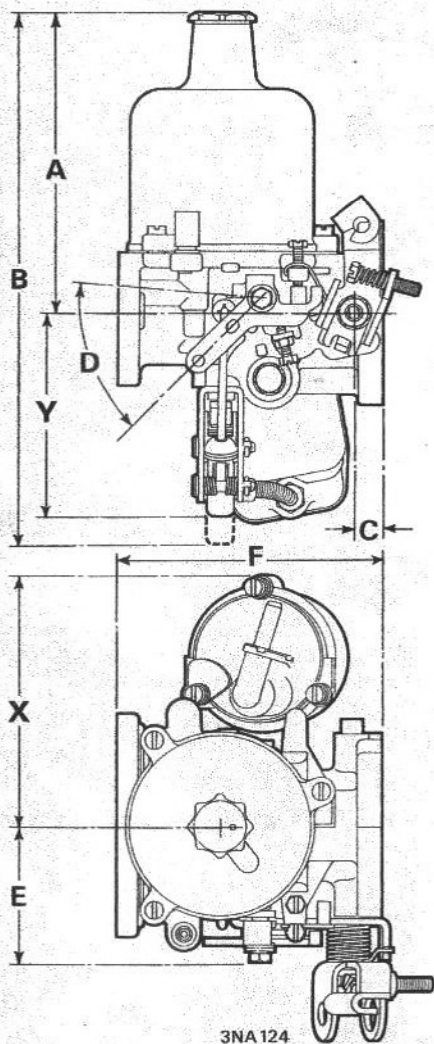


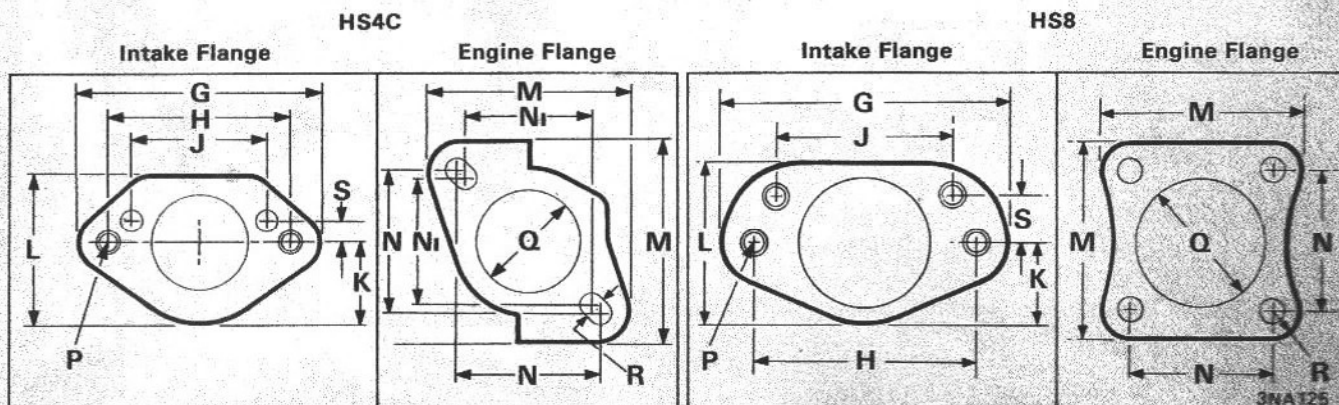
DIMENSIONS

HS4C—HS8 CARBURETTERS



3NA124

	HS4C	HS8
A.	120.0 mm (4.72 in)	122.24 mm (4.812 in)
B.	213.0 mm (8.38 in)	219.87 mm (8.655 in)
C.	11.7 mm (0.461 in)	12.7 mm (0.500 in)
D.	50° total movement	45° total movement
E.	53.97 mm (2.125 in)	57.2 mm (2.25 in)
F.	105.0 mm (4.134 in)	131.0 mm (5.155 in)
G.	88.33 mm (3.47 in)	104.8 mm (4.125 in)
H.	68.33 mm (2.69 in)	82.55 mm (3.25 in)
J.	50.8 mm (2.00 in)	65.6 mm (2.582 in)
K.	29.46 mm (1.16 in)	30.16 mm (1.187 in)
L.	53.26 mm (2.10 in)	59.53 mm (2.34 in)
M.	73.8 mm (2.905 in)	73.66 mm (2.90 in)
N.	54.0 mm (2.126 in)	54.0 mm (2.126 in)
N1.	48.32 mm (1.90 in)	—
P.	$\frac{5}{16}$ in \times 18 U.N.C.	$\frac{5}{16}$ in dia. (0.343 in dia.) or $\frac{5}{16}$ in \times 18 U.N.C.
Q.	38.1 mm (1.50 in)	50.8 mm (2.0 in)
R.	8.75 mm (0.344 in) width	8.73 mm dia. (0.343 in dia.)
S.	7.87 mm (0.312 in)	17.46 mm (0.687 in)
X.	100.22 mm (3.994 in)	104.8 mm (4.125 in)
Y.	82.0 mm (3.32 in)	86.16 mm (3.392 in)

