4) 1/4 TO 3/4 Throttle

The JET NEEDLE is the most effective component in the range. Changing the

STRAIGHT DIAMETER (D) will change the calibration in the transition range from the SLOW circuit to the MAIN circuit (1/8 to 1/4) throttle.

A smaller diameter will make this range richer and a larger diameter will lean this range.

TAPER (A) changes are only made if there is a problem *balancing the calibration between 1/4 and 3/4* throttle. If the mixture is **rich** at 1/4 throttle and **lean** at 3/4 throttle, a JET NEEDLE with a larger taper is needed. If mixture is **lean at 1/4 throttle** and **rich at 3/4 throttle**, **change to smaller taper**.

If the calibration is **lean** from 1/4 to 3/4 throttle, raise the JET NEEDLE by lowering clip position, or use **JET NEEDLE with shorter length (L1**).

If the calibration is **rich**, **lower the JET NEEDLE with a longer (L1).**

Specification Table for Keihin PJ 34-38, PWK33-39

Keihin Part No. N427-48- □ □ □

Taper L-1 Diameter

RICH ← Diameter: D → LEAN

LEAN	Taper	L1 Length	2.665 Keihin	2.675 Keihin	2.685 Keihin	2.695 Keihin	2.705 Keihin	2.715 Keihin	2.725 Keihin	2.745 Keihin
	1°00	38.15	AEG 017-071		AEJ 017-000		AEL 017-001		AEN 017-002	AEQ 017-003
		38.60								
	A	29.95								
		40.40								
	1°15	38.15	BEG 017-006		BEJ 017-005		BEL 017-004	BEM 017-420	BEN 017-007	BEQ 017-008
1/2		38.60								
to	B	39.95	BGG 017-009		BGJ 017-010		BGL 017-011	BGM 017-425	BGN 017-012	BGQ 017-070
3/4	1°34	38.15	CEG 017-021		CEJ 017-019	CEK 017-430	CEL 017-017	CEM 017-431	CEN 017-022	CEQ 017-023
Throttle		38.60								
	C	39.95	CGG 017-024	CGH 017-020	CGJ 017-025	CGK 017-018	CGL 017-016	CGM 017-015	CGN 017-014	CGQ 017-013
	1°45	38.15	DEG 017-034		DEJ 017-032		DEL 017-029		DEN 017-0352	DEQ 017-036
		38.60								
	D	39.95	DGG 017-037	DGH 017-033	DGJ 017-031	DGK 017-030	DGL 017-038	DGM 017-028	DGN 017-027	DGQ 017-026
	2°00	38.15	EEG 017-041	EEH 017-450	EEJ 017-452	EEK 017-452	EEL 017-453	EEM 017-454	EEN 017-455	
		38.60								
RICH	E	39.95	EGG 017-048	EGH 017-047	EGJ 017-049	EGK 017-046	EGL 017-045	EGM 017-044	EGN 017-043	EGQ 017-042

← 1/8 to 1/4 Throttle →

LENGTH: The needle length is determined by the clip position (grooves at top of needle) setting on the upper portion of the needle. On most needles there are 5 clip positions. The top clip position is referred to as #1 and is the **Leanest** setting. The clips are referred to in numerical order with the bottom position being #5, the **Richest** (refer to attached jetting chart illustration). The clip/length setting covers the largest percentage of jetting in your carburetor. With an emphasis at ½ throttle, the clip (length) setting will bleed both up and down to some degree to cover a wide portion of the midrange jetting.

When the clip/length setting is **Lean** the machine will be very zingy sounding and feel kind of similar to an 80cc or 125cc machine. Lean in the midrange will also rob power and cause the machine to run hot and seize easily

When the clip/length setting is **Rich** the machine will have a lazy feeling in the midrange. Exhaust note will be a little flat sounding. In extreme cases of richness the engine will even sputter or kind of crap out in the midrange.

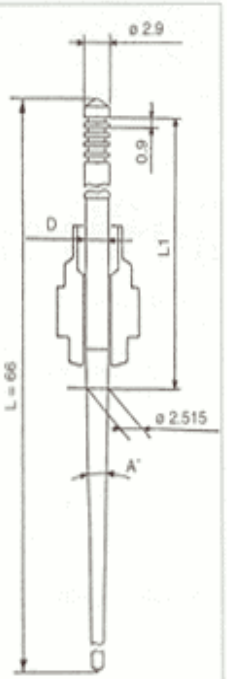
The safest way to set the clip position is to richen up the clip position setting until the machine loses a little power (feels lazy/unresponsive) then lean it back one position. Ideally you like to run the needle setting in either the 3rd or 4th clip position, if possible. **The needle clip jetting is especially critical to your machines reliability because on average more time is spent in the midrange than any other part of the throttle. Most machines pull very hard in the midrange, putting quite a load on the engine. This makes a lean condition very detrimental to your reliability.**

