

**DELOORTO****PHM...A**

4 - stroke road and competition engines with cylinder capacities between 250 cc. and 500 cc.

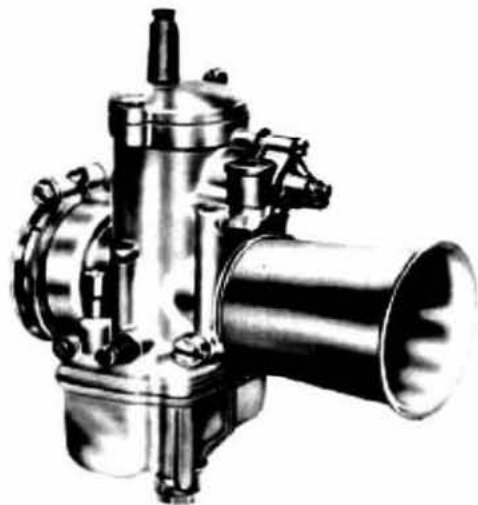
MOTOR-CYCLES

38 - 40

## 1) FEATURES

- Monobloc body with sidedraft barrel and mounting up to 40 degrees from horizontal possible.
- Choke sizes: 38 - and 40 - mm.
- Cylindrical throttle slide.
- Central constant-level float-chamber with double float.
- Flooding-plunger starting device.
- Idle system with central idle-jet and mixture adjustment-screw.
- Tapered-needle mechanical mixture control.
- Mechanical diaphragm accelerator pump with valves and pump jet.
- Cuff mounting with insulating sleeve from 48 mm to 45 mm.
- Fitting of inlet couplings or trumpets possible.

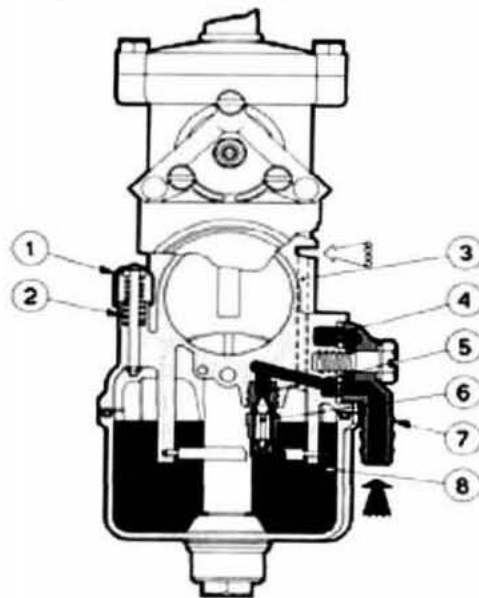
The series is produced in both left- and right-handed forms with the adjusting screws on the left or right; looking from the air inlet side, suffix D signifies right- and S left-hand.



## 2) OPERATION

### a - Starting

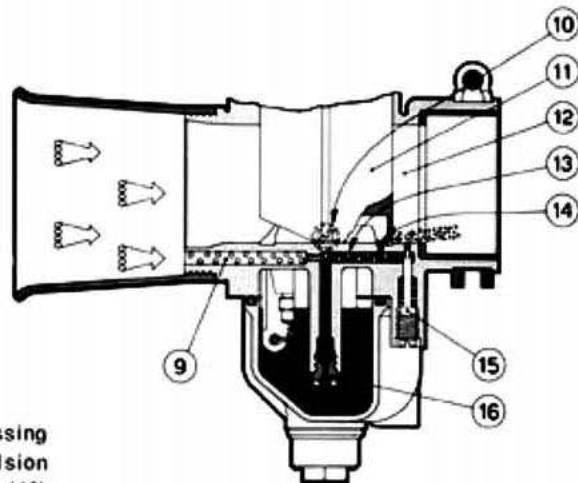
Fuel reaching the union (7) passes through the filter (4) to the valve seat (5) where the needle (6) fixed to the float (8), controls the flow into the float-chamber. The float (8) opens and closes the needle-valve (6) thereby maintaining a constant level. The chamber is vented to atmosphere through passage (3). Holding the plunger (1) down against the spring (2), holds the float (8) down and needle-valve open, allowing petrol to rise above the normal level, making starting easier.



### b - Idling

Fuel from the float-chamber is regulated through the idle jet (16) and mixes with air from the inlet (9) and, passing along the duct (13), reaches the mixture screw (15). From here, the controlled amount of mixture flows into the main barrel (12) below the throttle slide (11).

The screw (10) adjusts the slide position at idle.



