

M a s e r a t i

MERAK 122 1/2 USA

1978 model year

WARRANTY TO THE
OWNER'S EXCLUSIVE USE

FOB320SS



MASERATI MERAK

OFFICINE ALFIERI MASERATI S.p.A
41100 MODENA (Italia)
VIALE CIRO MENOTTI, 322 Tel. (059) 230.101 Telex 51248

DESCRIPTION OF CONTROLS AND DASHBOARD INSTRUMENTS (Fig. 1)

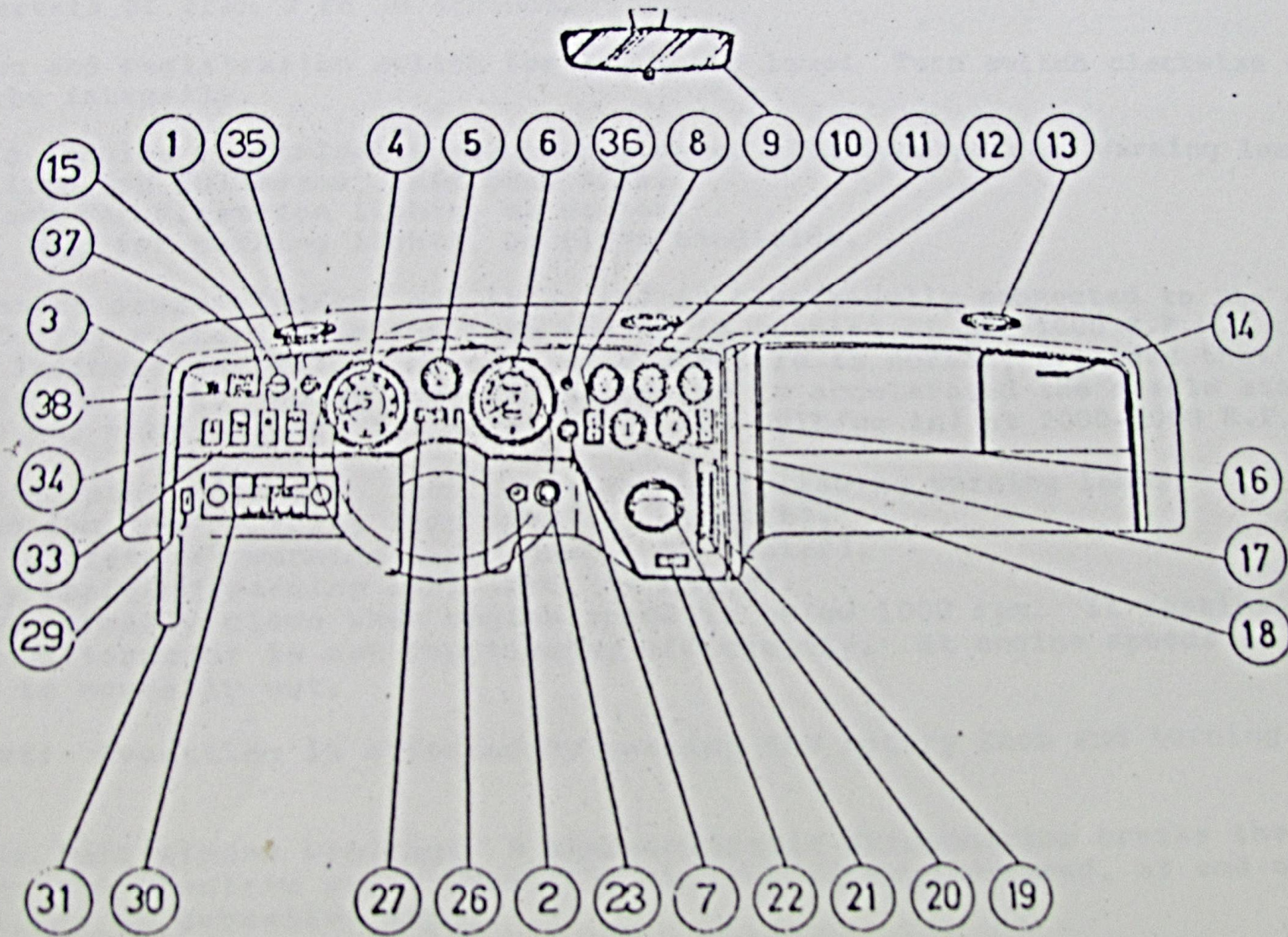


Fig.

1. Rear window defroster (demister): An electrical system warms up the rear window by resistance wire heating, resulting in defrosting.
2. 2-speed windshield wiper control: Turn the rotary knob clockwise, wiper will operate at intervals of from 3 to 30 seconds.
3. Ignition and registration switch for dashboard lamp: Turn switch clockwise to regulate the light intensity.
4. Magnetic impulse electrical revolution counter with incorporated warning lamps:
 - Blue lamp for fullbeams, left hand side.
 - Red lamp for direction lights, at center.
 - Green lamp for parking lights, on right hand side.
5. Oil pressure gauge: (Kg/cm^2 and lb/sq in) is electrically connected to the detector bulb. During summer, when the warm engine is running at 800-1000 R.P.M., the needle may not indicate any value, however, the pressure is normal, provided that the red lamp does not light and as soon as the engine is accelerated the needle starts to move. Pressure may vary between 1.5 to 5 Kg/cm^2 (20-70 lb/sq in) at 2000-6000 R.P.M.
6. Speedometer plus odometer, incorporating the following warning lamps:
 - Heating fan "on" warning lamp (yellow, at left).
 - Choke "operative" warning lamp (green, at center).
 - Battery charging warning lamp (red, at right).This lamp normally glows when engine speed is below 1000 rpm. It remains permanently on if the alternator is not functioning efficiently. At engine speeds of over 1000 rpm, the lamp is normally out.
7. Trip reset: Resetting is effected by pushing the rotary knob and turning it to the right.
8. Switch for left window winding: A thermoelectric disconnecter breaks the passage of current to the electric motor when this control is kept pressed, at end of stroke or in conditions of excessive load.



9. Dipping rear-view mirror.
10. Water temperature indicator: Should never give a reading over 150° C (220°F).
11. Fuel gauge.
12. Oil temperature indicator (electrically operated): The reading should never exceed 110°-120° C (230°-240°F).
13. Adjustable ducts: For defrosting windshield and directing air towards driver and passenger.
14. Glove compartment.
15. Fuel reserve supply indicator light (red) for tank: This glows when fuel level is below 15 liters (3 imp. gall. - 3.5 USA gallons)
16. Switch for right window winding: A thermoelectric disconnecter breaks the passage of current to the electric motor when this control is kept pressed, at end of stroke or in conditions of excessive load.
17. Electric clock: Permanently connected to the battery. Has an external button-setter which moves the hands. To adjust the time, pull out button and rotate.
18. Current meter: Indicates current of a generator regulator providing proper recharging of battery with a stabilized tension of 14 volts. During driving, the meter must indicate 14 volts, independently by the utilizer employed.
19. Heating water cock control: Causes the water heated by the engine to circulate in the radiator below the instrument panel. It is operative when it is on the colored side.
20. Choke: See starting procedure on page 13.
21. Adjustable air duct into cockpit.



