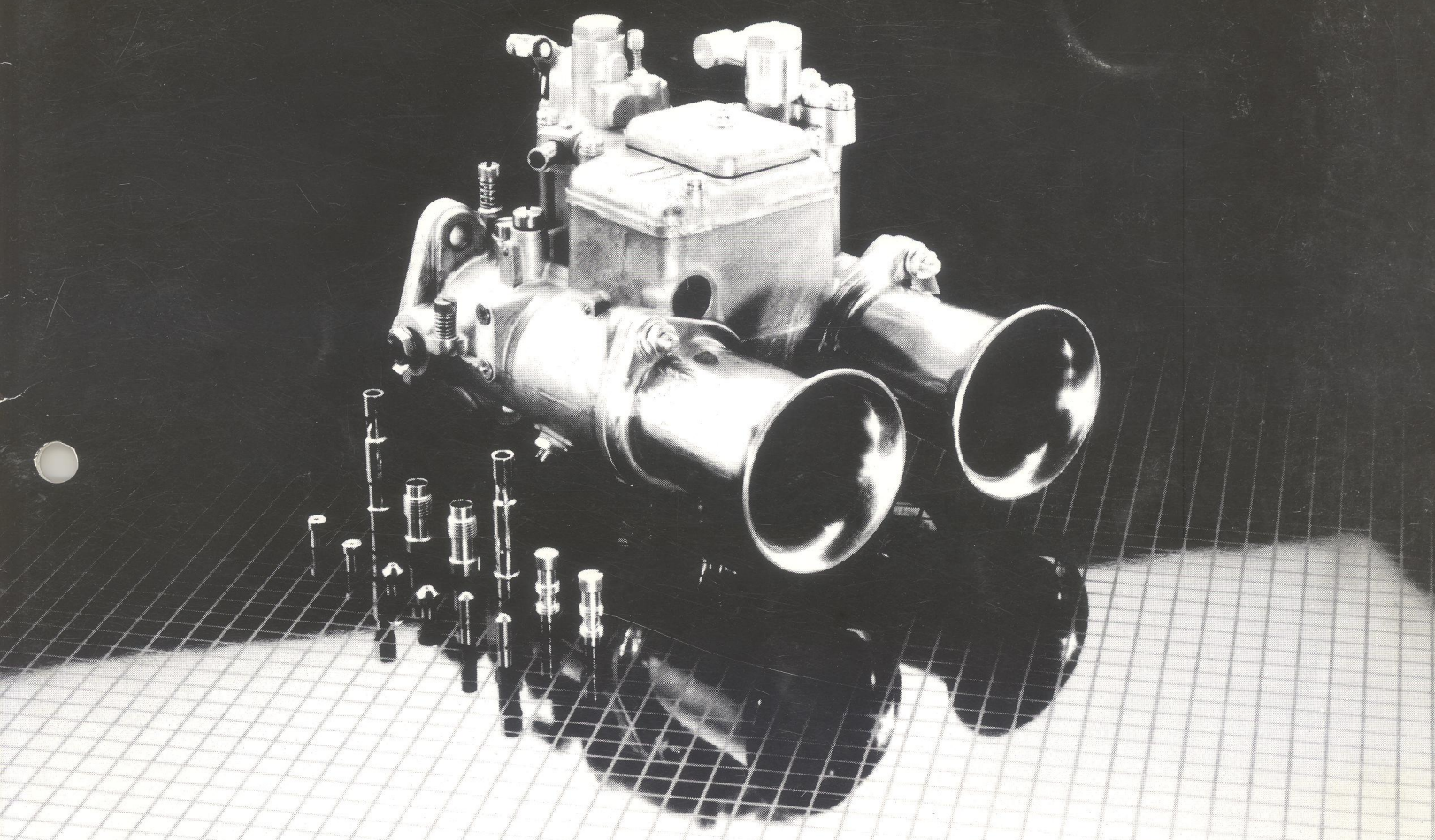
SK® RACING CARBURETORS



TECHNICAL MANUAL

TWM INDUCTION

$5.00

INTRODUCING SK® RACING CARBURETORS

The SK carburetor is a twin choke, sidedraft unit which has been developed for sports and competition use. Its sealed shaft design can tolerate considerable turbo boost pressure. The carburetors, which are available in three throttle bore sizes (40, 45 and 50 mm), function best in "one barrel per cylinder" applications.

Most of the SK's functional parts are in pairs, each operating in one barrel. However the float , accelerator pump and starter circuits are common to both. The systems consist of a fuel inlet circuit, idle circuit, main circuit, accelerator pump circuit and starter circuit.

All three models have the following features:

1. **Centralized position of calibrated parts:** Locating the main jets, air correctors, idle jets and emulsion tubes centrally minimizes the effect of fuel surge during cornering or braking.

2. **Twin boom plastic float:** The float's low weight avoids fuel surge problems and the composite construction permits turbocharging.

3. **Reversible cold start unit:** Parts provided with the carburetor enable the user to alter the cold start for correctly directed operation for the application.

4. **Serviceability:** Changing jets involves only the removal of the jet cover. On most installations the main and auxiliary venturis can be easily changed with the carburetor still mounted on the engine.

5. **Externally adjustable pump circuit:** The accelerator pump discharge volume is regulated by restricting the piston stroke using an external adjustment screw. The pump jets' individual filters protect them from clogging. Also externally located, the jets are easy to change. In addition a pump exhaust valve, with a calibrated bleedback orifice, may be installed in place of the stock closed unit.

6. **Interchangeability of parts**: The SK's main jets, air correctors, idle jets and emulsion tubes are interchangeable with those from the DCOE In addition, auxiliary venturis from the 45 DCOE, the pump rod, spring and piston, pump exhaust valve (normally left closed on SK carburetors) and some types of air horns can be used. See page 10 of the technical manual for more details.

7. **External float level adjustment:** SK's practical design permits adjustment of the float level without the removal of the top cover.

8. **Vacuum Port:** A vacuum port is fitted for distributor advance. Carburetors feeding one intake port per barrel provide a comparatively weak signal for vacuum advance. When used in multiple carburetor installations we recommend linking the vacuum ports together.

9. **Turbocharger ready:** The SK units have been engineered with turbocharger use in mind. With no modifications, other than the addition of an extra return spring, they will accept continuous boost pressures of 16.8 psi with intermittent pressures to 25 psi.

MODELS, DIMENSIONS AND SIZES

Carburetors with bore sizes of 40, 45 and 50 MM are available.

