ENGINE SUSPENSION

Suspension type	No. 4, double rubber pads.

TRANSMISSION

Type	Tabular shafts with three JUBO elastic joints fitted with centering device.
No. of shafts	No. 2, with center elastic bearing.
Lubrication	Pressure greaser in center bearing. Lubrication of centering device of joints is only performed on assembly stage.

Fig. 15 - Engine lubrication chart

1. Oil level dipstick - 2. Oil filling plug - 3. Oil ducts to rocker arm supports - 4. Oil ducts to rear camshaft bearing - 5. Helical bearing for oil pump control - 6. Oil duct for lubrication of oil pump shaft - 7. Oil duct to rear main bearing - 8. Piping from pump to oil strainer - 9. Filtering element - 10. Piping from strainer to manifold - 11. Pressure regulating valve delivering under the pump - 12. Oil pump - 13. Oil duct to crankshaft and camshaft bearings - 14. Oil suction pipe - 15. Suction filter - 16. Oil delivery manifold - 17. Oil ducts to connecting rod bearings - 18. Oil duct to front main bearing - 19. Oil sump - 20. Oil duct to front bearings of crankshaft, camshaft and to chain stretcher - 21. Oil ducts to valve control rockers - 22. Delivery pipe to oil pressure gauge.

Fig. 16 - Cut-out view of clutch, gearbox and propelling unit

1. Transmission joint fork - 2. Clutch shaft - 3. Clutch cover - 4. Clutch plate - 5. Hub spring for clutch plate - 6. Cover for upper opening of clutch casing - 7. Front cross member supporting gearbox and propelling unit - 8. Transmission gear train - 9. Engagement for top speed - 10. Engagement sleeve for 3rd and top speed - 11. 3rd speed gearing - 12. 2nd speed gearing - 13. Engagement sleeve for 2nd speed - 14. Oil filling plug with dipstick - 15. 3-way connection for hydraulic brakes - 16. Oil circulation piping - 17. Rear cross member supporting the gearbox and propelling unit - 18. Suction filter for oil pump - 19. Oil pump - 20. Bevel pinion - 21. Layshaft - 22. Low speed gearings - 23. Oil drain plugs - 24. Clutch control sleeve - 25. Clutch spring - 26. Cover for lower opening of clutch casing - 27. Shield for clutch casing cover - 28. Greaser for clutch shaft - 29. Oil filling and level plug for joints - 30. Rear brake drums - 31. Rear brake shoes - 32. Lever on parking brake shoes - 33. Inner propeller shaft - 34. Air bleeder screw from brakes - 35. Brake cylinder - 36. Rear axle shaft - 37. Connecting sleeve - 38. Centering element for sliding joint - 39. Sliding joint - 40. Crown wheel - 41. Differential planetary gear - 42. Differential satellite pivot.

Fig. 17 - Propeller shafts

1. Flange on engine flywheel - 2. Elastic joints - 3. Front propeller shaft - 4. Centering elements for center and rear joints of propelling unit - 5. Center bearing - 6. Passage for car flooring - 7. Rear propeller shaft - 8. Clutch shaft - 9. Greaser for center bearing - 10. Centering element for front transmission joint.

CLUTCH

Type	Dry, single disc, F & S.
Location	rear, on gearbox-propelling unit.
Working surface	225 sq. cm. (35 sq. in.) × 2.
Pressure on clutch plates	about 380 kg (840 lbs).
Free play of pedal	20 to 25 mm (0.79 to 1").
Adjustment	Fork shank of rear hydraulic cylinder adjustable, with stop at every half turn.
Control	Hydraulic, pedal operated.
Lubrication of shaft bearings	Greaser on front clutch cover. For lubrication, use SFERUL « L » D REINAC grease (Oleoblitz).

GEARBOX

Location	Rear, single-block unit with the differential propelling unit.
No. of speeds	No. 4; 2nd, 3rd and top gear synchronized, and reverse.

	Low	2nd	3rd	4th	R
Ratios	1:3.093	1:2.054	1:1,415	1:1	1:3.093

Gear control	Coupé model: Lever under steering wheel. Convertible model: Lever on floor.

Oil filling	Plug on propelling unit by removing the suitable cover on floor of luggage compartment.
Oil level	Dipstick in filling plug.
Oil drainage	Side plug on gearbox.

PROPELLING UNIT

Type	Fastened to frame, with swinging axle shafts.
Bevel gearing	Gleason Hypoid, 13 to 48 ratio.
Axle shaft couplings	Internal, of the sliding « nut » type. Outer, of the universal joint type.
Axle shafts	With sliding muff.
Lubrication	by gear type pump for gearbox-propelling unit. Oil filter on inlet end to be disassembled from outside for periodical cleaning. Inner couplings with twin oil level plugs on rotating casings; 0.2 litres capacity for each box. - Outer joints with pressure greaser behind wheel hub covers.

Fig. 18 - Clutch-gearbox-propelling unit and rear suspension

1. Clutch casing - 2. Gearbox-propelling unit casing - 3. Pads fastening the unit to bodywork - 4. Transverse reaction bar - 5. Rear axle - 6. Suspension leaf-springs - 7. Wheel hub - 8. Rear axle shaft - 9. Shock absorbers - 10. Rear brake drum - 11. Attachment points of unit to bodywork - 12. Fork of transmission joint.

FRAME

Type	Integral chassis-body construction.

STEERING GEAR

Type	Coupé model: L.H.D. (R.H.D., on request) Convertible model: L.H.D. Worm and gear, with transverse rods.
Worm to gear ratio	4/49.
Oil filling	Oil level plug on steering box cover. Accessible by removing the radiator cowl. Capacity: 0.3 litres (½ pint).
Steering wheel Coupé model	422 mm dia. (16 ½ in) - Adjustable forward, as well as the gearshift lever and change-over control of lights, by 3 cm (1 ¼ in) from its normal position by removing the spacer provided under the steering column.
Steering wheel Convertible model	420 mm dia. (16 ½ in) - Adjustable by movement of 6 cm (2 3/8 in) by means of locking sleeve.
Steering joints	Ball and socket joints on control rod - rubber bushings on track rod.
Lubrication of steering jotins	Pressure greasers on control rod.

FRONT SUSPENSION

Type	Lancia-patent indipendent wheels with vertical sliding pillars.
Springs	Coil type.
Shock absorbers	Internal, hydraulic, adjustable by the lever provided on top of the two suspensions.

Average adjustment	Tighten the lever, then unscrew 0,5 to 1,5 turns in summertime, and 1.5 to 2.5 turns in winter.
Oil feeding tank - Coupé model	Under the bonnet, on drive hand side, together with the brake tank, provided with delivery rod and two-way tap. After oil delivery to the two suspensions, set the tap control lever to the intermediate position. Oil filling plug with dipstick.
Oil feeding tank - Convertible model	Under the bonnet, on the right hand of radiator, provided with two plunger knobs for indipendent feeding of the two suspensions (rear knob for right hand suspension, front knob for left hand suspension). Oil filling plug with dipstick. Instructions are given on tank.
Lubrication	To upper shock absorber guide, by means of oil feeding; to lower guide, through the suitable lubricating plug.

Fig. 19 - Clutch and gearbox controls - Coupé model

1. Clutch pedal - 2. Gear shift lever - 3. Hydraulic cylinder adjustable fork - 4. Joints - 5. Propelling unit - 6. Clutch - 7. Gear shift control shaft - 8. Clutch control piping - 9. Clutch hydraulic control pump - 10. Clutch and brake oil feeding tank.

Fig. 19 bis - Clutch and gearbox controls - Convertible model

1. Clutch and brake oil feeding tank - 2. Clutch pedal - 3. Gear shift lever - 4. Clutch control piping - 5. Clutch - 6. Propelling unit - 7. Joints - 8. Gearbox - 9. Gear shift control box - 10. Gearshift control shaft - 11. Clutch hydraulic control pump.

Fig. 20 - Front suspension

1. Front brake shoe - 2. Master cylinder - 3. Front brake drum - 4. Control lever for adjustment of shock absorber - 5. Shock absorber oil filling union - 6. Top damper - 7. Adjusting rod - 8. Top guide of suspension - 9. Suspension rod - 10. Dowel retaining the suspension rod - 11. Attachment of axle to bodywork - 12. Front axle - 13. Front spring - 14. Lubricating plug - 15. Bottom suspension guide - 16. Bottom damper - 17. Plug for bottom guide.

REAR SUSPENSION

Type	Rigid axle with reaction arm and swinging axle shafts.
Springs	Semi-elliptical (no lubrication required).
Shock absorbers	Hydraulic, telescopic, SABIF type. The shock absorber is not adjustable.
Hydraulic fluid	Pegasus Mobilfluid 62.
Capacity	375 cu cm (about 0.66 pints) per shock absorber (correct quantity to be filled in when shock absorbers are being overhauled at our authorized workshops).

FRONT AXLE

Type	Rigid I-section beam.
Inclination of king pin	1° 7′.
Camber angle	1° 51′.
Castor angle	— 1° (negative).
Toe-in	4 to 6 mm (0.16 to 0.24 in) as measured on wheel rims, and with both wheels lifted from ground. Measurement taken at the middle of tyres by expansion gauge: 5 to 7.5 mm.
Adjustment of toe-in	Ends of track rods are adjustable by means of eccentric pivots.

BRAKES

Type	Expanding shoes (front brakes with two involving shoes).
Location	Front: on wheels - Rear: on propelling unit.

Diameter of drums	Front: 300 mm - Rear: 280 mm.
Brake control	SABIF hydraulic brakes, pedal operated, acting on front wheels and on propelling unit, for use in normal driving. Mechanical, hand operated, with handle placed under the instrument pannel, acting on the propelling unit only, for parking purposes.
Max. travels of braking	Brake pedal at 3/4 of travel; 4 to 5 teeth ratchet for the hand operated brake lever.

Fig. 21 - Braking chart - Coupé model

1. Front brake shoes - 2. Front master cylinders - 3. Tank for hydraulic brake fluid - 4. Brake pedal - 5. Lever for parking brake - 6. Fusebox - 7. Stop signal and rear winking lights - 8. Rear brakes - 9. Lever, hand operated, for rear brakes - 10. Cable, for hand control of rear brakes - 11. Switch for stop signal - 12. Control pump for hydraulic brakes - 13. Adjusting nut for parking brake.

Fig. 21 bis - Braking chart - Convertible model

1. Front brake shoes - 2. Master cylinders - 3. Tank for hydraulic brake fluid - 4. Nut adjusting the parking brake - 5. Lever for parking brake - 6. Fusebox - 7. Brake pedal - 8. Rear brake shoes - 9. Rear master cylinders - 10. Stop signal and rear winking lights - 11. Junction box for rear cables - 12. Hand control lever for rear brake - 13. Hand control cable for rear brakes - 14. Switch for stop signal - 15. Control pump for hydraulic brakes.