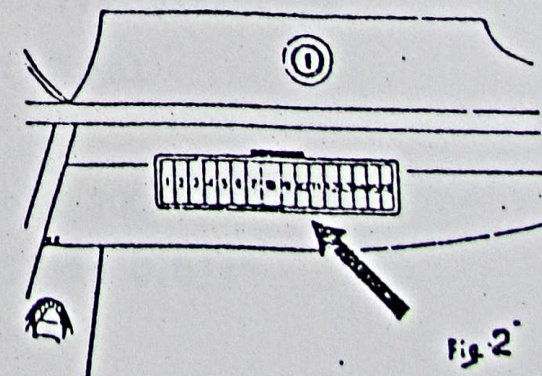
22. Air conditioning system device: Releasing to the right, damper is open to recirculate cockpit air. Releasing to the left, outside air damper is open.
23. Thermostat for air-conditioning system: This controls the cutting in and out of the compressor by acting on the electromagnetic clutch between the compressor and the engine. It also automatically regulates ambient temperature, setting it at the desired degree within a range of 14° C (57°F).
26. Push button to check that brake system and warning system works.
27. A flashing light and a buzzer will activate in case of insufficient downstream pressure or generally insufficient pressure in the hydraulic circuit. Also if the brake metering is improper or if there is excessive brake pad wear.
29. Electronic aerial lifting switch.
30. Radio set.
31. Bonnet release lever.
33. Interior lamps control switch.
34. Hazard switch.
35. Safety belts warning light if disconnected.
36. Yellow warning light for rear window demister.
37. Two position switch actuating centrifugal fan for heating and air conditioning system: The first position (top) brings the fan into operation at the first speed (1400 rpm); the second (bottom) actuates the fan at the second speed (2200 rpm).
38. Warning light if the hand brake is on.

FUSE BOX (FIG.2)

List of fuse positions:

<u>n°</u>	<u>Description</u>	<u>Amp.</u>
1	Fuel pumps	8
2	Upper beams	15
3	Right dipped beam	8
4	Left dipped beam	8
5	Parking lights: front right & left rear ones	8
6	Parking lights: front left and rear right ones	8
7	Right fan	15
8	Left fan	15
9	Air conditioner fan	15
10	Rear window defroster and window lifting device	15
11	Horn and beam flasher	15
12	Internal lamp and emergency lights	8
13	Radio and clock	8
14	Cigar lighter	8
5	Windshield wiper and dashboard instruments	8
6	Cornering, parking and reverse lights	8

The fuse box is placed under the dashboard.



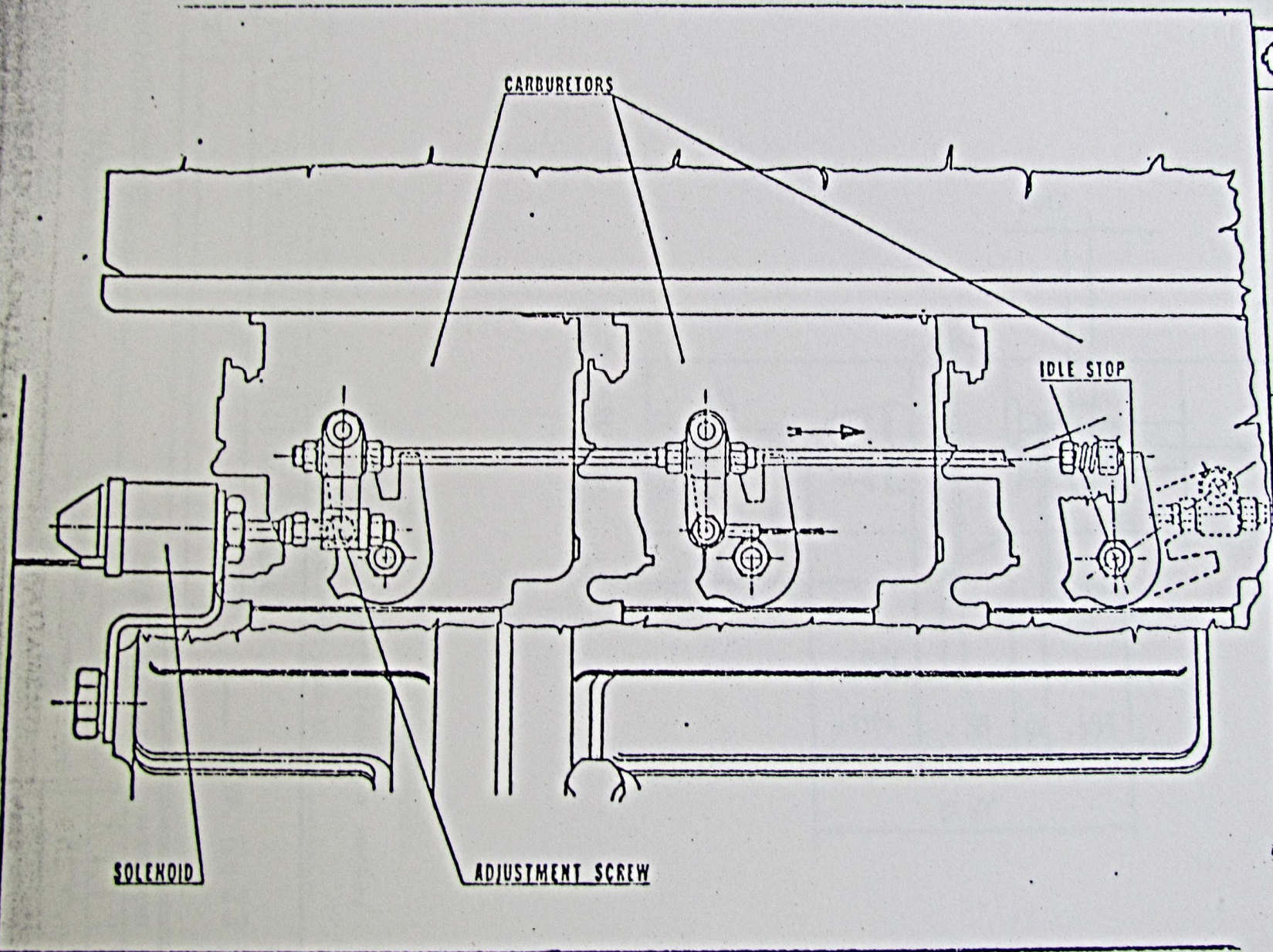
ENGINE


- NUMBER OF CYLINDERS	6 V - 90°
- DISPLACEMENT	180,95 cu.in.
- BORE	3,606 inches
- STROKE	2,953 "
- COMPRESSION RATIO	8,6
- ADVERTISED HP	180 HP NET ISO AT 6000 R.P.M.
- ADVERTISED TORQUE	185 lbs.ft. net ISO at 3000 r.p.m
- CARBURETORS	Number 3
- TYPE	Weber 42 DCNF 77
- IGNITION SYSTEM	Inductive discharge
- ADVANCE MECHANISM	Centrifugal
- BASIC IGNITION TIMING	0°
- SPARK PLUGS	Bosch W 200 T30
- GAP	0,025" to 0,035"
- DWELL	No Dwell
- CAMSHAFT TIMING	EXHAUST VALVE :
	opens: 71° BBDC
	closes: 21 ATDC in.
	Valve clearance (cold) 0,019 in.
	INTAKE VALVE :
	opens: 40° BTDC (0,09) in.
	closes: 80° ABDC in.
	Valve clearance (cold) 0,11 in

CARBURATION: No. 3 WEBER carburetors 44 DCNF/77, vertical double-barrel, with starting device and acceleration pump, idling sump.

