THE

CARBURETTER

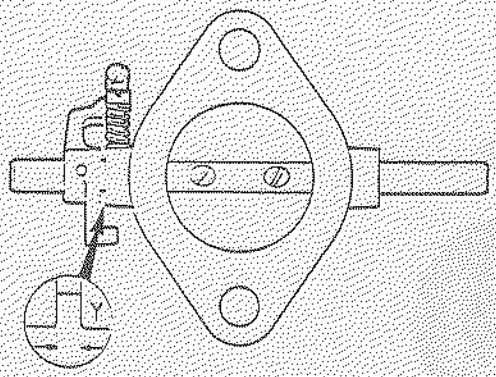
REPAIR INSTRUCTIONS
and
IDENTIFICATION
of
COMPONENTS

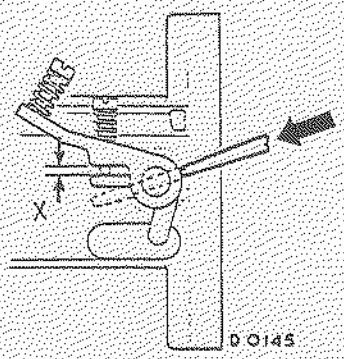
MANUFACTURED
by
THE S.U. CARBURETTER COMPANY LIMITED
WOOD LANE · ERDINGTON · BIRMINGHAM 24
TELEPHONE: ERDINGTON 7371 (9 lines) TELEGRAMS: CARBURFLEX, BIRMINGHAM
TELEX: 338342

S.U. Service Sheet No. AUC 9802

REPAIR INSTRUCTIONS

H Type





X=$\frac{1}{8}$ in. (3·2 mm.) Y=·015 in. (·38 mm.)

1 Worn throttle spindle

A. Remove the throttle disc, levers and spindle (see H type Dismantling and Assembling Leaflet).

B. Use Service tool TUA 18 for carburetters with $\frac{1}{4}$ in. (6·35 mm.) diameter spindles or TUA 19 for $\frac{5}{16}$ in. (7·94 mm.) diameter spindles (see table) and ream the throttle spindle bores in line. Ream the throttle stop bore and the bores of any levers. The various bores will then be ·010 in. (·254 mm.) oversize.

C. Select the appropriate oversize spindle and shorten to the correct length. Remove any fraze from the spindle bore holes and chamfer the cut end(s) of the spindle.

D. Fit the spindle, throttle disc, and return spring (if any) to the carburetter body.

E. Slide the throttle stop onto the spindle to its correct position (see illustrations) and place the carburetter body in a vee-block. Drill right through the throttle stop and spindle with a 3-mm. drill, ensuring that the throttle is closed. Secure the stop to the spindle with a $\frac{1}{8}$ in. (3·18 mm.) taper pin.

Carburetter type	Diameter of spindle	Service tool
H1	$\frac{1}{4}$ in. (6·35 mm.)	TUA 18
H2	$\frac{1}{4}$ in. (6·35 mm.)	TUA 18
H2	$\frac{5}{16}$ in. (7·94 mm.)	TUA 19
H4	$\frac{5}{16}$ in. (7·94 mm.)	TUA 19
H6	$\frac{5}{16}$ in. (7·94 mm.)	TUA 19

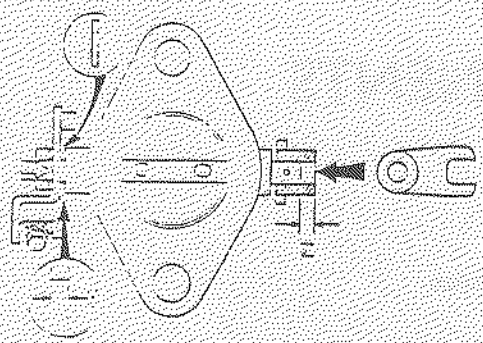
2 Body repair

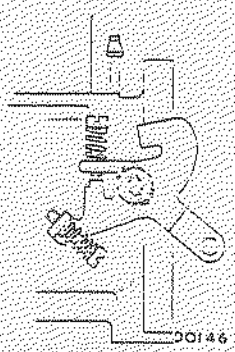
A. Check both flange faces with a straight-edge. If necessary, restore a flat surface by careful filing, or by lapping with a sheet of emery-cloth on a flat surface.

B. If the piston guide key needs re-tightening, lightly rivet over the outer end of the rivet, or tighten the retaining screw as applicable. Take care not to distort the body.