Brake adjustment	Nut on back plate of brake for rotation of inner eccentric. First, by light pressure, bring the shoe to contact the drum, then turn back the nut by about 1/12th of turn for the front wheel and by 1/6th for the rear wheels; check, after the adjustment has been carried out, that the car is braked by about half travel of the pedal.

Adjustment of parking brake	Nut on the end of the flexible control on dashboard, under the bonnet.
Tank of hydraulic brakes	Under the bonnet, on the convertible model on the left hand of the radiator; on the Coupé model, in common with the front suspension tank, provided with constant pressure pump and filling plug with dipstick.
Control of pressure pump	The pressure pump rod, once moved upward, must remain in such position.
Fuid	Brake vegetal oil SABIF P 2.

WHEELS

Rim	165 × 400.
Tyres	Special 165 × 400.
Tyre pressure	Michelin 1.5 to 1.7 kg/cm² (23 to 25 p.s.i.) Pirelli 1.7 to 1.8 kg/cm² (25 to 26 p.s.i.).
Lubrication of wheel nubs	Front wheels: remove the hub cover and fill 3/4 full with the prescribed grease. Rear wheels: Pressure greaser on rear axle hubs.
Spare wheel	Tyre pressure: 1.8 to 2 kg/cm² (26 to 28 p.s.i.). Fit the spare wheel at least every 4 months, and rotate the position to the four wheels.

ELECTRIC SYSTEM

Type	12-volt battery with grounded negative.

Dynamo	Located on the left hand of engine. Marelli, 200 W DN 22 C-200/12/1700D with separate regulator IR 15A-200/12.
Warning light of dynamo	on bottom of dial of revolution indicator. 12-volt, 2.5-watt bulb lighting up when engine stops, with key in second position (vertical), estinguishes with engine running, when the dynamo generates a current sufficient for charging the battery.
Battery	12-volt, 50 Ah; in the Coupé model is located under the bonnet, in the Convertible model, under the bottom of the luggage compartment.
Fusebox	Under the engine bonnet, on the left hand side. No. 10 fuses of 15A for protection of the circuits, as shown on fusebox cover.
Key switch	On instrument pannel. Same key as for the door on the driver side. Insert the key and turn clockwise - in first position (horizontal) battery and electrical services are connected; in second position (vertical) it connects the engine ignition, and pushed full home it controls the starting motor.
Side lights	12-volt, 3/20-watt, double filament bulb for side lighting and front direction indicators
	24-volt, 3-watt, warning lamp on revolution indicator dial. Control: Same knob as for headlights, set in first position.
Headlights	12-volt, 45/40-watt, double filament bulbs for driving and antidazzle lights.
	Control: Knob on instrument pannel in first position for side lights and in second position, turned rightward, for driving lights.

Fig. 22 - Electric system - Coupé model

1. Battery - 2. Dynamo - 3. Voltage regulator - 4. Starting motor - 5. Ignition coil - 6. Ignition distributor - 7. Warning light for dynamo - 8. Key switch for ignition, starting and services - 9. 10 fuse fusebox - 10. Switch for outer lighting - 11 .Electromagnetic switch for headlights change-over - 12. Wiring for anti-dazzle lights - 13. Wiring for driving lights - 14. Wiring for front side lights - 15. Warning light for side lights - 16. Wiring for red tail lights - 17. Number plate light - 18. Connection block, rear - 19. Control switch for inner lighting - 20. Inner lighting - 21. Watch - 22. Instrument pannel lighting lamps - 23. Switch for instrument pannel lamps - 24. Connection block for instrument pannel lighting - 25. Switch for direction indicators and headlights - 26. Device for winking lighting and automatic change over - 27. Wiring for front direction indicators - 28. Warning light for direction indicators - 29. Wiring for stop lights and rear direction indicators - 30. Switch for stop lights - 31. Engine compartment lights - 32. Automatic switch for engine compartment lighting - 33. Socket for lighting of engine compartment - 34. Switch for windscreen wiper - 35. Windscreen wiper - 36. Warning light for insufficient oil pressure - 37. Control switch for warning light of insufficient oil pressure - 38. Water thermometer - 39. Control for water thermometer - 40. Switch, with resistance, for heater fan - 41. Socket for heater - 42. Heater - 43. Warning light for carburettor starting device - 44. Switch for fog lights - 45. Fog lights - 46. Control switch for warning light of carburettor starting device - 47. Fuel level indicator - 48. Control for fuel level indicator - 49. Connection blocks, front - 50. Cigar lighter with warning light - 51. Electric horn - 52. Electro-magnetic switch with horns - 53. Control for electric horns - 54. Wire sockets - 55. Wireless set.

Fig. 22 bis - Electric system - Convertible model

1. Battery, 12-volt, 50 Ah - 2. Dynamo, 200-watt - 3. Voltage regulator - 4. Starting motor - 5. Ignition coil - 6. Coil distributor - 7. Warning light for dynamo - 8. Key switch for ignition, starting and services - 9. No. 10 fuses fusebox - 10. Control for outer lighting - 11. Electro-magnetic switch for headlights change-over - 12. Control for headlight electromagnetic switch - 13. Wiring for anti-dazzle lights - 14. Wiring for driving lights - 15. Wiring for side lights - 16. Warning light for side lights - 17. Wiring for red tail lights - 18. Number plate lights - 19. Connection block, rear - 22. Inner lighting - 21. Control switch for inner lighting - 22. Connection block, front - 23. Device for winking lights - 24. Direction indicators control - 25. Control for automatic return of direction indicators - 26. Wiring for front direction indicators - 27. Wiring for stop light and rear direction indicators - 28. Switch for stop lights - 29. Warning light for direction indicators - 30. Lamps for instrument pannel lighting - 31. Cigar-lighter with warning light - 32. Warning light for carburettor starting device - 33. Control switch for carburettor starting device - 34. Water thermometer - 35. Control for water thermometer - 36. Lamps for engine compartment lighting - 37. Socket for engine compartment lighting - 38. Automatic switch for engine compartment lighting - 39. Switch for windscreen wiper - 40. Windscreen wiper - 41. Fuel level indicator - 42. Control for fuel level indicator - 43. Heater - 44. Switch, with resistance, for heater fan - 45. Socket for heater - 46. Electromagnetic switch for horn - 47. Control for electric horns - 48. Electric horns - 49. Warning light for insufficient oil pressure - 50. Control switch for insufficient oil pressure indicator - 51. Instrument pannel lighting switch - 52. Watch - 53. Socket for plug wires - 54. Wireless set.

Fog lamps (only for Coupé model)	12-volt, 50-watt bulbs. Control: knob located under the instrument pannel.
Rear lamps	Red, double-filament bulbs, stop signal and direction indicators, 12-volt, 3/20W. Control: Red lights with side lights, stop signal with brake pedal, lever on steering wheel for direction indicators.
Number plate lights	12-volt, 5-watt UNI 1991 bulbs. Control: together with side lights.
Lighting of instrument pannel	12-volt, 2.5-watt bulbs. Switching and intensity adjustment, by turning rightwise the control knob, and with lighting control knob either in first or second position.
Inner lighting	12-volt, 5-watt, UNI 1991 bulbs. Control: Knob located under the instrument pannel.
Lighting of engine compartment	12-volt, 5-watt, UNI 1991 bulbs. Control: automatic by opening the bonnet and with key either in first or second position.
Lighting of luggage compartment - Saloon mod.	By the same lights as for number plate.
Direction indicators	Front side lights and rear direction indicators with winking lights. 20-watt filament of 12-volt bulbs 3/20-watt (12-volt warning lights, 2.5-watt on mileometer). Control - Coupé model: lever on steering wheel; lever on steering wheel to be moved to the direction desired, automatic return by streightening the steering wheel to normal position (to discontinue the signal by the lever, it shall be pushed to the opposite direction). Control: warning light on dial of mileometer.
Warning light for oil pressure indicator	12-volt, 2.5-watt bulb on dial of mileometer.
Warning light for carburettor starting device	12-volt, 2.5-watt bulb on dial of revolution counter.
Electric horn	Control: on steering wheel.
Windscreen wiper	Control: with key set either in first or second position and knob on instrument pannel in lowered position.
Watch	Electric, on dial of revolution counter.

BODYWORK

Type	2-door, integral construction.
No. of seats	Coupé model: two plus two occasional rear seats. Convertible model: two.
Doors	Handles: outer: by push button, inner: rotating; door puller, safety lock for passenger side door by rotating the inner handle to the opposite direction as for opening, outer lock for driver side door, same key as for ignition and services, rear luggage compartment and glove locker on instrument pannel and, on Convertible model, also for fuel filling lid. Window glass may be fully lowered, swinging front windows.
Windscreen	Curved glass with warm air jet from inside, for demisting and defrosting purposes by the heater, and water or detergent solution sprayer from outside

	by control push button on the instrument pannel.
Driving mirror	Swinging; on Coupé model, with two-position reflector.
Sun shade	Double, adjustable (on Coupé model).
Rear window	Curved glass (on Coupé model).
Canvas hood	Folding behind the seat back (on Convertible model).
Wireless set (on request)	Tuning and controls on instrument pannel feeding unit and loudspeaker under the instrument pannel, second loudspeaker behind the rear seat back (only for Coupé model) - Aereal on front wing - operates with key set either in first or second position.

TOOL KIT

Accomodation	In rear luggage compartment.
Lifting jack	Of the vertical column type - Applied to the car by inserting the pin on the side of car under the door opening, into the suitable seat. Its lock moves inward by inserting the above mentioned pin and returns from inside at the end of the operation. Apply the parking brake before jacking the car.
Wheel brace	Located beside the lifting jack.
Starting handle	On request - to be used on emergency by removing the radiator cowl.
Tool bag	Holding: screwdriver, spark plug spanner, oil plug spanner, four open-end spanners, two pipe spanners, monkey spanner - universal pincers, pin for pipe spanners - Steel hammer - spanner for wheel hub nut.

