

THE
AUTOLITE IN-LINE
CARBURETOR

- CALIBRATION TIPS
- SYSTEM DESCRIPTION
- SPECIFICATIONS •

THE AUTOLITE INLINE CARBURETOR

The specifications in your Autolite Inline Carburetor are shown on the attached specification sheet. Since the exact application of each carburetor is unknown to Autolite, these specifications should be considered a "starting point". The specifications in the DOZX-9510-A carburetor were developed for the Ford 302 Boss Trans-Am racing application with a Torque Box ("Cross Boss") intake manifold, and the specifications in the DOZX-9510-B carburetor were developed for a 302 Boss independent runner manifold system. The carburetor was designed to give maximum calibration flexibility, and it uses many parts from the current Autolite two barrel and four barrel carburetors. As with most performance carburetion, it is necessary to do some experimentation to obtain the optimum air/fuel ratio. Each system in the Autolite Inline Carburetor is identical for each bore and is described below along with some general calibrating "tips".

Main Metering System

Before getting into the specifics of the Autolite Inline main metering system it is important to remember that:

1. When beginning a new calibration it is "smart" to start rich rather than lean.
2. Independent runner manifold systems require leaner air/fuel ratios than other types of manifolding.
3. Optimum mixture ratio is a function of temperature, altitude, humidity, etc.

The annular discharge nozzle is used in the Autolite Inline main metering system because of its quick response, excellent signal generation and distribution qualities.

Main Metering System (continued)

The metering of the main system is controlled by three removable parts:

1. Main metering jet
2. High speed bleed restrictor
3. Main well emulsion tube

These parts can be pulled from the air horn by removing the main well retainer. The main metering jet can be screwed from the main well and is common with Autolite two barrel and four barrel carburetors.

The main metering jet is the easiest and most effective item for changing air/fuel ratios. Extra jets (.075") are included for optimizing mixture ratios. These jets should be carefully drilled to the size desired. Generally the percentage of mixture ratio change is obtained by an equal percentage change in main jet area (sq. in.).

The high speed bleed can also be used to optimize a calibration, but it has the opposite effect of the main metering jet. That is - the larger you drill the high speed bleed restrictor the leaner the mixture ratio. These restrictors press into the main well tube retainer and extra restrictors are included with your Inline carburetor.

The main well emulsion tube can also be used to affect calibration, but such experimentation is recommended only for those who have a thorough knowledge of carburetion.

Idle System

The idle system of the Autolite Inline differs from most street carburetors in that it is a "bowl fed" idle system. This means that idle and transfer fuel comes from the fuel bowl rather than from the main well. This offers the benefit of having a responsive main metering system.

The idle system consists of:

1. Idle air bleed
2. Idle jet (lower end of idle tube)
3. Idle channel restriction (used on some models)
4. Idle transfer slot
5. Curb idle discharge port
6. Idle mixture adjusting needle

This system controls the part throttle air/fuel ratio of the carburetor, and is useful for controlling the air/fuel mixture at high rpm, free engine conditions such as drag race starts.

The idle air bleed, which is an Autolite carburetor main metering jet, is an excellent tool for idle system calibration. It is removable from the top of the carburetor and can be quickly changed. The larger the idle air bleed is the leaner the idle system mixture ratios, and the smaller the idle air bleed is the richer the mixture ratios.

The idle jet restriction could also be used to calibrate the idle system, in a manner similar to the main metering jet, but it is a drilled restriction and should only be used on a last resort basis. If it is necessary to change idle jet size, use .002" increments until a mixture ratio is obtained which can be fine tuned with the idle air bleed.

Idle System (continued)

An idle channel restrictor is used on some models of the Autolite Inline. It can be drilled out in .005" increments for richer mixtures until a mixture is determined which can be fine tuned with the idle air bleed.

Accelerator Pump System

The Autolite Inline carburetor has one complete accelerator pump system for each carburetor bore. This gives a total of 125 cc (per 10 strokes) if needed. It should be remembered that too much pump can be as big a problem as not enough pump.