PWK, PJ (34mm-39mm) Needle

PART NUMBER
SERIES MARK

N427-48 □□□

MARK	TAPER: A	L1	DIAMETER: D
A	1°00'	34.55	2.605
B	1°15'	35.00	2.615
C	1°34'	36.35	2.625
D	1°45'	36.80	2.635
E	2°00'	38.15	2.645
F	2°15'	38.60	2.655
G	2°26'	39.95	2.665
H	2°45'	40.40	2.675
J	3°00	41.75	2.685
K	3°15'	42.20	2.695
L	3°33'	43.55	2.705
M	3°50'	44.00	2.715
N	4°00'	45.35	2.725
P			2.735
Q			2.745
R			2.755
S			2.765
T			2.775
U			2.785
V			2.795
W			2.805
X			2.815
Y			2.825
Z			2.835



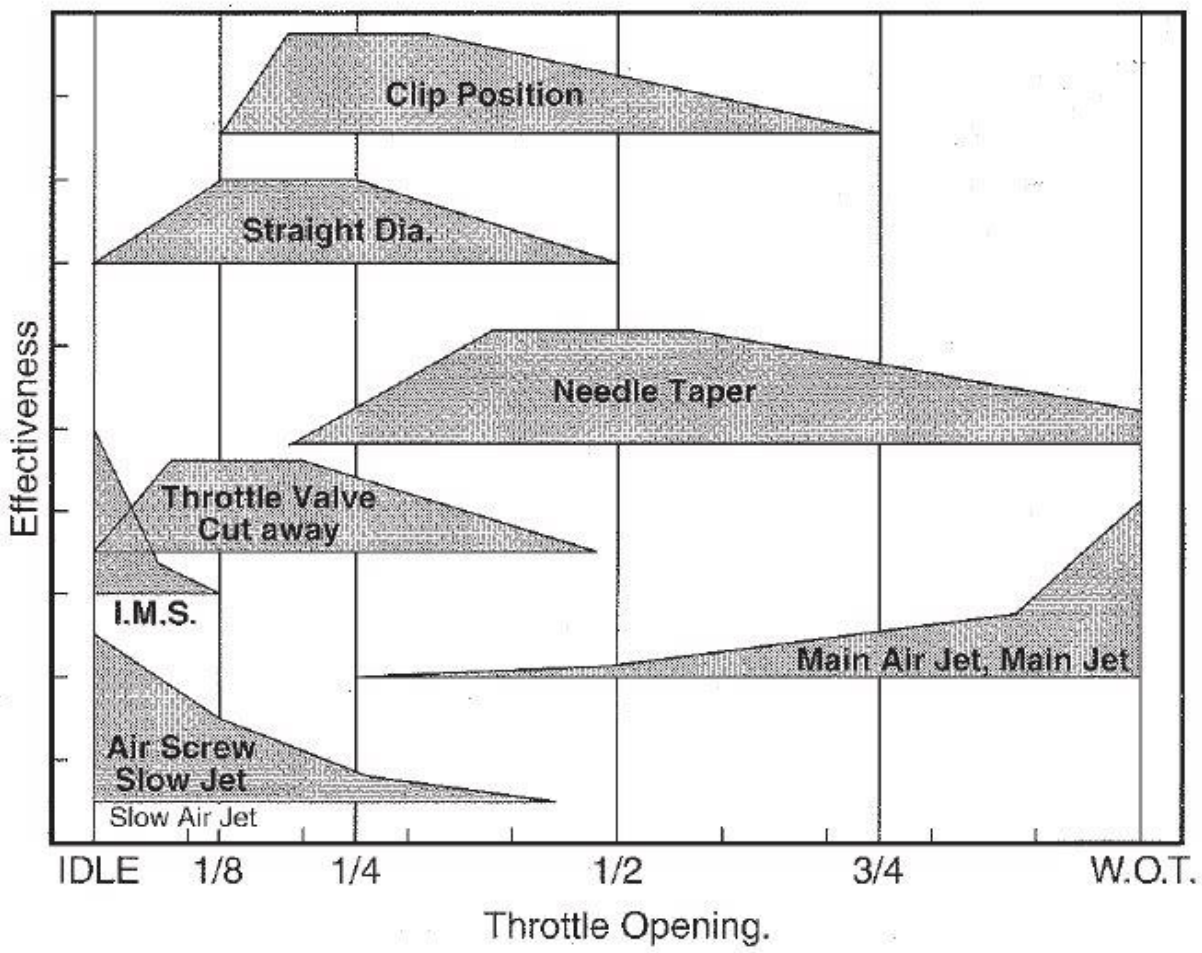
NOTE: Number 1 clip position is furthest from needle taper. The number after the three digits is clip position.