DIMENSIONS - WEIGHTS - FUEL CONSUMPTION AND PERFORMANCES

	Coupé model	Convertible model
Wheelbase	8'8 3/16"	8' 1/2"
Front track	4'2 3/8"	4'2 3/8"
Rear track	4'3 3/16"	4'3 3/16"
Overall length	14' 1'	13'10 1/2"
Overall width	5'1"	5'1 1/4"
Overall height (car empty)	4'5 1/2"	—
Ground clearance (car fully laden)	6"	6"
Minimum turning circle	32'9 3/4"	32'9 3/4"
Weights:		
— dry, with accessories and spare wheel	24 1/2 cwt	24 cwt
— in kerb order with two passengers	29 cwt	28 cwt

Top speed (in m.p.h.) in	low	2nd	3rd	Top speed	Reverse
— Coupé model	34	52	75 over	112	34
— Convertible model	34	52	75	110	34
Gradients with engine at maximum torque	38%	24%	15%	8%	38%

Fuel consumption	22,3 m.p.g. (high octane)	
Range at cruising speed	340 miles	280 miles

SUPPLIES

		Gallons	
		Imp. B.	U.S.A.
Fuel tank:			
Coupé model	Petrol, O.N. 92	16 1/2 including 1 1/4 g. reserve	20 including 1,5 g. reserve
Convertible model	Petrol, O.N. 92	12 1/2 including 1 3/4 g. reserve	15 1/3 including 2 g. reserve
Radiator and engine	Water or anti-freeze mixtures	2 1/3	2 3/4
		Pints	
		Imp. B.	U.S.A.
Engine sump and filters	Oil	8 3/4	10 1/2
Gearbox and differential	Oil	8	9 1/2
Hydraulic brake tank	SABIF P/2 oil	0,47	0,58

ANTI-FREEZE MIXTURE

Ethyl-glycol d = 1,12 and water		Pints	
		Imp. B.	U.S.A.
— 5 deg.	glycol	2 1/2	3 1/4
	water	15 3/4	19
— 15 deg.	glycol	5 1/4	6 1/4
	water	13	16
— 30 deg.	glycol	8	10
	water	10 1/4	12 1/4
Glycerine d=1,26 and water			
— 5 deg.	glycerine	3 1/2	3 3/4
	water	15	18 1/2
— 15 deg.	glycerine	6 3/4	8
	water	11 1/2	14 1/4
— 30 deg.	glycerine	10	12
	water	8 1/4	10 1/2

Also a methyl-mixture may be used (rather unstable, owing to alcohol vaporization) at the same proportion as for glycerine-water mixture.

Use only oils and grease of the following Makers:
— MOBILOIL COMPANY Ltd.
— ESSO STANDARD

	in the following grades:
Engine	for temperatures below 0°C (32°F): MOBILOIL ARTIC ESSO Motor Oil 20 W
	for temperature within 0°C and 20°C (32 and 68°F): MOBILOIL A ESSO Motor Oil 30
	for temperature above 20°C (68°F): MOBILOIL AF ESSO Motor Oil 40
	or, for all temperatures: MOBILOIL SPECIAL ESSO Extra Motor Oil 10 W - 20 W - 30
Rear unit and axle shaft internal joints	MOBILUBE GX 90 ESSO XP compound EP 90
Steering box	MOBILUBE GX 140 ESSO XP Compound EP 140
Front suspension	
Shock absorber feeding tank	MOBILOIL ARCTIC ESSO Motor Oil 20 W
Bottom guide	MOBILUBE GX 90 ESSO XP Compound EP 90
Wheel hub bearings	MOBILGREASE MP ESSO Multipurpose Grease H
Pressure greasers	MOBILGREASE 2 ESSO Chassis Grease H
Battery terminals	PURE VASELINE
Ignition distributor	SPECIAL GREASE FOR IGNITION DISTRIBUTORS

SUMMARY OF MAINTENANCE INSTRUCTIONS

BEFORE USING THE CAR

1. Engine	Check oil sump level.
2. Radiator	Check water level and, if necessary, fill up, using soft water
3. Tyres	Check for correct pressure
4. Brakes	Check position of brake tank piston.

EVERY 2000 MILES

Lubrication

5. Engine	Replace oil in the proper quantity: 9 pints.
6. Ignition distributor	Screw down by two turns the cover of the greaser, if necessary, fill up with grease.
7. Water pump and fan	Lubricate through the proper greasers.
8. Gearbox-differential unit 9. Rear inner joints 10. Steering gear	Check oil level and, if necessary, fill up.
11. Steering rod joint	Lubricate through the suitable greasers.
12. Front suspension	Refill shock absorber feeding tank. Quantity: 7/16th pint - Add oil in lower plug.
13. Rear outer joints	Grease through the suitable pressure greaser

Inspection and cleaning

14. Tappets	Check clearance between valves and rockers. Check pressure of cylinders by rotating the engine by hand using the suitable handle with progressive exclusion of the cylinders.
15. V-belt of fan	Check for stretching - Stretching is normal when the belt does not slip and, with engine inoperative, allows rotation of the fan without too much effort.
16. Clutch	Check free play of pedal.
17. Hydraulic brakes tank and pipings	Check level and, if necessary, top up with brake vegetal fluid. Quantity: 7/16th pint. Check pipings for sealing and fastening.
18. Battery	Check the electrolytic fluid level is from 5 to 8 mm (0.2 to 0.3 in) above the plates and, if necessary, add distilled water. Density of electrolytic fluid: 30° to 32° Beaumé, when battery is charged (14° Beaumé when the battery is fully discharged). Charge the battery when reaching 17° to 20° Beaumé. NOTE — In summertime cheking the level of fluid may be needed every 1000 to 1500 km (600 to 1000 miles).
19. Filter of fuel pump	Remove and clean with petrol.
20. Air cleaners of engine	Remove the filtering element, removing the cover of cleaner - wash thoroughly

	with petrol then lubricate by dipping in engine oil.
21. Spark plugs	Sand blast and reset the proper gap of the points.

EVERY 4000 MILES

Lubrication

22. Center bearing of transmission shaft	Grease through the suitable greaser.
23. Clutch shaft	Grease through the suitable greaser with SFERUL « L » D REINACH « OLEOBLITZ » grease.

Inspection and checking

24. Oil filter	Change the filtering element and rubber gasket between filter body and cover. On assembly, see that the gasket fit into the cover seat. Start the engine and check for leakeges.
25. Radiator	Change the cooling water using soft water - Calcareous water fouls the piping preventing the free circulation, thus decreasing the cooling action on the cylinder heads and causing knocking due to self-ignition. If soft water is not available, instead of changing, filter and reuse the existing water.

EVERY 6000 MILES

26. Oil filter on propelling unit sunction pipe	Remove filter and wash carefully with petrol.
27. Gearbox - differential unit	Replace oil. - Quantity required: 5 3/4 pint.
28. Front and rear whell hubs	Lubricate.

EVERY THREE OR FOUR MONTHS

29. Battery	Check the terminals for tightening and freedom of sulphatation, and clean, by a rag soaked in water and sodium carbonate solution, all traces of acid, then if necessary, smear the terminals with suitable grease to prevent oxsydation.
30. Tyres	Fit the spare wheel and move the other wheels round.

Fig. 23 - Lubrication, inspection and cleaning chart (Coupé model)

Fig. 24 - Lubrication, inpection and cleaning chart (Convertible model)

AVRELIA

G. T. 2500

Coupé and Convertible Models

(Starting from cars Nos. B 20-3817, B 20 S-1436, B 24 S-1332)

INSTRUCTION BOOK

(For illustrations, see Italian edition)

Printed in Italy

Data and characteristics appearing in this Instruction Book may be varied by the Firm without any notice being released.

TECHNICAL ASSISTANCE DEPARTMENT
Letter-Press 001.175 (VII-1957-300)

LANCIA & C. - FABBRICA AUTOMOBILI - TORINO - S. p. A.

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FOREWORD

The specifications, general data, charts and instructions deemed necessary for the regular maintenance and to ensure a satisfactory performance of the car, are contained herein.

This is not meant to be a complete description of the various units, nor a detailed explanation of their operation; the owner will find herein what he normally needs to know in order to make an intelligent use of the possibilities of the car, thus avoiding damaging the units.

The operating and maintenance instructions cover the average requirements of the owners which, of course, may change according to the particular circumstances and service performances that each user may require from his car. It is on the constant and close adherence to these instructions that depend the regular operation and life of the components, as well as low maintenance costs and petrol consumption. On the other hand, overlooking these instructions will entail the annulment of the guarantee which is granted for the product of the Company.

We have clearly shown how the adjustments and periodicals inspections must be carried out by the user servicing his own car, but for those who prefer having such operations carried out by a specialized personnel in workshops provided with the necessary equipment and facilities, we suggest to call on our Works, or on our authorized Agencies, also for all normal maintenance service.

For complete overhaul we strongly advise the owners to call only on our Repair Shops or on those of our authorized Agencies and to use only original spare parts.

INDEX

IDENTIFICATION NUMBERS OF THE CAR

Fig. 2 - Standard Coupé Model

The identification number bears the prefix B20 or B20S stamped on the center of deshboard under the bonnet.
Example: B20-3821 (R.H.D.)
B20S-1443 (L.H.D.)

Fig. 2 bis - Convertible model

The identification number bears the prefix B24S stamped on the center of dashboard under the bonnet.
Example: B24S-1343.

Fig. 2 ter - Engine

The identification number bears the prefix B20, for Coupé model, and B24 for convertible model, stamped on the right hand side of the engine body.
Examples: MOT B20 No. 4988
MOT B24 No. 1468

INSTRUMENTS AND CONTROLS

Fig. 3 - Instruments and controls (for Coupé model, R.H.D.)

1. Windscreen wiper - 2. Instrument panel lighting control - 3. Radio panel - 4. Key switch for engine ignition, starting and services - 5. Cigar lighter - 6. Outer lighting control - 7. Windscreen sprayer - 8. Petrol level indicator - 9. Mileometer - 10. Oil pressure gauge with warning light - 11. Water thermometer - 12. Driving mirror - 13. Warning light for carburettor starter device - 14. Warning light for dynamo - 15. Engine tachometer - 16. Warning light for town lights - 17. Sun-shade - 18. Ash-tray - 19. Steering wheel - 20. Change-over switch and direction indicator control - 21. Horn control - 22. Handle for window lifting - 23. Watch - 24. Bonnet control lever - 25. Gearshift lever - 26. Warning lights for R.H. and L.H. direction indicators - 27. Control lever for carburattor starting device - 28. Accelerator hand control lever - 29. Mileometer trip control (not to be set to zero while running) - 30. Air intake control lever - 31. Accelerator pedal - 32. Brake pedal - 33. Inner lighting control switch - 34. Clutch pedal - 35. Parking brake lever - 36. Switch and control for heating system fan - 37. Fog light control - 38. Knob for windscreen wiper control - 39. Control knob for heater air intake - 40. Car heater - 41. Glove compartment - 42. Ash-tray.

Fig. 3 bis - Instruments and controls (for Saloon models - L.H.D.)

