

Gt1300 Jumior 1600 Jumior



instruction book

Important notice to owner

If you should have a problem or question concerning the servicing of your car, write or phone either your Selling Agent or your local « Alfa Romeo » Distributor.

The name and address of the one nearest you appears in the « Guide to Service Network ».

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RECOMMENDED LUBRICANTS TYRE INFLATION PRESSURES

(See inside backcover)

WARNING

Beware of the danger of carbon monoxide! Never run the engine in an enclosed space. The exhaust gases contain carbon monoxide, a deadly gas. Carbon monoxide is particularly dangerous as, being it colorless, odorless and tastless, its presence is very difficult to detect.

The operation and maintenance instruction contained in this handbook

MUST BE CAREFULLY OBSERVED

by every owner who desires to get the best from this vehicle and to ensure a long life for every component.

Owners are recommended, in their own interest, to entrust all maintenance and repair work to an authorized « Alfa Romeo » Service Station as such Stations are equipped with the proper tools and staffed by specially trained mechanics who are kept up-to-date by our technical literature.

Owners are reminded that « Alfa Romeo » cannot be responsible for any errors made by unauthorized service stations or for any damage resulting from the use of nongenuine spare parts and/or lubricants other than those indicated.



DIREZIONE ASSISTENZA

The data relating to weights, consumptions and speeds are approximate only. « Alfa Romeo » reserves the right to change without notice any features and data given in this book. Some of the equipments are optional extras. Refer to price list for a comprehensive list of optionals.



GUARANTEE

The Supplier guarantees the products of the Factory as guaranteed by the Manufacturer (who guarantees exclusively the products of normal manufacture) as follows:

- passenger cars and derivatives: for 6 months from the date

of delivery to the Customer with no mileage limit;

The guarantee does not cover tyres and non-essential accessories if made by third parties.

The guarantee covers the free repair of, or free supply and replacement of, any parts found to be unserviceable because of a acknowledged defect of materials: defects will be acknowledged after prior investigation of them and of their cause exclusively by the manufacturer's workshops or by workshops authorized by the manufacturer, and at the said workshops. Delays, if any, shall not entitle the Purchaser to receive compensation for damages, nor to any extension of his rights under the guarantee.

The guarantee shall automatically lapse:

- if the products are used otherwise than in accordance with the manufacturer's instructions;

- if they are modified, repaired or dismantled, even if partially, elsewhere than in the manufacturer's workshops or workshops authorized by the manufacturer;

- if bodies of different origin which have not been previously approved by the manufacturer are fitted to the chassis.

The Purchaser shall not be entitled, in any of the cases stipulated by this article, to claim cancellation of the Contract or compensation for damages.

SERVICE COUPON BOOK

The Service Coupon Book, supplied with every vehicle, bears the conditions that govern the provision of Alfa Romeo Services and the replacement of damaged parts during the period covered by the guarantee.

The Service Coupon Book includes two coupons covering certain free maintenance during the guarantee period. Owners must use these coupons on completion of the mileage as stated thereon.

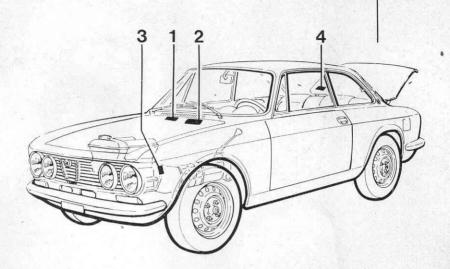
SERVICE NETWORK

The Alfa Romeo Services in Italy and abroad are listed in the Guide supplied with every vehicle. In any event rely on your Alfa Romeo Agent who display the shield with the Alfa Romeo emblem and name.

The Alfa Romeo Services in Italy are also entered in the telephone directory under « A » Alfa Romeo.

IDENTIFICATION





- 1 Chassis serial no.: stamped on the bulkhead
- 2 Identification plate (car model & type approval)
- 3 Engine no.: On exhaust side of crankcase (metal stamped on gearbox/engine joining flange)
- 4 Finish plate (paint type & make): on underside of luggage bood lid.

On contacting the Factory or a Member of our Service Organization please state: car model, chassis no., registration date, distance covered and car's purchase data.

KEYS

It is a good rule to keep a record of the symbol stamped on the key handle.

Ignition and antitheft device kev

SYMBOL

SYMBOL

Key to doors, glove compartment, boot lid

When ordering duplicate keys, please quote the symbol.



Specification

En	g	ir	ie
	0	ೌ	

Capacity cc Maximum power (at 6000 r.p.m.) SAE BHP Min. turning circle . . . Number of seats . . .

GT 1300 GT 1600 4 in line 74 x 75 | 78 x 82 1290 1570 103 125 32 ft. 9 in. (10,000 mm) 155 SR 15" 155 HR 15" 165 SR 14" | 165 HR 14"

Chassis

Tyres . . . Kerb weight (full tank) Towing gross weight .

Number and layout of cylinders . . .

Bore and stroke mm

2249 lbs (990 Kg.) (1020 Kg.) 1760 lbs (800 Kg.)

2182 lbs

Capacities

						Imp.	Metr	IC
Water					abt.	1.6 gals	7.5	Its
Fuel .		٠.			»	10.1 gals	46	Its
Fuel re	serve				»	1.3-1.5 gals	6-7	lts
	Engine (sump a	and fi	ilte	er)				
	whe	n ful			»	5.6 qts	6.4	Its
	dan	ger]	lev	el	»	3.9 qts	4.4	Its
	Gearbox				»	3.2 pts	1.85	Its
OIL	Differential .				»	2.5 pts	1.4	Its
	Steering box .				»	7 pt	0.4	Its
	• This quantity is for regular changing The total amount o circuit (sump, filte sages) is	g. f oil i r and	n t	he as-	>>	6.4 qts	7.22	

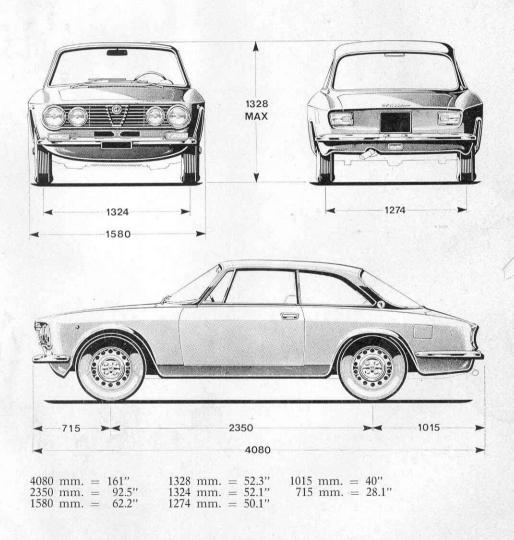
Performance (with 41:9 final drive)

Model				UNNING II m speeds		
Model	1st	2nd	3rd	4th	5th	Rev.
GT 1300	27.3 mph	46 mph	67 mph	91 mph	over 105 mph (170 K/h)	30 mph
GT 1600	(44 K/h)	(74 K/h)	(108 K/h)	(146 K/h)	over 115 mph (185 K/h)	(48 K/h)

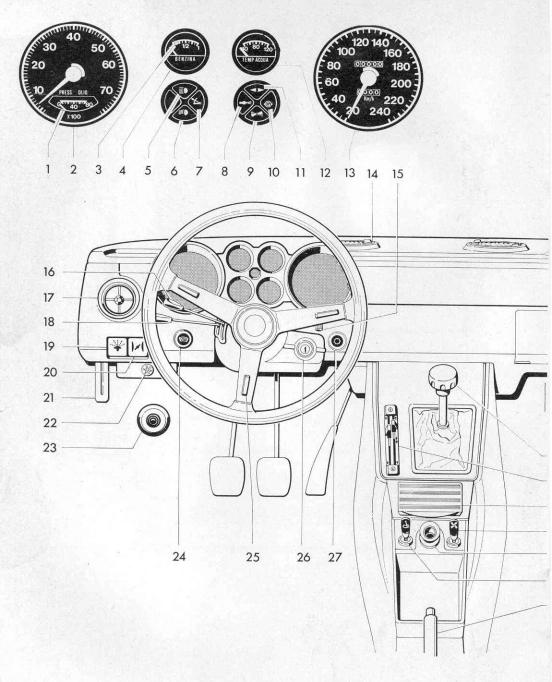
The maximum speeds indicated should not be exceeded or mechanical damage may result.

