MOTO AMERICA INC.

1997

FUEL INJECTION SEMINAR

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INTRODUCTION

The purpose of the Moto America fuel injection (FI) seminar is to give the attending technician a basic understanding of the normal operation, adjustments, and diagnosis procedures for the Weber/Marelli FI system employed on Moto Guzzi motorcycles. The seminar uses the Moto Guzzi Electronic Ignition/Injection Workshop Manual (part number 299201600) as the main reference. As this manual is generally a guide for the California III, a supplement illustrating the differences in the FI systems used in the California 1100i, Daytona, and Sport 1100i is printed in the pages after this introduction. The supplement also gives a more concise overview of the Weber/Marelli system operating modes and a checklist for the steps needed for adjusting idle speed and throttle body synchronization.

The FI seminar will be presented in three major sections:

1. The first section will center on a brief description of the four main operating modes that can occur in the Weber/Marelli FI system.

2. The second section will be a step by step, hands on adjustment of the idle speed and throttle body synchronization.

3. The third section will concern the description and hands on testing of the on board diagnosis system.

Questions will be fielded at any time during the seminar.

A few weeks after technicians have completed the Moto America FI seminar, each will be sent a certificate explaining that the named technician has received training in servicing the Moto Guzzi fuel injection system.

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SUPPLEMENT TO MOTO GUZZI FUEL INJECTION
WORKSHOP MANUAL PART NUMBER 29920160

OPERATING MODES OF MOTO GUZZI FUEL INJECTION

I. NORMAL OPERATING TEMPERATURE

Parameters from the sensors (monitoring: RPM, cam position(phase), air and oil temperature, atmospheric pressure, and throttle position) are used by the fuel injection control unit to select appropriate ignition timing, ignition advance, injector timing, and injector duration. The fuel system maintains constant pressure relative to throttle body vacuum. Fuel mixture is effected by the duration the injectors are opened.

II. STARTING MODE

When the ignition is first turned on the fuel pump runs for a short time to assure that the fuel system is pressurized. While the starter is turning the engine ignition timing is set to 0 degrees. Starting mixture is determined by oil temperature.

III. ACCELERATION MODE

When throttle opening is increased, fuel mixture is enrichened. The degree of enrichening is determined by the extent of the change in throttle angle and the oil and air temperature.

IV. DECELERATION MODE (THROTTLE CLOSED)

When the engine is running above 2,000 RPM and the throttles are closed, the injectors do not open effectively cutting off fuel supply. This increases engine breaking and reduces fuel consumption and emissions.

IDLE SPEED ADJUSTMENT AND THROTTLE BODY SYNCHRONIZATION CHECK LIST

_Remove throttle body covers (Californias only).

_Disconnect tie rod(s) between throttle bodies.

_Close air bypass screws.

_Attach vacuum gauges.

_Set the idle to 800 rpm on Californias or 1000 rpm on Daytonas, using the throttle stop screws, keep vacuum equal for both cylinders.

_Open the air bypass screws until idle is 900 to 1000 rpm on Californias or 1100 to 1200 rpm on Daytonas, keep vacuum equal on both cylinders.

_Refit throttle tie rods (the rods should slip on the post without moving either throttle, otherwise adjust the synchronization screw).

_Bring the engine speed to 1500 rpm using the throttle grip. If vacuum is not the same, adjust the synchronizing screw.

_Recheck vacuum at idle.

