GROUP 00

CONTENTS

CONTENTS (cont.)

(△) As per Alfa 90 2.4 turbodiesel
(▲) As per Alfa 90
(○) As per Alfa 90 1.8 Carburetors, 2.0 Carburetors
(●) As per Alfa 90 2.0 Carburetors with timing variator for (CH) (SWE)
(*) As per Alfa 90 2.5 iniezione

CONTENTS (cont.)

(△) As per Alfa 90 2.4 turbodiesel
(▲) As per Alfa 90
(○) As per Alfa 90 1.8 Carburetors, 2.0 Carburetors
(●) As per Alfa 90 2.0 Carburetors with timing variator for (CH) (SWE)
(*) As per Alfa 90 2.5 iniezione

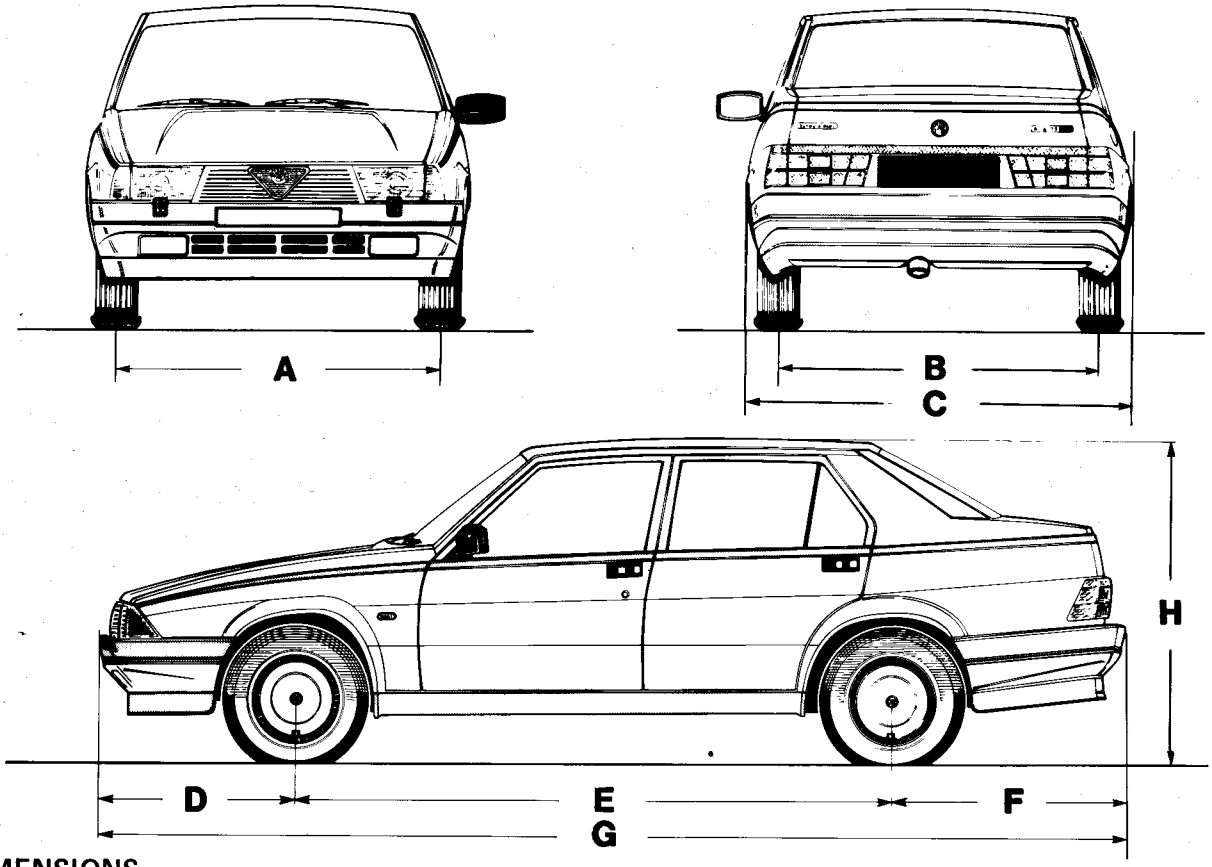
CONTENTS (cont.)

(△) As per Alfa 90 2.4 turbodiesel
(▲) As per Alfa 90
(○) As per Alfa 90 1.8 Carburetors, 2.0 Carburetors
(●) As per Alfa 90 2.0 Carburetors with timing variator for (CH) (SWE)
(*) As per Alfa 90 2.5 iniezione

CONTENTS (cont.)

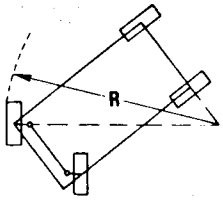
(△) As per Alfa 90 2.4 turbodiesel
(▲) As per Alfa 90
(○) As per Alfa 90 1.8 Carburetors, 2.0 Carburetors
(●) As per Alfa 90 2.0 Carburetors with timing variator for (CH) (SWE)
(*) As per Alfa 90 2.5 iniezione

GENERAL VIEWS



DIMENSIONS

Unit: mm (in)

Model	Variations	A	B	C	D	E	F	G	H max	R	
Alfa 75	1.6	1368(1) (53.86)	1358(1) (53.46)	1630 (64.17)	825 (32.48)	2510 (98.82)	995 (39.17)	4330 (170.4)	1400 (55.1)	5050 (198.8)	
	1.8										
	2.0	1368(2) (53.86)	1358(2) (53.46)								
	2.0 turbodiesel	1368(1) (53.86)	1358(1) (53.46)								
	6V iniezione	1368(2) (53.86) 1378(3) (54.25)	1358(2) (53.46) 1368(3) (53.86)								
	1.6	1368(1) (53.86)	1358(1) (53.46)								
	1.8										
	2.0	1368(2) (53.86)	1358(2) (53.46)								
	TURBO D	1368(1) (53.86)	1358(1) (53.46)								
	6V 2.5	1376(2) (54.17) 1396(4) (54.96)	1362(2) (53.62) 1382(4) (54.41)	1660 (65.36)							
	6V 3.0	1396(4) (54.96)	1382(4) (54.41)		865 (34.06)		1045 (41.14)	4420 (174.02)			

(1) with rims 5 1/2 J x 13"
(2) with rims 5 1/2 J x 14"
(3) with rims 6 J x 15"
(4) with rims 6 1/2 J x 14"

R = Radius of the circumference described in correspondence with ground from driving wheel outer edge in the max steering conditions

WEIGHTS AND LOADS

Unit: kg (lb)

Model / Variations / Weights and Loads		Alfa 75				
		1.6	1.8	2.0	2.0 turbodiesel	6V iniezione
Max weight allowed		1485 (3274)	1485 (3274)	1495 (3296)	1615 (3560)	1585 (3494)
Kerbweight		1068 (2355)	1060 (2337)	1070 (2359)	1190 (2624)	1160 (2557)
Useful load		425 (936)	425 (936)	425 (936)	425 (936)	425 (936)
Max gross weight per axle allowed	Front	820 (1808)	820 (1808)	820 (1808)	940 (2072)	850 (1873)
	Rear	990 (2182)	990 (2182)	990 (2182)	990 (2182)	990 (2182)
Max towing gross weight		1200 (2645)	1200 (2645)	1200 (2645)	1300 (2866)	1200 (2645)
Max vertical load on tow hook		77 (169)	77 (169)	77 (169)	90 (198)	84 (185)
Seating capacity	Front	2	2	2	2	2
	Rear	3	3	3	3	3

Unit. kg (lb)

Model / Variations / Weights and Loads		75				
		1.6 1.8	2.0	TURBO D	6V 2.5	6V 3.0
Max weight allowed		1485 (3274)	1495 (3296)	1615 (3560)	1585 (3494)	1675 (3693)
Kerbweight		1060 (2337)	1070 (2359)	1190 (2624)	1160 (2557)	1250 (2756)
Useful load		425 (936)	425 (936)	425 (936)	425 (936)	425 (936)
Max gross weight per axle allowed	Front	820 (1808)	820 (1808)	940 (2072)	850 (1873)	850 (1873)
	Rear	990 (2182)	990 (2182)	990 (2182)	990 (2182)	990 (2182)
Max towing gross weight		1100 (2425)	1100 (2425)	1300 (2866)	1200 (2645)	1300 (2866)
Max vertical load on tow hook		77 (169)	77 (169)	90 (198)	84 (185)	65 (143)
Seating capacity	Front	2	2	2	2	2
	Rear	3	3	3	3	3

WHEELS AND TYRES

Model / Variations / Rims and tyres			Alfa 75				
			1.6	1.8	2.0	2.0 turbodiesel	6V iniezione
Rims			5 1/2 J x 13" (1)		5 1/2 J x 14" (1)	5 1/2 J x 13" (1)	5 1/2 J x 14" (2) 6 J x 15" (2)
Tubeless Tyres			185/70 R13T	185/70 R13H	185/65 R14H	185/70 R13T	195/60 R14V 195/55 R15V
Inflating Pressure [kg/cm²] (3) (p.s.i.; bar; kPa)	N	A	1.8 (25.6; 1.76; 176.5)			2.1 (29.9; 2.05; 205.9)	2.0 (28.4; 1.96 ; 196.1)
		P	2.0 (28.4; 1.96; 196.1)			2.1 (29.9; 2.05; 205.9)	2.0 (28.4; 1.96; 196.1)
	C	A	2.0 (28.4; 1.96; 196.1)			2.3 (32.7; 2.25; 225.5)	2.2 (31.2; 2.15; 215.7)
		P	2.2 (31.2; 2.15; 215.7)			2.3 (32.7; 2.25; 225.5)	2.5 (35.5; 2.45; 245.7)

Model / Variations / Rims and tyres			75				
			1.6	1.8	2.0	TURBO D	6V 2.5 6V 3.0
Rims			5 1/2 J x 13" (1)		5 1/2 J x 14" (1)	5 1/2 J x 13" (1)	6 1/2 J x 14" (2)
Tubeless Tyres			185/70R1384T	185/70R1384H	185/65R1485H	185/70 R13T	195/60 R14V
Inflating Pressure [kg/cm²] (3) (p.s.i. ; bar ; kPa)	N	A	1.8 (25.6; 1.76; 176.5)			2.1 (29.9; 2.05; 205.9)	2.0 (28.4; 1.96;196.1)
		P	2.0 (28.4; 1.96; 196.1)			2.1 (29.9; 2.05; 205.9)	2.0 (28.4; 1.96; 196.1)
	C	A	2.0 (28.4; 1.96; 196.1)			2.3 (32.7; 2.25; 225.5)	2.2 (31.2; 2.15; 215.7)
		P	2.2 (31.2; 2.15; 215.7)			2.3 (32.7; 2.25; 225.5)	2.5 (35.5; 2.45; 245.7)

A: Front
P: Rear
N: with reduced load and normal speed
C: at full load and high speed
T: up to 190 km/h (118 mph)
H: up to 210 km/h (130 mph)
V: over 210 km/h (130 mph)

(1) Rims with four bolts
(2) Rims with five bolts
(3) Pressures measured on cold tyres

CAUTION:
The wheels nut must be tightened to 98 N·m torque (10 kg·m; 72.16 ft·lb)

MODEL VARIATIONS

(Except Switzerland, Sweden, Australia)

Identification: Model / Variations		Alfa 75									
		1.6		1.8		2.0		2.0 turbodiesel		6V iniezione	
Body		4 - door saloon									
Drive		LH	RH	LH	RH	LH	RH	LH	RH	LH	RH
Identification No.	– on identification label	161.000	161.010	161.020	162.030	161.080	161.090	161.040	–	161.180	161.190
Type approval No.	– on identification label	162.B2 (1) 162.B2A (2)		162.B1 (1) 162.B1A (2)		162.BA (1) 162.BF (2)		162.BD		162.B3 (2) 162.B3A (1)	
	– on rear right side of luggage compartment floor	162.B20		162.B10		162.B00		162.B00		162.B30	
Chassis No.	– on rear right side of luggage compartment floor	From 00.001.011	From 03.001.011	From 00.001.011	From 03.001.011	From 00.200.011	From 03.010.011	From 00.001.011		From 00.001.011	From 03.001.011
Engine type and serial No.	– on left rear side of engine block	061.00 From 000.001		062.02 From 000.001		062.12 From 000.001		VM.80A From 00.001		016.46 From 000.001	

(1) Type/Model with gearbox - rear axle long ratios

(2) Variation for type/model with gearbox - rear axle short ratios

Identification: Model / Variations		1.6		1.8		2.0		TURBO D		6V 2.5		6V 3.0	
Body		4 - door saloon											
Drive		LH	RH	LH	RH	LH	RH	LH	RH	LH	RH	LH	RH
Identification No.	– on identification label	161.000	161.010	161.020	162.030	161.080	161.090	161.040	–	161.180	161.190	161.200	161.210
Type approval No.	– on identification label	162.B2 (1) 162.B2A (2)		162.B1 (1) 162.B1A (2)		162.BA (1) 162.BF (2)		162.BD		162.B3		162.B6	
	– on rear right side of luggage compartment floor	162.B20		162.B10		162.B00		162.B00		162.B30		162.B60	
Chassis No.	– on rear right side of luggage compartment floor	From 00.001.011	From 03.001.011	From 00.001.011	From 03.001.011	From 00.200.011	From 03.010.011	From 00.001.011		–	–	From 00.001.001	From 03.001.001
Engine type and serial No.	– on left rear side of engine block	061.00 From 000.001		062.02 From 000.001		062.12 • From 000.001		VM.80A From 00.001		016.46 From 000.001		061.20 From 000.001	

(1) Type/Model with gearbox - rear axle long ratios

(2) Variation for type/model with gearbox - rear axle short ratios

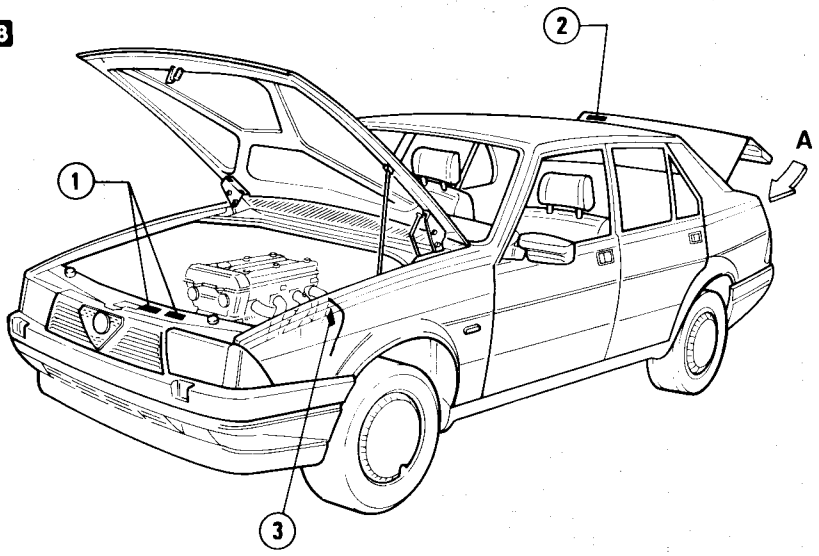
(For Switzerland, Sweden, Australia)

