



Ole Blue really delivers! Zero to 60 in less than 9 seconds.

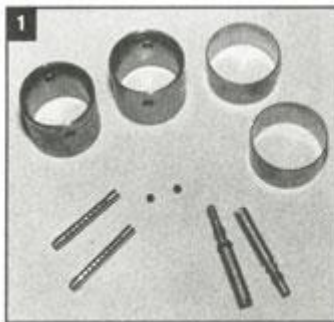
# Dellorto DRLA Update

## C.B. PERFORMANCE TAKES THE CARBURETOR TO ANOTHER LEVEL

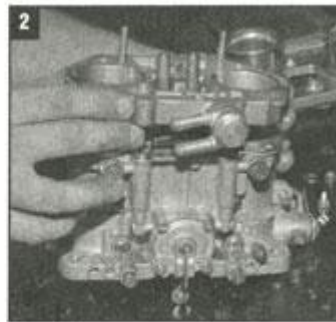
Staff Report

**D**ual-throat down-draft carburetors, such as the Solex 40 PII, Zenith NDIX and various Weber models, have been used to fuel flat four Porsche and VW engines since the early '60s. Even today, many years after the cease in production of many early carburetor models, engine tuners continue to argue the merits of each design and variant.

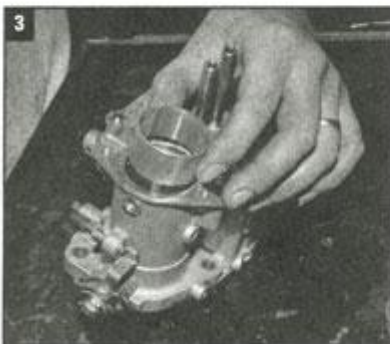
In today's high performance VW marketplace, Weber IDF and Dellorto DRLA carburetors are the two most popular dual throat models in use. The bad news is that we are informed that neither Dellorto nor Weber is presently engaged in an IDF or DRLA update or modification program as a works effort. The reason is simply that the economic importance of carburetor production has been overshadowed by the increasing demands of electronic fuel injection.



1. C.B.'s Dellorto Update Kit with parts to beef up one DRLA carburetor. The new system uses horizontal delivery tubes and top entry idle air jets. It provides increased power through improved emulsification and just about eliminates plugged idle jets.



2. For an improved visual perspective, Scott has removed the dual carbs from C.B.'s '71 VW delivery van. The update program begins by removing the tops of the carburetors. Just remove the nuts holding the velocity stacks in position. The air cleaner base and stacks can then be set aside. Carefully lift the carburetor tops away from the main body. Place the carburetor top on soft surface with float up, to prevent damage to the float and hinges.



3. Each secondary venturi is held in position by a slotted 6mm screw and lock nut. Remove the slotted screw and slide the secondary and primary venturis straight up, out of the carburetor bore. Venturis that have been in service for a length of time might require a slight amount of coaxing to loosen them. A soft, blunt punch and mallet can be used to tap the venturis upwards. Once loosened they should slide out the top of the throttle body.



4. Your up-to-date kit includes four lead plugs. They look like fishing sinkers but are actually used to plug those troublesome idle air holes on top of the carburetor. Use a blunt punch and ballpeen hammer to plug the brass air inlet holes.

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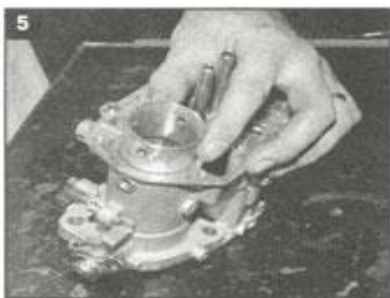
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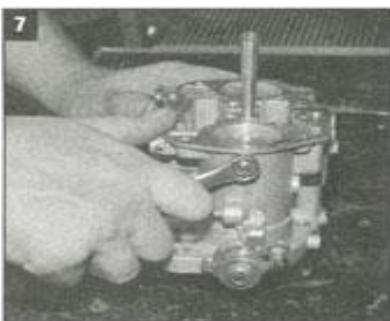
Dellorto DRLA Updates



5. Drop in new barrel sleeves and secondary venturis. Line up the accelerator pump jet holes and the holes for the horizontal discharge tubes.