	(m/m)	(in.)
<u>SETTING DATA:</u> VENTURI	∅ 34	1.339
MAIN VET	∅ 1.50	0.059
AIR JET	∅ 2.00	
PIT	F 36	
IDLING JET	∅ 0.65	
IDLING AIR JET	∅ 1.60	
PUMP DISCHARGE	∅ 0.40	
PUMP CAMS	No 11	
PIN SEAT	∅ 2.00	
FLOAT LEVEL	50 ± 0.5	1.97 ± 0.02
CENTER DEVICE	∅ 4.5	
HOLES	No 4	

To help a quick firing of the post-combustion in the reactors when the engine is cold, a fast idle system is used (see Drw. No. 26). This system is formed by a solenoid (see Drw. No. 24) that is activated by a thermocouple (see Drw. No. 25) sensing the temperature of the left head of the engine. When the temperature is lower than 77-82°C the solenoid pushes out the inner cylinder that keeps the throttles slightly open (approx. 3000 rpm idle). When the temperature of 77-82°C is reached the solenoid retires the inner cylinder and the idle drops to 1000 rpm and is checked by the idle stop screws. To reduce the hydrocarbon peaks that occur in fast closure of the throttles a dash pot is used (see Drw. No. 23). It is original Weber part No. 10104/001 and its delay time is between 4.0 and 5.2 seconds with a stroke of approximately 0.3 inches. For operation see Drw. No. 27.



