

Alfa 33

models

Sprint 

Australia version

CATALYTIC CONVERTER EQUIPPED

SUPPLEMENT TO THE OWNER'S MANUAL

Alfa Romeo 

CONTENTS

- 2 - Use unleaded fuel only - Starting the engine - Warnings and precautions
- 3 - Exhaust gas catalytic converter - Technical data
- 4 - Maintenance operations
- 6 - Important note - Lubrication
- 7 - Alternator and water pump drive belt tension adjustment - Servicing procedures
- 8 - Air filter - Electronic ignition system
- 9 - Checking the ignition timing - Spark plugs - Carburetter
- 10 - Fuel vapors emission control system
- 12 - Crankcase ventilation system - Valve gear

This supplement provides a schedule of the routine servicing, particularly those lubrication and maintenance operations - identified by an "E" - concerning the emission control related systems.

USE UNLEADED FUEL ONLY

This car should be refuelled with unleaded fuel only.

Never use leaded, conventional fuel, neither in an emergency, nor in small amounts to avoid damaging in an unreversible way the exhaust gas catalyst.

To prevent refuelling accidentally with leaded fuel, the fuel tank filler neck size is such as to permit inserting the special nozzle of unleaded gas pumps only.

In the event the tank is refilled even with a small amount of leaded fuel **do not start the engine** but have the tank and the fuel supply system thoroughly drained of fuel.

STARTING THE ENGINE

STARTING THE ENGINE FROM COLD

In winter

It is necessary to operate the choke fully and press the clutch pedal down; as soon as engine fires release the ignition key and the clutch pedal. Put off the choke as soon as possible depending on the temperature conditions.

In summer

It is necessary to operate the choke fully; press the clutch pedal and turn the ignition key. Keep choke in full position for about 25 ÷ 30 seconds then push it back in off position. If the engine fails to start at once, do not keep the starting motor running, but wait a few minutes and try again.

Do not accelerate the engine until it has warmed up to operating temperature.

STARTING WITH HOT ENGINE

When the engine is already hot, do not use the choke.

Starting will be facilitated if the accelerator is depressed about half way.

WARNINGS AND PRECAUTIONS

The exhaust gas catalyst, if overheated during operation, may be partially or even completely destroyed.

Among the conditions of engine malfunction that can cause overheating of catalytic converter there are:

- Fouling of one, or more, spark plug.
- Fuel filter clogged.
- Air cleaner clogged.
- Poor tightness of exhaust manifold.
- Low battery voltage (or failure in the charging circuit).

Driving habits that may cause overheating of the catalyst are instead the following:

- Improper use of gearbox ratios.
- Too low level of fuel in fuel tank.
- Overloading the engine for prolonged periods.

Important note

Have the maintenance items listed on pages 4 and 5. Carried out scrupulously at the specified periods perfect maintenance of engine is the main warranty for the catalytic converter to last longer.

Furthermore it is absolutely necessary to comply with the following precautions and recommendations:

- Use unleaded fuel only.
- Never disconnect spark plugs cables while engine is running and never test for proper voltage by discharging the spark to ground.
- Do not overload the engine for prolonged periods especially when climbing mountain roads.
- Avoid parking over flammable materials (e.g. dry grass or leaves, etc.).
- Never tamper with the system's components.

EXHAUST GAS CATALYTIC CONVERTER

Located on the exhaust pipe it consists of special alloys of noble metals in a stainless steel container capable of withstanding the very high operating temperatures.

The catalyst converts the unburned hydrocarbons, the carbon and the nitrogen oxides contained in the exhaust gases even if present in very small amounts thanks to the electronic ignition system, into non pollutant and harmless substances.

TECHNICAL DATA

IGNITION	
Static advance at idle	$8^{\circ} \pm 1^{\circ}$
IDLE SPEED	
Idle speed rpm	900 - 1050
CO PERCENTAGE IN EXHAUST GASES	
At idle speed (at the tail pipe)	$\leq 0.5\%$
UNBURNED HYDROCARBONS	
At the tail pipe	≤ 100 ppm
CHASSIS	
Curb weight	9/37
ENGINE	
Max power	HPCEE 94 (69.2 kW)