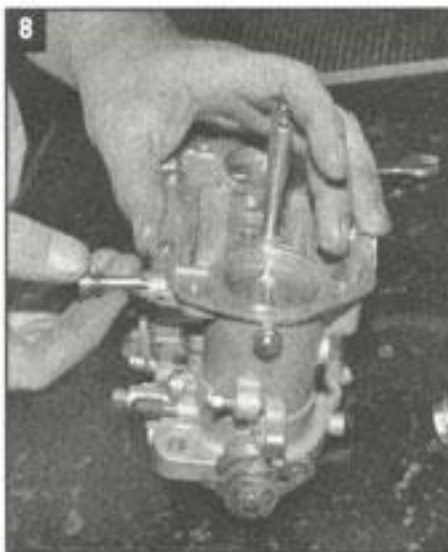


6. Insert the discharge tubes with the spray holes positioned on the lower side.

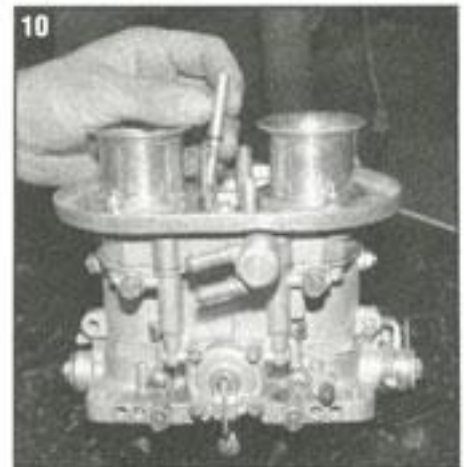


7. Screw 6mm venturi securing screws into the carburetor body and tighten firmly. Install and lock the securing nuts.

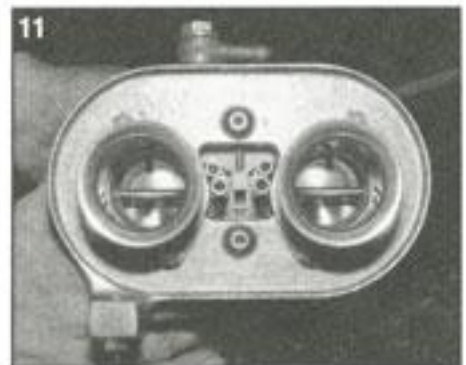
12. Tuning a set of modified DRLA Dellortos is no different when dialing most dual carburetors. A unisync gage match the air flow through each carburetor and adjust the speed control screws. The mixture can then be adjusted, one at a time. Engine builders will find changes are not as critical when running horizontal tubes.



8. Slip the accelerator pump holders and jets into position and tighten them with a flat blade screwdriver. This is a good time to check the condition of the float bowl gasket. If it needs repairing, now is the time.



10. Replace the air cleaner base and velocity stacks. Screw in the new, taller idle air jets that have been supplied in the update kit. Air will now be pulled from the top of the jet, not from the surface of the carburetor top. This will greatly lessen the chances of plugged idle jets.



11. The horizontal discharge tubes provide increased air flow and improved air/fuel emulsification when used on port ram intake systems. The taller, top inlet idle air jets help eliminate plugged idle jets because most of the dirt and road grime that finds its way into the system is pulled into the idle jets from the top surface of the carburetor.

8. Re-install the carburetor top. If the top gasket has been replaced, the float level should be checked prior to setting the carburetor top back in position.

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## Page 2

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8. Slip the accelerator pump holders and jets into position and tighten them with a flat blade screwdriver. This is a good time to check the condition of the float bowl gasket. If it needs repairing, now is the time.
9. Re-intall the carburetor top. If the top gasket has been replaced, the float level should be checked prior to setting the carburetor top back in position.
10. Replace the air cleaner base and velocity stacks. Screw in the new, taller idle air jets that have been supplied in the update kit. Air will now be pulled from the top of the jet, not from the surface of the carburetor top. This will greatly lesson the chances of plugged idle jets.
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12. Tuning a set of modified DRLA Dellortos is no different than when dialing most dual carburetors. A unisync gauge is used to match the air flow through each carburetor and and adjustments are made to the speed control screws. The mixture control screws are then adjusted, one at a time. Engine builders will find that main jet changes are not as critical when running horizontal discharge tubes.
13. Scott installs the updated 40DRLA carburetors on "Ole Blue" CB's VW Van sees the dual purpose of rolling test bed and delivery truck, the air filters and crankcase vent tube will be fitted after the carburetors and linkage are put into sync.
14. Gene Bueno plots the emulsion path within the perimeters of a conventional secondary venturi.



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14. Gene Bueno plots the emulsion path within the perimeters of a conventional secondary venturi.

The good news is that a California company, C.B. Performance, has a vested interest in carburetors and their continual development. As part of their continual R/D program, C.B. has just released a powerful, new update for Dellorto DRLA carburetor. Several tests have shown up to 20 per-

cent more mid-range torque when this new system is installed in existing carburetors. In addition, top end performance was bumped up the scale. Actual horsepower figures vary from engine to engine, but dyno tests confirm that the new system adds about 10 percent more power in the upper RPM ranges. Even more interesting is that you can perform the necessary transformation with the carbs bolted on the engine. No magic, smoke or mirrors, just good old fashioned "bolt-on performance" in the truest form.

