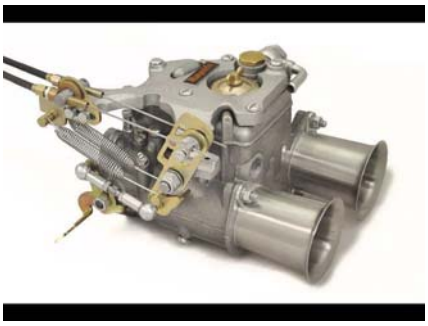
NEW MANGOLETSI "SLIDING SET UP" LINKAGE

Weber DCOE and Dellorto DHLA - Patent Pending No. 0922289.4
Supplied with service kit for long life, Allen keys and instructions

EASY FIT. –Simply bolt the ready assembled linkage to the top of the carburettor. The casting is profiled to the shape of the carburettor lid and carries the linkage assembly alongside the carburettor, preserving the classic style. The ultra-low profile makes it suitable for all applications - Height over highest part of carburettor - Weber 10mm: Dellorto 5mm



< Weber

Dellorto>

DESIGNED AND CONSTRUCTED FOR COMPETITION USE SO SIMPLE – SO ADVANCED

Every component is engineered to the highest possible specification for reliability and functionality.

- For smooth operation and long life, all rotating parts – main operating lever, cable clamps, cable adjuster swivel - run on phosphor bronze bushes – no lubrication required.
- Left and right hand steel ball joints are fitted with dust shrouds and are joined by an 8mm hex bar, threaded at either end for easy adjustment, with central spanner or finger adjustment
- Twin return springs securely located in anchor bars with circular grooves enable the spring loop to rotate smoothly as the throttles are opened/closed
- Cable adjusters located in a swivelling barrel which enables the cables always to follow the direct line of tension, without the chafing to the inner cable that occurs when a rotating lever is operated from a fixed cable adjustor.
- Very wide cable travel range: minimum 22mm – maximum 48mm
- Anti-vibration precautions - Nylok nuts, bolts and locknuts are used on every component that could work loose. The stud screwed into the casting on which the main operating lever rotates is roll pinned.
- For long life all steel components are plated passivated silver or gold finish and washers, roll pins, split pins and appropriate washers are stainless steel.
- Adjustable throttle pedal stop – protects linkage and carburettors from overloading damage
- Throttle Levers - heavy duty 3mm thick throttle levers and spring compensator levers
- Split twin cable pedal block for ease of fitting, which also retains inner cables completely captive. Heavy duty twin cables with nylon sleeves and threaded adjustable steel fixings to bulkhead.

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UNIQUE GEOMETRY – The linkage main operating lever, cables, return springs, ball joint hex joining bar and carburettor throttle lever all operate in the same plane. The smallest movement on the cable is translated with no lost motion to the throttle lever. The return springs react directly against the main operating lever via the joining bar to the throttle lever gives a very responsive and progressive throttle feel.

EASY SET UP - All aftermarket throttle linkages have to fit a wide range of different applications and makes, with different throttle cable travel and spring tension requirements. Unless the linkage system has a very wide range of adjustment for the throttle cable travel, some applications will not fully open or close the throttle. The Mangoletsi linkage has 22 – 48mm of adjustment. Adjusting the linkage for the correct cable travel will then alter the tension of the pull-off springs. Therefore it will be necessary to adjust the spring tension to positively return the engine to idle or give a good "feel" to the throttle pedal.

With the new Mangoletsi sliding set-up linkage it is absolute simplicity to set both the cable travel and the spring tension, thus ensuring sufficient tension to guarantee complete closure of the throttle plates.

TOOLS, SPARES AND SERVICE KIT

(Supplied in one pack)

TOOLS

2 x Allen keys - One key is supplied to undo the special Nylok socket head set screw that tightens the cable swivel clamp plate that adjusts the throttle pedal travel. The second key is used for the concealed throttle pedal stop screw.

SPARES

Selected washers, nuts bolts and ball joint retaining clips, etc., are commonly mislaid components. Replacements are supplied to cover this eventuality.