Identification: Variations / Model		Alfa 75					
		1.8		2.0		6V iniezione	
Body		4 - door saloon					
Drive		LH	RH	LH	RH	LH	RH
Edition		Switzerland 1985	Australia 1986	Switzerland 1985 Sweden 1985	Australia 1986	Switzerland 1986 Sweden 1986	Australia 1986
Identification No.	– on identification label	161.020	161.030	161.080	161.090	161.180	161.190
Type approval No.	– on identification label	162.B1A		162.BF		162.B3	
	– on rear right side compartment floor	162.B10		162.B00		162.B30	
Chassis serial No.	– on rear right side of luggage compartment floor	From 00.001.011	From 03.001.011	From 00.200.011	From 03.010.011	From 00.001.011	From 03.001.011
Engine type and serial No.	– on rear left side of engine block	062.02 From 000.001		062.12 From 000.001		016.46 From 000.001	

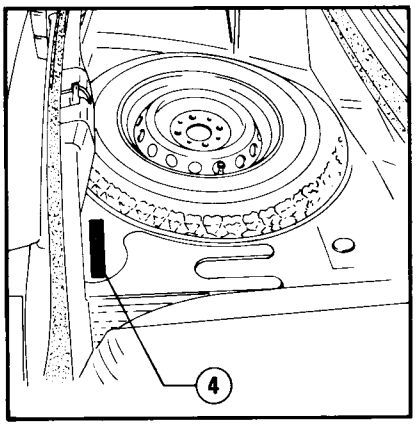
SERVICE AND IDENTIFICATION DATA

IDENTIFICATION LABELS

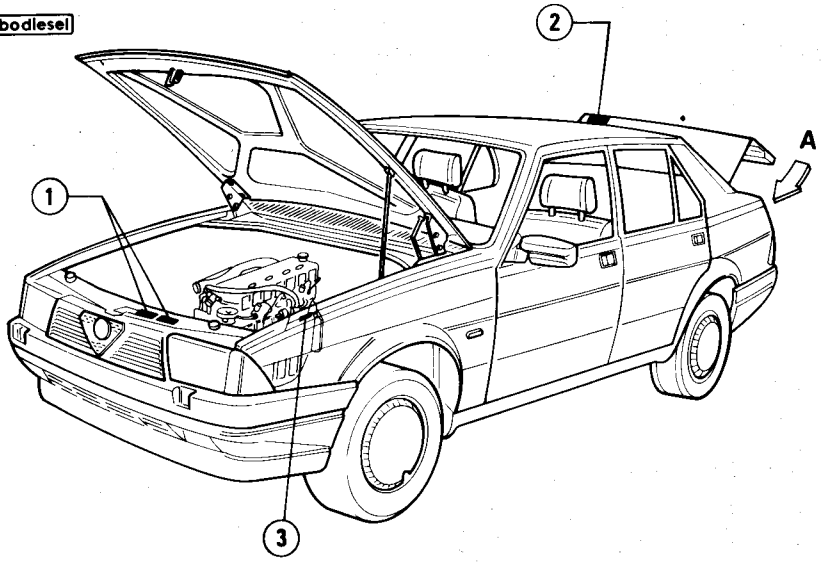
1.6 1.8
2.0



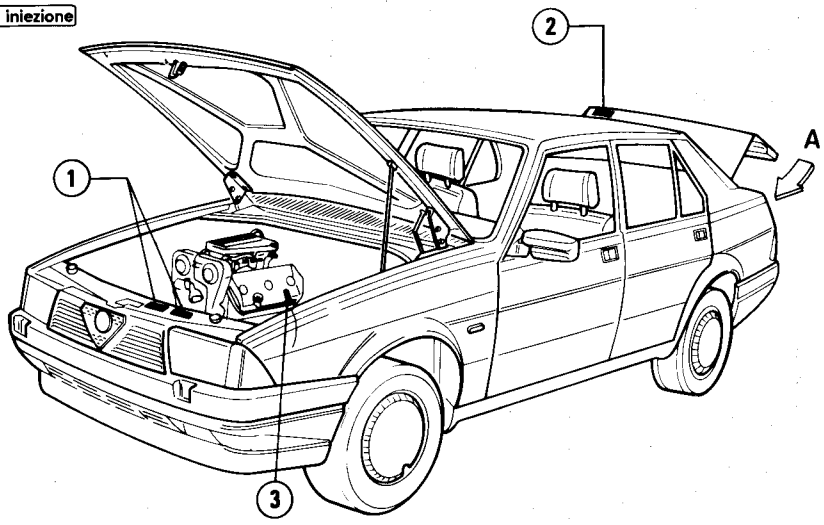
View from A



2.0 turbodiesel



6V iniezione



1 Identification label (identification number and type approval number)
2 Paint products label
3 Label on engine block, left rear side (engine type and serial number)
4 Label on luggage compartment floor (type approval number and serial number)

Lubrication label (lubrication data) (*)

(*) Position to be defined

VEHICLE IDENTIFICATION CODES

A) Chassis numbering

It is composed of groups of numbers and/or reference identifications

(2a) (2b)

Z A R 162.B30 ★ 00.001.011

(2) (3)

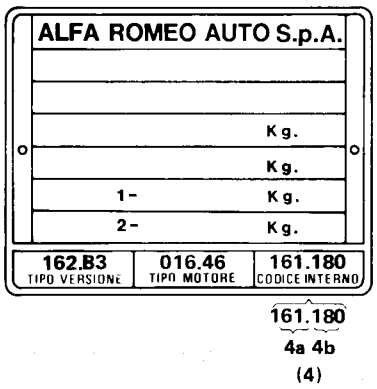
(1) Manufacturer identification characters

(2) Number of "Type and version approved".
It is composed of six figures, subdivided as follows:

(2a) Base type number: is assigned to each vehicle having a common design project (ex. **162 series** Alfa 90 and based Alfa 75).

(2b) Type variant number: identifies the variations within the base type (ex. **162.B30** - Alfa 75 ❄ 6V iniezione).

(3) Serial number: is progressively assigned at factory.



(4) Identification number (on identification label).
It is composed of five figures, subdivided as follows:

(4a) Basic type code: is assigned to all vehicles having a common design project to distinguish the different models (**162** series Alfa 90 **161** series Alfa 75)

4b) Type variant number: identifies, within the base type, those vehicles that differ because of some variant that alters their features (ex: **161.180** Alfa 75 ❄ 6V iniezione LHD).

For servicing purposes, indicate only the identification number (4).

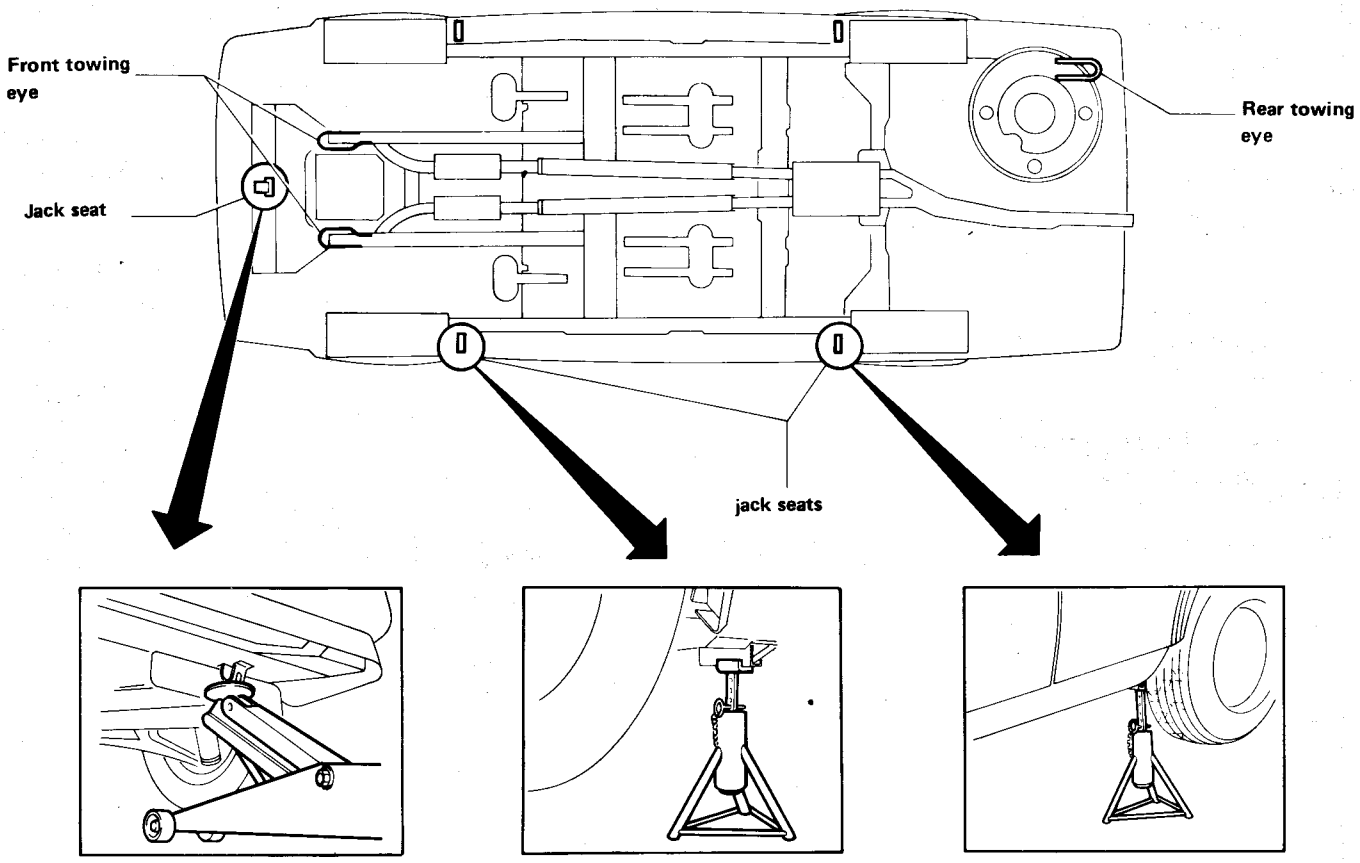
B) Engine numbering

016.46 **000.001**
(1) (2)

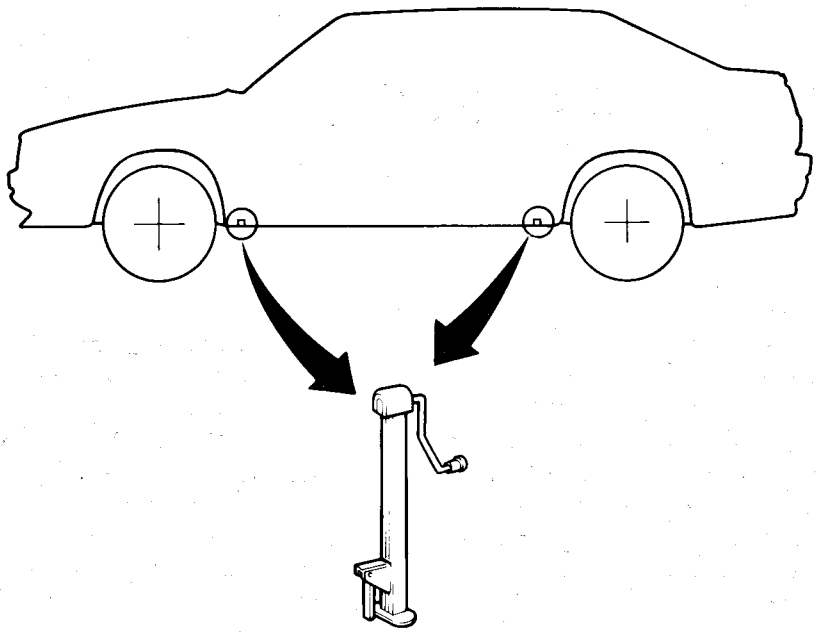
(1) Type number (ex: **016.46** - engine **2500** INIEZIONE L-Jetronic; **VM 80 A** engine **2000** turbodiesel intercooler).

(2) Engine serial number: is progressively assigned at factory.

LIFTING AND TOWING POINTS



JACK



WARNING:
a. Never get under the vehicle while it is supported only by the jack. Always use safety stands to support frame when you have to work under the vehicle.
b. Place wheel chocks at both front and back of the wheels diagonally opposite to jack position.

Position the jack, supplied with the vehicle, in the safety points shown in the figure.

HYDRAULIC JACK AND SAFETY STANDS

WARNING:
a. When raising vehicle with the jack, be sure to support it with safety stands.
b. When jacking up the rear (front) of the vehicle, place chocks in front (back) of the front (rear) wheels.

CAUTION:
When raising the vehicle, always place a wooedn block under vehicle lifting points.
Position the jack and the safety stands in a safe manner under the points shown in the figure.

TOWING

Closely follow the motor vehicle regulations concerning vehicle towing.

CAUTION:
a. Use suitable towing equipment to prevent damaging the vehicle.
b. Before towing, make sure that front and rear axles as well as steering wheel are in good working conditions. If not so, make use of a dolly.
c. If vehicle must be towed with its rear wheel raised, the front wheels must be placed on a towing dolly.
d. Set the ignition key to "0" position and do not withdraw it from the ignition block; otherwise, the steering lock could become engaged.
e. Before starting vehicle towing, release handbrake and shift the speed gear lever to "neutral".
f. Do not apply lateral forces to towing bar. Keep towing bar, or similar devices, always in line with the vehicle.
g. Remember that when vehicle is being towed, there is no vacuum in the servobrake; as a consequence, when braking, exert a greater pressure on brake pedal.

SPECIAL SERVICE TOOLS

Special service tools play a very important role in a vehicle's maintenance since they are essential to ensure accurate, reliable and quick service. To this effect, it must be remembered that times taken relevant to the various maintenance operations are computed assuming that said special tools are being used. All special service tools, made expressly on the Manufacturer's design, needed for overhauling, maintenance and repair of models are listed and illustrated in this manual. The identification number is determined by the relevant ordering part number and consists of a letter followed by a five figure number according to the following schedule:

A.0.0000 **Special Service Tool**
C.0.0000 **Tester**
U.0.0000 **Reamer**

Order of the listed tools by the authorized workshop, must be performed according to the usual systems already followed by each Service - net.

INSTRUCTIONS FOR PRE-DELIVERY INSPECTION

This chapter lists and describes the pre-delivery operations required for the Alfa 75 vehicles. The operation description does not refer to each version, but gives general information concerning the parts for which inspection is required.
As regards the technical specifications related to each operation, and the lubricant products (and similar), refer to the "Technical Data and Specifications" present in each section.

