

# SERVICE INFORMATION



## STANDARD AND TRIUMPH VEHICLES

### (NOT FOR PUBLICATION)

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<b>No.</b>	SPORTS/1/P	ADJUSTMENTS AND MAINTENANCE OF S.U. CARBURETTOR TYPE H.4	<b>Date</b>	AUGUST 1954
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The complete information on this carburettor will be covered in the normal way by the Service Instruction Manual but the following preliminary information should enable the majority of work to be carried out. The S.U. Agent in your district should have more comprehensive data available and in cases of doubt it would be wise to make direct contact.

Carburettor Tuning – This should be carried out without the Air Cleaners as we find they have no effect on balance or performance.

The clamping bolts on the throttle universal joint should be slackened off and the carburettors set independently. The rich mixture starting control linkage should also be disconnected by removing the clevis pin.

The suction chamber (4) and piston (3) should be removed and the jet needle (6) position checked. The needle shoulder, as shown in the illustration, should be flush with the base of the recess in the piston.

The jet (14) position should be the same for each carburettor and it is recommended that the adjusting nut (18) is screwed fully home and then slackened back one and a half turns (nine flats) as an initial setting.

The throttle adjusting screw (2) on each carburettor should be adjusted until it will just hold a thin piece of paper between the screw and the stop when the throttle is held in the closed position. The throttle butterfly (1) on each carburettor should then be opened by one complete turn of the screw.

The engine is now ready for starting and, after thoroughly warming up, the speed should be adjusted by turning each adjusting screw an equal amount until the idling speed is approximately 500 R.P.M. The synchronisation of the throttle setting should now be

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checked by listening to the hiss of each carburettor, either directly or by means of a piece of rubber tubing held near the intake. The intensity of noise should be equal and if one carburettor is louder than the other its throttle adjusting screw should be turned back until the intensity of hiss is equal.

After satisfactory setting of the throttle, the mixture should then be adjusted by screwing the jet adjusting nuts up or down to the same extent on each carburettor until satisfactory running is obtained. The lever tension spring should be connected, or, alternatively, the jets held hard up against the nuts during this operation. This mixture adjustment may increase the engine idling speed and each throttle adjusting screw must be altered by the same amount in order to reduce speed to 500 R.P.M.

The balance of the mixture strength should be checked by independently lifting the piston of each carburettor approximately  $1/16''$  to  $1/8''$ . The mixture is correct when this operation causes the engine beat to become irregular from excessive weakness. When the engine stops with this operation it indicates the mixture is too weak and it should be enriched by unscrewing the jet adjusting nut. An increase of engine speed for this operation indicates that the mixture is too rich and, consequently, it should be weakened off by screwing up the jet adjusting nut. The mixture setting should now give a regular and even exhaust beat, if it is irregular with a "splashy" type of misfire and a colourless exhaust, the mixture is too weak and both carburettors should be richened by unscrewing the jet adjusting nut a similar amount. A regular or rhythmical type of misfire in the exhaust note, possibly with a blackish exhaust, indicates the mixture is too rich and, again, both carburettor jet adjusting nuts should be screwed in a similar amount until the setting is satisfactory.

The jets of both carburettors should be held against the adjusting nuts before replacing the mixture control linkage, which should be adjusted if necessary, and similarly the throttles should be held tight against their respective idling stop before retightening the interconnecting clamp bolt.

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#### Replacement of Jet Needle.

This should be carried out by removing the suction chamber (4), piston (3), and replacing the needle (6) in its socket. The needle is located by the clamping screw (7). It is most important that the location of the jet needle in the piston is correct as shown in the illustration and the paragraph on 'Carburettor Tuning,' and also that the jet needle is checked for eccentricity and altered if necessary as shown in the Paragraph on "Carburation Defects.'

It must be realised that the replacement of jet needles will require the carburettors to be re-tuned.

#### Carburation Defects.

The following are the main defects that could occur with the carburettor:

Pistons Sticking. The symptoms are stalling and a refusal to run slowly, or lack of power and heavy fuel consumption.

a) The piston (3) is designed to lift the jet needle (6) by the depression transferred to the top side from the passage facing the butterfly. This depression overcomes the weight of the piston and a light spring (8), and to prevent any oscillation the centre of the piston is filled with engine oil in which the damper rod (26) operates. The piston should move freely over its entire range and rest on the bridge piece (28) when the engine is not running.

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This should be checked by gently lifting the piston with a small screwdriver and any tendency for binding generally indicates one of the following faults:

- a) The damper rod may be bent causing binding and this can be checked by removing it completely. If the piston is now free the damper rod should be restraightened until satisfactory action is obtained when it is refitted.
- b) The piston is meant to be a fine clearance fit at its outer diameter in the suction chamber and a sliding fit in the central bush. The suction chamber should be removed, complete with piston, and the freedom of movement checked after removal of the damper rod. The assembly should be washed clean and very lightly oiled where this slides in the bush and then checked for any tendency of binding. It is permissible to carefully remove, with a hand scraper, any high spots on the outer wall of the suction chamber, but no attempt should be made to increase the clearance by increasing the general bore of the suction chamber or decreasing the diameter of the piston. The fit of the piston in its central bush should be checked under both rotational and sliding movement.

2) Eccentricity of Jet and Needle.