Components

1 x 4mm short set screw – twin inner cable clamp
1 x 4mm long set screw– single inner cable clamp
2 x 4mm lock nuts – inner cable clamp bar
2 x ball joint dust shrouds
2 x ball joint spring retaining clips
1 x 5mm Nylok nut
1 x 5mm left hand thread locknut – hexagon ball joint bar assembly
1 x 5mm right hand thread locknut– hexagon ball joint bar assembly

SERVICE KIT

To ensure long life for your new linkage, replacement oilite bushes are supplied for the main operating lever and the inner cable clamp swivel, and dust shrouds for the ball joints. To change the slip bush in the main operating lever, simply undo the retaining Nylok nut, remove the lever and oilite bush, insert the new bush over the stud, replacing the two 8.0mm stainless washers either side of the bush. Fit new Nylok nut. Tighten firmly against bush. To change the Oilite bush in the clamp plate, first check which side of the clamp plate the shoulder of the bush is pressed against, push the bush out and carefully press in the new bush. This can be done by clamping the plate and the bush in the jaws of a vice and slowly pressing them together.

Components

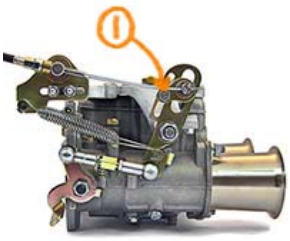
Main operating lever	New oilite bush, 2 x 8mm stainless washers, 1 x 8mm Nylok nut.
Clamp plate	New oilite bush, 4 x 6mm stainless washers

INSTALLATION INSTRUCTIONS

MANGOLETSI "SLIDING SET UP" LINKAGE

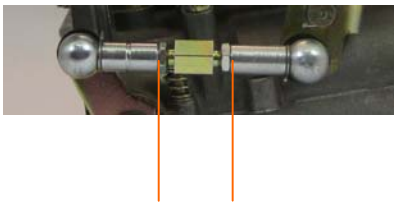
1. **Pre-assembled linkage** – bolt to carburettor with new bolts and washers supplied
2. **Manifold** -The carburettor flanges on Mangoletsi manifolds are not connected between port 3 and 4. Other makes may require removal of the cast joining bar.
3. New **carburettor levers** (see note 1) - **Single** carburettor linkage kit – bolt new main operating lever to carburettor (discard twin compensator lever). **Twin** carburettor linkage kit – fit the operating and compensator levers
4. **Ball joint hex joining bar** – push the ball joint dust shrouds over the balls. Press the ball joint assembly on to the balls. Insert spring retaining clips into ball joint bodies.
5. **Cables – Single cable**: Reconnect original cable through swivelling cable adjuster and through the cable clamp (see note 3)
   Twin cable linkage – Fit pedal block to accelerator pedal and drill 2 holes through bulkhead (see note 2). Pass twin cables through swivelling cable adjuster and through the twin cable clamp. (see note 3)
   Ensure throttle pedal lever is in closed position and outer cables are tight between pedal end and swivelling cable adjusters.

SET UP INSTRUCTIONS



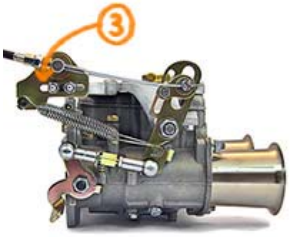
1. SET **the throttle pedal travel** – Unscrew throttle plate idle screw until it is clear of the new carburettor lever so that the throttle plates can completely close. Slacken bolt on cable clamp carrier with the Allen key supplied. **Slide** the whole cable clamp assembly along the slots until throttle fully open and throttle fully closed positions are achieved. Tighten bolt, then locknut.

Measurements shown are taken between ball joint bodies. First undo nuts

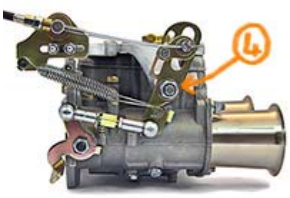


Measurements
See text

2. SET **the rate of throttle opening** – To obtain the optimum "feel", the rate of opening the throttle can be fine-tuned by adjusting the centres of the ball joints by rotating the hex joining bar. As a starting point, the gap between the ball joints is factory set at 16.0mm for Webers and 26.0mm for Dellortos. If you want the throttles to open more quickly for a small pedal movement, increase the gaps up to 18.0mm for Webers and 28.0mm for Dellortos. If you want the pedal to travel further for a smaller opening, close the gaps down to 14.0mm for Webers and 24.0mm for Dellorto. Re-tighten ball joint body locknuts. Obviously you can adjust to any setting between these limits to suit your driving style. **Never exceed minimum 14.0mm-maximum 18.0mm for Webers and minimum 24.0mm-maximum 28.0mm for Dellorto.**



