ROVER

60 . 75 . 90 and 105

1954-59

THE ROVER CO. LTD.
SOLIHULL
WARWICKSHIRE
ENGLAND

4351

OWNER'S INSTRUCTION MANUAL

REGISTERED TRADE MARK

Publication No. TP/227/C

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60 · 75 · 90 and 105

Part No. 4351

Owner's Instruction Manual

THE ROVER CO. LTD . SOLIHULL . WARWICKSHIRE . ENGLAND

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September, 1962

B 812

C 509

C995

C998

GENERAL DATA

"60" ENGINE

Bore	77,8 mm. (3.063 in.)
Stroke	105 mm. (4.134 in.)
Number of cylinders	4
Cylinder capacity	1,997 c.c. (121.8 cu.in.)
Compression ratio	6.9-1
B.H.P.	60 at 4,000 R.P.M.
Maximum torque	101 lb./ft. (13,9 mKg.) at 2,000 R.P.M.
Firing order	1, 3, 4, 2
Sparking plugs	14 mm. with suppressors
Sparking plug point gap	.029 to .032 in. (0,75 to 0,80 mm.)
Distributor contact breaker gap	.014 to .016 in. (0,35 to 0,40 mm.)
Ignition timing (static—full retard)	10° B.T.D.C.
Tappet clearance—inlet	.008 in. (0,20 mm.) At running
„ „ —exhaust	.012 in. (0,30 mm.) temperature
Valve timing (No. 1 exhaust valve peak)	114° B.T.D.C.
Number of crankshaft bearings	3
„ „ camshaft bearings	4
Vibration damper	Integral with fan driving pulley
Valve gear—inlet	Overhead operated by followers and push rods
„ „ —exhaust	Side operated by direct rockers
Oil pressure	55 to 65 lb./sq.in. (3,8 to 4,6 kg./cm.²) at 30 m.p.h. (50 k.p.h.) in top gear with engine warm
Lubrication	Full pressure
Oil filter—internal	Gauze pump intake filter in sump
„ „ —external	Full-flow filter
Mountings	Three-point rubber

"75" ENGINE, 1954

Bore	65,2 mm. (2.567 in.)
Stroke	105 mm. (4.134 in.)
Number of cylinders	6
Cylinder capacity	2,103 c.c. (128.4 cu.in.)
Compression ratio	7.25–1
R.A.C. rating	15.81 H.P.
B.H.P.	75 at 4,200 R.P.M.
Maximum torque	111 lb./ft. (15,2 mKg.) at 2,500 R.P.M.
Firing order	1, 5, 3, 6, 2, 4
Sparking plugs	Lodge HLNR, 14 mm.
Sparking plug point gap	.023 to .026 in. (0,60 to 0,65 mm.)
Distributor contact breaker gap	.014 to .016 in. (0,35 to 0,40 mm.)
Ignition timing (static-full retard)	T.D.C.
Tappet clearance—inlet	.008 in. (0,20 mm.) At running
„ „ —exhaust	.012 in. (0,30 mm.) temperature
Valve timing (No. 1 exhaust valve peak)	114° B.T.D.C.
Number of crankshaft bearings	4
„ „ camshaft bearings	6
Vibration damper	Integral with fan driving pulley
Valve gear—inlet	Overhead operated by followers and push rods
„ „ —exhaust	Side operated by direct rockers
Oil pressure	35 to 45 lb./sq.in. (2,5 to 3,2 Kg./cm.²) at 30 m.p.h. (50 k.p.h.) in top gear with engine warm
Lubrication	Full pressure
Oil filter—internal	Gauze pump intake filter in sump
„ „ —external	Wipac by-pass pressure filter
Mountings	Four-point rubber

"75" ENGINE, 1955 onwards

Bore	73,025 mm. (2.875 in.)
Stroke	88,9 mm. (3.5 in.)
Number of cylinders	6
Cylinder capacity	2,230 c.c. (136 cu.in.)
Compression ratio	7.2-1
B.H.P.	80 at 4,500 R.P.M.
Maximum torque	113 lb./ft. (15,62 mKg.) at 1,750 R.P.M.
Firing order	1, 5, 3, 6, 2, 4
Sparking plugs	14 mm. with suppressors