CAUTION:
Pre-delivery inspection of a new vehicle, prior to customer delivery, consists in carrying out all checking operations and tests hereafter described in order to detect and thus eliminate any damage or malfunction.
It goes without saying, however, that when Dealer personnel picks up the vehicle, should perform a visual check in order to:

a. **make sure that vehicle is in normal driving condition, especially as regards level of fluids and controls in general**
b. **detect any dents or scratches on body or other damage to the vehicle interior (upholstery).**
c. **make sure nothing is missing, especially factory supplied accessories, spare tire and any parts that are to be fitted on vehicle as pre-delivery completion.**

If, as consequence of the checks, topping up is required proceed accordingly; this operation is to be considered as part of pre-delivery inspection. In the event of interventions (malfunctions) different from those indicated, carry out the adjustments according to the current technical and administrative procedures.

As each operation is being carried out, the relevant card must be filled out and then filled together with the sold vehicle's other documents; also the pre-delivery card included in the Instruction Book supplied to the customer must be duly filled out as demostration of strictly execution of pre-delivery checks.

OPERATIONS IN THE ENGINE COMPARTMENT

Coolant

– On cold engine, check the header tank lever. Top up if necessary with the prescribed liquid, up to the max level.

Engine oil

– Check that level is up to the "MAX" mark on the dipstick (carry out this operation after having parked the vehicle on an even surface, and after the engine has been off for a few minutes). If required, top up with specified oil.

Power steering oil

– Check that level is up to the "MAX" mark on the plug stick (before carrying out the check, with the engine idling, rotate the steering wheel completely in both directions in order to carry out bleeding).

Brake and clutch fluid

– Check that the level in the tank is up to the "MAX" mark on the tank. If required, top up with specified fluid remembering that tins must be sealed and opened only when ready to use.
Be sure to perform this operation with utmost care and cleanliness.

Battery electrolyte

– Check that the electrolyte covers the plates upper edge by **5 mm (0.197 in)**. If lower, top up with distilled water.

Windscreen washer liquid

– Check that the related tank is full. Top up, if necessary, with appropriate solution.

Engine electric fan

– Connect the thermal switch cables between them and verify the electric fan functioning.
– Verify that cables are firmly connected to thermal switch.

OPERATIONS ON VEHICLE OUTER SIDE AND IN THE PASSENGER COMPARTMENT

Exterior cleaning

– If required, dewax the vehicle using suitable products and procedures; wash the vehicle's exterior with a solution of water and shampoo, rinse it thoroughly and dry it.
Finish up cleaning by removing any stubborn spots by means of suitable compounds.

Paint

– Visually and thoroughly check all painted surfaces and remove accidental or manufacturing flaws, if any.

Exterior moldings and fittings

- Visually check all vehicle's outside parts: bumpers, moldings, grills, headlight rims, letters and emblems making sure they are securely fitted, and have no spots or dents.

Doors and hoods

- Visually check all weatherstrips for tight fit and make sure they are not damaged, out of shape or dirty.
- See if doors and bonnets are aligned and centered with relevant openings.

Factory issued accessory equipment

- Check if following items are in their proper place in the vehicle: tool kit, spare tire, jack, Instruction Book and Service Book.

Locks, hinges, windows

- Check proper working condition of all door locks (close, lock, open from inside and outside). Check in the same manner also locks on bonnet and boot.
- Check door and bonnet hinges for smooth noiseless operation.
- Check if windows can be opened and closed all the way without sticking and noiselessly.

Interior finishings

- Verify all upholsteries (roof, carpets, panels etc....) removing possible stains or scratches.

Seats, seat belt and accessory equipment

- Inspect seats checking if they slide freely on tracks without sticking and noiselessly. Also check proper working condition of seat and head-rest adjusting devices.
- Check inside and outside rear-view mirrors making sure they swing easily and stay firmly in place when set; also check snap switch on mirror for day/night driving.
- Check if seat belts and relevant retractors are in good working condition.
- Check maneuverability of sun-visors, ashtrays, glove compartment and any other accessory.

Heating and air conditioning system

- Verify correct functioning of heater controls and air inlet lids and lowers (opening and closing).
- Verify that electric fan operates correctly at the various speeds.
- For the vehicles equipped with air conditioner, start the engine and verify that, when operating the related control on vehicle, the closing of the electromagnetic coupling occurs and, consequently, the compressor operation.

Lights, indicators, electric accessory equipment

- With the ignition key set to "MAR", check whether lights outside and inside the vehicle, as well as the related warning lamps, illuminate: front and rear side lights, number plate lights, direction and hazard lights, stop lights, high/low beams, headlight flashing, reverse light, engine and luggage compartment lights, passenger compartment light (through manual control, and on doors) and the related switch off timer, front and rear spot lights, cluster lights and related adjustment rheostat (or rheostats), glove compartment light.
- Check whether the following warning lamps illuminate: alternator, fuel reserve, engine oil pressure, brake fluid level, handbrake on, starter on, heated rear window on, engine temperature; verify correct functioning of the ALFA ROMEO control warning lamps which illuminate all at the same time as soon as the ignition switch is set to the "MAR" position and then switch off after a few seconds.
- Verify proper functioning of horns, cigar lighters, door locking device, power window controls, and front seats electric controls.

Windscreen wash/wipe and headlight washer

- After having installed the wiper blades, check whether windscreen wiper works properly at the different speeds, as well as intermittently.
- Operate the windscreen washer and verify that spray nozzle jet in uniform and correctly directed towards window upper part.
- Verify that headlight washer jet is correctly directed towards headlights (only where required by Regulations).

Tire pressure

- Check tire pressure and, if required, restore to specified values. Use higher p.s.i. for the spare wheel.

Tightening of wheel nuts or screws

- By means of a spanner, check that nuts or screws of wheels are completely tightened. Verify also that nuts are appropriate for the type of vehicle and rim, as indicated in the spare Parts Catalogue.

OPERATIONS ON VEHICLE LOWER PART

Speed gear-differential oil

– Remove filler plug and check that the lubricant level reaches the lower rim of the related hole. Top up if necessary with the prescribed oil and re-fit filler plug.

Systems tightness

– Visually check for leaks or leaks traces in the following systems: fuel, power steering, brakes, clutch, engine cooling.
– Check for oil leaks from engine, speed gear and differential.

FUNCTIONAL TESTS

Engine controls

– Verify that the starter control operates without stricking along the whole travel and that, when the related knob is pushed down, the related device is completely disengaged from carburetor.
– Verify that the pedal accelerator control operates without sticking and, with the pedal at the end of travel, the throttle valve is fully open.

Engine start-up and functioning

– Verify that engine starts correctly. With hot engine, verify steady functioning of the engine at the prescribed idle r.p.m.

Instruments

– With engine running, verify correct functioning of all electrically operated instruments: rev counter, speedometer, oil pressure gauge, water thermometer, fuel level gauge, clock, Trip Computer.

Brake, clutch and speed gear controls

– With engine running, push the brake pedal and check that, after the initial empty stroke, it stops without elasticity.
Check also proper functioning of hand brake lever.
– With engine running, push the clutch pedal and check that all speeds can be shifted without sticking or noise.

MAINTENANCE

Maintenance operations consist in checking and restoring proper working condition of some parts of the vehicle which are most likely to become worn or out-of-adjustment as a consequence of the vehicle's normal use.
A list of the various operations to be performed at different intervals, as shown in the chart that follows, is included in the coupons of the Service Book which accompanies each vehicle.
Coupons will have to be stamped by the Service Organisation Agency to show that specified maintenance operations have been carried out.
Just as for pre-delivery inspection, should topping up or change of fluids and lubricants - as described in the text - become necessary, they will be considered as part of maintenance operations. In case damages or malfunctions other than those listed are encountered, they will be taken care of repaired of adiusted according to current technical and administrative procedures.

VEHICLE MAINTENANCE SCHEDULE

(Except Switzerland, Sweden, Australia)

No.	OPERATION	A (1)	Km/1000																				Notes
			10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	
1	Change engine oil and filter - check lubrication system tightness	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	(2)
2	Change speed gear - differential oil	X				X				X				X				X				X	
3	Check speed gear - differential oil level			X				X				X				X				X			
4	Check (and top up if necessary) the level of windscreen wash/wiper and headlight washer liquid-verify the system functioning	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	(3)
5	Check brake fluid level	X	X	X	X		X	X	X		X	X	X		X	X	X		X	X	X		
6	Change brake fluid level					X				X				X				X				X	(4)
7	Check power steering oil level	X		X		X		X		X		X		X		X		X		X		X	
8	Check antifreeze mixture level and verify cooling system tightness	X	X	X	X		X	X	X		X	X	X		X	X	X		X	X	X		(3)
9	Change antifreeze mixture and verify cooling system tightness					X				X				X				X				X	(5)
10	Check bolts and nuts tightening	X																					
11	Check front wheel toe-out, adjust if necessary	X																					
12	Check good conditions of drive shaft and steering box boots	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
13	Check braking system	X		X		X		X		X		X		X		X		X		X		X	
14	Check brake pads wear degree - replace if necessary		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	(6)
15	Check hand-brake travel - adjust if necessary	X		X		X		X		X		X		X		X		X		X		X	
16	Check tyre pressure	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	(3)
17	Check correct tightening of bolts and nuts of water outlet manifolds and sleeves, supply and drain manifolds, turbocharger connections, screws securing oil sump and engine front cover	X																					(7)
18	Check tightening of cylinder head screws/nuts	X																					(13)
19	Check accelerator cable - adjust if necessary	X																					
20	Check valve clearance adjust if necessary - Check timing and tensioning of belt or control chain (where required)	X		X		X		X		X		X		X		X		X		X		X	

No.	OPERATION	A (1)	Km/1000																				Notes
			10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	
21	Check good condition of alternator drive belt tensioning, air conditioner compressor, power steering pump - adjust if necessary	X		X				X				X				X				X			
22	Replace alternator drive belt, air conditioner compressor, power steering pump					X				X				X				X				X	
23	Replace timing system drive belts (where present)							X						X						X			
24	Check supply system tightness	X		X		X		X		X		X		X		X		X		X		X	
25	Check and clean the air filter cartridge		X		X		X		X		X		X		X		X		X		X		(8)
26	Replace air filter cartridge			X		X		X		X		X		X		X		X		X		X	
27	Check tightness of air supply system after the air flow gauge	X		X		X		X		X		X		X		X		X		X		X	(9)
28	Replace fuel filter									X								X					(9)
29	Replace fuel filter cartridge			X		X		X		X		X		X		X		X		X		X	(7)(10)
30	Drain water from fuel filter		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	(7)
31	Clean filter of fuel supply pump									X								X					(7)
32	Clean carburetor jets and exhaust gas return system spark arrester			X		X		X		X		X		X		X		X		X		X	(11)
33	Replace fuel filter or replace cartridge and clean container	X				X				X				X				X				X	(11)
34	Check the idle r.p.m. and exhaust emissions - adjust if necessary	X		X		X		X		X		X		X		X		X		X		X	(12)
35	Check the idle r.p.m. - adjust if necessary	X		X		X		X		X		X		X		X		X		X		X	(7)
36	Check and adjust injectors - replace spray nozzles if necessary					X				X				X				X				X	(7)
37	Check of end play and running clearance of turbocharger rotor shaft, and by-pass valve											X										X	(7)
38	Check of ignition advance - adjust if necessary	X		X		X		X		X		X		X		X		X		X		X	(12)
39	Check and clean spark plugs		X		X		X		X		X		X		X		X		X		X		(12)
40	Replace spark plugs			X		X		X		X		X		X		X		X		X		X	(12)

No.	OPERATION	A (1)	Km/1000																			Notes
			10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	
41	Check pre-heating glow plugs			X		X		X				X		X		X				X		X	(7)
42	Replace pre-heating glow plugs									X								X					(7)
43	Check battery electrolyte level - top-up if necessary; clamp and grease terminal	X		X		X		X		X		X		X		X		X		X		X	(3)
44	Check headlights setting - adjust if necessary	X																					
45	Lubricate doors bonnet and boot hinges adjust strikers if necessary; grease bonnet and boot catches	X		X		X		X		X		X		X		X		X		X		X	
46	Check underbody and frame			X		X		X		X		X		X		X		X		X		X	
47	Vehicle final inspection	X		X		X		X		X		X		X		X		X		X		X	

(1) A = 1,000 to 1,500 km (621 to 932 mi)

(2) To be carried out every 6 months in any case. Check oil level frequently, when refuelling

(3) To be carried out frequently, when refuelling

(4) To be carried out every year, in any case

(5) To be carried out every two year, in any case

(6) To be carried out when driving under particular stress conditions (sport driving) or on hilly roads

(7) Only for 2.0 turbodiesel model

(8) Check more frequently if driving in very dusty areas

(9) Only for models 6V iniezione

(10) To be carried out every year, and more frequently when using fuel containing impurities

(11) Only for models 1.6 1.8 2.0

(12) Except the 2.0 turbodiesel model

(13) Except the 2.0 turbodiesel model which has the indication (yellow adhesive) DO NOT RETIGHTEN THE CYLINDER HEAD SCREWS on rockers cover

(For Switzerland)

No.	OPERATION	A (1)	Km/1000																				Notes
			10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	
1	Change engine oil and filter - check lubrication system tightness	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	(2) E
2	Change speed gear - differential oil	X				X				X				X				X				X	
3	Check speed gear - differential oil level		X	X				X				X				X				X			
4	Check (and top-up if necessary) the level of windscreen wash/wiper and headlight washer liquid-verify the system functioning	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	(3)
5	Check brakes and clutch fluid level	X	X	X	X		X	X	X		X	X	X		X	X	X		X	X	X		
6	Change brake and clutch fluid					X				X				X				X				X	(4)
7	Check power steering oil level	X		X		X		X		X		X		X		X		X		X		X	
8	Check cooling system liquid level and verify system tightness	X	X	X	X		X	X	X		X	X	X		X	X	X		X	X	X		(3) E
9	Change cooling system liquid and verify cooling system tightness					X				X				X				X				X	(5) E
10	Check bolts and nuts tightening	X																					
11	Check front wheel toe-out - adjust if necessary	X																					
12	Check good conditions of drive shaft and steering box boots	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
13	Check braking system	X	X	X		X		X		X		X		X		X		X		X		X	
14	Check good conditions of servobrake vacuum intake hose	X	X	X		X		X		X		X		X		X		X		X		X	E
15	Check brake pads wear degree - replace if necessary		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	(6)
16	Check handbrake travel - adjust if necessary	X	X	X		X		X		X		X		X		X		X		X		X	
17	Check tyres pressure	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	(3)
18	Check correct tightening of cylinder head screws/nuts	X																					E
19	Check accelerator cable - adjust if necessary	X																					
20	Check valve clearance - adjust if necessary. Check timing or tensioning of belt or control chain (where required)	X	X	X		X		X		X		X		X		X		X		X		X	E

No.	OPERATION	A (1)	Km/1000																				Notes
			10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	
21	Check good condition of alternator drive belt tensioning air conditioner compressor, power steering pump - adjust if necessary	X	X	X				X				X				X				X			E
22	Replace alternator drive belt, air conditioner compressor, power steering pump					X				X				X				X				X	E
23	Replace timing speed drive belts (where present)							X						X						X			E
24	Check supply system tightness	X	X	X		X		X		X		X		X		X		X		X		X	E
25	Check and clean the air filter cartridge		X		X		X		X		X		X		X		X		X		X		(8) E
26	Check of air-to filter thermostatic device		X	X		X		X		X		X		X		X		X		X		X	(9) E
27	Replace air filter cartridge			X		X		X		X		X		X		X		X		X		X	E
28	Check tightness of air supply system after the air flow gauge	X	X	X		X		X		X		X		X		X		X		X		X	(9) E
29	Replace fuel filter									X								X					(9) E
30	Clean carburetor jets and exhaust gas return system spark arrester		X	X		X		X		X		X		X		X		X		X		X	(9) E
31	Check starter control functioning	X	X	X		X		X		X		X		X		X		X		X		X	E
32	Replace fuel filter or cartridge. Clean casing	X				X				X				X				X				X	(9) E
33	Check and adjust (if necessary) the idle r.p.m., fast r.p.m. and exhaust emissions	X	X	X		X		X		X		X		X		X		X		X		X	E
34	Check of ignition advance - adjust if necessary	X	X	X		X		X		X		X		X		X		X		X		X	E
35	Check and clean spark plugs		X		X		X		X		X		X		X		X		X		X		E
36	Replace spark plugs			X		X		X		X		X		X		X		X		X		X	E
37	Check battery electrolyte level - top-up if necessary; clamp and grease terminals	X	X	X		X		X		X		X		X		X		X		X		X	(3)
38	Check headlights setting - adjust if necessary	X																					
39	Lubricate doors bonnet and boot hinges adjust strikers if necessary; grease bonnet and boot catches	X	X	X		X		X		X		X		X		X		X		X		X	

(For Switzerland)

No.	OPERATION	A (1)	Km/1000																			Notes
			10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	
40	Check underbody and frame			X		X		X		X		X		X		X		X		X		X	
41	Vehicle final inspection	X	X	X		X		X		X		X		X		X		X		X		X	

(1) A = 1,000 to 1,500 km (621 to 932 mi.)

