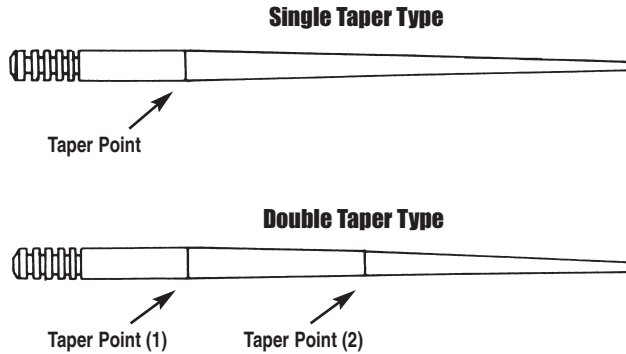


Jet Needles

The Jet Needle controls the fuel mixture in the mid-range (1/4-3/4) throttle position. The taper of the needle determines the amount of fuel. For example: the thinner the diameter of the needle, the more fuel will be drawn. The thicker the diameter of the needle, the less fuel will be drawn.

Two Types of needles



Needle Taper Diameter Dimension Chart

D-1 through D-5 indicates diameter (mm) at each point.

	A	B	D-1	D-2	D-3	D-4	D-5
4E1	50.3	28.0	2.515	2.515	2.345	2.127	1.924
4DH7	50.3	23.0	2.518	2.518	2.386	2.098	1.790
4J13	50.2	24.0	2.513	2.513	2.230	1.800	1.40
4L6	50.3	24.5	2.515	2.515	2.178	1.660	1.190
4J11	41.5	21.3	2.512	2.506	2.188	1.776	

D-1 through D-6 indicates diameter (mm) at each point.

	A	B	D-1	D-2	D-3	D-4	D-5	D-6
5F3	58.0	27.4	2.519	2.519	2.419	2.135	1.863	
5EJ11	60.3	28.5	2.515	2.515	2.241	1.839	1.420	
5FL11	60.3	28.2	2.518	2.518	2.438	2.175	1.740	1.256
5FL14	58.0	28.0	2.520	1.520	2.440	2.170	1.735	
5FL7	58.0	28.0	2.518	2.518	2.440	2.170	1.735	
5DP7	57.6	26.4	2.512	2.512	2.440	2.259	1.580	
5J6	58.0	27.5	2.518	2.518	2.340	1.890	1.450	
5L1	58.0	27.0	2.518	2.518	2.330	1.811	1.297	
5J9	58.0	27.0	2.522	2.520	1.432	1.996	1.505	

D-1 through D-6 indicates diameter (mm) at each point.

	A	B	C	D-1	D-2	D-3	D-4	D-5	D-6
6F5	62.3	38.1	19.0	2.515	2.456	2.454	2.364	2.098	1.840
6F4	62.3	32.0	19.4	2.515	2.442	2.436	2.206	1.939	1.678
6F8	62.3	34.0	21.5	2.512	2.512	2.386	2.214	1.945	1.688
6F16	64.6	31.2	18.4	2.520	2.404	2.400	2.201	1.941	1.679

Needle Taper Diameter Dimension Chart

(a)=Needle Length (mm)

(b)=Length between points (x) and the taper point (Y)

1=10mm

2=20mm

3=30mm

4=40mm

5=50mm

D-1, -2, -3, -4, -6 are the actual taper diameters at those given points in millimeters

Series Type

Application

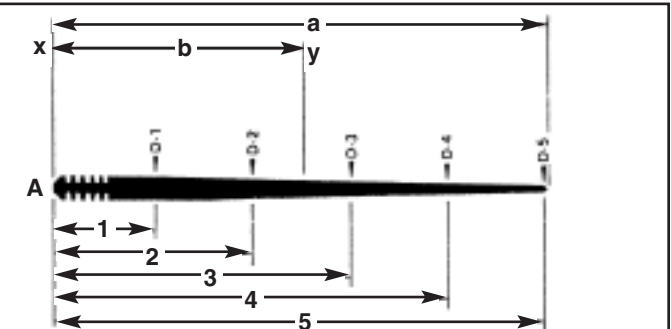
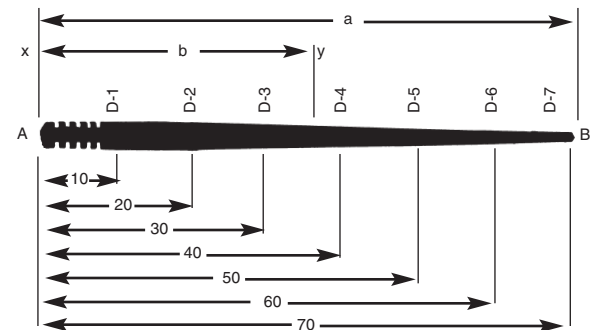
#4	All 18mm Carburetors 22mm and 24mm flange
#5	26 - 32mm spigot 28 - 34mm flange
#6	30 - 38mm spigot
#7	40 - 44mm spigot
#9	RS and HS carburetors