1. Sun shade - 2. Petrol level indicator - 3. Mileometer - 4. Oil pressure gauge with warning light - 5. Water thermometer - 6. Driving mirror - 7. Warning light for carburattor starting device - 8. Warning light for dynamo - 9. Engine tachometer - 10. Warning lamp for side lights - 11. Windscreen sprayer - 12. Outer lighting control switch - 13. Cigar lighter - 14. Key switch for engine ignition, starting and services - 15. Radio panel - 16. Instrument panel lighting control - 17. Windscreen wiper

- 18. Ash-tray - 19. Glove locker - 20. Car heater - 21. Control knob for car heater air intake - 22. Control knob for windscreen wiper - 23. Fog light control - 24. Accelerator pedal - 25. Control switch for heater fan - 26. Hand brake lever - 27. Brake pedal - 28. Inner light control - 29. Clutch pedal - 30. Air intake control lever - 31. Watch - 32. Hand lever for accelerator control - 33. Control lever for carburettor starting device - 34. Gear shift lever - 35. Mileometer trip control (not to be set to zero while running) - 36. Bonnet opening lever - 37. Warning lights for R.H. and L.H. direction indicators - 38. Handle for glass opening - 39. Horn control - 40. Change-over switch and direction indicators control - 41. Steering wheel - 42. Ash-tray.

Fig. 4 - Instruments and controls (Convertible model)

1. Warning lights for direction indicators - 2. Petrol level indicator - 3. Mileometer - 4. Oil pressure gauge with warning light - 5. Water thermometer with warning light - 6. Warning light for carburattor starting device - 7. Engine revolution counter - 8. Warning light for dynamo - 9. Warning light for side lights - 10. Direction indicator control - 11. Driving mirror - 12. Windscreen wiper control knob - 13. Key-switch for engine ignition, starting and services - 14. Heater-fan switch knob - 15. Radio panel - 16. Heater air intake control lever - 17. Windscreen wiper - 18. Ash tray - 19. Glove locker - 20. Cigar lighter - 21. Car heater - 22. Inner lighting switch - 23. Accelerator pedal - 24. Reserve control tap - 25. Gear shift lever - 26. Hand brake lever - 27. Brake pedal - 28. Hand control accelerator lever - 29. Clutch pedal - 30. Control lever for carburattor starter device - 31. Instrument pannel lighting control - 32. Aerator control - 33. Watch - 34. Mileometer trip control (not to be set to zero while running) - 35. Bonnet opening control lever - 36. Horn control - 37. Windscreen sprayer control knob - 38. Headlight control - 39. Headlight change-over control lever.

WITH NEW CAR

FOR THE FIRST 2000 KM (1300 MILES)

Running-in

The proper use of the vehicle for the first thousands kilometers is of good assistance in the setting of all moving parts as well as to their life.

In order to perform a gradual running in, the following procedure shall be applied during such a period:

— When starting warm up the engine gradually and avoid bringing it to a high R.P.M. rate;

— When running on level ground, the following speeds are not to be exceeded

Covered miles	Max. speeds allowed			
	Low speed	2nd speed	3rd speed	High speed
For the first (650 miles)	25	38	50	75
Between (650 and 1300 miles) . .	30	45	60	90

— On long stretches of road release from time to time the accelerator pedal for a few seconds;

— When climbing never push full down the accelerator pedal, but rather shift to a lower gear, if necessary.

ROAD TEST: BETWEEN 2000 AND 2500 KM. (1300 AND 1600 MILES)

Maintenance

Lubricate the car throughout and replace the oil in the engine;

— clean the oil strainer body (without replacing the filtering element);

— clean the fuel pump filter;

— clean and grease the terminals of the battery;

— check the electrolyte level in the battery;

— clean inside of fuel tank so as to remove all impurities, if present;

— check for level and oil sealing the gearbox, the differential casing and the steering gear box;

— check tyres for pressure.

Inspections

Engine

Check engine suspension for locking of bolts;
— Check the engine exhaust manifold and piping for proper tightening;
— Check the tension of the fan belt and opening of shutters (thermostat);
— Check for locking the cylinder head and adjust tappets
— Check and clean the air cleaner and carburettor, adjust idle running, check the starter for proper operation and the carburettor support for locking
— Inspect the spark plugs, adjust the electrodes, sand blast and check on test bench
— Inspect the coil ignition, adjust the contact points, check on test bench and adjust ignition timing on engine.

Clutch

Check free play of clutch pedal.

Transmission and gearbox

— Check for proper tightening the screws fastening the support of the gearshift control lever and of the steering column to the instrument panel
— Check gearbox control linkage, the ring-nut retaining the lever for tightening, and gearshift mechanism for proper operation.
— Check for proper tightening the nuts of propeller shaft joint, and fastening the rubber attachment to gearbox and rear axle.

Brakes

— Check oil level of feeding tank of hydraulic brakes and check the relevant pipings for sealing.

— Check for sealing and proper operation the hydraulic brake control pump.
— Check the proper operation of parking brake.
— Carefully clean by air blast the linings and drums of front brakes.
— Adjust brakes and check free travel of brake pedal.

Steering gear and front suspension

— Check oil level of feeding tank of front suspension and check the relevant pipings for sealing.
— Check fastening of front axle to body-work.
— Check for locking the bolt fastening the lever to the drop arm, the bolt fastening the sleeve of the steering column, tie-rods, knuckle joints and silent blocks of steering gear.

Rear suspension

Check for locking the U-bolts of rear springs and attachments of shock absorbers.

Electric system and instruments

— Check the dynamo for regular charging rate of the battery.
— Check: lighting and focus of headlights, the tail lights, the inner lighting of the car, the horns, the windscreen wiper, the windscreen sprayers, the car heater.
— Check for fixing and operation the mileometer, the tacheometer, the oil pressure gauge.

Bodywork

— Check for operation and lubricate the hinges, spring latches and cremone bolts of doors.

— Check for operation locks and window lifting gears (locks are not to be lubricated by oil; use graphite instead).
— Check for fastening: bumpers, handles, number plates and trimmings.

ROAD TEST: BETWEEN 5500 AND 6000 KM. (3400 AND 3700 MILES)

Maintenance

— Lubricate the car throughout and replace the oil in the engine sump.
— Wash the oil filter body and replace the filtering element.
— Wash the petrol pump filter.
— Clean and grease the battery terminals.
— Check the electrolyte level in the battery.
— Check oil level and inspect the gearbox, the differential unit and steering gear casing for sealing.
— Check pressure of tyres.
— Replace cooling water in the radiator.

Inspections

Engine

— Check for locking the engine suspensions.
— Check for locking engine exhaust manifold and relevant pipings;
— Check tension of fan belt and opening of shutter (thermostat).
— Check for sealing the delivery pipe to oil pressure gauge.
— Adjust clearance of tappets.
— Check and clean carburettor and air cleaner, adjust idling jet.

— Check operation of starter device and fastening of support of carburettor.
— Check spark plugs, adjust electrodes, sand blast and inspect on test bench.
— Check for compression ratings.
— Check coil ignition, adjust contact points, check on test bench and adjust ignition timing of engine.

Clutch

Check free play of pedal.

Transmission and gearbox

— Check for tightening the screws fastening the support of gearshift control lever and of steering column to instrument panel.
— Check gearbox control linkage, tightening of ring-nut retaining the gearshift lever and smooth operation of gearshift mechanism.
— Check tightening of nuts fastening the propeller shaft joints and fastening the elastic attachments to gearbox and rear axle.

Brakes

— Check the oil feeding tank of hydraulic brakes for level and relevant pipings for sealing.
— Check for sealing and proper operation the hydraulic brake control pump.
— Check the parking brake for proper operation.
— Clean carefully by air blast the linings and drums of front and rear brakes, check cylinders for sealing and smooth operation.
— Adjust brakes and check free play of pedal.

Steering gear and front suspension

— Check oil feeding tank of front suspension for level and relevant pipings for sealing.

— Check fastening of front axle to bodywork.

— Check locking of bolt fastening the lever to driven steering shaft; bolt fastening the sleeve of steering column, tie-rods, knuckle joints, drag link and silentblocks of steering gear.

— Check wheels for toe-in.

Rear suspension

Check locking of U-bolts of rear springs and attachments of shock absorbers.

Electric system and instruments

— Check the dynamo for proper charging rate of battery.

— Check: lighting up and beam direction of headlights, direction indicators, tail lights, inner lighting of car, horns, windscreen wiper, windscreen sprayer and car heater.

Bodywork

— Check for fitting and operation the mileometer, the tachometer, and the oil pressure gauge.

— Check for operation and lubricate hinges, spring latches, and cremone bolts of doors.

— Check for operation locks and window lifting gears (locks are not to be lubricated by oil, use graphite dust instead).

— Check fastening of bumpers, handles, number plates and trimmings.

Before using the car

Before starting for a run, checking the following items will be necessary:

— The fuel must be sufficient for the run being performed.

— The radiator cooling water shall reach the lower level of the filling plug. For water filling, avoid calcareous water to prevent deposits that may jeopardize the satisfactory performance of the engine. Should alcohol-water anti-freeze compound be used, alcohol shall be added for topping up. If other mixtures are used, addition of water will be sufficient.

— Oil in the engine sump shall not be much lower than level marked « Max » on the dipistick, in order to avoid, while travelling, to reach the minimum level.

— The tyres must be inflated to the proper pressure, according to instructions including also the spare wheel, bearing in mind that tyres unproperly inflated decrease road holding of the car, undergo a earlier wear and decrease the braking efficiency.

— The brake tank rod, when pulled upward, shall remain in such position.

Starting the engine

— With the key on the instrument panel set in second position, the warning lamp of the dynamo must light up and the petrol level indicator must mark.

— Push the lever of the carburettor starting device, then push down the key on the instrument pannel.

— When the engine is cold, or when operating at very low temperatures,

depressing a few times the accelerator pedal might be needed.

— As soon as the engine is started, release the key and, gradually, according to the engine requirements, reset back the lever of the carburettor starting device; this lever must be reset fully back when the engine operates smoothly.

— Should the engine fail to star, repeate the whole procedure stopping a short time between two trials, thus allowing the starting motor to stop before being operated again.

— When starting a warm engine, operating the carburettor starter device becomes no longer necessary.

— When operating at very low temperatures, operate the clutch pedal to free the engine from the gearbox.

N.B. — When the engine is started and warmed up, always reset back the lever of the carburettor starting device. When the engine runs at its maximum rating, check that the pointer of the oil pressure gauge moves over the center sector of the dial.

When repeatedly starting up and using the carburettor starter device with insistence, it may occour that an excess of petrol accumulates in the inlet manifold, which may not be burned. In this intance, to facilitate starting, bring the carburettor starter device fully backward, then, while pushing the key of the starter motor, press the accelerator pedal full down, so as to enable the engine taking

in a bigger amount of air and discharge the excess of petrol.

Failure to start

— The starting motor does not operate: the battery may be discharged, the connections may be faulty or a failure in the starting unit or in the circuit may have occurred.

— The ignition fails: dirty spark plugs, distributor contacts to be cleaned, faulty coil distributor connections, blow-up fuse, faulty timing of ignition.

— Petrol fails to reach the carburettor: the tank is empty or needs being set to « reserve », or feeding pump to be primed, clugged filters, piping and pump unit need being checked.

— When the engine is at rest for inspections, avoid leaving the switch key in second position, to prevent overheating the coil and unnecessary discharge of the battery.

