1982 Renault 4 Tune-Up

TUNE-UP

Fuego, Fuego Turbo, Le Car, 18i

ENGINE INDENTIFICATION

Type of vehicle and engine number are marked on a number plate, riveted to the left rear side of the engine block. Plate is located just below cylinder head mating surface. First group of digits indicate engine type.

Engine Code

Application	Code
Fuego Turbo	
Man. Trans.	A 7L
Fuego & 18i	
Man. Trans.	843-7-18
Auto. Trans.	843-7-19
Le Car	847-25

ENGINE COMPRESSION

Check engine compression with battery fully charged and engine at normal cranking speed.

COMPRESSION SPECIFICATIONS

Compression Ratio	
Fuego Turbo	8.0:1
Fuego & 18i	8.6:1
Le Car	8.8:1

VALVE CLEARANCE

Valves must be set with engine cold. To adjust valves, rotate crankshaft until valve listed in first column of table is fully open, then adjust valves listed in second column of table.

VALVE ADJUSTMENT SEQUENCE

Exh. Valve Open	Valves to Adjust
No. 1	No. 3 Int. & No. 4 Exh.
No. 3	No. 4 Int. & No. 2 Exh.
No. 4	No. 2 Int. & No. 1 Exh.
No. 2	No. 1 Int. & No. 3 Exh.

VALVE CLEARANCE SPECIFICATIONS

Application	Intake In (mm)	Exhaust In. (mm)
Fuego Turbo, Fuego & 18i [1]	.008 (.20)	.010 (.25)
Le Car [1]	.006 (.15)	.008 (.20)

[1] - Set valves with engine cold.

VALVE ARRANGEMENT

Left Side — All Exhaust
Right Side — All Intake

SPARK PLUGS

SPARK PLUG TYPE

Application	Bosch No.	Champion No.
Fuego Turbo		RN3G
Fuego & 18i	WR7DS	
Le Car (Calif.)	WD9DS	
Le Car (Federal)		RN12Y

SPARK PLUG SPECIFICATIONS

Application	Gap In. (mm)	Torque Ft. Lbs. (N.m)
Fuego Turbo	.026 (.66)	20 (27)
Fuego & 18i	.024 (.61)	20 (27)
Le Car	.024 (.61)	20 (27)

HIGH TENSION WIRE RESISTANCE

Carefully remove high tension wires from spark plugs and distributor cap. Using an ohmmeter, check resistance of high tension wires while gently twisting wires. If resistance is not to specification, or fluctuates from infinity to any value, replace high tension wire(s).

WIRE RESISTANCE

Application	Ohms
All Models	25,000-30,000

DISTRIBUTOR

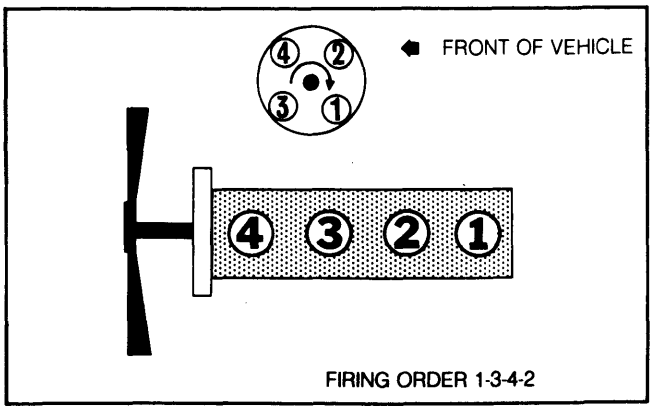
Fuego Turbo

Fuego Turbo uses a computerized electronic ignition control system. With this system, ignition timing at idle can be checked, but not adjusted.

All Other Models

All other models are equipped with dual pick-up electronic ignition distributors. Trigger plate air gap is adjustable.

Fig. 1: All Models Firing Order and Distributor Rotation



1982 Renault 4 Tune-Up

TUNE-UP (Cont.)

AIR GAP SPECIFICATIONS

Application	In. (mm)
All Models	.012-.024 (.3-.6)

IGNITION TIMNG

Fuego Turbo

Fuego Turbo uses a computerized electronic ignition control system. At idle (with vacuum diaphragm hose disconnected), ignition timing should be 9-11° BTDC.

