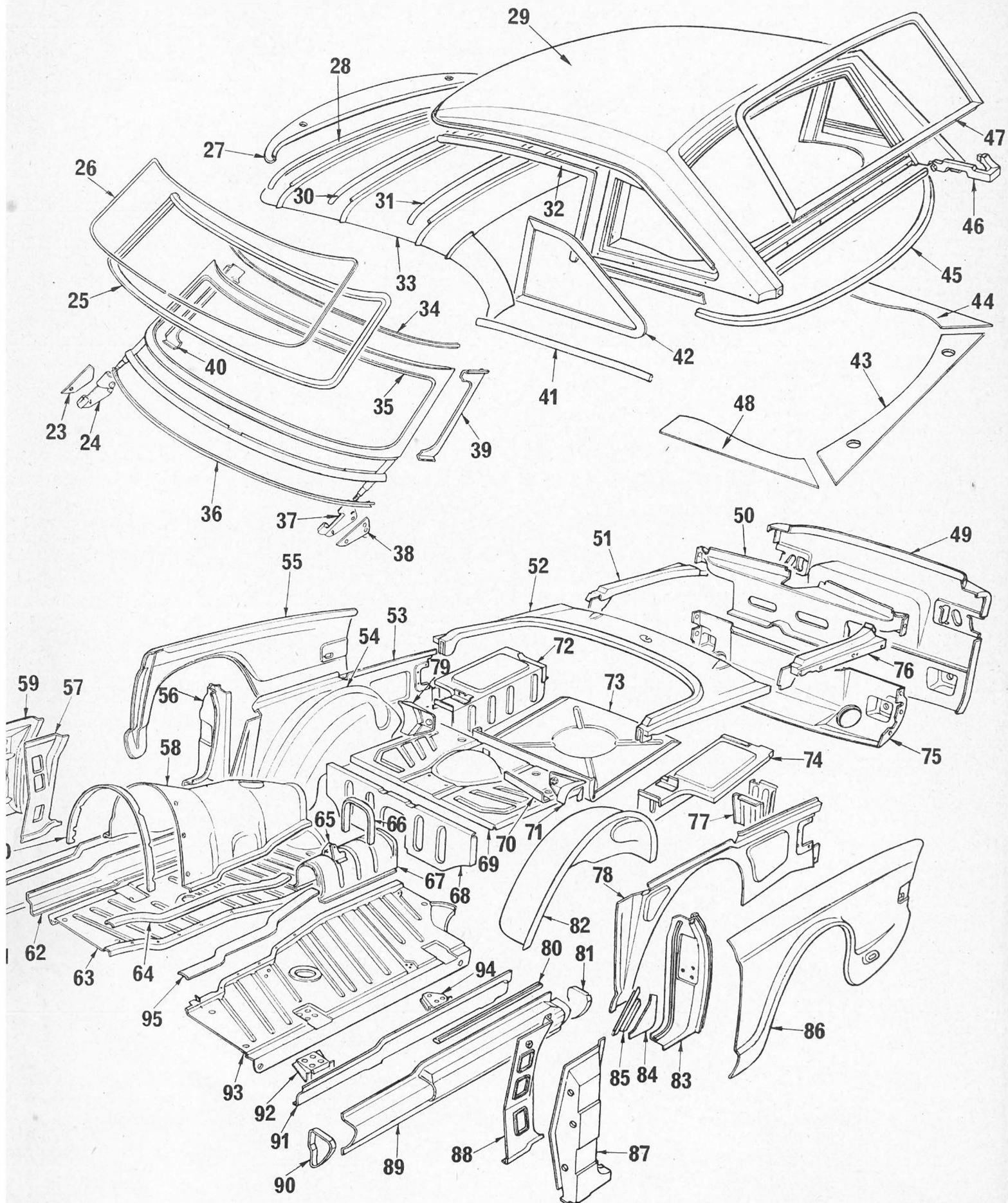
92. Bracket—sill mounting, front

93. Floor panel—LH

94. Bracket—sill mounting, rear—LH

95. Seal cover to floor—LH





Body removal

Remove battery, drain cooling, fuel and hydraulic systems and carry out the following:—

Disconnect: Oil pressure pipe from engine; rev. counter from distributor base; clutch fluid flexible pipe; brake fluid from top of three way connector; heater water hoses; heater control cable; choke and accelerator control; cables from transmitter, distributor/SW generator, starter motor and stop lamp; fuel pipe at tank union; speedometer drive cable from speedo head and pull the cable into the engine compartment.

Remove: Bonnet; front bumper and bumper support brackets; rear bumper and bumper support brackets; spare wheel and tool kit; screws securing starter solenoid and move solenoid clear of engine; water control valve; water pipe from left-hand side of engine; upper pinch bolt from lower steering coupling; slacken impact coupling and push the steering shaft upwards clear of lower coupling; fuel injection bank; both seats; knob and grommet from gear change lever; gear change lever; grommet from base of handbrake lever; four bolts securing fascia support bracket to floor.