MAINTENANCE OPERATIONS

DISTANCE COVERED (Tick each item at the respective kilometres)																				DESCRIPTION OF THE OPERATIONS	
1,000-1,500	10,000	20,000	30,000	40,000	50,000	60,000	70,000	80,000	90,000	100,000	110,000	120,000	130,000	140,000	150,000	160,000	170,000	180,000	190,000	200,000	At the first 1,000-1,500 km, have the free Coupon from the Service Coupon Booklet carried out E = Emission control related maintenance
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 - Replace engine oil and oil filter: check oil system for leaks E
2				2				2				2				2				2	2 - Replace gearbox and differential oil and rear differential oil (<input type="checkbox"/> 4x4 models)
	3	3				3				3				3				3			3 - Check gearbox and differential oil level and rear differential oil level (<input type="checkbox"/> 4x4 models)
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4 - Check level of screen washer and headlamp washer liquid and top up if necessary
5	5	5	5		5	5	5		5	5	5		5	5	5		5	5	5		5 - Check clutch fluid and brake fluid level
				6				6				6				6				6	6 - Replace brake fluid (or once a year whichever occurs first)
7	7	7	7		7	7	7		7	7	7		7	7	7		7	7	7		7 - Check level of antifreeze mixture; test cooling circuit for leaks E
				8				8				8				8				8	8 - Replace antifreeze mixture and check cooling circuit for leaks E
9																					9 - Check all bolts for tightness
10																					10 - Check front wheel toe-out and adjust, if necessary
11		11		11		11		11		11		11		11		11		11		11	11 - Grease propeller shaft slip yoke (<input type="checkbox"/> 4x4 models)
12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12 - Check condition of protective boots of constant velocity joints and steering box
13	13	13		13		13		13		13		13		13		13		13		13	13 - Inspect brake system
14	14	14		14		14		14		14		14		14		14		14		14	14 - Check brake booster vacuum hose for soundness E
	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15 - Check front disc brake pads and rear brake shoe linings for wear; change if necessary
16	16	16		16		16		16		16		16		16		16		16		16	16 - Check handbrake travel and adjust, if necessary
17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17 - Check tyre pressures
18																					18 - Check tightness of bolts of water outlet manifold and ducts, intake and exhaust manifolds E
19																					19 - Check accelerator cable and adjust if necessary
20	20	20		20		20		20		20		20		20		20		20		20	20 - Check and adjust valve clearance E

1,000-1,500 10,000 20,000 30,000 40,000 50,000 60,000 70,000 80,000 90,000 100,000 110,000 120,000 130,000 140,000 150,000 160,000 170,000 180,000 190,000 200,000																	DESCRIPTION OF THE OPERATIONS
21	21	21			21			21			21			21			21 - Check drive belts of alternator and A/C compressor (if fitted) Adjust tension, if necessary E
			22			22			22			22			22		22 - Replace drive belts of alternator and AC/ compressor (if fitted) E
				23					23					23			23 - Replace valve timing belt(s) E
24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24 - Check fuel system and evaporative system E
	25		25		25		25		25		25		25		25		25 - Clean and check air filter element E
	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26 - Check thermostatic air cleaner E
		27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27 - Replace air filter element E
	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28 - Clean carburettor jets and crankcase ventilation system backfire shield E
29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29 - Check choke control for proper operation E
30			30		30			30			30			30			30 - Clean fuel filter housing or replace filter/filter element E
			31		31			31			31			31			31 - Check injection nozzles and non-return valves of after-burning air injection system E
32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32 - Check idle speed and exhaust emissions; adjust, if necessary E
33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33 - Check ignition timing and adjust as necessary E
	34		34		34		34		34		34		34		34		34 - Clean and check spark plugs E
		35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35 - Replace spark plugs E
					36						36						36 - Exhaust gas catalytic converter E
37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37 - Check battery water level, top up, tighten and grease terminals
38																	38 - Check headlamp beam aiming and adjust, if necessary
39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39 - Lubricate door and lid hinges. Adjust strikers, as necessary. Grease lid latches
		40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40 - Check underbody and bodywork
41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41 - Test vehicle

IMPORTANT NOTE

For proper vehicle operation it is essential that the routine maintenance items, listed in the schedule on pages 4 and 5, be carried out and the following recommendations strictly adhered to.

Components not included in this list do not require scheduled maintenance.

Every 500 km (or on refuelling) check:

- Engine oil level
- Coolant level and system for leaks
- Battery electrolyte level
- Tyre pressures

Engine oil and oil filter change "E"

The engine oil and oil filter element must be changed every 10,000 km; check also the lubricating system for leaks.

LUBRICATION

The lubricants used for the first filling, shown by the plate in the engine compartment, are factory tested in order completely to meet the operating requirements.

These lubricants can be used both for topping up and changing (when topping up it is recommended that only the same type of oil as that already in the engine or main unit be used).

In countries where the above mentioned lubricants are not available, and otherwise when absolutely necessary, it is possible to replace them with products of other leading makes, provided that they are in accordance with the grades given in the table. In such cases, however, it is essential that all the lubricant in the circuit be replaced.

Engine lubrication

The engine is pressure lubricated by a gear pump mounted on the rear cover of crankcase.

The pump shaft is driven directly by the crankcase via a pair of helical gears.

Oil level

Check oil level regularly.

Run the engine at idle for a few minutes; then, stop the engine and check oil level making sure to push the dipstick fully home into its housing.

Oil change

At the recommended intervals, change oil in the sump; warm up engine and proceed as follows:

- With the engine stopped, drain off old oil thoroughly by removing the oil drain plug. Clean the area around the drain hole and refit the plug.
- Replace the filter with a new one.
- Refill, with new oil of the specified type and quantity through the filler hole.
- Check for no sign of leaks.

Oil pressure

The oil pressure is adjusted by a valve in the pump body.

If the pressure falls below the minimum values, the warning light will come on: in this case, stop the car and contact an authorised Alfa Romeo Service Station to trace and remedy the fault.

With the engine stopped and the ignition switch in "MAR" position, the warning light will stay on for lack of pressure in the lubricating system.

Oil filter

To remove impurities the engine oil is filtered by a fullflow filter. The filter is fitted with a valve that bypasses the element if it should become clogged.

Replacing the oil filter

At the recommended intervals, change the filter. To remove the filter, slacken it with the suitable spanner, then unscrew the filter by hand.

On refitting, apply clean oil to the gasket of the new filter and tighten the filter in place by hand.