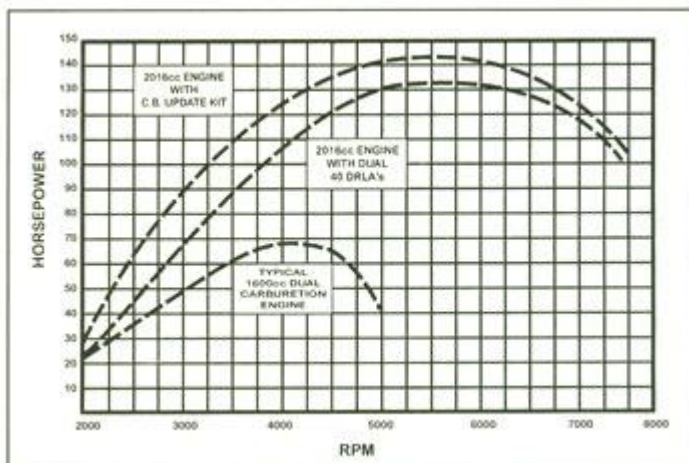
Right up front, before we get into a shouting match, this is not new technology. Bob Tomlinson of C.B. Performance tells us that similar emulsion systems date back to early aviation

history. How far back? Try the year 1922 and the Stromberg NA-L carburetor. A little late for the Red Baron, but just in time for the powerful Liberty V-12 engines where two dual-throat Zenith NA-Ls provided the mixture to churn out 400 horsepower at 1,700 RPM.

Note the illustration (page 26) of the Zenith NA-L and you'll see a horizontal main discharge tube. Several small holes are drilled in the low pressure side that allow the emulsified air/fuel mixture to be pulled into the air stream. Even though it appears unconventional, don't argue with it because it works better on most VW engines than the conventional secondary venturis used in Dellorto and

**Tech Box**

- Engine .....Type II
- Displacement .....2016cc
- Builder .....Scott Sebastain/  
C.B. Performance
- Crank .....78mm Forged C.B.  
Counterweight
- Rods .....C.B. Race
- Pistons .....90.5mm Cima
- Rings .....C.B. gapless
- Camshaft .....Eagle 274 duration
- Cylinder Heads .....045 port & polish
- Compression Ratio .....8:1
- Valves .....37 X 42mm Manley S. S.
- Valve Springs .....Dual Hi-Rev
- Retainers .....Chromoly
- Rocker Arms .....C.B. 1.25:1
- Lifters .....C.B. light weight two-piece
- Spark Plugs .....Bosch W8CC
- Ignition .....Magnaspark
- Ignition Wires .....HEI Blues
- Carburetion .....Dual 40 DRLA  
with update
- Clutch .....Mr. Clutch 200mm
- Disc .....Dual Friction
- Exhaust .....1-1/2-inch Thunderbird QP
- Transaxle .....091/Late Bus
- Builder .....Rancho Performance  
Transaxes
- Special Mods .....High speed road  
package, 70 mph cruise speed