C. Check that the fuel feed, vacuum ignition and weakening device holes are clear. Do not enlarge the holes in any way.

HS Type





Y=·015 in. (·38 mm.) Z=$\frac{3}{16}$ in. (4·75 mm.)

1 Worn throttle spindle

A. Remove throttle disc, levers, and throttle spindle (see HS type Dismantling and Reassembling Leaflet). Drive out the taper pin and remove the lost motion lever from the spindle (if fitted).

B. Ream the throttle spindle bores using Service tool TUA 18 or TUA 19 as appropriate (see accompanying table). Ream the lost motion lever bore.

C. Shorten the appropriate oversize spindle to the correct length. Remove any fraze from the spindle bore and chamfer the cut end of the spindle.

D. Fit the spindle and throttle disc to the carburetter body.

E. Slide the lost motion lever (if fitted) to its correct position as illustrated, drill through the lever and spindle with a 3-mm. drill and secure in position with a $\frac{1}{8}$ in. (3·18 mm.) taper pin. NOTE: Some carburetters have a spacing washer between the throttle lever and carburetter body. Where no washer is fitted a running clearance of ·015 in. (·38 mm.) is necessary, as illustrated.

2 Body repairs

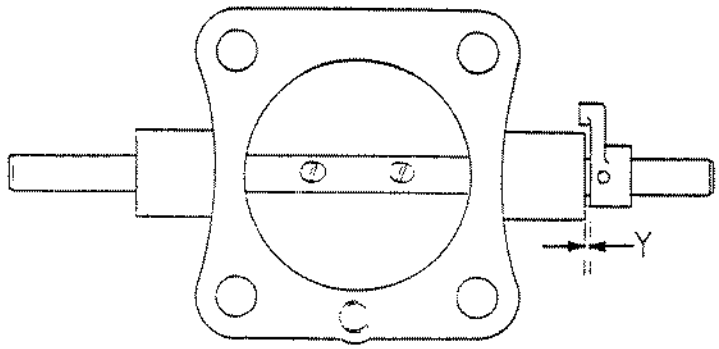
A. Check both flanges for truth with a straight-edge. True-up the flange faces if necessary by careful filing, or by lapping on a flat surface.

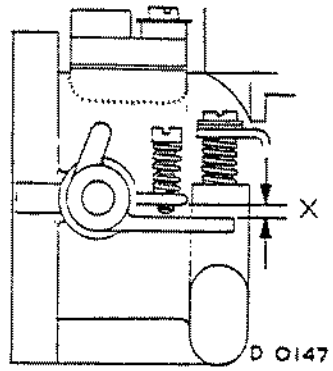
B. If the piston guide key needs re-tightening, lightly rivet over the outer end of the rivet, or tighten the retaining screw as applicable. Take care not to distort the body.

C. Check that the vacuum ignition and weakening device holes are clear. Do not enlarge the holes.

Carburetter type	Diameter of spindle	Service tool
HS2	$\frac{1}{4}$ in. (6·35 mm.)	TUA 18
HS4	$\frac{5}{16}$ in. (7·94 mm.)	TUA 19
HS6	$\frac{5}{16}$ in. (7·94 mm.)	TUA 19
HS8	$\frac{5}{16}$ in. (7·94 mm.)	TUA 19

HD Type





X = $\frac{1}{8}$ in. (3·2 mm.) Y = ·015 in. (·38 mm.)

1 Worn throttle spindle

A. Remove the throttle disc, levers, and spindle (see HD type Dismantling and Reassembling Leaflet). Prise out the retaining caps and remove the spindle sealing gland assemblies.

B. Using Service tool TUA 19, ream the throttle spindle bore ·010 in. (·254 mm.) oversize. Drive out the taper pin and remove the throttle stop from the spindle. Ream the bore of the stop and any spindle levers with Service tool TUA 19.

C. Select the appropriate oversize spindle, and shorten to the correct length. Chamfer the cut ends and refit the spindle and throttle disc. Fit the return spring assembly.