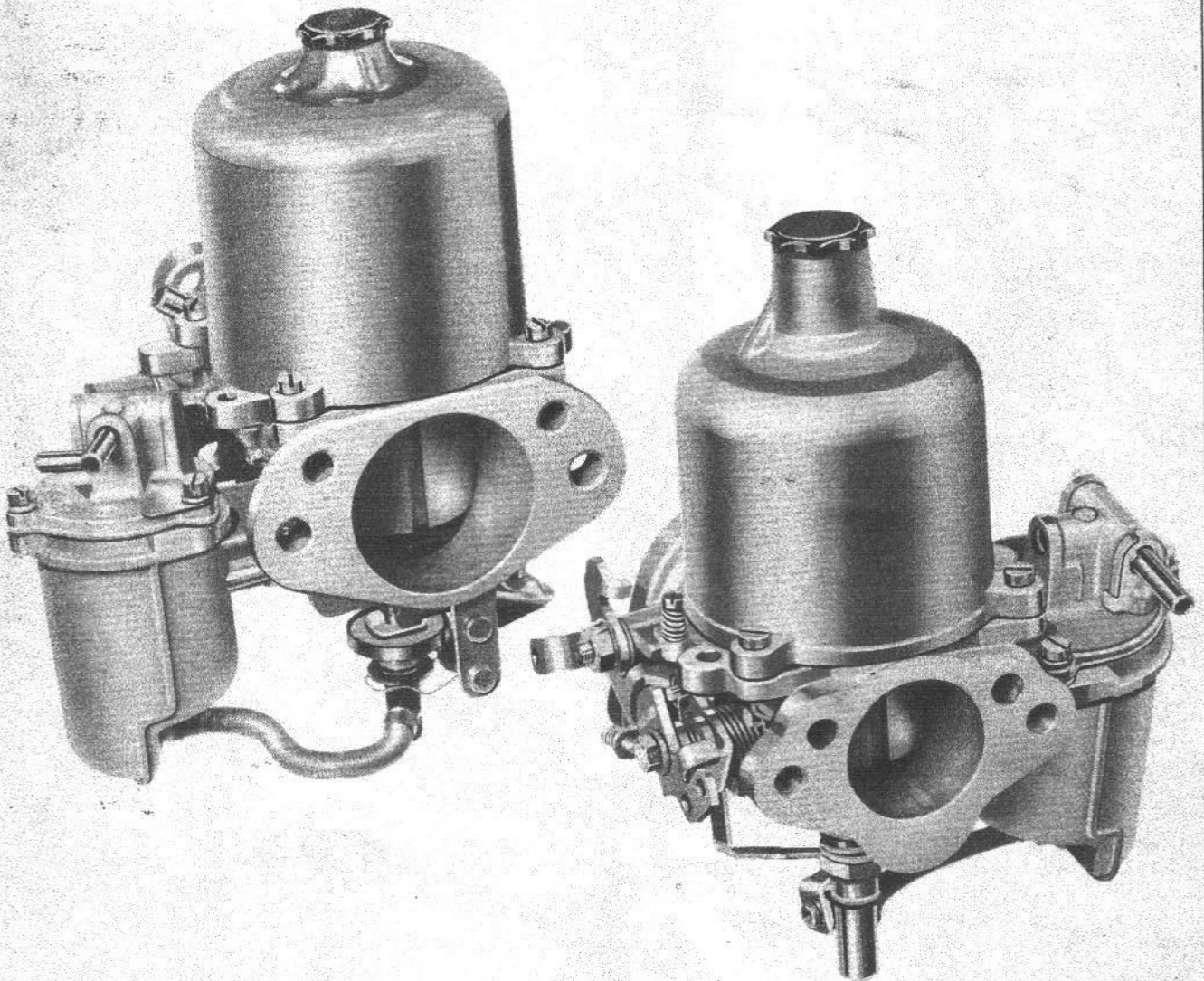


3NA125



Type HS Carburettors

DESCRIPTION & VARIANTS



SU Fuel Systems

Wood Lane, Erdington, Birmingham B24 9QS

Telephone 021-373 7371 Telex: 338342 Telegrams: Carburflex Birmingham

AUC 9941

AKD 8669

INTRODUCTION

The HS type (Horizontal Short body) is the latest side-mounted float chamber SU carburetter. The jet is fed by a flexible nylon tube from the base of the float-chamber and vertical movement of the jet provides cold start enrichment.

The HS series is available in throttle bore sizes ranging from 31.75 mm (1.25 in) to 50.8 mm (2.0 in), and may be mounted at angles ranging from horizontal to 30° down-draught. Solid or flexible mounted float-chambers are also available.