D-1 through D-6 indicates diameter (mm) at each point.

	A	B	D-1	D-2	D-3	D-4	D-5	D-6
6DH2	62.3	28.0	2.511	2.511	2.466	2.295	2.000	1.660
6F9	62.3	28.9	2.516	2.516	2.475	2.210	1.949	1.678
6CF1	61.5	29.5	2.512	2.512	2.429	2.240	1.974	1.710
6FJ6	62.3	35.2	2.505	2.505	2.505	2.376	2.040	1.606
6DH3	62.3	22.0	2.512	2.512	2.458	2.286	1.948	1.607
6L1	62.3	37.0	2.512	2.512	2.512	2.335	1.826	1.313
6DP17	62.3	32.1	2.518	2.518	2.518	2.372	1.834	1.141
6N1	62.3	37.0	2.514	2.514	2.514	2.278	1.672	1.058
6DP1	62.3	28.9	2.511	2.511	2.476	2.312	1.748	1.075
6DH4	62.3	25.5	2.520	2.520	2.440	2.258	1.915	1.575
6DH7	62.2	28.5	2.516	2.516	2.505	2.316	2.009	1.688
6DH8	62.2	20.3	2.538	2.538	2.436	2.208	1.827	1.497
6FL14	62.1	26.7	2.538	2.538	2.538	2.233	1.649	1.218
6F15	62.2	19.8	2.535	2.538	2.461	2.208	1.979	1.649
6DP10	62.4	26.5	2.51	2.51	2.44	2.26	1.56	0.89
6F13	64.2	32.8	2.50	2.46	2.46	2.24	1.97	1.70
6DL30	64.7	26.3	2.51	2.51	2.45	2.09	1.66	1.24

D-1 through D-7 indicates diameter (mm) at each point.

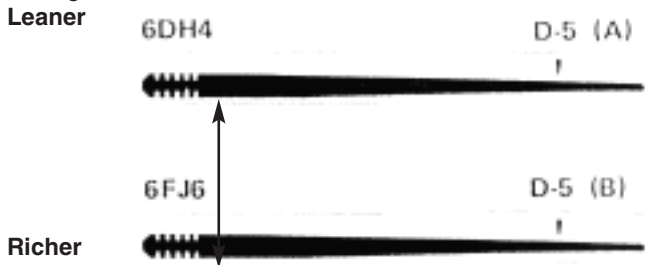
	A	B	D-1	D-2	D-3	D-4	D-5	D-6	D-7
7DH5	72.2	27.4	2.98	2.98	2.94	2.78	2.4	2.08	1.72
7F7	72.3	33.1	2.99	2.99	2.99	2.80	2.54	2.28	2.02
7F6	72.3	29.0	3.00	3.00	2.95	2.68	2.41	2.14	1.87
7DH3	72.5	28.1	2.98	2.98	2.96	2.80	2.47	2.11	1.76
7DH2	75.3	31.6	2.99	2.99	2.99	2.84	2.66	2.27	1.92



Quick Reference Chart for Needle Selection (Average Performance Chart)

Note: The following listing of needles are simply the average performance of a needle between 1/4 and 3/4 throttle opening. Needles are constructed such that a given point on a needle, (for example, at 3/4 throttle opening), the needle may be found to perform richer at this given point when compared to the same given point on another needle, but according to the average performance chart, the needle should perform leaner.

For example:
average Performance chart



At **D-5 (A)**, the taper diameter is 1.915, at **D-5 (b)**, the taper is 2.040; the taper diameter at **D-5 (A)** is smaller than **D-5 (B)**. At this given point of throttle opening (3/4), needle **6DH4** will run slightly richer than **6FJ6**, but the average performance will still be that **6DH4** will be a leaner needle because it will perform leaner at more given points than a **6FJ6**. Consequently, if you are concentrating on a specific throttle opening for competition use, be certain to check the taper diameter at that point of throttle opening.

