

Miscellaneous Parts



B20108

Brass Spring-loaded
CD Bias Metering Needle
Retaining Screw



B19995

Retaining Clip
for both types of
CD Adjusting Screw



FUEL PIPE OLIVE FUEL PIPE OLIVE

Fuel Pipe Olive
ABF 299 - 1/4" ID
ABF 297 - 5/16" ID



ABF 287 - 3/16" ID
AUA 1486 - 5/16" ID
ABF 103 - 3/8" ID



B18031

Throttle Spindle Seal
includes Brass Retainer and Seal
7mm

B18032

8mm



B18014

Throttle Spindle Bush
(NB Requires pressing in
and line reaming)
7mm

B18013

8mm



B20042

CD Bias Needle Adjusting Screw
complete with 'O' Ring
Hexagon

B25667

Cross Slot

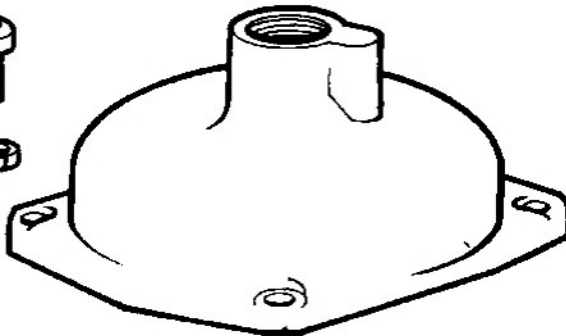


B18479

Brass Trimmer Screw

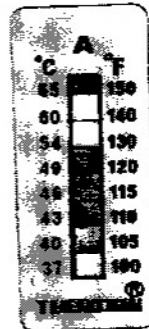
B18480

Spring



019654P

4 Diaphragm Cover Retaining Screws and Washers



B28515

FASD Adjusting Kit
Pack of 10 Temperature Sensitive
Labels

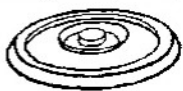


B26717/1.5

Needle Valve
French Solex No 59860715
Italian Solex No 6200036

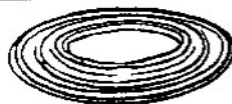
B29014/1.7

Needle Valve
French Solex No 59860717



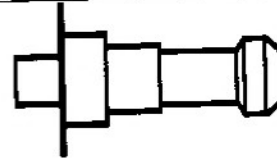
KN-450PP

PVC Emission Control
Pump Diaphragm



SVD1

PVC Emission Control
Mini Cooper, MG Midget 1275
MGB, Healey Sprite, Austin 1800,
Leyland 27H7758



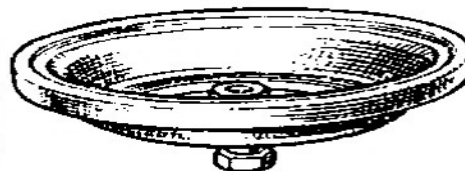
PBF004

Jet Tube Sub-Assembly Zenith/Pierburg
Fits Volvo CDSU Jet Assembly 51790004

ABF 313

Diaphragm Cover Emission Sticker
(white on red)

**FOR EMISSION CONTROL SYSTEMS
PATENTS APPLIED FOR**



B14697

Diaphragm Assembly
B32 PAIA & S
Singer Vogue IV
Sunbeam Rapier V
Humber Sceptre II

SECTION E

FUEL SYSTEM CÁRBURETTOR

The 30IZ carburettor is a downdraught instrument of compact design, incorporating a semi-automatic strangler for cold starting, diaphragm type accelerating pump, providing powerful acceleration, a depression — operated economy device to allow maximum economy at part throttle cruising and volume control of idle mixture.

A filtered slow running tube, together with carefully positioned jets and passages, combine to provide maximum protection against dirt or foreign matter upsetting performance.

Two diecastings form the major parts, the upper, or floatchamber incorporates the air intake and fuel inlet and the lower, or main body, includes the floatchamber, choke tube and fixing flange which bolts directly to the engine induction manifold. These two parts are held together with five screws. The bore size is 30 mm.

Standard Settings:

Choke Tube	20 mm (Cast in)
Main Jet	95
Emulsion Tube Air Correction Jet Assy.	175
Economy Jet	60
Idle Tube	40
Pump Injector	45
Needle Valve	1.3 mm
Needle Valve Washer	2.0 mm

Fast Idle Interconnection Setting — 6 half—turns of throttle stop screw or 1 mm.

