

TUNE-UP

Brava
Spider 2000
Strada
X1/9

ENGINE IDENTIFICATION

Brava & Spider Models – Engine code and identification numbers are stamped on crankcase near oil filter mount.

Strada & X1/9 Models – Engine code and identification numbers are stamped on crankcase (flywheel end).

Application	Code
Brava & Spider	
With Fuel Injection	132C3.031
With Carburetor	132C3.040
Strada X1/9	
With Fuel Injection	138B2.031
With Carburetor	138B2.040

VALVE CLEARANCE

Application	⓪ Intake In. (mm)	⓪ Exhaust In. (mm)
Brava & Spider019 (.48)	.021 (.53)
Strada & X1/9014 (.35)	.018 (.45)

⓪ – Set valves with engine hot.

VALVE ARRANGEMENT

Brava & Spider Models
Right Side - All Exhaust
Left Side - All Intake
Strada & X1/9 – E-I-I-E-E-I-I-E

SPARK PLUGS

Application	Gap In. (mm)	Torque Ft. Lbs. (mkg)
Brava & Spider025 (.64)	25 (3.5)
Strada & X1/9030 (.76)	25 (3.5)

Spark Plug Type

Application	Champion No.	Bosch No.
All Models	RN9Y	WR7D

HIGH TENSION WIRE RESISTANCE

Resistance (Ohms) Per Wire

Application	Resistance
All Models	25,000-30,000

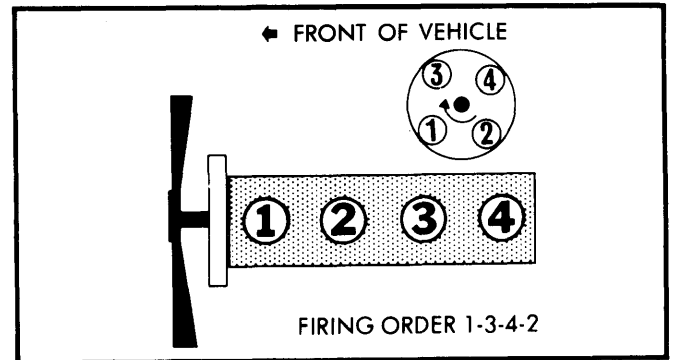


Fig. 1 Firing Order and Distributor Rotation (Brava & Spider – 2000 cc)

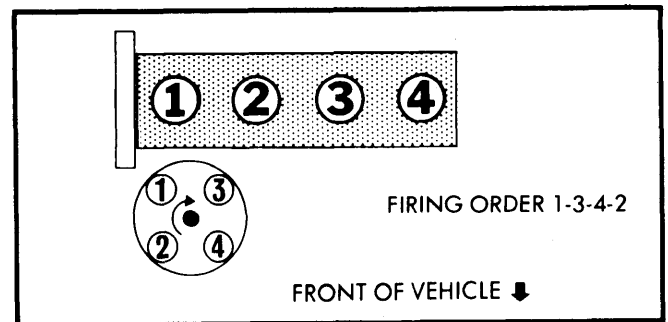


Fig. 2 Firing Order and Distributor Rotation (Strada & X1/9 – 1500 cc)

DISTRIBUTOR

All models are equipped with breakerless, electronic ignition systems. Brava and Spider use a Marelli system, and Strada and X1/9 use a Bosch unit. Some Strada models may be equipped with the Marelli system.

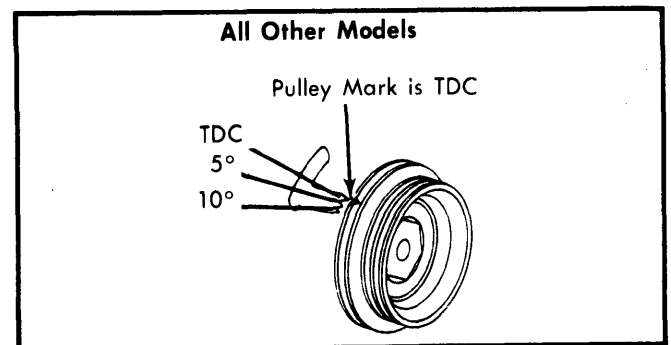


Fig. 3 Ignition Timing Mark Location

IGNITION TIMING

Check or adjust ignition timing with engine at normal operating temperature, Man. Trans. in neutral or Auto. Trans. in "D" and idle speed set to specifications. To adjust timing, align mark on drive pulley or flywheel with specified pointer by turning distributor.