The performance given are related to the use of the vehicle in normal travelling conditions in Central Europe.

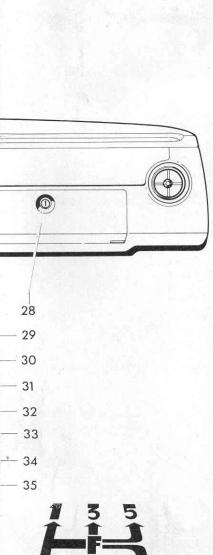
GT JUNIOR 1300/1600



Dimension in mm. - overall height with unladen car

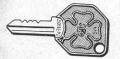


To engage the REVERSE merely shift the lever from neutral (F) as shown.



- 1 Oil pressure gauge
- 2 Tachometer
- 3 Fuel reserve warning light
- 4 Fuel level indicator
- 5 High beam warning light
- 6 External light warning
- 7 Handbrake and brake fluid level warning light Check that, on engaging the handbrake, this warning light comes on
- 8 Choke warning light
- 9 Blower warning light (light glows more intensely when blower is operated at its higher speed)
- 10 Alternator warning light
- 11 Direction indicator warning light
- 12 Coolant temperature indicator
- 13 Speedometer
- 14 Windscreen demisting outlet
- 15 Trip odometer reset
- 16 Direction indicator switch
- 17 Ram air vent
- 18 Headlamp, dipping and flashing switch
- 19 Choke
- 20 Hand throttle
- 21 Bonnet catch release
- 22 Fusebox
- 23 Windscreen washer: when the control is pressed the windscreen wiper also comes into action
- 24 Switch with built-in warning light for heated rear window
- 25 Horn
- 26 Ignition switch and antitheft
- 27 Instrument light switch
- 28 Glove compartment
- 29 Gear lever
- 30 Heating, ventilating and demisting
- 31 Ash tray
- 32 Blower switch (two speed)
- 33 Cigarette lighter: insert a cigarette then push the knob in: this brings into operation an electric element which lights the cigarette and turns itself off after a few seconds
- 34 Windscreen wiper switch (2 speed)
- 35. Handbrake (for emergency and parking)

Driving seat









From cold

STARTING THE ENGINE

Insert the key.

Turn the key to **GARAGE** position. To help in freeing the steering lock, slightly rotate the wheel in both directions.

Turn the key to MARCIA position. Ignition circuits are on (alternator warning light lit).

Turn the key further to **AVVIAM.** The starting motor comes into action and the key, as soon as released, returns automatically to **MARCIA.** If the engine fails to start, the key must be returned to **GARAGE** and the operation repeated.

Prior to get away, make sure the handbrake warning light (7, page 6) is off.

STOPPING THE ENGINE

Return the key anticlockwise to **GARAGE.** In such a position the ignition is « off » and the wheels can be steered even if the key is withdrawn.

ANTITHEFT - STEERING LOCK

Turn the key back to **BLOCCO**. By withdrawing the key the steering is locked; to engage the lock properly, slightly rotate the wheel in both directions.

NEVER WITHDRAW THE KEY BEFORE THE CAR HAS COME TO A COMPLETE STOP as the «steering lock» condition may occur.

MARCIA = ignition - AVVIAM = starting - BLOCCO = lock.

In winter

To facilitate starting, press the clutch pedal down fully and the accelerator through about one quarter of its stroke while at the same time operating the choke.

As soon as the engine fires release the ignition key, move choke knob halfway back until the engine is warm and then push it in. When shifting into gears on getting away, move gear lever gently to ensure a smooth operation of synchronizers.

In summer

It should be advisable to operate the choke even when ambient temperature is above 68° F (20° C): depress the accelerator pedal through one quarter of its stroke and turn the ignition key. When the engine has started, release the accelerator pedal; push choke in after a lapse of time not longer than 30-35 seconds.

When choke is operating, the warning light (8, page 6) comes on.

If the engine fails to start at once, do not keep the starting motor running (or battery will soon become discharged) but wait a few minutes and try again.

If it still will not start, look for the cause as follow:

- the battery charge may be too weak;
- the ignition equipment may be defective (dirtly plus, oxidized contact-breaker points, wet or cracked distributor cap, damaged distributor or coil);
- the carburettor may be dirty;
- electric circuits may be broken or fuses blown.

Do not accelerate the engine until it has warmed up, since when the engine is cold the oil cannot reach all points requiring lubrication.

Make sure the oil pressure shown by the gauge is as prescribed (refer to page 19).

Make sure the alternator warning light goes off as soon as engine speed exceeds idling.

When the engine is already hot, do not use the choke. Starting will be facilitated if the accelerator is depressed about half way.

Hot engine

Take care not to run the engine beyond the maximum R.P.M. Check the oil pressure gauge from time to time and stop the engine if the pressure with a hot engine and at maximum revolutions should fall below limits shown on page 19.

Check that the handbrake and fluid level warning light (see 7, page 6) is off; if the warning light comes on, make sure the handbrake is fully released; should the warning light still remain on, stop the car and check the brake fluid level in the reservoirs; if the level is too low, check the circuit for possible failure. Do not drive at high speed until the oil in the engine, in the gearbox and in the differential has warmed up properly.

Never leave the key in the MARCIA position (ignition «on») to prevent battery discharge and coil damage. Apply the hand brake and, when parking the car uphill or dowhill, shift into a low gear and steer the front wheels in such a direction as to cause the car, should the hand brake disengage accidentally, to move toward the kerb.

PRECAUTIONS

While driving

While parking

To allow the various parts of the car, particularly the engine, the gearbox and differential, to settle in gradually, a running-in period is necessary, during which maximum performance must not be demanded of the car.

MAX. ENGINE SPEED FOR THE FIRST 900 MI (1500 km)

Mileage	Max. engine r.p.m
Up to 300 (500 km)	3500
301 to 900 (501 to 1,500 km)	4500

Starting from cold

- press in choke as soon as possible;
- before driving, run engine at idle for a few minutes.

While driving

- do not drive at max. recommended speeds for long periods;
- never fully depress the accelerator pedal; now and then release it;
- avoid full and extended braking during the first 600 mi. (1000 km).

Note: The same recommendations apply also in the case of engine reconditioning involving the replacement of cylinder barrels, pistons, piston rings and bearings.

ANTIFREEZE

In places where the temperature falls below freezing point, a suitable antifreeze must be added to the engine cooling water to prevent the water in the radiator from freezing during prolonged stops.



Quantities of antifreeze to be used, depending on the lowest anticipated temperature

litres 1.5 at -10° C (+ 14°F)

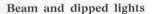
litres 2.25 at - 20°C (- 4°F)

litres 3 at -30° C (-22° F)

Flashing

Press on the knob irrespective of the position of the switch lever. Flashing is possible even when parking lights are off.

Parking lights and number plate light To switch them on turn the knob to the first notch. The warning light (6, page 6) will light up.



Turn the knob forward to the second notch:

- if the lever is up, the « dipped lights » come on:
- if on the other hand, it is down, the «beam lights » and their warning light (5, page 6) come on (the dipped lights also stay lit).

The movement of the lever up and down allows the light to be dipped or returned to beam.

Lights off

The lights are extinguished by turning the knob back over the notches.