### c - Progression

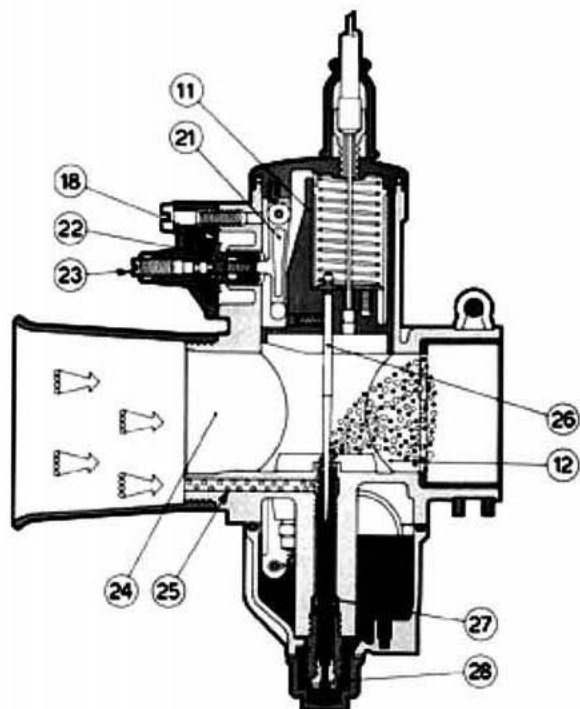
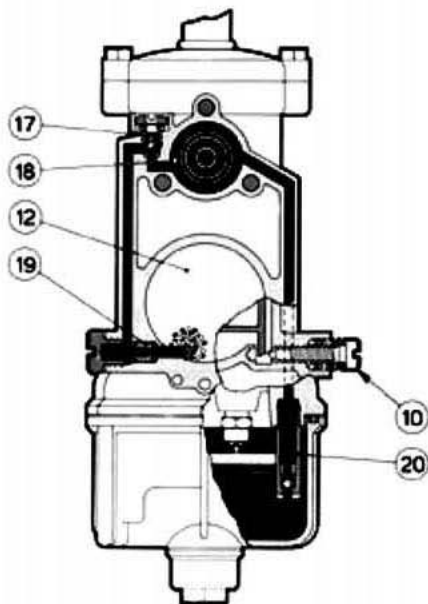
On first opening the slide (11), in passing from idling to full-throttle, emulsion mixture also reaches the main barrel (12) via the progression holes (14).

### d - Acceleration

When the throttle slide (11) is opened, lever (21), operated by a cam in the slide, acts directly on the diaphragm (18), opposed by the spring (22).

The diaphragm (18) then pumps petrol through the discharge valve (17) and the pump jet (19) into the main barrel (12).

On closing the throttle (11), the spring (22) returns the diaphragm (18) to its original position drawing fuel from the float chamber through the inlet valve (20). The adjusting-screw (23) varies the pump delivery.



### e - Full-throttle

With the throttle slide (11) open, fuel from the float chamber, regulated by the main jet (28), passes into the emulsion-tube (27) where it mixes with air from the inlet (25); it then flows, regulated by the tapered-needle (26), into the main barrel (12) mixing with air from the main inlet (24).

### 3) ADJUSTMENT

#### a - Idling

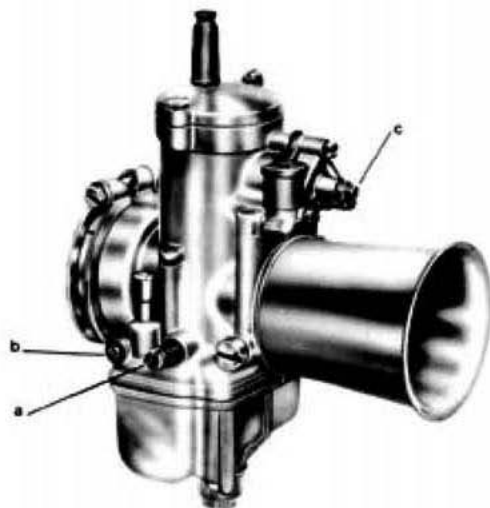
The idle should always be set with the engine hot, screwing the slide screw (a) to obtain a slightly-higher idle speed. Then adjust the mixture screw (b) to obtain the most even running, progressively lowering the idle speed with screw (a) until the desired idle speed is obtained.

#### b - Accelerator pump

The pump delivery can be checked by fixing the carburetor on a special support connected to a petrol reservoir, so that all the fuel pumped out can be measured in a calibrated measure. Open and close the throttle completely twenty times, with a few seconds in between, and check that the volume of fuel collected corresponds with the specification.

If not, using the adjuster-screw (c), reset the delivery, checking it each time, until the desired setting is obtained; remember that unscrewing it increases fuel delivery and vice versa.

Finally, lock the adjuster locknut.



#### c - Intermediate operation

From idle to around one-fifth throttle, the slide must be changed in order to vary the mixture strength; a slide with a smaller cutaway will enrich the mixture and vice versa.

From about one-fifth throttle to four-fifths, the mixture is mainly dependent on the position of the tapered-needle held in the slide by a circlip. To vary the mixture, the needle can be raised or lowered by fixing the circlip in a different notch; lowering it weakens the mixture and vice versa.

#### d - Full-throttle

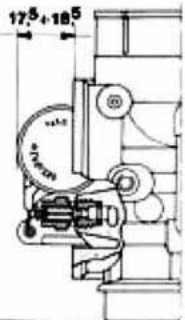
At full throttle, the carburation is dependent mainly on the size of the main jet fitted.

To change the mixture, larger or smaller main jets should be substituted, larger main jets making the mixture richer and vice versa.

#### e - Float level

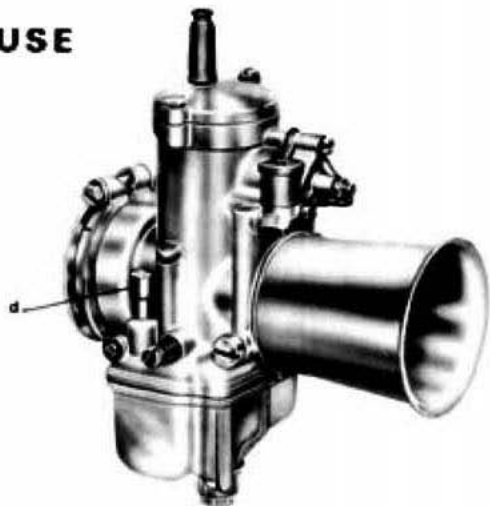
Check that the float is undamaged and has the weight marked on it; it should swivel freely on its hinge-pin.