The accelerator pump system consists of the following parts from Autolite two barrel carburetors:

1. Diaphragm assembly
2. Diaphragm return spring
3. Inlet check valve
4. Pump cover
5. Outlet check ball

The remainder of the parts are:

1. Drive lever
2. Overtravel/drive spring
3. Actuating arm
4. Shooter

Accelerator Pump System (continued)

Determining the proper accelerator pump capacity isn't a trivial task, and an effective method of determining if the pump is part of a particular problem is to disconnect it and note the effects. The accelerator pump can be calibrated by changing the amount of fuel delivered (capacity), and the delivery time. The capacity can be quickly changed by selecting one of the three pump shot capacity holes. The delivery time can be quickened by increasing pump shooter size and slowed by decreasing pump shooter size. Pump shooters should be drilled out in .002" increments until the optimum is reached. Extra pump shooters (restrictors) are included if it is necessary to replace them.

Fuel Inlet System

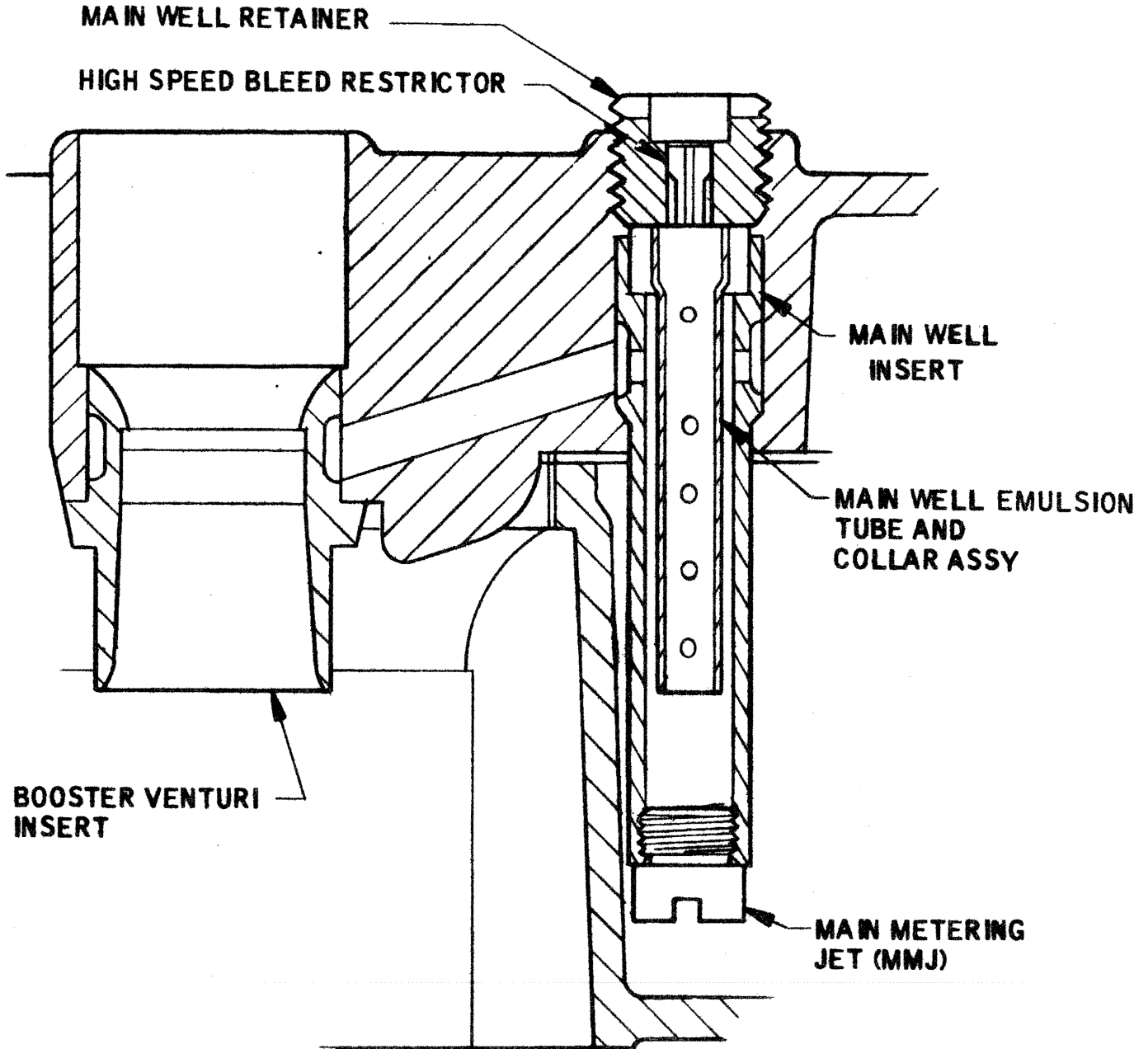
The Autolite Inline Carburetor has one fuel inlet system for each two bores. All of the parts except the float hinge pin are from the Autolite two-barrel carburetor.