All Other Models

Check or adjust ignition timing with vacuum line disconnected and plugged and engine running at idle speed. To adjust, turn distributor until specified mark on flywheel is aligned with specified graduation mark on clutch housing. Reconnect distributor vacuum hose.

IGNITION TIMING (Degrees BTDC@RPM)

Application	Timing
Fuego Turbo	
Man. Trans.	10@800
Fuego & 18i	
Man. Trans.	10@800
Auto. Trans. [1]	10@650
Le Car	3@750

[1] - With transmission in "D".

Fig. 2: Le Car Timing Mark Location

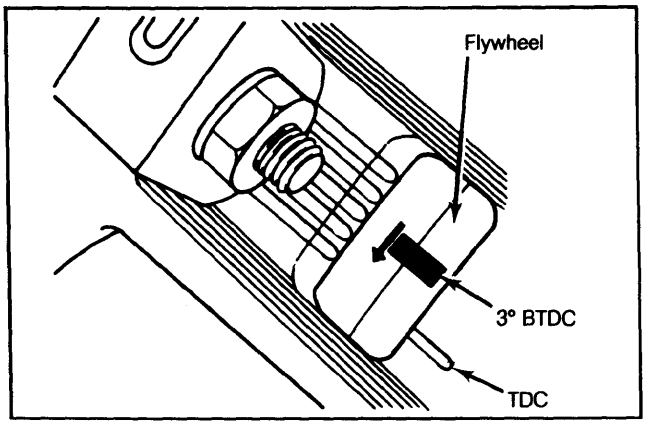


Fig. 3 Fuego & 18i Timing Marks (Man. Trans.)

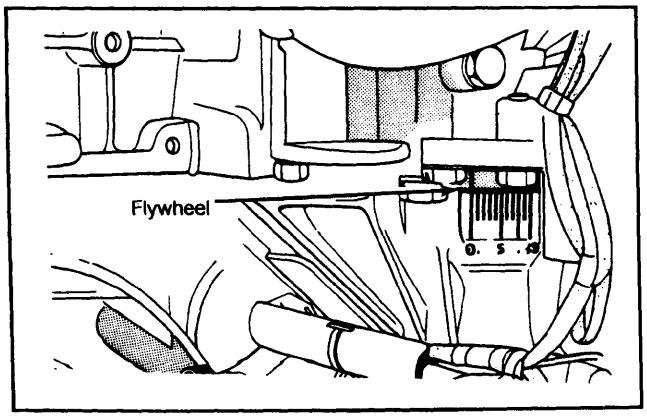
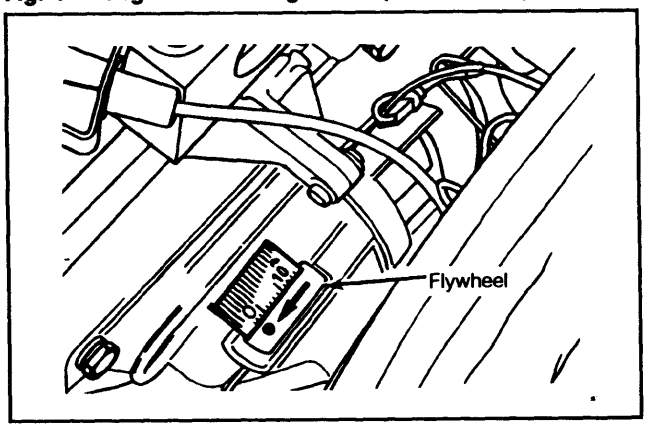


Fig. 4 Fuego & 18i Timing Marks (Auto. Trans.)



IDLE SPEED & MIXTURE

CARBURETED MODELS

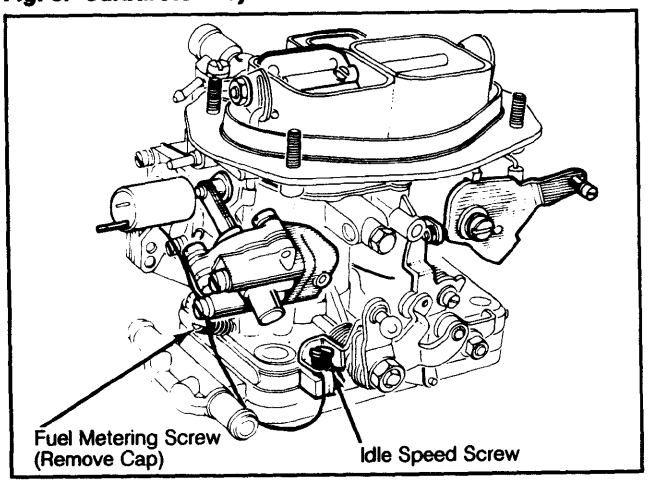
Le Car (Federal)

1) Clamp, or disconnect and plug air pump hose to injection manifold. Connect tachometer.