Hold the carburetor body as shown so that the float arm is in light contact with the needle and the valve is closed. In this position, check that each half-float is the correct distance from the edge of the body. If not, bend the arms slightly to obtain the correct setting.



float-pin vertical

## 4) USE



### Starting

To start from cold, the flooding-plunger should be pressed five or six times, lightly opening the throttle.

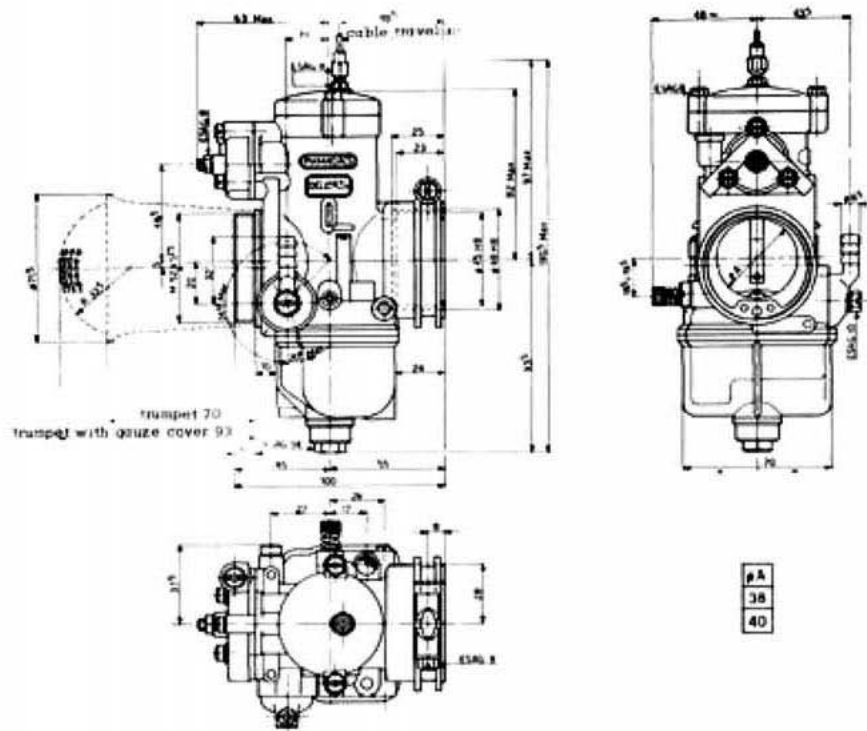
In extremely cold conditions, it is advisable to open the throttle completely once or twice, so that the accelerator pump can squirt extra fuel into the inlet, making starting easier.

## 5) MAINTENANCE

To keep the carburetor in good working-order, you should occasionally carry out the following procedure:

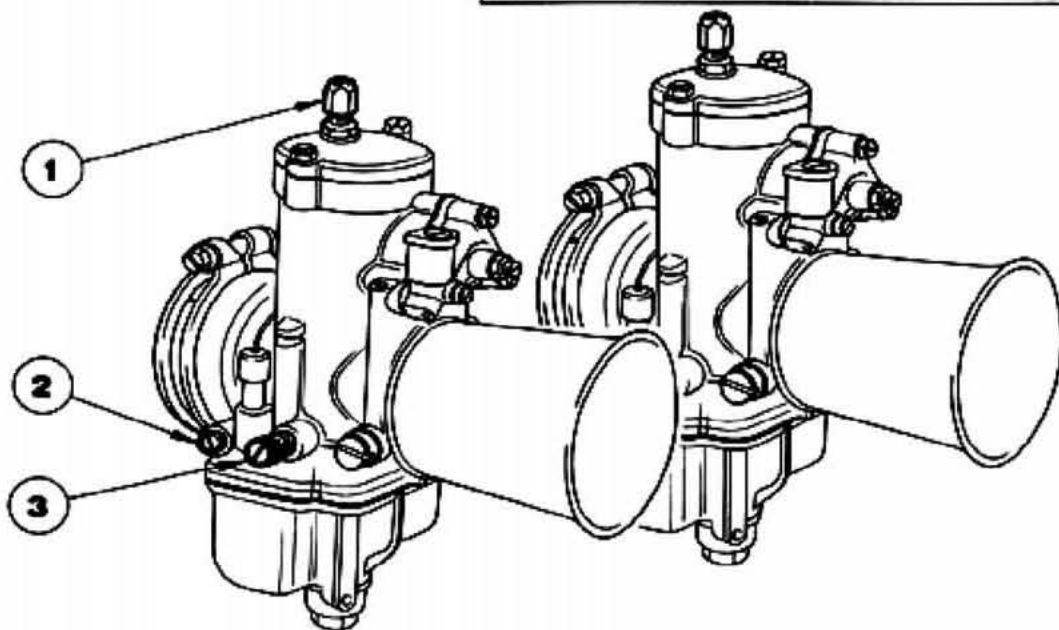
- Clean the carburetor thoroughly, washing and drying all the parts including the body and especially the drillings and jets, etc.
- Check the components for wear, in particular the tapered-needle, the needle-jet, needle-valve and pump diaphragm; make sure the float weight is as marked and, before reassembling, check that the needle-valve does seal against its seat properly.
- Refit the carburetor having replaced any damaged or worn parts with new ones of the same size, etc.