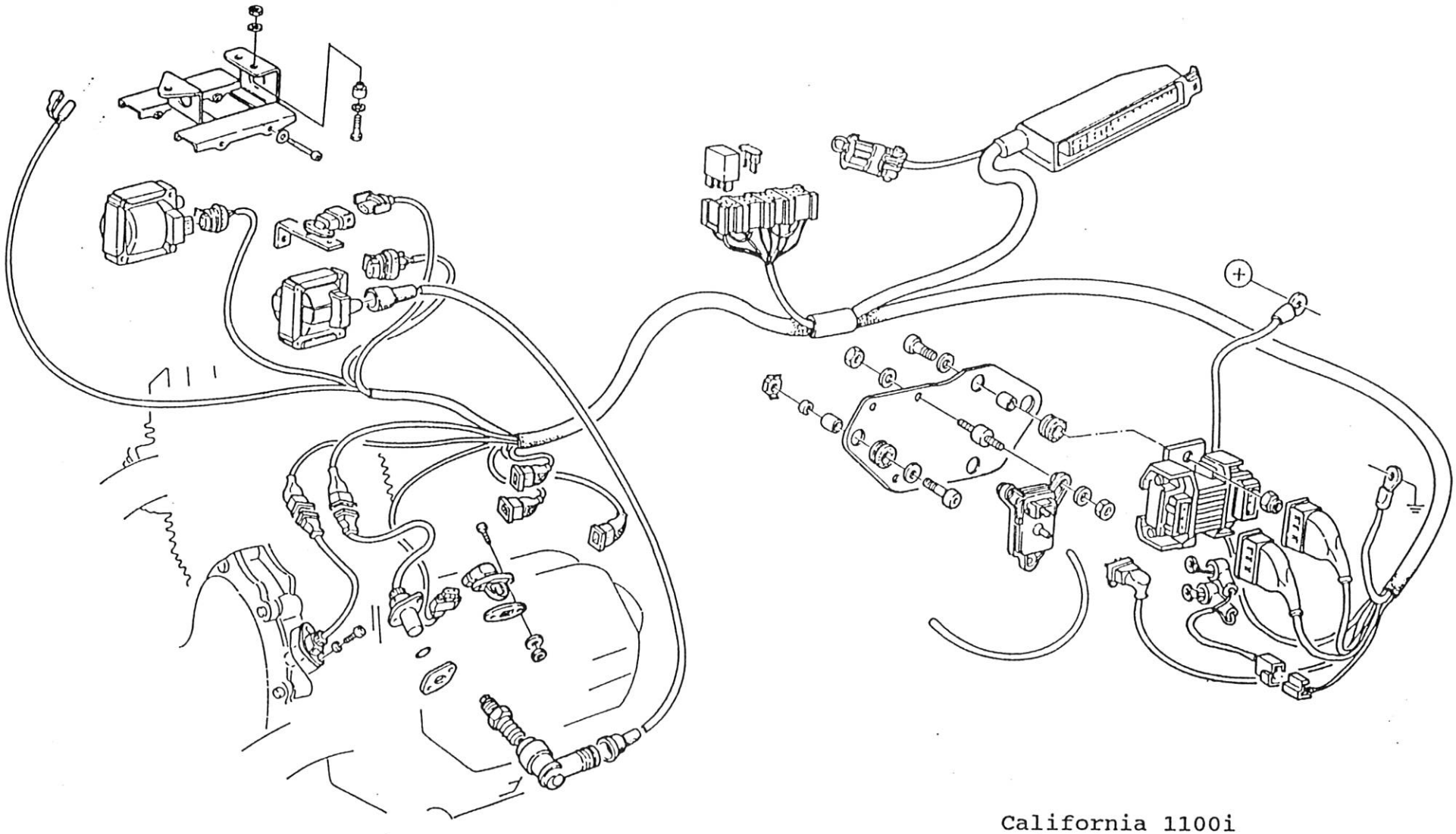
_Remove vacuum gauges and reconnect all hoses.

_With the engine warm, pull back the choke lever and set the fast idle to approximately 4000 rpm.