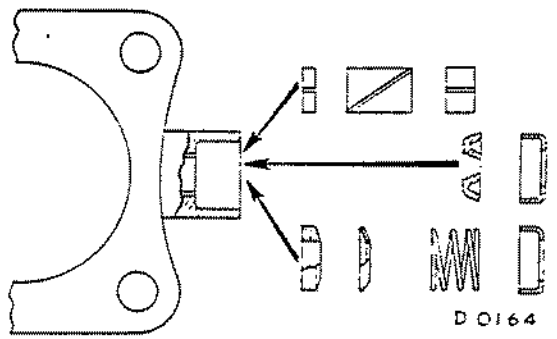
D. Insert the cork gland (soaked in oil), cup washer (with its concave face to the gland), spring and cap into the spindle bore recess at each side of the carburetter body (see lower illustration). When a 'lip' seal is fitted the lips face outwards as illustrated, no cup or spring is used. Always refit a new cap and with the cork gland tap the cap in until it is flush with the edge of the recess. The lip seal must abut the inner edge of the recess.

E. Refer to HS type (opposite) for details of the lost motion lever.

F. Slide the stop lever to its correct position as illustrated, place the carburetter body in a vee-block and drill through stop and spindle with a 3-mm. drill. Ensure that the throttle is kept closed. Secure the stop to the spindle with an $\frac{1}{8}$ in. (3·18 mm.) taper pin.

2 Body repair

A. Check the flange faces with a straight-edge. If necessary, true up the faces by careful filing or by lapping on a flat, true surface.



B. Tighten the retaining screw for the piston guide key, if necessary.

C. Ensure that the by-pass idling passages, and vacuum ignition and weakening device holes are clear. Do not enlarge the holes.

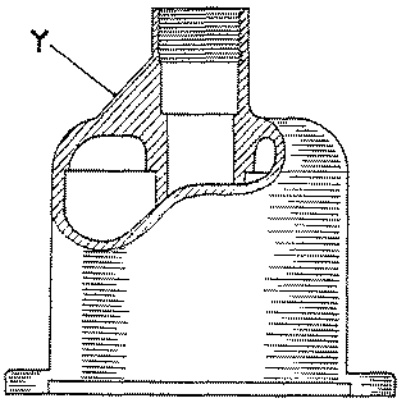
Carburetter type	Diameter and material	Service tool
HD4	$\frac{5}{16}$ in. (7·94 mm.)	TUA 19
HD6	$\frac{5}{16}$ in. (7·94 mm.)	TUA 19
HD8	$\frac{5}{16}$ in. (7·94 mm.) brass	TUA 19
HD8	$\frac{5}{16}$ in. (7·94 mm.) steel	TUA 19

Oversize throttle spindle applications

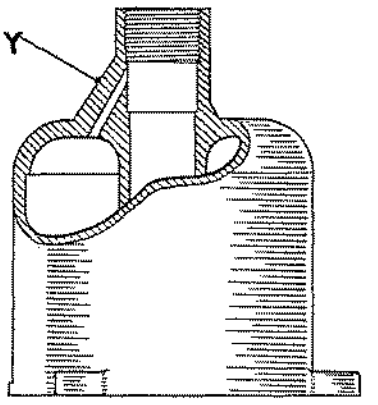
Oversize Spindle part number	Carburetter type	Carburetter model	Standard Spindle diameter
AUE 400	H	OM	·250 in. (6·35 mm.)
AUE 401	H1		·250 in. (6·35 mm.)
AUE 402	H	HV2	·312 in. (7·94 mm.)
AUE 403	H2	Brass levers	·312 in. (7·94 mm.)
AUE 404			·312 in. (7·94 mm.)
AUE 405	H4 or HD4		·312 in. (7·94 mm.)
AUE 406	HV5 and H5		·312 in. (7·94 mm.)
AUE 407	H6 or HD6		·312 in. (7·94 mm.)
AUE 408	H8 or HD8		·312 in. (7·94 mm.)
AUE 409	H1	Steel lever	·205 in. (6·35 mm.)
AUE 410	H2	Steel levers	·250 in. (6·35 mm.)
AUE 411	HS2		·250 in. (6·35 mm.)
AUE 412	HS4		·312 in. (7·94 mm.)
AUE 413	HS6		·312 in. (7·94 mm.)