(2) To be carried out every 6 months in any case - check oil level frequently, when refuelling

(3) To be carried out frequently, when refuelling

(4) To be carried out every year, in any case

(5) To be carried out every two years, or before if necessary

(6) To be carried out when driving under particolar stress conditions (sport driving) or on hilly roads

(7) Check more frequently if driving in very dusty areas

(8) Only for models ❄ 6V iniezione

(9) Only for models 1.8 - 2.0

E Operation related to emission check

(For Switzerland)

No.	OPERATION	A (1)	Km/1000																				Notes
			10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	
1	Change engine oil and filter - check lubrication system tightness	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	(2) E
2	Change speed gear - differential oil	X				X				X				X				X				X	
3	Check speed gear - differential oil level		X	X				X				X				X				X			
4	Check the liquid level of windscreen and headlights washer - top-up if necessary	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	(3)
5	Check brakes and clutch fluid level	X	X	X	X		X	X	X		X	X	X		X	X	X		X	X	X		
6	Change brake and clutch fluid					X				X				X				X				X	(4)
7	Check power steering oil level	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
8	Check cooling system liquid level and verify cooling system tightness	X	X	X	X		X	X	X		X	X	X		X	X	X		X	X	X		(3) E
9	Change cooling system liquid and verify system tightness					X				X				X				X				X	(5) E
10	Check engine bolts and nuts proper tightening	X																					
11	Check front wheel toe-out - adjust if necessary	X																					
12	Check good conditions of drive shaft and steering box boots	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
13	Check braking system	X	X	X		X		X		X		X		X		X		X		X		X	
14	Check good conditions of servobrake vacuum intake hose	X	X	X		X		X		X		X		X		X		X		X		X	E
15	Check brake pads wear degree - replace if necessary		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	(6)
16	Check handbrake travel - adjust if necessary	X	X	X		X		X		X		X		X		X		X		X		X	
17	Check tyres pressure	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	(3)
18	Check correct tightening of bolts and nuts of water outlet manifolds and sleeves, supply and drain manifolds	X																					E
19	Check correct tightening of cylinder head screws/nuts	X																					E
20	Check accelerator cable - adjust if necessary	X																					

(For Australia)

No.	OPERATION	A (1)	Km/1000																				Notes
			10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	
21	Check valve clearance - adjust if necessary. Check timing and tensioning of control belt or chain (where required)	X	X	X		X		X		X		X		X		X		X		X		X	E
22	Check good condition of alternator belt tensioning air conditioner compressor, power steering pump - adjust if necessary	X	X	X				X				X				X				X			E
23	Replace alternator drive belt, air conditioner compressor, power steering pump					X				X				X				X				X	E
24	Replace timing drive belts (where present)							X						X						X			E
25	Check supply system tightness. Check fuel vapour emission system. Clean if necessary	X	X	X		X		X		X		X		X		X		X		X		X	E
26	Check and clean the air filter cartridge		X		X		X		X		X		X		X		X		X		X		(7) E
27	Check of air-to filter thermostatic device		X	X		X		X		X		X		X		X		X		X		X	E
28	Replace air filter cartridge			X		X		X		X		X		X		X		X		X		X	E
29	Check tightness of air supply system after the air flow gauge	X	X	X		X		X		X		X		X		X		X		X		X	(8)
30	Replace fuel filter									X								X					(8)
31	Clean carburetor jets and exhaust gas return system spark arrester		X	X		X		X		X		X		X		X		X		X		X	(9) E
32	Check starter control functioning	X	X	X		X		X		X		X		X		X		X		X		X	E
33	Replace fuel filter or replace cartridge and clean carburetor	X				X				X				X				X				X	(9) E
34	Check and adjust (if necessary) the idle r.p.m., fast idle r.p.m. and exhaust emissions	X	X	X		X		X		X		X		X		X		X		X		X	E
35	Check ignition advance - adjust if necessary	X	X	X		X		X		X		X		X		X		X		X		X	E
36	Check and clean spark plugs		X		X		X		X		X		X		X		X		X		X		E
37	Replace spark plugs			X		X		X		X		X		X		X		X		X		X	E
38	Check battery electrolyte level - top-up if necessary; clamp and grease terminals	X	X	X		X		X		X		X		X		X		X		X		X	(3)
39	Check headlights setting - adjust if necessary	X																					

(For Australia)

No.	OPERATION	A (1)	Km/1000																			Notes
			10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	
40	Lubricate doors bonnet and boot hinges - adjust strikers if necessary; grease bonnet and boot catches	X	X	X		X		X		X		X		X		X		X		X		X	
41	Check underbody and frame			X		X		X		X		X		X		X		X		X		X	
42	Vehicle final inspection	X	X	X		X		X		X		X		X		X		X		X		X	

(1) A = 1,000 to 1,500 km (621 to 932 mi.)

(2) To be carried out every 6 months in any case - check oil level frequently, when refuelling

(3) To be carried out frequently, when refuelling

(4) To be carried out every year, in any case

(5) To be carried out every two years, in any case, or before, if necessary

(6) To be carried out more frequently when driving under particular stress conditions (sport driving) or on hilly roads

(7) Check more frequently if driving in very dusty areas

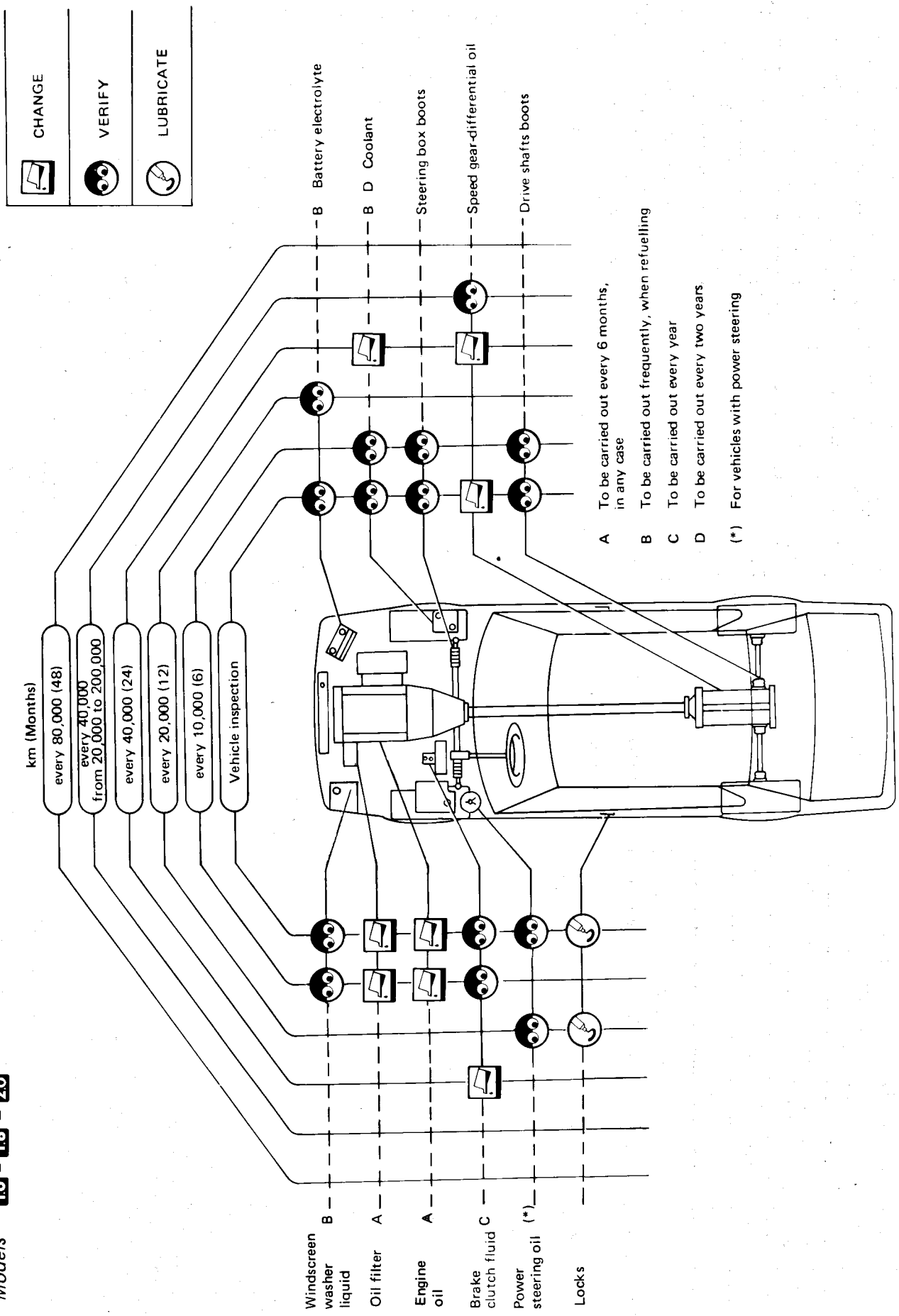
(8) Only for models [6V iniezione]

(9) Only for models [1.8] - [2.0]

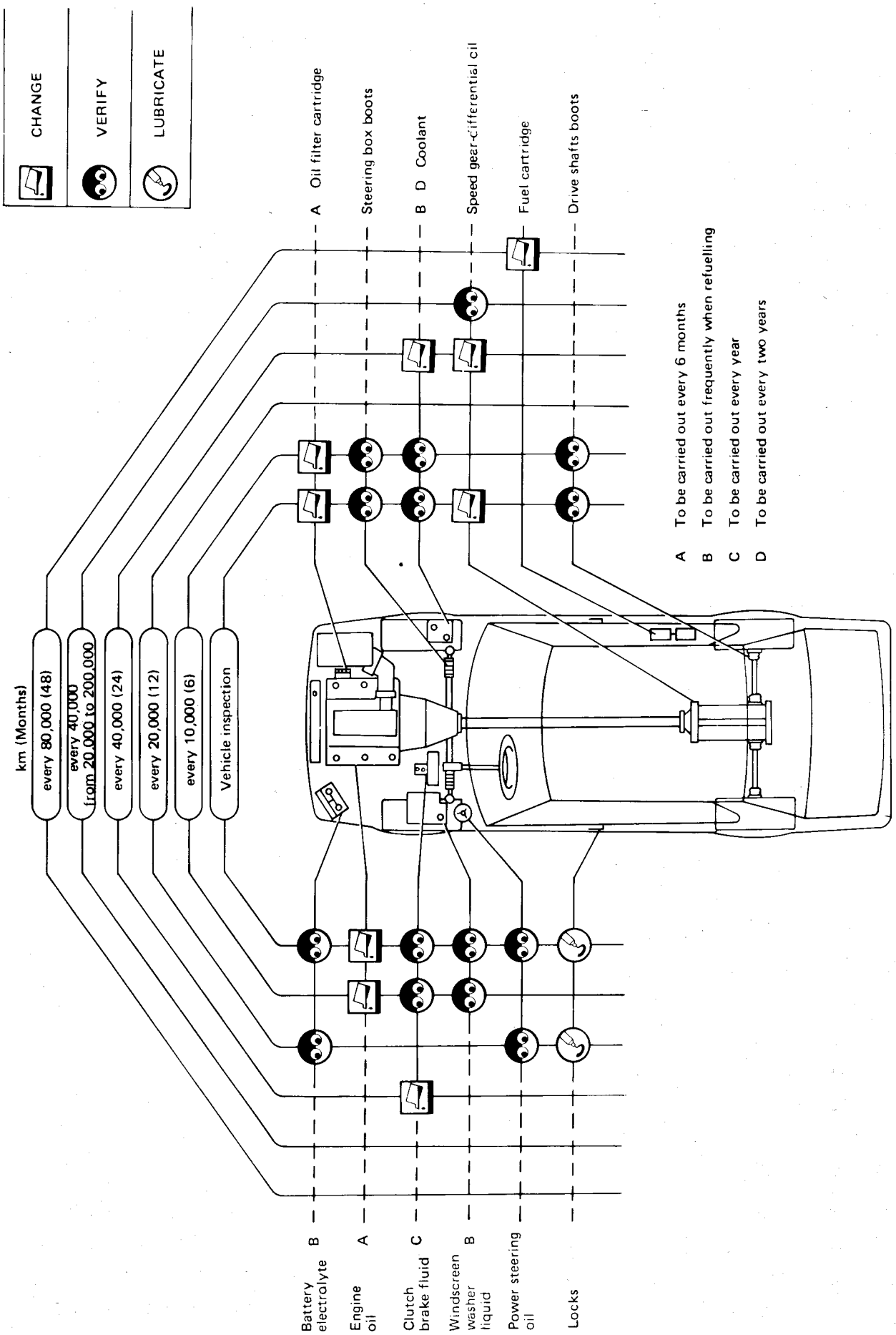
E Operation related to emission check

(For Australia)