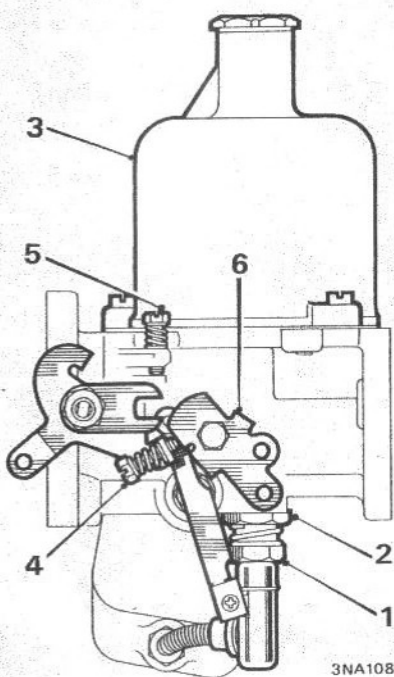
On the basic HS carburetter jet movement for adjusting purposes is provided by a mixture adjusting nut located at the base of the carburetter body. On the HS4C and HS8 variants jet movement is obtained by means of a lever push rod assembly and an adjusting screw.

FEATURES

- Proved constant depression principle
- RH or LH float-chamber mounting
- Flexible or solid-mounted float-chamber
- Three controls: mixture adjustment—slow run—fast idle
- Spring-loaded jet needle assembly
- Compact overall dimensions

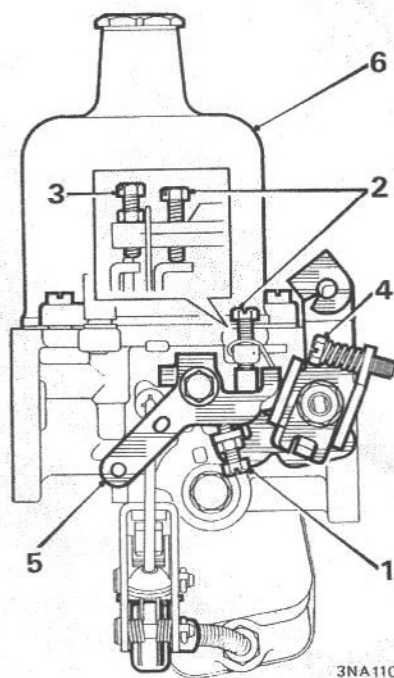
OPTIONAL FEATURES

- Crankcase ventilation control
- Overrun limiting valve
- Temperature compensation



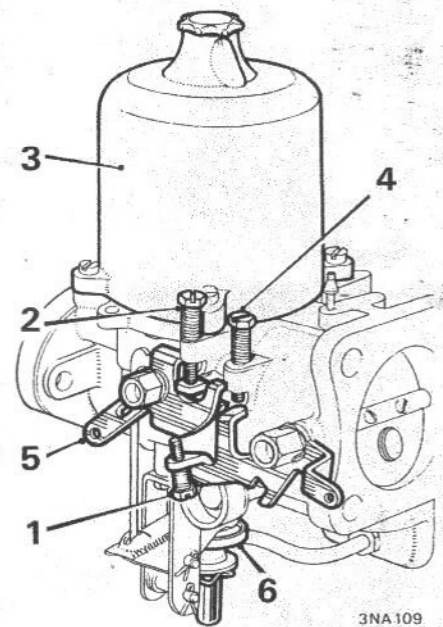
HS2—HS4—HS6

1. Jet adjusting nut
2. Jet locking nut
3. Suction chamber assembly
4. Fast-idle adjusting screw
5. Throttle adjusting screw
6. Cam lever



