

SOLEX M 32 PBIC

The Hotchkiss M201 6 volt jeep was originally fitted with the same Carters carburettor used on the Willys MB and Ford GPW. It is difficult to say exactly when the Solex carburettor was introduced but as a result of the rebuilding programme most M201s, though not all, ended up fitted with the Solex type which is said to be more fuel efficient and is certainly a lot less fiddly to dismantle and reassemble.

Over the years I have been asked many times about how you adjust the running mixture on these. The straight answer is that you can't. It has a fixed main jet and the needle screw adjuster at the base of the main body (see above) only adjusts the idling mixture. If you are having issues with fuelling then, in terms of the carburettor, it is a matter of cleaning out, checking float level, manifold gaskets etc. A repair kit is available from most of the usual sources.



If the problem persists then a rich mixture can be caused by fuel dripping into the manifold from the main jet casing which can also cause idling and starting problems as the contents of the float chamber can flood the manifold when the jeep stands after a run. I have come across this fault a couple of times and it is caused by the casting that supports the main jet coming loose from the main body casting. As the two appear to be pressed together during manufacture a repair might be possible but a replacement carburettor is the better option.

Another part worth checking is the disc valve that operates the choke system. Corrosion or wear can result in poor mating between the surfaces which slide over each other. Provided the damage isn't too bad, lapping the surfaces in with a bit of metal polish can do the trick.

These carburettors were originally manufactured for Hotchkiss by Solex in France and later for the French army by Solex in India. As far as I know they are no longer made but ex-French army stock is still available from the usual dealers of spares in the U.K. and France though stocks are dwindling and prices continue to rise. The datasheets below came with one of these and contain useful information, particularly the second sheet. N.B. the comment about cold starting i.e. use the choke but do not depress the accelerator pedal! In a world of fuel injection not everyone seems to know this peculiarity of a good old Solex carburettor.

TECHNICAL LEAFLET NO. 1020 / 1026



DOWNDRAUGHT CARBURETTOR

SOLEX

JEEP
FORD and WILLYS
 Engines

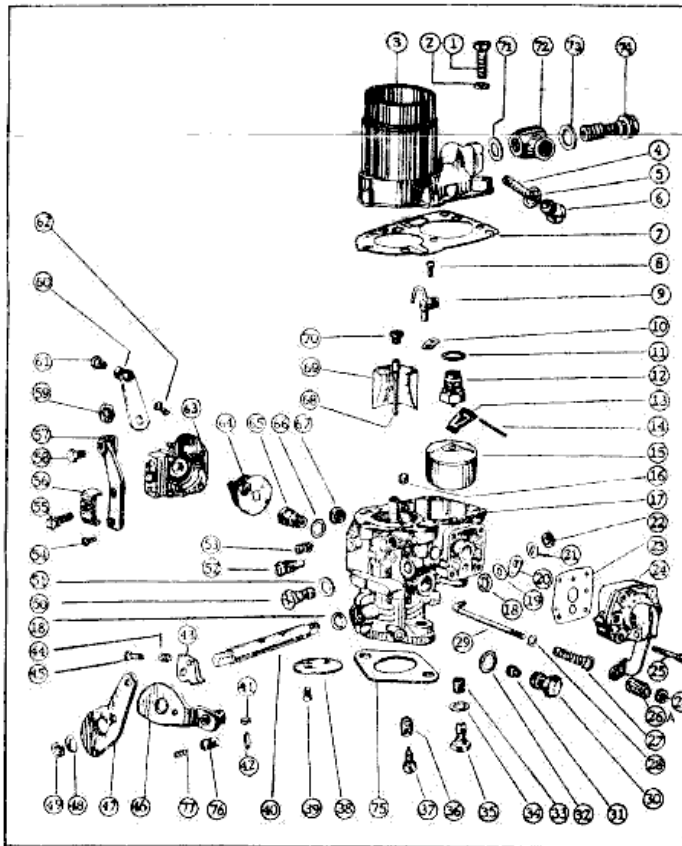
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TYPE M. 32 PBIC CARBURETTOR SETTING

Specification No.		Regular	Economy
		MCS	MCS
		1026	1020
K	Choke Tube	26	24
Gg	Main Jet	127.5	115
a	Air Correction Jet	190	195
g	Pilot Jet	45	45
u	Pilot Air Bleed	130	130
GS	Starter Petrol Jet	135	135
Ga	Starter Air Jet	5	5
GP	Pump Jet	70	60
	Pump Economy Jet	110	110
	Pump Assembly	73	73
I	Pump injector	LOW	LOW
S	Emulsion Tube	No.10	No.10
F	Float	12.5 grams	12.5 grams
P	Needle Valve	1.5	1.5