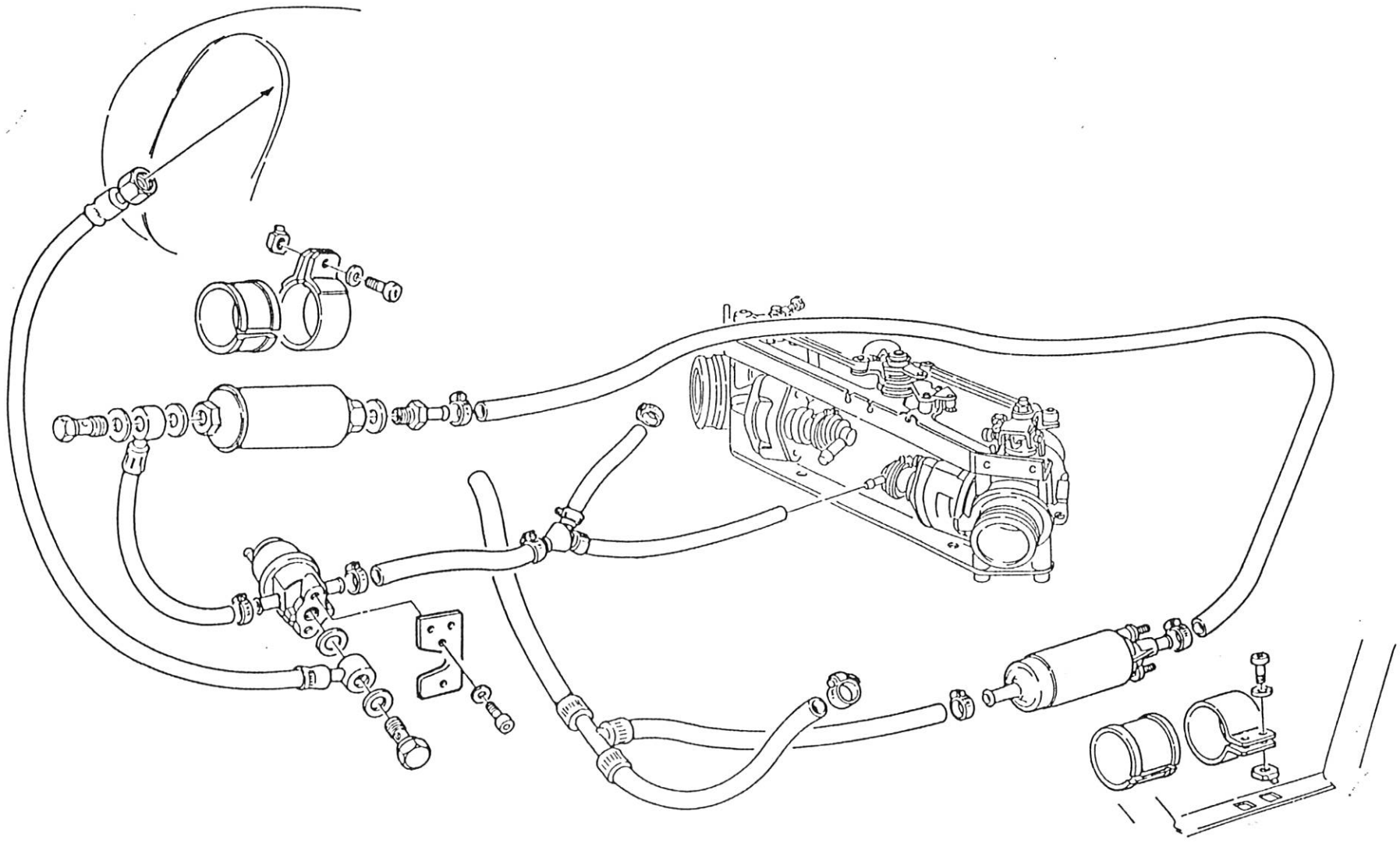
_With an exhaust gas analyzer, check CO level. The CO level should be 0.5% to 1.5% (1.0% to 2.0% for the Daytona RS).

To alter the CO level on a **California IIIie, California 1100i, or 1993 Daytona**, adjust the potentiometer on the side of the injection control box. Turning the potentiometer clockwise leans idle mixture. Do not force the potentiometer passed it's stops. The range of turns on the potentiometer is 3 turns on most California IIIie models and 4.5 turns on the California 1100i and 1993 Daytona.