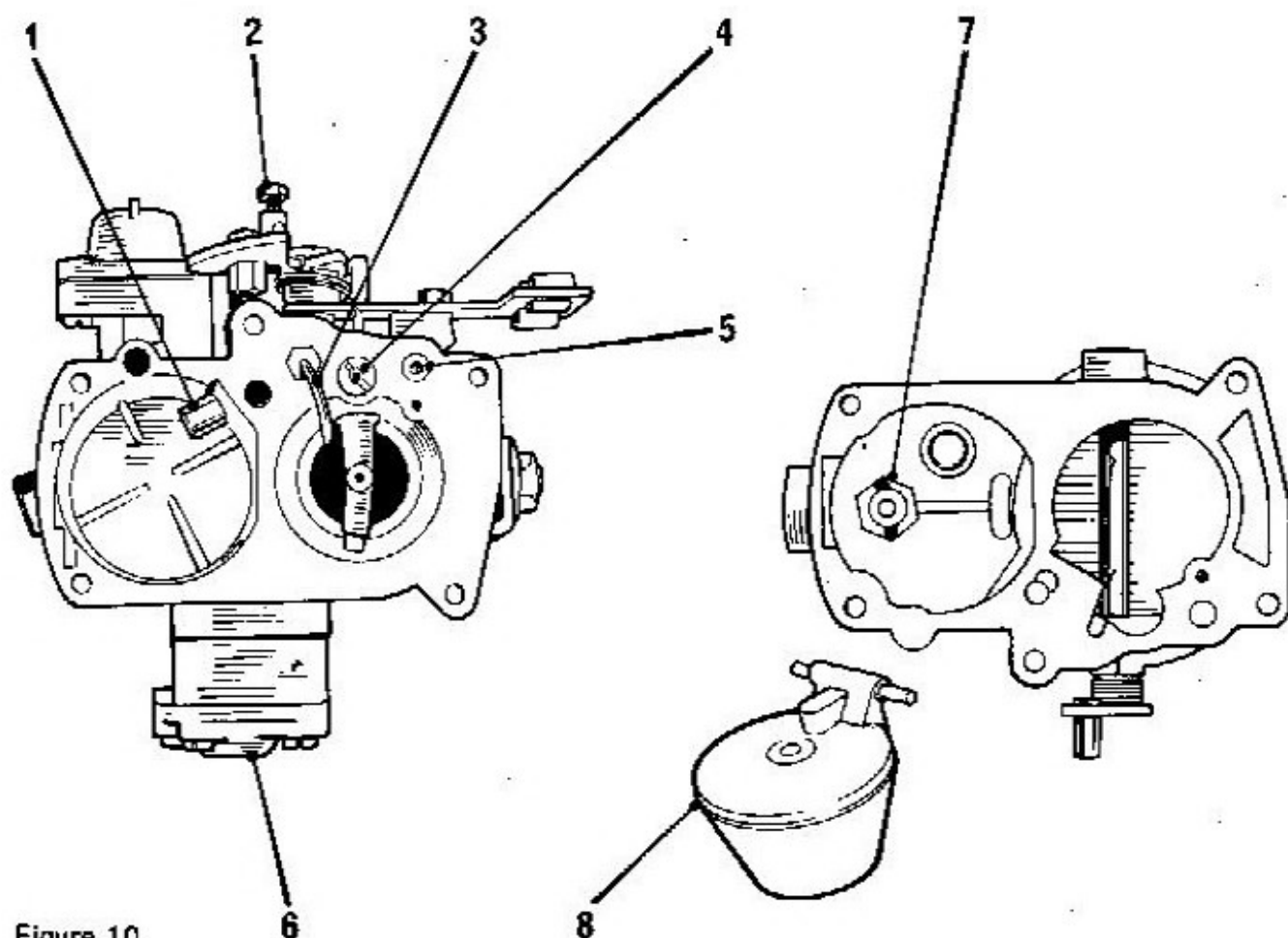


Figure 10.

- | | |
|---------------------------|----------------------|
| 1. Main Jet | 5. Slow Running Tube |
| 2. Interconnection Swivel | 6. Economy Device |
| 3. Pump Injector | 7. Needle Valve |
| 4. Air Correction Jet | 8. Float |

FUEL SYSTEM

Servicing

In any investigation of suspected faulty carburation, first check through the instrument to ensure that the correct jet sizes, recommended by the Manufacturers, are fitted.

Whilst it is important to see that jets have the right numbers stamped on them, the possibility that a jet may have been tampered with, or careless cleaning has altered the flow of petrol or air through a jet, should not be overlooked. If, therefore, there is any indication that any of the jets have been interfered with, a new part, of the correct size, should be fitted.