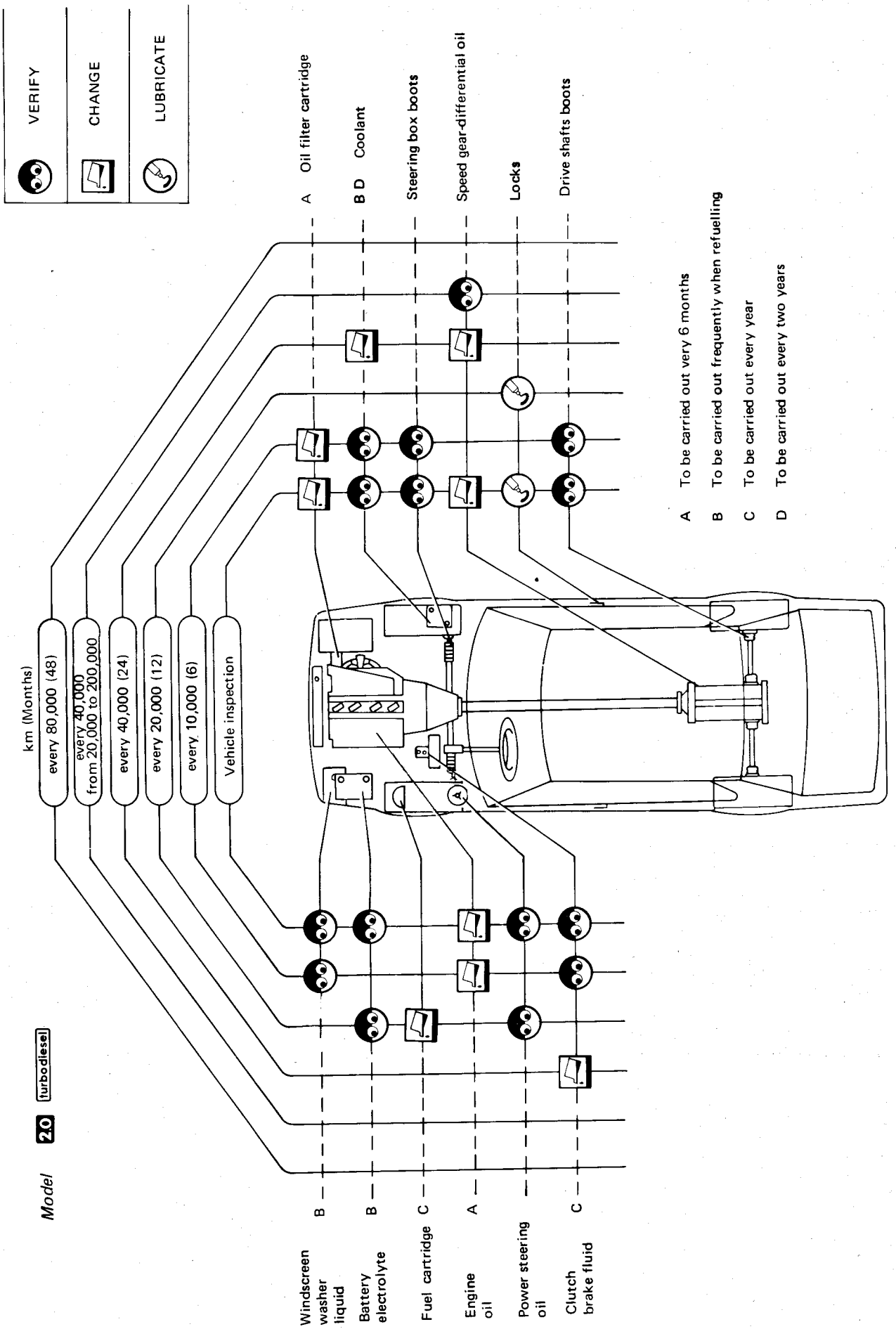
FLUIDS AND LUBRICANTS LAYOUT



Models 1.6 - 1.8 - 2.0



Model 6V iniezione


VERIFY
CHANGE
LUBRICATE
km (Months)
every 80,000 (48)
every 40,000 from 20,000 to 200,000
every 40,000 (24)
every 20,000 (12)
every 10,000 (6)
Vehicle inspection
A Oil filter cartridge
B D Coolant
Steering box boots
Speed gear-differential oil
Locks
Drive shafts boots
A To be carried out very 6 months
B To be carried out frequently when refuelling
C To be carried out every year
D To be carried out every two years
Windscreen washer liquid
Battery electrolyte
Fuel cartridge
Engine oil
Power steering oil
Clutch brake fluid
B
B
C
A
C
Model 20 turbodiesel

RECOMMENDED FUEL AND LUBRICANTS

FUEL

Otto cycle engines

To ensure proper engine operation, use petrol with a ⩾ 98 Octane Rating (R.M.) and a ⩽ 11 sensitivity (1).
(1) Difference between Research Method Octane Rating and Motor Method Octane Rating.

Diesel cycle engines

To ensure proper engine operation, use diesel fuel with a ⩾ 48 Cetane Rating (CUNA NC 630-01-1977).

	External temperature	
	⩾0° C (32° F)	0 to −20°C (32 to −4°F)
Normal diesel fuel	100 %	−
Cold weather diesel fuel	−	100 %

DIESEL FUEL ADDITIONAL AGENTS

Use	Name	Quantity
For cold climates	D/MIX−IP	1 l (0.22 Imp. Gall.) every 200 l (43.99 Imp. Gall.) fuel (one mark of the graded scale every 20 l (4.40 Imp. Gall.) fuel)
To reduce exhaust fumes	NEW CLEANER FOR DIESEL ENGINES +1 − CHALLOIS	one 0.150 kg (0.33 lb) tin (0.125 l) (0.027 Imp. Gall.) every 50 l (11 Imp. Gall.) fuel

Type	Application	Classification	Name			Notes
			AGIP	IP	Other	
OIL	Engine - 01	SAE SE ASTM SE API SF	Sint 2000 SAE 10W50	Sintiax SAE 10W 40		Ambient temperature –18 to 40° C (–0,4 to 104°F)
			Sint DIESEL SAE 10W40	Sintiax TURBODIESEL SAE 10W40	SHELL Myrina 15W40	
	Gearbox - Differential - 13 - 17	SAE J 306 a API GL-5	Rotra SX SAE 75W90	Pontiax HDS SAE 75W90		Ambient temperature –40 to 150°C (–40 to 302°F)
	Front suspension - 21	SAE J 306 a API GL-5	Rotra SX SAE 75W90	Pontiax HDS SAE 75W90		Ambient temperature –40 to 150°C (–40 to 302°F)
	Steering box/wheel - 23	DEXRON B	ATF DEXRON B 11297	DEXRON FLUID B 11297		
	Air Conditioner - 80				SUNISO 4 G SUNISO 5 DS	
GREASE	Engine - 01				UNION CARBIDE CHEMICALS COMPANY: Ucon lubricant 50 HB - 5100	
					MILLOIL: Lubricant for elastomer seals	
					ISECO:Std.No.3671-69841	
					SIPAL AREXONS - Carbo silicon for valves	
					ISECO: Molykote BR2	
					ISECO: Molykote A	
	Engine - Fuel System - 04	N.L.G.I. No. 1	Grease 15			Basic substance: Al - Ca
					ISECO: Molykote Paste G	
					ISECO: Molykote Long-term No. 2	
					REINACH: E10 TAC	

Type	Application	Classification	Name			Notes
			AGIP	IP	Other	
GREASE	Engine ignition - 05				REINACH - E10 TAC	
	Engine cooling system - 07				Antiseize R. GORI Never Seez	
	Clutch - 12	N.L.G.I. No. 3	Grease 33 FD	Autogrease FD		Basic Substance Bentonite Polythene
					ISECO: Molykote BR2	
	Gearbox - 13	N.L.G.I. No. 3	Grease 33 FD	Autogrease FD		Basic substance Bentonite Polythene
					ISECO: Molykote Longterm No. 2	
					ISECO: Molykote BR2	
	Transmission - 15				ISECO: Molykote BR2	
					ISECO: Molykote G RAPID	
	Differential - 17				ISECO: Molykote VN 2461/c	
					OPTIMOL: Ollstamoly 2LN584	Basic Substance; Li
					ISECO: Molycote BR2	
	Front suspension - 21	N.L.G.I. No. 3	Grease 33 FD	Autogrease FD		Basic Substance Bentonite Polythene
					ISECO: Molykote BR2 SHEEL RETINAX AX	
					ISECO: Ergon Rubber Grease No. 3 ESSO NORVA 275	
					SPCA: Spagraph	
					REINACH: Sferul B2AR	

Type	Application	Classification	Name			Notes
			AGIP	IP	Other	
GREASE	Front suspension - 21				Antiseize compound R. GORI Never Seez	
					ISECO: Molykote Longterm No. 2	
	Front and Rear brakes - 22	N.L.G.I. No. 1	Grease 15			Basic Substance: Al - Ca
					ATE: Bremszylinder Paste	
					ISECO: Molykote Longterm No. 2	
	Steering box wheel - 23	N.L.G.I. No. 3	Grease 33 FD	Autogrease FD		Basic Substance: Bentonite Polythene
					REINACH: Sferul B2AR SHELL RETINAX AX	
					SPCA: Spagraph ESSO NORVA 275	
					ISECO: Ergon Rubber Grease No. 3	
					B.P. Energrease HT MP00	
					ISECO: Molykote Paste G	
					CALYPSOL	
	Rear Suspension - 25				SPCA: Spagraph	
					ISECO: Ergon Rubber Grease No. 3	
					Antiseize Compound R. GORI: Never Seez	
					MILLA: Protection LT	
					HOUGHTON: Rust veto 1064	
	Wheels and Tyres - 28				UNION CARBIDE CHEMICALS COMPANY: Ucon lubricant 50 HB - 5100	

Type	Application	Classification	Name			Notes
			AGIP	IP	Other	
GREASE	Wheels and Tyres - 28				MILLOIL: Lubricant for elastomer seals	
	Air Conditioner - 80				UNION CARBIDE CHEMICALS COMPANY: Ucon Lubricant 50 HB - 5100	
					MILLOIL: Lubricant for elastomer seals	
FLUID	Engine Cooling - 07		Antifreeze	Antifreeze		Ethylene Glycol (concentrated) Std. No. 3681 - 69956
						Antifreeze (ready for use) Std. No. 3681-69958
	Brakes - Clutch - 22 - 12		Brake Fluid Super HD	Auto Fluid FR		
					ATE "S"	
	Air Conditioner - 80				Freon 12	

SAE VISCOSITY

Measurement Unit	°C (°F)	Motor Oil	Gearbox - Differential Oil
		SAE 10W50	SAE 80W90
Cps	– 40 (– 40)	–	150000
Cst	– 20 (– 4)	2600	–
	40 (104)	165	118
	50 (122)	110	–
	100 (212)	19	14.3 to 15.3

APPROXIMATE REFILL CAPACITIES

Approximate refill capacities \ Vehicle model			1.6	1.8	2.0	2.0 turbodiesel	6V iniezione
FUEL TANK		l (Imp. gall)	49 (10.8)				
FUEL RESERVE		l (Imp. gall)	8 (1.76)				
ENGINE OIL SUMP	kg (lb)	With filter	5 (11)	5 (11)	5 (11)	6 (13)	6 (13)
		Without filter	4.5 (8.8)	4.5 (8.8)	4.5 (8.8)	5.5 (12)	5.5 (12)
CAMSHAFT SUPPORT SUMPS (*)		kg (lb)	0.415 (0.91)	0.415 (0.91)	0.415 (0.91)	–	0.450 (0.99)
GEARBOX - DIFFERENTIAL OIL		kg (lb)	2.07 (4.5)	2.07 (4.5)	2.07 (4.5)	2.07 (4.5)	2.07 (4.5)
POWER STEERING SYSTEM OIL		kg (lb)	–	–	0.8 (1.76)	0.8 (1.76)	0.8 (1.76)
COOLANT	Min T °C (°F)	CONCENTRATED ANTIFREEZE l (Imp. gall)	3 (0.66)	3 (0.66)	3 (0.66)	3.6 (0.79)	3.6 (0.79)
		DISTILLED WATER l (Imp. gall)	5 (1.1)	5 (1.1)	5 (1.1)	6.4 (1.4)	6.4 (1.4)
	–20 (–4)	ANTIFREEZE READY TO USE l (Imp. gall)	8 (1.76)	8 (1.76)	8 (1.76)	10 (2.2)	10 (2.2)
		CONCENTRATED ANTIFREEZE l (Imp. gall)	4 (0.88)	4 (0.88)	4 (0.88)	5 (0.88)	5 (1.1)
		DISTILLED WATER l (Imp. gall)	4 (0.88)	4 (0.88)	4 (0.88)	5 (0.88)	5 (1.1)
	–35 (–31)	ANTIFREEZE READY TO USE l (Imp. gall)	–	–	–	–	–

(*) Replacement to be carried out only in the case of disassembly

ENGINE MAINTENANCE

1.6, 1.8, 2.0, Carburetors; 1.8, 2.0, Carburetors with timing variator for (CH) (SWE)

ENGINE MAIN MECHANICAL UNIT

REPLACEMENT OF ENGINE OIL AND OIL FILTER – CHECK OF LUBRICATION SYSTEM TIGHTNESS

As per:

Alfa 90 1.8 - 2.0

2.0 - (CH) - (SWE)

2.0 iniezione

CHECK OF BOLTS AND NUTS TIGHTENING

As per:

Alfa 90 1.8 - 2.0

2.0 - (CH) - (SWE)

2.0 iniezione

TIGHTENING OF CYLINDER HEAD NUTS

1. During first free maintenance operation

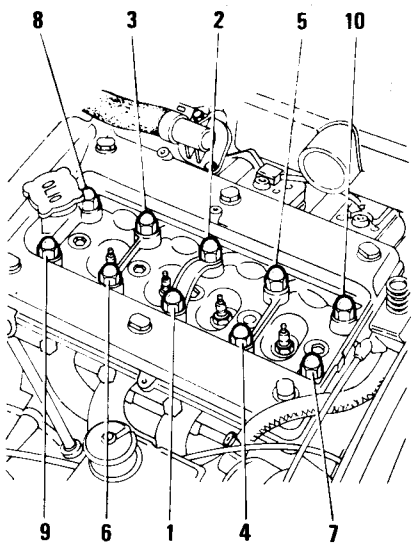
a. Remove the air supply sleeve.

b. On cold engine, loosen nuts by one turn, one at a time, according to the order indicated, moisten the surfaces between washer and nut with oil; tighten to the prescribed torque.

(T): Tightening torques

1.8 - 1.8 - (CH) - (SWE) 76 to 78 N·m (7.8 to 8 kg·m 56 to 57 ft·lb)

1.6 - 2.0 - 2.0 - (CH) - (SWE) 86 to 88 N·m (8.8 to 9 kg·m 63 to 65 ft·lb)



c. Reconnect the air supply sleeve.