Remove 27 body mounting bolts from the following locations as shown in Fig. 3:—Two in front crossmember, one in each down-member (A); four groups of four bolts, forward and rearward of door apertures (B); two each side of transmission tunnel in line with front end of gearbox (C); two each side of the rear edge of seat runner (D); one bolt either side of rear suspension crossmember (E); one at each side rear end of frame (F); one bolt through centre of spare wheel panel (G).

One method of lifting the body from the chassis is detailed in Fig. 4. To effect such an operation four plates must be made from 10 SWG mild steel to the dimensions shown in the table accompanying Fig. 4. One plate is secured to each rear wheel arch utilising the safety anchorage screws. The remaining

SEALING COMPOUNDS

Compound	Manufacturer
Glasticon 303	Kelseal Ltd., Vogue House, Hanover Square, London, W.1.
Glasticord 400 Kelseal 3/315M Kelseal 305 and XK 10 818	
Docker's Compound	Docker Bros. Ltd., Rotton Park Street, Birmingham 16
Supra Dedseal	Supra Chemical & Paint Ltd., Hainge Road, Tipton, Staffs.
3M's EC 1168 Mastic Sealer	Minnesota Mining and Manufacturing, 3M House, Wigmore Street, London, W.1.
Seelastik SR 51 Seelastrip LS 105	Expandite Ltd., Cunard Road Works, London, N.W.10.
Boscoseal BB Plastisol Putty S 106.46	B.B. Chemicals Ltd., Ulverscroft Road, Leicester.
Hermetal "Double Bond" Metallic Cream Hermetal Plastic Metal Filler	The Kenilworth Manufacturing Co. Ltd., West Drayton, Middlesex.
Dunlop D5.5035/S Sealer	Dunlop Chemical Division, Chester Road, Erdington, Birmingham, 24.
In every case where Plastisol compounds have been used and the seal has failed, Hermetal "Double Bond" Metallic Cream, Docker's Compound or Hermetal Plastic metal filler should be used.	

APPROVED SEALING MATERIALS (Body unpainted)

Application	Mastics	Strip sealers
Spotweld sealers	553938 Expandite Seelastik (Natural) 559357 3M's EC 1168	Expandite Seelastrip LS105
Bolted metal to metal joints	—	575644 Glasticon 400 1.00in x 1/16in
Plugging small holes	—	Expandite Seelastrip LS 105 554422 Glasticon 303
Internal joints	56680-BB Chemical S23/206	—

plates are secured to the front wing valance hinge securing bolts.

To refit body

Secure body mounting pads in position using Bostik 1261 or similar compound. Using two 1/4in diameter rods, line up the holes in the body with those in the chassis as the body is lowered into position. Apply sealing compound between washers and main floor panel before fitting body mounting bolts inside the car.

Re-assemble by reversing the removal procedure and bleed the brake and clutch hydraulic systems.

Soft top removal

Release the two catch levers retaining the hood to the windscreen header rail and the fasteners securing the fabric to the rear hood stick. Release the fasteners, four each side, securing the edges of the hood to the body and remove five set-screws and washers securing the angle bracket to the rear deck. With the aid of a second operator, remove six countersunk screws securing the left- and right-hand mounting plates on the hood sticks to the retaining plates in the "B"-post. Lift off the complete soft top assembly.

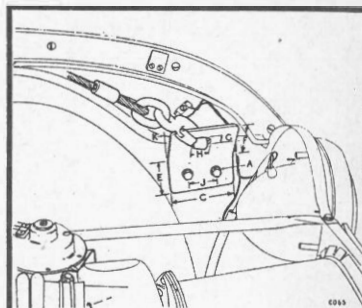


Fig. 4. Lifting plate attached to bonnet hinge securing screws

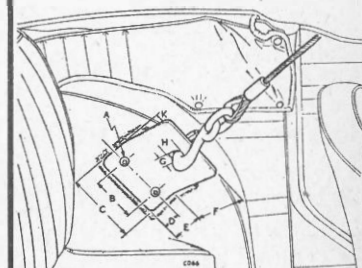


Fig. 3. Lifting plate attached to safety harness securing screws

DIMENSIONS OF LIFTING PLATES

A. 0.438" (1.11 cm.)	F. 4.00" (10.16 cm.)
B. 3.25" (8.26 cm.)	G. 0.75" (1.93 cm.)
C. 5.00" (12.7 cm.)	H. 1.00" (2.54 cm.)
D. 1.25" (3.17 cm.)	J. 1.81" (4.60 cm.)
E. 2.25" (5.72 cm.)	K. 40°

Fig. 4.

Fig. 3.