Although a general check of the carburettor is advisable, in the investigation of any complaint, we detail below, under specific headings, points that have a bearing on the particular trouble experienced.

We cannot stress too strongly however, that it is essential to ensure the electrical side, particularly ignition setting, contact breaker gaps and spark plug condition, are all checked thoroughly and that the tappet adjustments are correct. All of these can upset the running and are often wrongly diagnosed as 'carburettor trouble'.

Difficult Starting from Cold

Make sure there is petrol in the floatchamber, as cases are encountered where sediment or gum cause the needle valve to stick in the closed position, thus preventing the entry of fresh fuel when attempting to start. This can explain difficult starting, as fuel in the floatchamber may have evaporated after the vehicle has been standing for several hours.

If a sticking needle valve is suspected, remove the top half and operate the needle with a finger. Any tendency for the valve to remain closed can usually be overcome by rinsing it in methylated spirit. This will dissolve gum deposit and wash off sediment.

Ensure the strangler flap, in the air intake, closes completely, when the dashboard control is operated. From examination of the choke control on the carburettor, it will be seen that there is no mechanical connection between the strangler control wire and the spindle on which the strangler flap is mounted.

Movement of a cam lever, on the side of the main body, permits the spring-loading of the strangler spindle and arm to close the flap in the intake; therefore, undue friction by reason of a bent spindle, carboned-up bearings or a broken spring would explain inability to start, through the strangler being in the partially or fully open position when the dashboard control is fully extended. Removal of the air cleaner will enable this to be checked.

Excessive tightening of the air cleaner connection could distort the air intake and cause the strangler flap to stick open. The intake is not fragile and the above will only occur if excessive force is used in tightening the connection.

The only adjustment that affects starting from cold, is the amount the throttle is opened above the normal idling position, when the strangler is closed. This is effected by means of a link between throttle and strangler and known as the interconnection adjustment. The setting for a particular engine includes the amount the throttle is opened when the strangler is shut. The measurement given, is the gap between the edge of the throttle and the wall of the throttle bore (on the slow-running outlet side), but whenever possible, is also translated into HALF-turns of the throttle stop screw, from the point at which the screw commences to open the throttle from the dead shut position.

Difficult Starting when Hot

First check that the needle valve is of the correct size. Having cleaned the assembly, replace it with the correct washer and ensure it is screwed tightly in position.

Examine the float for damage and see that it moves freely on the pivot pin.

A new needle valve of the size specified will eliminate the possibility of the assembly being worn and no longer able to withstand normal fuel pump pressure.

Where it is found that petrol floods into the manifold from the discharge orifice within seconds of switching off the motor, in spite of fitting a new needle, check the fuel pump pressure and if necessary have it reduced to prevent the internal flooding which could explain difficulty in hot starting. An additional washer under the needle valve may be effective in preventing flooding and could

FUEL SYSTEM

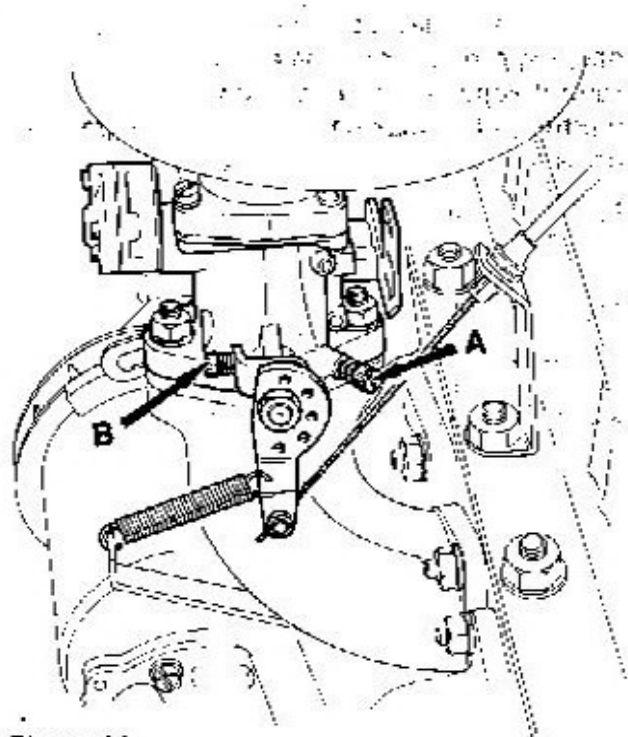


Figure 11.

be tried before recourse to lowering pump pressure.