The only specification in the fuel inlet system which may require adjustment is the float setting. The float setting is measured from the top of the float to the top of the casting at the accelerator pump discharge channels. This adjustment is made by bending the float arm.

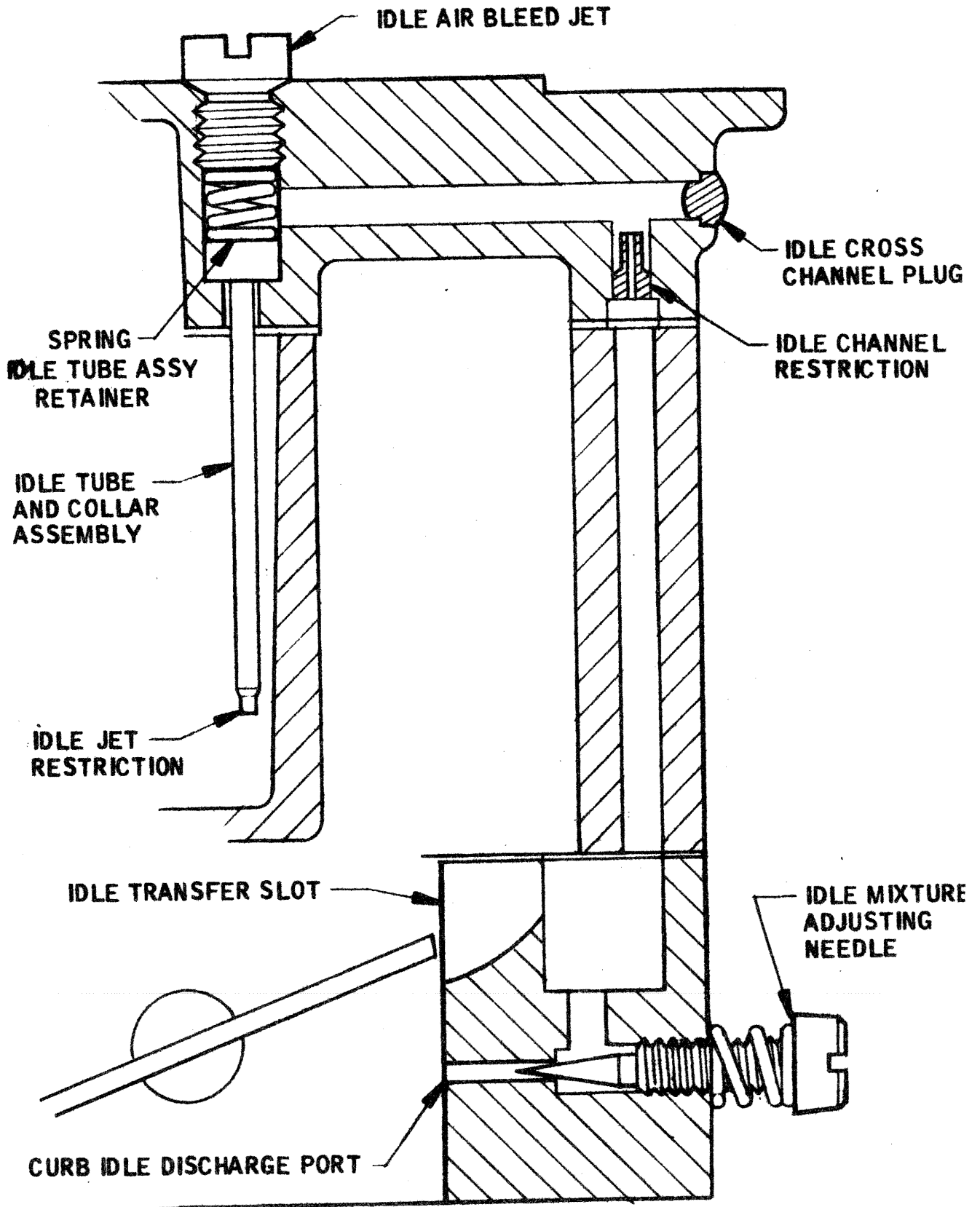
TECHNICAL INFORMATION

For additional information on how to analyze and improve the performance of your engine, the Manual "High-Performance Engines" (number AUD 75-28-HP-1) is available from your local Ford dealer. This manual explains the fundamentals and operating principles of engines and should be extremely helpful in optimizing your Autolite Inline carburetor.