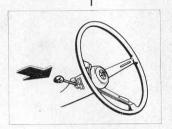
Direction indicators

Direction indicators are controlled by the lever shown at right.

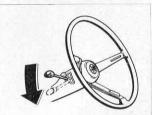
Move the lever:

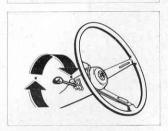
- up, to signal a right turn;
- down, to signal a left turn.

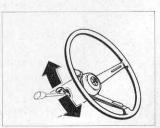
The warning light on facia panel will flash on-and-off

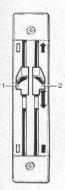


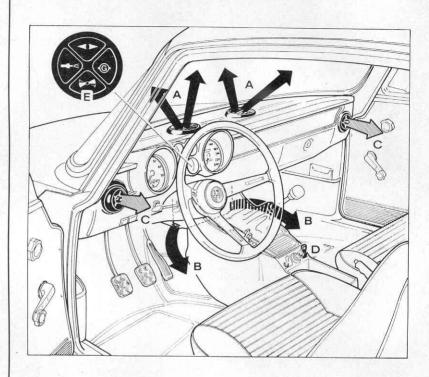












Location of controls and air outlets

Air enters through:

- A for windscreen demisting with warm and cold air
- B for ventilation and heating
- C for ram ventilation

In order to produce a satisfactory flow of air into the car at low speeds, switch on the two-speed electric blower with the switch **D**. Warning light **E** indicates that this has been done.

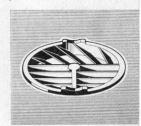
Temperature and air flow

The air admitted to the car can be gradually heated by the upward movement of the lever 1 (operate this lever only when engine is warmed up).

The movement of the lever 2 gradually regulates the flow of air through the openings A and B.

The grilles A can be rotated by hand as desired to obtain:

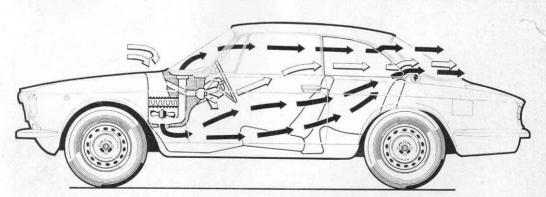
- Windscreen demisting
- Spot demisting
- Windscreen and window demisting



The vents \boldsymbol{C} at the facia panel sides enable to direct the flow of ram air as desired.

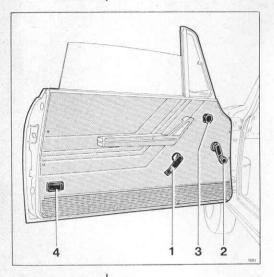
The flow of ram air can be regulated by the knob at the centre of the vent.





- Fresh air
- Fresh or warm air

Doors



- 1 Lever to actuate and release the safety device (both doors). Both doors have locks for closing from the outside. To close turn the key in the direction of travel (the key can be withdrawn only when it is vertical).
- 2 Window regulator handle.
- 3 Ventilating window control.
- **4** Reflector for signalling opening of the door.

Front seats



The front bucket-type seats have vertically adjustable head restraints. This device is controlled by the knob 1 at the side of backrest.

To allow access of persons to the rear seat, the backrest may be tipped forward by releasing the lever 2. While the backrest is tipped, the seat automatically moves forward at the same time.

The handwheel 3 controls the angle of the backrest.

The positioning of the front seats is controlled by the lever 4 situated on the front edge of each seat: by freeing the lever the seat may be moved to the position desired.

- The front seats are equipped with padded sun visors which can be moved laterally.
- Internal lighting is provided by two ceiling lights, the switches have three positions:

one in the centre: lights always off

two at the sides: lights always on or automatically operated when opening doors.

- At the sides of the rear seats are two ash trays. They can be removed for emptying by pressing down the small central spring inside the ash tray.
- The rearview mirror, which snaps off automatically in the event of a crash, has a day-night anti-dazzle device.

Optionally, the car can be provided with an electrically-heated rear window. When switched on, the electric resistance embedded in the glass will demist it.

The warning light built into the switch button indicates that the heated rear window is on.

Sun visors

Internal lighting

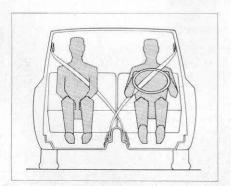
Ash trays

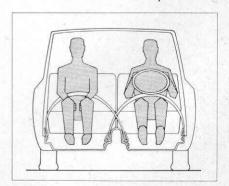
Rearview mirror

Heated rear window

Provision is made for the fitting of safety belts to front seats. Suitably reinforced attachment points are located:

- for shoulder belts: on the central tunnel and on side pillars
- for lap belts: on the central tunnel and on side rails.

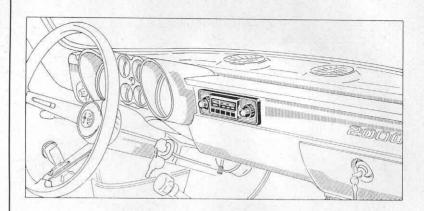




Furthermore, all three attachment points can be used for the installation of lap and diagonal harness.

SAFETY BELTS

Radio equipment

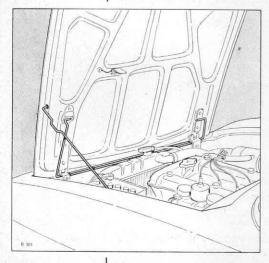


Provision is made in the facia panel for the installation of radio equipment.

The location is:

- in the facia panel for the radio set
- in the backshelf for the speakers.

ENGINE BONNET



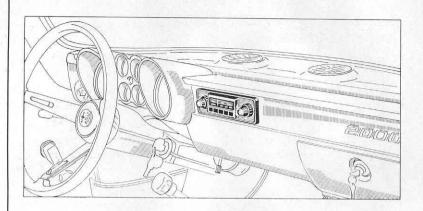
To open

- The bonnet opens opposite travel direction; to release the catch, pull the lever (21, page 6) under the facia.
- To hold the bonnet in open position, place the rod as shown in the illustration.

Illumination of the engine

• The illumination of the engine compartment is effected by a light fixed under the bonnet. It operates automatically when the bonnet is raised and the external lights are on.

Radio equipment

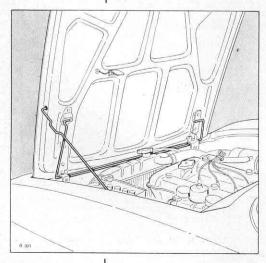


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Illumination of the engine

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Boot lid

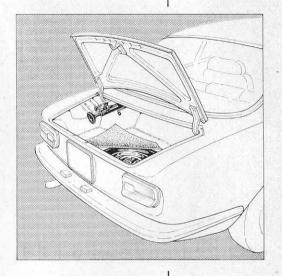
To open the boot lid lift the lever situated on the door jamb on the driver's side. The lock utilises the same key as the doors.

Equipment

Spare wheel: under the mat of the boot Jack and tool kit: on L.H. side of boot.

Tool kit

- · Wheel brace
- Box spanner for plugs
- Phillips screwdriver
- Screwdriver



The wheels are of the pressed steel type.

WHEEL CHANGE
Wheel removal

- Slacken wheel nuts by one turn with the wheelbrace; turn the nuts anti-clockwise to unscrew.
- Raise the car by inserting the jack arm in the special socket on the underside of the body longitudinal member. Before operating the jack, apply the handbrake.
- Fully unscrew the nuts and remove the wheel cover and the wheel.
- Tighten the nuts carefully in diagonal order.
- Check again tightness of nuts after lowering the jack: turn the nuts **clockwise** to screw in.
- · Release the handbrake.

Reinstallation

When taking a tow, secure the rope exclusively to the front suspension lower wishbone in correspondence of wishbone attachment to body.