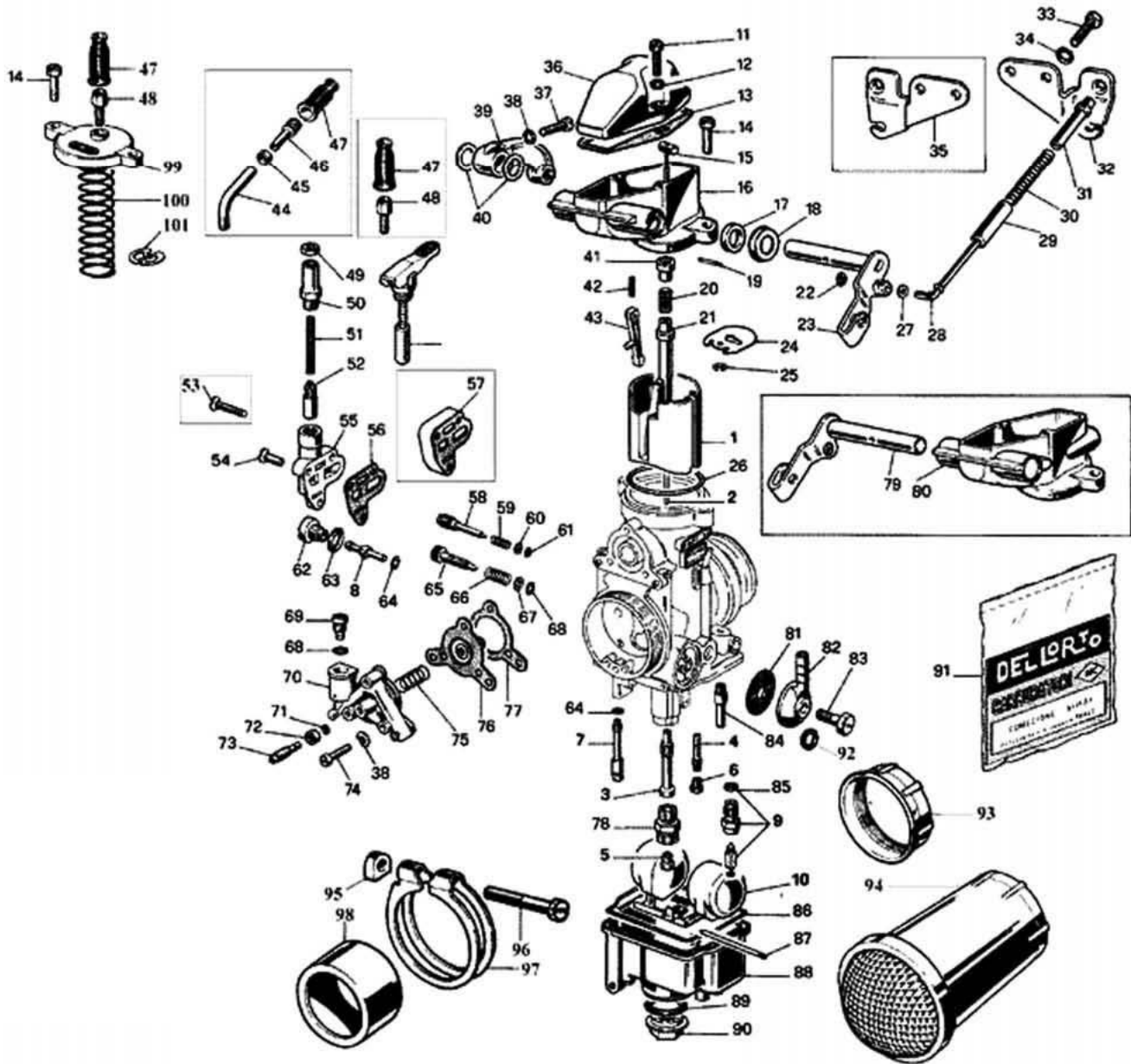
### DIMENSIONS



**CARBURETOR SYNCHRONISATION AND IDLE ADJUSTMENT**

- 1) - Check that full throttle at the twistgrip gives full throttle on each carburetor and that, with the twistgrip fully closed, there is about 1mm of play on each cable. If not, adjust the play by slackening the locknut and turning screw (1).
- 2) - Unscrew each carburetor mixture screw (2) one full turn from the fully-closed position.
- 3) - Connect each carburetor air intake to a mercury manometer using the tapped and plugged connections on the inlets.
- 4) - Start the engine and leave it running to attain normal running temperature; then set the slide screws (3) just enough to keep the engine idling.
- 5) - Now, readjust the slide screws (3) to align the levels of the mercury columns; unscrewing raises the level and vice versa.
- 6) - Adjust the idle mixture with screws (2) to obtain the most even running; unscrewing enriches the mixture and vice versa.
- 7) - Realign the mercury levels again with screws (3), at the same time adjusting the idle speed to the normal level.
- 8) - Check and, if necessary, reset the throttle cable free play.
- 9) - Now set the engine speed to around 2000rpm with the twistgrip and then realign the mercury levels, this time, by adjusting the cable screws (1), unscrewing lowers the mercury level and vice versa.
- 10) - Stop the engine, lock the nuts on the cable adjusters and remove the mercury manometer, refitting the plugs in the air inlet tappings.

