

# EMPI-D 2-BARREL PERFORMANCE CARBURETORS

*An esthetically beautiful Carburetor! High pressure aluminum die cast manufacturing process insures excellent dimensional accuracy and smooth surfaces.*

*Idle Jets on the TOP of the Carburetor for easy access with Extended Idle Jet Holders to help prevent clogged Idle Jets and increased mid-range performance.*

*Extended Float Bowl Vent helps prevent sloshing and keeps dirt from entering the carburetor.*

*Large Float Bowl for extended runs at full throttle.*

*5-6 Progression Ports that allow for extremely smooth acceleration and drivability.*

*Brass Port Ball designed with a special punch head and special installation tooling that 'sets' the ball - assuring that it cannot more or allow fuel leakage/drip.*

*Decompression Valve - eliminates drips caused by pent-up pressure.*

*No Enrichment / Choke Circuit - no additional moving parts to worry about.*

*Large Fuel Inlet (Banjo) w/ Special Sealing Washers.*

*Brass Hex-Head Mixture Screws.*

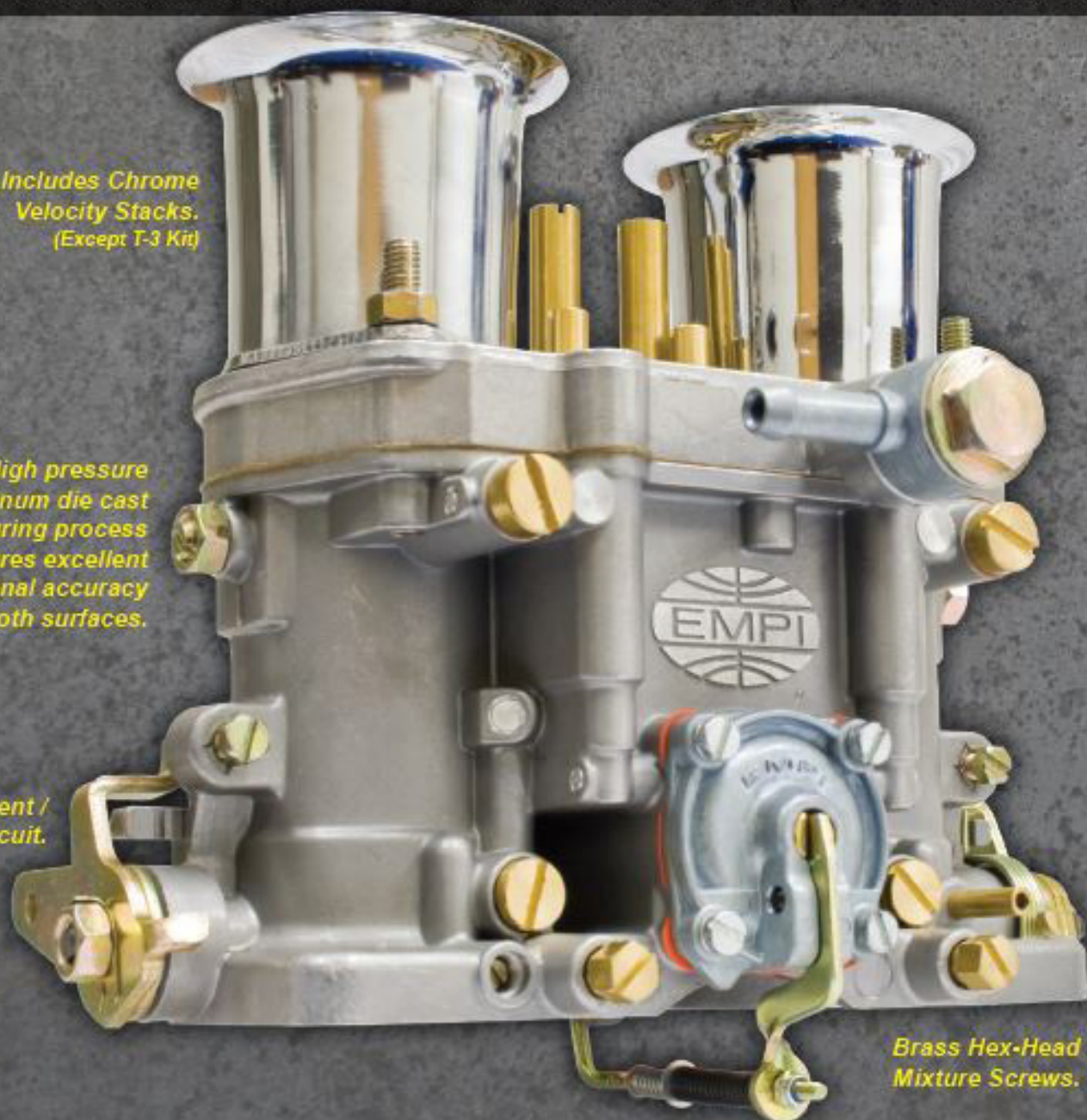
*And supported by a complete selection of Calibration Components, Rebuild Kits, Gaskets and Spare Parts.*

