このキャブレターは、カーレーシングエンジン用として開発された、スライドタイプの高性能キャブレターです。エンジンの持つポテンシャルを引き出し、鋭いレスポンスと最高のパワーモーメントを発揮します。また、キャブレター取付部にはサーモインシュレーターを装備し、エンジン本体の温度によるキャブレターへの影響を低減させ、常に安定した燃料供給を可能にしました。

These slide-throttle carburetors have been designed expressly for O.S. racing car engines. They release the full potential of these engines, providing instant throttle response, rapid acceleration and high peak power output.

The shank of the carburettor is fitted with an insulating sleeve of engineering plastic to minimize the transmission of heat from the crankcase to the carburettor body. This prevents excessive pre-heating of the incoming charge and maintains steady running characteristics with rapid deceleration, as well as instant acceleration and maximum power output.

キャブレターソロットルの取付け
キャブレターリテイナーがまわってキャブレター取付穴が塞がっていかないかを確認します。サーモインシュレーターを傷つけないように、キャブレーターを静かに手で挿し込みます。
このキャブレタースロットルは、キャブレーターガスケットとクランクケースのキャブレター取付部ボートのシールウェッシャと2箇所でシールする構造になっています。
次に締付けねじを静かに締めてゆき、軽く打ったところから120～180°締め付けてください。それ以上締め付けますとサーモインシュレーターが破損する場合があります。このキャ
ブレターリテイナーは両側から挟み込む構造となっており、さらにサーモインシュレーターがゆるむと止む効果ももっていますので、120～180°締め付けるだけで十分です。

(注意)このキャブレターは、必ず燃料タンクにマフラーブレッシャーを使用し、燃料タンクのキャップが確実に閉まっているか、燃料系に漏れがないかを確認してください。

このキャブレターには、次の3つの調整部分があります。(写真1)

① ニードルバルブ
全回転域、特に高速域における混合気を調整します。
ニードルバルブを調整すると、中速付近にも影響します。

② アイドル調整バルブ(アイドル調整ねじ)
安定したアイドルレリシと、スムーズな中速への加速が得られるようアイドルレンジの混合気を調整します。
(工場出荷時に調整してありますので、無理に調整をしないでください。)アイドル調整バルブを調整すると中速付近にも影響します。

③ スロットル・ストッパー
スライドバルブの止まる位置を調整します。

Warning! Do not over-tighten the retainer screw as this will damage the insulator.

Important: These carburetors require muffler pressurized fuel feed. Make sure that the fuel tank is completely sealed when filled and that there are no leaks in the pressure line or delivery pipe.

ADJUSTING THE CARBURETOR
Three adjustable controls are provided on this carburettor.

- The Needle Valve:
When set to produce maximum power at full throttle, this establishes the basic fuel/air mixture strength, which is then maintained by the carburettor's automatic mixture control system to cover the engine's requirements at reduced throttle settings.

- The Mixture Control Valve (Mixture Control Screw):
For adjusting the mixture strength at part-throttle and idling speeds, to obtain steady idling and smooth acceleration to medium speeds. The Mixture Control Valve has been factory set for the approximate best result. First, run the engine as received, and re-adjust the Mixture Control Valve only when necessary.

- The Throttle Stop Screw:
For setting the position where the carburettor rotor is closed.
ADJUSTMENT

Note: Optimum carburettor performance is possible only after the engine has been adequately run-in - as described in the engine instruction leaflet. Carburettor adjustment procedures should then be carried out (with the air cleaner fitted, where appropriate) as follows.

1. Use the same fuel as you intend to use for normal running.

2. Open the Needle-Valve 2 1/2 turns (20A carburettor) or 3 turns (20B carburettor) from the fully closed position. Set the throttle very slightly open from the idling position (0.3mm~0.5mm from the fully closed position). Start the engine and allow it to warm up.

3. Now check that the Mixture Control Valve is set slightly rich, i.e. so that, after idling for five seconds, the engine hesitates, when the throttle is opened, before picking up speed. If the engine stops due to being over-rich, set the idling speed slightly higher by means of the Throttle Stop Screw. Operate the car smoothly, avoiding abrupt throttle movements at this stage. If, however, the engine still stops through being over-rich, close the Needle-Valve about 30° and try again.

4. Run the vehicle with this needle-valve setting (and with throttle fully open) over the longest available straight course, in order to observe the model’s speed. Next, return the car to the starting point, close the Needle-Valve 30° and repeat the run, taking note of the improvement in performance. Continue with further runs, gradually reducing the Needle-Valve setting and aiming to achieve the highest straight-line speed. Remember, however, that, if the Needle-Valve is shut down too far, the engine will overheat and, accompanied by visibly diminished exhaust smoke, the model will lose speed. At this point, throttle down immediately, stop the vehicle and reopen the Needle-Valve 30~45°.