When taking another vehicle in tow, secure the rope to the axle tube making certain not to damage the pipes of hydraulic brakes. **TOWING**

Take A tow

Take IN tow

LUBRICATION

At the first Carry out the Coupon A from the 450-750 mi. Service Coupon Book. (700-1,200 Km) Carry out the Coupon B from the 3100-3750 mi. Service Coupon Book. (5-6,000 Km) Check level of engine oil and top up if necessary. **EVERY** 300 mi. When checking push the dipstick all (500 Km) the way down. Never allow the oil to fall below the minimum or to exceed the maximum level while topping up. Change engine oil (or every 6 months whichever comes first). When top-2 ping up never exceed the maximum level. 3 Change oil filter. **EVERY** 3750 mi. (6,000 Km) Check level of gearbox oil and top a up if necessary. Check level of differential oil and 6 top up if necessary. Check level of steering box oil and 6 top up if necessary. **EVERY** 7500 mi. (12,000 Km) Grease propeller shaft sliding yoke. 8 Change gearbox oil. **EVERY** 11250 mi. (18,000 Km) Change differential oil. **OCCASIONALLY** Grease the linkage joints & hinges of: carburettors · clutch

MILEAGE COVERED

TICK EACH ITEM AT THE RESPECTIVE

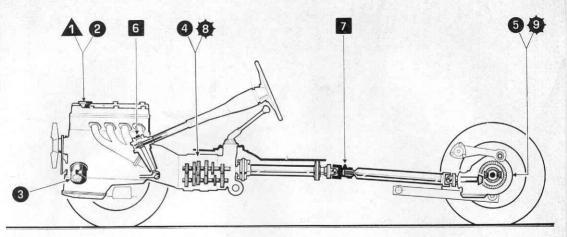
MILEAGE

handbrake

· doors & lids

Grease flexible shafts.

18



Warning: At the prescribed intervals (see opposite page) lubricate the components shown at the figure.

The recommended lubricants are listed on the inside backcover.

The engine is pressure lubricated by a gear pump mounted on the front cover of crankcase. If the pressure falls below the minimum values (with hot engine) an authorized « Alfa Romeo » Service Station must be consulted to trace and remedy the fault.

Oil press	sures wit	h hot	engin	e	
Engine idling	min.	7	psi	0.5	Kg/cm ²
Engine running fast	min. max.	50 65-70	psi psi	3.5 4.5-5	Kg/cm ² Kg/cm ²

Check engine oil level regularly. When checking push the dipstick all the way down. Never allow the oil to fall below the minimum or, while topping up, to exceed the maximum level.

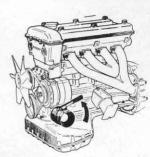
The lubricants used for the first filling, shown by the plate in the engine compartment and the table «Recommended lubricants» on inside backcover are factory tested for meeting completely the operation requirements. These lubricants can be used both for topping up and changing (when topping up, it is recommended to use exclusively the same type of oil as already filled in the engine or the main unit).

In countries where the above mentioned lubricants are not available, and when absolutely necessary, it is possible to replace them with products of other leading makes provided that in accordance

with the grades given in the table; in such a case, however, it is essential to renew all the lubricant in the circuit.

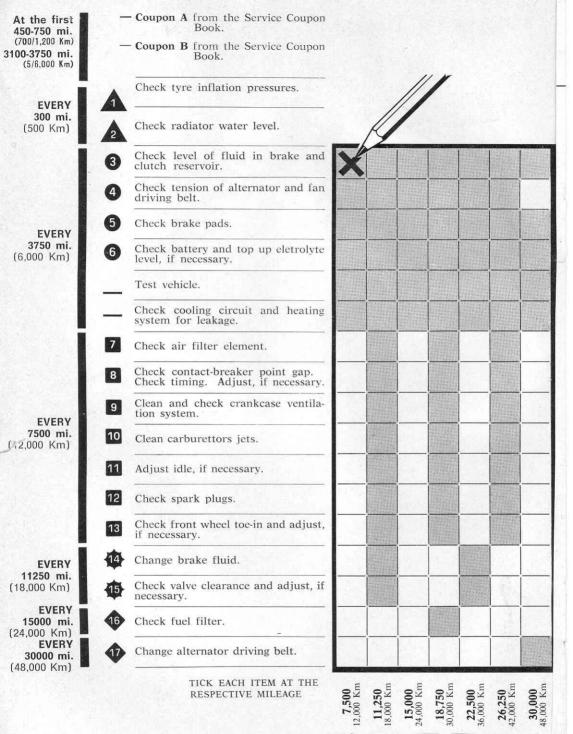
Whenever changing the engine oil (drain old oil when hot) the oil filter should be changed too. To remove the filter slacken it with the suitable spanner, then unscrew the filter by hand.

After fitting the new filter to the engine, make sure that there are no oil leaks.

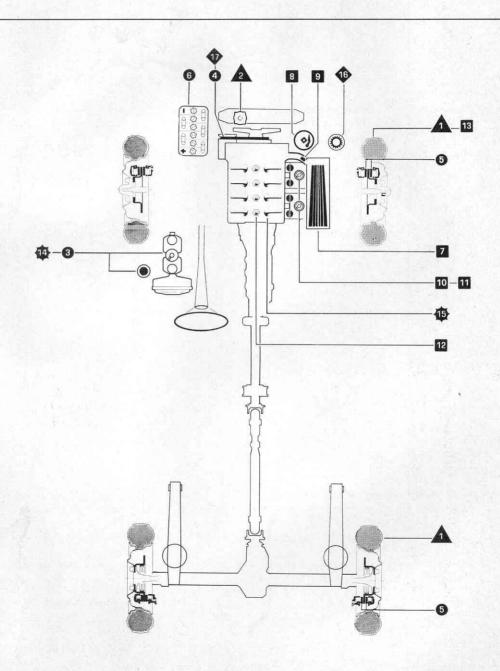


Oil pressure

Oil level



MAINTENANCE



Valve clearance

The V-mounted overhead valves are directly operated by two comshafts acting through oil bath cups.

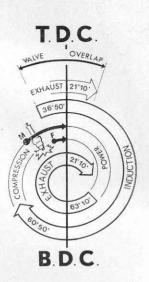
When the engine is cold, carefully measure the clearance at the unlobed profile of cam with a feeler gauge.

• Intake: .0187-.0197 in. (.475-.500 mm)

• Exhaust: .0206-.0216 in. (.525-.550 mm)

M Maximum advance

F Fixed advance



AIR AND FUEL FEED

Air filter Summer/winter adjustement

The control, operated by hand, has two positions:

- upward (position I) preheated air in winter.
- downward (position **E**) fresh air in summer.

Cleaning the filter element Remove the rear cover of the filter, withdraw the element and clean it carefully from inside with low pressure compressed air.

Moreover at the prescribed intervals change the element.

Fuel pump and filter

The fuel supply is effected by a mechanical pump located on the righthand side of the engine.

The fuel sucked by the fuel pump reaches the caburettor through a bowl filter on the right-hand side of the engine compartment. The filter incorporates a device which regulates the outlet pressure of the fuel.

At the prescribed intervals clean or change the filter element, if necessary.

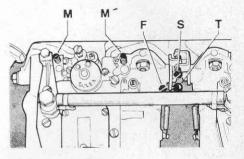
Preparatory steps

- · Check the ignition timing.
- · Remove the air filter element and clean thoroughly.
- Check the flexible mounts between carburettors and intake manifold for tightness.

Idle adjustment

Aligning the throttle valves

- Detach the control linkage T from carburettors. Slacken the screw F and S almost fully.
- Operate the throttles a few times, making sure that there is no binding.
- Fully depress the throttle control lever of rear carburettor so that the
 throttles are fully closed; then screw
 in the screw S until contact is made.