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

ALTERNATOR AND WATER PUMP DRIVE BELT TENSION ADJUSTMENT

If the tension is insufficient, the belt will slip and wear prematurely; furthermore, the battery charging current will be reduced owing to the slower alternator speed.

If the tension is excessive, the alternator and pump bearings will be overloaded with the consequent risk of damage. Therefore it is necessary to check the belt tension at the recommended intervals.

The tension is correct when, on pressing the belt down with a load of about 8 kgs, play is approximately 1/2 in. (10-15 mm).

To tighten the belt unscrew the nuts on the adjusting bracket. Move the alternator upwards to increase belt tension and retighten bolt and nuts; check the belt tension again.

At the recommended periods check the belt tension or replace the belt.

SERVICING PROCEDURES

PRELIMINARY STEPS

Check oil and fuel system, cooling and vacuum circuits for leaks.

This must be performed soon after driving the car; check for oil, water or fuel leaks, especially at connections of pipes and engine gaskets.

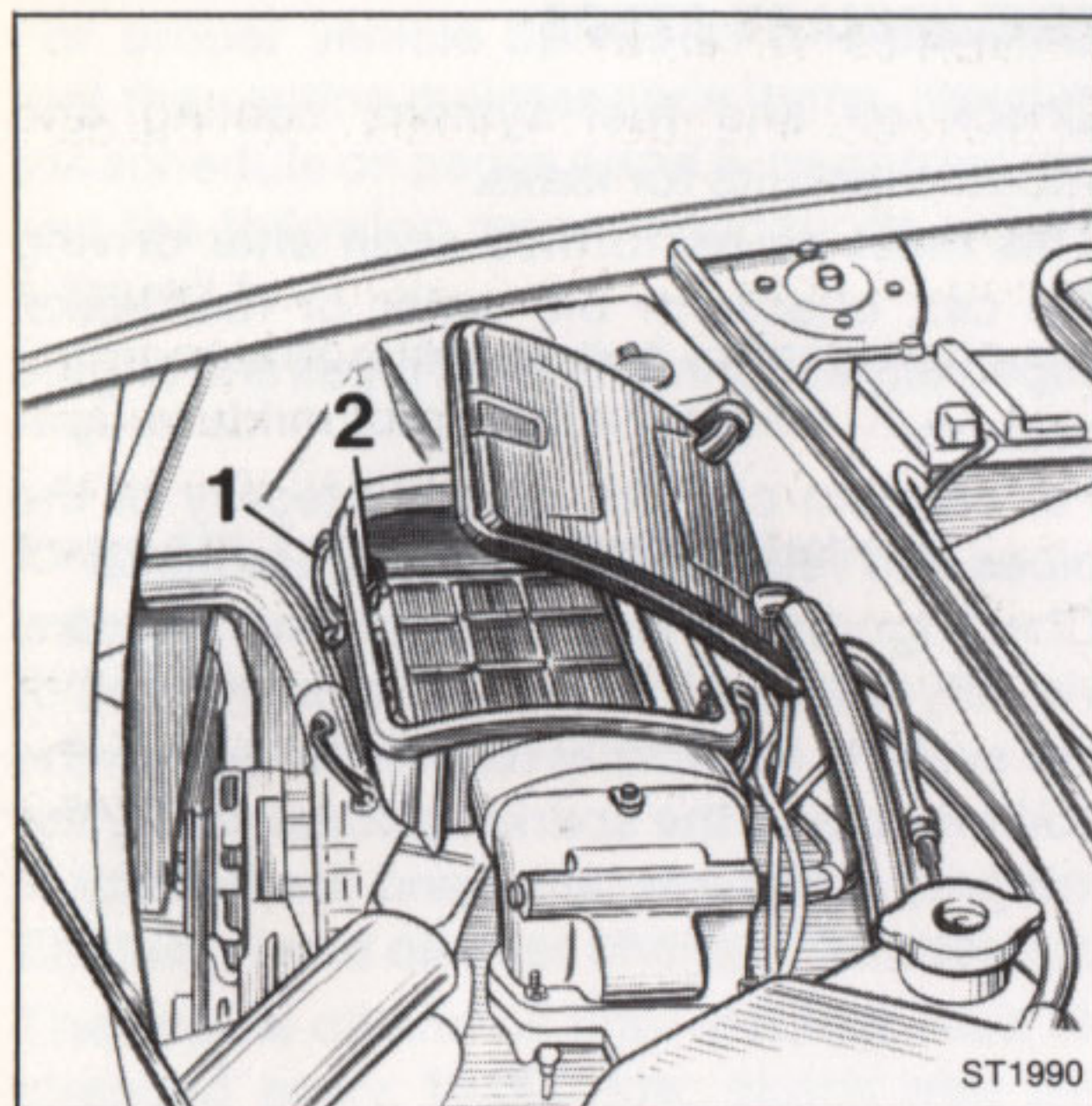
For vacuum circuits, check integrity of the pipes and relevant fittings for soundness.

Check ignition system wires and connectors; visually check all wires and connections of the system, especially those connecting the coil module to the sparking plugs; verify the integrity of the insulation and the stability of connectors.

THERMOSTATICALLY-CONTROLLED AIR-INTAKE DEVICE

In the air cleaner housing, upstream of the element, a thermostat senses the intake air temperature and, via a rod, actuates a valve plate which mixes together outside air and the warmer air coming from the stove around exhaust manifold thus keeping constant the temperature of the intake air at approximately 20 °C.