Rough running of engine

— Repeated spitting, particularly at full throttle: the carburettor nozzles may be partially clogged, insufficient delivery of petrol owing to dirty filters or faulty pump, foreign matters in the petrol.

— Irregular firing: dirty spark plugs or incorrect gap between the points, points may need cleaning, faulty connection or insulation of coil-distributor-spark plugs.

— Smoky exhaust: mixture too rich, faulty operation of the carburettor floater, leaks at the gaskets of the carburettor nozzles.

Overheating of water in the cooling system

— Insufficient water level (minimum level allowed: the water should cover the pipes in the upper chamber of radiator).

— Belt, for control of fan and pump, slipping.

— Radiator shutters and thermostat are not operating properly.

— Water pipes and chambers are clogged.

Oil pressure in the engine

The pointer of the oil pressure gauge shows the pressure of the engine oil which, in operation, must reach the center sector of dial when the car is running at 65 km/h (40 m.p.h.) in top speed. However, this pressure value may vary owing to the quality of oil used, whether thick or fluid, or according to the operating temperature.

Economy in operation

The operating condition of the car and particularly running on upgrading roads, may be cause of unusual fuel consumption.

Furthermore, also the manner the car is driven may be important on this account. Sudden accelerations and hard braking at high speed, certainly do not provide for a low fuel consumption. Low fuel consumption is assisted by gradual encrease of speed and timely slowing-down, when stopping is foreseen.

Gear shifting

When starting the engine, the gear shift lever must be in neutral position, same as parking brake lever must be released when starting the car.

As the 2nd, 3rd, and top gear are synchromeshed, when engaging one of these gears, you only need pressing the clutch pedal, carrying out the gear shifting, by moving unhurriedly the lever, and then releasing the clutch pedal.

When shifting, however, from 2nd gear to low gear, depress the clutch pedal, disengage the gear, release the clutch pedal and throttle up the engine, depress again the clutch pedal and engage the gear, then after the engagement has been carried out, release the clutch pedal.

The speeds at which it is advisable shifting the gears depends on road conditions and on load condition of the car.

Fig. 5 - Positions of gear shift lever on the Coupé model

Fig. 6 - Positions of gear shift lever on the Convertible model

Bearing in mind the foregoing, the maximum speeds — which should never be exceeded — for each gear, are as follows:

30 mph in low gear
50 mph in 2nd gear
75 mph in 3rd gear

Downhill running

When the engine is used as a brake on long slopes, the ignition shall not be cut-off, as the small amount of petrol that the carburettor allows into the engine would remain unburnt and might damage the parts, stop in the exhaust pipings and then become ignited, thus causing serious damages.

Clutch pedal

Avoid keeping the foot constantly on the clutch pedal, as the least pressure might cause the clutch to slip with ensuing unnecessary wear to the thrust bearing of the clutch plate.

Stopping the engine

Turn off the ignition by moving leftward the switch key. When the engine stops, set the gear shift lever to neutral position and, should the car be parked, apply the parking brake.

Engine bonnet

Locking from inside the car by means of a lever located on the left hand side under the instrument pannel. When unlocked, the bonnet is slightly open, and complete opening is only possible by releasing a front latch — a strut rod keeps it in the lifted position and two automatic switched bulbs light up the engine compartment. To close, release the strut rod by pushing upward the bonnet, then lower and press it close.

Luggage compartment lid - Coupé model

Opening is effected by rotating the right hand lamp for lighting of the number plate, whereon the safety lock is applied, a retaining rod ensures the full open position. The rod is released by pushing upward the lid.

Lighting up of the luggage compartment is provided by the number plate light.

Luggage compartment lid - Convertible model

Opening is performed from inside the car by a lever placed behind the driver's seat, provided whith lock; a strut

bar ensures the full open position and is released for closing by pushing upward the lid.

Air conditioning inside the car

The car is provided with aerator and heater devices, by the use of which the most comfortable temperature and aeration desired may be obtained. A front air intake, with opening and closing means controlled by a knob placed on the instrument pannel, takes the air in suitably cleaned to the conditioning ducts, wherefrom it may be delivered inside the car either heated or not.

The heating device is placed under the instrument pannel and uses, for heating purpose, the engine water (see position of tap, fig. 7); it is fitted with fan operated by a switch on the instrument pannel.

The air flows into the car through slots in the upper frame of the instrument pannel with the purpose of demisting and defrosting the windscreen, and through the heater lids when open.

Fig. 7 - Heater tap

A = Closed - B = Open.

An air intake aerator, controlled by a lever placed under the instrument pannel on the driver hand side intakes only fresh air.

The conditions which may be brought about are the following:

— **No air intake:** the air intakes are closed

(the knob has not been pulled - the lever not operated).

— **Cool air:** heater tap in closed position; open front air intake (the knob is pulled out), the aerator lever is operated and so is the fan, if more air circulation is desired.

— **Warm air:** heater tap in open position; the front air intake is open, as well as the fan is being operated, if more air circulation is desired. Check that the lever controlling the aerator, placed under the instrument pannel, is set on its closed position.

The fan does not operate when the knob is turned fully leftward. By turning the knob to the right, first the fan is operated at full speed, then the speed is decreased by turning the knob further rightward.

Should the window glass be steamed up inside the car, slightly open the swinging windows for demisting.

Change-over switch for headlights - Coupé model

By the lever on the steering wheel (same lever as for direction indicators control). When pulled backward, the lever returns with blinking light; when set forward, the lever is kept in position providing antidazzle lighting.

Change-over switch for headlights - Convertible model

By the lever on the instrument pannel. When pushed downward, the lever returns to the original position with blinking light; when moved upward, the lever is kept in position giving antidazzle lighting.

Windscreen sprayer

This unit is operated by pulling the knob on the instrument pannel which, when released, returns spraying two jets of fluid under the windscreen wipers. The fluid in the tank located under the bonnet may be either water or a detergent solution unaffecting the paint or the rubber, as 1 to 2 percent Trico Windscreen Washer Solvent. (Containt of tank: for Coupé model, about 2 litres, for Convertible model, about 1 litre).

Fig. 8 - Switch control for change-over lights and direction indicators - Coupé model

A = Antidazzle light - L = Antidazzle blinking light - D = Control of right hand direction indicator - S = Control of left hand direction indicator.

Cigar lighter

Placed on the side of the instrument pannel: when pushing-in the center section, it holds in such position until the cigar lighter is ready for use. When the center section returns to its original position, remove the cigal lighter from its seat, use and replace it. The warning lamp is a 12V-2.5W bulb.

ENGINE

	Type	60° six-cylinder, V-type
	Bore	78 mm
	Stroke	85.5 mm
	Total capacity	2451 c.c.
	Compression ratio	ab. 8,4
	Nominal power	26 H.P.
	Effective power at 5000 rpm)	112 H.P. (118 HP SAE)
	Max. rating	5300 rpm
	Max torque at 3500 rpm	126.5 lb.ft.
	Mean horsepower at max. rating	85.5 HP
	Dry weight	353 lbs
Cylinder head	Aluminium, with built-in cast iron valve seats.	
Cylinder body	Aluminium, with pressed-in cast iron liners.	
Crankshaft	On four aluminium main bearings.	
Connecting rods	Steel, with bronze piston pin bushings	
Pistons	Aluminium, with three compression rings and one oilscraper ring.	

TIMING

Camshaft	— In crankcase, chain driven, with automatic hydraulic stretcher.	
Valves	— O.H., inclined, pushrod and rocker controlled.	
Valve timing (cold engine)	Inlet	opens 22° before T.D.C. closes 82° after B.D.C.
	Exhaust	opens 55° before B.D.C. closes 23° after T.D.C.

Valve clearance	Inlet: 0.25 mm (0.020 in) Exhaust: 0.035 mm (0.014 in).

Fig. 9 - Engine - Coupé model

Timing	Cylinders Nos. 1 and 6 at T.D.C. with reference mark « 0 » on flywheel mated with mark ¼ on flywheel casing. With valve clearance 0.50 mm (0.02 in) the inlet valve of No. 1 cylinder begins opening 3° before T.D.C., i.e., when the tooth preceeding that marked « 0 » mating mark ¼ as above mentioned.

FUEL FEEDING

Fuel tank	Coupé model. At rear. Filling plug located in the luggage compartment; bottom drain plug with petrol suction filter. Convertible model Behind the seats back, filling plug with safety lid, on right hand of car, bottom drain plugs with petrol suction filters.
Reserve tap	— Located on the floor, near the left hand seat. Two positions are provided for the tap: — lever turned leftward: reserve is off. Lever turned toward the direction of car: reserve in. After filling the tank, turn the tap lever to « off » position. Turn the lever to the « in » position before the normal amount of fuel is exhausted.
Level indicator	Electric, on instrument pannel. Operating when the key is set either in first or second position.

Fig. 10 - Engine - Convertible model

Fuel delivery	By mechanical operated pump located on the right hand of engine.
Fuel filters	Located in the tank, in the delivery pump, at inlet end of carburettor.
Carburettor	Weber 40 DCL 5, twin-body
	Diffusers 25 mm
	Main jets 1.35
	Idle running jets 0.55
	Air brake 1.60
	Pump jet 1.65

Fig. 11 - Position of jets and carburettor controls

1. Idle running jet (to the opposite side the jet for the left hand cylinders - 2. Adiusting screw for starting device jet (I = winter; E = summer) - 3. Main jet (jet of left bank cylinders on the opposite side) - 4. Adjusting screw for idle running - 5. Throttle adjusting screw - 6. Throttle opening control lever - 7. Control for starting device.

Controls	— Accelerator: foot-pedal located on the right hand of the brake pedal, hand lever under the instrument pannel.
	— Carburettor starting device: lever located on the side of the accelerator lever, warning light on instrument pannel.
Air silencer filters	on top of carburettor.

Fig. 12 - Fuel feeding chart - Coupé model

1. Membrane type mechanical pump with fuel filter - 2. Carburettor - 3. Air cleaners - 4. Control lever for carburettor starting device - 5. Fuel level indicator (in the mileometer) - 6. Fuel tank - 7. Fuel level indicator control - 8. Fuel filling plug - 9. Accelerator hand control lever - 10. « Reserve » tap - 11. Accelerator control pedal.

Fig. 12 bis - Fuel feeding chart - Convertible model

1. Membrane, mechanical pump with bowl type filter - 2. Carburettor - 3. Air cleaners - 4. Accelerator hand control lever - 5. Carburettor starting device control lever - 6. Fuel filling plug - 7. Fuel level indicator control - 8. Fuel tank - 9. Oil pressure gauge and fuel level indicator - 10. « Reserve » tap - 11. Accelerator control pedal.

Adjusting the idle running	Slacken the adjusting screw for throttles opening until they are fully closed, then screw down by about a half turn. Loosen the two screws for idle running adjustment and, with engine warm, screw them down gradually until the engine operates smoothly without spitting and smoky exhaust (right hand exhaust for right hand cylinders, and vice-versa).