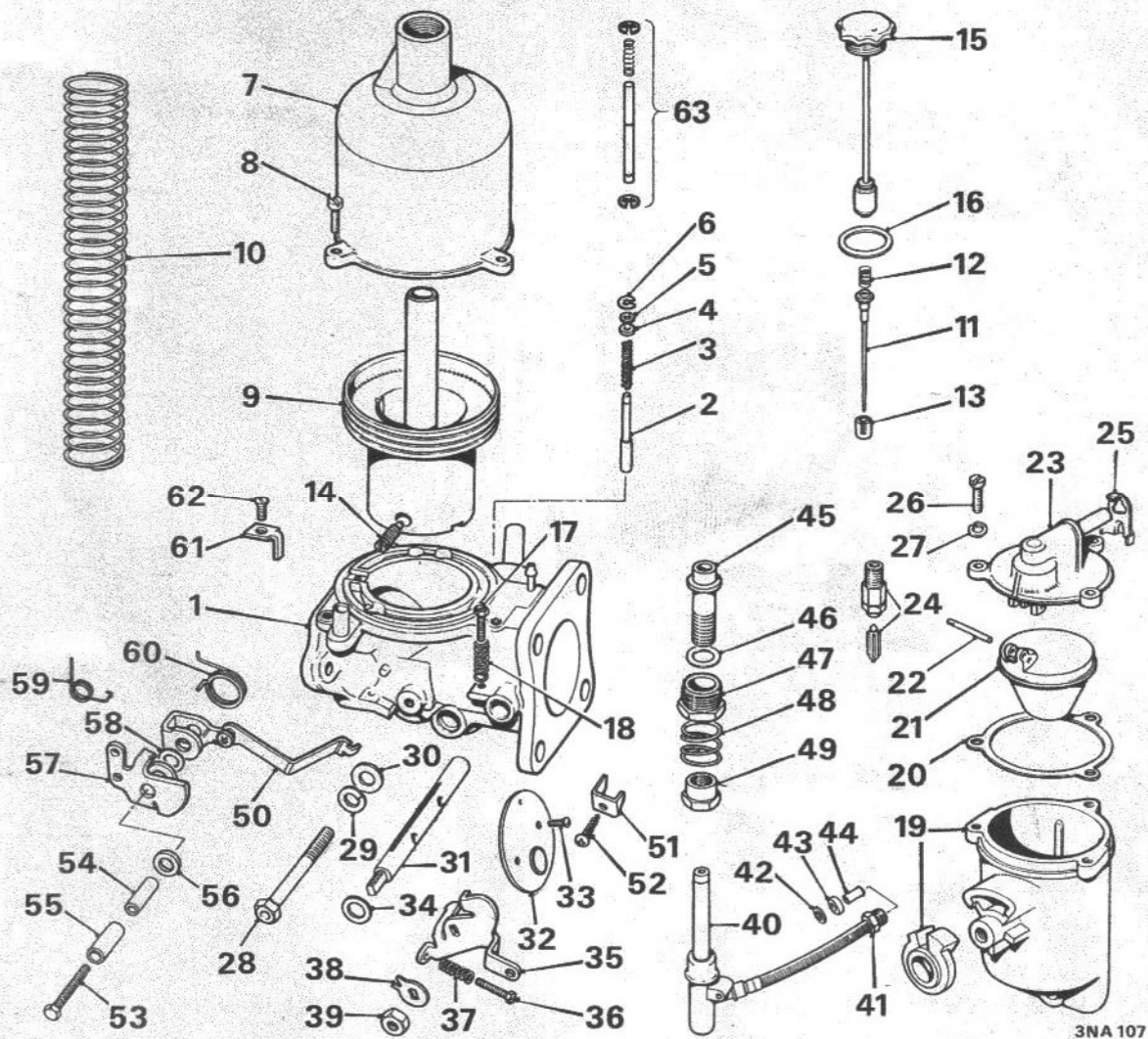
HS4C

1. Fast-idle adjusting screw
2. Throttle adjusting screw
3. Jet adjusting screw
4. Lost motion adjusting screw
5. Cam lever
6. Suction chamber assembly



HS8

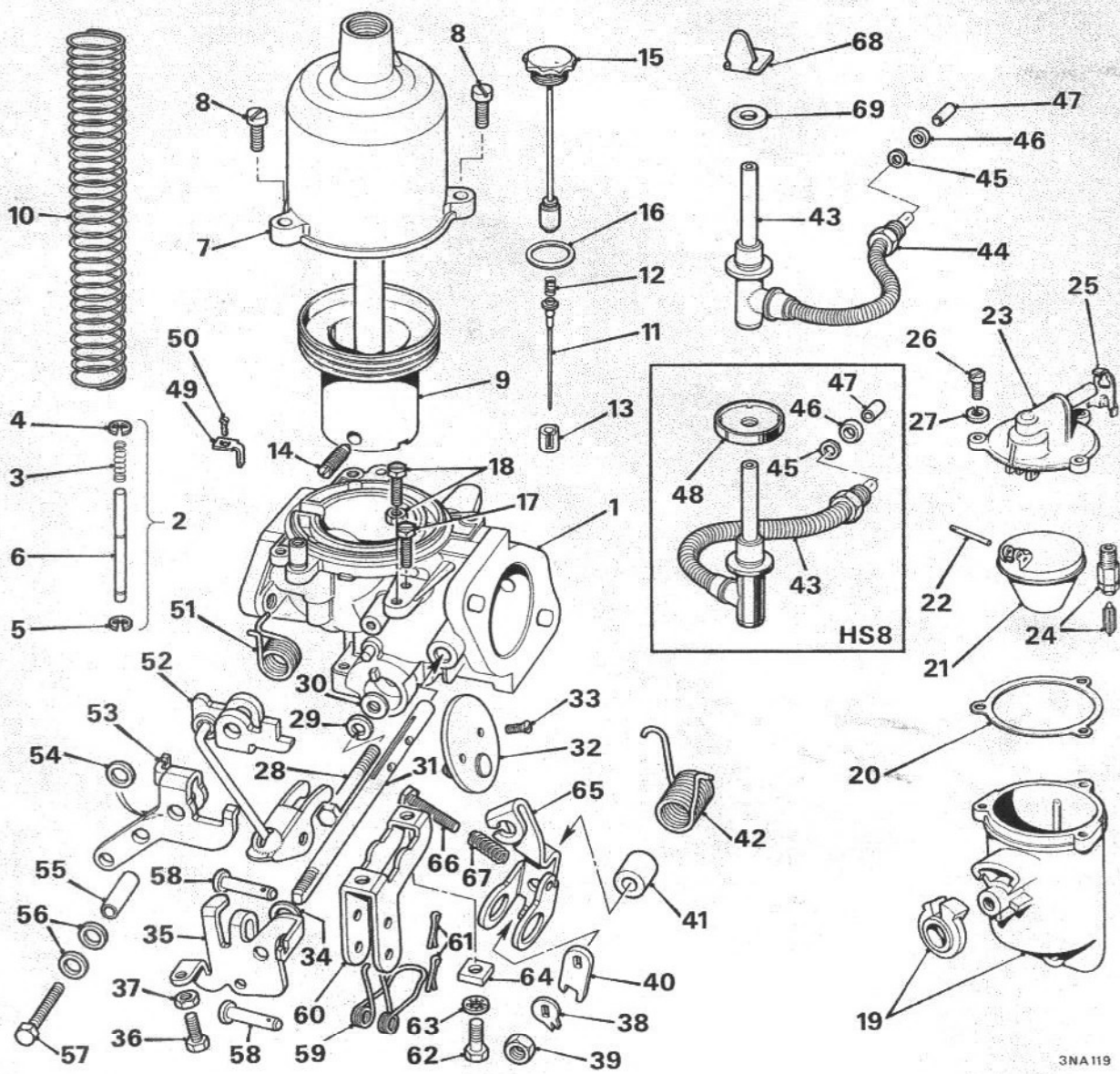
1. Fast-idle adjusting screw
2. Jet adjusting screw
3. Suction chamber assembly
4. Throttle adjusting screw
5. Cam lever
6. Temperature compensator