 OIL ALFIERI MASERATI S.p.A. MODENA
IDLE STOP AND ACCELERATED IDLE SOLENOID
CONFIGURATION Engine family SS

Draw No 26

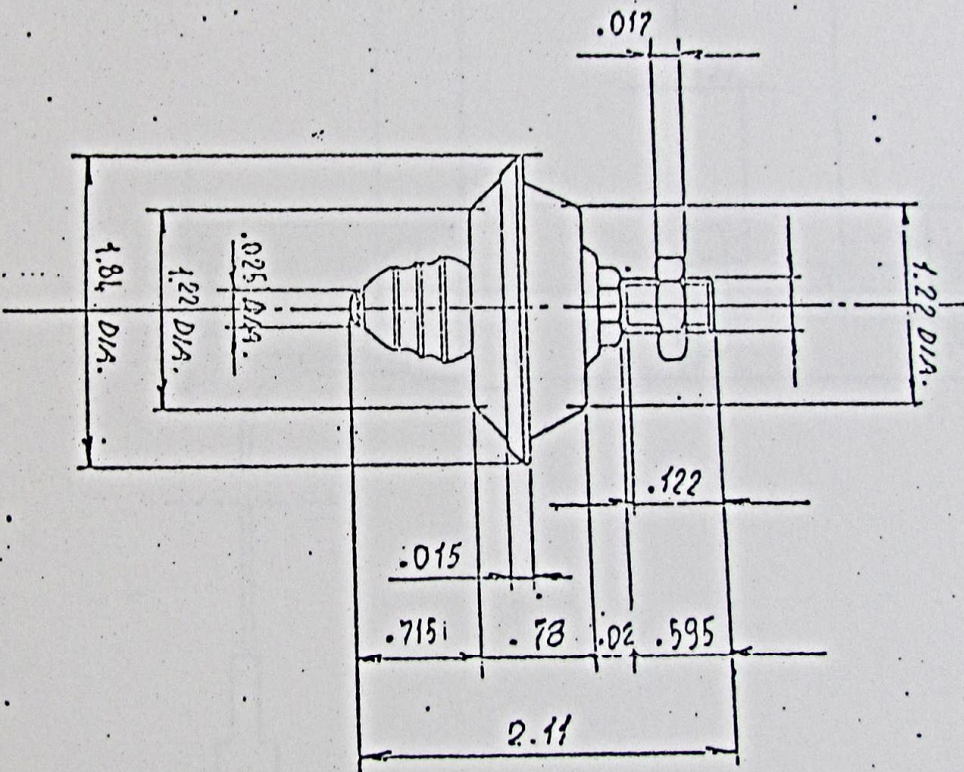


Off. ALFIERI MASERATI S.p.A. MODENA

STREZZI E ANCORI SUSSISATI O RACCORDATI DI m/m 0.25 - TOLLERANZA GENERALE DI LAVORAZIONE ± m/m 0.1

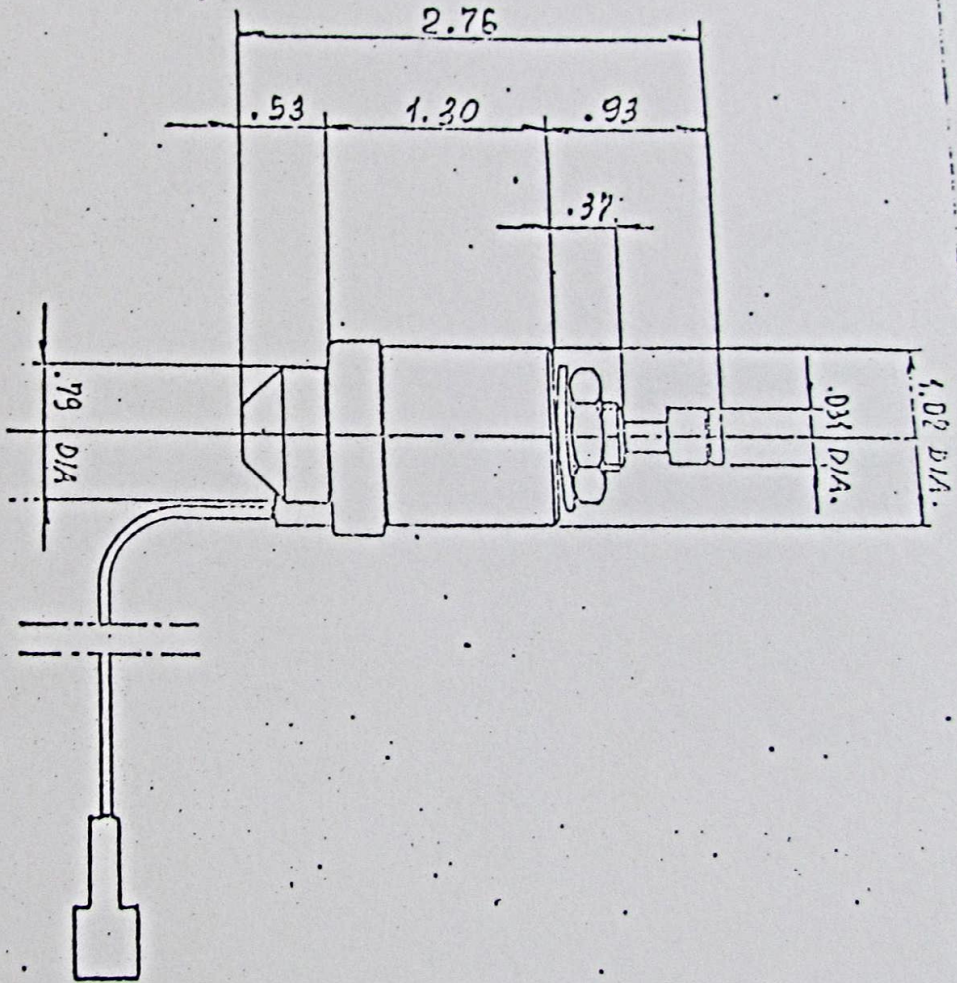
Note All dimensions in inches

DRW. No 23



DENOMINAZIONE		MATERIALE	
DASH POT		UNI	
ENGINE FAMILY SS		RESIST.	
COMUNE A		HRC	
		HDA	
		TRATTAMENTI	
		MODIFICHE	
		SCALA	
		ONE	
		PEZZI N.	
		PESO	
		GREZZO	
		FINITO	
		DATA March 31st 1977	

SPECIFICAZIONE MODIFICA			SPECIFICAZIONE MODIFICA		
Ord.	Descr.	Qnt.	Ord.	Descr.	Qnt.



Note: All dimensions in inches

SPICOLI E ANGOLO SVISSANO O ELETTOCOPPI DI m/m 025 - TOLLERANZA GENERALE DI LAVORAZIONE ± m/m 01



Off. ALFERI MASERATI S.p.A. MODENA

DTW. N. 24

Mod.	Specificazione	Mod.	Firma	Data	Specificazione	Mod.	Firma	Data

DENOMINAZIONE

SOLENOID FOR IDLE STOP
CONTRO 12V 100%

ENGINE FAMILY SS

MATERIALE

UNI _____
RESIST. _____
HRC _____ HBN _____
TRATTAMENTI _____

MODIFICHE

SCALA

ONE

PEZZI N. 1

PESO GREZZO FINITO

DATA March 31st, 1977

PROF.

FORME A
PEZZI N.

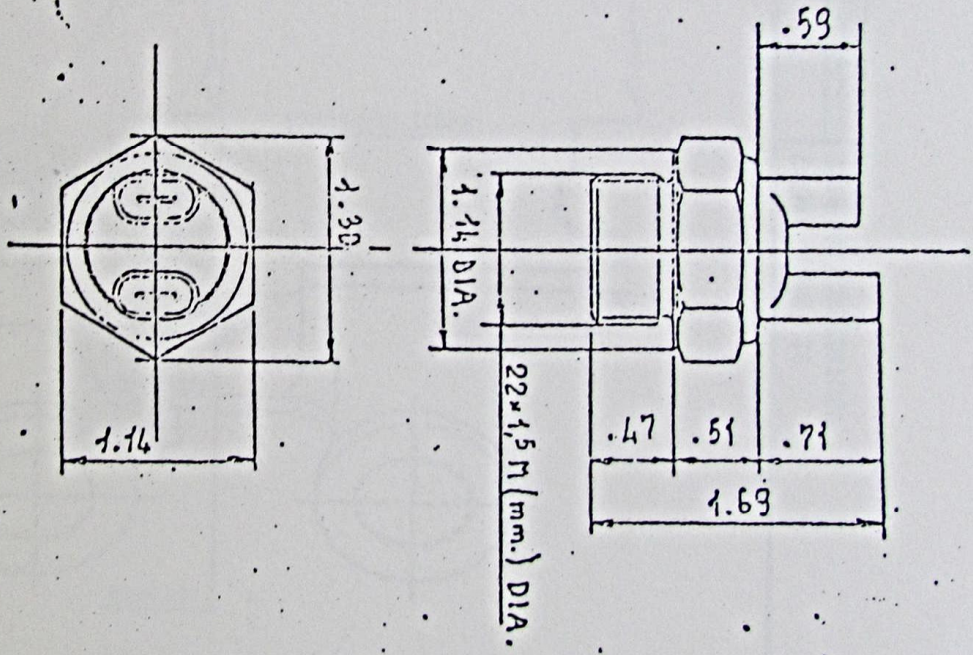


Off. ALFIERI MASERATI S.p.A. MODENA

YETURR

DRW. N. 25

SPECIFICAZIONE TECNICA DI RIFERIMENTO: -- 025 -- SOLLECITAZIONE CIVILIA DI LAVORAZIONE 3 -- 01



DENOMINAZIONE: TERMICOUPLE
FOR ACTIVATING FAST IDLE SOLE-
91D - Disconnects at 77-82°C
ENGINE FAMILY SS

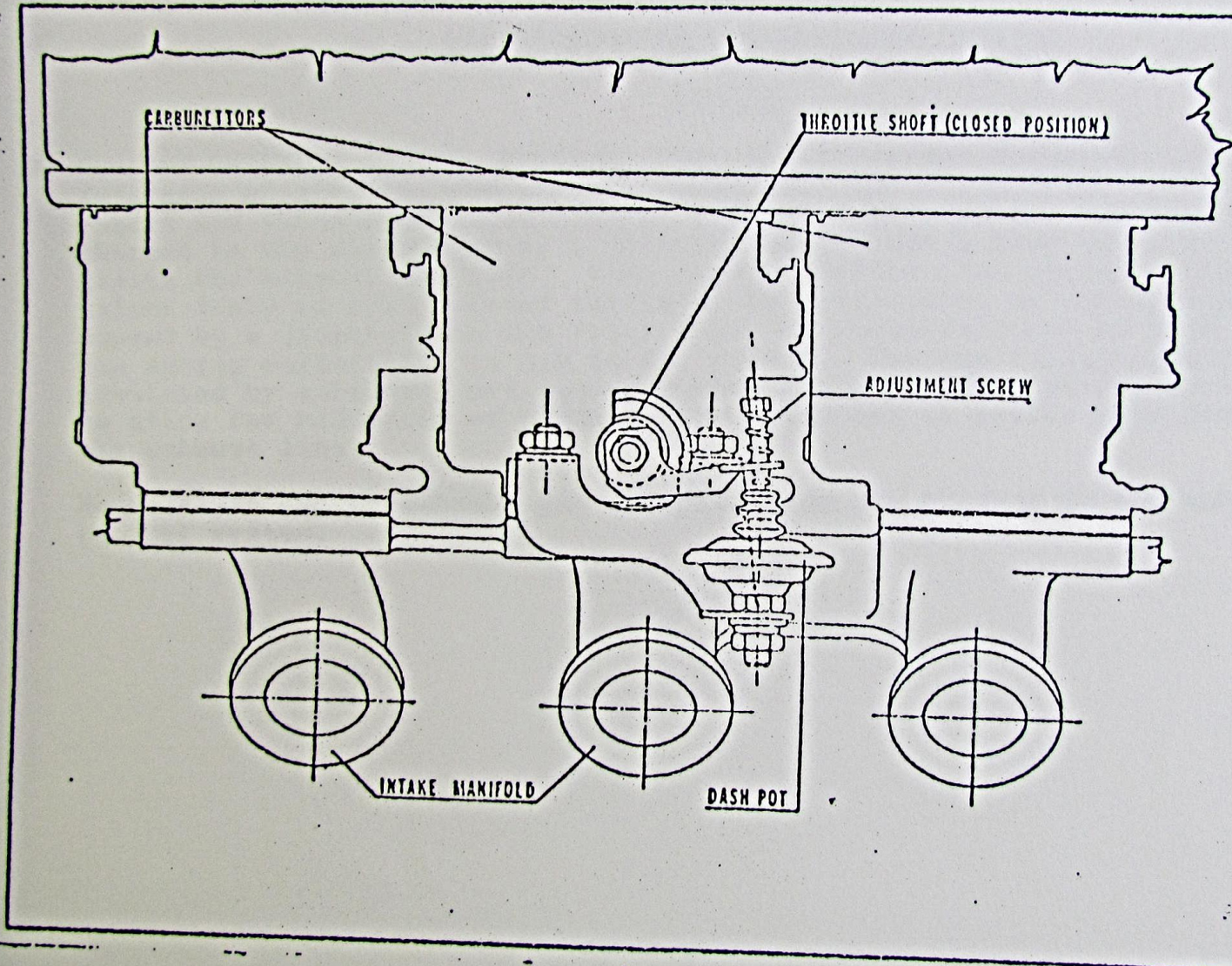
COMUNE A					
PEZZI N.					