AIR FILTER



Inspection and maintenance

Cleaning the filter element:

- Slacken the four retaining clips 1 securing the filter housing cover and lift the cover.
- Slacken the four retaining clips 2 securing the backfire shield and turn them outside the filter housing; remove the backfire shield and withdraw the element.
- Thoroughly clean both the backfire shield and the filter element. Apply a jet of low-pressure compressed air from the pleated side to clean the element. If necessary, replace.

Care should be taken to fit the new element so that its plastic rim is upwards.

ELECTRONIC IGNITION SYSTEM

METHOD OF OPERATION

The system consists of: distributor, electronic module, ignition coil. The distributor is of the induction type including a coil winding wrapped around a variable gap magnetic circuit with the function of "electric pulse generator".

A four pole hub (or "timer") integral with the distributor shaft which is part of the magnetic circuit causes electric current to occur every time one of the teeth of the timer passes in proximity to the coil. The signal so generated are then sent to the electronic module which provides for the interruption of the current to the primary circuit of the coil. This causes a voltage increase in its secondary circuit and consequently the electric discharge to the sparking plugs. Timing regulation is provided by a centrifugal advance mechanism inside the distributor, with further correction by means of a vacuum advance regulator. (Pressure in the intake manifold).

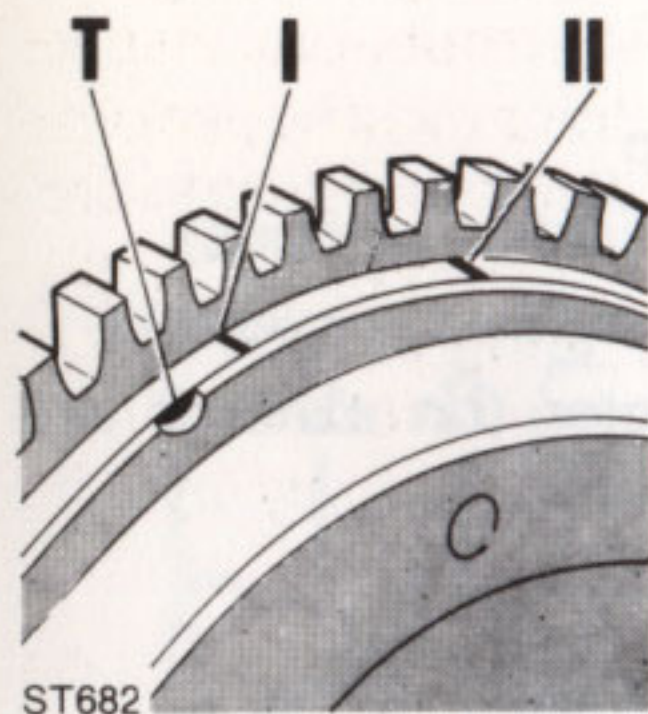
No regular servicing is required except checking that the ignition timing is within specifications.

Important note: if the engine ignition system appears to be developing trouble, all inspection and servicing operations must be performed according to a specified procedure to prevent damaging the ignition system components and, above all, injuring the operator. It is therefore recommended that the ignition system be checked for faults only by Alfa Romeo Service Dealers.

The following precautions must always be observed:

- do not test for live circuits by earthing either high voltage or low voltage components;
- do not break any electrical connection when engine is running;
- never start the engine if any electrical connection is broken;
- do not supply the system if the electronic module/coil unit has been removed;
- do not use any diagnostic test equipment which will electrically short-circuit the low voltage signal;
- when using a timing light connect **it directly** to the battery terminals.

CHECKING THE IGNITION TIMING



- T - T.D.C. of cylinder No. 1
- I - Static advance at idle speed
- II - Not to be used

This can be made with a stroboscopic gun by directing the light onto the reference pointer visible through the opening on the rear engine cover.

Make sure the timing light is connected directly to the battery terminals.

With temperature of the engine oil at 75° - 80°C, run the engine at idling speed and adjust the distributor so mark I cut in the flywheel is in line with the reference pointer.

SPARK PLUGS

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

No routine adjustment of the gap is necessary.

Spark plugs are LODGE 25 HL.

The spark plugs should be tightened when cold to a torque of 2.5 - 3.5 kgm; before fitting plugs lubricate the threads.

CARBURETTER

WEBER 36 IDF 66/67

At the recommended intervals clean the carburetter jets.

Important note: the fuel system of this car is designed to meet the antipollution standards; the idle speed and metering of mixture (and consequently the relevant adjusting screws) are factory set. **These settings must in no way be altered.**

If the CO% and the unburned hydrocarbons at idle speed should not be as specified, entrust the re-setting to an Alfa Romeo Dealer.

FUEL VAPORS EMISSION CONTROL SYSTEM

Fuel vapors emanating from fuel tank 6 are collected, via a suitable piping into the fuel/-vapor separator 10 which is devised in such a way as to permit the condensed fuel to return to the fuel tank.

The tank cap is sealed; namely, the relief valve 9 allows the outside air to enter the circuit thus keeping separator 10 to atmospheric pressure even in the event the pressure in the separator tends to diminish for a decrease in temperature the fuel vapors not condensed in the separator 10 go out through the separator fitting and, via pipe 12, enter the vapors filter containing active carbon. When engine is at a standstill, the vapors are absorbed by the active carbon and kept in the vapors filter 3.