IGNITION

Type	— Coil type, Marelli B 200 A, and ignition distributor Marelli S 53 C (clockwise rotation, as seen from above).
Switch	— Key in the instrument pannel in second position (vertical).

Fig. 13 - Cylinder order number and valve position
(A = inlet - S = Exhaust).

Spark plugs	AC 45 XL — Champion NA 8.
Plug diameter and pitch	14 × 1,25.
Gap between spark plug points	0.5 to 0.6 mm (0.020 to 0.024 in).
Firing order	1 - 4 - 3 - 6 - 5 - 2.
Fixed advance	12°.
	± 5° for particular requirements.

Automatic advance	22° over the fixed advance.
Gap of contact points	0.42 to 0.48 mm (0.016 to 0.019 in)
Ignition timing	The fixed advance of 13° to 14° is obtained when, with mark « 0 » on the flywheel mated to mark A/A on the flywheel casing and valves of cylinder No. 1 closed, the contact breaker points begin to open and the distributor arm is opposite the the contact of the spark plug lead connected to No. 1 cylinder.
	In the above mentioned check up, the screw fastening the distributor to the engine must be at the center of the slot of the retaining collar.
	This advance position, established for the use of prescribed fuel, may be modified by plus or minus 5 deg. by moving leftward or rightward the collar fastening the distributor, if the advance angle needs being encreased or decreased (see fig. 14).
	When using petrols of lower grade, the advance setting must be decreased to avoid knocking; when, on the contrary, richer fuel is used, increase the advance setting to obtain the highest power output.
	The advance setting must be, however, the maximum allowed with the engine free of knocking.

Fig. 14 - Adjusting the fixed advance

LUBRICATION

System	Pressure, gear pump type, with pressure limiting valve.
Oil filling	Filling plug on cylinder heads.
Level indicator	Dipstick on right hand side of engine.
Oil pressure gauge	Located in the mileometer dial, with insufficient pressure warning light.
Oil drain	Plug placed under the engine sump.
Oil strainer	Carello, FRAM type, placed on the left hand side of engine.

COOLING SYSTEM

Type	Centrifugal pump, with radiator and fan.
Fan	350 mm dia. (14''), operated by adjustable V-belt also driving the dynamo.
Water pump	Co-axial with the fan.
Lubrication	Single pressure greaser for fan and water pump.
Temperature control	Water thermometer fitted in the mileometer dial, one thermostat on water piping, one for control of radiator shutter.
Water filling	Filling cap located under the bonnet.
Water drainage	Tap placed on right hand side of engine.

STARTING SYSTEM

Type	Marelli MT 32 A - 0,8/12 D9 electric motor.
Control	by key switch.
Gear ratio	9/121.

ENGINE SUSPENSION

Suspension type	No. 4, double rubber pads.

TRANSMISSION

Type	Tabular shafts with three JUBO elastic joints fitted with centering device.
No. of shafts	No. 2, with center elastic bearing.
Lubrication	Pressure greaser in center bearing. Lubrication of centering device of joints is only performed on assembly stage.

Fig. 15 - Engine lubrication chart

1. Oil level dipstick - 2. Oil filling plug - 3. Oil ducts to rocker arm supports - 4. Oil ducts to rear camshaft bearing - 5. Helical bearing for oil pump control - 6. Oil duct for lubrication of oil pump shaft - 7. Oil duct to rear main bearing - 8. Piping from pump to oil strainer - 9. Filtering element - 10. Piping from strainer to manifold - 11. Pressure regulating valve delivering under the pump - 12. Oil pump - 13. Oil duct to crankshaft and camshaft bearings - 14. Oil suction pipe - 15. Suction filter - 16. Oil delivery manifold - 17. Oil ducts to connecting rod bearings - 18. Oil duct to front main bearing - 19. Oil sump - 20. Oil duct to front bearings of crankshaft, camshaft and to chain stretcher - 21. Oil ducts to valve control rockers - 22. Delivery pipe to oil pressure gauge.

Fig. 16 - Cut-out view of clutch, gearbox and propelling unit

1. Transmission joint fork - 2. Clutch shaft - 3. Clutch cover - 4. Clutch plate - 5. Hub spring for clutch plate - 6. Cover for upper opening of clutch casing - 7. Front cross member supporting gearbox and propelling unit - 8. Transmission gear train - 9. Engagement for top speed - 10. Engagement sleeve for 3rd and top speed - 11. 3rd speed gearing - 12. 2nd speed gearing - 13. Engagement sleeve for 2nd speed - 14. Oil filling plug with dipstick - 15. 3-way connection for hydraulic brakes - 16. Oil circulation piping - 17. Rear cross member supporting the gearbox and propelling unit - 18. Suction filter for oil pump - 19. Oil pump - 20. Bevel pinion - 21. Layshaft - 22. Low speed gearings - 23. Oil drain plugs - 24. Clutch control sleeve - 25. Clutch spring - 26. Cover for lower opening of clutch casing - 27. Shield for clutch casing cover - 28. Greaser for clutch shaft - 29. Oil filling and level plug for joints - 30. Rear brake drums - 31. Rear brake shoes - 32. Lever on parking brake shoes - 33. Inner propeller shaft - 34. Air bleeder screw from brakes - 35. Brake cylinder - 36. Rear axle shaft - 37. Connecting sleeve - 38. Centering element for sliding joint - 39. Sliding joint - 40. Crown wheel - 41. Differential planetary gear - 42. Differential satellite pivot.

Fig. 17 - Propeller shafts

1. Flange on engine flywheel - 2. Elastic joints - 3. Front propeller shaft - 4. Centering elements for center and rear joints of propelling unit - 5. Center bearing - 6. Passage for car flooring - 7. Rear propeller shaft - 8. Clutch shaft - 9. Greaser for center bearing - 10. Centering element for front transmission joint.

CLUTCH

Type	Dry, single disc, F & S.
Location	rear, on gearbox-propelling unit.
Working surface	225 sq. cm. (35 sq. in.) × 2.
Pressure on clutch plates	about 380 kg (840 lbs).
Free play of pedal	20 to 25 mm (0.79 to 1").
Adjustment	Fork shank of rear hydraulic cylinder adjustable, with stop at every half turn.
Control	Hydraulic, pedal operated.
Lubrication of shaft bearings	Greaser on front clutch cover. For lubrication, use SFERUL « L » D REINAC grease (Oleoblitz).

GEARBOX

Location	Rear, single-block unit with the differential propelling unit.
No. of speeds	No. 4; 2nd, 3rd and top gear synchronized, and reverse.

	Low	2nd	3rd	4th	R
Ratios	1:3.093	1:2.054	1:1,415	1:1	1:3.093

Gear control	Coupé model: Lever under steering wheel. Convertible model: Lever on floor.

Oil filling	Plug on propelling unit by removing the suitable cover on floor of luggage compartment.
Oil level	Dipstick in filling plug.
Oil drainage	Side plug on gearbox.

PROPELLING UNIT

Type	Fastened to frame, with swinging axle shafts.
Bevel gearing	Gleason Hypoid, 13 to 48 ratio.
Axle shaft couplings	Internal, of the sliding « nut » type. Outer, of the universal joint type.
Axle shafts	With sliding muff.
Lubrication	by gear type pump for gearbox-propelling unit. Oil filter on inlet end to be disassembled from outside for periodical cleaning. Inner couplings with twin oil level plugs on rotating casings; 0.2 litres capacity for each box. - Outer joints with pressure greaser behind wheel hub covers.

Fig. 18 - Clutch-gearbox-propelling unit and rear suspension

1. Clutch casing - 2. Gearbox-propelling unit casing - 3. Pads fastening the unit to bodywork - 4. Transverse reaction bar - 5. Rear axle - 6. Suspension leaf-springs - 7. Wheel hub - 8. Rear axle shaft - 9. Shock absorbers - 10. Rear brake drum - 11. Attachment points of unit to bodywork - 12. Fork of transmission joint.

FRAME

Type	Integral chassis-body construction.

STEERING GEAR

Type	Coupé model: L.H.D. (R.H.D., on request) Convertible model: L.H.D. Worm and gear, with transverse rods.
Worm to gear ratio	4/49.
Oil filling	Oil level plug on steering box cover. Accessible by removing the radiator cowl. Capacity: 0.3 litres (½ pint).
Steering wheel Coupé model	422 mm dia. (16 ½ in) - Adjustable forward, as well as the gearshift lever and change-over control of lights, by 3 cm (1 ¼ in) from its normal position by removing the spacer provided under the steering column.
Steering wheel Convertible model	420 mm dia. (16 ½ in) - Adjustable by movement of 6 cm (2 3/8 in) by means of locking sleeve.
Steering joints	Ball and socket joints on control rod - rubber bushings on track rod.
Lubrication of steering jotins	Pressure greasers on control rod.

FRONT SUSPENSION

Type	Lancia-patent indipendent wheels with vertical sliding pillars.
Springs	Coil type.
Shock absorbers	Internal, hydraulic, adjustable by the lever provided on top of the two suspensions.

Average adjustment	Tighten the lever, then unscrew 0,5 to 1,5 turns in summertime, and 1.5 to 2.5 turns in winter.
Oil feeding tank - Coupé model	Under the bonnet, on drive hand side, together with the brake tank, provided with delivery rod and two-way tap. After oil delivery to the two suspensions, set the tap control lever to the intermediate position. Oil filling plug with dipstick.
Oil feeding tank - Convertible model	Under the bonnet, on the right hand of radiator, provided with two plunger knobs for indipendent feeding of the two suspensions (rear knob for right hand suspension, front knob for left hand suspension). Oil filling plug with dipstick. Instructions are given on tank.
Lubrication	To upper shock absorber guide, by means of oil feeding; to lower guide, through the suitable lubricating plug.

Fig. 19 - Clutch and gearbox controls - Coupé model

1. Clutch pedal - 2. Gear shift lever - 3. Hydraulic cylinder adjustable fork - 4. Joints - 5. Propelling unit - 6. Clutch - 7. Gear shift control shaft - 8. Clutch control piping - 9. Clutch hydraulic control pump - 10. Clutch and brake oil feeding tank.

Fig. 19 bis - Clutch and gearbox controls - Convertible model

1. Clutch and brake oil feeding tank - 2. Clutch pedal - 3. Gear shift lever - 4. Clutch control piping - 5. Clutch - 6. Propelling unit - 7. Joints - 8. Gearbox - 9. Gear shift control box - 10. Gearshift control shaft - 11. Clutch hydraulic control pump.