3. SET **the spring tension** – slacken the nuts on the spring/swivelling cable adjuster carrier plate. Slide plate along slot until a good balance between a positive idle shut-off and pedal feel is obtained. Tighten nuts.



4. SET **throttle stop screw.** Adjust idle speed with carburettor adjusting screw. Open carburettor throttles until the carburettor throttle lever hits the full throttle stop on the carburettor casting. Using Allen key supplied, screw down socket screw until it just makes contact with the throttle stop lug on linkage main operating lever. Then tighten lock nut. **Re-check that you have full throttle cable movement between fully open and fully closed.**

NOTES TO INSTALLATION INSTRUCTIONS.

NOTE 1

New Carburettor levers - The levers may be a tight fit on the shaft. If so, press the lever on to the spindle until at least 2 threads show. Put back tab washer, and tighten nut against lever to drive it square along the shaft. Turn over tabs.
For twin carburettor applications - Offer up both carburettors to the manifold. On the main operating lever, cut the steel joining bar to correct length. Check each carburettor separately to ensure that they open and close positively. If not, refer to paragraph below to set them up correctly, then continue.
Adjust the compensator lever to open and close both carburettors simultaneously - linkage carburettor, back off idle screw, second carburettor, remove idle screw, so all the throttle plates are fully closed. Next open linkage carburettor idle screw by half a turn. Back off the adjusting screw on the compensator lever until clear of the joining bar. Slowly screw it back to the bar until the throttle plates on both carburettors just start to open. Tighten locknut on compensator screw. To double-check, back off idle screw to check all 4 throttle plates close and then open again simultaneously.

If the carburettors are not closing positively, each carburettor should be checked separately as follows:-
Check there is clearance between the carburettor body and the throttle levers and throttle end cover plates. If not, slacken spindle nuts and tap gently both ends of the throttle shaft until it frees off. If it does, re-tighten nut until it just touches the lever, then lock tab washer. If this is unsuccessful, very slightly slacken the throttle plate screws until the throttle plates are just slack (if you unscrew them too much, or totally remove them, they may fall out in later use). It is advisable to gently tap the throttle plates, and agitate the throttle shaft backwards and forwards, so that they both fully close in to the bore of the carburettor – re-tighten screws. You may need to repeat the process until successful.

NOTE 2

Twin Cable Linkages – Position split pedal block assembly on the throttle pedal shaft, as close as possible to the original cable fixing position, so that the cables will face an area of the bulkhead where you can drill 2 x 8mm holes at 20mm centres. Next insert inner cables into the pedal block and clamp up pedal block tightly to the pedal shaft. Fix the threaded outer cable through the drilled holes.

NOTE 3

Connecting cables
Single cable – Fit 1 washer between cable clamp shoulder and oilite bush. Fit 2 washers between other side of oilite bush and inner cable – maximum 1.0cm of cable to pass through clamp. Tighten 4mm bolt and locknut.
Twin cables – Fit 2 washers between each of the two cables and the oilite bush - maximum 1.0cm of cable to pass through clamp. Tighten 4mm bolts and locknuts.
Single and Twin – It is important to support the cables between the bulkhead and the swivelling cable adjusters. Tie-wraps supplied may assist to give smooth run

FINAL CHECK LIST

- Ensure all components rotate smoothly in oilite bushes. If there is any tightness, rotate components vigorously by hand to remove any high spots – Oilite bushes are self-lubricating.
- Check pedal stop on linkage bracket is adjusted so that the main operating lever stops simultaneously with the carburettor lever full throttle stop striking the carburettor casting.
- Check throttle pedal travel operates fully to give full throttle and correct idle speed.
- Check all nuts and bolts are tight.
- Check cables have smooth path