3NA 107

THE TYPE HS CARBURETTER COMPONENTS

- | | | |
|--------------------------------|--------------------------------------|------------------------------------|
| 1. Body | 22. Float hinge pin | 43. Gland |
| 2. Piston lifting pin | 23. Float-chamber lid | 44. Ferrule |
| 3. Spring for pin | 24. Float needle and seat | 45. Jet bearing |
| 4. Sealing washer | 25. Baffle plate | 46. Skid washer |
| 5. Plain washer | 26. Float-chamber lid screw | 47. Jet locking nut |
| 6. Circlip | 27. Spring washer | 48. Spring |
| 7. Suction chamber | 28. Float-chamber securing bolt | 49. Jet adjusting nut |
| 8. Suction chamber screw | 29. Spring washer | 50. Pick-up lever assembly |
| 9. Piston | 30. Plain washer | 51. Pick-up lever link |
| 10. Spring | 31. Throttle spindle | 52. Lever to jet securing screw |
| 11. Jet needle with collar | 32. Throttle disc assembly | 53. Pivot bolt |
| 12. Needle spring | 33. Throttle disc securing screw | 54. Pivot bolt tube—inner |
| 13. Needle guide | 34. Throttle spindle washer | 55. Pivot bolt tube—outer |
| 14. Needle guide—locking screw | 35. Throttle return lever | 56. Distance washer |
| 15. Piston damper | 36. Fast-idle screw | 57. Cam lever |
| 16. Damper sealing washer | 37. Spring | 58. Washer |
| 17. Throttle adjusting screw | 38. Throttle spindle nut lock washer | 59. Cam lever spring |
| 18. Spring for screw | 39. Throttle spindle nut | 60. Pick-up lever spring |
| 19. Float-chamber and spacer | 40. Jet assembly | 61. Piston guide key |
| 20. Chamber joint washer | 41. Jet assembly sleeve nut | 62. Key securing screw |
| 21. Float | 42. Washer | 63. Piston lifting pin—alternative |