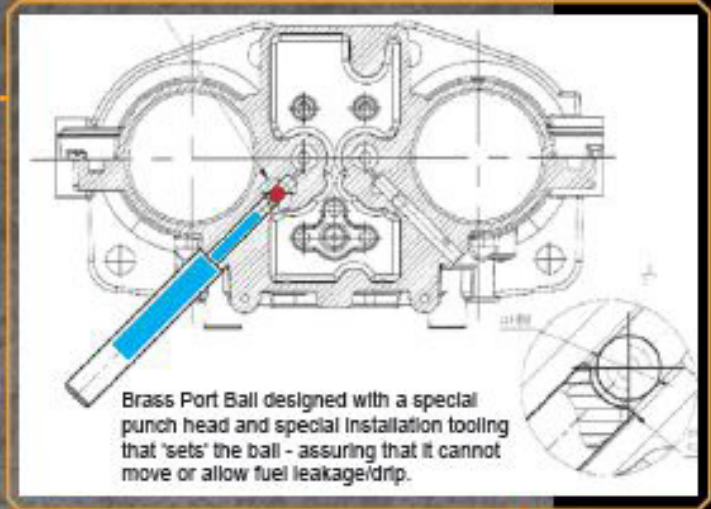
*Includes Chrome  
Velocity Stacks.  
(Except T-3 Kit)*

*High pressure  
aluminum die cast  
manufacturing process  
insures excellent  
dimensional accuracy  
and smooth surfaces.*

