WEBER DCOE TYPE 2-BARREL

ALFA ROMEO	Weber No.
Giulietta	
Sprint Veloce	40 DCOE 2
Spider Veloce	40 DCOE 2
Sprint Speciale & Zagato	40 DCOE 2
1300 Jr.	
All	40 DCOE 28
Giulia 1600	
Sprint & Spider	40 DCOE 27
Sprint & Spider Veloce	40 DCOE 2
Super	40 DCOE 24
Sprint GT Veloce	40 DCOE 27
Sprint GT & GTC	40 DCOE 4
Sprint GTA	45 DCOE 14
1750	
All	40 DCOE 32

DESCRIPTION

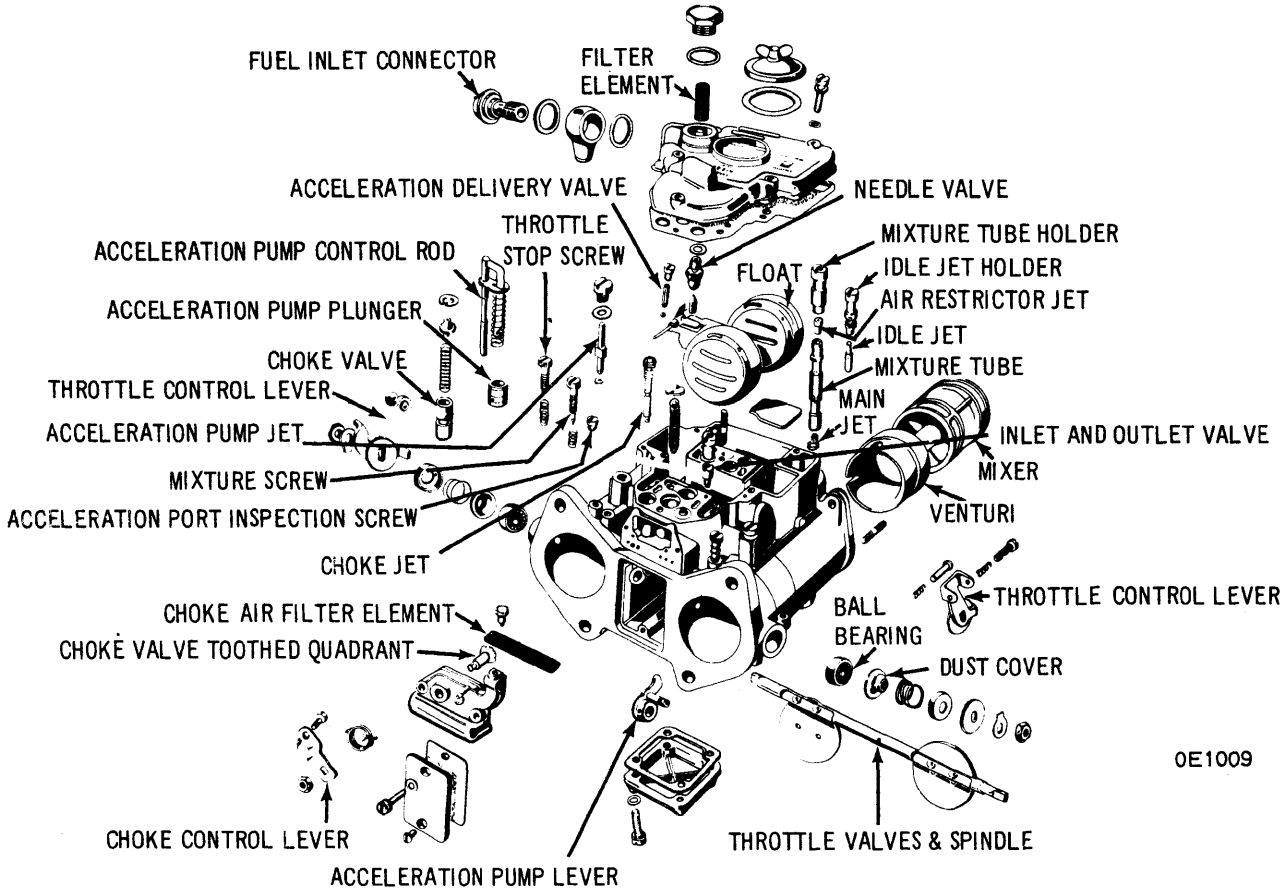
Carburetor is 2-barrel of side draft design. A single float chamber supplies fuel to both mixture chambers. A single acceleration pump supplies temporary enrichment upon low speed sudden throttle opening. A single throttle spindle carries both throttle valves.

OPERATION

Idle Speed System – Each mixing chamber has its own idle system. Fuel is brought from float chamber to idle jet where fuel is emulsified. Fuel flows to port downstream of throttle valve and is drawn into engine. An acceleration port just upstream of throttle valve provides fuel when throttle is opened. This improves the transition from idle speed to main jet system.

Main Jet System – Each mixing chamber has its own main jet system. Fuel from float chamber is brought through main jet and jet tube. Intake vacuum draws fuel through metered bore, and into mixing chamber upstream of throttle valve. An air restrictor in jet tube maintains air ratio at proper level.