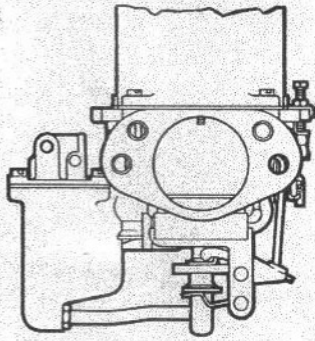
3NA119

THE TYPE HS4C & HS8 CARBURETTER COMPONENTS

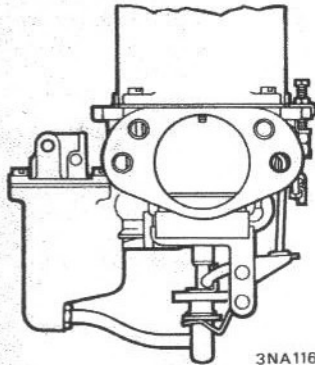
- | | | |
|-------------------------------------|--------------------------------------|-------------------------------------|
| 1. Body | 24. Float needle and seat | 47. Ferrule |
| 2. Piston lifting pin assembly | 25. Baffle plate | 48. Temperature compensator |
| 3. Lifting pin spring | 26. Float-chamber lid screw | 49. Piston guide key |
| 4. Circlip | 27. Spring washer | 50. Key securing screw |
| 5. Circlip | 28. Float-chamber securing bolt | 51. Pick-up lever spring |
| 6. Lifting pin | 29. Spring washer | 52. Jet fork assembly pick-up lever |
| 7. Suction chamber | 30. Plain washer | 53. Cam lever |
| 8. Suction chamber screw | 31. Throttle spindle | 54. Skid washer |
| 9. Piston | 32. Throttle disc assembly | 55. Pivot bolt tube |
| 10. Spring | 33. Throttle disc securing screw | 56. Washers |
| 11. Jet needle with collar | 34. Throttle spindle washer | 57. Pivot bolt |
| 12. Needle spring | 35. Throttle return lever | 58. Clevis pin |
| 13. Needle guide | 36. Fast-idle screw | 59. Jet return spring |
| 14. Needle guide locking screw | 37. Fast-idle screw locknut | 60. Jet assembly securing bracket |
| 15. Piston damper | 38. Throttle spindle nut lock washer | 61. Split pins |
| 16. Damper sealing washer | 39. Throttle spindle nut | 62. Securing bracket bolt |
| 17. Throttle adjusting screw | 40. Lost motion lever | 63. Starlock washer |
| 18. Jet adjusting screw and locknut | 41. Spacer | 64. Spacer |
| 19. Float-chamber and spacer | 42. Throttle return spring | 65. Throttle actuating lever |
| 20. Chamber joint washer | 43. Jet assembly | 66. Lost motion adjusting screw |
| 21. Float | 44. Jet assembly sleeve nut | 67. Spring |
| 22. Float hinge pin | 45. Washer | 68. Jet fork centering washer |
| 23. Float-chamber lid | 46. Gland | 69. Washer |

HS4C AND HS8 VARIANTS

The HS4C and the HS8 carburetters differ from the others in the HS range in the design of the jet assembly, the means of mixture adjustment, and in the use of a common body casting for right and left hand versions.



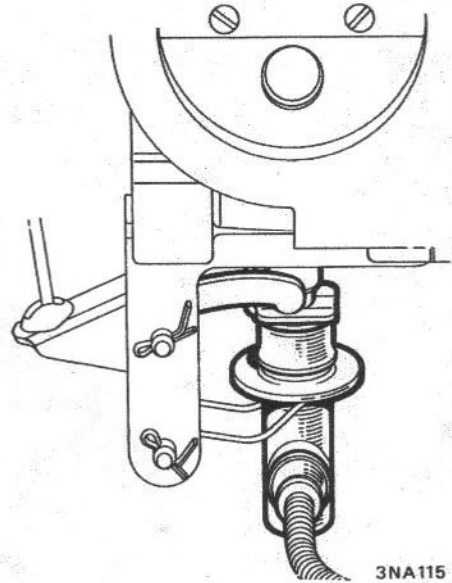
Jet in normal position



Jet lowered for cold start enrichment

3NA116

HS8 Jet Operation



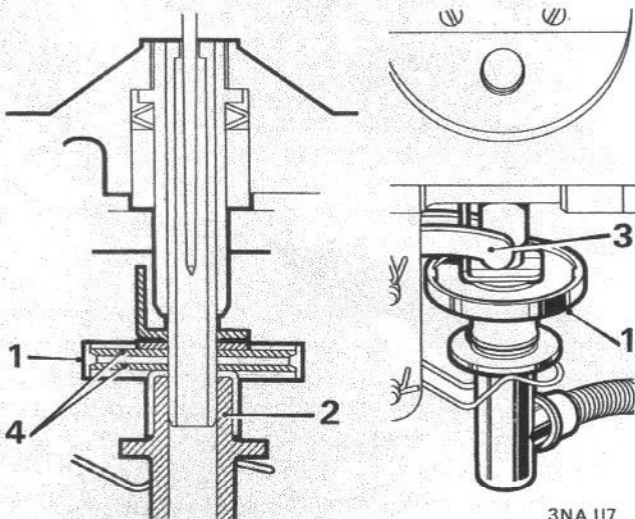
3NA115

HS4C Jet Assembly

Jet actuation for cold starting purposes and for mixture setting is affected by a rocking lever mounted on the side of the carburettor body; movement of this lever being transmitted via a push rod to a fork acting on the jet head. The rocking lever is moved down either by a cam lever for starting purposes or by a screw for mixture setting. A jet return spring is mounted below the jet fork and bears upon a disc moulded into the jet head.

This arrangement provides access to the mixture adjustment from above the carburettor and allows provision for temperature compensation.

TEMPERATURE COMPENSATION

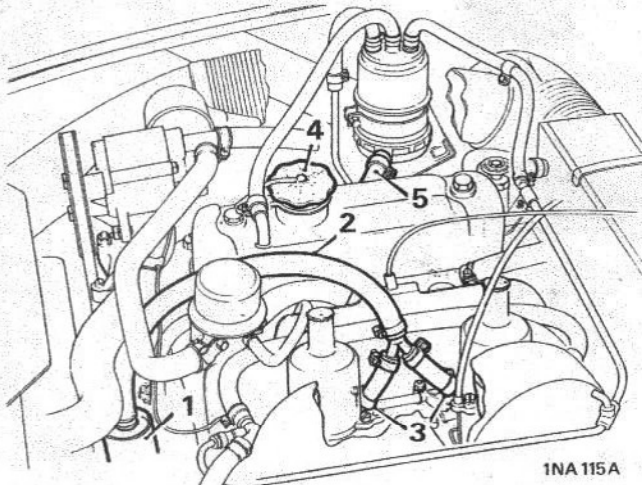


3NA 117

1. Temperature compensator
2. Jet head
3. Jet fork lever
4. Bi-metal discs

Bi-metal discs, interposed between the jet and the fork lever move the jet to compensate for changes in mixture strength which occur with variations in temperature.