For a more detailed and comprehensive explanation of the various needles as to their taper diameters at given points, see **NEEDLE TAPER DIAMETER DIMENSION CHARTS**.

THE QUICK REFERENCE CHART FOR NEEDLE SELECTION was prepared by measuring the needles as to their diameter at given points. Given points are 10mm apart from each other.

By computing the different measurements and arranging them in order of taper thickness or thinness, three categories for application of needles were determined.

Category I - Competition.
For example, motocross racing and desert racing where mid-range throttle operation is vital.

Category II - Racing.
For example, Road racing, where 3/4 to full throttle operation is vital.

Category III - Overall.
For example, Street riding, where the full range of throttle operation is required.

Needle #4 Series

		Competition	Racing	Overall
Leaner	1	4D8	4P3	4P3
	2	4DH7	4D8	4D8
	3	4DG6	4D3	4D3
	4	4P3	4F10	4DG6
	5	4D3	4DG6	4DH7
	6	4F6	4F6	4F10
	7	4F10	4DH7	4F6
	8	4F15	4F15	4F15
	9	4E14	4E1	4E1
	10	4J13	4L13	4L13
	11	4L6	4J11	4J13
	12	4L13	4J13	4J11
Richer	13	4J11	4L6	4L6

Needle #5 Series (A)

		Competition	Racing	Overall
Leaner	1	5D6	5C4	5C4
	2	5D120	5D6	5D6
	3	5C4	5D5	5D5
	4	5EJ13	5D120	5D120
	5	5J9	5D1	5F18
	6	5F18	5F18	5D1
	7	5DP7	5F16	5EJ13
	8	5FL14	5FJ9	5F3
	9	5F3	5F3	5EH7
	10	5EH7	5EJ13	5FJ9
	11	5FL	5EH7	5DP
	12	5D5	5DH21	5FL14
	13	5E13	5FL14	5FL7
	14	5L1	5FL7	5E13
	15	5J6	5E13	5F16
	16	5D1	5DP7	5DH21
	17	5FJ9	5J9	5J9
	18	5F16	5J6	5J6
	19	5DH21	5L1	5L1
Richer	20	5F12	5F12	5F12

Needle #5 Series (B)

Longer (leaner) than #5 series (A); see **NEEDLE TAPER DIAMETER DIMENSION CHART (b)**

		Competition	Racing	Overall
Leaner	1	5EP8	5DP2	5DP2
	2	5EJ11	5DL13	5DL13
	3	5EL9	5EJ11	5EJ11
	4	5FL11	5EL9	5EL9
	5	514	5EP8	5EP8
	6	5DL13	5FL11	5FL11
Richer	7	5DP2	514	514