When engine is running, the vacuum in the vapors filter 3 allows air to be sucked in through valve 1 this air mixes with the fuel vapors absorbed by the active carbon.

Thanks to the pressure differential present in the vapors filter 3, the carbon is then "washed" by the air flowing through the filter itself.

The pressure differential in the vapors filter 3 is determined by the different pressure levels present in the air filter and in the delivery pipe to the air nozzles. The latter owing to their particular shape give rise to a vacuum with respect to the exhaust gases and cause air mixed to fuel vapors to be injected into the exhaust manifold near the exhaust valves thus determining an afterburning and consequently a reduction of the harmful exhaust

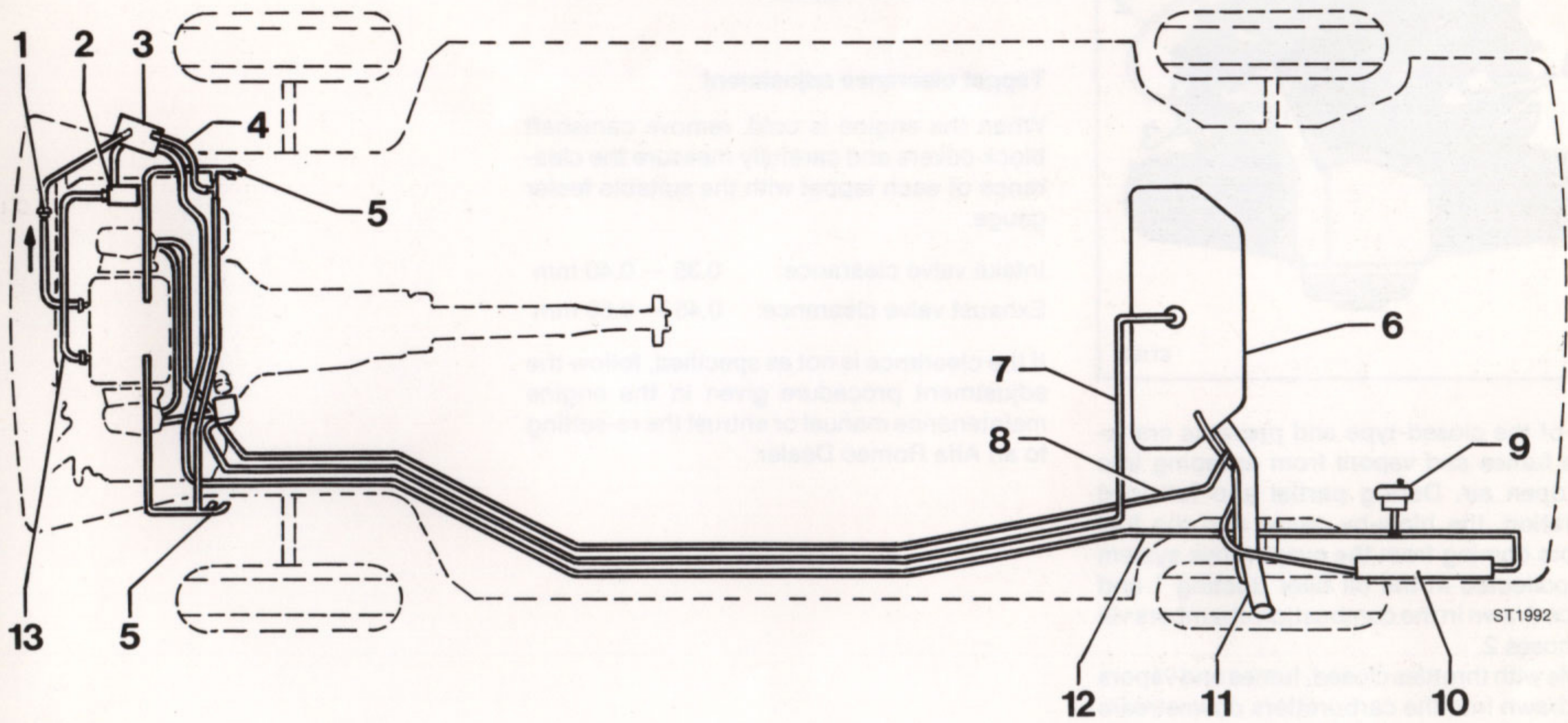
emissions. Moreover, on stopping the engine, an engine temperature thermal switch causes the vapors pump 2, which sucks the fuel vapors from the air filter/carburettors area and delivers them to the vapors filter 3 where they are absorbed by the active carbons.

In order to prevent the fuel vapors present in the carburettors when the engine is stopped from flowing out of the air filter inlet port, the thermal switch stops the vapors pump as soon as the engine temperature has propped below a pre-set value.