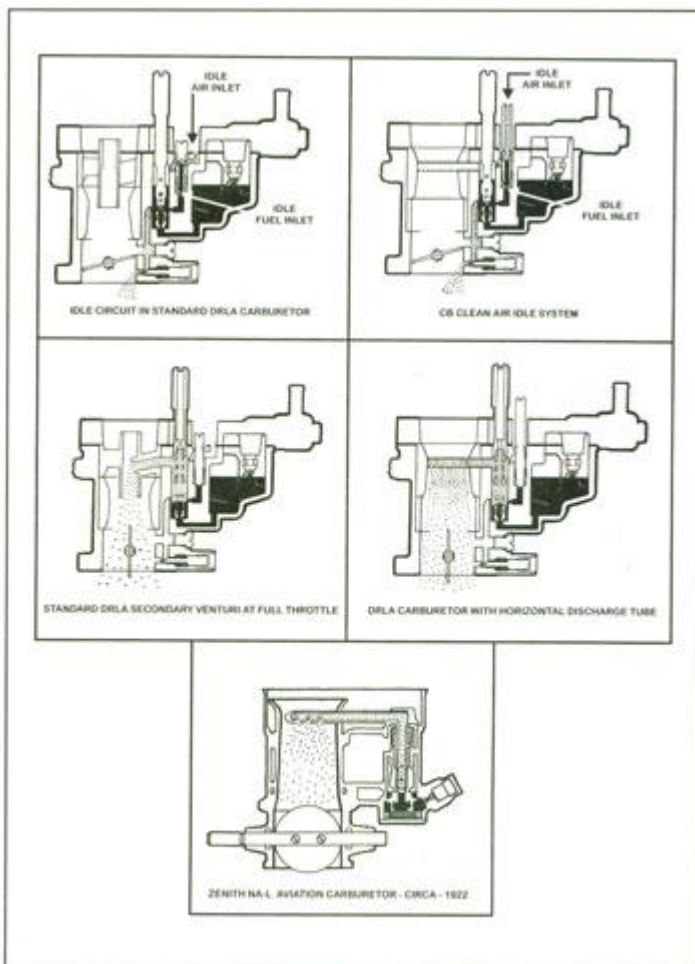


Weber carburetors. And yes, other carburetor manufacturers have used this system. American Zenith aviation carburetors, Italian Webers, Predators from California, and the Fish carburetor from the UK have been equipped with some type of a horizontal discharge tube.

Some carburetors work better than others because they provide an improved mixture of air and fuel. The process of mixing air and fuel is referred to as emulsification. Once the carburetor does its job by thoroughly blending the correct ratio of air and fuel, the next trick is to hold the air/fuel mixture in suspension while it travels to the combustion chamber. If the fuel falls from suspension, due to poor manifold or port design, it forms droplets along the intake passage walls. Droplets of wet fuel then dribble into the intake chambers. The system is said to have wetted walls when this occurs. Droplets of wet fuel don't burn, they are simply swept out the exhaust port and contribute to dangerously high emissions and lost performance.

The emulsification of air and fuel has always been at the top of every carburetor manufacturers priority list. The major problem is that not all engines are the same. What works great on a multi-cylinder plenum application will often not function acceptably on an individual ram-port installation, such as a set of dual carburetors on a flat four engine. Further complicating the problem of supplying the correct air/fuel mixture at various power settings is the wide variety of choices in camshaft timing and valve sizes. One type of carburetor secondary venturi just doesn't fit all uses, and not all carburetors use slide type orifices that enrich the mixture at higher power settings.

Carburetor manufacturers have designed a perplexing array of secondary venturies and other types of secondary emulsification devices. If you read through the original Weber, Zenith, Solex and Dellorto factory manuals you will find extensive calibration recommendations for most European cars and motorcycles. Calibration is in print for rare one-off Lamborghini factory prototypes. However, very few actual works docu-




These studies matched to dyno and emission tests lead to the final development of C.B.'s new DRLA update kit.

mentation exists concerning VW engines, because the combination of two dual-throat carburetors and air-cooled VW engines wasn't in the Italian cook book. Fabricating manifolds and dialing in dual carburetion in air-cooled VW's has for the most part been the domain of California-based engine tuners.

C.B. Performance is one of those companies with a recipe book of they're own. Three different books in fact, covering how to do it on VW's with Weber, Dellorto and Turbos. They manufacture a wide selection of

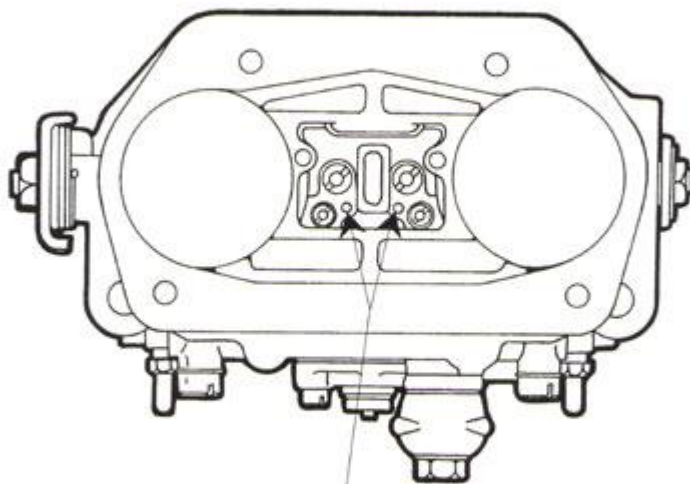
intake systems and have introduced several new important innovations in VW carburetion.

Scott Sebastian of C.B. tells us that a horizontal discharge tube emulsification system happens to be the ticket for use in most downdraft, ram-port VW installations. In addition to demonstrating how to pump more power from your Dellortos, Scott also will present a new conversion trick that will just about wipe out the problem of plugged idle jets. Follow the illustrations as Scott shifts a set of dual Dells into warp 9 overdrive. 

***Due to increased air flow after installation of this kit we suggest you run a smaller Air Correction Jet than stock.***

***We have supplied the most common sizes of air correction and main jets needed for this conversion in your kit.***

***After installation we suggest you take a spark plug reading to be sure your jetting is correct. Jet sizes vary with engine displacement, ask your CB Sales Rep. for advice.***



Install the supplied lead plugs in these two holes. Only one plug is necessary for each hole. Secure the plug so that it is flush with the top of the hole.