2) Adjust idle speed screw to obtain 700-725 RPM idle. Remove cap and adjust fuel metering screw to obtain 0.5-2.0% CO level. Repeat procedure if necessary to have both speed and mixture correct.

3) Reconnect air injection. Idle speed must be 700-800 RPM. If not, adjust with idle speed screw. Remove test equipment.

Fig. 5: Carburetor Adjustment Locations Federal Models



Le Car (Calif.)

1) Start engine and bring to normal operating temperature. Using a "T" connector, connect accurate vacuum gauge to line between carburetor and vacuum solenoid regulator.

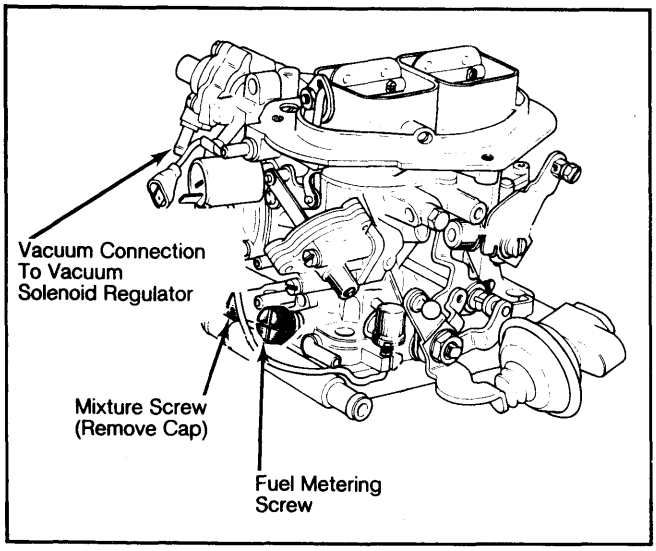
2) Start engine and adjust idle speed with fuel metering screw to 700-800 RPM. Vacuum gauge should indicate .3-2.7 in. Hg.

3) If vacuum reading is not correct, remove brass cap from mixture screw. Adjust carefully until vacuum reading is within specifications. Remove test equipment.

1982 Renault 4 Tune-Up

TUNE-UP (Cont.)

Fig. 6: Carburetor Adjustment Locations California Models



FUEL INJECTED MODELS

All Except Fuego Turbo

1) Warm engine to normal operating temperature and attach tachometer. Place shift selector lever in "D" on automatic transmission models. Adjust throttle plate by-pass screw to set idle speed.

2) With idle speed set, disconnect oxygen sensor wire. Do not allow wire to ground on any metal objects. Locate fuel injection diagnostic socket (near right front shock absorber).

3) Connect voltmeter negative lead to terminal 2 and voltmeter positive lead to terminal 8 of diagnostic connector. Voltage should measure 6.5 volts.

4) Reconnect oxygen sensor wire. Voltage should remain at 6.5 volts. If not, adjust mixture screw to obtain reading as close to 6.5 volts as possible.

Fuego Turbo

1) Warm engine to normal operating temperature and attach tachometer. Connect voltmeter negative lead to terminal 2 and voltmeter positive lead to terminal 8 of diagnostic socket. Voltage reading should fluctuate ±.5 volts.

2) If voltage remains stable around 6.4 volts, warm up engine at 3000 RPM to energize oxygen sensor. Adjust throttle housing idle speed screw to set idle speed.

3) Adjust flow meter idle mixture screw to obtain voltage reading of 6.5-7.5 volts. If necessary to turn screw more than one full turn, check for manifold leaks or grounded oxygen sensor wire.