5. Re-check performance, making small readjustments to the Needle-Valve, until a setting is found that gives the highest speed without overheating, then open the Needle-Valve 20~30° as a safety margin. This is the optimum setting, although it may need to be altered if a different fuel is used.

6. Having established the optimum needle-valve setting, check the Mixture Control Valve setting as follows.

7. With the engine running, close the throttle and allow it to idle for about five seconds, then open the throttle fully. If, at this point, the engine puffs out an excessive amount of smoke and the vehicle does not accelerate smoothly and rapidly, it is probable that the idling mixture is too rich. In this case, turn the Mixture Control Valve clockwise 30°. If, on the other hand, the engine tends to speed up momentarily and then cut out abruptly when the throttle is opened, the idling mixture is too lean. Correct this by turning the Mixture Control Valve counter-clockwise 30~45°.

Note: Mixture Control Valve adjustment should be made in steps of not more than 30°, carefully checking the effect, on throttle response, of each small adjustment.
8. Carry out adjustments patiently, under actual running conditions, until the engine responds quickly and positively to the throttle control.

9. With the optimum settings, light smoke is visible during high-speed running and engine revolutions increase smoothly during acceleration. Remember that, if the engine is operated with the fuel/air mixture only slightly too lean, it will overheat and run unevenly. As with all engines, it is advisable, as previously noted, to set both valves very slightly on the rich side of the highest r.p.m. setting, as a safety measure.

10. If the engine runs too fast with the throttle closed, the Throttle Stop Screw should be turned counterclockwise a few degrees to allow the throttle opening to be reduced. Readjustment may be necessary to suit alterations in gear ratios or the clutch engagement point.

SUBSEQUENT READJUSTMENTS

Mixture adjustments (whether via the Mixture Control Valve, or the Needle-Valve) cannot be made accurately under 'no load' conditions, which, in any case, are not advised, since such operation carries the risk of seriously damaging the engine through over-revving and overheating.

Once the engine has been run-in (see engine instructions) and the carburettor controls properly set up, it should be unnecessary to alter the mixture settings, except to make minor adjustments to the Needle-Valve occasionally, to take account of variations in climatic conditions.

The use of a different fuel, however, particularly one containing more, or less, nitromethane and/or a different type or proportion of lubricating oil, is likely to call for some readjustment of the Needle-Valve.

Remember that, as a safety measure, it is advisable to increase the Needle-Valve opening by an extra half-turn counter-clockwise, prior to establishing a new setting. The same applies if the silencer type is changed. A different silencer may alter the exhaust pressure applied to the fuel feed and call for a revised Needle-Valve setting.

CARBURETTOR CLEANLINESS

The correct functioning of the carburettor depends on its small fuel orifices remaining clear. The minute particles of foreign material that are present in any fuel, can easily partially obstruct these orifices and upset mixture strength so that engine performance becomes erratic and unreliable.

O.S. ‘Super-Filters’ (large and small) are available, as optional extras, to deal with this problem. One of these filters, fitted to the outlet tube inside your refueling container, will prevent the entry of foreign material into the fuel tank. It is also recommended to install an in-line filter be installed between the tank and carburettor. Do not forget to clean the filters regularly to remove dirt and lint that accumulate on the filter screens. Also, clean the carburettor itself occasionally.
BALL LINK AND SLIDE VALVE EXTENSION

When readjusting the position of the Ball Link, always apply a 6mm spanner or wrench to the flats on the Slide Valve Extension, before attempting to loosen or tighten the ball link retaining screw. Carefully ease back the Dust Cover bellows to allow access to the flats. If it should become necessary (e.g. for cleaning) to disassemble the throttle parts, first unscrew the Slide Valve guide screw and withdraw the complete sub-assembly from the carburettor body. Use the correct size (8mm) wrench when unscrewing the Slide Valve from the Slide Valve Extension. See Fig. 2 and parts drawing (below).

REALIGNMENT OF MIXTURE CONTROL VALVE

In the course of making carburettor adjustments, it is just possible that the Mixture Control Valve may be inadvertently screwed in or out too far and thereby moved beyond its effective adjustment range. Its basic position can be found by first rotating the Mixture Control Valve until its slotted head is flush with the carburettor body. The valve is then screwed in exactly 1 turn (20B carburettor), or 3 turns (20A carburettor), to establish its neutral position. See Fig. 3 (above, left).