2. When reassembling cylinder head

a. Lubricate washer, nut and threading with engine oil and, on cold engine, tighten nuts to the prescribed torque, tightening them gradually and at intervals.

(T): Tightening torques

1.8 - 1.8 - (CH) - (SWE) 71 to 73 N·m (7.2 to 7.4 kg·m 52 to 54 ft·lb)

1.6 - 2.0 - 2.0 - (CH) - (SWE) 77 to 79 N·m (7.9 to 8.1 kg·m 55 to 56 ft·lb)

b. Run the engine at the normal running temperature and tighten to the prescribed torque, without loosening.

(T): Tightening torques

1.8 - 1.8 - (CH) - (SWE) 75 to 76 N·m (7.6 to 7.7 kg·m 55 to 56 ft·lb)

1.6 - 2.0 - 2.0 - (CH) - (SWE) 82 to 83 N·m (8.4 to 8.5 kg·m 60 to 61 ft·lb)

c. After having covered about 1000 km (621 mi.) operate, with cold engine, as per step 1.

CHECK AND ADJUSTMENT OF VALVE CLEARANCE

1.6 - 1.8 - 2.0

As per:

Alfa 90 1.8 - 2.0

CHECK OF TIMING SYSTEM AND CONTROL CHAIN TENSIONING

1.6 - 1.8 - 2.0

As per:

Alfa 90 1.8 - 2.0

CHECK AND ADJUSTMENT OF VALVE CLEARANCE

1.8 - (CH) - (SWE)

2.0 - (CH) - (SWE)

As per:

Alfa 90 2.0 - (CH) - (SWE)

2.0 iniezione

CHECK OF TIMING SYSTEM AND CONTROL CHAIN TENSIONING

1.8 2.0 (CH) (SWE)

As per: Alfa 90

2.0 (CH) (SWE)

2.0 iniezione

CHECKING AND RESTORING THE TIMING VARIATOR FUNCTIONING

1.8 (CH) (SWE)

2.0 (CH) (SWE)

As per: Alfa 90

2.0 (CH) (SWE)

2.0 iniezione

CHECKING GOOD CONDITIONS, REPLACING AND ADJUSTING THE ALTERNATOR DRIVE BELT TENSIONING

1.6 1.8

As per: Alfa 90

1.8 2.0

CHECK OF CYLINDER COMPRESSION

As per: Alfa 90

CHECKING GOOD CONDITIONS, REPLACING AND ADJUSTING TENSIONING OF DRIVE BELTS OF ALTERNATOR, AIR CONDITIONER COMPRESSOR, POWER STEERING PUMP

2.0

As per: Alfa 90

2.0 iniezione

FUEL SYSTEM

As per: Alfa 90

1.8 2.0 2.0 (CH) (SWE)

ENGINE IGNITION

As per: Alfa 90

1.8 2.0 1.8 (CH) (SWE)

2.0 (CH) (SWE)

ENGINE COOLING

As per: Alfa 90

1.8 2.0 2.0 (CH) (SWE)

2.0 iniezione

TROUBLE DIAGNOSIS AND CORRECTIONS

ENGINE

As per: Alfa 90

1.8 2.0 2.0 (CH) (SWE)

2.0 iniezione

IGNITION

1.6 1.8 2.0

As per: Alfa 90

1.8 2.0 2.0 iniezione

FUEL SUPPLY

1.6 1.8 2.0

As per: Alfa 90

1.8 2.0

FUEL SUPPLY/IGNITION

1.8 2.0 (CH) (SWE)

As per: Alfa 90

1.8 (CH) (SWE)

ENGINE MAINTENANCE

2.0 turbodiesel

CHECK AND ADJUSTMENT OF IDLE R.P.M.

As per: Alfa 90 2.4 turbodiesel except for "Check and Adjustment of idle R.P.M.".

Procedure as per: Alfa 90

2.4 turbodiesel

Value prescribed
800 to 850 r.p.m.

ENGINE MAINTENANCE

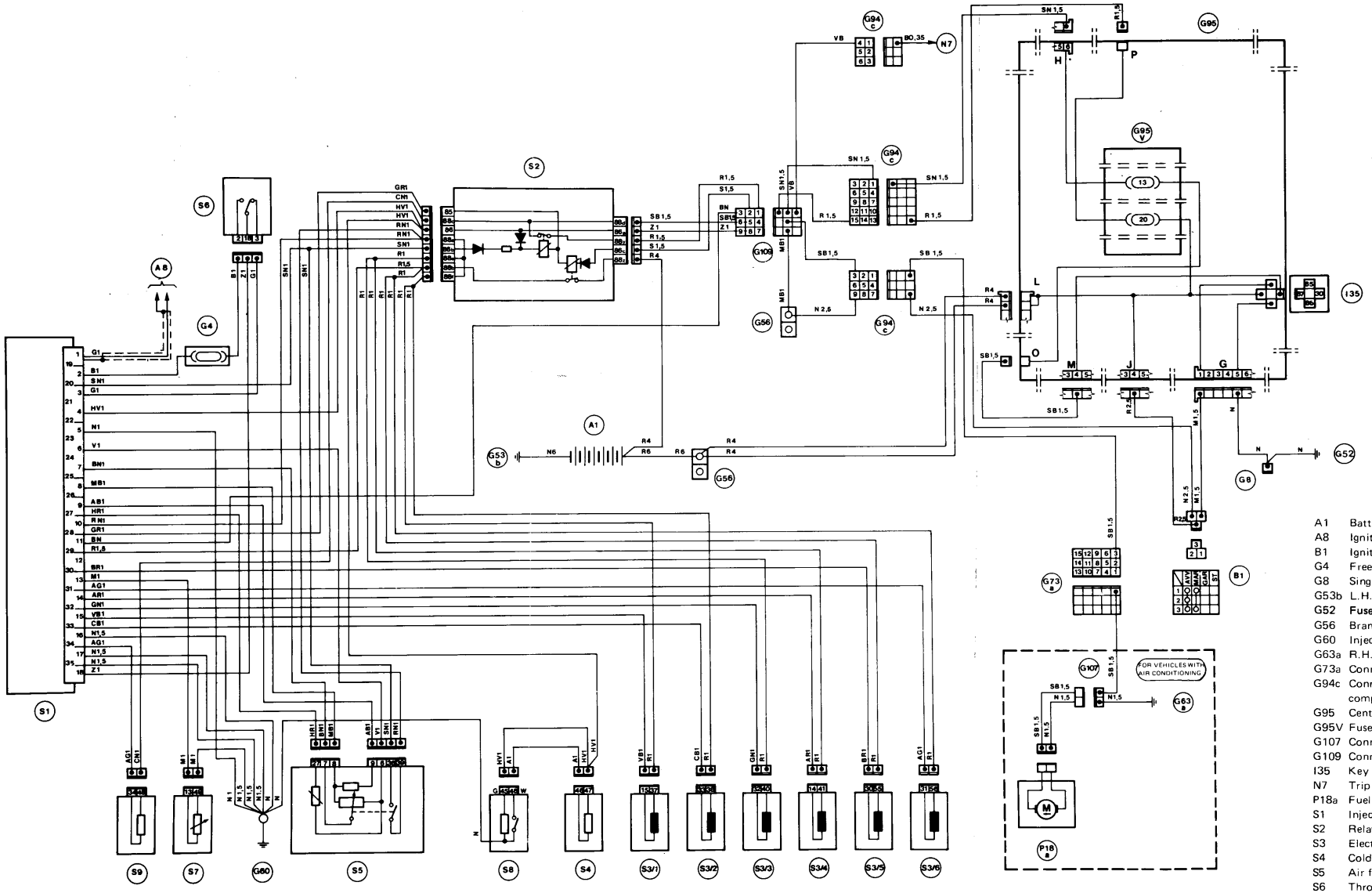
6V iniezione

As per: Alfa 90 2.5 iniezione except for: "Injection wiring diagram".

INJECTION WIRING DIAGRAM

Alfa 75 | 6V iniezione

6V 2.5



A1 Battery
A8 Ignition coil
B1 Ignition switch
G4 Free fusebox
G8 Single connector
G53b L.H. Engine compartment ground
G52 **Fusebox ground**
G56 Branch terminal board
G60 Injector wiring ground
G63a R.H. Rear ground
G73a Connector for R.H. rear services
G94c Connector for R.H. engine compartment
G95 Central fusebox
G95V Fuses
G107 Connector for fuel pump
G109 Connector for injection wiring
I35 Key operated supply relay
N7 Trip Computer
P18a Fuel electric pump
S1 Injection control unit
S2 Relay set
S3 Electroinjectors
S4 Cold start-up electroinjector
S5 Air flow gauge
S6 Throttle switch
S7 Engine water temperature sensor
S8 Thermo - time switch
S9 Auxiliary air valve

ENGINE MAINTENANCE

6V 3.0

As per Alfa 90 2.5 iniezione except:

ENGINE MAIN MECHANICAL UNIT

As per Alfa 90 2.5 iniezione except:

TIGHTENING OF CYLINDER HEAD NUTS

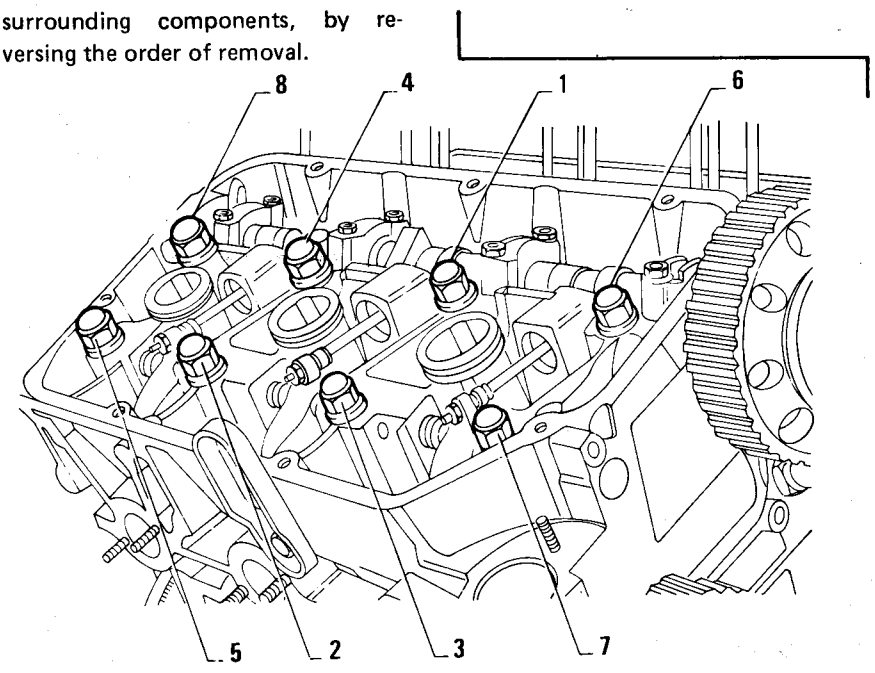
1. During first free maintenance

a. Remove the timing system covers operating as per: "Check and Adjustment of Valve Clearance - Removal of Timing System Covers".
b. On cold engine, loosen the nuts by one turn, and one at a time, according to the given sequence, lay a coat of oil on the surfaces between washer and nuts, then tighten to the prescribed torque.

The figure shows the right-hand head; as regards the left-hand head, the tightening sequence is symmetrical.

(T): Tightening torque
100.4 to 105.5 N·m
(10.2 to 10.8 kg·m;
73.7 to 78.1 ft·lb)

c. Install head covers and the surrounding components, by reversing the order of removal.



2. When reassembling cylinder heads

a. **Lubricate** the surfaces between washer, nut and threads with engine oil and, on cold engine, tighten nuts gradually to the prescribed torque.

(T): Tightening torque
88.5 to 97.8 N·m
(9 to 10 kg·m;
65.1 to 72.3 ft·lb)

b. After having covered about 1,000 km, operate, with cold engine, as per step 1.

FUEL SYSTEM

As per Alfa 90 2.5 iniezione except:

CHECK AND ADJUSTMENT OF IDLE R.P.M. AND EXHAUST EMISSIONS

As per Alfa 90 2.5 iniezione with the following prescribed values:

- **Engine idle r.p.m.**
  800 ± 100 r.p.m.
- **Exhaust CO% at idle r.p.m.**
  CO% = 0.5 to 1.1

ENGINE IGNITION

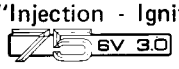
As per Alfa 90 2.5 iniezione except:

CHECK AND ADJUSTMENT OF SPARK ADVANCE

As per Alfa 90 2.5 iniezione taking into account the following max advance value:

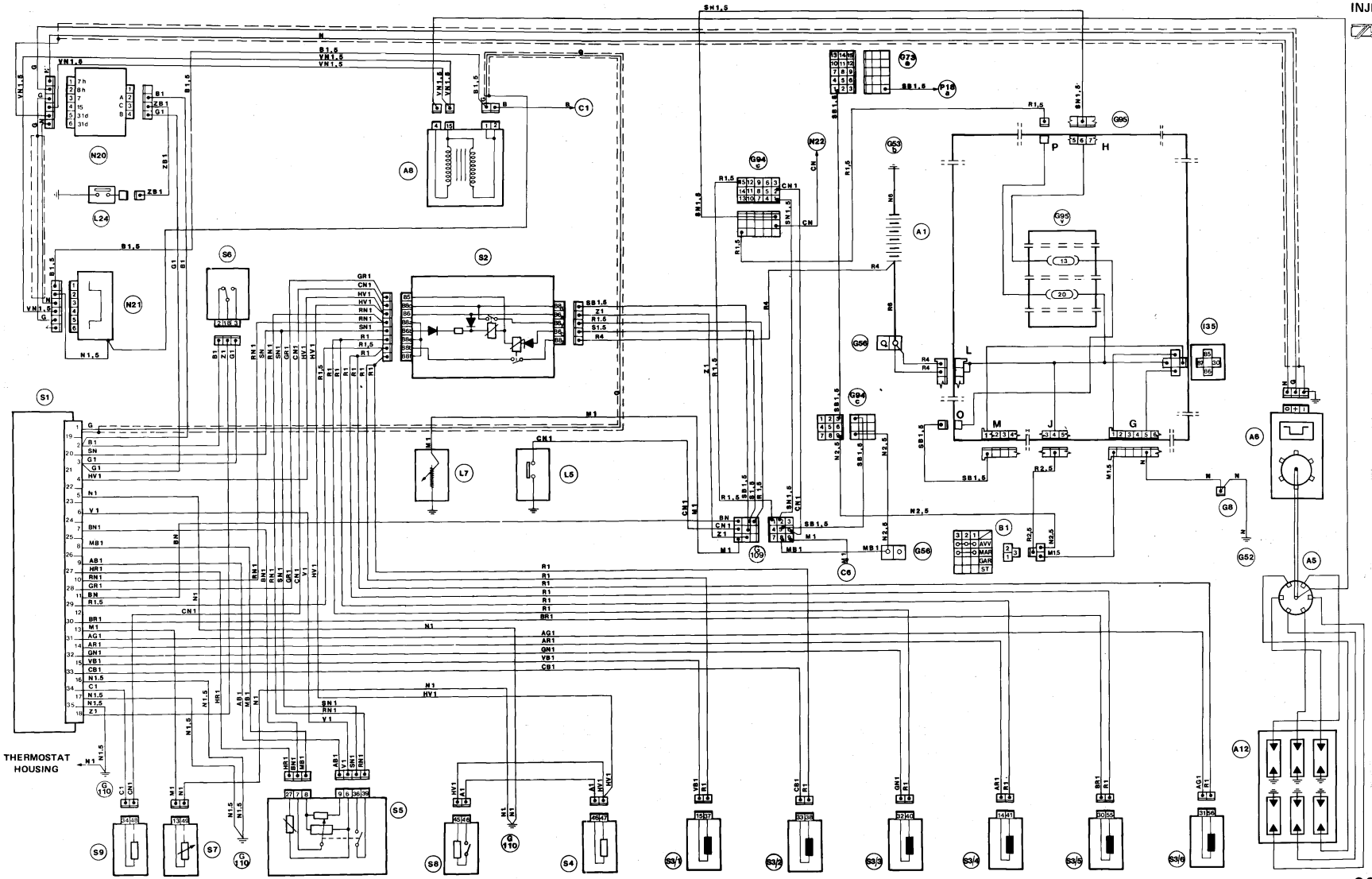
Advance degrees before T.D.C.
at 5000 r.p.m.
32° ± 1°

TROUBLE DIAGNOSIS AND CORRECTIONS

As per Alfa 90 2.5 Iniezione
except: "Injection - Ignition Wiring Diagram  ".