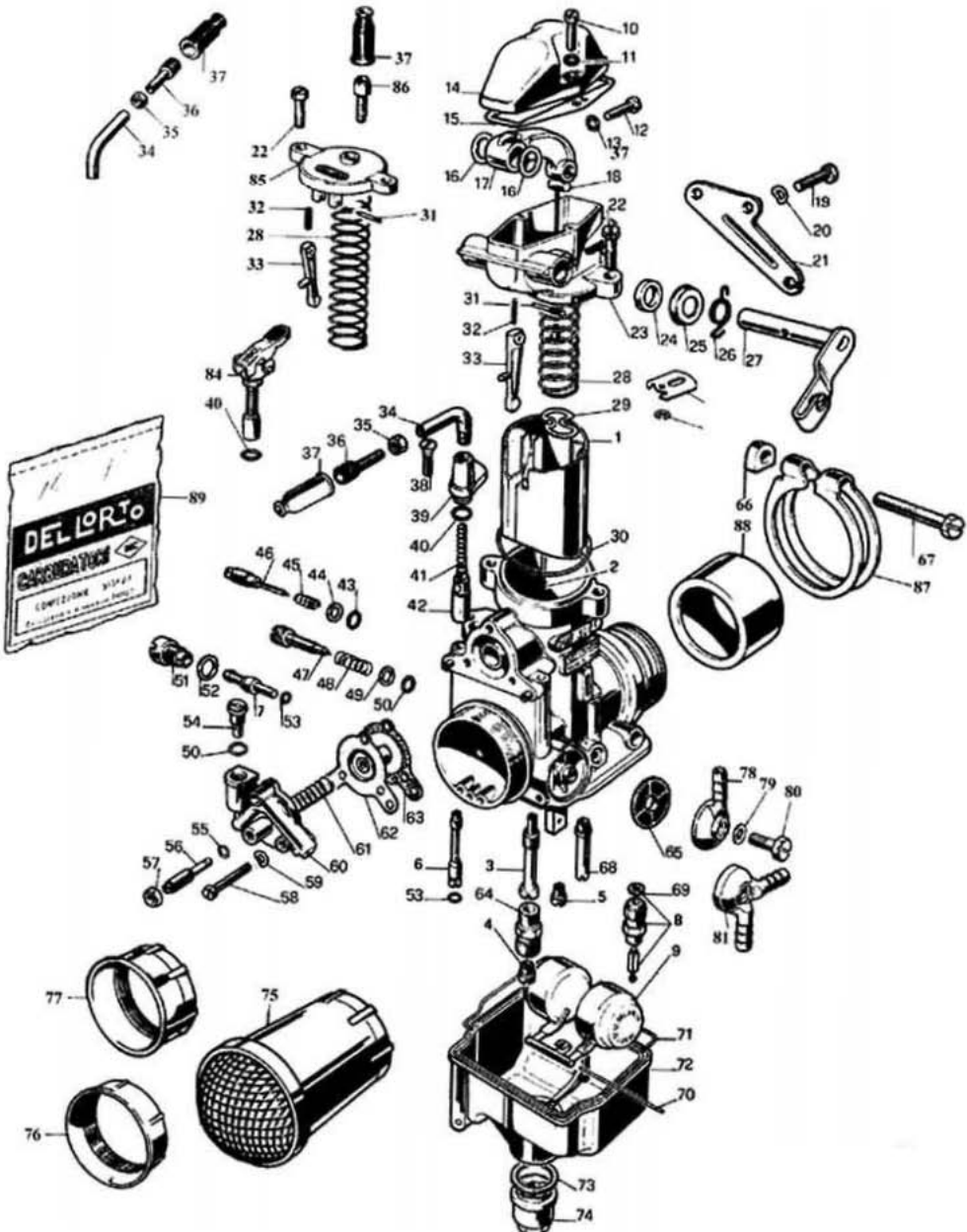




No.	Ref.	Description	Sizes/options available	No.	Ref.	Description
1	8639	Slide	401,501,503,505,601,603 & 605	53	11650	Long choke body screw
2	8530	Needle	K1 to K95	54	8711	Choke body screw
3	8540	Atomizer AB	258,60,62,64,65,66,68,70,72,75,78,80,90 & 300	55	8887	Choke housing
3	12599	Atomizer DR	266,268,270 & 272.	56	8888	Choke housing gasket
4	9980	Idle emulsion tube	Not fitted to all models	57	11651	Choke housing spacer (LM)
5	6413	Main Jet	56 to 330, in steps of 1,2 & 3. Please ask.	57	7749	Mixture screw "standard"
6	1486	Idle jet (short)	30 to 198, in steps of 1,2 & 3. Please ask	58	11084	Mixture screw "Guzzi"
7	7746	Choke jet	45,50,55,60,65,70,75,80,85 & 90	59	9336	Mixture screw spring
8	7851	Pump jet	30,33,35,38,40,42,45,48,50,55,60,65,70,75,90,150	60	8260	Mixture screw washer
9	10375	Float needle valve	150, 170, 200, 225	61	8678	Mixture screw O ring
9	8649	Float needle valve	250, 270, 300, 350, 400	62	10747	Pump jet holder
10	7450	Float	.1, .2 & .3	63	6426	Pump jet holder fibre washer
11	6429	Top cover screw		64	6173	Pump jet O ring
12	1581	Spring washer		65	7673	Throttle stop screw
13	8826	Top paper gasket		66	4670	Throttle stop screw spring
14	8542	Screw		67	4650	Washer
15	11779	Slide rod		68	7540	O ring
16	11798	Top casting		69	10800	Pump non return valve
17	8726	Spindle seal		70	8556	Pump cover
18	8727	Spindle seal cover		71	8598	Adjuster screw O ring
19	8535	Pump arm pin	Metal top	72	8599	Pump adjuster locknut
19	10924	Pump arm pin	Plastic top	73	8539	Pump adjustment screw
20	9383	Spring		74	8428	Screw
21	11777	Slide rod		75	7626	Diaphragm spring
22	10451	circlip		76	8555	Pump diaphragm
23	8941	Throttle lever		77	9278	Diaphragm gasket