IDENTIFICATION OF COMPONENTS

Suction chambers

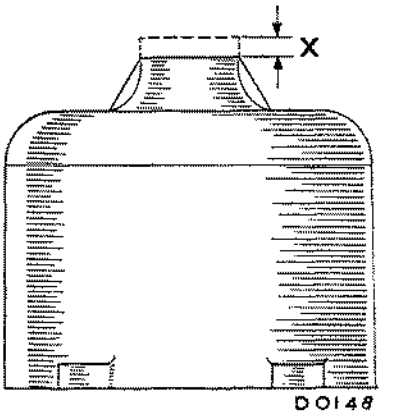


Non-dustproofed



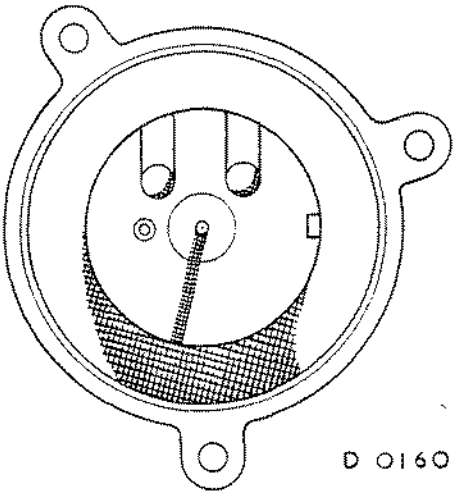
Dustproofed (Note internal drilling)

Y–Casting web may appear on both types

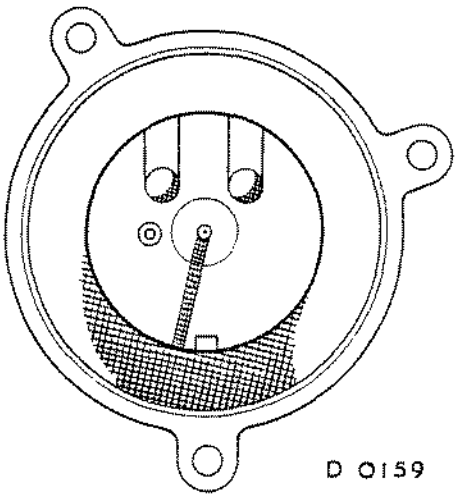


Shortened HD8 and HS8
X = $\frac{3}{16}$ in. (4·75 mm.)

Piston keyway position

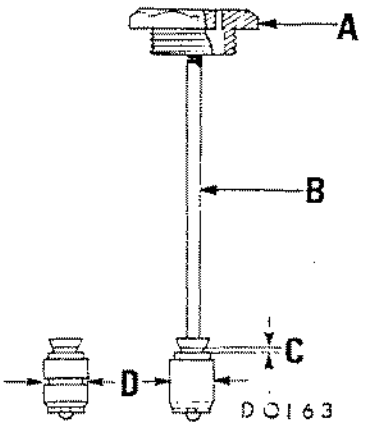


All H type and HS2 Side key



All HD, HS4, HS6, and HS8 Front key

Piston dampers



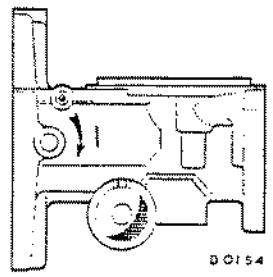
A	Cap	With vent hole (Non-dustproofed) Without vent hole (Dustproofed)
B	Stem length	2·125 in. (28·57 mm.) or 2·375 in. (34·925 mm.) used in 2 in. (5·08 cm.) carburetters except shortened versions see 'Suction chambers'
C	Valve travel	Approx. $\frac{1}{16}$ in. (1·6 mm.) standard Approx. $\frac{1}{8}$ in. (3·2 mm.) some twin carburetters
D	Plunger diameter	·336 in. (8·53 mm.) standard ·322 in. (8·18 mm.) non-standard identified by groove

Note.—All combinations of these features have been used. If in doubt compare part number on cap to Parts List.

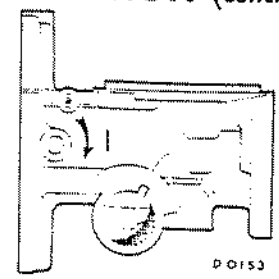
IDENTIFICATION *(continued)*

Bodies

HS



HS2 single (Solid mounting only)
1. To open.

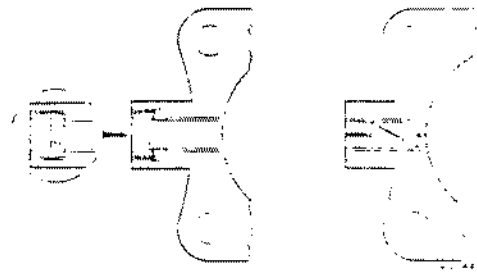


Pairs HS2 All HS4 and HS6 (Solid or flexible mounting)

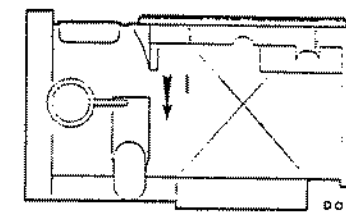
1. Majority of HS4 and HS6 throttle adjusting screw $\frac{1}{16}$ in. (4·75 mm.) extra between centre lines.
2. Crankcase ventilator tube.