Determining the right size carburetor for your application

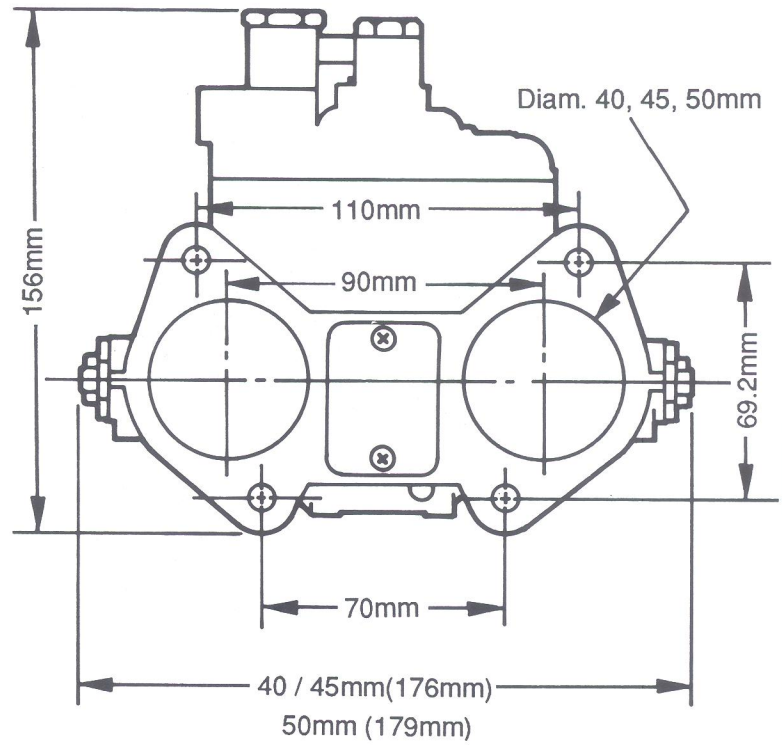
It will be necessary to know the engine capacity, number of cylinders, and the expected maximum RPM.

To convert cubic inches to cubic centimeters multiply by 16.4

Where
C = engine capacity in CC,

c = number of cylinders

R = Expected maximum RPM



For Carburetor Size

$$.82 \sqrt{\frac{C}{c} \times \frac{R}{1000}} = \textbf{Optimum Bore Size}$$

(Follow our example: 1600cc 4 cyl engine using 6500 RPM.)

C = 1600cc
c = 4 cylinders
R = 6500 RPM

Example

$$\frac{1600}{4} \times \frac{6500}{1000} = \mathbf{2600}$$

1. Use a calculator, with a square root function key $\sqrt{}$ to establish the square root of 2600.

2. The formula calls for the result of the above calculation to be multiplied by .82 which in this case equals 41.7. Taking the nearest carburetor bore size will result in the choice of a 40mm SK carburetor.

For Venturi (Choke) Size

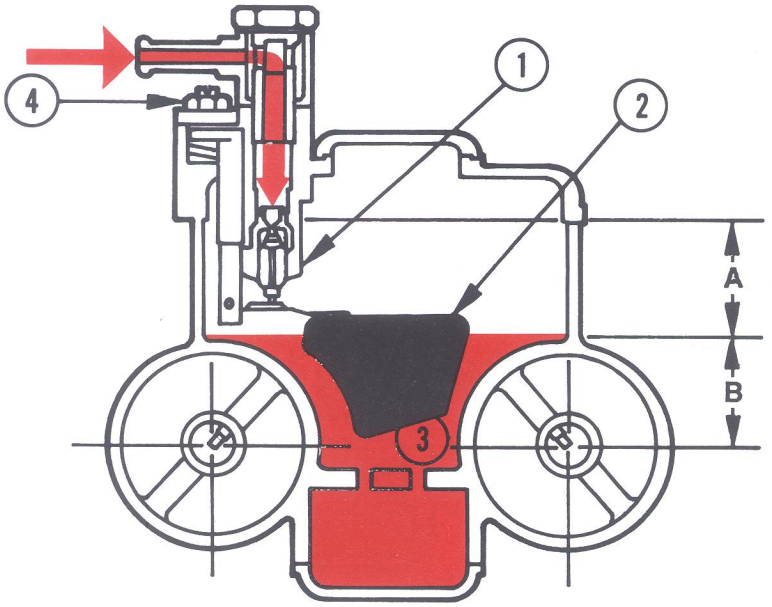
$$.65 \sqrt{\frac{C}{c} \times \frac{R}{1000}} = \textbf{Optimum Venturi Size}$$

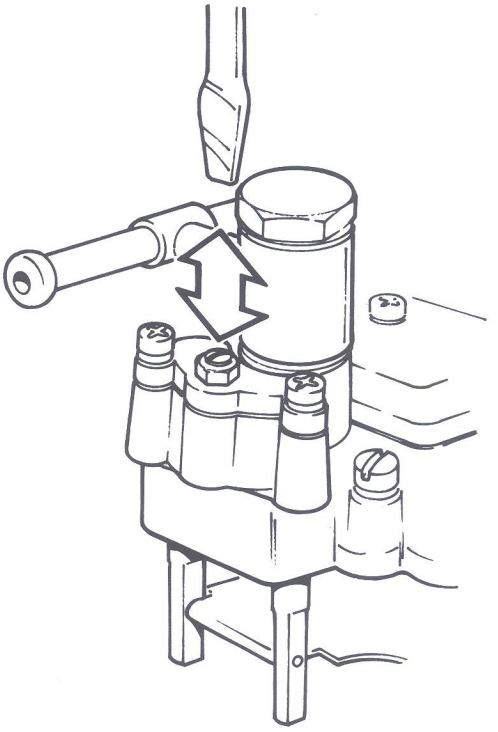
Example

$$\frac{1600}{4} \times \frac{6500}{1000} = \mathbf{2600}$$

1. Using the above carburetor example, duplicate step # 1.

2. Multiply the square root by .65. The results (33) indicate that a 33mm venturi is a good **starting** point.





Needle Valve	(1)
Float	(2)
Float Chamber	(3)
Float Level Adj. Screw	(4)

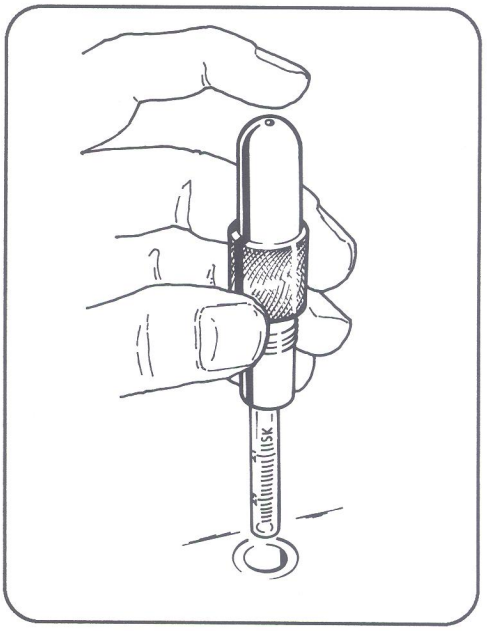
The needle valve (1) and the float (2) maintain a constant fuel level. The fuel pump delivers fuel from the tank into the float chamber (3) via the needle valve. When more fuel enters the float chamber (3) than is used, the float (2) rises and the needle valve (1) seats on the valve seat when the float buoyancy exceeds the pump pressure (fuel pressure). Thus, the fuel is maintained at a pre-set level. All SK carburetors use the same initial pre-set level.