24	11773	Needle washer		78	8885	Main jet holder
25	9596	Needle circlip		79	11785	Operating lever, RH
26	8633	Top cover O ring		80	11799	Top casting
27	3718	Washer		81	6109	Fuel banjo filter
28	11776	Slide rod		82	9250	Plastic fuel union
29	11774	Spring guide		82	6273	Metal fuel union
30	11786	External return spring		82	7890	Double fuel union
31	11775	Spring guide		83	4568	Fuel union bolt
32	11787	Throttle cable support		84	8557	Non return valve
33	6435	Screw		85	6288	Needle valve fibre washer
34	4957	Spring washer		86	7451	Float bowl O ring

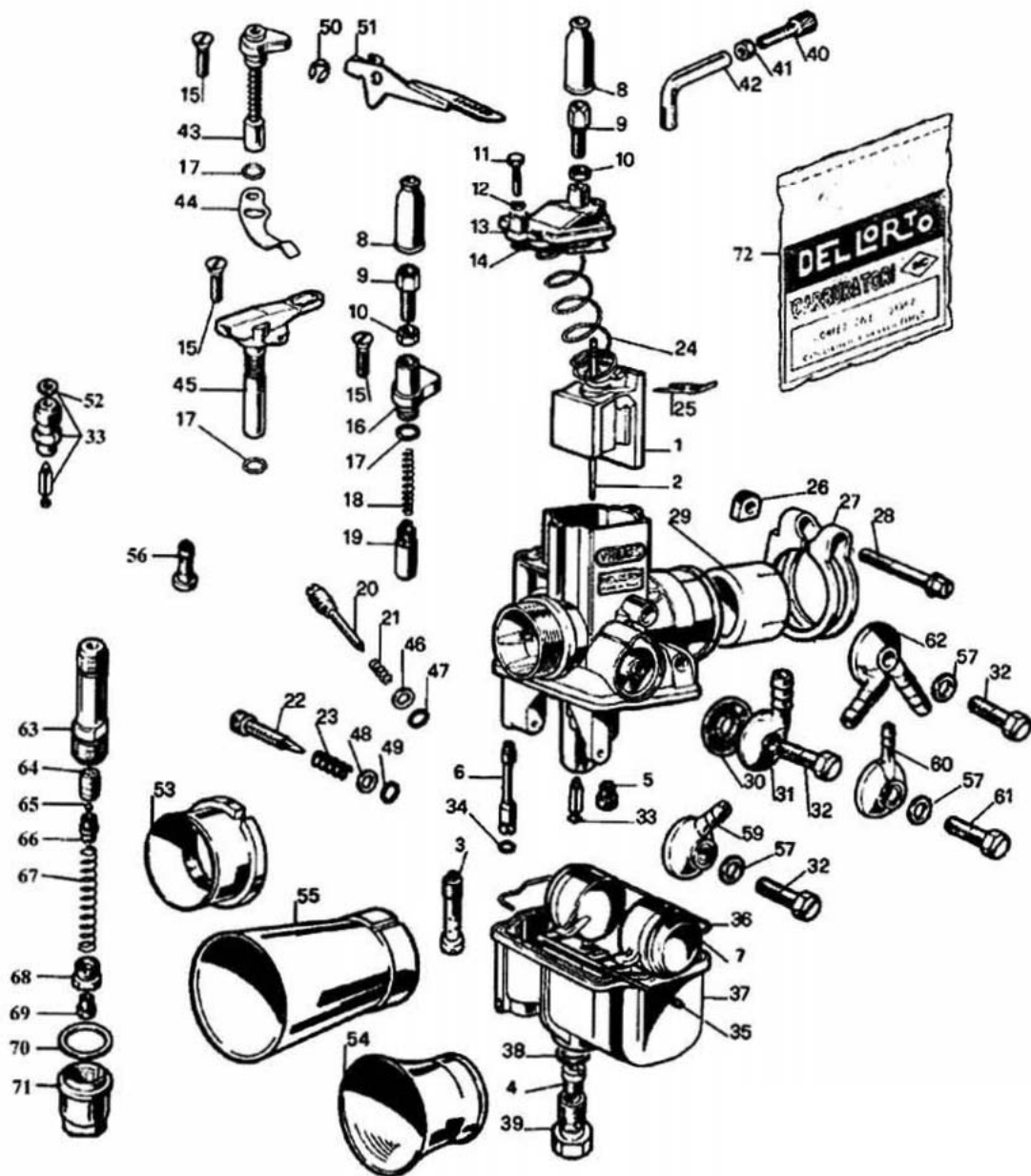
35	11788	Left hand throttle support		87	7346	Float pivot pin
36	8825	Dome top cover		88	10557	Float bowl
37	9042	Allen screw		89	4057	Float bowl nut seal
38	5011	Spring washer		90	10238	Float bowl nut
39	8830	Cable arm		91	52560	PHM N, cranked top
40	8725	Spindle seal		91	52520	PHM A,B,N,V gasket set
41	10069	Slide rod guide		91	52544	PHM..H,L,M,P,R,T,S,Z gasket set
42	7415	Pump arm spring		91	52545	PHM A,B,N,V gasket set
43	8426	Pump arm		92	4052	Fuel union seal
44	3698	90 Degree cable elbow		93	9573	Short plastic trumpet
44	3600	70 Degree cable elbow		94	8673	Long trumpet with wire gauze
44	9330	40 Degree cable elbow		95	8128	Clamp nut
45	1692	Adjuster locknut (for 1481)		96	8127	Clamp bolt
46	1481	Cable adjuster		97	8528	Clamp
47	1476	Rubber cable cap		98	8596	PHM38 R90S mounting sleeve
48	1104	Cable adjuster		99	10923	Plastic top
49	1691	Adjuster locknut (for 1104)		100	8550	Slide spring 0.7kg/70mm
50	3128	Choke support		100	8532	Slide spring 1.1kg/70mm
51	3133	Choke return spring		100	9389	Slide spring 1.4kg/70mm
52	3238	Choke piston		101	8525	Needle clip