INJECTION - IGNITION WIRING DIAGRAM

6V 30



A1 Battery
A5 Ignition distributor
A6 Pulse generator
A8 Ignition coil
A12 Spark plugs
B1 Ignition switch
C1 Electronic rev-counter
C6 Coolant temperature gauge
G8 Single connector
G52 Fusebox ground
G53b Engine compartment ground - left side
G56 Branch terminal board
G73a Connector for right rear services
G94c Engine compartment connector - right side
G95 Central fusebox
G95V Fuses
G109 Injection wiring ground
G110 Thermostat housing ground
I35 Key - operated supply relay
L5 Thermal switch for engine coolant max temperature warning lamp
L7 Engine coolant temperature gauge sender
L24 Coolant temperature sensor for ignition advance adjustment
N20 Advance variation control unit
N21 Power module
N22 ALFA ROMEO Control control unit
P18a Electric fuel pump
S1 Injection control unit
S2 Relay set
S3 Injectors
S4 Cold start-up electroinjector
S5 Air flow sensor
S6 Accelerator throttle switch
S7 Engine coolant temperature sensor
S8 Thermo-time switch
S9 Auxiliary air device

PA371400000002

MAINTENANCE OF MECHANICAL COMPONENTS AND BODY

As per Alfa 90 except:

FRONT AXLE AND SUSPENSION

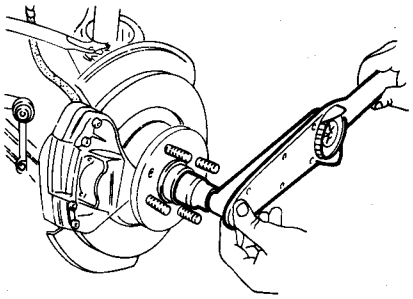
As per Alfa 90 except:

ADJUSTMENT OF WHEEL BEARINGS PRELOAD

- As for the wheels bearings that are secured with nut and split pin, proceed as directed for Alfa 90
- As for the wheels bearings that are secured with calked nuts, proceed as follows.

The calked nut solution can be identified by the letter "M" (red) on hub cover.
Grease the bearings applying the quantity prescribed.

1. Tighten the nut securing the hub to **24.5 N·m (2.4 kg·m; 17.35 ft·lb)** torque, rotating hub, at the same time, by **4 to 5 turns** to facilitate bedding of bearings into their seats and to prevent bevel races from being damaged by rollers.



2. Unscrew the nut enough to release the torque.
3. Use a hammer to strike the end of steering knukle so as to permit outer bearing to set.
4. Slightly tighten the nut manually in order to obtain a torque lower than
   1 N·m (0.1 kg·m; 0.72 ft·lb)
5. Calk the nut carefully so as to prevent it rotating.
6. At the end of operation, verify that end float of nut does not exceed
   0.01 to 0.05 mm
   [(0.4 to 2.0) · 10^{-3} in]

CHECK OF VEHICLE HEIGHT

As per Alfa 90 except:

REAR HEIGHT

Rear height value
T = x-y = 83 ± 5 mm (3.27 ± 0.2 in)
C = y-z = 13 ± 5 mm (0.51 ± 0.2 in)

WHEEL ALIGNMENT

CHECK OF FRONT WHEELS ALIGNMENT

For vehicles Alfa 75, refer to Alfa 90
For vehicles 75 apply the procedures described for Alfa 90 taking into account the following specific technical data:

Toe-out value

Dimensions / Models	E–D mm (in) (1)	Angle α	Rim diameter mm (in)
1.6 1.8	2 ± 1 (0.08±0.04)	9′	340 (13.3)
2.0			365 (14.4)
TURBO D			340 (13.3)
6V 2.5 6V 3.0			365 (14.4)

(1) Values relating to vehicle at nominal height, corresponding to static load.

Caster angle

Models	Angle γ (1)
1.6 1.8	3° 30′ ± 30′
2.0	4° 30′ ± 30′
TURBO D	3° 30′ ± 30′
6V 2.5 6V 3.0	4° 30′ ± 30′

(1) Values relating to vehicle at nominal height, corresponding to static load.

BODY

As per Alfa 90 except:

SEAT BELTS

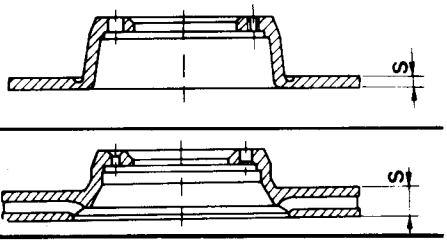
(T) : **Tightening torque**
Seat belt screws
28 to 48 N·m
(2.8 to 4.8 kg·m;
20.25 to 34.71 ft·lb)

FRONT AND REAR BRAKES

As per Alfa 33 except:

Rear discs / Models	Discs thickness wear limit
All	S = 8 mm (0.315 in)

Front discs / Models	Discs thickness wear limit
1.6 1.8 2.0 turbodiesel	S = 10.7 mm (0.421 in)
2.0	S = 9 mm (0.354 in)
6V iniezione	S = 20 mm (0.787 in)



SERVICE DATA AND SPECIFICATIONS

ENGINE MAINTENANCE

TECHNICAL DATA – CHECKS AND ADJUSTMENTS

Engine unit

Inspection data \ Model		1.6	1.8	2.0	2.0 turbodiesel	6V iniezione
Valve clearance (cold engine)						
Intake	mm (in)	0.400 to 0.450 (0.016 to 0.018)			0.30 (0.012)	0.475 to 0.500 (0.019 to 0.020)
Exhaust	mm (in)	0.450 to 0.500 (0.018 to 0.020)			0.30 (0.012)	0.225 to 0.250 (0.009 to 0.011)
Alternator - pump belt tensioning						
Force applied to belt	N (kg; lb)	78 (8; 17.6)			147 (15; 33.1)	147 to 294 (15 to 30; 33.1 to 66.1)
Arrow	mm (in)	10 to 15 (0.39 to 0.59)			22 (0.866)	16 (0.63)
Power steering pump belt tensioning						
Force applied to belt	N (kg; lb)	–	–	147 to 294 (15 to 30; 33.1 to 66.2)	147 ± 9.8 (15 ± 1; 33.1 ± 2.2)	147 to 294 (15 to 30; 33.1 to 66.1)
Arrow	mm (in)			13 (0.51)	15 (0.59)	13 (0.51)
Air conditioner compressor belt tensioning						
Force applied to belt	N (kg; lb)	78 (8; 17.6)			167 (17; 37.5)	196 to 343 (20 to 35; 44.1 to 77.2)
Arrow	mm (in)	10 to 15 (0.39 to 0.59)			19 (0.74)	14 (0.55)

Cooling system

Test Pressure \ Model		1.6	1.8	2.0	2.0 turbodiesel	6V iniezione
Pressurized cap adjustment	kPa	68.6 ± 9.8			98 ± 9.8	68.6 ± 9.8
	bar	0.686 ± 0.098			0.98 ± 0.098	0.686 ± 0.098
	kg/cm^2	0.7 ± 0.1			1 ± 0.1	0.7 ± 0.1
	p.s.i.	9.95 ± 1.42			14.2 ± 1.42	9.95 ± 1.42
Hydraulic system	kPa	107.9				
	bar	1.08				
	kg/cm^2	1.1				
	p.s.i.	15.6				

Ignition

Timing (1) \ Model		1.6	1.8 - 2.0		6V iniezione	
Static advance	r.p.m.	900 $^{+100}_{-50}$	900 $^{+100}_{-50}$	835 ± 80 (*)	900 ± 100 (**) 800 ± 100 (***)	
	advance degrees	7° ± 1° (2)	7° ± 1° (2)	5° ± 1° (3)(*)	7° ± 1° (2)	0° ± 1° (*)
Max advance	r.p.m.	5100	5100	3550±100(*)	5000	
	advance degrees	38° - 3°	38° - 3°	38° (*)	31° - 3° (**) 32° ± 1° (***)	

(1) Timing values must be measured on vacuum advance calibrator tube disconnected
(2) Before T.D.C.
(3) After T.D.C.
(*) For Switzerland, Sweden, Australia
(**) For Alfa 75 6V iniezione only; (***) For 75 6V 3.0 only

Fuel system

Inspection data \ Model		1.6	1.8 - 2.0	2.0 turbodiesel	6V iniezione
Engine idle r.p.m. (hot engine - speed gear into neutral - clutch engaged)	r.p.m.	900 $^{+100}_{-50}$	900 $^{+100}_{-50}$ 835 ± 80 (*)	825 ± 25	900 ± 100 (**) 800 ± 100 (***)
Exhaust CO percentage with idle r.p.m.	% in vol.	⩽3,5 –	⩽3,5 1 ± 0,5 (*)	–	1 ± 0.5 (**) 0.5 $^{+0.5}_{-0.2}$ (*) 0.5 to 1.1 (***)
Exhaust HC values with idle r.p.m.	p.p.m.	–	– ⩽350 (*)	–	⩽480 ⩽300 (*)
Fuel pump delivery pressure	kPa bar kg/cm² p.s.i.	29.4 to 44.1 0.294 to 0.441 (1) 0.30 to 0.45 4.26 to 6.40		20 0.2 0.2 2.9	225.5 to 264.8 2.26 to 2.65 2.3 to 2.7 32.7 to 38.4
Fuel system tightness test pressure	kPa bar kg/cm² p.s.i.	29.4 to 44.1 0.294 to 0.441 0.30 to 0.45 4.26 to 6.40		3 to 4 0.03 to 0.04 0.03 to 0.04 0.435 to 0.58	250 2.5 2.55 36.3
Injectors setting pressure	kPa bar kg/cm² p.s.i.	–	–	14700 to 15500 147 to 155 150 to 158 2133 to 2247	–
Injector tightness test pressure	kPa bar kg/cm² p.s.i.	–	–	12740 127,4 130 1849	–
Turbocharger end-play	mm (in)	–	–	0.08 to 0.11 (0.0031 to 0.0043)	–
Turbocharger running clearance	mm (in)	–	–	0.42 (0.0165)	–

(1) Fuel delivery pressure at zero delivery and with engine r.p.m. within 5000 to 6000
(*) For Switzerland, Sweden, Australia
(**) For Alfa 75 6V iniezione only; (***) For 75 6V 3.0 only

FLUIDS AND LUBRICANTS

Refer to: Fluids and Lubricants Layout - Recommended Fuel and Lubricants - Approximate Refill Capacities

WHEELS AND TYRES

As regards tyre pressure, refer to paragraph "Tyres".

Engine

Unit: N·m (kg·m; ft·lb)

Item	Model	1.6	1.8	2.0	2.0 turbodiesel	6V iniezione
TIGHTENING OF CYLINDER HEAD NUTS (*)						
A) On reassembly						
1. - cold engine	Nuts	77 to 79 (7.9 to 8.1; 57 to 59)	71 to 73 (7.2 to 7.4; 52 to 54)	77 to 79 (7.9 to 8.1; 57 to 59)	–	78 (8; 58) (**) 88.5 to 97.8(9 to 10; 65 to 72) (***)
	Internal screws 1st stage	–	–	–	29 (3; 21.7)	–
	Internal screws 2nd stage	–	–	–	(•)	–
	Internal screws 3rd stage	–	–	–	(•)	–
	External screws	–	–	–	88 (9; 65.1)	–
2. - hot engine	Nuts	82 to 83 (8.4 to 8.5; 60 to 61)	75 to 76 7.6 to 7.7; 55 to 56)	82 to 83 (8.4 to 8.5; 60 to 61)	–	–
	Internal screws	–	–	–	(••)	–
	External screws (4)	–	–	–	88 (9; 65.1)	–
B) After 1000 km - cold engine	Nuts	86 to 88 (8.8 to 9; 63 to 65)	76 to 78 (7.8 to 8; 56 to 58)	86 to 88 (8.8 to 9; 63 to 65)	–	88 (9; 65) (**) 100.4 to 105.5 (***) (10.2 to 10.8; 73.7 to 78.1)
	Internal screws 1st stage	–	–	–	29 (3; 21.7)	–
	Internal screws 2nd stage	–	–	–	(•••)	–
	External screws (4)	–	–	–	88 (9; 65.1)	–
Nuts securing camshaft caps (1)		20 to 22 (2 to 2.25; 15 to 16)			–	16 to 18 (1.6 to 1.8; 22 to 24.5)

Engine (Cont.d)

Unit: N·m (kg·m; ft·lb)

Item \ Model	1.6	1.8	2.0	2.0 turbodiesel	✱ 6V iniezione
Spark plugs tightening (3)	25 to 34 (2.5 to 3.5; 18 to 25)			–	25 to 34 (2.5 to 3.5; 18 to 25)
Nut securing camshaft front hub	–	–	–	–	97 to 117 (9.9 to 11.9; 71 to 86)
Coolant temperature transmitter on thermostat housing (2)	–	–	–	–	20 to 25 (2 to 2.5; 15 to 18)
Unions on injectors and on injection pump	–	–	–	14.7 to 19.6 (1.5 to 2; 10.8 to 14.4)	–
Nut securing injectors (1)	–	–•	–	24.5 to 29.4 (2.5 to 3; 18 to 21.7)	–

(*) During first free maintenance operation, operate as per step B, except for 2.0 turbodiesel model which has the indication (yellow adhesive) DO NOT RETIGHTEN THE CYLINDER HEAD SCREWS on rockers cover.