Fuel Level Settings All Carburetors

A(mm)	B (mm)	Pump Pressure (psi)
29	29	3.5

If the float level deviates from the pre-set level A, re-set with the level adjustment screw (4).
Float level adjustments are easiest to carry out using the SK Sight Glass Tool # 2600-1000.

Lower fuel pressures will result in a lower fuel level. Since the fuel pressure is a important determinant of the carburetor fuel level, be sure to confirm the pressure of the fuel pump in use.

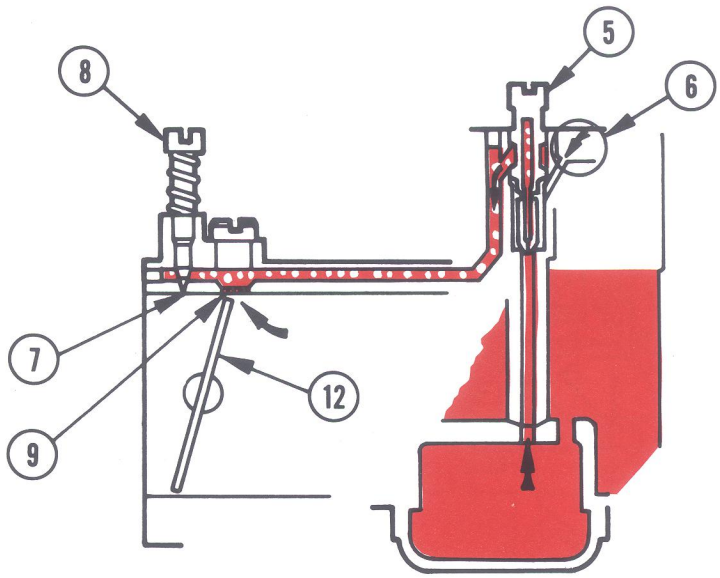


THE IDLE / PROGRESSION CIRCUIT

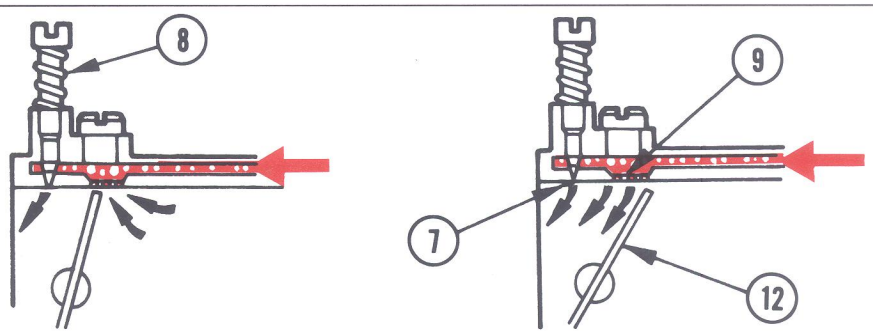
The idle circuit supplies the fuel-air mixture during idling, low and intermediate speed operation.

Idle Jet (5)
Idle Air Jet Orifice (6)
Idle Orifice (7)
Idle Mixture Screw (8)
Progression Circuit (9)

The screw (8) is screwed into the idle gallery (7) The point of the screw increases or decreases the area of the orifice which controls the air/fuel ratio, and the volume of the mixture at idle.The fuel is metered at the idle jet (5) and mixed with a measured quantity of air at the idle jet air orifice (6). With the throttle plates closed, high vacuum draws idle mixture through the idle gallery past the mixture screw, into the main bore. At idle and small throttle openings some air is also drawn into the idle circuit from the progression or by-pass holes



As the throttle plate (12) opens wider, the mixture is drawn from the first progression hole (the port nearest to the throttle plate), then the second, and lastly the third. In this way the mixture increases proportionally with the volume of air passing through the carburetor.



Calibrating the idle / progression circuit

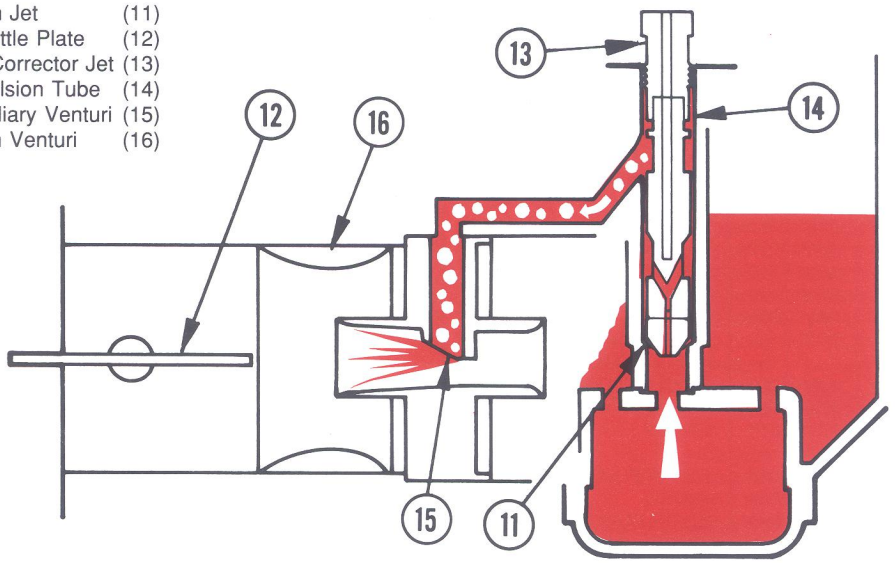
Correct idle circuit calibration is essential for smooth idling and good driveability.
The idle jet has both fuel and air orifices so that many variations ot mixture quality are possible.
Most commonly used are idle jets selected from the F2, F8 and F9 ranges with the "F" numbers corresponding to the air factor. See page 10 for idle jet details.
Select an idle jet that provides a smooth idle with the mixture screws off their seats between 3/4 and 1 full turn.
Any setting of the mixture screws outside of these parameters should result in a reduction of idle speed if the calibration is correct.
Test the progression circuit by driving the car using light accelerations and top gear cruises. If the engine stumbles or backfires during accels or surges during cruise the progression circuit is lean; fuel supply should be increased or air decreased.
If the engine response is slow or there is a need to blip the throttle to compensate for a tendency to load up at idle the mixture is rich; decrease fuel supply or increase air.
Generally, the best response can be obtained by keeping the air hole fairly large and compensating for lean conditions by increasing the fuel hole size.
Example: If a 50F8 (1.2mm air hole) idle jet is too lean, alternatives are to use a 50F9 (1.00mm air hole) or a 55F8 or 60F8. The preference would be 55 or 60F8 as the larger air hole makes the idle circuit more responsive.

THE MAIN CIRCUIT

The main circuit supplies fuel for intermediate and high speed operation, acceleration, and full power. The system consists of the main jet, main air corrector jet and emulsion tube acting in conjunction with the main and auxiliary venturis

Opening the throttle plate (12) beyond the progression holes causes an increase of air flow through the barrel. When the flow is accelerated, passing through the venturi (16), a drop in pressure results. Fuel is then drawn up via the main jet into the main well, through the duct (17) it then issues from the nozzle in the auxiliary venturi (15). Also as a result of this pressure drop at the venturi, air is drawn in through the air corrector jet (13) and is emulsified with the fuel in the main well when it exits the bore of the emulsion tube (14). Thus an emulsified fuel/air reaches the nozzle.The air corrector jet is necessary in order to prevent the mixture from becoming excessively rich at high air flow rates.