Acceleration System – When throttle is suddenly opened the main jet has not yet begun to deliver fuel to mixture chambers. When accelerator pedal is suddenly depressed, an acceleration pump forces fuel into metered bore of acceleration system. A ball valve in metered bore prevents air from entering pump interior during suction stroke. The length of pump stroke determines amount of fuel delivered to metered bore and acceleration jet. After fuel comes to acceleration jet, air is mixed with fuel and mixture is injected into mixing chamber upstream of throttle valve and idle jet.



WEBER DCOE TYPE 2-BARREL CARBURETOR

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WEBER DCOE TYPE 2-BARREL (Cont.)

Choke System – When choke control is pulled out, valve in carburetor is opened and fuel from choke jet flows through metered openings. A metered air port introduces correct amount of air, independent of throttle position. Intake vacuum pulls mixture into intake manifold downstream of throttle valve.

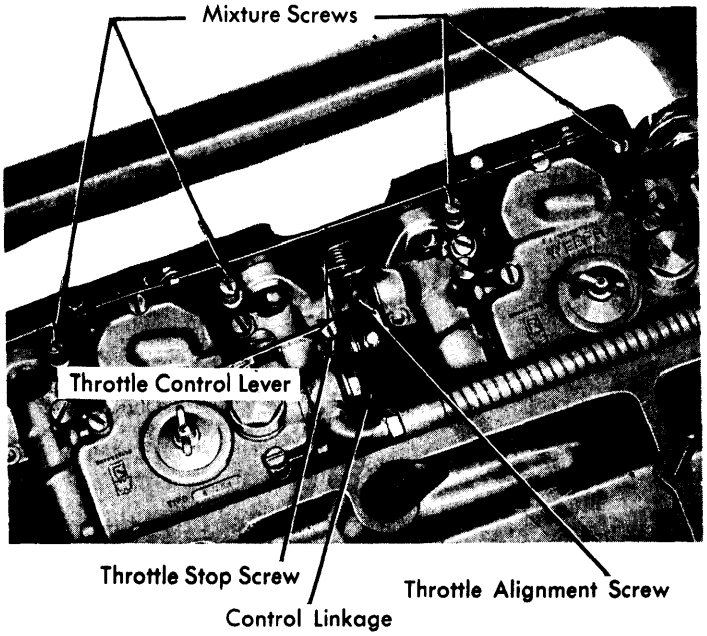
ADJUSTMENTS

Idle Speed & Mixture

NOTE: Engine must be at normal operating temperature before adjustments are made to carburetor.

Turn mixture screws in, each a little at a time, until engine runs smoothly. Slowly unscrew throttle stop screw until engine idles at approximately 600-700 RPM. If engine starts to race, tighten mixture screws slightly.

NOTE: Mixture screws should never be screwed down tight.



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IDLE ADJUSTMENT

Throttle Valve Alignment (Synchronization)

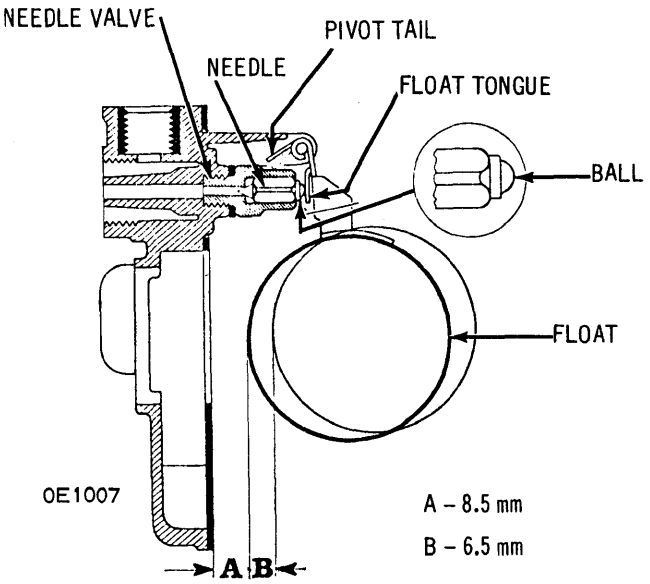
Disconnect control linkage from carburetors and loosen throttle stop screw and connecting lever screw. Loosen until throttle control lever is just contacting boss. Then turn connecting lever screw in until contact is made. Throttles in the two carburetors should be aligned.

Float Level Adjustment

1) Make sure that vehicle is level. Remove jet inspection cover and both main jets. Use a syringe to draw out a sufficient quantity of fuel to cause a substantial lowering of fuel level.

NOTE: DO NOT DEPRESS accelerator pedal or throttle while main jets are removed from carburetor.

2) Refit inspection cover and idle engine for a few seconds in order to stabilize fuel level.



FLOAT LEVEL ADJUSTMENT

3) Remove inspection cover and measure from fuel level to upper face of float chamber. The level should be according to specifications. If fuel level is within specification, no further adjustments are required.

4) Check that float is not leaking or dented. Make sure that needle valve is seated correctly and that spring loaded ball is not jammed.