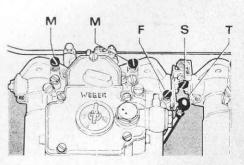


SOLEX C 40 ADDHE/1 (GT 1300)

Idle

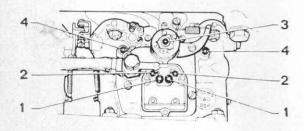
- Back off screws M two turns from closed position. Tighten the screw F to contact, then screw it in one more turn. Connect the control linkage T to carburettors.
- Start the engine and warm it up.
- If necessary, back off the screw F very slowly until the negine runs at about 800-900 r.p.m.

Note - If the engine runs unevenly, act on the screws **M** alternatively until smooth operation is obtained; then, re-adjust idle as directed above.



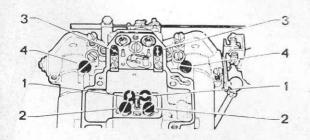
WEBER 40 DCOE 44/45 (GT 1600)

2 CARBURETORS SOLEX C 40 ADDHE/1 (GT 1300)



1	Main jet		٠			201		•	135
	Main air	· me	eter	in	g :	jet			210
2	Idling je	et .					•		60
	Idling a	ir m	ete	rin	g	jet			175
3	Choke j	et .	·						140
4	Accelera	tion	pu	mp	j j	et			60
	Venturi	(mn	1)						28

2 CARBURETORS WEBER 40 DCOE 44/ 45 (GT 1600)



	Main air metering jet	٠	. 180	
2	Idling jet		. 50	
	Idle air metering jet		. F 15	
3	Choke jet		65 F 5	
1	Acceleration pump jet		. 35	
	Venturis (mm)		. 30	

1 Main jet

Ignition distributor

The ignition system is of battery and coil type with a centrifugal advance governor.

Firing order: 1 - 3 - 4 - 2

		Bosch distributor	Marelli distributor
0	GT 1300	0.012-0.0157 in. (0.30-0.40 mm)	
5= (GT 1600	0.012-0.0157 in. (0.30-0.40 mm)	0.0158-0.016 in. (0.42-0.48 mm)

At the prescribed intervals check with a feeler gauge the contact-breaker point gap (S).

Adjust by means of screw 2 if necessary.

If contacts are burnt or pitted, they may be smoothed with a very fine file and then cleaned with petrol.

Soak the felt 1 with oil. Lightly smear the distributor

cam with grease.

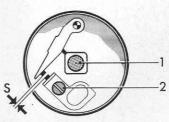
Check the inside of the distributor cap for any sign of moisture, carbon deposits or cracks. Check also the central power electrode for free movement in its seat, and that spring action is effective. At last, check the rotor arm for proper insulation and terminals on brush and cap for good operating conditions.

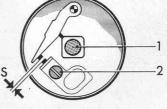
The spark plugs are of the type with four points and a central electrode.

The only maintenance required is occasional cleaning with a brush of the central and earth electrodes.

No routine adjustment is necessary of the gap between the electrode and points.

The spark plugs should be tightened when cold to a torque of 18-25.3 lb.-ft. (2.5-3.5 kgm); lubricate the threads with graphite grease before fitting.









LODGE 2 HL

Spark plugs

Checking the ignition timing

To check the ignition timing proceed as follows:

- 1 rotate the crankshaft to bring no. 1 cylinder piston to the compression stroke, that is with both valves closed;
- 2 by slightly rotating the crankshaft, bring the fixed advance markF cut in the drive pulley into line with reference plate;
- **3** remove the distributor cap and check that the contact-breaker points begin to open when the engine is turned further in its normal direction of rotation.



FIXED ADVANCE

6°/8° BTDC

A more accurate check should be made with a stroboscopic gun by directing the light onto the reference plate.

Run the engine at 800-900 rpm and check whether reference plate and mark **F** on the crankshaft pulley are aligned (advance 6°/8°); at 1500 rpm the mark **M** should be seen in line with the reference plate (maximum centrifugal advance of 35°/38°).

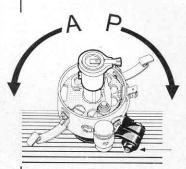
If the marks are not in line or out of the specified tolerances, disconnect the distributor drive coupling and adjust as required.



MAX ADVANCE

35°/38° at 5100 rpm

Timing adjustment



If the timing requires adjustment proceed as follows:

- unscrew the nut on the bolt securing the distributor body;
- rotate the distributor body anti-clockwise or clockwise according to whether it is necessary to advance

 (A) or to retard
 (P) the ignition setting;
- retighten the nut, taking care not to move the distributor body.

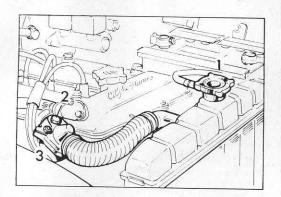
Engine cooling is assured by forced water circulation, by means of a centrifugal pump.

The water pump built into the fan bracket is driven by the belt which drives both the fan and the generator.

Water pump

Cooling circuit

- 1 Radiator cap
- 2 Air bleed screw
- 3 Thermostat



The thermostat is fitted in the water outlet hose between the cylinder head and the radiator.

To ensure the rapid warming-up of the engine, the thermostat must not open until the water has reached the prescribed temperature of $178^{\circ}-185^{\circ}$ F ($81^{\circ}-85^{\circ}$ C).

As it is possible for the water to reach a temperature of 212°-221° F (100°-105° C) the cooling system including the radiator is under pressure.

Should excessive water consumption occur, make sure that there are no leaks from the rubber hoses: also check the radiator cap, and make sure that the spring, the rubber seal and the valve are in good order. In case of doubt replace the cap.

Refilling the system

When refilling the cooling system after draining it thoroughly, the following procedure should be observed to ensure that the circuit is completely filled:

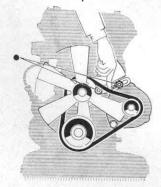
- loosen the air bleed screw (2) in the cooling circuit (14 mm 9/16" hex. wrench);
- check that the heating system is in operation making sure that the TEMPERATURE control lever is in the MAX, position (see page 12);
- fill the cooling system with water, making sure that all the air is bled from the bleed screw from which water should appear;
- retighten the bleed screw:
- move the TEMPERATURE control lever to the desired position.

Adjusting the tension of fan, water pump and alternator driving belt If the tension is insufficient, the belt will slip and wear prematurely; furthermore:

- the cooling action will be affected because of the reduced speed of the fan and water pump;
- the battery charging current will be reduced owing to the slower alternator speed.

If the tension is excessive, the alternator and water pump bearings will be overloaded with the consequent risk of damage.

Therefore it is necessary to check the belt tension at the prescribed intervals.



The tension is correct when on pressing the belt down the amount of play is approximately 1/2 in.

To adjust the belt tension unscrew the nut on the adjusting arm pivot pin, the nut of the securing bolt and move the alternator so as to obtain the proper belt tension.

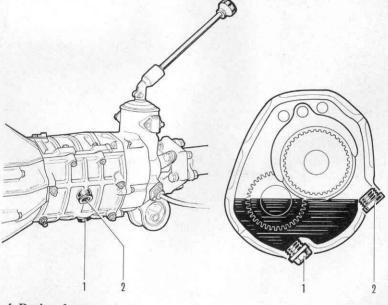
Carefully retighten the nuts and bolt after adjusting the belt tension.

The gearbox has 5 syncromesh forward gears and one reverse. The gear lever is floor mounted.

Any inspection or adjustment of the gearbox must be done only by an authorized « Alfa Romeo » Service Station.

	GT 1300	GT 1600
1st	3.30 : 1	3.30 : 1
2nd	1.99:1	1.99:1
3rd	1.35 : 1	1.35 : 1
4th	1.00 : 1	1.00 : 1
5th	0.86:1	0.79:1
Rev.	3.01:1	3.01:1

Transmission ratios



1 Drain plug.

2 Filler plug.

Check that gearbox is full of oil to the bottom edge of the filler orifice.