Flatslide Carburetors

Order No.	Jet Needle No.	Application	Needle Diameter before Taper (mm)	Air Fuel Ratio
002-713	6FJ41	TM36, TM38 Flatslide	2.522	Leaner
002-349	6FM46	39 Pro Series, 41 Pro Series	2.522	
002-712	6FJ40	39 Pro Series, 41 Pro Series	2.522	
002-341	6DP4	39 Pro Series, 41 Pro Series	2.515	Richer
007-077	6EJ12-60	TMX38 Flatslide	2.60	Leaner
007-076	6EJ12-59	TMX38 Flatslide	2.59	
007-075	6EJ12-58	TMX38 Flatslide	2.58	
007-074	6EJ12-57	TMX38 Flatslide	2.57	
007-073	6EJ12-56	TMX38 Flatslide	2.56	
007-072	6EJ12-55	TMX38 Flatslide	2.55	
007-071	6EJ12-54	TMX38 Flatslide	2.54	
007-070	6EJ12-53	TMX38 Flatslide	2.53	Richer
007-056	6EN11-58	TMX35 Flatslide	2.58	Leaner
007-055	6EN11-57	TMX35 Flatslide	2.57	
007-054	6EN11-56	TMX35 Flatslide	2.56	
007-053	6EN11-55	TMX35 Flatslide	2.55	
007-052	6EN11-54	TMX35 Flatslide	2.54	
007-051	6EN11-53	TMX35 Flatslide	2.53	
007-050	6EN11-52	TMX35 Flatslide	2.52	
007-049	6EN11-51	TMX35 Flatslide	2.51	Richer
007-088	6GDY12-59	TMS38-77, 78 125cc	2.59	Leaner
007-087	6GY12-58	TMS38-77, 78 125cc	2.58	
007-086	6GY12-57	TMS38-77, 78 125cc	2.57	
007-085	6GY12-56	TMS38-77, 78 125cc	2.56	Richer
007-048	6DGY04-60	TMS38-77, 78 250cc	2.60	Leaner
007-047	6DGY04-59	TMS38-77, 78 250cc	2.59	
007-046	6DGY04-58	TMS38-77, 78 250cc	2.58	
007-045	6DGY04-57	TMS38-77, 78 250cc	2.57	
007-044	6DGY04-56	TMS38-77, 78 250cc	2.56	
007-043	6DGY04-55	TMS38-77, 78 250cc	2.55	
007-042	6DGY04-54	TMS38-77, 78 250cc	2.54	Richer
007-035	9DZH01 STD	RS34-36	2.50	Leaner
007-037	9DZH03	RS34-36	2.49	
007-038	9DZH04	RS34-36	2.48	Richer
007-020	9CHY03 STD	RS38-40	2.99	Leaner
007-022	9CHY05	RS38-40	2.98	
007-023	9CHY06	RS38-40	2.97	Richer
007-015	9DJY01 STD	HS40	2.97	Leaner
007-017	9DJY03	HS40	2.96	
007-016	9DJY02	HS40	2.95	Richer
007-018	9DJY04	HS40		
007-083	8DDY01-98	HSR42	2.98	Leaner
007-082	8DDY01-97 STD	HSR42	2.97	
007-081	8DDY01-96	HSR42	2.96	
007-080	8DDY01-95	HSR42	2.95	Richer
007-103	8CFY02-98	HSR45/48	2.95	Leaner
007-102	8CFY02-97 STD	HSR45/48	2.96	
007-101	8CFY02-96	HSR45/48	2.97	
007-100	8CFY02-95	HSR45/48	2.98	Richer
007-105	9EBY1-50	TM36-68		Leaner
007-106	9EBY1-51	TM36-68		Richer

(When using these needles, the use of a larger pilot jet may be required.)

VM, TM, and RS

4 Series

Order No.	Mikuni No.
002-243	4D10
002-244	4D20
002-245	4DH7
002-246	4DH11
002-247	4DH22
002-251	4EJ4
002-254	4F15
002-256	4J11
002-257	4J13
002-258	4L6

5 Series

Order No.	Mikuni No.
002-268	5DL31
002-271	5DP7
002-272	5DP10
002-273	5DP39
002-279	5EL9
002-281	5F3
002-283	5F12
002-287	5F21
002-291	5FL14
002-297	5L1
007-001	5FP17
007-002	5N13
007-003	5J11
002-280	5EP6
002-267	5DI20
002-292	5FP8
007-004	5FP96

6 Series

Order No.	Mikuni No.
002-299	6DH2
002-300	6DH3
002-301	6DH4
002-302	6DH7
002-303	6DH8
002-340	6DJ30
002-304	6DP1
002-341	*6DP4
002-309	6DP17
002-312	6F4
002-313	6F5
002-314	6F8
002-315	6F9
002-316	6F13
002-317	6F15
002-318	6F16
002-319	6F21
002-321	6FJ6
002-712	*6FJ40
002-713	*6FJ41
002-324	6FL14
002-344	6FL25
002-325	6J1
002-327	6L1
002-349	*6FM46
002-328	6N1

*For TM36, TM38 and Pro-Series

7 Series

Order No.	Mikuni No.
002-332	7DH2
002-336	7DH3
002-345	7DH5
002-334	7E1
002-329	7F6
002-333	7F7

9 Series

Order No.	Mikuni No.
RS34-36	
007-035	9DZH01
007-037	9DZH03
007-038	9DZH04
RS38-40	
007-020	9CHY03
007-022	9CHY05
007-023	9CHY06

Series Type	Application
#4	All 18mm Carburetors 22 - 24mm Flange
#5	26 - 32mm Spigot 28 - 34mm Flange
#6	30 - 38mm Spigot
#7	40 - 44mm Spigot



Sudco Carburetor Needle Shims (12 pc. package)

Order No.	Description
009-395	Most Mikuni 106" Inner Diameter x .250 Outer Diameter x .020 (.5mm) thick
009-396	Most Keihin 126" Inner Diameter x .275 Outer Diameter x .020 (.5mm) thick