5) Hold carburetor cover in vertical position such that float does not depress the ball mounted on the needle. The float should be .33 in. (8.5 mm) from cover joining surface. (Measurement to be made with gasket fitted to cover). Bend float tongue to adjust.

6) Travel of float should be .26 in. (6.5 mm). If necessary, adjust position of float pivot tail to correct travel. Fit cover to carburetor and re-check float level.

OVERHAUL

Carburetor Removal – 1) Remove air intake tube clamps and air intake cover. Remove intake box from carburetors.

2) Remove choke cable and throttle control from carburetor body. Remove fuel lines.

3) Remove nuts from intake manifold studs and remove carburetors from intake manifold. To install, reverse removal procedure.

Disassembly – 1) Remove cover from carburetor and disassemble gauze fuel filter, float, needle valve, and gasket.

2) Remove idle jet holder and idle jets. Remove main jets. Remove inlet valve from acceleration pump. (Plugs, ball seats, and balls.)

3) Remove acceleration pump delivery valve, acceleration pump jet, and choke jet. Remove inspection screws from acceleration port trap.

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WEBER DCOE TYPE 2-BARREL (Cont.)

4) Remove idle mixture adjusting screws and choke assembly. Remove acceleration pump using screwdriver to release choke valve spring circlips and detaching spring plate. Remove choke valves with their springs and seats.

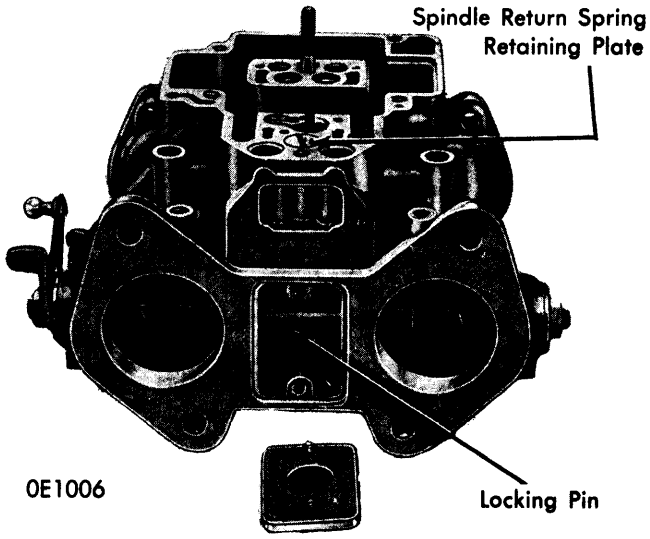
Throttle Valves & Spindle – *NOTE: Do not remove throttle valve spindle unless absolutely necessary to overhaul procedure.* 1) Remove cover plate from base of carburetor. Remove retaining plate on carburetor body and disengage spindle return spring.

2) Mark positions of valves in relation to spindle and mark position of spindle in relation to carburetor body. Remove throttle valves from spindle and remove locking pin (through opening in base of carburetor) from pump control lever.

3) Unscrew nut at end of spindle shaft and remove control lever and shim from spindle. Remove spring retaining cover, spring, and dust cover.

4) Remove spindle from opposite side. At same time remove acceleration pump control lever, spring, and retaining cover.

Venturi Removal – Remove end cover from float chamber. This is located in lower part of carburetor. Loosen set screws and remove mixers and venturis.



THROTTLE VALVE & SPINDLE REMOVAL

Reassembly – Wash parts in gasoline and blow out with compressed air. Make sure that parts are free from all foreign particles.

NOTE: Never use needles, wires or other similar tools to clean the calibrated oririces and bores.

CARBURETOR ADJUSTMENT SPECIFICATIONS

Weber Carburetor No.	Idle Speed (Engine RPM)	Initial Idle Setting	Float Level Setting		Float Drop Setting		Accelerator Pump		
							Volume (cc/20 Strokes)	Stroke	
			mm	in.	mm	in.		mm	in.
45 DCOE 14	600-700	2	29 ± .5	1.14 ± .02	8.5	.33	4 cc	14	.55
40 DCOE 4	600-700	2	29 ± .5	1.14 ± .02	8.5	.33	4 - 6 cc	14	.55
40 DCOE 3	450	2	24-25	.94-.98	.....	.....	4 - 6 cc	14	.55
40 DCOE 27	600-700	2	29 ± .5	1.14 ± .02	8.5	.33	4 - 6 cc	14	.55
40 DCOE 2	600-700	2	31 ± .5	1.24 ± .02	8.5	.33	3.75 - 4.25 cc	14	.55
40 DCOE 28	600-700	2	29 ± .5	1.14 ± .02	8.5	.33	4 - 6 cc	14	.55
40 DCOE 32	600-700	2	29 ± .5	1.14 ± .02	8.5	.33	3 - 5 cc	14	.55
40 DCOE 24	600-700	2	29 ± .5	1.14 ± .02	8.5	.33	4 - 6 cc	14	.55
40 DCOE 33	600-700	2	29 ± .5	1.14 ± .02	8.5	.33	3 - 5 cc	14	.55

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