Fig. 20 - Front suspension

1. Front brake shoe - 2. Master cylinder - 3. Front brake drum - 4. Control lever for adjustment of shock absorber - 5. Shock absorber oil filling union - 6. Top damper - 7. Adjusting rod - 8. Top guide of suspension - 9. Suspension rod - 10. Dowel retaining the suspension rod - 11. Attachment of axle to bodywork - 12. Front axle - 13. Front spring - 14. Lubricating plug - 15. Bottom suspension guide - 16. Bottom damper - 17. Plug for bottom guide.

REAR SUSPENSION

Type	Rigid axle with reaction arm and swinging axle shafts.
Springs	Semi-elliptical (no lubrication required).
Shock absorbers	Hydraulic, telescopic, SABIF type. The shock absorber is not adjustable.
Hydraulic fluid	Pegasus Mobilfluid 62.
Capacity	375 cu cm (about 0.66 pints) per shock absorber (correct quantity to be filled in when shock absorbers are being overhauled at our authorized workshops).

FRONT AXLE

Type	Rigid I-section beam.
Inclination of king pin	1° 7′.
Camber angle	1° 51′.
Castor angle	— 1° (negative).
Toe-in	4 to 6 mm (0.16 to 0.24 in) as measured on wheel rims, and with both wheels lifted from ground. Measurement taken at the middle of tyres by expansion gauge: 5 to 7.5 mm.
Adjustment of toe-in	Ends of track rods are adjustable by means of eccentric pivots.

BRAKES

Type	Expanding shoes (front brakes with two involving shoes).
Location	Front: on wheels - Rear: on propelling unit.

Diameter of drums	Front: 300 mm - Rear: 280 mm.
Brake control	SABIF hydraulic brakes, pedal operated, acting on front wheels and on propelling unit, for use in normal driving.
	Mechanical, hand operated, with handle placed under the instrument pannel, acting on the propelling unit only, for parking purposes.
Max. travels of braking	Brake pedal at 3/4 of travel; 4 to 5 teeth ratchet for the hand operated brake lever.

Fig. 21 - Braking chart - Coupé model

1. Front brake shoes - 2. Front master cylinders - 3. Tank for hydraulic brake fluid - 4. Brake pedal - 5. Lever for parking brake - 6. Fusebox - 7. Stop signal and rear winking lights - 8. Rear brakes - 9. Lever, hand operated, for rear brakes - 10. Cable, for hand control of rear brakes - 11. Switch for stop signal - 12. Control pump for hydraulic brakes - 13. Adjusting nut for parking brake.

Fig. 21 bis - Braking chart - Convertible model

1. Front brake shoes - 2. Master cylinders - 3. Tank for hydraulic brake fluid - 4. Nut adjusting the parking brake - 5. Lever for parking brake - 6. Fusebox - 7. Brake pedal - 8. Rear brake shoes - 9. Rear master cylinders - 10. Stop signal and rear winking lights - 11. Junction box for rear cables - 12. Hand control lever for rear brake - 13. Hand control cable for rear brakes - 14. Switch for stop signal - 15. Control pump for hydraulic brakes.

Brake adjustment	Nut on back plate of brake for rotation of inner eccentric. First, by light pressure, bring the shoe to contact the drum, then turn back the nut by about 1/12th of turn for the front wheel and by 1/6th for the rear wheels; check, after the adjustment has been carried out, that the car is braked by about half travel of the pedal.

Adjustment of parking brake	Nut on the end of the flexible control on dashboard, under the bonnet.
Tank of hydraulic brakes	Under the bonnet, on the convertible model on the left hand of the radiator; on the Coupé model, in common with the front suspension tank, provided with constant pressure pump and filling plug with dipstick.
Control of pressure pump	The pressure pump rod, once moved upward, must remain in such position.
Fuid	Brake vegetal oil SABIF P 2.

WHEELS

Rim	165 × 400.
Tyres	Special 165 × 400.
Tyre pressure	Michelin 1.5 to 1.7 kg/cm² (23 to 25 p.s.i.) Pirelli 1.7 to 1.8 kg/cm² (25 to 26 p.s.i.).
Lubrication of wheel nubs	Front wheels: remove the hub cover and fill 3/4 full with the prescribed grease. Rear wheels: Pressure greaser on rear axle hubs.
Spare wheel	Tyre pressure: 1.8 to 2 kg/cm² (26 to 28 p.s.i.). Fit the spare wheel at least every 4 months, and rotate the position to the four wheels.

ELECTRIC SYSTEM

Type	12-volt battery with grounded negative.

Dynamo	Located on the left hand of engine. Marelli, 200 W DN 22 C-200/12/1700D with separate regulator IR 15A-200/12.
Warning light of dynamo	on bottom of dial of revolution indicator. 12-volt, 2.5-watt bulb lighting up when engine stops, with key in second position (vertical), estinguishes with engine running, when the dynamo generates a current sufficient for charging the battery.
Battery	12-volt, 50 Ah; in the Coupé model is located under the bonnet, in the Convertible model, under the bottom of the luggage compartment.
Fusebox	Under the engine bonnet, on the left hand side. No. 10 fuses of 15A for protection of the circuits, as shown on fusebox cover.
Key switch	On instrument pannel. Same key as for the door on the driver side. Insert the key and turn clockwise - in first position (horizontal) battery and electrical services are connected; in second position (vertical) it connects the engine ignition, and pushed full home it controls the starting motor.
Side lights	12-volt, 3/20-watt, double filament bulb for side lighting and front direction indicators
	24-volt, 3-watt, warning lamp on revolution indicator dial. Control: Same knob as for headlights, set in first position.
Headlights	12-volt, 45/40-watt, double filament bulbs for driving and antidazzle lights.
	Control: Knob on instrument pannel in first position for side lights and in second position, turned rightward, for driving lights.

Fig. 22 - Electric system - Coupé model

1. Battery - 2. Dynamo - 3. Voltage regulator - 4. Starting motor - 5. Ignition coil - 6. Ignition distributor - 7. Warning light for dynamo - 8. Key switch for ignition, starting and services - 9. 10 fuse fusebox - 10. Switch for outer lighting - 11 .Electromagnetic switch for headlights change-over - 12. Wiring for anti-dazzle lights - 13. Wiring for driving lights - 14. Wiring for front side lights - 15. Warning light for side lights - 16. Wiring for red tail lights - 17. Number plate light - 18. Connection block, rear - 19. Control switch for inner lighting - 20. Inner lighting - 21. Watch - 22. Instrument pannel lighting lamps - 23. Switch for instrument pannel lamps - 24. Connection block for instrument pannel lighting - 25. Switch for direction indicators and headlights - 26. Device for winking lighting and automatic change over - 27. Wiring for front direction indicators - 28. Warning light for direction indicators - 29. Wiring for stop lights and rear direction indicators - 30. Switch for stop lights - 31. Engine compartment lights - 32. Automatic switch for engine compartment lighting - 33. Socket for lighting of engine compartment - 34. Switch for windscreen wiper - 35. Windscreen wiper - 36. Warning light for insufficient oil pressure - 37. Control switch for warning light of insufficient oil pressure - 38. Water thermometer - 39. Control for water thermometer - 40. Switch, with resistance, for heater fan - 41. Socket for heater - 42. Heater - 43. Warning light for carburettor starting device - 44. Switch for fog lights - 45. Fog lights - 46. Control switch for warning light of carburettor starting device - 47. Fuel level indicator - 48. Control for fuel level indicator - 49. Connection blocks, front - 50. Cigar lighter with warning light - 51. Electric horn - 52. Electro-magnetic switch with horns - 53. Control for electric horns - 54. Wire sockets - 55. Wireless set.

Fig. 22 bis - Electric system - Convertible model

1. Battery, 12-volt, 50 Ah - 2. Dynamo, 200-watt - 3. Voltage regulator - 4. Starting motor - 5. Ignition coil - 6. Coil distributor - 7. Warning light for dynamo - 8. Key switch for ignition, starting and services - 9. No. 10 fuses fusebox - 10. Control for outer lighting - 11. Electro-magnetic switch for headlights change-over - 12. Control for headlight electromagnetic switch - 13. Wiring for anti-dazzle lights - 14. Wiring for driving lights - 15. Wiring for side lights - 16. Warning light for side lights - 17. Wiring for red tail lights - 18. Number plate lights - 19. Connection block, rear - 22. Inner lighting - 21. Control switch for inner lighting - 22. Connection block, front - 23. Device for winking lights - 24. Direction indicators control - 25. Control for automatic return of direction indicators - 26. Wiring for front direction indicators - 27. Wiring for stop light and rear direction indicators - 28. Switch for stop lights - 29. Warning light for direction indicators - 30. Lamps for instrument pannel lighting - 31. Cigar-lighter with warning light - 32. Warning light for carburettor starting device - 33. Control switch for carburettor starting device - 34. Water thermometer - 35. Control for water thermometer - 36. Lamps for engine compartment lighting - 37. Socket for engine compartment lighting - 38. Automatic switch for engine compartment lighting - 39. Switch for windscreen wiper - 40. Windscreen wiper - 41. Fuel level indicator - 42. Control for fuel level indicator - 43. Heater - 44. Switch, with resistance, for heater fan - 45. Socket for heater - 46. Electromagnetic switch for horn - 47. Control for electric horns - 48. Electric horns - 49. Warning light for insufficient oil pressure - 50. Control switch for insufficient oil pressure indicator - 51. Instrument pannel lighting switch - 52. Watch - 53. Socket for plug wires - 54. Wireless set.

Fog lamps (only for Coupé model)	12-volt, 50-watt bulbs. Control: knob located under the instrument pannel.
Rear lamps	Red, double-filament bulbs, stop signal and direction indicators, 12-volt, 3/20W. Control: Red lights with side lights, stop signal with brake pedal, lever on steering wheel for direction indicators.
Number plate lights	12-volt, 5-watt UNI 1991 bulbs. Control: together with side lights.
Lighting of instrument pannel	12-volt, 2.5-watt bulbs. Switching and intensity adjustment, by turning rightwise the control knob, and with lighting control knob either in first or second position.
Inner lighting	12-volt, 5-watt, UNI 1991 bulbs. Control: Knob located under the instrument pannel.
Lighting of engine compartment	12-volt, 5-watt, UNI 1991 bulbs. Control: automatic by opening the bonnet and with key either in first or second position.
Lighting of luggage compartment - Saloon mod.	By the same lights as for number plate.
Direction indicators	Front side lights and rear direction indicators with winking lights. 20-watt filament of 12-volt bulbs 3/20-watt (12-volt warning lights, 2.5-watt on mileometer). Control - Coupé model: lever on steering wheel; lever on steering wheel to be moved to the direction desired, automatic return by streightening the steering wheel to normal position (to discontinue the signal by the lever, it shall be pushed to the opposite direction). Control: warning light on dial of mileometer.
Warning light for oil pressure indicator	12-volt, 2.5-watt bulb on dial of mileometer.
Warning light for carburettor starting device	12-volt, 2.5-watt bulb on dial of revolution counter.
Electric horn	Control: on steering wheel.
Windscreen wiper	Control: with key set either in first or second position and knob on instrument pannel in lowered position.
Watch	Electric, on dial of revolution counter.