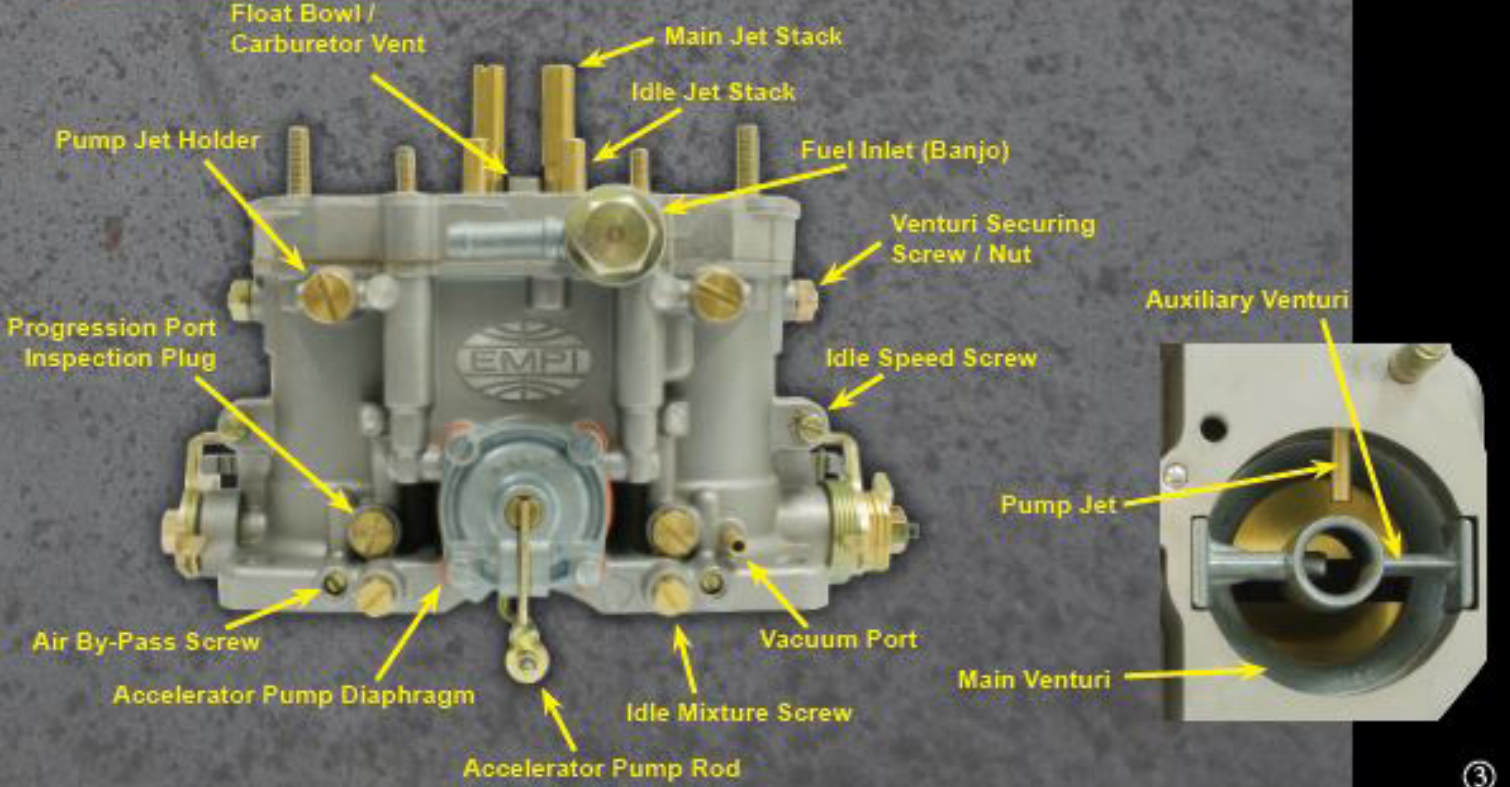
*No Enrichment /  
Choke Circuit.*

*Brass Hex-Head  
Mixture Screws.*





*While the EMPI D Carburetor looks like it should adjust and function like the HPMX (or IDF) Series carburetors, it does not. Do not attempt to adjust or jet the EMPI D carburetor like an HPMX or IDF.*



# EMPI D Carburetor Initial Setting & Adjustment

## 1. Idle Speed Screw



Locking nylon threads to help ensure that the idle screw does not back out from vibration over time.

Heavy duty spring for reliable return action



## 2. Idle Mixture Screw



Made with precision, the idle mixture screws are made specifically for the EMPI D carburetor.

Adjustments for the EMPI D carburetor are nothing like the HPMX OR IDF carburetors.

For further information on how to adjust the EMPI D carburetors please refer to the supplemental page of How to Adjust Dual EMPI D Carburetors.

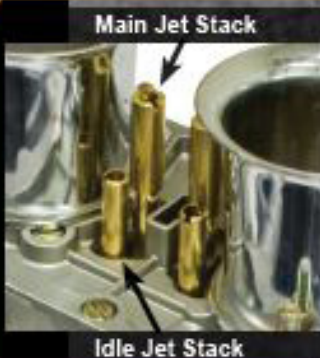
## 3. Vacuum Port



A Vacuum Port is available for Distributor vacuum if required. If you do not intend to use this port(s), be certain to install the vinyl Vacuum Plug(s) provided with your Kit.



## 4. Jet Stacks



Main Jet Stack

Idle Jet Stack

EMPI D Carburetor Kits come Factory Jetted to bolt on and run most Stock and Mildly Modified engines. Re-jetting is made easy with both Main and Idle Jet Stacks located at the top of the carburetor. A complete selection is available at your EMPI Dealer.



NOTE: Dirty and/or plugged Idle and Main Jets will lead to poor performance. If one or more cylinders are not firing properly – this is the first place to inspect and clean.

# EMPI D Carburetor Initial Setting & Adjustment

## 5. Fuel Inlet Fitting & Filter (Banjo-Style)

EMPI D Carburetors feature a Banjo-Style Fuel Inlet with Bolt, Fuel Filter and special Sealing Washers. To adjust the direction of the Fuel Inlet, loosen the Bolt, turn the Fuel Inlet to the desired direction then tighten the Bolt. Remove the bolt, washers and Filter for easy inspection, cleaning or Filter replacement. Filters and Sealing Washers are available at your EMPI Dealer. Always inspect for leaks or drips before running the engine. Note: Inner and Outer Sealing Washers have different Inside Diameters.