(**) Only for Alfa 75 ✱ 6V iniezione (***) Only for 75 6V 3.0

(1) In oil

(2) With antiseize R. GORI: Never Seez

(3) In oil: ISECO Molykote A

(4) Tightening is performed by loosening the screws 30°

(•) Further angular tightening performed by rotating the screws 50°

(••) Further angular tightening performed by rotating the screws 30°

(•••) Further angular tightening performed by rotating the screws 100°

Engine ground wiring

Unit: N·m (kg·m; ft·lb)

Item \ Model	1.6	1.8	2.0	2.0 turbodiesel	6V iniezione	6V 3.0
ENGINE GROUND WIRING						
Screw securing engine ground braid to engine rear cover	18 to 22 (1.8 to 2.2; 13.0 to 15.9)			–	18 to 22 (1.8 to 2.2; 13.0 to 15.9)	
Screw securing ground braid to body side member	11 to 14 (1.1 to 1.4; 7.9 to 10.1)			–	11 to 14 (1.1 to 1.4; 7.9 to 10.1)	
Screw and nut securing ground to rear eyelet of air conditioner compressor (if installed)	22 to 28 (2.2 to 2.8; 15.9 to 20.2)			–	22 to 28 (2.2 to 2.8; 15.9 to 20.2)	
Screw securing electronic injection wiring ground cables to right-hand side of upper cover	–			–	9 to 11 (0.9 to 1.1; 6.5 to 7.9)	
Screws securing electronic injection wiring ground cables and auxiliary air valve to right-hand side of upper cover	–			–	5 to 6 (0.5 to 0.6; 3.6 to 4.3)	
Screw securing ground braid to intake air box	–			–	5 to 6 (0.5 to 0.6; 3.6 to 4.3)	
Screw securing intake air box ground braid to head left-hand upper cover	–			–	9 to 11 (0.9 to 1.1; 6.5 to 7.9)	
Screw securing wiring ground cable to thermostat housing	–			–	5 to 6 (0.5 to 0.6; 3.6 to 4.3)	
Screw securing battery ground cable to power steering pump support	–			–	18 to 22 (1.8 to 2.2; 13.0 to 15.9)	
Screw securing ground braid of front carburettor support to supply manifold	18 to 22 (1.8 to 2.2; 13.0 to 15.9)			–	–	
Nut securing ground braid on front carburettor support	18 to 22 (1.8 to 2.2; 13.0 to 15.9)			–	–	
Nut securing performance gauge wiring ground on supply manifold	18 to 22 (1.8 to 2.2; 13.0 to 15.9)			–	–	

Axles and Suspensions

Inspection data \ Model		1.6	1.8	2.0	2.0 turbodiesel	6V iniezione
Vehicle static load diagram (1)	N (kg; lb)	A + B = 490 + 245 = 735 (50 + 25 = 75; 110 + 55 = 165)				
Front height	mm (in)	E = B – A = 44 ± 5 (1.73 ± 0.19)				
Rear height	mm (in) mm (in)	C = 13 ± 5 (0.51 ± 0.2) T = 83 ± 5 (3.27 ± 0.2)				
Front toe-out (2) Front toe-out angle	mm (in)	E – D = 1 ± 1 (0.039 ± 0.039) $\alpha = 9'$				
Wheel rim diameter	mm (in)	340 (13.3)		365 (14.4)	(340 (13.3)	365 (14.4) 390 (15.4)
Rear toe-in angle Tie-rod length		$\alpha = 0° \pm 10'$ G = H				
Front camber angle (2) Rear camber angle (2)		$\beta = -30' \pm 30'$ $\beta = 0° \pm 30'$				
Front caster angle (2) Max steering lock (2)		$\gamma = 3°30' \pm 30'$ $\delta = 30°$				

(1) After loading, move care up and down to settle suspensions. Suspension height is to be carried out with vehicle in running order.

(2) Values referring to vehicle in nominal height, corresponding to static load.

Braking system

Inspection data \ Model		1.6	1.8	2.0	2.0 turbodiesel	6V iniezione
Front disc brakes Disc min thickness	mm (in)	10.7 (0.42)		9 (0.35)	10.7 (0.42)	20 (0.79)
Rear disc brakes Disc min thickness	mm (in)	8 (0.31)				
Parking brake Number of notches available on scroll gear before wheel locking		4 to 6				

Axles and Suspensions

Inspection data	Variations	Model					
		1.6	1.8	2.0	TURBO D	6V 2.5	6V 3.0
Vehicle static load diagram (1)	N (kg; lb)	A + B = 490 + 245 = 735 (50 + 25 = 75; 110 + 55 = 165)					
Front height	mm (in)	E = B − A = 44 ± 5 (1.73 ± 0.19)					
Rear height	mm (in)	C = 13 ± 5 (0.51 ± 0.2)					
	mm (in)	T = 83 ± 5 (3.27 ± 0.2)					
Front toe-out (2)	mm (in)	E − D = 2 ± 1 (0.078 ± 0.039)					
Front toe-out angle		α = 9′					
Wheel rim diameter	mm (in)	Ø 340 (13.3)		Ø 365 (14.4)	Ø 340 (13.3)	Ø 365 (14.4)	
Rear toe-in angle		α = 0° ± 10′					
Tie-rod length		G = H					
Front camber angle (2)		β = − 30′ ± 30′					
Rear camber angle (2)		β = 0° ± 30′					
Front caster angle (2)		γ = 3° 30′ ± 30′		γ = 4° 30′ ± 30′	γ = 3° 30′ ± 30′	γ = 4° 30′ ± 30′	
Max steering lock (2)		δ = 30°					

(1) After loading, move care up and down to settle suspensions. Suspension height is to be carried out with vehicle in running order

(2) Values referring to vehicle in nominal height, corresponding to static load

Braking system

Inspection data	Variations	Model					
		1.6	1.8	2.0	TURBO D	6V 2.5	6V 3.0
Front disc brakes							
Disc min thickness	mm (in)	10.7 (0.42)		9 (0.35)	10.7 (0.42)	20 (0.79)	
Rear disc brakes							
Disc min thickness	mm (in)	8 (0.31)					
Parking brake							
Number of notches available on scroll gear before wheel locking		4 to 6					

Front suspension

Unit: N m (kg·m; ft·lb)

Item \ Model	1.8	2.0	2.0	2.0 turbodiesel	6V iniezione
Wheel hub nut; first tightening	20 to 24 (2 to 2.5; 15 to 18)				
Wheel hub nut; second tightening	5 to 10 (0.5 to 1; 3.7 to 7.4)				
Lower lever support end nut	29 to 34 (3 to 3.5; 21 to 25)				
Lower lever ring nut	20 to 34 (2 to 3.5; 15 to 25)				
"Palnut" lock washer for lower lever ring nut	59 to 71 (6 to 7.2; 43 to 52)				
Nut securing ball joint to lower lever	15 to 20 (1.5 to 2; 11 to 15)				
Nuts securing lower lever support to frame	80 to 90 (8.2 to 9.2; 59 to 66)				
Nut securing lower lever ball joint to steering knuckle	44 to 54 (4.5 to 5.5; 32 to 40)				
Nut securing upper lever ball joint to steering knuckle	80 to 90 (8.2 to 9.2; 59 to 66)			45 to 55 (4.6 to 5.6; 33 to 41)	
Nut securing upper lever to frame	39 to 44 (4 to 4.5; 29 to 32)				
Nut securing strut to frame	39 to 44 (4 to 4.5; 29 to 32)				
Nut securing strut to upper lever	39 to 44 (4 to 4.5; 29 to 32)				
Locknut securing shock absorber to frame	24 to 29 (2.4 to 3; 18 to 21)				
Screws securing shock absorber to upper lever	25 to 31 (2.5 to 3.2; 18.4 to 22.8)				
Nut securing anti-roll bar link to lower lever	18 to 23 (1.8 to 2.3; 13 to 17)				
Screws securing anti-roll bar flexible supports	25 to 29 (2.5 to 3; 18 to 21)				
Screws securing front brake caliper to steering knuckle	74 to 83 (7.5 to 8.5; 54 to 61)				
Nut securing steering wheel tie-rod ball joint to steering knuckle	45 to 55 (4.6 to 5.6; 33 to 40)				

Front and rear brakes

Unit: N·m (kg·m; ft·lb)

Item \ Model	1.6	1.8	2.0	2.0 turbodiesel	6V iniezione
Screws securing front brake caliper to steering knuckle	74 to 83 (7.5 to 8.5; 54 to 61)				
Nuts securing rear brake caliper to speed gear-differential casing	46 to 52 (4.7 to 5.3; 34 to 38)				
Screws securing spacer and rear brake disc to internal drive shaft					49 to 54 (5 to 5.5; 36 to 40)
Screws securing spacer to external drive shaft					44 to 54 (4.5 to 5.5; 32 to 40)
Screws securing rear brake disc to differential shaft	29 to 35 (3 to 3.6; 21 to 26)				–
Unions for brake hydraulic system pipes	10 to 12 (1 to 1.2; 7.4 to 8.8)				
Unions for brake hydraulic system hoses	10 to 15 (1 to 1.5; 7.4 to 11)				
Nuts securing servobrake to pedals support	12 to 15 (1.2 to 1.5; 8.8 to 11)				
Nuts securing brake master cylinder to servobrake	12 to 15 (1.2 to 1.5; 8.8 to 11)				
Locknut for backlash adjusting screw of rear brake disc pad	7 to 10 (0.7 to 1; 5.15 to 7.4)				

Rear suspension

Unit: N·m (kg·m; ft·lb)

Item \ Model	1.6	1.8	2.0	2.0 turbodiesel	6V iniezione
Ring nut securing wheel hub bearing	226 to 265 (23 to 27; 166 to 195)				
Wheel hub securing nut	265 to 324 (27 to 33; 195 to 238)				
Screws securing speed-gear unit support cross member to body	39 to 44 (4 to 4.5; 29 to 32)				
Screws securing axle to speed gear unit support cross member	88 to 108 (9 to 11; 65 to 79)				
Bolts securing Watt parallelogram tie-rods to rocker arm and supports on body	39 to 49 (4 to 5; 29 to 36)				
Nut securing rocker arm to De Dion axle pin	59 to 98 (6 to 10; 43 to 72)				
Lock nuts for shock absorber upper and lower securing (nut tightened thoroughly)	23 to 27 (2.3 to 2.8; 17 to 20)				
Locknuts securing anti-roll bar to axle	23 to 27 (2.3 to 2.8; 17 to 20)				
Screws securing anti-roll bar to body	19 to 24 (1.9 to 2.4; 14 to 18)				

Transmission

Unit: N·m (kg·m; ft·lb)

Item \ Model	1.6	1.8	2.0	2.0 turbodiesel	6V iniezione
Unions for clutch hydraulic system pipes	8 to 10 (0.8 to 1; 5.9 to 7.4)				
Unions for clutch hydraulic system hoses	10 to 15 (1 to 1.5; 7.4 to 11)				
Bolt and screw securing fixing bracket to speed gear flexible support	8.1 to 10 (0.8 to 1; 5.9 to 7.4)				
Bolt securing clutch-speed gear-differential unit rear support rubber bushing	72 to 89 (7.2 to 8.9; 53 to 65)				
Screws securing speed gear-differential unit to lateral supports	18.6 to 23.5 (1.9 to 2.4; 13.7 to 17.3)				
Bolt securing lever to speed control outer lever	13 to 16 (1.3 to 1.6; 9.6 to 11.8)				
Nut securing ball joint connecting rear lever to transmission lever	25.1 to 31 (2.5 to 3.2; 18.5 to 23)				
Nuts securing speed selection tie-rod	11.3 to 14 (1.1 to 1.4; 8.3 to 10.3)				
Bolt securing speed selection and transmissione lever to speed engagement and transmission lever	8.1 to 10 (0.8 to 1; 5.9 to 7.4)				
Screws securing spacer and rear brake disc to internal drive shaft	–				49 to 54 (5 to 5.5; 36 to 40)
Screws securing external drive shafts to internal drive shafts	–				44 to 54 (4.5 to 5.5; 32 to 38)
Screws securing drive shaft to differential shaft and wheel shaft	29 to 35 (3 to 3.6; 21 to 26)				–
Screws securing drive shaft to spacer and wheel shaft	–				44 to 54 (4.5 to 5.5; 32 to 40)
Nuts securing front flexible coupling to rear flexible coupling	39 to 49 (4 to 5; 27 to 36)				55 to 57 (5.6 to 5.8; 40.5 to 42)
Nuts securing central flexible coupling to propeller shaft fork	39 to 49 (4 to 5; 27 to 36)				
Nuts securing fork to transmission central support	93 to 103 (9.5 to 10.5; 68 to 76)				
Screws securing speed gear unit support cross member to body	39 to 49 (4 to 5; 27 to 36)				

Steering wheel/box

Unit: N·m (kg·m; ft·lb)

Item \ Model	1.6	1.8	2.0	2.0 turbodiesel	6V iniezione
Steering wheel lateral tie-rod on rack	70 (7.1; 51.5)				
Screws securing steering box to cross member	26 to 29 (2.7 to 3; 19 to 21)				
Locknut securing ball joint to steering wheel lateral tie rod	54 to 88 (5.5 to 9; 40 to 65)				
Nut securing steering wheel lateral tie rod joint to ball joint	44 to 54 (4.5 to 5.5; 32 to 40)				
Bolt securing universal joint connecting intermediate shaft to pinion shaft (Tighten further until inserting split pin)	15 (1.5; 11)				
Bolt securing steering wheel column to body lower support	4.9 to 7.35 (0.5 to 0.75; 3.6 to 5.4)				
Nut securing steering column to body upper support (with steering wheel heigh adjusting lever in the locked position)	21 to 26 (2.1 to 2.6; 15.5 to 19)				
Nut for sliding sleeve connecting steering column to intermediate shaft (Nut must be tightened so as to obtain a sliding load, on the splined section, equal to the value indicated) N (kg)	34 to 44 (3.5 to 4.6; 25 to 32)				
Nut securing steering wheel to steering column	28 to 32 (2.85 to3.26)				
Data related to power steering					
Steering column lateral tie rod on rack	63 to 77 (6.4 to 7.8; 46 to 57)				
Oil delivery hose on power steering pump union	28 to 31 (2.9 to 3.2; 20.5 to 23)				
Union for oil return hose on power steering pump union	45 to 50 (4.6 to 5.1; 33 to 37)				
Union for oil delivery hose on distribution box	22 to 24 (2.2 to 2.4; 16 to 18)				
Union for oil return hose on distribution box	38 to 43 (3.9 to 4.4; 28 to 32)				
Unions for oil pipes on steering box	20 (2.0; 15)				

Trimming

Unit: N·m (kg·m; ft·lb)

Item \ Model	1.6	1.8	2.0	2.0 turbodiesel	6V iniezione
Seat belts securing screws	28 to 48 (2.8 to 4.8; 20.2 to 34.7)				