Sparking plug point gap	.029 to .032 in. (0,75 to 0,80 mm.)
Distributor contact breaker gap	.014 to .016 in. (0,35 to 0,40 mm.)
Ignition timing (static—full retard)	10° B.T.D.C.
Tappet clearance—inlet	.008 in. (0,20 mm.) } At running
,, ,, —exhaust	.012 in. (0,30 mm.) } temperature
Valve timing (No. 1 exhaust valve peak)	114° B.T.D.C.
Number of crankshaft bearings	4
,, ,, camshaft bearings	6
Vibration damper	Integral with fan driving pulley
Valve gear—inlet	Overhead operated by followers and push rods
,, ,, —exhaust	Side operated by direct rockers
Oil pressure	55 to 65 lb./sq.in. (3,8 to 4,6 kg./cm.²) at 30 m.p.h. (50 k.p.h.) in top gear with engine warm
Lubrication	Full pressure
Oil filter—internal	Gauze pump intake filter in sump
,, ,, —external	Full-flow filter
Mountings	Three-point rubber

"90" and "105" ENGINES

Bore	73,025 mm. (2.875 in.)
Stroke	105 mm. (4.134 in.)
Number of cylinders	6
Cylinder capacity	2,638 c.c. (161 cu.in.)
Compression ratio "90"	7.5-1
Compression ratio "105"	8.5-1
B.H.P. "90"	93 at 4,500 R.P.M.
B.H.P. "105"	108 at 4,250 R.P.M.
Maximum torque "90"	138 lb/ft. (19 mKg.) at 1,750 R.P.M.
Maximum torque "105"	152 lb./ft. (20,5 mKg.) at 2,500 R.P.M.
Firing order	1, 5, 3, 6, 2, 4
Sparking plugs	14 mm. with suppressors
Sparking plug point gap	.029 to .032 in. (0,75 to 0,80 mm.)
Distributor contact breaker gap	.014 to .016 in. (0,35 to 0,40 mm.)
Ignition timing (static—full retard) "90"	10° before T.D.C.
Ignition timing (static—full retard) "105"	3° before T.D.C.
Tappet clearance—inlet	.008 in. (0,20 mm.) } At running
,, ,, —exhaust	.012 in. (0,30 mm.) } temperature
Valve timing (No. 1 exhaust valve peak)	114° B.T.D.C.
Number of crankshaft bearings	4
,, ,, camshaft bearings	6
Vibration damper	Integral with fan driving pulley
Valve gear—inlet	Overhead operated by followers and push rods
,, ,, —exhaust	Side operated by direct rockers
Oil pressure	55 to 65 lb./sq.in. (3,8 to 4,6 kg./cm.²) at 30 m.p.h. (50 k.p.h.) in top gear with engine warm
Lubrication	Full pressure
Oil filter—internal	Gauze pump intake filter in sump
,, ,, —external	Full-flow filter
Mountings	Three-point rubber

CLUTCH

Type	Single dry plate 9 in. (230 mm.) diameter
Adjustment	$\frac{3}{4}$ in. (20 mm.) free movement at pedal pad

GEARBOX

Type	Single helical constant mesh with synchro-mesh on top, third and second speeds

FREEWHEEL—"60" and "75"

Type	Rover, incorporated in gearbox

ROVER CONTROL AUTOMATIC OVERDRIVE GEARBOX .... Laycock de Normanville 1.286-1 ratio. Optional Extra to basic "90" which has direct drive, no freewheel, also optional Extra to basic "60" and "75" which has freewheel incorporated.

NOTE: Overdrive is standard on the "105" model.

PROPELLER SHAFT

Type	Open type with centre bearing

REAR AXLE

Type	Spiral bevel with semi-floating shafts
Ratio	4.3-1 basic "60" and "75" and all "90" and "105" models 4.7-1 "60" and "75" with Overdrive

GEAR RATIOS

Gear	*Gearbox ratio*	*Overall ratio except with Overdrive 4.3 axle*	*Overall ratio "90" and "105" with Overdrive 4.3 axle*		*Overall ratio "60" and "75" with Overdrive 4.7 axle*	
			Overdrive	3.34-1	Overdrive	3.66-1
Top	Direct	4.30-1	Top	4.30-1	Top	4.7-1
3rd	1.377-1	5.923-1	3rd	5.923-1	3rd	6.47-1
2nd	2.043-1	8.785-1	2nd	8,785-1	2nd	9.60-1
1st	3.373-1	14.506-1	1st	14.506-1	1st	15.86-1
Reverse	2.968-1	12.765-1	Reverse	12.765-1	Reverse	13.95-1

FUEL SYSTEM

Petrol pump	Electric
Carburetters, 1954 "75"	Twin horizontal dust-proof
Carburetter "60", "75" (1955 onwards), and "90"—all models	Single horizontal dust-proof
Carburetters "105"	Twin horizontal dust-proof
Fast idling position	Incorporated in mixture control
Air cleaner	See pages 29

COOLING SYSTEM

Type	Pump, fan and thermostat; pressurised NOTE—"60": 3-blade fan. "75", "90" and "105": 4-blade fan.