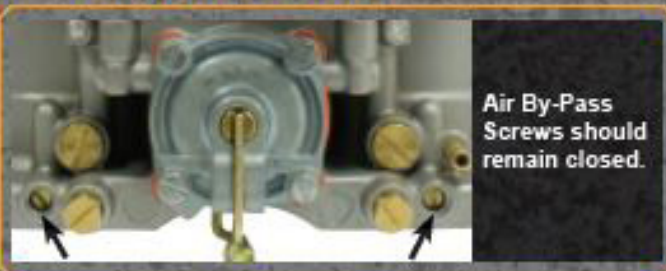
## 6. Progression Ports



EMPI D Carburetors feature a series of Progression Ports that allow for extremely smooth acceleration and drivability. 40mm & 45mm Carburetors feature 5 Progression Ports - 36mm Carburetor features 6 Progression Ports. Inspection Covers may be removed for cleaning.



## 7. Air By-Pass Screws



## 8. Accelerator Pump Rod



## 9. Pump Jet

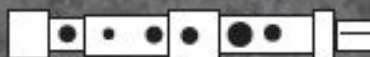


Off Idle performance can be refined or improved, if necessary, by changing the Pump Jets. There are two (2) per carburetor - one for each barrel and are easily located and removed from the side of the carburetor. Note: They install with the 'Flat' pointing UP - thereby the Jet pointing DOWN into the barrel. When changing the Jet, be certain to re-install the spring in the Jet Holder and O Ring on the Jet.

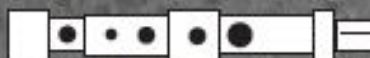
# EMPI D Carburetor Initial Setting & Adjustment

## 10. Emulsion Tubes

The #2 Emulsion Tubes supplied with all EMPI D Carburetors provide the best balance of low, mid-range and top end performance. Different size Emulsion Tubes are available for your specific calibration requirements.



#1  
Rich Low Speed  
Lean at Full Throttle



#2  
Lean Low Speed  
Rich at Full Throttle

## 11. Float Setting



Tang resting on Needle Ball



5-6mm with the carburetor top surface.

Tang resting on the Needle Ball – but NOT depressing it.

Float Setting is critical for proper fuel delivery. While the Floats have been set at the Factory, bouncing around in the back of a series of delivery trucks can often alter the adjustment. It is always best to check. While there, check and clean the float bowl for any debris. Remove the Carburetor Top carefully – the gasket is reusable if not torn during dis-assembly. Start by taking the top of the carb off, exposing the float. With the top upside-down, measure the distance between the float closest to the pivot point and the top. It should be around 5-6mm gap.

## 12. Factory Jetting

THE CARBURETORS ARE CALIBRATED/JETTED FROM THE FACTORY PER THE FOLLOWING:

Part # Carburetor Only	Carburetor Only	Idle Jet	Main Jet	Air Corrector	Inlet Valve	Pump Jet	Emulsion Tube	Venturis
44-1036-0	EMPI D 38mm - Dual	60	122	180	1.50	50	2	30mm
44-1040-0	EMPI D 40mm - Dual	60	140	180	1.50	35	2	34mm
44-1040-2	EMPI D 40mm – Single*	65	162	170	1.50	55	2	30mm
44-1045-0	EMPI D 45mm - Dual	70	162	200	1.50	55	2	38mm
44-1045-2	EMPI D 45mm – Single*	70	162	160	1.50	60	2	32mm

\*Single Carburetors feature a 2mm port in each butterfly to improve idle performance.

## 13. Trouble Shooting

Performance Carburetors can only perform as well as the engine allows. Be certain to inspect, clean, adjust or replace critical engine components... Spark plugs, spark plug wires, distributor points & condenser or electronic trigger, fuel pump and fuel filter(s). Adjust Valves, check Ignition Timing & Compression and correct any exhaust leaks.

When you have completed installation, first check for fuel leaks or drips. The two most common installation errors are vacuum leaks and too much fuel pressure. Won't idle/poor idle or backfire upon deceleration are the most common symptoms a vacuum leak. Double check all the sealing surfaces, re-tighten all your hardware and make certain that your Fuel Pressure Regulator is set at no more than 3lbs and that vacuum caps are in place or check the vacuum line(s) to distributor and/or brakes.