The propeller shaft is in two sections and has an intermediate flexible support attached to the body.

The front section is provided with a rubber coupling at the gearbox end; a universal joint is provided at each end of the rear section.

Grease the sliding yoke at the scheduled intervals.

PROPELLER SHAFT

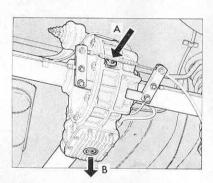
Chassis maintenance

Overall ratios (with 41:9 final drive)

The rear axle is attached longitudinally to the supporting structure by means of two radius rods with rubber bushes at the ends; transverse attachment is effected by means of an upper T-arm hinged to the body and to the rear axle through rubber bushes. The final drive is of the hypoid type.

	1st	2nd	3rd	4th	5th	Rev.
GT 1300	15.049 : 1	9.055 : 1	6.172 : 1	4.555 : 1	3.918 : 1	13.710 :
GT 1600	15.049 : 1	9.055 : 1	6.172 : 1	4.555 : 1	3.603 : 1	13.710 :

Oil level



Check oil level or change the oil at the prescribed intervals.

A - Filler plug

Check that differential is full of oil to the edge of the filler orifice.

B - Drain plug

STEERING GEAR AND LINKAGE

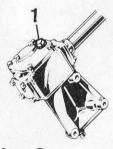
This model is produced alternatively with steering of the worm and roller or recirculating ball type.

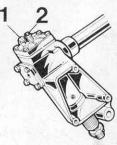
The ball and socket joints of the rods do not require any lubrication.

At the prescribed intervals check:

- the oil level in the steering box (by removing the plug 1 shown in the figure);
- the steering linkage joint for play.

The worm-and-roller steering can be adjusted with screw 2, if necessary.





Non-adjustable; check chassis and suspension arms for distortion if necessary.

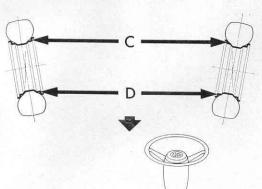
CAMBER B = A + .20" (+ 5 mm)

- .04" (- 1 mm)

Lock steering wheel with the spokes symmetrically disposed in relation to the vertical;

starting with the track rod 2 at the steering box side, place the corresponding wheel so that toe-in is 1/16" (1.5 mm);

measure the length thus obtained of the track rod and adjust the rod 1 on the other side to a length 3/16" (5 mm) shorter; bring the wheel to a 1/16" toe-in by adjusting the centre track rod 3.

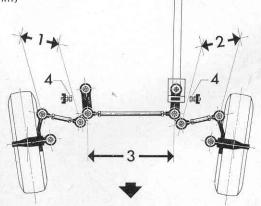


TOE-IN

$$C = D + .12" (+ 3 mm)$$

As measured between ball joint centres, the length of track rods should fall within the following limits:

1 & 2 = 10.71
$$\pm$$
.3 in. (272 \pm 8 mm)
3 = 21.26 \pm .4 in. (540 \pm 10 mm)



The turning circle may be adjusted by means of the screws 4 indicated in the diagram.

Camber

Toe-in adjustment

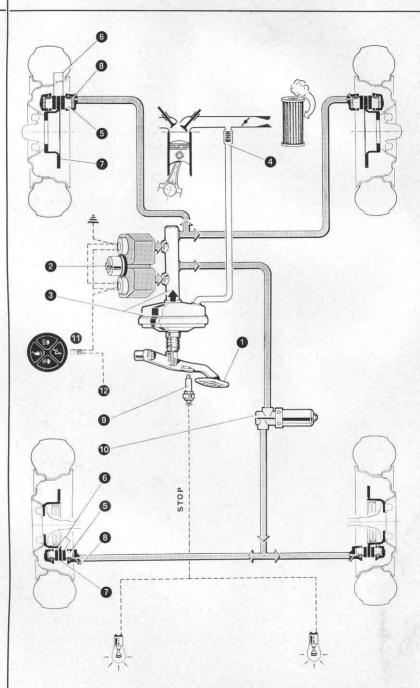
Length of track rods

Turning circle

Chassis maintenance

Operating diagram

- 1 Brake pedal
- 2 Fluid reservoirs (with warning light switches)
- 3 Power cylinder
- 4 Vacuum port
- 5 Pistons
- 6 Friction pads
- 7 Discs
- " Bleed screws
- Stop light switch
- .0 Pressure regulating valve
- 11 Fluid level and handbrake warning light
- 12 To positive terminal



The brake unit consists of a dual hydraulic braking system. Each one of the separate circuits, front and rear, is servo assisted and controlled by a tandem master cylinder, with one cylinder operating the front brakes and the other cylinder the rear brakes. The friction pads of the front and rear brakes are directly actuated by the cylinders integral with the calipers.

The brakes are self-adjusting.

A valve, inserted in the rear brake circuit, regulates the pressure between front and rear brakes to provide braking action.

WARNING: the pressure regulating valve must never be tampered with; specifically, do not attempt to act on the adjusting nut as

it is factory sealed.

A warning light, located in the facia panel (7, page 6) will alert you if the level of fluid in the reservoirs falls below the minimum. This warning light serves also as a warning for the handbrake lever when in engaged position.

Should the warning light come on, first make sure the handbrake is fully released; if the warning light still remains on, stop the car and check the brake fluid level in the reservoirs; if the level is too low, check the relevant circuit for possible failure.

To maintain the brakes in good operating condition, follow the servicing instructions given below:

 Take care to prevent the minimum level of fluid in the reservoir from falling below the maximum level by more than a quarter. For renewal or topping up, it is absolutely essential to use only

Clutch & brake fluid



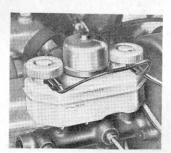
« Alfa Romeo » std. no. 3681,69903



BRAKE FLUID Super HD



« BLAU S »



from freshly opened sealed containers.

When adding fluid, leave the strainer in place so as to filter

the fluid.

Renew the brake fluid at the prescribed periods. For effective and reliable operation of the brake system, the pipes must always be full of fluid and free of air bubbles.

Excessive and spongy brake pedal action is an indication of the presence of air bubbles in the system.

Should flushing of the brake circuit be required, use exclusively fluid of the specified type.

Compressed air or alcohol must on no account be used to dry a flushed system.

Hydraulic brake

Chassis maintenance

Air bleeding

Bleeding should be performed with the greatest care and following these instructions.

Fill the reservoirs, if necessary, with the genuine fluid freshly drawn from sealed containers; during bleeding operations pay attention that fluid level does not drop below the full by more than a quarter.

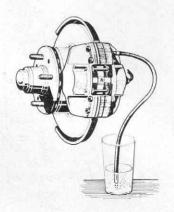
Push rubber pipes over the bleed screws of a front and a rear wheel (either the two at the near side or the two at the off side); the other end will lead to glass containers half full of fluid.

Loosen the bleed screws of front and rear wheel at the same time; depress the brake pedal several times allowing it to return slowly and waiting a few moments before depressing it again.

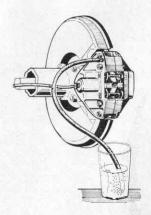
This sequence must be repeated until the pipes discharge fluid free from air bubbles. Hold the pedal down, tighten the bleed screws and remove the pipes.

Repeat the procedure for the other wheels; then, top up fluid in the reservoir.

If the bleeding has been carefully performed, it will be found that when the brake pedal is depressed; direct action on the fluid can be felt, free of resilience, immediately at the end of the free travel. If not, repeated the procedure.



Front brakes



Rear brakes

To clean the outside of brake assemblies use suitable detergents mixed with hot water: then thoroughly dry all components with compressed air.

Never use petrol, trichloroethylene or similar solvents to clean the outside of brakes as these substances are detrimental to the rubber seals.