IDLE SPEED & CO LEVEL

Application	Idle RPM	CO%
Fuego Turbo		
Man. Trans.	700-800	[1]
Fuego & 18i		
Man.Trans. [2]	750-850	0.4-1.0
Auto.Trans. [2] [3]	600-700	0.4-1.0
Le Car [2]	700-800	0.5-2.1

[1] - Voltmeter reading of 6.5-7.5 volts.
[2] - Air injection disconnected.
[3] - Transmission in "D".

COLD (FAST) IDLE RPM

Le Car (Federal)

Connect intake manifold vacuum directly to throttle plate opener or connect a vacuum pump. Apply a vacuum of at least 4.5 in. Hg or accelerate to 2500 RPM. Slowly release accelerator. If adjustment is necessary, turn fast idle adjusting screw.

Le Car (Calif.)

Apply intake manifold vacuum directly to vacuum regulator (or apply 6 in. Hg vacuum on throttle plate opener diaphragm). Set throttle plate opener to achieve fast idle speed.

FAST IDLE RPM

Application	RPM
Le Car	
Federal Models	1800-2000
Calif. Models	1400-1600

FUEL PUMP PERFORMANCE

Application	Pressure psi (kg/cm²)	Volume in 30 sec. Pints (Liters)
Fuego Turbo, Fuego & 18i [1]	25.0-31.0 (1.8-2.2)	1 (.5)
Le Car	2.5-3.5 (.18-.24)	....

[1] - Vacuum connected. If vacuum is disconnected, 33.0-39.0 psi (2.3-2.7 kg/cm²).

EXHAUST EMISSION SYSTEMS

See EXHAUST EMISSION SYSTEMS section.

GENERAL SERVICING

IGNITION

DISTRIBUTOR

All models are equipped with Ducellier electronic distributors.

IGNITION COIL

All models use an ignition coil mounted in an aluminum housing with the electronic control module.

1982 Renault 4 Tune-Up

GENERAL SERVICING (Cont.)

FUEL SYSTEMS

CARBURETORS

CARBURETOR TYPE

Application	Model
Le Car	
Federal	Weber 32 DIR 87
Calif.	Weber 32 DIR 80

FUEL INJECTION

All Fuego and 18i models use Bosch AFC fuel injection systems.

ELECTRICAL

BATTERY

BATTERY SPECIFICATIONS

Application	Amp. Hr. Rating
Fuego Turbo, Fuego & 18i	[1] 45
Le Car	50

[1] - 60 Amp. with air conditioning.

STARTER

All models are use Paris-Rhone starters.

ALTERNATOR

Le Car models use Paris-Rhone alternators; Fuego Turbo, Fuego and 18i models may be equipped with Motorola, SEV Marchal, or Ducellier alternators.

ALTERNATOR SPECIFICATIONS

Application	Rated Amp. Output
All Models	[1] 50

[1] - 70 amp with air conditioning.

ALTERNATOR REGULATOR

All models are equipped with Paris-Rhone alternator regulators.

SERVICE SPECIFICATIONS

BELT ADJUSTMENT

Application	Deflection In. (mm)
Fuego Turbo, Fuego & 18i	
Alternator Belt	.14-.18 (3.5-4.5)
Air Conditioning Belt	.22-.26 (5.5-6.5)
Le Car	
Alternator Belt	.09-.14 (2.5-3.5)

REPLACEMENT INTERVALS

Component	Miles
Oil Filter	6000
Air Filter	30,000
Fuel Filter	30,000
Spark Plugs	30,000
Oxygen Sensor	30,000
Air Pump Filter	30,000

FLUID CAPACITIES

Application	Quantity
Crankcase (Includes Filter)	
Fuego Turbo, Fuego & 18i	4.5 qts. (4.3L)
Le Car	3.5 qts. (3.3L)
Cooling System (Includes Heater)	
Fuego Turbo, Fuego & 18i	6.6 qts. (6.3L)
Le Car	6.5 qts. (6.2L)
Manual Transaxle (SAE 80)	2.0 qts. (2.0L)
Automatic Transaxle [1]	3.0 qts. (3.0L)
Fuel Tank	
Fuego Turbo, Fuego & 18i	14.5 gals. (55.0L)
Le Car	10 gals. (38.0L)

[1] - Only acceptable fluid is part number R8980022. Do not use AMC fluid, part number 8992447 or 8992449.