ELECTRICAL SYSTEM

Type	Positive earth
Voltage	12
Battery capacity	51 A.H.
Ignition system	Coil
Charging circuit	Compensated voltage control

SUSPENSION

Road springs—front	Independent coil
Road springs—rear "60"	Constant rate semi-elliptic leaf
Road springs—rear "75", "90" and "105"	Progressive rate semi-elliptic leaf
Anti-roll bar	At front
Hydraulic dampers	Telescopic anti-aeration non-adjustable

BRAKES

"60", "75" and 1954-55 "90"	
Foot brake—front	Hydraulic; two leading shoes
,, ,, —rear	Hydraulic
Hand brake	Mechanical linkage on rear wheels
"90", 1956 onwards, and "105"	
Foot brake—front	Hydraulic, hydro static, Servo assisted—two trailing shoes
,, ,, —rear	Hydraulic
Hand brake	Mechanical linkage on rear wheels

STEERING

Type	Re-circulating ball worm and nut; variable ratio

TYRES

Size	6.00-15
Pressure	See Page 32

CAPACITIES

Fuel tank	11½ Imperial gallons (52 litres) (including reserve of approximately 1 to 1½ galls. (4 to 7 litres)
Cooling system—"60"	17 Imperial pints (9,5 litres)
Cooling system—"75", "90" and "105"	21 Imperial pints (12 litres)
Engine oil—"60"	10 Imperial pints (5,5 litres)*
Engine oil—"75", "90" and "105"	15 Imperial pints (8,5 litres)*

Gearbox oil—"60" and "75" with freewheel	3½ Imperial pints (2 litres)
Gearbox oil—"60" and "75" with overdrive	5½ Imperial pints (3 litres)
Gearbox oil—"90" with overdrive	5½ Imperial pints (3 litres)
Gearbox oil—"90" less freewheel	3½ Imperial pints (2 litres)
Gearbox oil—"105"	5½ Imperial pints (3 litres)
Rear axle oil	3 Imperial pints (1,75 litres)
Air cleaner, oil bath type	I Imperial pint (0,5 litre) approximately

*—1 pint (0,5 litre) extra when refilling after fitting new filter.

NOTE—To obtain the U.S. equivalent, multiply the Imperial capacity by 1.2.

DIMENSIONS

Overall length	178¼ in. (4,53 m.)
Overall width	65⅝ in. (1,67 m.)
Overall height (approx.)	63¾ in. (1,62 m.) unladen
Wheelbase	111 in. (2,82 m.)
Track—front	52 in. (1,32 m.)
,, —rear	51½ in. (1,31 m.)
Turning circle	37 ft. (11,25 m.)
Ground clearance (under rear axle (approx.)	7⅛ in. (181 mm.) unladen
Front wheel toe-in	0 to ⅛ in. (3 mm.)

	"60" basic	"75" basic	"90" basic
Weight, less petrol and water	3,002 lbs. (1.343 kg.)	3,151 lbs. (1.410 kg.)	3,172 lbs. (1.405 kg.)
Weight, with water, oil and 5 gallons of petrol	3,062 lbs. (1.389 kg.)	3,216 lbs. (1.459 kg.)	3,237 lbs. (1.468 kg.)

	"60" with Overdrive	"75" with Overdrive	"90" with Overdrive	"105"
Weight, less petrol and water	3,044 lbs. (1.381 kg.)	3,193 lbs. (1.448 kg.)	3,214 lbs. (1.457 kg.)	3,219 lbs. (1.460 kg.)
Weight, with water, oil and 5 gallons of petrol	3,104 lbs. (1.408 kg.)	3,258 lbs. (1.478 kg.)	3,279 lbs. (1.487 kg.)	3,384 lbs. (1.490 kg.)