PARTS LIST

Item Ref. No.	Description	Part No.	No. Off.
1	Float Chamber Cover	2601/2	3
	Assembly Screw		
2	Spring Washer	52875	3
3	Float Chamber Cover Assembly		
4	Filter Gauze	53444/1	1
5	Washer for Filter Plug	53348	1
6	Filter Plug	53445/2	1
7	Float Chamber Cover Gasket	52737	1
8	Screw	3947/4	1
9	Pump Injector Assembly	52951	1
10	Pump Injector Assembly Gasket	52735	1
11	Washer	2261	1
12	Needle Valve	52644/1.5	1
13	Float Toggle	52190	1
14	Float Toggle Spindle	52204	1
15	Float 12.5 gms	51636/2	1
16	Pilot Air Bleed	51274/1/130	1
17	Main Body Sub-Assembly		
18	Sealing Washer	53364	2
19	Throttle Spindle Washer	4031/1	1
20	Intermediate Lever	52956	1
21	End Nut Retaining Washer	52550	1
22	Throttle Spindle End Nut	4024	1
23	Pump Body Gasket	52115	1
24	Accelerating Pump Assembly	52939/73	1
25	Pump Body Fixing Screw	51421/9	4
26	Nut	53117/1	1
26 A	Adjusting Nut	M400112	1
27	Pump Control Hood Spring	53010	1
28	Retaining Washer	52760	1
29	Pump Control Rod	55187	1
30	Main Jet Holder	50820	1
31	Main Jet	50552/1/Size	1
32	Washer	50810	1
33	Pump Filter Gauze	52847	1
34	Washer	52825	1
35	Pump Economy Jet	52823/110	1
36	Spring for Volume Control Screw	4384	1
37	Volume Control Screw	51623	1
38	Throttle	52194	1
39	Throttle Fixing Screw	M400059	2
40	Throttle Spindle	53016/5	1
41	Throttle Stop Screw Nut	3950	1
42	Throttle Stop Screw	50537	1
43	Adjustment Plate	M-400094	1
44	Spring for slow Running Adjustment Screw	4384	1
45	Slow Running Adjustment Screw	4023	1
46	Hand Control Throttle Lever	M400176	1
47	Throttle Lever	4263/2	1
48	End Nut Retaining Washer	53250	1
49	Throttle Spindle End Nut	4024	1
50	Pump Jet	52200/Size	1
51	Washer	52825	1
52	Pilot Jet	50797/45	1
53	Choke Tube Fixing Screw	50302	1
54	Fixing Screw	3947/4	1
55	Bracket Fixing Screw	M400172	1
56	Outer Cable Bracket	50861	1
57	Bowden Cable Bracket	51782/2	1
58	Cable Clamp Screw	51760	1
59	Start Spindle End Nut	4024	1
60	Blätter Lever Complete	M-400090	1
61	Swivel Locking Screw	12056	1
62	Starter Cover Fixing Screw	51421/3	4
63	Starter Cover		
64	Starter Valve Assembly		
65	Starter Petrol Jet	52823/135	1
66	Washer	52825	1
67	Starter Air Jet	50906/5	1
68	Emulsion Tube	52894/10	1
69	Choke Tube	52846/Size	1
70	Air Correction	51612	1
71	Washer	2261	1
72	Banjo	4121/2	1
73	Washer	4124	1
74	Banjo Bolt	4122	1
75	Flange gasket	54393/2	1
76	Lever Roller	52766	1
77	Locking Screw	50496	1



If economy and performance are to be maintained, the carburettor will need servicing from time to time. For this purpose, genuine SOLEX gasket sets and replacement units are available from your usual SOLEX Supplier.

SPECIAL FEATURES

1. **PROGRESSIVE STARTER** : The operation of the starter is by rotation of the starter valve which is connected to the dashboard control by means of a lever and a flexible cable. The weakening of the starter mixture is spread over the whole movement of the starter. When the starter control is pulled out fully, the richest mixture is delivered. As the starter control is pushed home, the mixture is progressively weakened until, when the control is fully home, the starter is completely out of action. The starter is used until the engine has reached its normal running temperature.