MATERIALE
UNI
RESIST.
HRC
TRATTAMENTI
HBA

PROF.

MODIFICHE					
SCALA					
ONE					
PEZZI N.					
PESO GREZZO					
FINITO					
DATE: March 31st, 1977					

N.1	SPECIFICAZIONE MODIFICA	DATA	MOD	SPECIFICAZIONE MODIFICA
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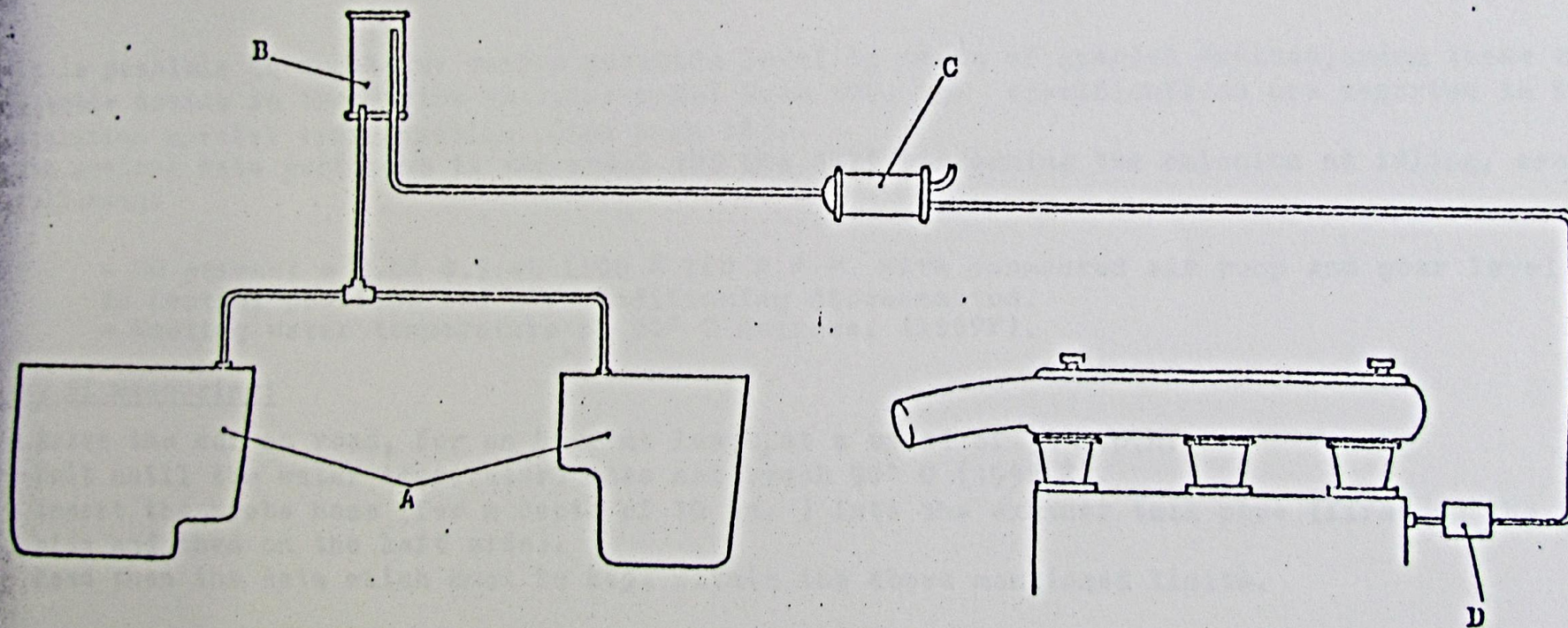
Oil: ALPIERI MASERATI s.p.a. modena

DASH POT CONFIGURATION
Engine family SS

Drw No 27



B) EVAPORATIVE EMISSION CONTROL SYSTEM: A carbon canister (C) absorbs the evaporated gas from the tanks (A). Above the gas tanks there is a liquid separator box (B) which returns the condensed gas back to the tank. The non-condensed gas is absorbed by the carbon filter (C). When the engine rotates, the intake manifold vacuum purges the carbon filter through a fixed orifice (D). (0.08 in. i.d.)



C) CRANKCASE EMISSION CONTROL SYSTEM. A tube equipped with a flame arrester connects the engine internal volume with the air filter volume. Another tube connects the engine internal volume with the intake manifold, below the throttles, to maintain the vacuum inside the crankcase when the throttles are closed.

CARBON MONOXIDE CONTROL

(see pictures n. 1)

It is possible to check the carbon monoxide level by means of special devices, among these an advisable device is the Horiba analyzer model Mexa 400. Its specifications are reported in the anti-pollution special tools section. (See page 18).

The setting data pertinent to the model 122 USA 1975 concerning the emission at idling, are the following:

- CO percent = 0.6 ± 0.5 at 1100 ± 100 R.P.M. with connected air pump and gear level in neutral position and air conditioning disconnected.
- Cooling water temperature at 90° C degrees. (195° F).

Way of measuring:

- Drive the car on road, for an hour at least, at a speed of 30 m.p.h.
- Wait until the water temperature does not reach 90° C (195° F).
- Insert the probe hose (for a depth of 10 in.) into the exhaust tail pipe (first on the right side and then on the left side).
- Read then the data which must be kept within the above mentioned limits.