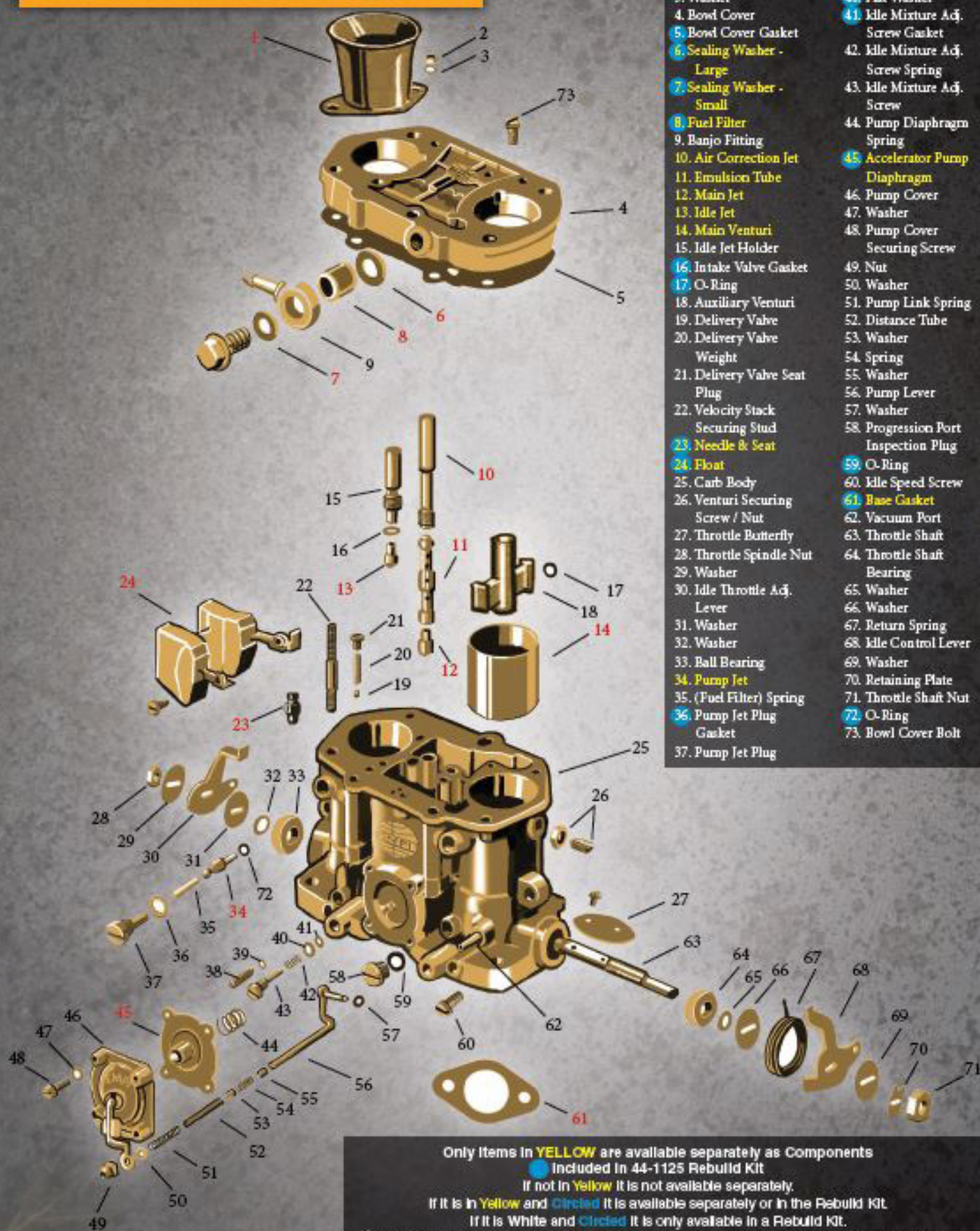
- Black smoke and the smell of raw fuel are the most common symptoms of excessive fuel pressure or improper Float setting.
- Rich condition is also caused if instructions for setting Mixture Screws first – then Idle Speed were not followed.
- Often a poor Idle, popping or 'dead' cylinder situation can be traced to a clogged Idle Jet.
- Will Not Idle condition is usually caused by a vacuum leak. Check seal at cylinder head, carburetor and vacuum port.
- Flooding - Check the needle and seat for dirt and check the float level. Adjust as needed. The float should be 5-6mm from the base of the top to the lowest point of the float, closest to the pivot point. Check the fuel psi. It should be no more than 3 psi.