Key

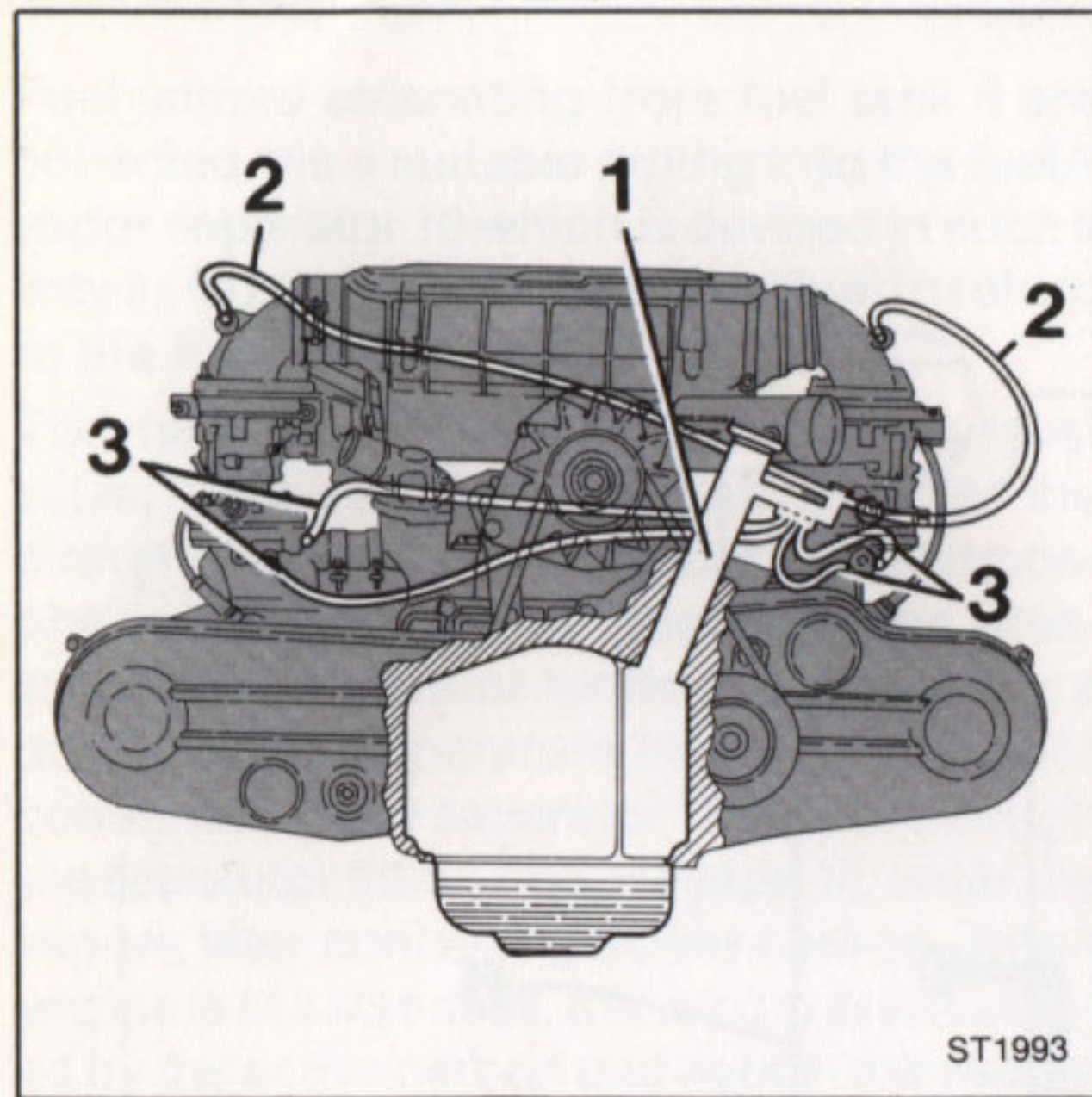
1. Check valve
2. Fuel vapors pump
3. Fuel vapors filter (active carbons)
4. Fuel vapors delivery line to injectors
5. Air nozzles adapter (on exhaust manifold)
6. Fuel tank
7. Fuel supply line
8. Fuel return line
9. Vacuum relief valve
10. Fuel/vapors separator
11. Filler neck
12. Fuel vapors vent pipe
13. Line connecting air filter to vapors pump

The valve gear includes overhead valves arranged in line. They are driven directly by two camshafts, one for each bank of cylinders, driven by timing belts through belt-drive pulleys.



ST1992

CRANKCASE VENTILATION SYSTEM



It is of the closed-type and prevents crankcase fumes and vapors from escaping into the open air. During partial and full load operation, the blow-by gases and the fuel vapors coming from the evaporative system are collected in the oil filler ducting 1 and hence drawn in the combustion chambers via the hoses 2.

At idle with throttles closed, fumes and vapors are drawn into the carburetors downstream of the throttles, where high vacuum takes place, through connecting hoses 3.

VALVE GEAR

The valve gear includes overhead valves arranged in line. They are directly operated by two camshafts, one for each bank of cylinders, driven by toothed belts, through oil-bath bucket tappets.