No.	Ref.	Description	Sizes/options available	No.	Ref.	Description
1	8553	Slide	401, 402, 403, 501, 503, 601,602, 603, 604, 702	44	8260	Mixture screw washer
2	8530	Needle	K1 to K95	45	7446	Mixture screw spring
3	8540	Atomizer AB	258,60,62,64,65,66,68,70,72,75,78,80,90 & 300	46	7449	Mixture screw
3	12599	Atomizer AR	255,258,260,262,264,265,266,268,270 & 290	47	7673	Throttle stop screw
4	6413	Main Jet	56 to 330, in steps of 1,2 & 3. Please ask.	48	4670	Throttle stop screw spring
5	1486	Idle jet (short)	30 to 198, in steps of 1,2 & 3. Please ask	49	4650	Throttle stop screw washer
6	7746	Choke jet	45,50,55,60,65,70,75,80,85 & 90	50	7540	Throttle stop screw O ring
7	7851	Pump jet	30,33,35,38,40,42,45,48,50,55,60,65,70,75,90,150	51	7852	Pump jet holder
8	10375	Float needle valve	150, 170, 200, 225	52	6426	Pump jet holder fibre washer
8	8649	Float needle valve	250, 270, 300, 350, 400	53	6173	O ring
9	7450	Float	.1, .2 & .3	54	8558	Pump non return valve
10	6429	Top cover screw		55	8598	Adjuster screw O ring
11	1581	Spring washer		56	8539	Pump adjustment screw
12	6429	Top cover screw		57	8599	Pump adjuster locknut
13	5011	Washer		58	8428	Pump cover screw
14	8825	Top casting		59	5011	Spring washer
15	8826	Top paper gasket		60	8556	Pump cover
16	8725	Spindle seal		61	7626	Diaphragm spring
17	8830	Cable arm		62	8555	Pump diaphragm
18	8951	Slide rod		63	9278	Diaphragm gasket
19	6435	Screw		64	8552	Main jet holder
20	4957	Spring washer		65	6109	Fuel banjo filter
21	8950	Throttle cable support		66	8128	Clamp nut
22	8542	Screw		67	8127	Clamp bolt
23	8945	Top Casting		68	8557	Non return valve
24	8726	Spindle seal		69	6288	Needle valve fibre washer
25	8727	Spindle seal cover		70	7346	Float pivot pin
26	8948	Return spring		71	7451	Float bowl O ring
27	8941	Throttle lever		72	10557	Float bowl
28	8550	Slide spring 0.7kg/70mm		73	4057	Float bowl nut seal
28	8532	Slide spring 1.1kg/70mm		74	8551	Float bowl nut, 14mm head
28	9389	Slide spring 1.4kg/70mm		74	10238	Float bowl nut
29	8525	Needle circlip		75	8670	60mm Trumpet with gauze
30	8533	Top O ring		76	8680	Short trumpet
31	8535	Pump arm pin	Metal top	77	11248	30mm trumpet
31	10924	Pump arm pin	Metal top	78	9250	Fuel banjo, plastic
32	7415	Pump arm return spring		78	6273	Fuel banjo, metal

33	8426	Pump arm		79	4052	Fuel banjo bolt seal
34	3698	90 Degree cable elbow		80	4568	Fual banjo bolt
34	3600	70 Degree cable elbow		81	7890	Fuel banjo, double
34	9330	40 Degree cable elbow		82	9596	Needle circlip
35	1692	Cable adjuster locknut		83	10348	Needle retainer
36	1481	Cable adjuster		84	8293	Lever choke assy
37	1476	Rubber cable cap		85	10922	Plastic top
38	7745	Chke support screw		86	1104	Cable adjuster
39	8295	Choke support		87	8527	Clamp
40	5011	Choke support O ring		88	8595	Manifold sleeve
41	4043	Choke return spring		89	52547	Gasket set, A,B,C,D,E,G & H
42	3238	Choke piston		89	52514	Gasket set, A,B, D. cranked top
43	8678	Mixture screw O ring				