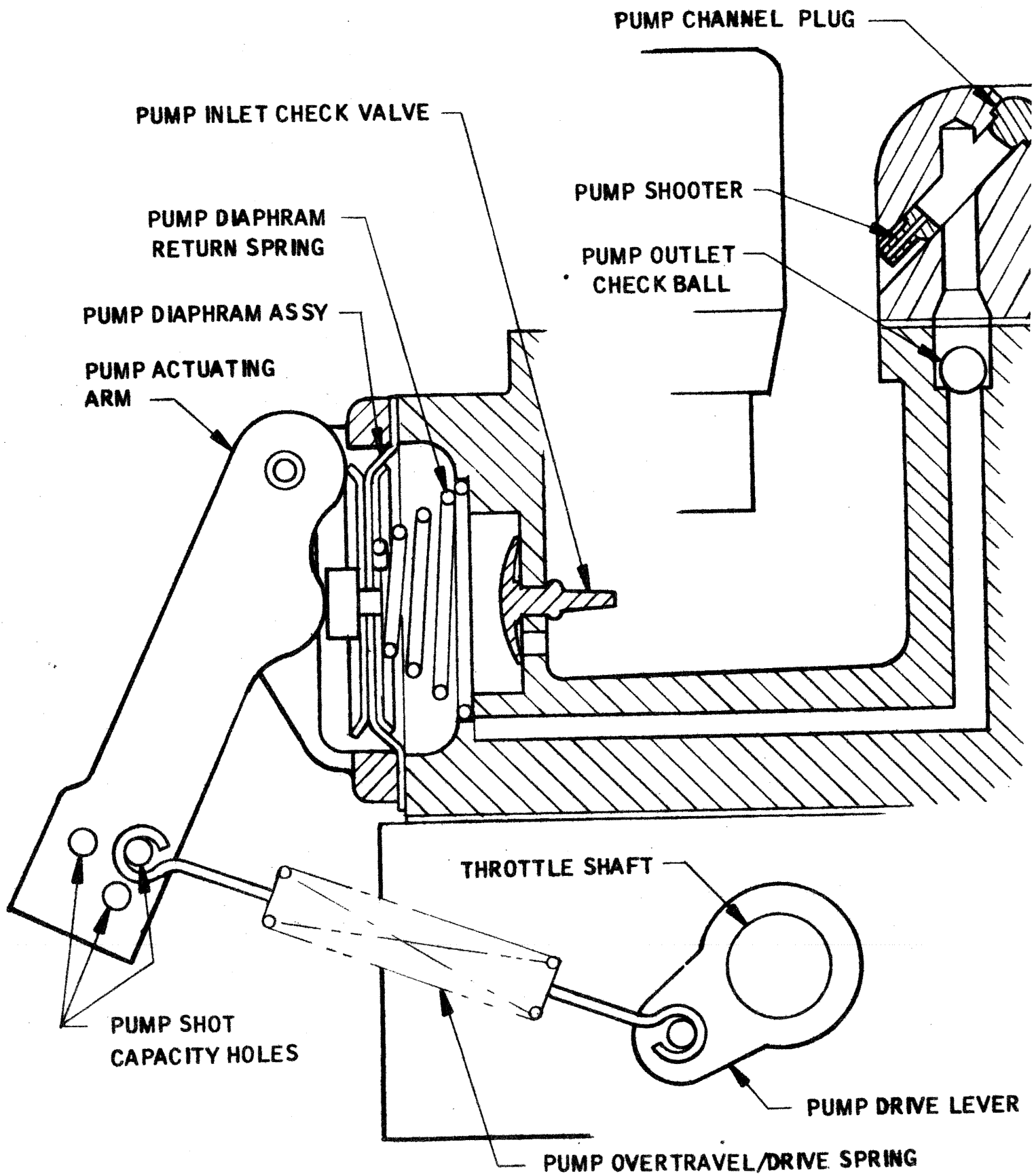
MAIN METERING SYSTEM



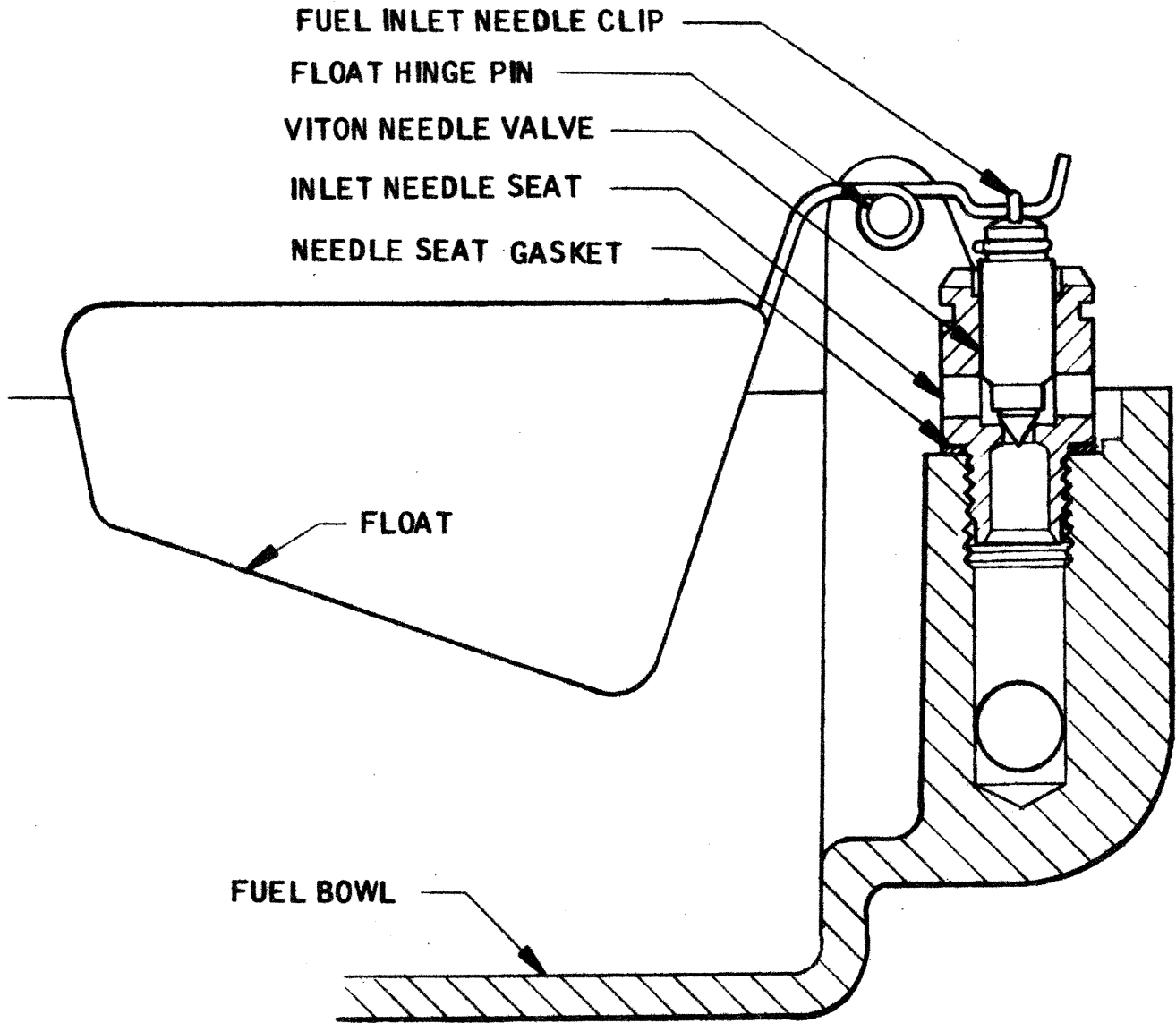
IDLE SYSTEM



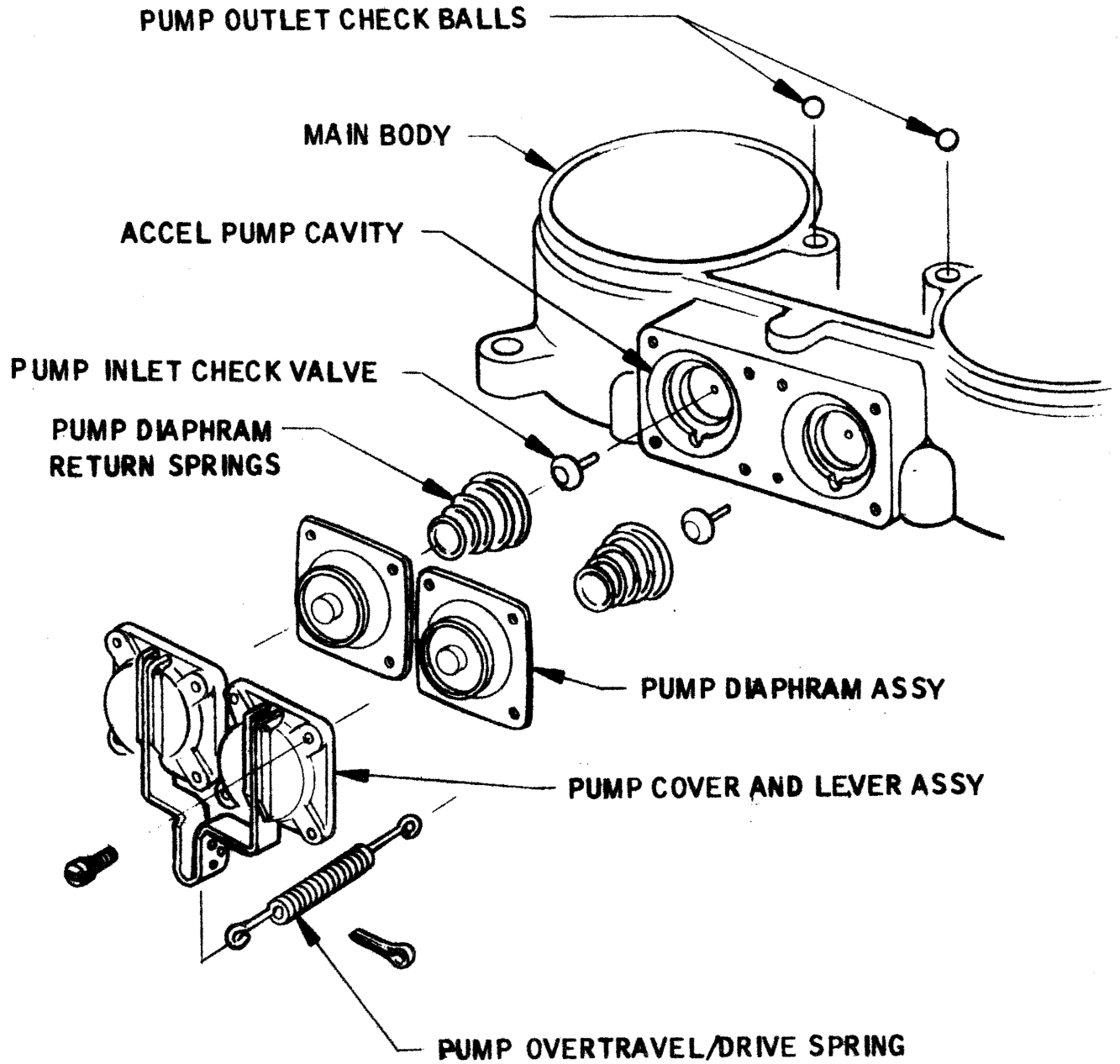
ACCELERATOR PUMP SYSTEM



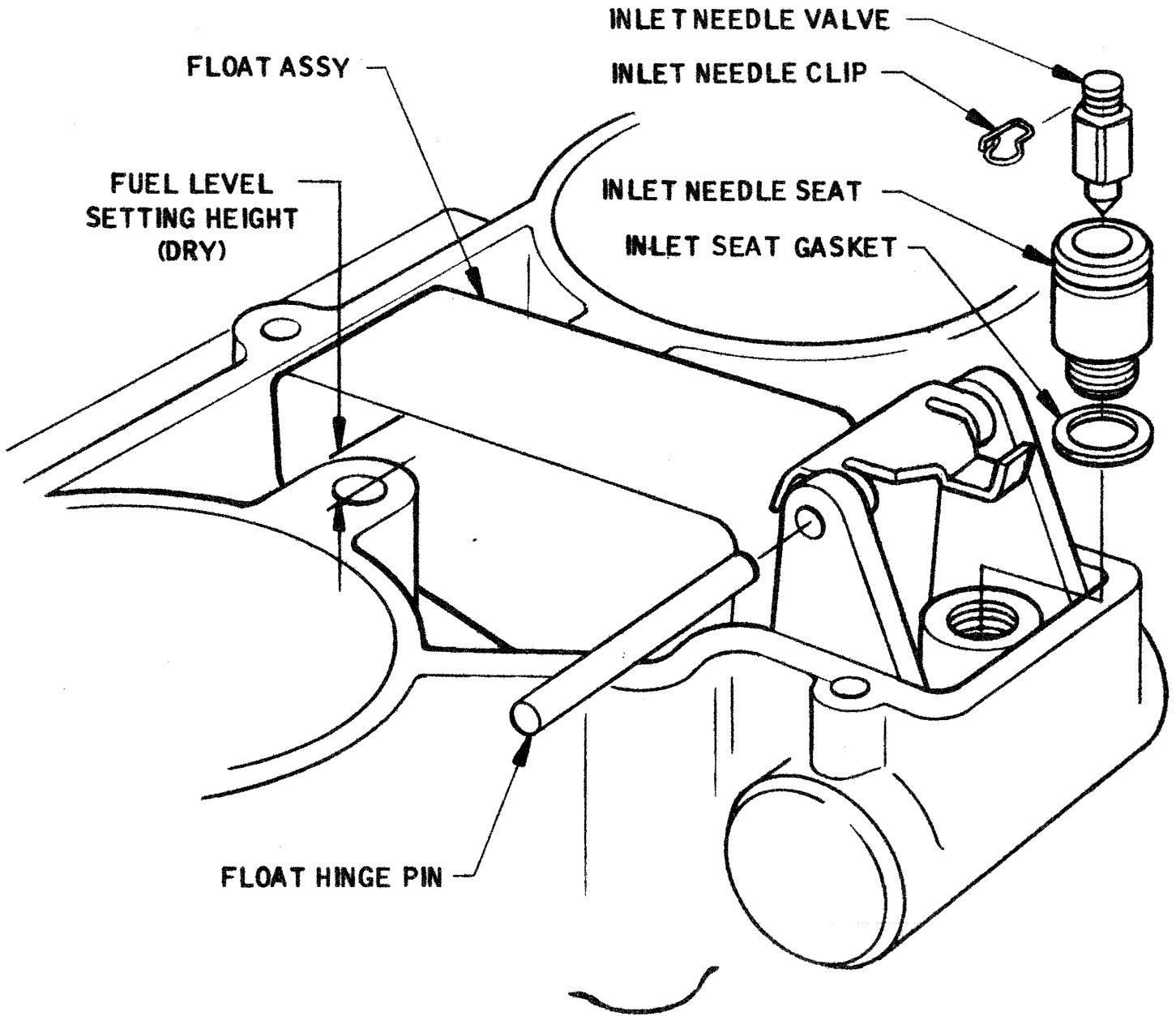
FUEL INLET SYSTEM



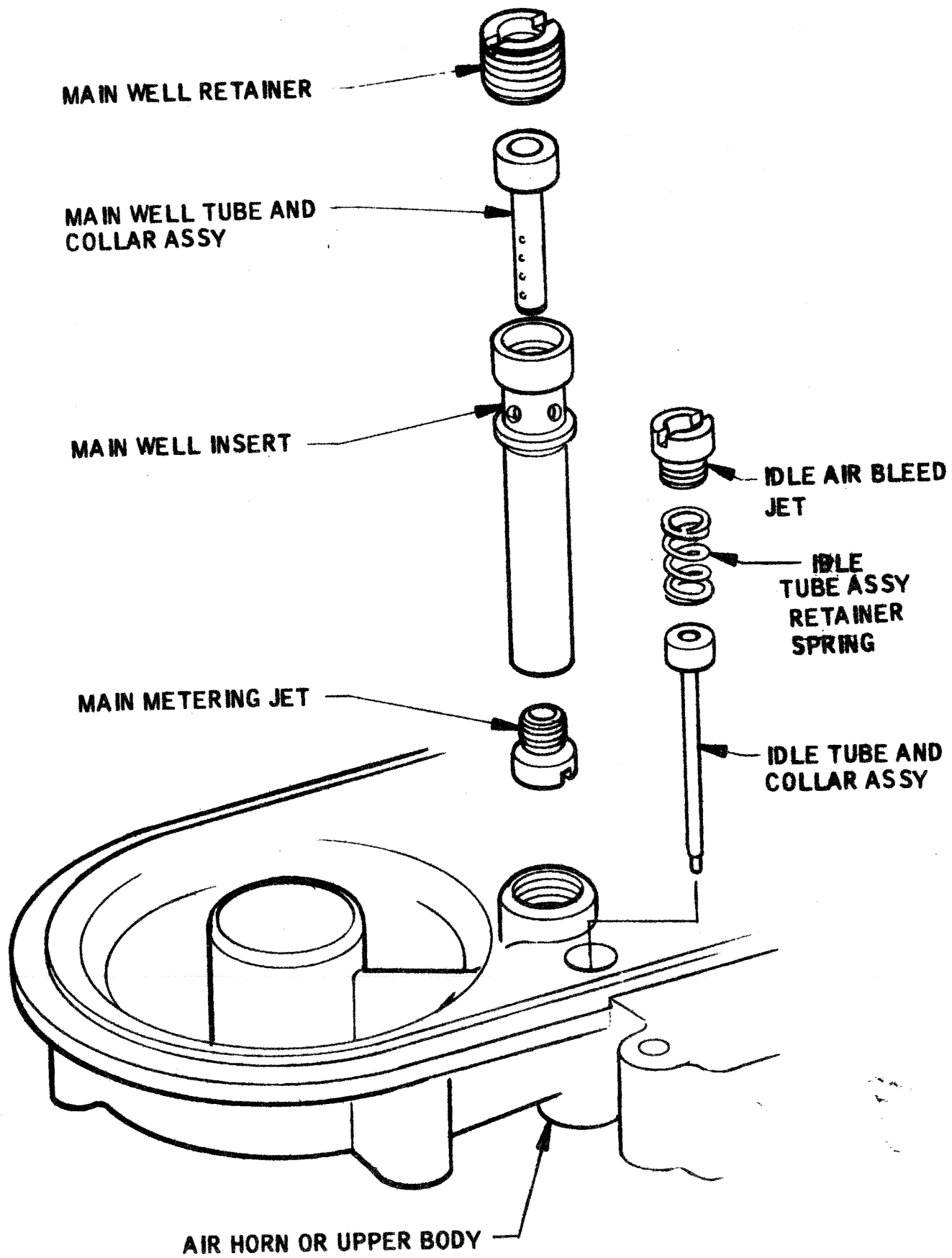
ACCELERATOR PUMP ASSEMBLY



FUEL INLET NEEDLE & SEAT ASSEMBLY