Section A

DESCRIPTION AND DRIVING INSTRUCTIONS

CONTROLS AND INSTRUMENTS

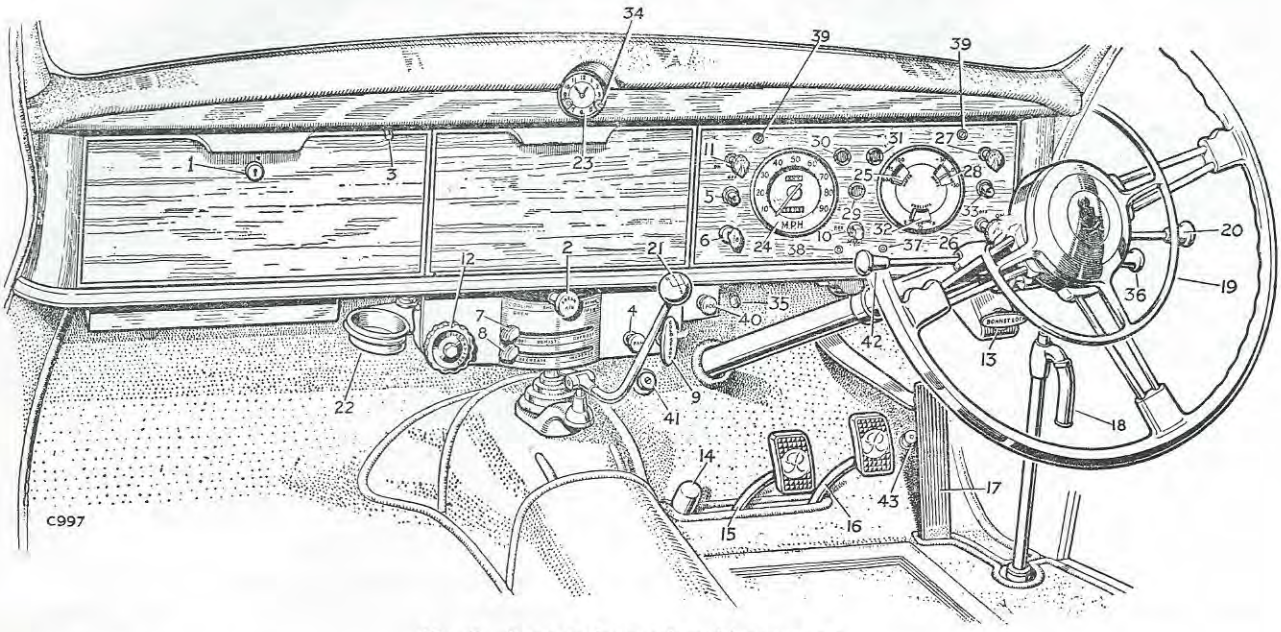

Fig. 3. Layout of controls and instruments.

1. Lock for facia locker.
2. Fresh air control.
3. Switch for interior light.*
4. Car heater fan switch.
5. Starter button.
6. Ignition switch.
7. Heater "screen" control.
8. Heater "heat" control.
9. Mixture control.
10. Petrol reserve switch.
11. Main lamp switch.
12. Freewheel control ("60" and "75" only).
13. Bonnet lock control.
14. Headlamp dipper switch.*
15. Clutch pedal.*
16. Brake pedal.*
17. Accelerator.*
18. Hand brake, 1955 onwards.*
19. Horn ring.
20. Indicator control.*
21. Gear change lever.
22. Ash tray.
23. Clock.
24. Speedometer.
25. Water temperature gauge.
26. Windscreen wiper switch.
27. Instrument panel light switch.
28. Ammeter.
29. Ignition warning light.
30. Mixture control warning light.
31. Oil pressure warning light.
32. Petrol level gauge.
33. Oil level button.
34. Clock adjustment knob.
35. Speedometer trip knob.
36. Headlamp switch.*
37. Headlamp warning light.
38. Direction indicator warning light.
39. Instrument panel securing screws.
40. Fog lamp switch (Extra).
41. Windscreen spray.*
42. Overdrive control switch* (Extra).
43. Overdrive kick-down switch.*

The instrument panel complete and the items marked * are transferred to the opposite side on left-hand drive cars.

The controls and instruments are illustrated at Fig. 3; their use in most instances will be obvious upon examination, but the following notes will be of assistance, should difficulty be experienced.

The "105" models are fitted with overdrive as standard equipment.

FOOT PEDALS

Normal in position and operation.

IGNITION SWITCH AND KEY

Fitted at the bottom left-hand corner of the panel; turn the key clockwise for "on". The key is detachable and also serves for the driver's door lock.

When the ignition is "off", only the following electrical equipment can be used:—

Clock, map light, interior lights, horns and driving lights (head, side and tail lamps).

IGNITION WARNING LIGHT

The large red warning light at the centre of the panel appears when the dynamo fails to charge or the dynamo charging rate is low. It will glow when the ignition is switched on and the engine is stationary or running slowly and will go out when the engine speed rises.

STARTER SWITCH

Located above the ignition switch. To operate, press the button and release as soon as the engine fires.

MIXTURE CONTROL

Marked "COLD START" and mounted on the centre control panel to the right of the heater controls. See Page 14 for operation.

MIXTURE CONTROL WARNING LIGHT

Action of the amber warning light at the top of the panel is described on Page 14.