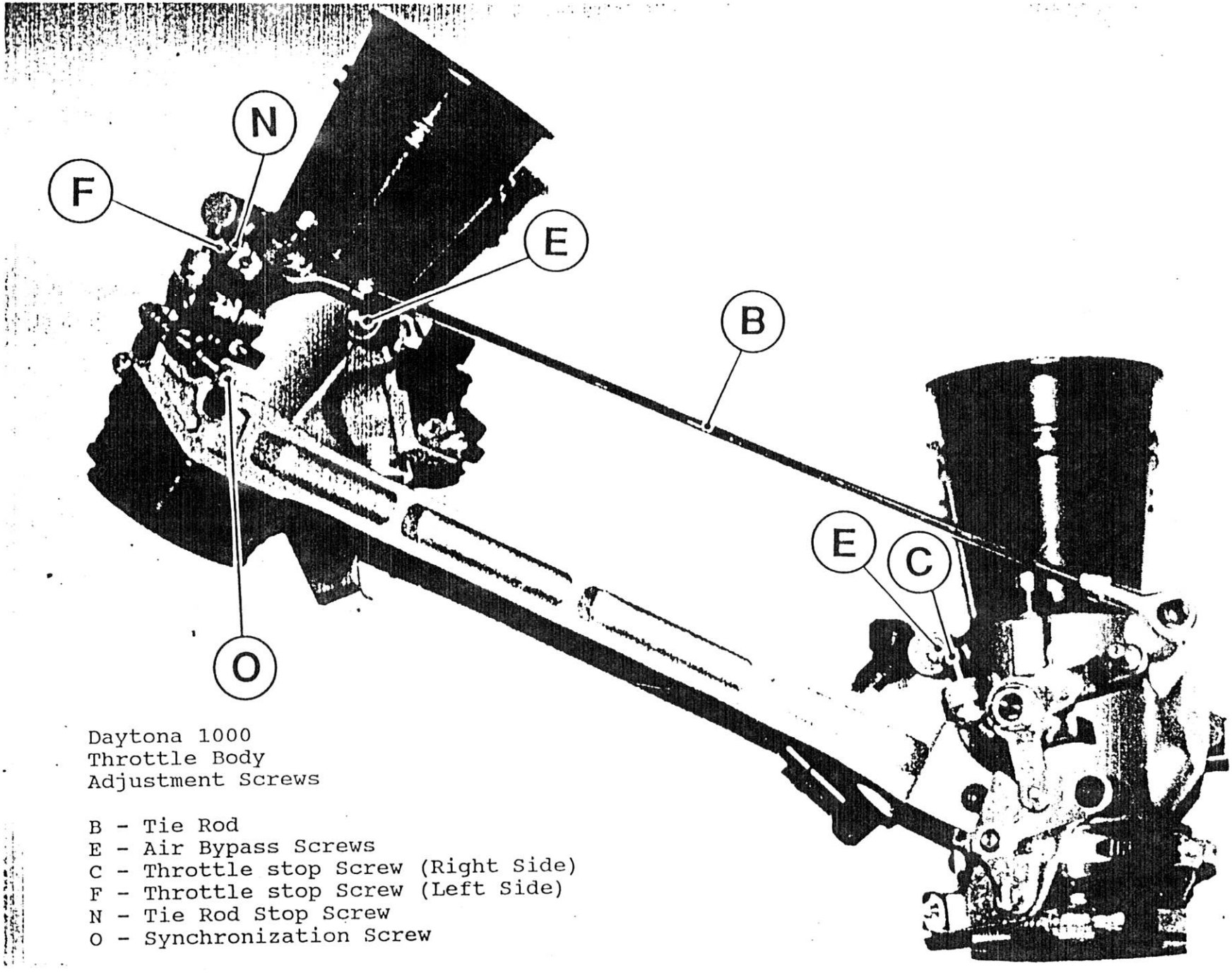
To alter the CO level on the **1997 Sport 1100i, Daytona RS, or V10 Centauro**, the injection control box will prove too sensitive to adjust. The positions of the air bypass screws and idle speed screws must be adjusted to alter CO level.