	TAPER				
	Leanest 1.00 degree	Leaner 1.25 degree	Standard 1.50 degree	Richer 1.75 degree	Richest 2.00 degree
2 Clip position Leaner	N/A	N/A	CGL-1	DGL-2	EGL-3 EEL-1
Standard	AJL-1	BGL-1	CGL-3 CEL-1	DGL-4 DEL-2	EGL-5 EEL-3 ECL-1
2 Clip position Richer	AJL-3 AGL-1	BGL-3 BEL-1	CGL-5 CEL-3	DEL-4 DCL-2	ECL-3
4 Clip position Richer	AJL-5 AGL-3 AEL-1	BGL-5 BEL-3	CEL-5	DCL-4	DCL-5
6 Clip position Richer	AGL-5 AEL-3	BEL-5	N/A	N/A	N/A

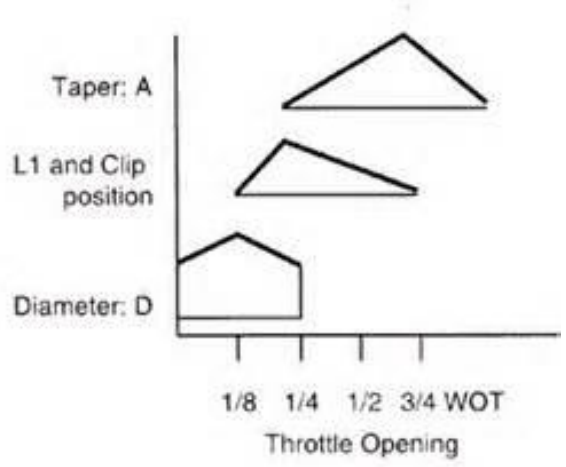
Stralght diameter:

F (2.655mm)	L (2.705mm)
G (2.665mm)	M (2.715mm)
H (2.675mm)	N (2.725mm)
J (2.685mm)	P (2.735mm)
K (2.695mm)	Q (2.745mm)

Calibration Chart (for FCR, CRS, PWK, PJ, PE)



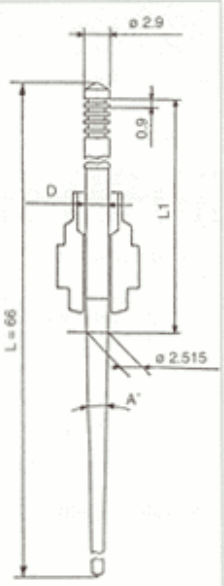
Contribution of Jet Needle



PWK, PJ (34mm-39mm) Needle

PART NUMBER SERIES: N427-48 MARK: □□□

MARK	TAPER: A	L1	DIAMETER: D
A	1°00'	34.55	2.605
B	1°15'	35.00	2.615
C	1°34'	36.35	2.625
D	1°45'	36.80	2.635
E	2°00'	38.15	2.645
F	2°15'	38.60	2.655
G	2°26'	39.95	2.665
H	2°45'	40.40	2.675
J	3°00	41.75	2.685
K	3°15'	42.20	2.695
L	3°33'	43.55	2.705
M	3°50'	44.00	2.715
N	4°00'	45.35	2.725
P			2.735
Q			2.745
R			2.755
S			2.765
T			2.775
U			2.785
V			2.795
W			2.805
X			2.815
Y			2.825
Z			2.835



NOTE: Number 1 clip position is furthest from needle taper. The number after the three digits is clip position.

	TAPER				
	Leanest 1.00 degree	Leaner 1.25 degree	Standard 1.50 degree	Richer 1.75 degree	Richest 2.00 degree
2 Clip position	N/A	N/A	CGL-1	DGL-2	EGL-3
Leaner					EEL-1
Standard	AJL-1	BGL-1	CGL-3	DGL-4	EGL-5
			CEL-1	DEL-2	EEL-3
					ECL-1
2 Clip position	AJL-3	BGL-3	CGL-5	DEL-4	ECL-3
Richer	AGL-1	BEL-1	CEL-3	DCL-2	
4 Clip position	AJL-5	BGL-5	CEL-5	DCL-4	DCL-5
Richer	AGL-3	BEL-3			
	AEL-1				
6 Clip position	AGL-5	BEL-5	N/A	N/A	N/A
Richer	AEL-3				

Stralght diameter:

F (2.655mm)	L (2.705mm)
G (2.665mm)	M (2.715mm)
H (2.675mm)	N (2.725mm)
J (2.685mm)	P (2.735mm)
K (2.695mm)	Q (2.745mm)