## 14. Jetting/Calibration

Engine size & component choices, exhaust systems, temperature, humidity, elevation – all make it impossible to determine the correct jet sizes for every application. The EMPI D Carburetors are designed to run and function well right out of the box...but to perform at their best some refinement for your specific engine may be required. Once your carburetors are adjusted and synchronized correctly, look and listen for...

- A Rich Condition – Black smoke from the exhaust, fouled spark plugs, pinging, knocking when the engine is shut off, hunting or loss of power thru higher RPMs. Reduce the size of the Idle and/or Main Jets. A Rich Condition causes poor performance and excess fuel consumption.
- A Lean Condition – Engine temperature increases, popping back thru the carburetor or out the exhaust, detonation, surging, poor acceleration and white colored spark plug electrodes. Increase the size of the Idle and/or Main Jets. A very Lean Condition causes HEAT and can cause significant damage and/or possible engine failure. Do not continue to run an engine in an extreme Lean Condition.
- Remember - up to about 2,500RPM the engine is running on the Low Speed (Idle) Circuit – not the Main Jets.

# EMPI D CARBURETOR



- |                                  |                                      |
|----------------------------------|--------------------------------------|
| 1. Velocity Stack                | 38. By-pass Screw                    |
| 2. Velocity Stack                | 39. Idle Mixture Adj. Screw Gasket   |
| 3. Washer                        | 40. Flat Washer                      |
| 4. Bowl Cover                    | 41. Idle Mixture Adj. Screw Gasket   |
| 5. Bowl Cover Gasket             | 42. Idle Mixture Adj. Screw Spring   |
| 6. Sealing Washer - Large        | 43. Idle Mixture Adj. Screw          |
| 7. Sealing Washer - Small        | 44. Pump Diaphragm Spring            |
| 8. Fuel Filter                   | 45. Accelerator Pump Diaphragm       |
| 9. Banjo Fitting                 | 46. Pump Cover                       |
| 10. Air Correction Jet           | 47. Washer                           |
| 11. Emulsion Tube                | 48. Pump Cover Securing Screw        |
| 12. Main Jet                     | 49. Nut                              |
| 13. Idle Jet                     | 50. Washer                           |
| 14. Main Venturi                 | 51. Pump Link Spring                 |
| 15. Idle Jet Holder              | 52. Distance Tube                    |
| 16. Intake Valve Gasket          | 53. Washer                           |
| 17. O-Ring                       | 54. Spring                           |
| 18. Auxiliary Venturi            | 55. Washer                           |
| 19. Delivery Valve               | 56. Pump Lever                       |
| 20. Delivery Valve Weight        | 57. Washer                           |
| 21. Delivery Valve Seat Plug     | 58. Progression Port Inspection Plug |
| 22. Velocity Stack Securing Stud | 59. O-Ring                           |
| 23. Needle & Seat                | 60. Idle Speed Screw                 |
| 24. Float                        | 61. Base Gasket                      |
| 25. Carb Body                    | 62. Vacuum Port                      |
| 26. Venturi Securing Screw / Nut | 63. Throttle Shaft                   |
| 27. Throttle Butterfly           | 64. Throttle Shaft Bearing           |
| 28. Throttle Spindle Nut         | 65. Washer                           |
| 29. Washer                       | 66. Washer                           |
| 30. Idle Throttle Adj. Lever     | 67. Return Spring                    |
| 31. Washer                       | 68. Idle Control Lever               |
| 32. Washer                       | 69. Washer                           |
| 33. Ball Bearing                 | 70. Retaining Plate                  |
| 34. Pump Jet                     | 71. Throttle Shaft Nut               |
| 35. (Fuel Filter) Spring         | 72. O-Ring                           |
| 36. Pump Jet Plug Gasket         | 73. Bowl Cover Bolt                  |
| 37. Pump Jet Plug                |                                      |

Only items in **YELLOW** are available separately as Components  
 Included in 44-1125 Rebuild Kit  
 If not in **Yellow** it is not available separately.  
 If it is in **Yellow** and **Circled** it is available separately or in the Rebuild Kit.  
 If it is **White** and **Circled** it is only available in a Rebuild Kit.  
 All other items are for Reference ONLY and are not available separately or in any Rebuild Kit.