TUNE-UP (Cont.)

Ignition Timing Specifications
(Degrees BTDC@RPM)

Application	Man. Trans.	Auto. Trans.
Brava & Spider	10@800	10@700
Strada & X1/9		
Carbureted	5@800	5@700
Fuel Inj.	10@800	10@700

Ⓛ — Transmission in "D".

IDLE SPEED & MIXTURE

CARBURETED MODELS

- 1) With engine at normal operating temperature, insert CO analyzer pickup tube into tailpipe. Attach tachometer to engine.
- 2) Clamp air injection hose just upstream of check valve, or disconnect and plug hose.
- 3) Place transmission in neutral for Man. Trans. or "D" for Auto. Trans. Turn idle speed adjusting screw to bring idle to specifications.
- 4) Using mixture screw, set CO level to specification. Recheck idle speed. If it has changed, repeat entire adjustment until both are as specified.

FUEL INJECTION MODELS

- 1) Warm engine to operating temperature (electric fan has cycled twice). Place manual transmission in neutral or automatic in "D". Wait until electric fan is off to adjust idle.

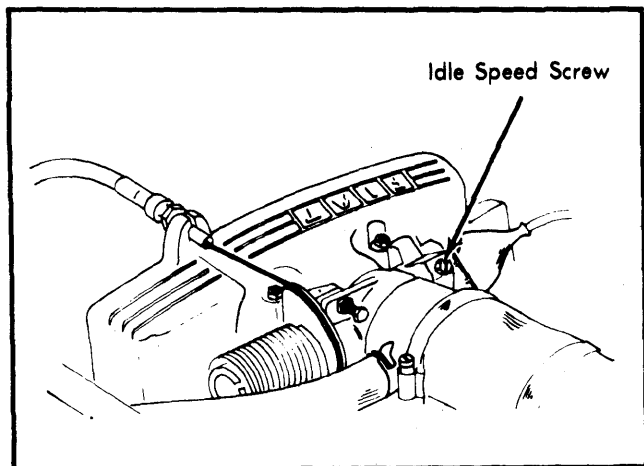


Fig. 4 Fuel Injection Idle Speed Adjustment

- 2) Turn air bypass screw on top of intake manifold to adjust idle speed to specifications. See Fig. 4.

- 3) Connect CO meter to pipe tap in front of catalytic converter. Disconnect plug from oxygen sensor and ensure that neither side is grounded. Remove plug from airflow meter and adjust CO to 0.5-0.9%. See Fig. 5.

- 4) Ground control unit side of oxygen sensor connector. CO level should rise to at least 1.5%. Reconnect oxygen sensor and check for CO level of 0.3-0.6%. Remove test equipment and plug air flow meter screw. See Fig. 5.

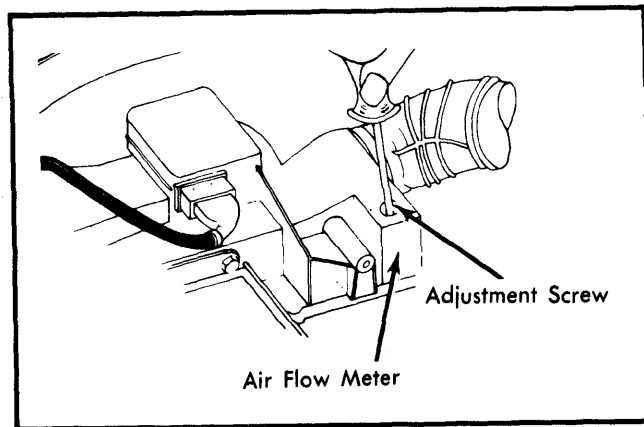


Fig. 5 Fuel Injection Mixture Adjustment

Idle Speed & CO Level

Application	Idle RPM	CO%
Carbureted Models		
Brava & Spider		
Man. Trans.	800-900	1.0-2.5
Auto. Trans.Ⓛ	700-800	1.0-2.5
Strada & X1/9		
Man. Trans.	800-900	1.0-2.0
Auto. Trans.Ⓛ	700-800	1.0-2.0
Fuel Injected Models		
All Man. Trans.	800-900	0.3-0.6
All Auto. Trans.Ⓛ	700-800	0.3-0.6

Ⓛ — With transmission in "D".