While servincing the car, be careful not to let lubricants come in contact with the discs and friction pads.

When cleaning the underside of the car, it is advisable to mask off the brakes to avoid damaging the brake components with jets of water.

In case of accident or damage to the chassis check that the brake vacuum servo is undamaged, since even slight superficial body damage may seriously impair the functioning of the brakes.

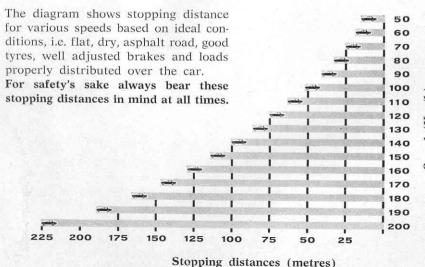
Do not coast downhill with the engine stopped; there will be no suction in the brake vacuum servo and a greater pressure will be needed with the brake pedal to obtain comparable braking effect.

In case of uneven wear of pads, it is advisable to replace the whole set (front and rear of the same make selected among those listed on spare parts catalog).

Cleaning instructions

Important warning

Brake pads



STOPPING DISTANICE

Chassis maintenance

Balancing

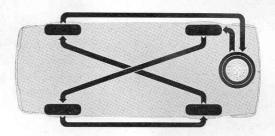
Each wheel, complete with its tyre, is statically and dynamically balanced at the factory.

Whenever a tyre is changed, the wheel must be rebalanced.

It should be remembered that unbalanced wheels cause unstable steering, abnormal steering gear wear and uneven tyre wear.

Changing over

To ensure even and uniform tyre wear and long tyre life, front and rear wheels and the spare should be changed over regularly.

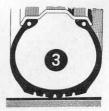


Tyre pressure

(For inflation pressures refer to inside backcover)







Correct

The tyre gives optimum performance, the tread works over its entire width, thus ensuring uniform tyre wear and long life.

Too low

2 The tyre will overheat: the sides of the tread will wear quickly and the tyre plies will tend to separate.

Too high

Riding comfort will be reduced, and the tyre will suffer from excessive wear in the centre of the tread and vulnerability to knocks. The body should be washed frequently, depending on the use of the car, the environmental conditions and the state of the roads.

Moreover the lighter is the finish paint shade the more frequent the car should be washed.

Avoid washing the car in the sun and proceed as follow:

- first flush the car all over with jets of water to remove the dust;
- prepare a solution of suitable detergent in water (2% in weight);
- with the solution and a sponge wipe down the whole body;
- rinse thoroughly with plenty of water;
- dry with compressed air, if possible, then with chamois leather.

Note: for cleaning the outside of brakes refer to page 35.

To put fresh gloss on the paintwork, polish once or twice a year with a polish.

On the chromework use petrol to remove grease and a suitable compound to take out any scratches.

Use only woollen cloth for polishing.

Do not use petrol or solvents on rubber mouldings and weather-strips.

When refuelling or lubricating, be careful not to splash petrol or brake fluid on the paintwork.

Use only a very soft cloth or chamois leather for cleaning the windscreen and windows. If the panes are very dirty, use windscreen washer fluid or water mixed with alcohol.

Occasionally, check level of liquid in screen washer container and replenish if necessary.

In winter, never add water.

Grease, oil and tar stains may be removed from the paintwork by applying petrol to the stained area, and then rubbing it with a dry cloth. If the tar deposits have hardened, use one of the many preparations available on the market.

Washing the car

Polishing

Cleaning the windows

Removing stains

Body maintenance

Upholstery

Periodically dust the inside upholstery using a vacuum cleaner if possible.

To remove oil and grease stains, use diluted ammonia on the cloth parts and vaseline on the leather.

Use trichloroethylene or neutral soap to remove stains from the carpets.

The steering wheel and control knobs may be cleaned with petrol.

LAYING THE CAR UP

If the car will be left unused for any length of time the following protective steps should be taken:

- empty the fuel tank, the fuel pump and the carburettor float chamber;
- clean the oil filter and the fuel filter:
- inject a little engine oil into the cylinders through the spark plug holes and rotate the crankshaft by hand several times in order to spread a film of oil over the cylinder walls;
- remove the battery, store it away from frost, and recharge it once a month; never allow it to become fully discharged or plate sulfation will result;
- jack up the car, clean the tyres and slightly deflate them; if tyres are removed, dust them internally (and their tubes) with talcum powder; store them in a dark and airy but dry place;
- dust the seats and upholstery with moth preventive;
- cover the car with a dust sheet. To avoid serious damage to the paintwork, do not use polyvinyl-type tarpaulins.

The 12 Volt electrical equipment is wired with protected and insulated cable in order to reduce to a minimum the risk of short circuiting. The negative battery terminal is grounded.

If any instrument fails to operate or any lamp fails to light up, first check the corresponding fuses; if the fuse is sound check to ensure that the cable terminals are tight and that bulbs are not loose or burnt out.

If the trouble persists, the electrical equipment should be checked by a competent auto-electrician.

Water level - The battery level should never be more than 3/16" (4.5 mm) above the plates and must never leave them uncovered. When filling up the battery, use only distilled water; never add acid.

Terminals - Make sure that terminals are tight and are sufficiently coated with pure vaseline.

State of charge - The state of charge can be checked by measuring the specific gravity of the electrolyte with a suitable hydrometer.