Main Jet (11)
Throttle Plate (12)
Air Corrector Jet (13)
Emulsion Tube (14)
Auxiliary Venturi (15)
Main Venturi (16)



To determine main fuel and air corrector jet sizes for initial testing

Multiply venturi (choke) diameter by 4.
Example: 32mm Venturi x 4 = 128
Begin testing with 130 **main jet.**

Add 60 to main jet size.
Example: 130 main + 60 = 190.
Begin testing with 190 **air correction jet.**

Note: When venturis of 36mm or larger diameter are anticipated, add **40** to main jet size to calculate initial air corrector size.

Calibrating the main circuit

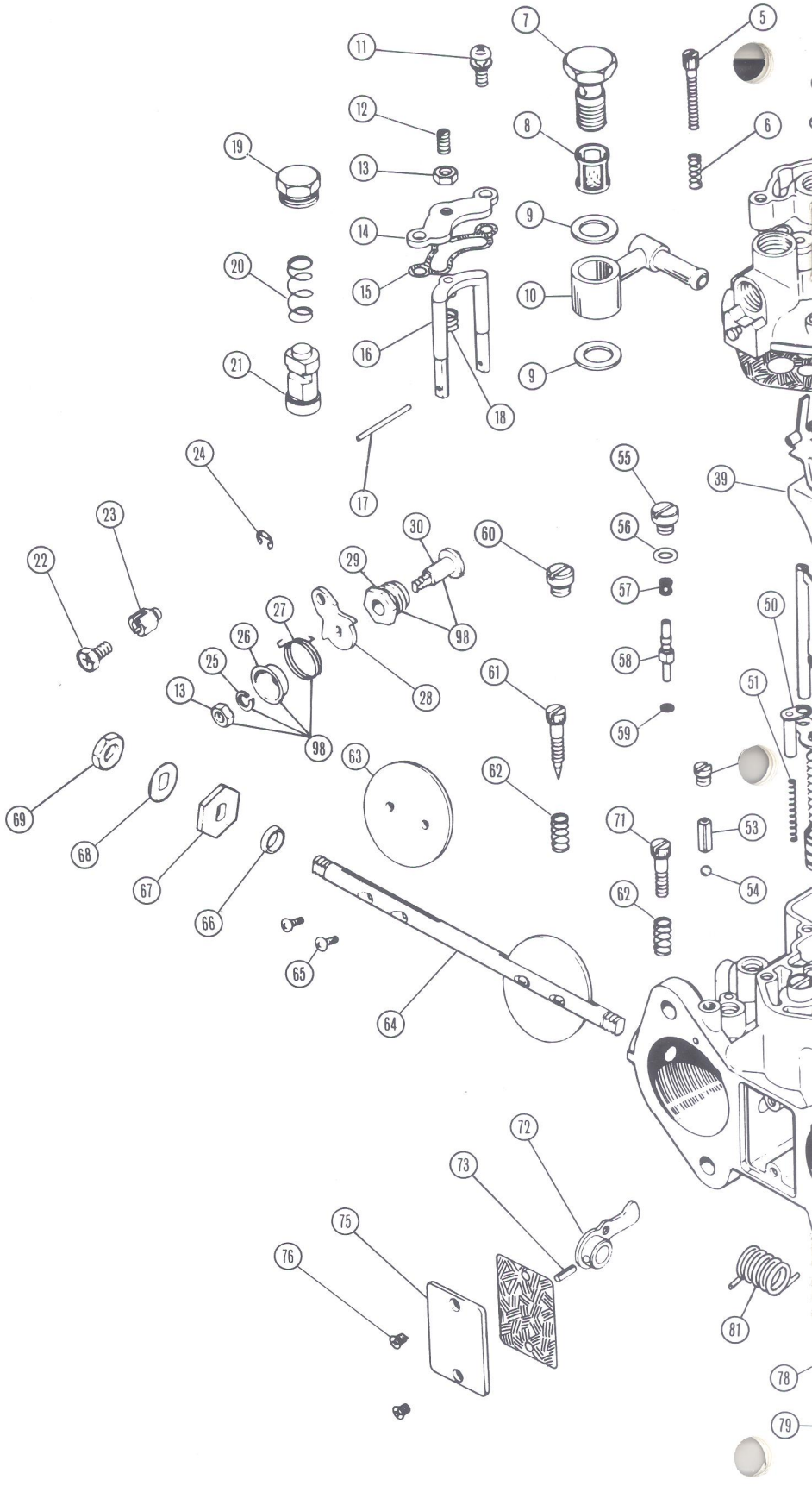
Use the above formulae to establish main and air jet sizes for initial testing. Install the jets and bring the engine to working temperature. Before driving, test the suitability of the jet sizes by bringing the engine progressively from idle through 3500 RPM to ensure that there are no obvious lean spots, characterized by backfiring or spitting through the carburetor or rich spots, identifiable by the presence of black smoke in the exhaust. Test drive the vehicle, noting any points in the RPM range where there is a lack of power. A plug check after a period of wide open throttle running will give a general indication of mixture condition.(see chart)