MAIN METERING SYSTEM AND IDLE SYSTEM
ASSEMBLIES



AUTOLITE INLINE CARBURETOR

SPECIFICATION SHEET

BASIC SPECIFICATIONS

Bore Dia
 Venturi Dia
 Air Flow Capacity - Dry @ 1.5 in. Hg.
 Air Box Idle Vacuum
 Air Box WOT Vacuum
 Idle Air Flow Setting (Prod. Test)
 Idle F/A Setting (Prod. Test)
 Initial Screw Position (Ref.)

DOZX 9510-A

1 11/16 In.
1.6 In.
875 CFM
19 in. Hg.
1.5 in. Hg.
40 CFM
.090 F/A
1 1/2 Turns Out

DOZX 9510-B

2 1/4 In.
1.8 In.
1425 CFM
19 in. Hg.
1.5 in. Hg.
40 CFM
.090 F/A
1 1/2 Turns Out

FUEL INLET SYSTEM:

Fuel Pressure
 Inlet Needle
 Inlet Seat Dia
 Fuel Level Setting - Dry
 - Wet @ 6.0 psi

6.0 psi
Viton
.097 In.
1/4 in.
1/8 in.

6.0 psi
Viton
.097 In.
1/4 in.
1/8 in.

IDLE SYSTEM:

Idle Jet - In Tube
 Idle Air Bleed - Jet
 Idle Channel Rest - Upper Body (if used)
 Idle Discharge Hole - In T'Body
 Idle Discharge Port - Slot (width x length @ bore)

.031 In.
40F
.046 In.
.086 In.
.032 in. x
.320 in.

.031 In.
63F
none In.
.086 In.
.032 in. x
.250 in.

MAIN SYSTEM:

Main Metering Jet Dia
 Well Emulsion Tube
 High Speed Bleed Dia - In Main Well Retainer
 Bowl Vent Hole Dia

.106 In.
C9AF-A
.031 In.
3/16 In.

.093 In.
C9AF-A
.055 In.
3/16 In.

PUMP SYSTEM:

Accel. Pump Shooter Dia
 Accel. Pump Spring Position
 Accel. Pump Capacity
 Accel Pump Bleed

.035 In.
Mid Hole
70-90 cc/10
 strokes
.013 In.

.028 In.
Mid Hole
70-90 cc/10
 strokes
.013 In.