The specific gravity/charge ratio is as follows:

```
specific gravity \begin{cases} 1.28 ... .(32^{\circ} B\acute{e}) = charged \\ 1.23 ... .(27^{\circ} B\acute{e}) = half charged \\ 1.11 - 1.14 (15^{\circ} -18^{\circ} B\acute{e}) = discharged \end{cases}
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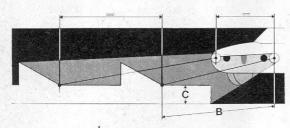
The alternator requires some special cares.

- It should not be tampered with.
- Never disconnect the battery terminal of alternator-to-battery cable while the engine is running.
- When recharging the battery, completely disconnect it from the system.
- When electric weldings are carried out on car, disconnect battery making sure the positive terminal is properly insulated.
- Never reverse the battery polarity or the diodes will be damaged.
- To avoid overloading the bearings, check frequently the belt for proper tension.
- It is recommended to entrust any inspection or repair work to Authorized Workshops.

Battery

Alternator

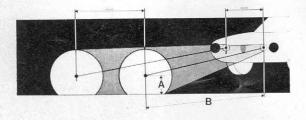
Outer headlamps: low beams



Inner headlamps: high beams A = 11.8 in. (30 cm)

B = 33 ft. (10 mt)

C = 15.7 in. (40 cm)



The pattern shown refers to cars for export to R.H. rule of road countries; for L.H. rule of road, the pattern is exactly opposite, i.e. upper area slanting from left to right.

The headlamp beam setting should be checked against the figures indicated in the diagram, with the car unladen, on a level surface and an absolutely vertical screen.

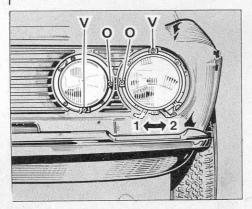
The lever for setting the headlamp beam must be in the position corresponding to unladen car.

To align the inner high beams mask out the outer lamps.

Setting

Should beam setting require correction, remove the headlamp rims and act on the adjusting screws V or O according to whether the vertical or horizontal setting respectively has to be corrected.

Setting the beam according to the load



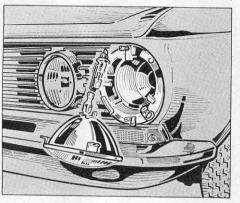
- V screw for vertical adjustment.
- H screw for horizontal adjustment.

A lever situated at the bottom of outer headlamp allows to set the beam in accordance with the load condition of the car.

- Position 1: laden car.
- Position 2: unladen car.

Remove the rim by pulling it off from the top.
Pull the plastic ring at the bottom to release light unit.

Slightly rotate light unit anticlockwise through slotted links and remove light unit.



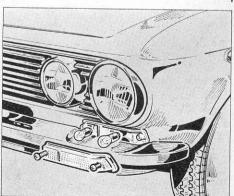
Headlamps

To remove the bulb free it from the retainer by turning slightly in anticlockwise direction the end of the retainer itself.

Never touch with the fingers the glass of the halogen bulbs.

Always remove possible fingerprints with alcohol before fitting the bulbs.

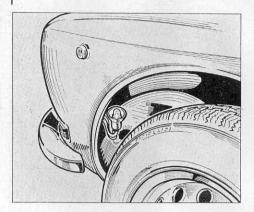
On refitting, take care that small springs seat properly.



Front direction indicators and parking lights

Loosen the attaching screws and remove the lens.

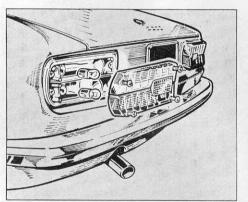
Side direction indicators



Gaining access from the wheelhouse withdraw the socket with the bulb.

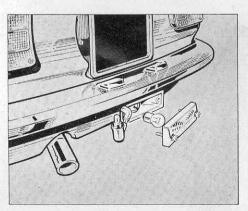
Socket mount is of snapon type.

Tail direction indicators, parking and stop lights



Loosen the attaching screws and remove the lens.

Number plate lights



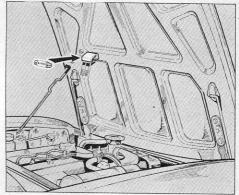
Withdraw socket and bulb from inside of bumper.

Socket mount is of snapon type.

Loosen the attaching screws and remove the lens.

Reversing light

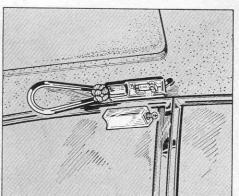
Remove bulb and change it. Bulb mount is of snap-on type.



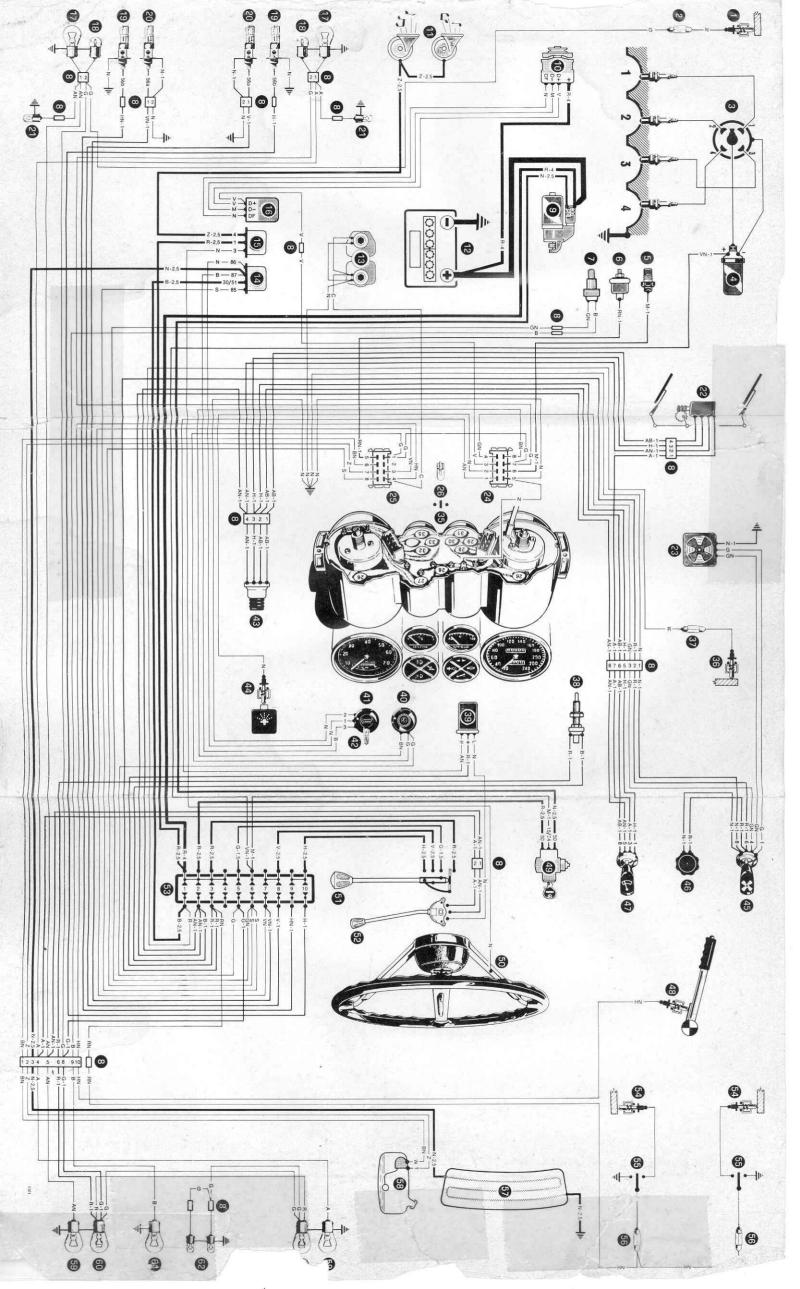
Engine compartment light

Loosen the screw and remove the lens.

Bulb mount is of snap-on type.



Ceiling lights



				FRONT		REAR		
				PSI	kg/cm²	PSI	kg/cm ²	
	155 SR 15"	MICHELIN	ZX	23	1.6	24	1.7	With reduced load & touring riding
				24	1.7	27	1.9	With full load and top range of speed
		PIRELLI	Cinturato S -	24	1.7	26	1.8	With reduced load & touring riding
				26	1.8	30	2.1	With full load and
1300	155 HR 15"	KLEBER COLOMBÉS	V 10 GT -	23	1.6	24	1.7	With reduced load & touring riding
GT				27	1.9	31	2.2	With full load and top range of speed
	165 SR 14"	CEAT	Drive D 2	24	1.7	25	1.8	Under all conditions
3		CONTINENTAL	Conti TT 715					
		FIRESTONE	Cavallino Sport 200					
		GOOD YEAR	G. 800					
		KLEBER COLOMBÉS	V 10					
		MICHELIN	ZX					
		PIRELLI	Cinturato SR					
	155 HR 15"	MICHELIN	XAS -	24	1.7	27	1.9	With reduced load & touring riding
				24	1.8	31	2.2	With full load and top range of speed
0	165 HR 14"	CEAT	Drive D 2	24	1.7	26	1.8	Under all conditions
160		CONTINENTAL	Conti TT 714					
GT 1600		FIRESTONE	Cavallino Sport 200					
G		GOOD YEAR	Grand Prix					
		KLEBER COLOMBÉS	V 10 GT					
		PIRELLI	Cinturato HR					
		MICHELIN	XAS	20	1.4	24	1.7	

		ncin		
PART	GRADE	AGIA	Shell	
Engine	SAE 10 W/50 API SE	AGIP Sint 2000 SAE 10 W/50	SHELL Super Motor On 10 W/50	
Gearbox Steering box and differential	SAE 90 API GL-5	AGIP F.1 Rotra MP	SHELL Spirax 90 HD	
Proneller shaft sliding yoke	NLGI 1	AGIP F.1 Grease 15	SHELL Retinax G	
Front wheel bearings	NLGI 2/3	AGIP F.1 Grease 33 FD	SHELL Retinax AX	

SAE - American Petroleum Institute
API - National Lubricating Grease Institute
NLGI - Society of Automotive Engineers

In the event the above lubricants would not be available refer to the directions given under « Lubrication » on page 19.



ALFA ROMEO - DIREZIONE ASSISTENZA