The jet (14) is a loose fit laterally in its recess and must always be centred by the needle before locking up the clamping ring (15).

- a) The needle should be checked in the piston to see that it is not bent. It will be realised that it does not matter if it is eccentric as the adjustment of the jets allows for this, but a bent needle can never have the correct adjustment.

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- b) The jet adjustment nut (18) should be screwed in to its fullest extent and the jet head (21) raised to its highest position by hand. The locking ring should now be slackened to allow the jet and bush assembly to move laterally and then centred to the jet needle by raising the piston to its highest position and allowing it to drop. This should be repeated once or twice and the locking ring retightened. Allow the piston to drop and check that it is still free for lifting with no signs of sticking. Repeat these operations until correct centralisation has been achieved.

3) Flooding from Float Chamber or Mouth of Jet.

This can be caused by a punctured float (10) or dirt on the needle valve (9) or its seat. These items can be readily cleaned after removal of the float chamber cover.

4) Leakage from Bottom of Jet adjacent to Adjustment Nut.

Leakage in this vicinity is most likely due to defective sealing by the upper and lower sealing gland assemblies (17). There is no remedy other than removing the whole jet assembly after disconnecting the operating lever and cleaning or replacing the faulty parts. It is very important that all parts are replaced in their correct sequence, as shown in the illustration, and it must be realised that centralisation of the jet and needle and re-tuning will be necessary after this operation.

5) Dirt in the Carburettor.

This should be checked in the normal way by examining and cleaning the float chamber, but it may be necessary if excessive water or dirt is present to strip down and clean all parts of the carburettor with petrol

NOTE: These instructions are for information only and do not constitute an authority to carry out modifications at the expense of The Standard Motor Company Limited.

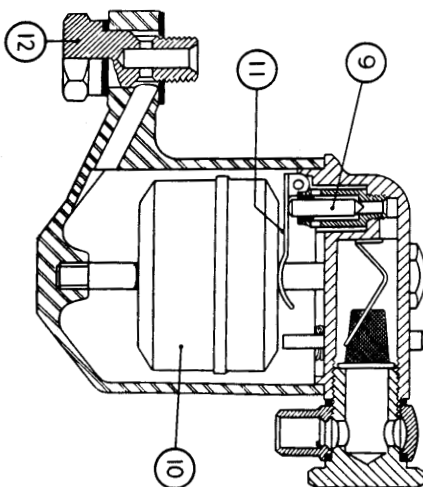
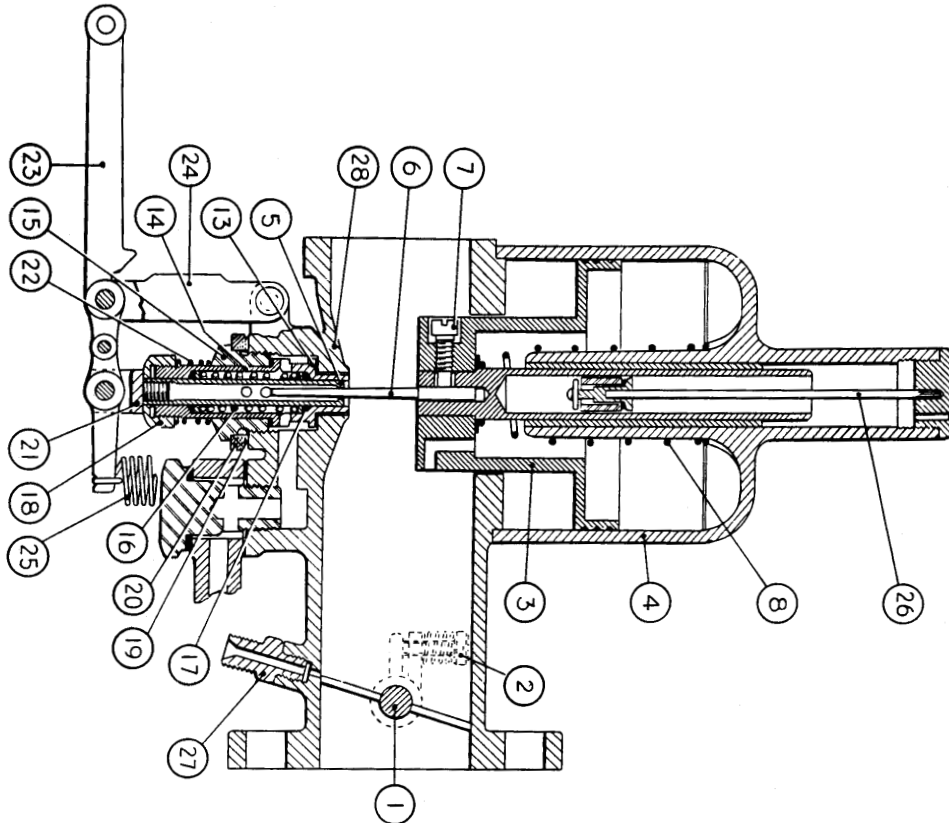
1 ILLUSTRATION.

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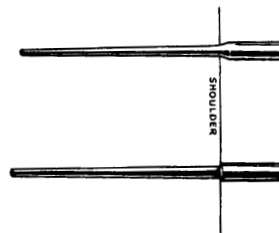


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The shoulder of the needle should be flush with the shoulder of the needle seat. The correct datum point for each is shown.



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