HD

1. Auto-ignition.
2. Weakening device.
3. By-pass idling screw (standard).
4. Slow-run screw (limited production).



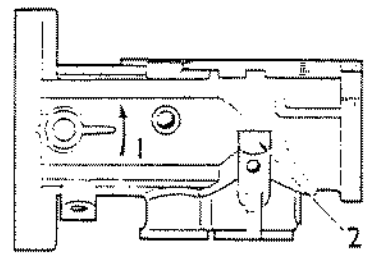
Sealing gland or plastic bush (inset) lip seal alternative to gland

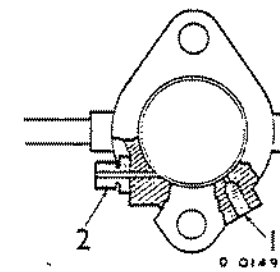


1. To open.

H

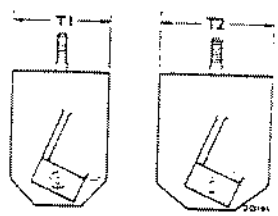
1. To open.
2. Drilled and tapped when air balance fitted.



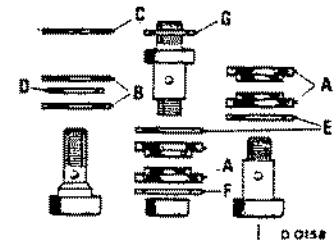


1. Auto-ignition.
2. Weakening device.

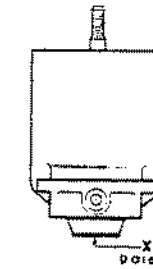
Float chambers



H type horizontal, 20°, 30°, and 45° L.H. only
T1 = $1\frac{7}{8}$ in. (47·63 mm.) dia.
T2 = $2\frac{1}{4}$ in. (57·15 mm.) dia.

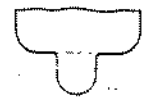


Holding-up bolts H type
1. Earlier type. A–rubber. B–fibre (narrow). C–fibre (wide). D–brass. E–steel. F–steel (small bore). G–fibre.

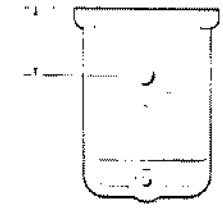


HD type horizontal and 30° X-drilled and tapped for thermo-carb (if fitted).

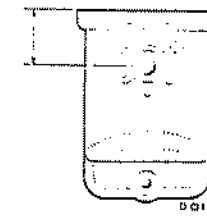
Single HS2 angled



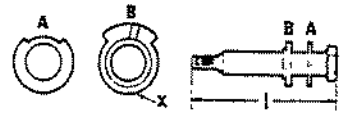
1958-60



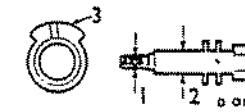
HS4, 6, 8, pairs HS2 angled



Horizontal



Flexible mounting soft 40/shore, hard 60/shore
1. HS2 shorter than HS4–6.
2. X–Compare part number here to Parts List.
A–steel. B–rubber.



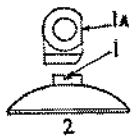
Solid mounting
1. HS2 stepped thread to shank.
2. HS4 and 6 parallel.
3. Metal.

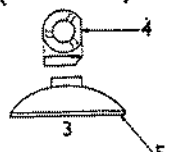
Both mountings available 20°, 30° and horizontal.