FUEL PUMP PRESSURE

Carbureted Models	
Pressure	3.5-4.3 psi (.25-.30 kg/cm ²)
Fuel Injection Models	
PressureⓁ	39-45 psi (2.74-3.16 kg/cm ²)

Ⓛ — Disconnect hose to pressure regulator.

EXHAUST EMISSION SYSTEMS

See EXHAUST EMISSION SYSTEMS section.

GENERAL SERVICING

IGNITION

DISTRIBUTOR

All models are equipped with breakerless, electronic ignition systems. Brava and Spider use a Marelli system, and Strada and X1/9 use a Bosch unit. Some Strada models may be equipped with the Marelli system.

IGNITION COIL

Coil Resistance (Ohms@68°F)

Application	Primary	Secondary
Bosch Coil	1.1-1.7	6,000-10,000
Marelli Coil	.75-.81	10,000-11,000

Other Data & Specifications - See Tune-Up article and appropriate article in DISTRIBUTORS & IGNITION SYSTEMS section.

FUEL SYSTEMS

CARBURETORS

Application	Model
All Models	Weber 28/32 ADHA

Other Data & Specifications - See Tune-Up and Weber Carburetors in FUEL SYSTEMS Section.

FUEL INJECTION

Application	Model
All Models	Bosch AFC

Other Data & Specifications - See Tune-Up and Bosch AFC Fuel Injection in FUEL SYSTEMS Section.

ELECTRICAL

BATTERY

Application	Amp Hr. Rating
All Models	60

Battery Location - Battery is located in engine compartment on all except Spider 2000 models. On these models, battery is located in trunk.

STARTER

Brava and Spider 2000 models are equipped with Fiat starters. Strada and X1/9 models use Bosch starters on Man. Trans. models and Marelli starters on Auto. Trans. models.

Starter Specifications

Application	Volts	Amps	Test RPM
Brava & Spider	12	12	4700-5700
Strada & X1/9			
Man. Trans.	11.5	35-55	6000-8000
Auto. Trans.	11.5	30-40	5500-6500

ALTERNATOR

All models are equipped with Bosch alternators.

Application	Rated Amp. Output
Brava, Spider & Strada [Ⓞ]	55
X1/9	65

[Ⓞ] - Strada with air conditioning rated 65 amperes.

ALTERNATOR REGULATOR

All models have alternators with internal regulators. With headlights on and heater fan on high speed, operating voltage should be 12.5-14.5 volts at 2500 RPM.

CAPACITIES

Application	Quantity
Crankcase (Includes Filter)	
Brava, Spider & X1/9	4.3 qts.
Strada	4.6 qts.
Cooling System	
Brava	8.5 qts.
Spider	8.0 qts.
Strada	7.5 qts.
X1/9	12.2 qts.
Man. Trans. (SAE 90)	
All Models	3.5 pts.
Auto. Trans. (Dexron)	
Brava, Spider & Strada	6.0 pts.
Rear Axle (SAE 90)	
Brava & Spider	1.4 qts.
Transaxle (SAE 90)	
X1/9	3.2 qts.
Strada	3.5 qts.
Fuel Tank	
Brava & Strada	12.1 gals.
Spider	11.4 gals.
X1/9	12.2 gals.

1980 Fiat 4 Tune-Up

GENERAL SERVICING (Cont.)

BELT ADJUSTMENT

Application	⓪ Deflection
All Drive Belts4-.6" (10-15 mm)

⓪ — Deflection is with 22 lbs. (10 kg) pressure applied midway on longest belt run.

FILTERS

Filter	Service Interval (Miles)
Oil Filter	Replace every 7,500
Air Cleaner	Replace every 15,000
Fuel Filter	Replace every 15,000