2. **SLOW RUNNING** : For slow running feeding of the engine is ensured by the Pilot Jet (g) and the air bleed (u). The slow running adjustment screw allows the speed of the engine to be varied. The volume control screw (W) (which permits variation of the slow running jet's delivery of petrol) allows the richness of the mixture to be corrected with accuracy.

3. **NORMAL RUNNING** : For normal running the fuel is provided by the main jet (Gg) and the air by choke tube (K). The correct balance is automatically ensured by air entering through and being calibrated by the correction jet (a). Underneath the correction jet is a tube(s) with lateral holes. The calibration of this part should not be touched.

4. **ACCESSIBILITY** : It will be noticed that the various jets can be removed very easily. Access to the Float and the choke tube is also very easy.

5. **MAINTENANCE** : The maintenance of the Instrument is merely a question of cleaning it from time to time in order to avoid blocking of the jets and channels. For this, it is preferable to use compressed air. Never use wire for cleaning the jets.

Also check periodically for tightness of flange securing nuts, starter fixing screws, main, starter and pilot jets. Fit new washers, if any sign of moisture is evident. Make sure from time to time that there is no side-play in the throttle spindle.

Check for full traverse of Starter Lever and also make sure that the starter valve plate turns easily. Dash board control knob must be 1/8" away from the facia when the lever is in "full-off" position.

GENERAL INSTRUCTIONS

1. **FITMENT** : Clean the Induction manifold and the Carburettor flange. Remove all traces of jointing. Fit Carburettor using new flange gaskets and tighten the nuts equally.

Connect the petrol delivery tube to be the inlet of the carburettor and make certain that there is no leak. Connect throttle controls and test to ensure full throttle opening and return to idling.

2. STARTING THE ENGINE WHEN COLD :

- Pull the Progressive starter control right out.
- Switch on and operate the electric starter without depressing the accelerator.
- Once the engine is running, push the starter control knob half-way. The vehicle may then be driven away.
- When the vehicle is moving, the control knob should be progressively pushed in. With the control just a little "Out", a "fast idle" is provided preventing stalling in the first mile or so.
- Push the dash board control right home as soon as possible to avoid unnecessary use of petrol.

3. **STARTING WHEN WARM** : If the engine is still warm start on the half-way position.

4. **HOT RESTARTING** : On no account use the dash board control. If an immediate start is not obtained by normal methods, press the accelerator pedal slightly during the next attempt.

5. **SLOW RUNNING ADJUSTMENT** : Unless the vehicle manufacturer specifies otherwise, proceed in the following manner :

- Wait for the engine to warm up.
- Screw in slightly the slow running adjustment screw so as to let the engine run at 500 R.P.M.
- Unscrew the volume control screw (W) until the engine begins to hunt. Then screw it in progressively until the hunting disappears and the engine idles smoothly.
- If the engine speed has risen, then reset the slow running adjustment screw to bring the engine back to about 500 R.P.M.
- This may cause a slight resumption of hunting. If so, gently screw in the volume control screw (W) until idling is perfect. **UNDER NO CIRCUMSTANCES, THE VOLUME CONTROL SCREW (W) BE SCREWED FULLY HOME.**

N.B.: Before adjusting the idling it is essential to check up the condition of the Spark Plugs and adjust the plug gaps carefully.

6. **PETROL LEVEL** : The design of the float mechanism ensures complete stability of the predetermined petrol level, thus eliminating all need for routine checking. However, in the event of damage occurring to the float toggle or float, this would of course seriously affect fuel level and call for replacement action.

For your requirements of Spare Parts,
Refer to our Current Price List.

ECONOKIT & SERVICE KIT FOR THE ABOVE CARBURETTOR ARE AVAILABLE

Econokit No.EKM 24

Service Kit No.13

PENTAFOUR PRODUCTS LIMITED (AUTO DIVISION)

D3, D4, Industrial Complex, Maraimalai Nagar - 603 209

It is of course possible to get an aging and sick carburettor professionally rebuilt. Roger Holness (M201 no. 18088) had his rebuilt by '**Carburettor Exchange**' at Leighton Buzzard (01525 371369) which is run by an ex Solex employee who he can thoroughly recommend. With the stock pile of spares held by dealers diminishing and prices rising a rebuild like this is likely to become a more popular alternative to purchasing a new carburettor. who he can thoroughly recommend.