Way of setting:

- Warm up the engine until the cooling water does not reach the temperature of 90° C (195° F)
- Read the data, then set each cylinder by acting for both mixture and idling screws, to obtain a CO level within $3,25 + 3,75\%$, with engine running at 1,000 r.p.m. , lever in neutral gear,

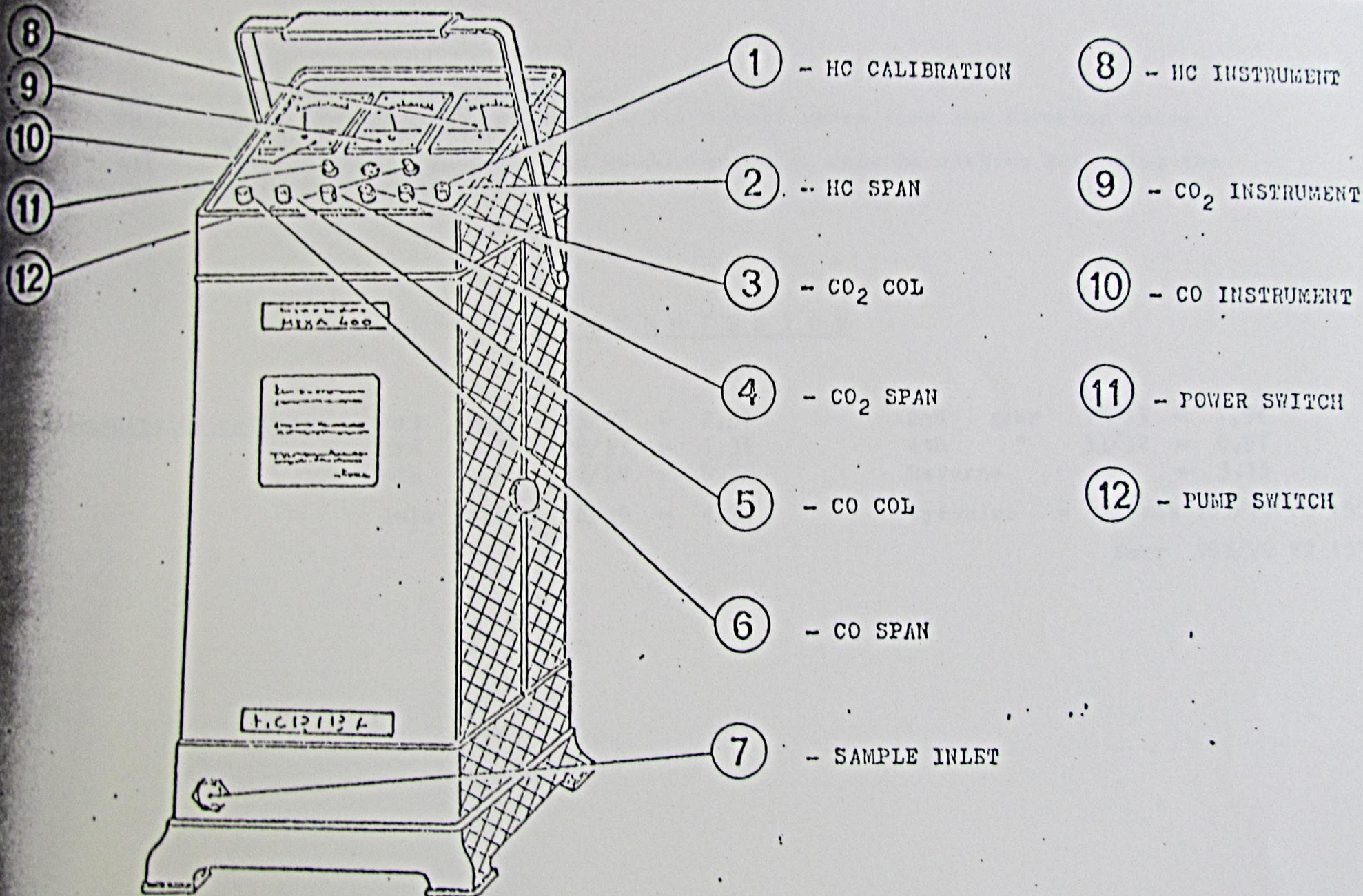


Fig.



Giri motore		1000	2000	3000	4000	5000	6000
1°	7/34 Mph	5,4	10,8	16,2	21,6	27,0	32,4
	8/35 Mph	6,0	12,0	18,0	23,9	29,9	35,9
2°	7/34 Mph	8,2	16,3	24,4	32,5	40,6	48,8
	8/35 Mph	9,0	18,0	27,0	36,0	51,3	54,0
3°	7/34 Mph	12,0	23,9	35,8	47,7	59,6	71,6
	8/35 Mph	13,2	26,5	39,7	52,9	66,2	79,4
4°	7/34 Mph	16,7	33,5	50,0	67,1	83,8	100,6
	8/35 Mph	18,1	36,2	54,2	72,3	90,4	108,5
5°	7/34 Mph	21,6	43,2	64,9	86,5	108,1	129,7
	8/35 Mph	23,2	46,4	69,5	92,7	115,9	139,1

fig.

STARTING PROCEDURES

Cold Engine Starting Procedure

1. Actuate the choke lever completely
2. Close the electrical circuit with the starting key, without activating the starter rotation. Wait 3 to 5 seconds to permit the filling of the carburetor chamber.
3. Start the engine without touching the throttle pedal.
4. After 3 to 4 seconds the engine is on, depress slightly the throttle pedal so that the fast idle solenoid is engaged.
5. Now slowly disengage the choke lever.

Warm Engine Starting Procedure

1. Close the electrical circuit with the starting key, without activating the starter motor rotation. Wait 3 to 5 seconds to permit the filling of the carburetor chamber.
2. Slightly depress the throttle pedal, slightly varying its position so that the engine speed is around and not more than 3000 RPM for all the time before the car starts moving.

SAFETY BELTS IN COMPLIANCE WITH US GT VEHICLES MANUFACTURED FROM FEB. 25TH ON

All the Maserati vehicles manufactured in 1975 from February 25th on, are in compliance to the US Regulation 208 owing to the adoption of the 3rd option admitted by said Regulation as per paragraph S 4.1.2.3 (39 FR. 38380 - October 31st 1974). The cars are thus equipped with an acoustic and optical warning system which works as follows:

- § When the ignition key changes from "ON" to "START" position, a warning light fitted on the dashboard, just in front the driver's seat, lights up; the same blinks for about 6 seconds even if the driver has already fastened his safety belt.
- § Should the ignition key change from "ON" to "START" position even with driver's belt disconnected, a buzzer begins to work and it rings till when the driver will have fastened his belt; said buzzer will ring however for no more than 6 seconds.