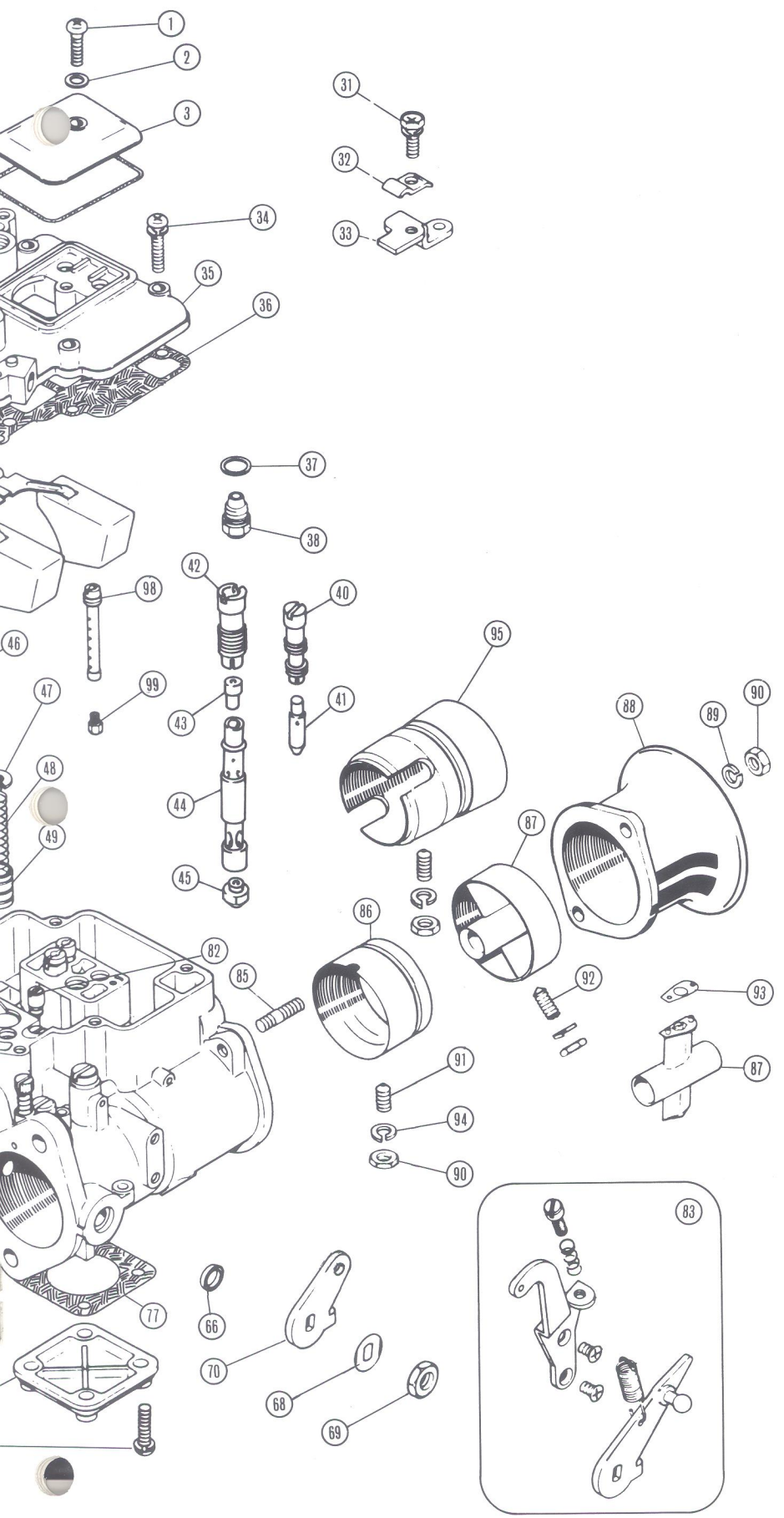
Plug Color	Main Jet	Air Corr Jet	Result
Black	Smaller	Larger	Black plugs indicate an excessively rich mixture and will possibly require changes to both main and air jets. Begin by reducing the main jet at least two, possibly three, sizes and test. Reduce high RPM richness by increasing air jet by at least three sizes.
Dark Tan	Smaller	Larger	Reduce main jet by at least one size and test. If plug color is close to ideal try one size larger air jet and observe changes to mixture at high RPM.
Tan	Minor changes only		On occasion a change of main jet accompanied by a corresponding air jet change will make the main circuit more (or less!) responsive. In this case changing the main from 120 to 125 would require an increase of air jet from say 185 to 200. This would maintain the air/fuel ratio but may have an effect on the "feel" of the carburation.
Light Tan	Larger	Smaller	In this case the mixture is lean. A small increase in main jet size may have the desired effect. It may be necessary to compensate for high RPM richness or leanness by adjustments to the size of the air jet.
White	Larger	Smaller	This case will probably require changes to both main and air jets. As it is unwise to run an engine with a very lean mixture we recommend enlarging the main jet by three sizes. Changes to the air jet can be made to adjust mixture strength at high RPM.

When changing jets take steps large enough to identify a definite trend. The relationship between main and air corrector jets is approximately 1:3. A change of one size of fuel jet is equivalent to a change of three sizes of air jet. Example: A main jet change from 1.20 to 1.25 would approximately equal an air jet change from 1.85 to 2.00.

PARTS LIST FOR SK RACING CARBURETORS

DIA	QTY			PART NO.	DESCRIPTION
	40	45	50		
1	1	1	1	9711-5020	JET COVER SCREW
2	1	1	1	9351-1050	WASHER
3	1	1	1	2720-0060	JETS INSPECTION COVER
4	1	1	1		PART OF GASKET SET #36
5	1	1	1	2710-0110	PUMP ADJT SCREW
6	1	1	1	2718-0090	SPRING
7	1	1	1	2710-0050	FUEL UNION BANJO BOLT
8	1	1	1	2715-0010	FUEL FILTER
9	2	2	2	2709-0090	WASHER
10	1	1	1	2705-0060	FUEL UNION (left facing)
	1	1	1	2705-0050	FUEL UNION (right facing)
	1	1	1	2705-0070	FUEL UNION (dual)
11	2	2	2	9812-1510	SCREW-PLATE RETAINING
12	1	1	1	2710-0190	SCREW-FLOAT ADJUSTING
13	2	2	2	9411-4005	NUT
14	1	1	1	2720-0160	PLATE-FLOAT RETAINING
15	1	1	1		PART OF GASKET SET #36
16	1	1	1	2750-0020	SADDLE-FLOAT SUPPORT
17	1	1	1	2720-0150	PIN -FLOAT FULCRUM
18	1	1	1	2718-0010	SPRING
19	1	1	1	2710-0060	SCREW PLUG
20	1	1	1	2718-0050	SPRING
21	1	1	1	2750-0090	COLD START PLUNGER
22	1	1	1	9771-5010	SCREW - CABLE RET
23	1	1	1	2710-0100	CLAMP - CABLE RETAINING
24	1	1	1	9612-0004	CIRCLIP
25	1	1	1	9471-0050	SPRING WASHER
26	1	1	1	2708-0040	SPRING RETAINING PLATE
27	1	1	1	2718-0030	SPRING -COLD START (std)
	1	1	1	2718-0031	SPRING -COLD START (alt)
28	1	1	1	2704-0010	LEVER - COLD START
29	1	1	1	2710-0070	NUT-COLD START CAM
30	1	1	1	2702-0010	CAM - COLD START
				2702-0011	CAM -COLD START (alt)
31	1	1	1	2710-0190	SCREW
32	1	1	1	2703-0020	PLATE CABLE RETAINING
33	1	1	1	2703-0100	BRACKET -CABLE (std)
				2703-0030	BRACKET -CABLE (alt)
34	6	6	6	9812-1525	SCREW - TOP COVER
35	1	1	1	2720-0020	TOP COVER
36	1	1		2700-0100	GASKET SET
			1	2700-0110	GASKET SET 50 mm
37	1	1	1	2709-0060	GASKET - NEEDLE VALVE
38	1	1		2750-0130	NEEDLE VALVE SIZE 1.7
				2750-0131	NEEDLE VALVE SIZE 2.0
			1	2750-0132	NEEDLE VALVE SIZE 2.3
39	1	1	1	2750-0010	FLOAT
40	2	2	2	5258-5006	IDLE JET HOLDER
41	2	2	2	748**.***	IDLE JET (see chart)
42	2	2	2	5258-0001	AIR JET HOLDER
43	2	2	2	77401.***	AIR CORR. JET (specify size)
44	2	2	2	61450.***	EMULSION TUBE (see chart)
45	2	2	2	73401.***	MAIN JET (specify size)
46	1	1	1	2750-0040	PUMP ROD
47	1	1	1	2708-0020	PLATE - PUMP SPRING
48	1	1	1	2718-0020	PUMP SPRING
49	1	1	1	2750-0030	PUMP PLUNGER
50	1	1	1	2750-0120	PUMP ADJUSTMENT ROD
51	1	1	1	2718-0100	SPRING
52	2	2	2	2710-0030	SCREW PLUG