EXHAUST EMISSION CONTROL FEATURES



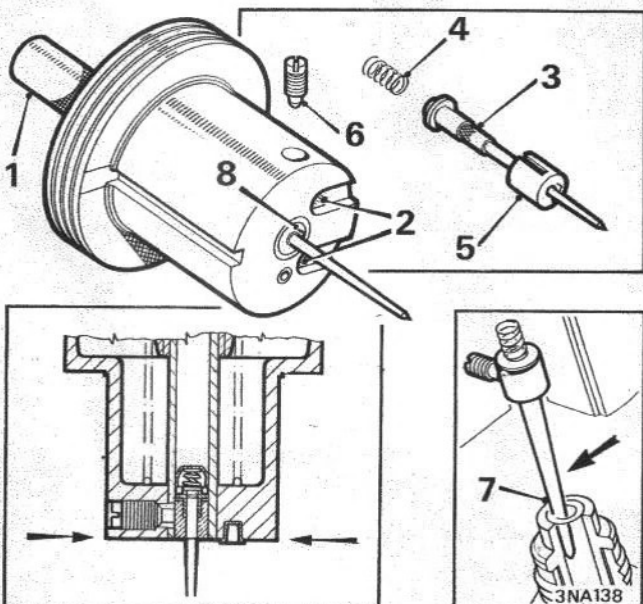
1NA115A

1. Oil separator
2. Breather hose
3. Carburettor chamber connection
4. Filtered filler cap
5. Adsorption canister breather hose

THE OVERRUN VALVE

The valve consists of a precisely set, spring-loaded plate valve located in the throttle butterfly disc.

This valve improves the combustion of fuel at high manifold depression conditions, i.e. overrun at closed throttle, by slightly reducing the depression and supplying a quantity of correct fuel/air mixture. This helps to maintain correct combustion and prevents high values of hydrocarbon emission being produced under these conditions.

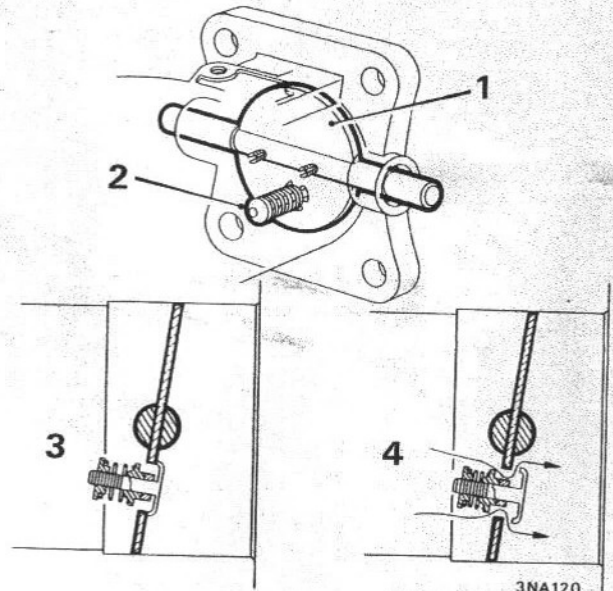


The spring-loaded jet needle

- | | |
|-------------------|-------------------------|
| 1. Piston rod | 5. Needle guide |
| 2. Transfer holes | 6. Needle locking screw |
| 3. Jet needle | 7. Needle biased in jet |
| 4. Needle spring | 8. Etch mark |

CRANKCASE EMISSION CONTROL

With this system the engine breather outlet is connected by hoses to the constant depression area between the piston and the throttle disc valve of the carburettor(s). Engine fumes and blow-by gases are drawn from the crankcase by the depression in this area, through an oil separator incorporated in the engine outlet connection, and from there to the inlet manifold. Fresh air is supplied to the engine through the combined oil filler cap and filter, or on cars fitted with fuel evaporative loss control systems through the breather hose of the adsorption canister.



3NA120

The overrun valve

- | | |
|----------------------------|-------------------------|
| 1. Throttle butterfly disc | 3. Overrun valve closed |
| 2. Overrun valve | 4. Overrun valve open |

SPRING-LOADED JET NEEDLE

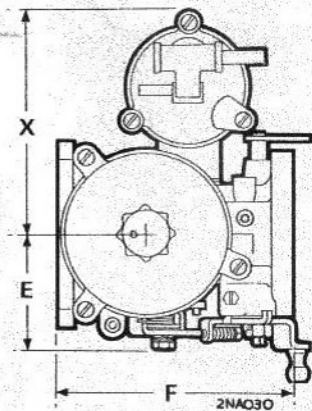
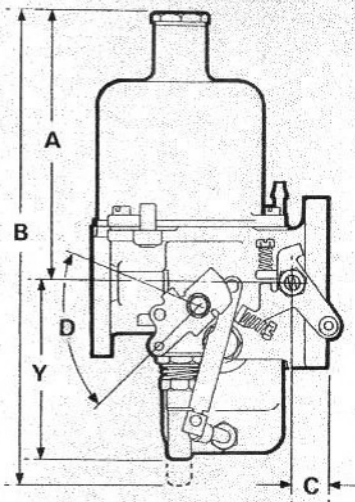
The jet needle fitted to the later HS range of carburettors is biased towards a predetermined position in the jet orifice by means of a spring-loaded fixing.