MAINTENANCE: With a view to granting a correct running of the protection system for all the occupants of the car (in compliance with the ST 208 Rule) the Builder suggests the following check:

1st - 3000/5000 miles

2nd - every year

- § Check that the buzzer and the warning light (fasten seat belt) fixed to the dashboard begin to work when the driver's belt is unfastened and the key changes from "ON" to "START" position.
- § Check that the tiny pendulum placed in the emergency retractor of the upper cross-belt is free to swing in order to grant the belt locking during a car deceleration over 0,7 g.
If necessary operate the adjustment screw placed on the nylon slide supporting the pendulum.
- § Check that the unrolling of the pelvic belt (which must be 4 inches at least) makes void the buzzer working just when the key changes from "ON" to "START" position.

A = Adjust
R = Replace
I = Inspect, Correct, Replace if necessary

RECOMMENDED EMISSION CONTROL SYSTEMS MAINTENANCE GUIDELINES

Vehicle and Engine Components
(Gasoline fueled light duty
vehicles)

1000 Initial Interval	15000 or annual	30000 or annual	45000 or annual
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I Basic mechanical components:

Engine

1 Intake and exhaust valves (mechanical tappets only)	A	A	A	A
2 Drive belts	A	I	I	I
3 Manifold and cylinder head bolts	A			
4 Engine oil	R - Again at	2500m. - every	2500m. thereafter	
5 Engine oil filter	R - Again at	5000m. - every	5000m. thereafter	
6 Engine coolant			R	
7 Cooling system, hoses and connections		I	I	I
8 Vacuum fittings, hoses and connections		I	I	I

II Fuel System

1 Carburetor idle RPM, mixture ratio	A	A	A	A
2 Choke mechanism, plate and linkage	A	A	A	A
3 Fuel system filter (s)		R	R	R
4 Fuel system cap, tank lines and connections	I	I	I	I
5 Carburetor air cleaner filter		R		R

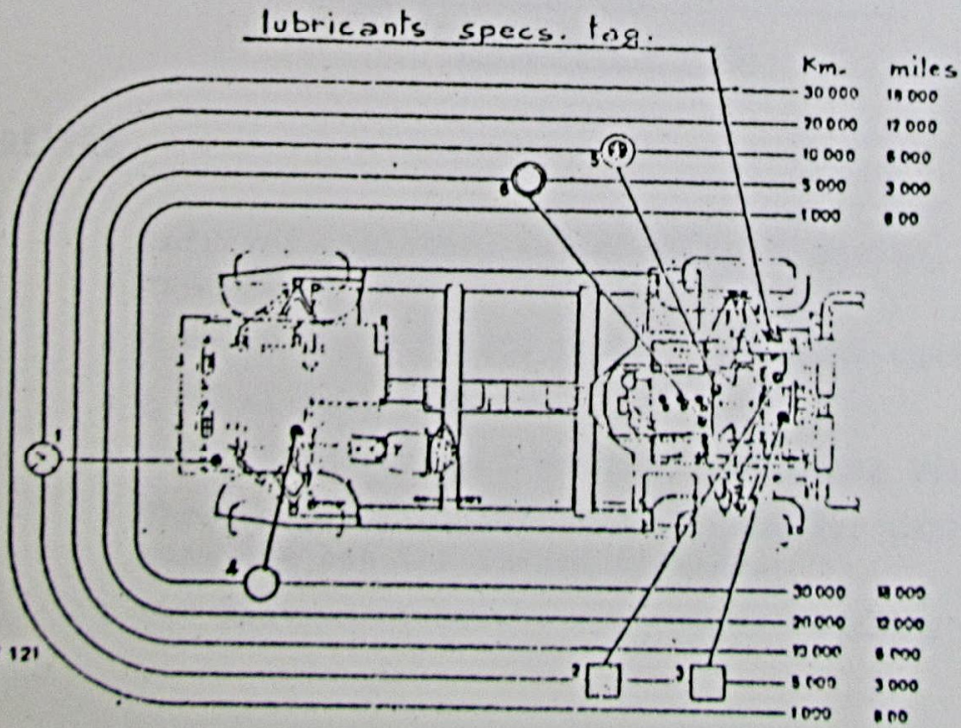
III Ignition Components

1 Ignition timing		A	A	A
2 Spark plugs		R	R	R
3 Ignition wiring			I	

4	Distributor cap and rotor				
5	Operating parts of distributor (advance mechanism)			I	R
IV Crankcase Ventilation System					
1	Ventilation hoses				I
V External Exhaust Emission Control System					
<u>Control System</u>					
1	Secondary air inj. system hoses				I
2	Air system manifolds				I
3	Control valves and air pump			I	I
VI Evaporative Emission Control System					
1	Carbon storage media				R

SYMBOLS FOR LUBRICATING CHART

- AGIP SINT 2000 (SAE 10 W/50)
- AGIP F. 1 ROTRA (SAE 80)
- ⊗ OLIO DI VASELINA (in dotazione)
MUILE DE VASELINE (en dotation)
VASELINE OIL (standard)
- AGIP F. 1 Brake Fluid Super HD
- AGIP F. 1 GREASE 15
- AGIP F. 1 TER 34 (liquido refrigerante FREON 12)
(Anticongelant FREON 12)
(Antifreeze FREON 12)



- LUBRICATION POINTS**
- 1 - Horns compressor.
 - 2 - Conditioner compressor.
 - 3 - Transmission - Differential
 - 4 - Brakes, clutch.
 - 5 - Clutch thrust bearing shaft
 - 6 - Engine oil.

NOTE: Brake fluid to be used in hydraulic system; NOT Mineral Oil.

SPECIAL TOOLS FOR ANTI POLLUTIONSYSTEM

- | | |
|---|--------------------------------------|
| 1. Spark plugs and valves clearance thickness gauges | 2. Micrometer gauge for TDC research |
| 3. Car motors synchrotester | 4. Stroboscopic gun |
| 5. Electronic revolution counter for dwell angle measurements | 6. CO and HC tester |
| 7. Screwdriver for carburetor mixture control | 8. Tools kit for car disassembly |

HORIBA CO, CO₂, HC ANALYZERMODEL MEXA 400Instrument specifications

- | | |
|-------------------------|---|
| <u>Measuring method</u> | : Infrared analyzer, non-dispersive method, positive filter, double light sources. |
| <u>Standard ranges</u> | : 0 to 2% CO, 0 to 250 ppm HC (n-hexane equivalent), and 0 to 16% CO ₂ . |
| <u>Repeatability</u> | : ± 5% of full scale. |
| <u>Response time</u> | : 90% of reading in 7 seconds (including built-in sampling lag time). |
| <u>Readout standard</u> | : Three meters, direct reading: one for carbon monoxide, one for hydrocarbons and one for carbon dioxide. |
| <u>Sampling system</u> | : The instrument houses a complete sampling system, including a flowmeter. |

: water separator, particulate filter, and pump. A tail pipe probe and flexible sample line (with pre-filter) are supplied with each analyzer. (Can be deleted on request)

Power requirements

: 115 VAC, 60 Hz, 2 amps or 230 VAC, 50 Hz, 1 amp.

Dimensions

: 25" high x 13 1/2" wide x 7 7/8" deep. (635 mm x 345 mm x 200 mm)

Weight

: Approximately 30 pounds (13,5 Kgs).