BODYWORK

Type	2-door, integral construction.
No. of seats	Coupé model: two plus two occasional rear seats. Convertible model: two.
Doors	Handles: outer: by push button, inner: rotating; door puller, safety lock for passenger side door by rotating the inner handle to the opposite direction as for opening, outer lock for driver side door, same key as for ignition and services, rear luggage compartment and glove locker on instrument pannel and, on Convertible model, also for fuel filling lid. Window glass may be fully lowered, swinging front windows.
Windscreen	Curved glass with warm air jet from inside, for demisting and defrosting purposes by the heater, and water or detergent solution sprayer from outside

	by control push button on the instrument pannel.
Driving mirror	Swinging; on Coupé model, with two-position reflector.
Sun shade	Double, adjustable (on Coupé model).
Rear window	Curved glass (on Coupé model).
Canvas hood	Folding behind the seat back (on Convertible model).
Wireless set (on request)	Tuning and controls on instrument pannel feeding unit and loudspeaker under the instrument pannel, second loudspeaker behind the rear seat back (only for Coupé model) - Aereal on front wing - operates with key set either in first or second position.

TOOL KIT

Accomodation	In rear luggage compartment.
Lifting jack	Of the vertical column type - Applied to the car by inserting the pin on the side of car under the door opening, into the suitable seat. Its lock moves inward by inserting the above mentioned pin and returns from inside at the end of the operation. Apply the parking brake before jacking the car.
Wheel brace	Located beside the lifting jack.
Starting handle	On request - to be used on emergency by removing the radiator cowl.
Tool bag	Holding: screwdriver, spark plug spanner, oil plug spanner, four open-end spanners, two pipe spanners, monkey spanner - universal pincers, pin for pipe spanners - Steel hammer - spanner for wheel hub nut.

DIMENSIONS - WEIGHTS - FUEL CONSUMPTION AND PERFORMANCES

	Coupé model	Convertible model
Wheelbase	8'8 5/16"	8' 1/2"
Front track	4'2 3/8"	4'2 3/8"
Rear track	4'3 3/16"	4'3 3/16"
Overall length	14' 1'	13'10 1/2"
Overall width	5'1"	5'1 1/4"
Overall height (car empty)	4'5 1/2"	—
Ground clearance (car fully laden)	6"	6"
Minimum turning circle	32'9 1/4"	32'9 3/4"
Weights:		
— dry, with accessories and spare wheel	24 1/2 cwt	24 cwt
— in kerb order with two passengers	29 cwt	28 cwt

Top speed (in m.p.h.) in	low	2nd	3rd	Top speed	Reverse
— Coupé model	34	52	75 over	112	34
— Convertible model	34	52	75	110	34
Gradients with engine at maximum torque	38%	24%	15%	8%	38%

Fuel consumption	22,3 m.p.g. (high octane)
Range at cruising speed	340 miles / 280 miles

SUPPLIES

	Gallons	
	Imp. B.	U.S.A.
Fuel tank:		
Coupé model — Petrol, O.N. 92	16 1/2 including 1 1/4 g. reserve	20 including 1,5 g. reserve
Convertible model — Petrol, O.N. 92	12 1/2 including 1 3/4 g. reserve	15 1/3 including 2 g. reserve
Radiator and engine — Water or anti-freeze mixtures	2 1/3	2 3/4
	Pints	
	Imp. B.	U.S.A.
Engine sump and filters — Oil	8 3/4	10 1/2
Gearbox and differential — Oil	8	9 1/2
Hydraulic brake tank — SABIF P/2 oil	0,47	0,58

ANTI-FREEZE MIXTURE

Ethyl-glycol d = 1,12 and water		Pints Imp. B.	Pints U.S.A.
— 5 deg.	glycol	2 1/2	3 1/4
	water	15 3/4	19
— 15 deg.	glycol	5 1/4	6 1/4
	water	13	16
— 30 deg.	glycol	8	10
	water	10 1/4	12 1/4
Glycerine d=1,26 and water			
— 5 deg.	glycerine	3 1/2	3 3/4
	water	15	18 1/2
— 15 deg.	glycerine	6 3/4	8
	water	11 1/2	14 1/4
— 30 deg.	glycerine	10	12
	water	8 1/4	10 1/2

Also a methyl-mixture may be used (rather unstable, owing to alcohol vaporization) at the same proportion as for glycerine-water mixture.

Use only oils and grease of the following Makers:
— MOBILOIL COMPANY Ltd.
— ESSO STANDARD
in the following grades:

Engine	for temperatures below 0°C (32°F): MOBILOIL ARTIC / ESSO Motor Oil 20 W
	for temperature within 0°C and 20°C (32 and 68°F): MOBILOIL A / ESSO Motor Oil 30
	for temperature above 20°C (68°F): MOBILOIL AF / ESSO Motor Oil 40
	or, for all temperatures: MOBILOIL SPECIAL / ESSO Extra Motor Oil 10 W - 20 W - 30
Rear unit and axle shaft internal joints	MOBILUBE GX 90 / ESSO XP compound EP 90
Steering box	MOBILUBE GX 140 / ESSO XP Compound EP 140
Front suspension	
Shock absorber feeding tank	MOBILOIL ARCTIC / ESSO Motor Oil 20 W
Bottom guide	MOBILUBE GX 90 / ESSO XP Compound EP 90
Wheel hub bearings	MOBILGREASE MP / ESSO Multipurpose Grease H
Pressure greasers	MOBILGREASE 2 / ESSO Chassis Grease H
Battery terminals	PURE VASELINE
Ignition distributor	SPECIAL GREASE FOR IGNITION DISTRIBUTORS

SUMMARY OF MAINTENANCE INSTRUCTIONS

BEFORE USING THE CAR

1. Engine	Check oil sump level.
2. Radiator	Check water level and, if necessary, fill up, using soft water
3. Tyres	Check for correct pressure
4. Brakes	Check position of brake tank piston.

EVERY 2000 MILES

Lubrication

5. Engine	Replace oil in the proper quantity: 9 pints.
6. Ignition distributor	Screw down by two turns the cover of the greaser, if necessary, fill up with grease.
7. Water pump and fan	Lubricate through the proper greasers.
8. Gearbox-differential unit 9. Rear inner joints 10. Steering gear	Check oil level and, if necessary, fill up.
11. Steering rod joint	Lubricate through the suitable greasers.
12. Front suspension	Refill shock absorber feeding tank. Quantity: 7/16th pint - Add oil in lower plug.
13. Rear outer joints	Grease through the suitable pressure greaser

Inspection and cleaning

14. Tappets	Check clearance between valves and rockers. Check pressure of cylinders by rotating the engine by hand using the suitable handle with progressive exclusion of the cylinders.
15. V-belt of fan	Check for stretching - Stretching is normal when the belt does not slip and, with engine inoperative, allows rotation of the fan without too much effort.
16. Clutch	Check free play of pedal.
17. Hydraulic brakes tank and pipings	Check level and, if necessary, top up with brake vegetal fluid. Quantity: 7/16th pint. Check pipings for sealing and fastening.
18. Battery	Check the electrolytic fluid level is from 5 to 8 mm (0.2 to 0.3 in) above the plates and, if necessary, add distilled water. Density of electrolytic fluid: 30° to 32° Beaumé, when battery is charged (14° Beaumé when the battery is fully discharged). Charge the battery when reaching 17° to 20° Beaumé. NOTE — In summertime cheking the level of fluid may be needed every 1000 to 1500 km (600 to 1000 miles).
19. Filter of fuel pump	Remove and clean with petrol.
20. Air cleaners of engine	Remove the filtering element, removing the cover of cleaner - wash thoroughly

	with petrol then lubricate by dipping in engine oil.
21. Spark plugs	Sand blast and reset the proper gap of the points.

EVERY 4000 MILES

Lubrication

22. Center bearing of transmission shaft	Grease through the suitable greaser.
23. Clutch shaft	Grease through the suitable greaser with SFERUL « L » D REINACH « OLEOBLITZ » grease.

Inspection and checking

24. Oil filter	Change the filtering element and rubber gasket between filter body and cover. On assembly, see that the gasket fit into the cover seat. Start the engine and check for leakeges.
25. Radiator	Change the cooling water using soft water - Calcareous water fouls the piping preventing the free circulation, thus decreasing the cooling action on the cylinder heads and causing knocking due to self-ignition. If soft water is not available, instead of changing, filter and reuse the existing water.

EVERY 6000 MILES

26. Oil filter on propelling unit sunction pipe	Remove filter and wash carefully with petrol.
27. Gearbox - differential unit	Replace oil. - Quantity required: 5 3/4 pint.
28. Front and rear whell hubs	Lubricate.

EVERY THREE OR FOUR MONTHS

29. Battery	Check the terminals for tightening and freedom of sulphatation, and clean, by a rag soaked in water and sodium carbonate solution, all traces of acid, then if necessary, smear the terminals with suitable grease to prevent oxsydation.
30. Tyres	Fit the spare wheel and move the other wheels round.

Fig. 23 - Lubrication, inspection and cleaning chart (Coupé model)

Fig. 24 - Lubrication, inpection and cleaning chart (Convertible model)

AURELIA 2ª Serie

AURELIA G.T. 2500
SPIDER AURELIA G.T. 2500
CONVERTIBILE AURELIA G.T. 2500

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CATALOGO PARTI DI RICAMBIO

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LANCIA & C. - FABBRICA AUTOMOBILI - TORINO - S. p. A.

THE SECOND SERIES AURELIA PARTS MANUAL

This is a reprint of the long out of print and now rare Aurelia parts manual. Covered are the B12 Sedan, the 4th thru 6th series B20 Coupes and the Spiders and Convertibles. Reprinted are all the english text, all the illustrations and all of the tables. This is all that you will need to order parts since the entire rest of the manual was in italian.

HOW TO ORDER FROM THIS MANUAL

The Lancia Parts Consortium-America, Inc. is the sole supplier of Aurelia parts in the United States and stocks its parts so that they may be located by reference to this book. Note that each table has a number and name, and that each part on the table is numbered. Therefore, to order, you should specify the type of your car, its serial number, the table number, and the number of the part on the table. For example: Aurelia B24S #1114, Tav. 69, #35 is the left side trim moulding for the dash. Note that there are three "Tav. 69" in the manual. This is why you must specify your car, so that we can use the correct table.

The manual has exploded drawings for the entire B12. However, it has drawings for the coupe and spider/convertible only where they vary from the B12 in a major way. Therefore, you will often have to use a B12 drawing to find your B20 or B24 part.

The original manual was provided by American Lancia Club Librarian, Quentin Marble. The manual was prepared and printed by the Lanciana Production Editor, Mike Siegerist.

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#20