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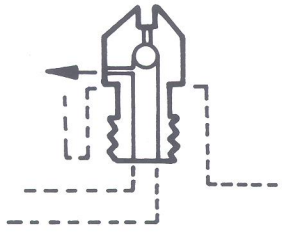
DIA	QTY			PART NO.	DESCRIPTION
	40	45	50		
53	2	2	2	2720-0100	PUMP WEIGHT
54	2	2	2	2720-0370	BALL - PUMP NON RETURN
55	2	2	2	2710-0010	SCREW PLUG
56	2	2	2	9020-1006	O RING
57	2	2	2	2715-0020	PUMP JET FILTER
58	2	2	2	2765-00**	PUMP JET (specify size)
59	2	2	2	2709-0020	GASKET - PUMP SEALING
60	2	2	2	2710-0020	SCREW PLUG
61	2	2	2	2710-0090	IDLE MIXTURE SCREW
62	2	2	2	2718-0070	SPRING
63	2			2712-4010	THROTTLE PLATE 40MM
		2		2712-4510	THROTTLE PLATE 45MM
			2	2712-5010	THROTTLE PLATE 50MM
64	1			2702-4010	THROTTLE SHAFT 40 mm
		1		2702-4510	THROTTLE SHAFT 45 mm
			1	2702-5010	THROTTLE SHAFT 50 mm
65	4	4	4	9731-3008	SCREW -THROTTLE PLATE
66	2	2	2	2709-0070	SEAL - THROTTLE SHAFT
67	1	1	1	2708-0010	SHAFT WASHER
68	2	2	2	2708-0030	LOCK WASHER
69	2	2	2	2710-0140	SHAFT NUT
70	1	1		2003-1700	THROTTLE LEVER (left hand)
	1	1		2003-1701	THROTTLE LEVER (right hand)
			1	NPN	PART OF #83 LEVER & BRKT
71	1	1		2710-0200	SCREW - THROTTLE ADJ
			1	2710-0201	SCREW -THROTTLE 50MM
72	1	1	1	2750-0060	CAM - PUMP ACTUATING
73	1	1	1	2720-0340	ROLL PIN
74	1	1	1	NPN	PART OF GASKET SET #36
75	1	1	1	2712-0010	PLATE
76	2	2	2	2710-0180	SCREW
77	1	1	1	NPN	PART OF GASKET SET #36
78	1	1	1	2720-0050	BOTTOM COVER
79	4	4	4	9812-1520	SCREW
81	1	1	1	2718-0130	SPRING - THR RETURN
82	1	1	1	2767-2000	PUMP CHECK VALVE
83			1	2700-0130	BRKT,LEVER & SPRING ASSY (Optional for use on 40&45mm)
85		4	4	9514-0612	STUD - AIR HORN RETAINING
			4	2710-0220	SCREW - AIR HORN
86	2			2719-40**	MAIN VENTURI (spec.size)
		2		2719-45**	MAIN VENTURI (spec.size)
			2	2719-50**	MAIN VENTURI (spec.size)
87	2	2		2720-0270	AUXILIARY VENTURI
			2	2720-0310	AUXILIARY VENTURI
88			2	2719-4050	AIR HORN (LENGTH 50MM)
	2			2719-4075	AIR HORN (LENGTH 75MM)
		2		2719-4550	AIR HORN (LENGTH 50MM)
		2		2719-4575	AIR HORN (LENGTH 75MM)
			2	2719-5035	AIR HORN (LENGTH 35MM)
89	4	4	4	9471-0060	SPRING WASHER
90	10	8	8	9414-4006	NUT
91	2	2		2710-0160	SET SCREW - VENTURI
92	2	4	2	2710-0170	SET SCREW - VENTURI
93			2	NPN	PART OF GASKET SET #36
94	6	4	4	NPN	PART OF GASKET SET #36
95	2			2719-4099	BARREL SLEEVE
96	1	1	1	2700-0120	TUNE UP KIT
97	1	1	1	2700-0131	ALT COLD START KIT
98	1	1	1	2720-0040	STARTER TUBE
99	1	1	1	2764-00**	STARTER JET

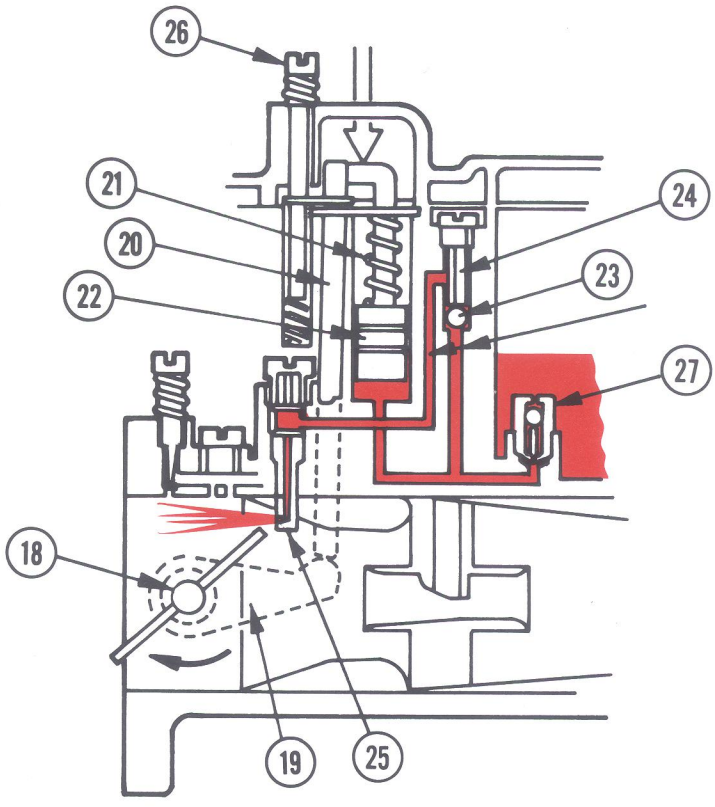
ACCELERATOR PUMP CIRCUIT

The accelerator pump pressurizes fuel and forces it through forward facing nozzles (pump jets). This provides a "shot" of raw fuel to temporarily richen the mixture during rapid throttle openings

Sudden pressure on the accelerator pedal activates the pump lever (19) on the throttle shaft (18) to release the pump rod. The pump spring (21) forces the plunger (22) downward to pressurize the pump chamber. The fuel is forced into two separate galleries, pushes up the pump check ball (23) and the pump weight (24), and then squirts through the pump nozzles (25) into each cylinder. The closed check valve assembly (27) prevents the fuel from flowing back to the float chamber (calibrated bleedback valves are available to replace the closed unit). Pairs of pump check balls (23), pump weights (24) and pump nozzles are installed. The accelerator pump operates from the time the throttle plate begins to open until it is approximately 30% open. Each pump jet is fitted with it's own fuel filter.