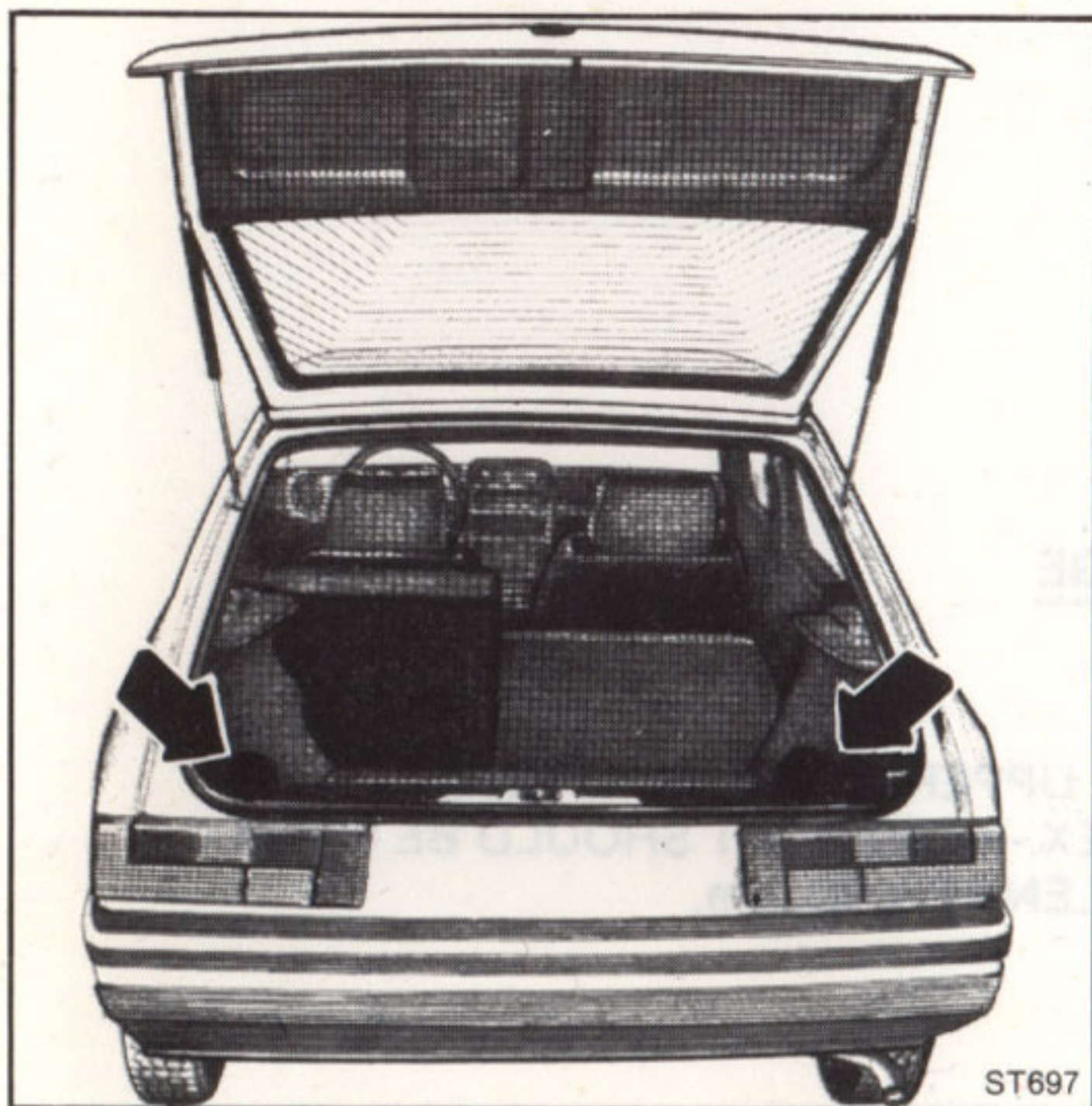
Tappet clearance adjustment

When the engine is cold, remove camshaft block covers and carefully measure the clearance of each tappet with the suitable feeler gauge.

Intake valve clearance: 0.35 — 0.40 mm

Exhaust valve clearance: 0.45 — 0.50 mm

If the clearance is not as specified, follow the adjustment procedure given in the engine maintenance manual or entrust the re-setting to an Alfa Romeo Dealer.



ST697

CHILD RESTRAINT ANCHORAGES

This car is provided with child restraint anchorages in accordance with the Australian Design Rule no. 34A for Child Restraint Anchorages.

Anchorage location is as shown in the illustration.