4

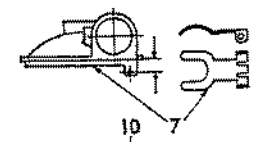
IDENTIFICATION *(continued)*

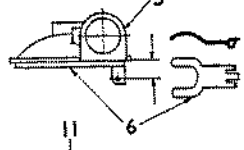
Float-chamber lids



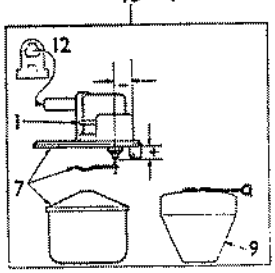


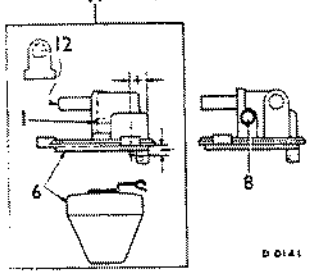
H and HD





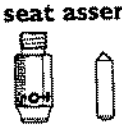
HS



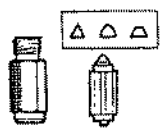


1. Air vent.
1A. Plain cap washer.
2. Pre-1962.
3. 1962 onwards.
4. AUC 1245 vent washer.
5. T1 or T2 size.
6. 1963 onwards.
7. Pre-1963.
8. Overflow (no vent drilling).
9. Nylon float alternative pre-1963 (fork attached).
10 and 11. Floats and forks not interchangeable between units.
12. Air vent baffle plate.

Needle and seat assemblies



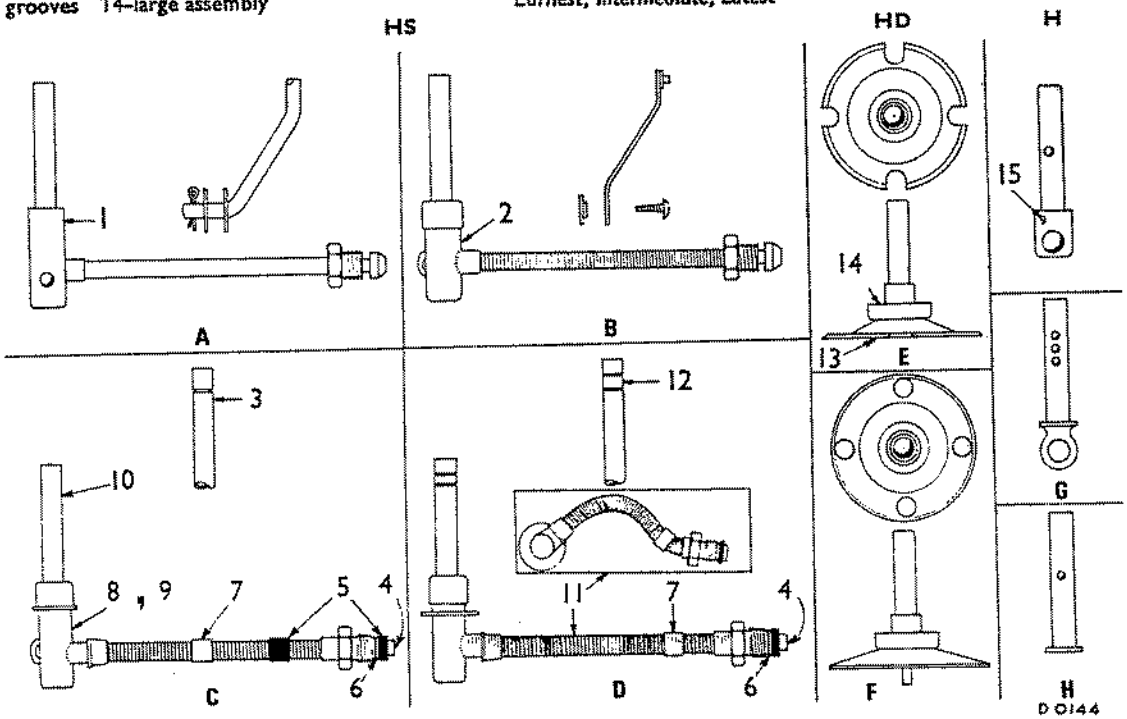
Steel (4 sizes)
TO–as drawn T1–one groove
T2–two grooves T4–large assembly



Plastic (Spring-loaded, one size)
Inset—tip shapes
Earliest, Intermediate, Latest

Brass (Viton-tipped, one size)

Jets



A. Early HS2.
B. Intermediate HS2.
C. Latest HS2.
D. HS8.
E. Standard.
F. Rolls-Royce only.
G. Eye type.
H. Thermostatic.