Bleedback Valve



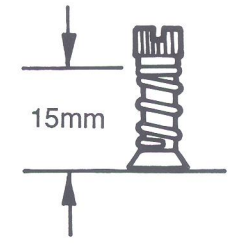
Calibrating the pump circuit.

In order to understand the contribution made by the pump jet during the function of the carburetor it is necessary to define the terms "driveability" and "throttle response".
It will be seen in previous pages that the interaction of the idle, progression and main circuits provide a smooth flow of fuel which maintains the air/fuel ratio with the gradual opening of the throtte. This provides good driveability in normal operation.
During rapid throttle transitions, the fuel flow through the carburetor is unable to increase fast enough to compensate for the increase in air flow, therefore the accelerator pump jet is used to richen the mixture very rapidly providing good throttle response.

To establish the size of the pump jet for initial testing use the following table

Cylinder Capacity (CC)	Pump Jet
Up to 400	35
400-500	40
500-600	45
600-700	50

Note: Where one barrel feeds two cylinders multiply jet size by 1.4

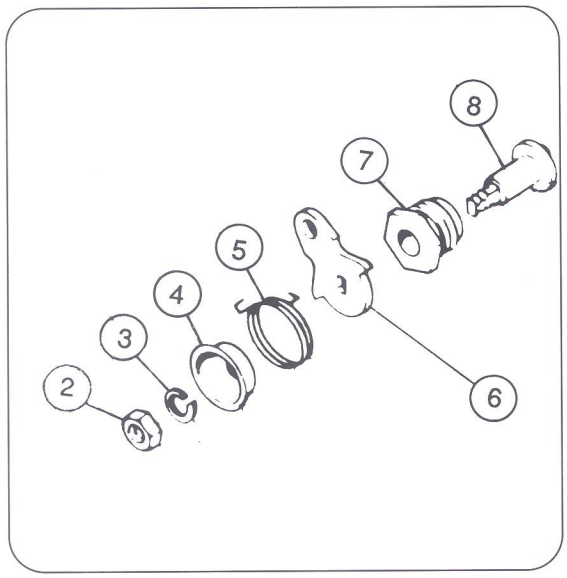


Adjustment of pump discharge volume

Adjust the pump discharge volume with the pump adjustment screw (26) turning it clockwise to increase, and counterclockwise to decrease the volume. From the zero point shown in the diagram each three turns of the adjustment screw increases the pump stroke by 2mm.

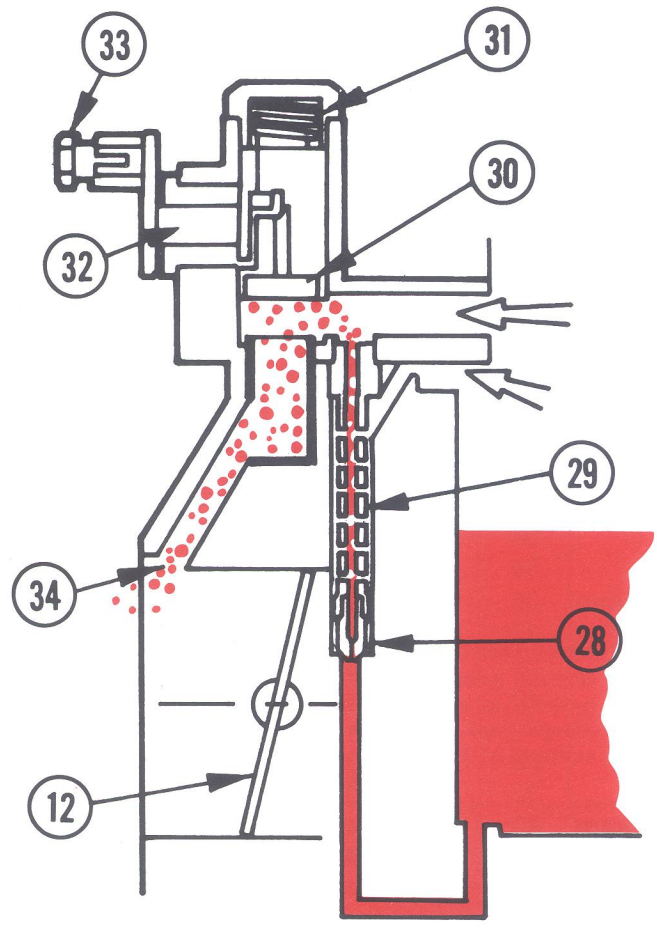
COLD START CIRCUIT

To improve intake efficiency, the SK carburetor employs a starter system in place of a choke valve. The construction of the starter valve illustrated permits stepless control from complete shut off to fully open as required.



To reverse the "pull" action of the starter control, use the following procedure

1. Remove the cold start cable bracket.
2. Using an 8mm socket wrench or nut driver remove the nut (2) and the spring washer (3) at the front of the cold start unit.
3. Remove the spring retaining plate (4) and the coil spring (5). Take care in removing the spring as they can snap and cause eye injury.
4. Remove the lever (6).
5. Use a 15mm open end wrench to loosen the brass nut (7) on the face of the starter unit and remove the nut with the starter cam (8).



When the choke is in full operation, the cam (32) connected to the starter lever (33) is pulled up to open the starter valve (30) As a result, the fuel passage is fully opened. When the engine is cold started engine vacuum is exerted on the fuel passage via the duct (34). The fuel passes through the starter jet, and is mixed with a preset amount of air taken in through the bleed holes in the pipe (29). This mixture flows into the line to the starter valve (30). The mixture then flows two separate ways to be uniformly fed into each cylinder through the duct (34).

6. Remove the cam (8) from the nut (7) and install the alternative cam supplied in the kit.
7. Replace the cam in the front of the carburetor cover, setting the cam in the starter plunger. Then install the nut over the shaft and tighten the nut until it seats on the carburetor cover.
8. Remove the circlip from the back of the operating lever (6) and reverse the position of the cable clamp (9).
9. Install the lever, in the reversed position from the original installation, together with the reversed spring. Check for smooth operation of the lever.
10. Re-install the spring retainer (4) along with the spring washer (3) and the nut (2).
11. Remove the appropriate top cover screw and fit the choke cable bracket to match the reversed direction of the starter. Replace the top cover screw.