Preparation

- : a. Connect the sampling tube to the SAMPLE INLET at the bottom of the front panel of the instrument.
- b. Make sure that unit is equipped with a clean filter element. (A supply of filter elements is provided with the instrument, additional elements can be obtained from Olson-Horiba.)
- c. Check to see that the POWER switch and the PUMP switch are in the OFF position and then connect the power cord to an AC source with the voltage and frequency designated on the nameplate of the instrument.

Warm-Up

- : a. Place the POWER switch in the ON position. The power indicator light will go on, and the three meters will move erratically.
- b. For maximum accuracy allow 90 minutes for warm-up; usable readings can be made in five minutes. (The meter readings will gradually stabilize.)
- c. Place the PUMP switch in the ON position. Check to see that the flow meter indicator stays in the BLACK region.

Zero calibration

- : While keeping the tip of the exhaust probe in clean air adjust the CO, HC and CO₂ ZERO controls so that each of the three meters indicates a zero reading. If a proper zero reading cannot be obtained, proceed with optical alignment described in para. 5.7.

Span calibration

: Basic Span Calibration With Gas

- a. Basic span calibration is required before proceeding to the initial measurement, and should be repeated weekly thereafter.

NOTE: It is recommended that a CO-HC-CO₂ mixed span gas be used. The most economical way to purchase and use this gas is in disposable 7 and 14 cubic foot containers; a low pressure kit should be used with these containers. If the HC span gas container label shows n-hexane equivalent, use that value on the meter; if it shows ppm propane, the meter should be set at .52 of that value.

- b. Place the PUMP switch in the OFF position.
- c. Press the nozzle of the calibration gas can against the GAS CHECKER inlet at the bottom of the front panel of the instrument. (This automatically feeds the gas into the analyzer unit.)
- d. First the HC meter reading, then the CO and CO₂ meter reading will move up-scale. Continue to press the container of gas against the inlet, until the meter readings have stabilized, then remove the gas container from the GAS CHECKER inlet. Adjust the SPAN controls for the three meters to bring their readings to a point corresponding to the concentration printed on the label of the gas container.
- e. Turn on the pump and check to see that the meter readings return to zero.

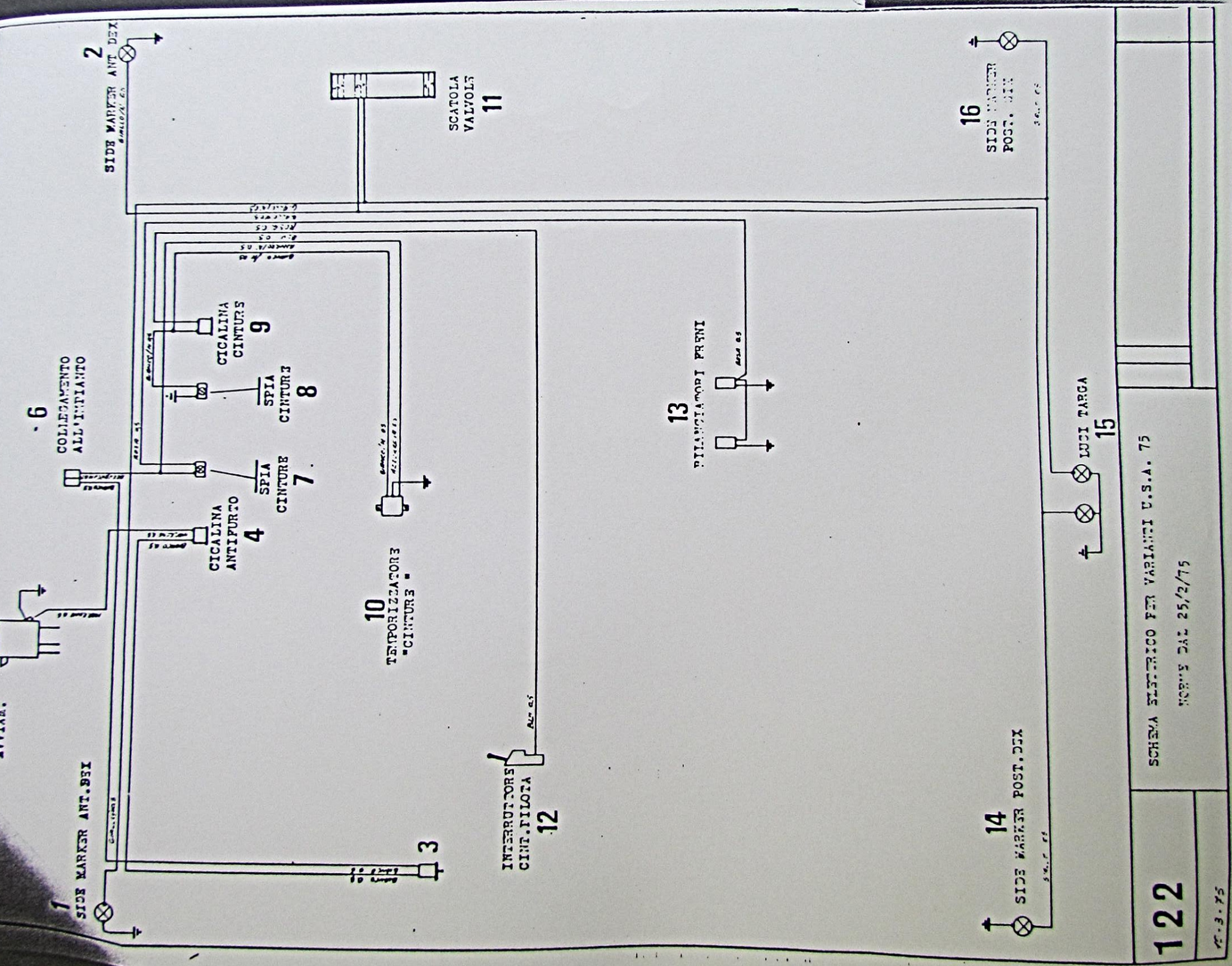
Measurement of sample

- : a. After completing the above calibration procedure, the instrument is ready for sample measurement as follows:
- 1) Insert the exhaust probe into the tail pipe of the vehicle being tested.

NOTE: To prevent the exhaust probe from mixing ambient air along with the exhaust gas, be sure to insert the tip of the probe more than one foot into the tail pipe of the vehicle.

ELECTRICAL DIAGRAM FOR US MODIFICATIONS AS PER REGULATIONS IN FORCE FROM FEBRUARY 25th 1975

- | | |
|--------------------------------|----------------------------|
| 1. Front left side marker | 9. Safety belt buzzer |
| 2. Front right side marker | 10. Safety belt timer |
| 3. Door switch | 11. Fuse box |
| 4. Anti-theft buzzer | 12. Driver's belt switch |
| 5. Ignition switch | 13. Brake balancer |
| 6. Contact to the system | 14. Rear right side marker |
| 7. Safety belts, warning light | 15. Number plate lights |
| 8. Safety belts, warning light | 16. Rear left side marker |



SCHEMA ELETTRICO PER VARIANTI U.S.A. 75

MOD. DAL 25/2/75

122

10-3-75