No.	Ref.	Description	Sizes/options available	No.	Ref.	Description	Sizes/options available
1	7447	Slide 20 - 26mm	30, 40, 50 & 60	30	6109	Fuel filter	
1	7454	Slide 27 - 30mm	60	31	9250	Fuel banjo	Plastic
2	2343	Needle 20 - 26mm	E1 to E42	32	4568	Banjo bolt	
2	7455	Needle 27 - 30mm	V1 to V14	33	4559	Needle valve	
3	8203	Atomizer U 20 - 26mm	260	33	9436	Needle valve assembly VHBZ/T	
3	8299	Atomizer V 20 - 26mm	260	34	6173	O ring	
3	8358	Atomizer K 20 - 26mm	260, 262, 264, 266, 268 & 270	35	7346	Float pivot pin	
3	8566	Atomizer D 20 - 26mm	260, 266 & 270	36	7451	Float bowl O ring	
3	7456	Atomizer M 27 - 30mm	260, 262, 265 & 270	37	7335	Float bowl	
3	7755	Atomizer N 27 - 30mm	260, 265 & 270	38	6266	Float bowl seal	
3	7790	Atomizer P 27 - 30mm	260, 262, 265, 266, 268 & 270	39	6267	float bowl nut	
3	7972	Atomizer T 27 - 30mm	260, 262, 264, 265, 266, 268 & 270	40	1481	Cable adjuster	
3	7878	Atomizer 29-30mm CS/CD	265 & 270	41	1692	Adjuster locknut	
4	6413	Main Jet	56 to 330, in steps of 1,2 & 3. Please	42	3698	90 Degree cable elbow	
5	1486	Idle jet (short)	30 to 198, in steps of 1,2 & 3. Please	42	3600	70 Degree cable elbow	
6	7746	Choke jet	45,50,55,60,65,70,75,80,85 & 90	42	9330	40 Degree cable elbow	
7	7450	Float Assembly	.1, .2 & .3	42	10854	50 Degree cable elbow	
8	1476	Rubber cable cap		43	8730	Pull-up choke assembly	
9	1104	Cable adjuster		44	9328	Choke locking spring	
10	1691	Adjuster locknut		45	8294	Lever choke assembly 20 - 26mm	
11	3978	Top cover screw, Hex. Head		45	8293	Lever choke assembly 27 - 30mm	
11	3318	Top cover screw		46	8260	Mixture screw washer	
12	5011	Spring washer		47	8678	Mixture screw O ring	
13	7336	Top cover 20 - 26mm		48	4650	Stop screw Washer	
13	7338	Top cover 27 - 30mm		49	7540	Stop screw O ring	
14	8210	Top cover gasket 20 - 26mm		50	5495	Circlip	
14	8208	Top cover gasket 27 - 30mm		51	9327	Choke operating lever	
15	7745	Choke support screw		52	6288	Needle valve seal, VHBZ/T	
16	8295	Choke support		53	4224	Trumpet, 20mm	
17	8297	Choke support O ring		54	1439	Trumpet, 30mm	
18	3133	Choke return spring		55	3100	Trumpet	
19	3238	Choke piston		56	7878	Atomizer, VHB CS/CD	
20	7449	Mixture screw		57	4052	Banjo bolt seal	
21	7446	Mixture screw spring		59	6517	Fuel banjo	
22	7673	Slide stop screw		60	8752	Fuel banjo, 6mm	
23	4670	Slide stop spring		61	4053	Banjo bolt	
24	7448	Slide spring	2kg/35mm	62	7890	Double fuel banjo	

24	7941	Slide spring	1.1kg/35mm	63	7879	Pump body	
24	8750	Slide spring	0.8kg/35mm	64	7831	Pump piston	
25	1407	Needle clip		65	7185	Pump ball bearing	
26	8128	Clamp nut		66	7832	Holder	
27	8131	Manifold clamp 20 - 26mm		67	7882	Spring	
27	8142	Manifold clamp 27 - 30mm		68	7828	Main jet holder	
28	8127	Clamp bolt		69	1486	Main jet (See item 5 for sizes	
29	6976	Manifold sleeve 20 - 26mm	I/D 28.57	70	4057	Float bowl seal	
29	6977	Manifold sleeve 20 - 26mm	I/D 28.57 (25 mm carb.)	71	7880	Float bowl nut	
29	7569	Manifold sleeve 20 - 26mm	I/D 25.4mm	72	52510	Gasket set	VHB/T 29-30 C
29	8792	Manifold sleeve 20 - 26mm	I/D 30mm	72	52511	Gasket set	VHB Linked
29	7453	Manifold sleeve 27 - 30mm	I/D 35mm	72	52512	Gasket set	VHB/Z 20 - 26mm
29	8434	Manifold sleeve 27 - 30mm	I/D 37mm	72	52517	Gasket set	VHB/T 27 - 30mm
				72	52517	Gasket set	VHB/T 27 - 30mm