The quantity of fuel discharged is affected by the shape, size and position of the metering orifice. By maintaining the same shape and position of the orifice in carburettors of the same specification, repeatability of emission values from one vehicle to another is achieved.

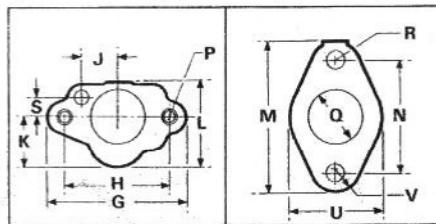
The shoulder of the needle abuts a protrusion formed on the needle guide. Under the pressure of a spring the needle is held permanently in one position relative to the air flow, the direction of this bias being either to the inlet or to the outlet of the carburettor. As the needle is retained in a predetermined position no jet centring is required and a non-centreable jet bearing is fitted. To ensure correct fitting the needle guide carries an etched alignment mark, and on later models a more positive means of location is provided by a 'V' groove in the needle guide.

DIMENSIONS

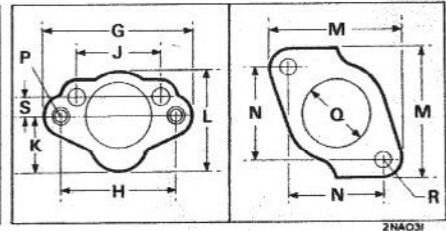
HS2—HS4—HS6 CARBURETTERS



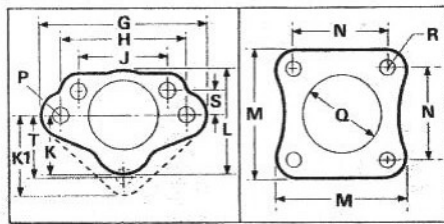
HS2
Intake Flange Engine Flange



HS4
Intake Flange Engine Flange



HS6
Intake Flange Engine Flange



HS2

A.	111.12 mm (4.375 in)
B.	197.6 mm (7.781 in)
C.	11.91 mm (0.47 in)
D.	75° total movement
E.	47.0 mm (1.85 in)
F.	85.72 mm (3.375 in)
G.	78 mm (3.07 in)
H.	60 mm (2.36 in)
J.	20.63 mm (0.81 in)
K.	28.57 mm (1.12 in)
K1.	—
L.	48 mm (1.89 in)
M.	85 mm (3.34 in)
N.	65 mm (2.56 in)
P.	$\frac{5}{16}$ in \times 18 U.N.C.
Q.	33.77 mm (1.25 in)
R.	10.32 mm dia. (0.406 in dia.)
S.	11.17 mm (0.44 in)
T.	—
U.	52 mm (2.047 in)
V.	13 mmR (0.512 inR)
X.	95.25 mm (3.75 in)
Y.	77 mm (3.031 in)

HS4

118 mm (4.65 in)
208 mm (8.187 in)
14.68 mm (0.578 in)
75° total movement
50.8 mm (2.0 in)
102.4 mm (4.032 in)
83 mm (3.268 in)
65 mm (2.56 in)
47.6 mm (1.874 in)
31.75 mm (1.25 in)
—
55.75 mm (2.195 in)
73.66 mm (2.90 in)
54 mm (2.126 in)
8.73 mm dia. (0.343 in dia.) or $\frac{5}{16}$ in \times 18 U.N.C.
38.1 mm (1.50 in)
8.73 mm dia. (0.343 in dia.)
10.32 mm (0.406 in)
—
—
—
98.42 mm (3.875 in)
80.17 mm (3.156 in)

HS6

119.85 mm (4.719 in)
211.53 mm (8.329 in)
14.68 mm (0.578 in)
64° total movement
53.4 mm (2.10 in)
101.6 mm (4.0 in)
92 mm (3.23 in)
72 mm (2.836 in)
50.8 mm (2.0 in)
33.34 mm (1.312 in)
46 mm (2.812 in)
58.84 mm (2.312 in)
73.66 mm (2.90 in)
54 mm (2.126 in)
8.73 mm dia. (0.343 in dia.) or $\frac{5}{16}$ in \times 18 U.N.C.
44.45 mm (1.75 in)
8.73 mm dia. (0.343 in dia.)
14.29 mm (0.562 in)
36 mm (1.417 in)
—
—
99.22 mm (3.906 in)
79.8 mm (3.140 in)