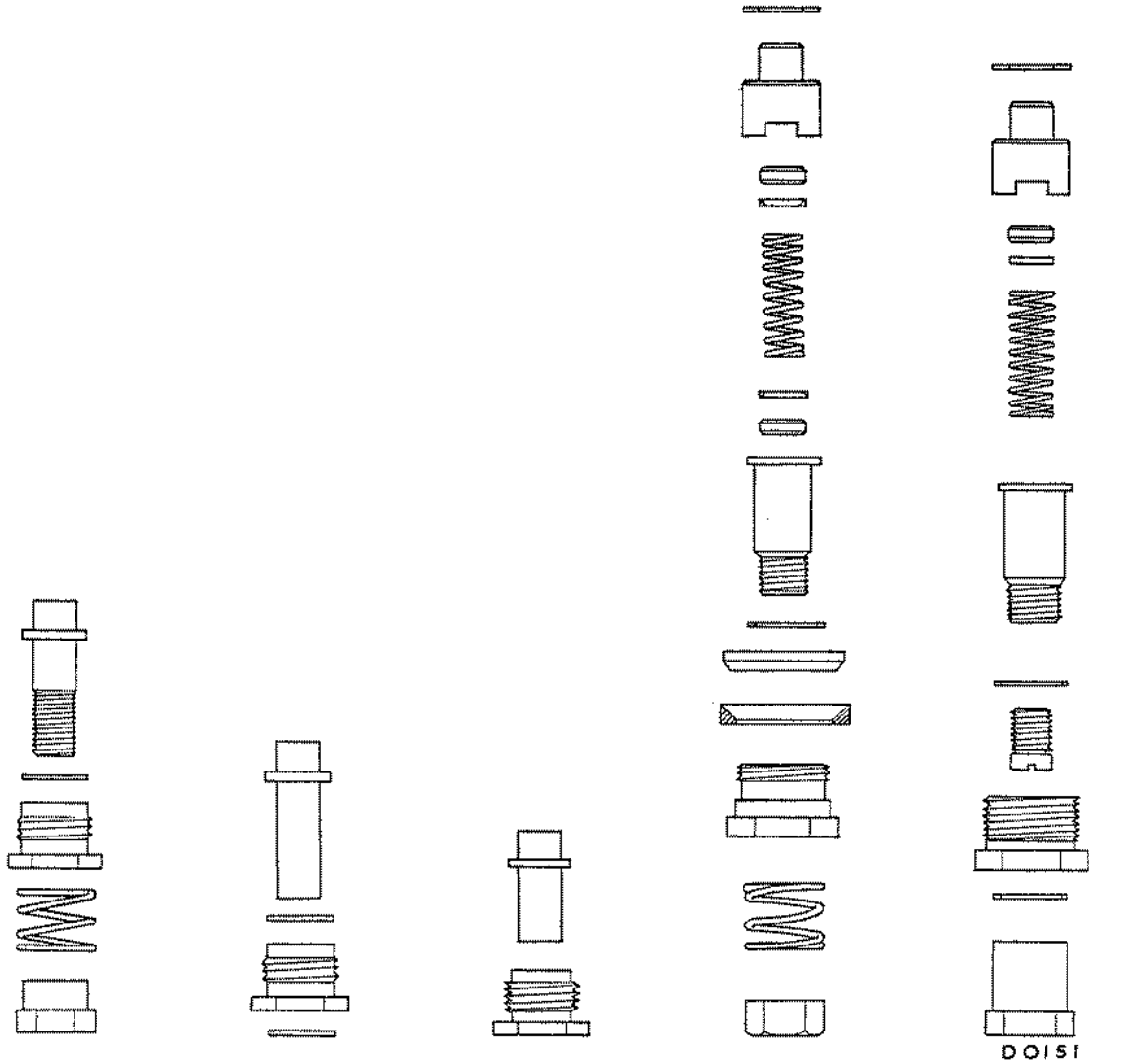
1. Brass.
2. Plastic.
3. 0·10 (2·54 mm.) jet.
4. Brass inner tube
5. Rubber washer indicated by black sleeve.
6. Brass washer.
7. Size and hand identification sleeve.
8. Black plastic—semi-downdraught.
9. Red plastic—horizontal.
10. 0·090 in. (2·286 mm.) jet.
11. Pre-formed pipe.
12. 0·125 in. (3·175 mm.) jet.
13. Bead.
14. 9, 1 or 125 (marked on jet).
15. 9=·090, 1=0·10, 125=0·125.

Note.—For size and hand identification see Parts List.

IDENTIFICATION *(continued)*

Jet unit assemblies

less jet



HS HS8 HD H Standard H Thermo

Index to leaflet

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