Generally one can start the motor by gently opening the throttle to the fully or near-fully open position, then rotating the engine by the starter to clear the over-rich condition.

Erratic Slow-running or Stalling on Deceleration

Make certain the slow-running jet is clean, also ensure that the feed hole to the channel in which the jet screws is free. The best method of checking this is to remove the slow-running tube and the main jet, then insert the nozzle of a syringe filled with petrol into the hole from which the slow-running tube has been removed; on operating the syringe, petrol should flow out of the hole from which the main jet has been extracted.

It is also necessary to ensure that the slow-running air bleed, into the air intake is clear.

Check to make certain that the slow-running outlet hole and the progression hole or holes in the throttle barrel are clear and not carboned-up to restrict the orifice.

Remove the volume control screw ('A' fig. 11) to make sure the tapered end is in good condition. If it has been screwed down hard

into the slow-running hole several times, a parallel portion will have been formed on the taper; this will render abortive any attempt to adjust the screw, which should be replaced with a new one. Make certain the spring under the head of the screw effectively spring-loads the screw, to prevent it vibrating out of position when set.

The degree of throttle opening will determine the speed of slow-running, while the adjustment of the volume control screw will vary the mixture strength. Set the former to give a reasonable idling speed, then adjust the volume control screw, ('A') so that, at the speed as set by the throttle stop screw, ('B') the engine will idle evenly, with no tendency to stall on snap closure of the throttle. Also make certain that, as the throttle is opened slowly from the idle position holes, there is clean progressive acceleration of the speed of the engine.

Check carburettor fixing flange for distortion and see that the gasket between this and the induction manifold is sound, to eliminate possibility of air leakage at this point.

In time, wear of throttle spindle and the bearings in which it operates will cause difficulty in obtaining satisfactory idling and explain hesitation and flat spots in opening-up off idle on to the main carburettor.

Stalling of the engine is usually due to the idle speed being set too slow, or the mixture too lean by reason of incorrect adjustment.

It is essential that the foregoing adjustments are made when the engine is at normal working temperature. While the motor is cool during the warming-up period, extension of the choke control will provide the wider throttle opening that will be necessary to prevent the motor stalling.

Excessive fuel consumption

Having checked to ensure the carburettor has the standard setting of jets and air bleeds fitted, make certain that all holes and passages in the instrument are clear. See that the strangler flap in the air intake opens completely when the dash control is released or pushed in.

Dismantle the economy device to make sure the diaphragm material is intact and in good condition, also that the gasket is in position and sound. If a replacement diaphragm is

FUEL SYSTEM

needed it is always best to fit a new spring, as the tension of the spring is vital to the correct operation of the economy diaphragm.

When re-assembling the economy diaphragm, see that the valve is clean and moving freely and that the spring beneath the cover is in position and located squarely in the recess of the metal cup in the centre of the diaphragm. Take care to tighten evenly and fully the screws which secure both the assembly and the cover. Any leakage at the joint will affect the degree of the depression necessary to overcome the spring tension which normally holds the diaphragm in the open position.

Carry out similar check of pump diaphragm and when assembling, see that the diaphragm is fitted with the plain spigot towards the outside.

If there are symptoms of richness on idling and adjustment of the volume control screw ('A') fails to rectify, this would point to internal flooding, the needle not closing on its seating by reason of dirt, wear or excessive pressure from the fuel pump.

Clean the needle valve, ensure it is fitted with the correct washer and screwed tightly in position. Make certain the float chamber gasket is in good condition. Ensure the float moves on the axle pin.

A new needle valve, of the size specified for the particular application, with a new washer, should be fitted if the needle shows signs of appreciable wear. (Approximately 15,000 miles, 25,000 km.)

Should it be found that after the above attention the obvious richness persists, the explanation is doubtless excessive fuel pump pressure and this should be checked and lowered.

A loose float chamber plug or damaged aluminium washer beneath this will cause leakage, with consequent heavier consumption.

Poor Acceleration

Check that the pump diaphragm is sound and is returned to the charged position by the spring incorporated in the assembly.

Remove the pump jet to ensure it is perfectly clear to give an unbroken stream of petrol from the orifice when the pump is operated and that the rubber 'O' ring, sealing the jet, is sound.

Flat spots or hesitation on progressive opening can generally be eliminated by careful adjustment of the slow-running mixture, after making certain the progression holes in the throttle barrel are clear.

In time, wear of the carburettor will affect acceleration and slow-running adversely.

Loss of Power

Check jet and needle valve sizes, make certain that all jets and passages are clear and the throttle is opening fully.