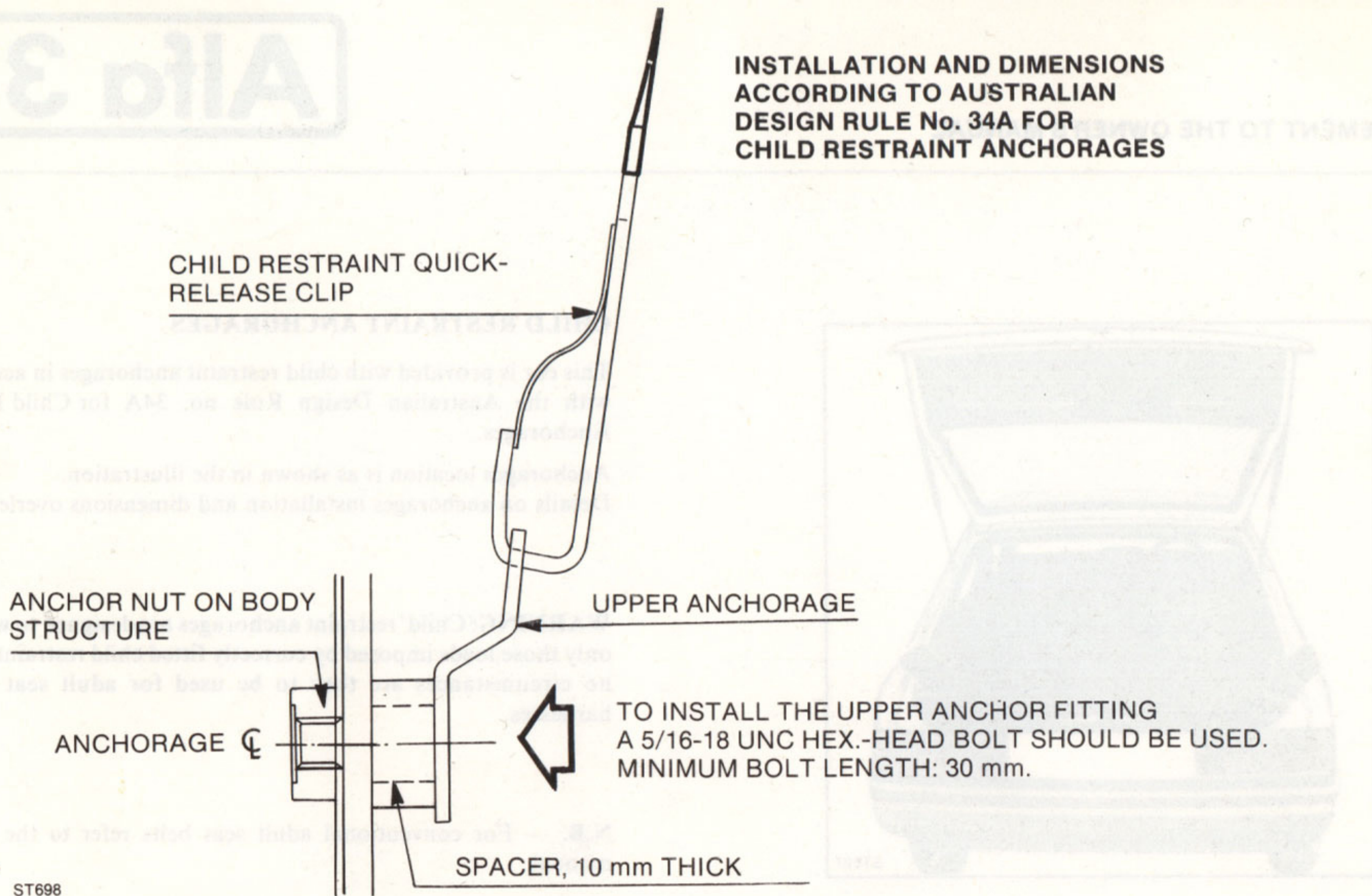
Details on anchorages installation and dimensions overleaf.

WARNING: Child' restraint anchorages are designed to withstand only those loads imposed by correctly fitted child restraints. Under no circumstances are they to be used for adult seat belts or harnesses.

N.B. — For conventional adult seat belts refer to the Owner's manual.

Alfa Romeo

**INSTALLATION AND DIMENSIONS
ACCORDING TO AUSTRALIAN
DESIGN RULE No. 34A FOR
CHILD RESTRAINT ANCHORAGES**



ST698

DRAWING OF CHILD RESTRAINT FITTING ASSEMBLY (NOT TO SCALE)

Alfa Romeo 

DIREZIONE ASSISTENZA TECNICA - 20020 ARESE (MI)

Publ. No. PA 351400000000 — 3/84 — 1500 — Printed in Italy — Centro Stampa Alfa Milano

All rights reserved. This leaflet, or parts thereof, may not be reproduced in any form without permission of ALFA ROMEO AUTO S.p.A.

DIREZIONE ASSISTENZA TECNICA

ALFA ROMEO

SUPPLEMENT TO THE INSTRUCTION BOOK SAFETY BELTS

Safety belts are provided for all seating positions in the vehicle.

WARNING

To take maximum advantage of this safety provision the following directions should be carefully adhered to:

1. Seat belts are designed to bear upon the bony structure of the body, and should be worn low across the front of the pelvis, chest and shoulders, as applicable. Wearing the lap section of the belt across the abdominal area must be avoided.
2. Seat belts should be adjusted as firmly as possible, consistent with comfort, to provide the protection for which they have been designed. A slack belt will greatly reduce the protection afforded to the wearer.
3. Care should be taken to avoid contamination of the webbing with polishes, oils and chemicals, and particularly battery acid. Cleaning may safely be carried out using mild soap and water. The belt should be replaced if webbing becomes frayed, contaminated or damaged.
4. It is essential to replace the entire assembly after it has been worn in a severe impact even if damage to the assembly is not obvious.
5. Belts should not be worn with straps twisted.
6. Each belt assembly must only be used by one occupant; it is dangerous to put a belt around a child being carried on the occupant's lap.
7. No modifications or additions should be made by the user which will either prevent the seat belt adjusting devices, whether automatic or manual, from operating to remove slack or prevent the seat belt assembly from being adjusted to remove slack.
8. Automatic retractors must NOT be moved from the position specified by the manufacturer.
9. When latching a seat belt care should be taken to ascertain that the buckle press button faces away from the belt wearer.

ADJUSTMENT PROCEDURE

Seats provided with automatic retractors automatically adjust the safety belt to the correct tension regardless of the size of the person or the position of the seat.

For manual adjustment type safety belts simply lengthen the belt by tilting the adjuster assembly at 90 degrees to the strap and pulling this strap to the required length. To shorten the belt pull loose end of the strap. This will effectively tighten the belt.

REMEMBER

Safety belts are fitted for your protection — use them correctly.