California 1100i
Injection/Ignition
Harness Diagram



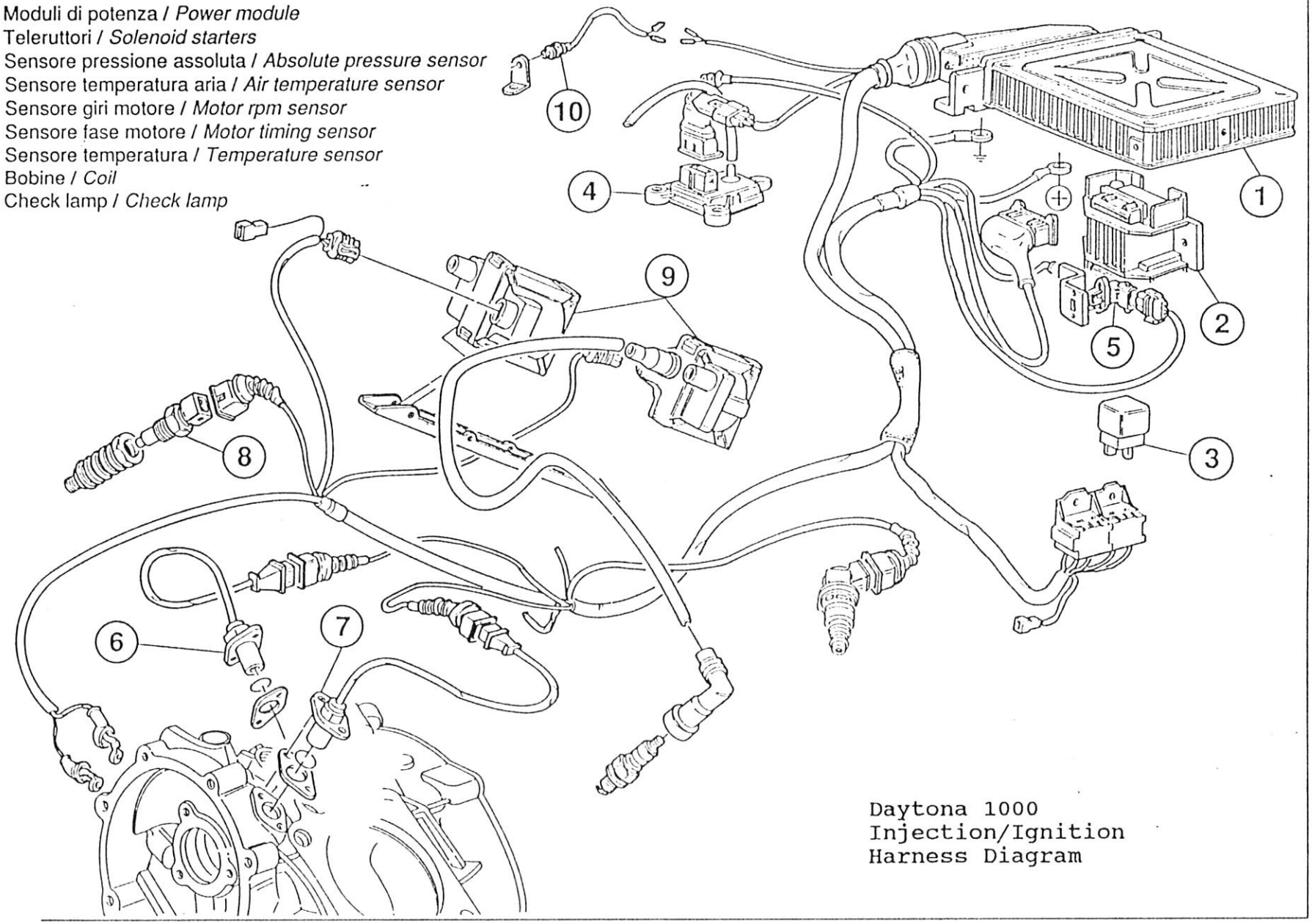
California 1100i
Fuel Circuit Diagram



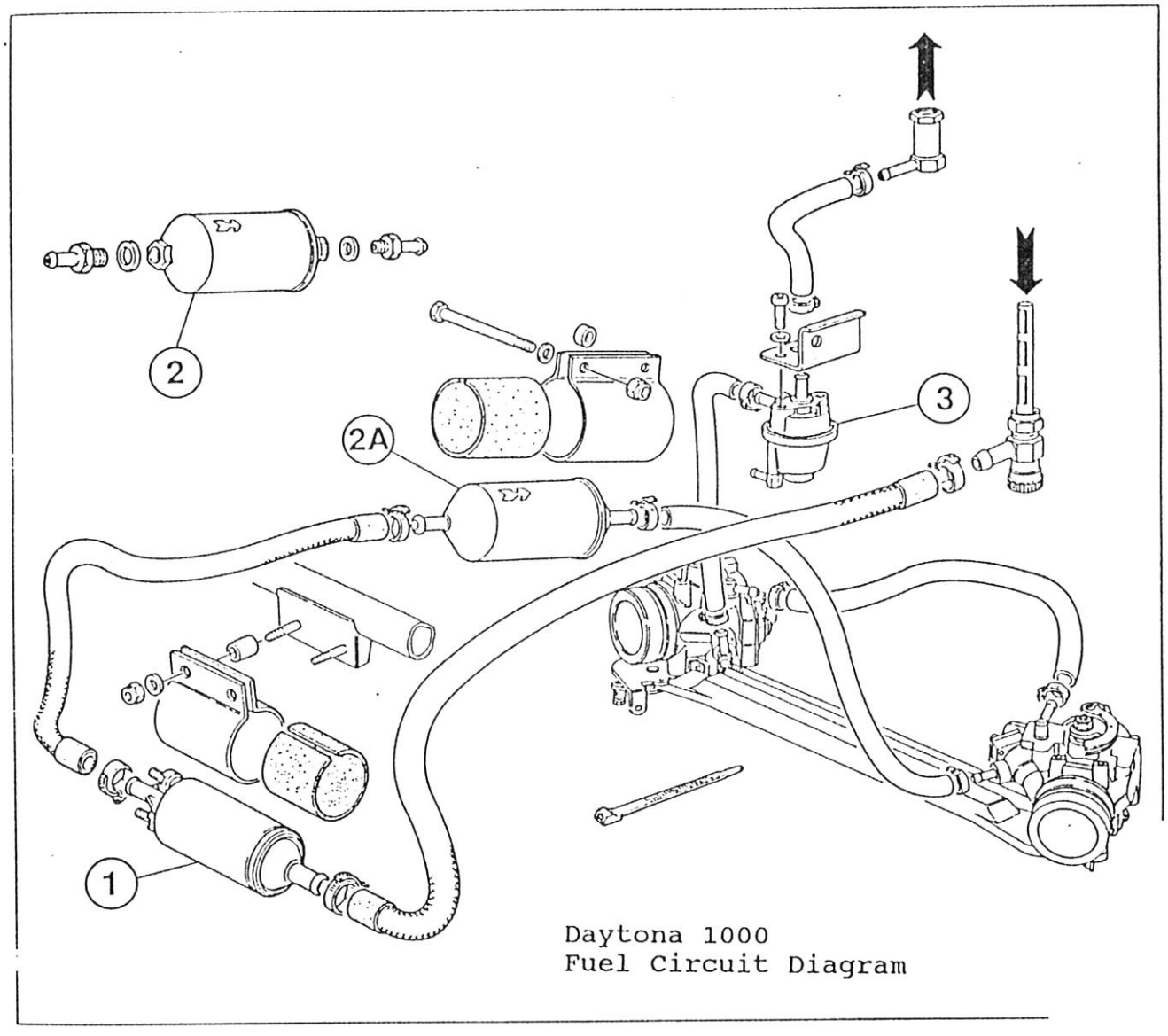
Daytona 1000
Throttle Body
Adjustment Screws

B - Tie Rod
E - Air Bypass Screws
C - Throttle stop Screw (Right Side)
F - Throttle stop Screw (Left Side)
N - Tie Rod Stop Screw
O - Synchronization Screw

1 Centralina elettronica / *Electronic control box*
2 Moduli di potenza / *Power module*
3 Teleruttori / *Solenoid starters*
4 Sensore pressione assoluta / *Absolute pressure sensor*
5 Sensore temperatura aria / *Air temperature sensor*
6 Sensore giri motore / *Motor rpm sensor*
7 Sensore fase motore / *Motor timing sensor*
8 Sensore temperatura / *Temperature sensor*
9 Bobine / *Coil*
10 Check lamp / *Check lamp*



Daytona 1000
Injection/Ignition
Harness Diagram



Daytona 1000
Fuel Circuit Diagram

1 Fuel pump
2 Fuel filter - 1st series
2A Fuel filter - 2nd series
3 Fuel pressure regulator

1 one millimeter gap Ramp throttle over Rev

cat throttle body 40 use
Daytona 50
1100 sport 45

3700 OHMS oil temp Room temp

changing fuel filter most important?

Neutral light — Snap on