CALIBRATED PARTS FOR SK CARBURETORS

Needle Valves

Size (mm)	Part #
1.7	2750-0130
2.0	2750-0131
2.3	2750-0132
2.6	2750-0133

Venturis (Chokes)

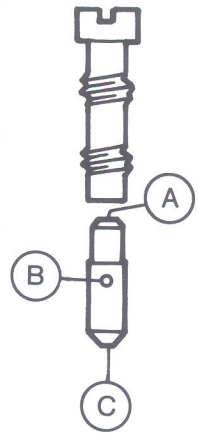
Carb Type	Size (mm)	Part #
40mm	28	2719-4028
	30	2719-4030
	32	2719-4032
	34	2719-4034
45mm	34	2719-4534
	35	2719-4535
	36	2719-4536
	37	2719-4537
	38	2719-4538
	40	2719-4540
50mm	38	2719-5038
	39	2719-5039
	40	2719-5040
	41	2719-5041

Air Horns

Carb Type	Length (mm)	Part #
40mm	50	2719-4050
	75	2719-4075
45mm	50	2719-4550
	75	2719-4575

Idle Jets

Type	Int. Bore A(mm)	Air Hole B (mm)	Fuel Hole Sizes C (mm)	Part #
F2	1.50	1.40	45,50,55,60	74815.***
F4	2.00	1.40	60,65	74817.***
F6	2.00	.70	45,50,55,60	74819.***
F8	2.00	1.20	45,50,55,60, 65	74821.***
F9	2.00	1.00	40,45,50,55, 60,65	74822.***
F11	1.50	1.20	45,50,55	74824.***



Example: 50F2 = 74815.050

Progression Characteristics of Idle Jets

Note: These "F" numbers bear no relation to the emulsion tubes also designated by "F" numbers

Emulsion Tubes

Type	Part#	Description
F2	61450.027	Good for all around use Excellent for driveability
F9	61450.030	All around use with good pulse damping qualities
F11	61450.031	Stock tube in SK carb
F15	61450.032	All around use with good fuel economy
F16	61450.181	Fat tube with fewer air holes - Richer main entry point

Main Jets

Sizes (mm)	Part #
1.00 - 2.30	73401.***

Example: 73401.120

Air Corrector Jets

Sizes (mm)	Part #
1.20 - 250	77401.***

Example: 77401.200

Pump Jets

Sizes (mm)	Part #
.35 - .70	2765-00**

Example: .60 Pump jet = 2765-0060

SETTING UP AND TUNING YOUR SK CARBURETORS

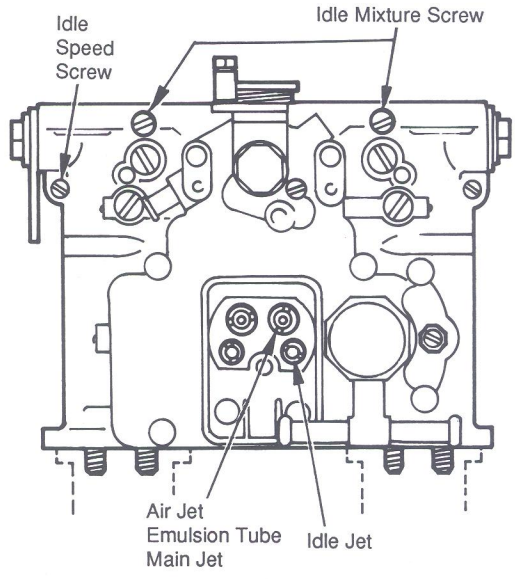
Once you have read the technical manual and understand the function of the individual components and their circuits you are ready to install your SK carburetors. Most manifold manufacturers provide a drawing to assist with linkage assembly and this should be followed carefully.

1. Once mounted with all fuel lines secure and any potential vacuum leaks from disconnected hoses plugged, check throttle operation carefully. **Make sure that the throttle linkage is free to return to the closed position . Ensure there is no possibility of the linkage going "over center" and that no hoses or cables can interfere with proper operation. Remember that hoses and cables can relocate themselves when they are hot!**

2. Examine the carburetor and locate the three idle adjustment screws; the idle speed screw (controls the opening of the throttle plates) and the two idle mixture screws which regulate the volume of fuel/air mixture in the idle circuit.

3. With the linkage disconnected from the carburetor throttle levers, adjust the idle speed screw by backing it out until it loses contact with the tang on the lever, then turn it in one full turn from the point of contact with the tang.

4. Turn the idle mixture screws (clockwise) gently until they seat, then back them out one full turn. Reconnect the throttle linkage.



NOTE: If it is possible to turn the idle mixture screw on to its seat, without cutting out that cylinder,the throttles are open too far,allowing an unregulated flow of fuel from the progression ports.If this is the case adjust the throttles with the idle speed screw(s).

5. Start the engine, using the cold start controls, or several pumps on the accelerator pedal. If necessary turn the idle speed screws in to provide a fast idle until the engine has warmed up. **Remember, that with a multiple carburetor set up the throttles are linked so idle speed adjustment on one carburetor will have the same effect on the other(s).** Use the other idle speed screws as a back up to the one you choose as the primary speed adjustment.

6. After warm up set the idle speed at 1000 rpm (4 cyl engine) or 850 rpm (6 cyl engine) by adjusting the idle speed screw you have chosen to be the primary adjustment. In a multiple carburetor set up turn in the speed screws on the other carburetors to provide throttle stops.

7. Using a suitable syncronizing device (Unisyn or Schleyer flow meter) check the balance of the carburetors and adjust them as necessary. This procedure is best carried out by loosening the control levers on the manifold cross shaft and using the idle speed screws for the adjustment. Tighten the levers when you are satisfied the units are in balance and recheck. Adjust the idle speed at this point if necessary.

8. Check the mixture adjustment by turning the idle mixture screws in from their starting position until the cylinder in question leans out causing the engine to"stagger", then back out the screw to give the highest idle speed. Repeat the process with all the mixture screws.

9. After adjusting the mixture, regulate the final idle speed by turning the idle speed screws until you achieve the recommended idle speed for your car. Most SK equipped engines will idle best at a CO reading of 3 to 4.5%.

Troubleshooting guide for SK Carburetors

Symptom	Possible Cause	Action
Difficult starting	No spark	Check ignition
	No fuel in bowl	Check fuel pump Check float level
	Blocked needle valve	Check and clean
	Carburetor flooded	Check fuel pump pressure(3.5-4psi)
	Worn needle valve	Check and replace
	Float level incorrect	Check and adjust
	Vapor lock in carb caused by heat build up	Crank engine over with throttle wide open
Poor Idle	Idle jet wrong size	See Page 4
	Mixture screws incorrectly adjusted	See page 11 for set up instructions
	Carburetors not syncronized	Carry out balancing proceedure
	Idle jet blocked	Clean or replace
	Air leaks between carburetor and engine	Locate and rectify
	Starter in partial operation	Clean disc, Adjust cable
	Ignition timing incorrect	Check and adjust
Poor Driveability	Incorrect idle/progression jet calibration	Recalibrate idle circuit
	Main jet obstructed or incorrect size	Check main jet for blockage or recalibrate
	Auxiliary venturis reversed	Check and reposition
Poor throttle response during rapid transitions	Pump jet blocked or incorrectly calibrated	Clean jets recalibrate circuit
	Auxiliary venturis reversed	Check and reposition
Engine lacks power at wider throttle openings	Incorrect calibration of main/air corrector jets	Carry out mixture test recalibrate circuit as required See page 5.

TWM INDUCTION

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