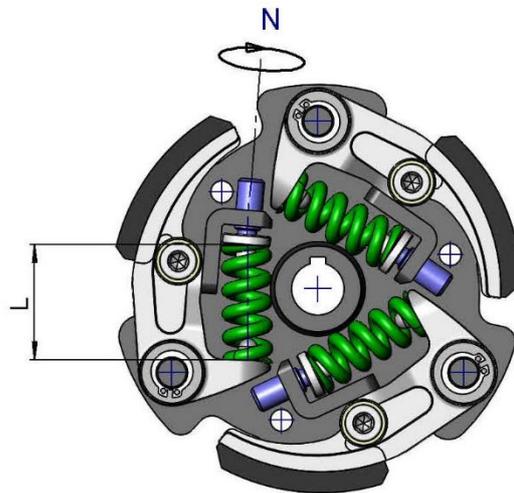


Blata Clutch Set up

Clutch RPM should be set up to bite between $7000 - 8800 \text{ min}^{-1}$ (this is when the engine torque starts to rise dramatically) by adjusting the spring tension. The biting point of a clutch means that the clutch engages and the pocket bike including rider starts to move. You should not set up your clutch when the bike is on a stand and the rear wheel spins freely. The rider should be on the bike which should be moving. Bite set up should be measured using a digital RPM gauge (data logger) which is connected via a high-voltage wire to the spark plug. The springs of each clutch shoe should be set to the same tension. Clutch shoes can be equipped with additional weights. Every Clutch needs to have identical weights on each shoe. Remember to choose a suitable gear ratio. A heavier gear ratio (bigger front pinion and smaller rear sprocket) generates higher speeds but greatly reduces the life of the clutch.



Basic spring set up

Springs should be loose and have no tension when adjusting the clutch (spring length L_0). Using an "L" shape Allen key very gently tighten the adjusting screw of spring until it touches the spring and the spring length becomes defined ($L_0 - 0,1\text{mm}$). After that tighten adjusting screw by "N" turns. Orientational number of "N" turns and the corresponding spring length "L" is given in Table 1. This has to be the same on all three clutch shoes. RPM biting values of clutch should then be checked by digital speed meter (data logger) by driving bike from start on a short test drive.

If necessary, corrections are made by increasing or decreasing spring tension (adjusting screw by $1/8$ corresponds to approximately 200 min^{-1}).

If the engine when accelerating out of corners chokes, the clutch bite set up is too low for the current chosen gear ratio. If bike rises to rear wheel (wheelstand) when accelerating from corner, clutch bite set up is too high for current gear ratio.

The closer to 9000 RPM the clutch is set to bite the more clutch wear is significantly increased. This setting should be chosen by experienced riders who need great acceleration from corners and at the same time can ride without making the clutch bite too often, in other words, they do not brake unnecessarily.

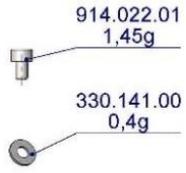
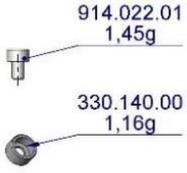
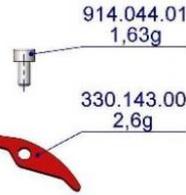
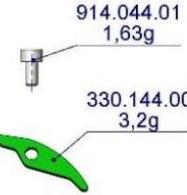
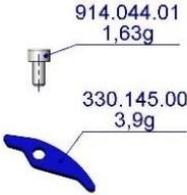
Setting the clutch to bite at 9200 RPM and over may cause the clutch lining to break off and/or burn. High bite settings are often accompanied by an inappropriate heavy gear ratio (bigger front pinion and smaller rear sprocket). The combination of these two factors will destroy the clutch.

CLUTCH SETTING EXAMPLES	WEIGHT	N [ot]	L [mm]	CLUTCH BITE POINT n_s [min^{-1}]
RIDER 35 kg /RM14	Z2	1 - 1 ^{3/4}	22,5 - 22	6800 - 7200 *
RIDER 80 kg /W40	Z2	2 - 2 ^{1/4}	21,8 - 21,5	8000 - 8500
The length of the new unloaded spring - $L_0 = 23\text{mm}$				

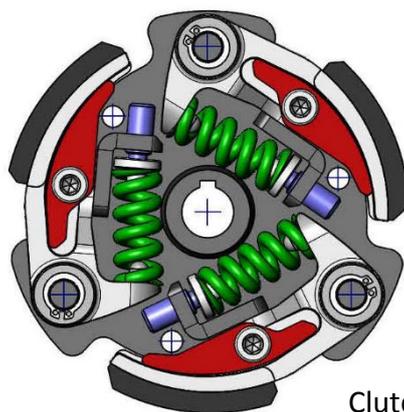
Tabel 1

Additional weights

Increasing the mass of the clutch shoes by means of an additional weight reduces the slip area of shoes, that is, the rotation speed when the clutch starts to bite to being fully engaged without any slipping. The higher the weight the shorter the slip area. The limiting weight of clutch shoes is affected by the stiffness and length of the spring used and the increasing inertia effect of the clutch. Possible weight types are listed in Table 2. Commonly used weights (Z1 and Z2) are about 2 to 3g in weight. Heavier weights (Z3 and Z4) are used for powerful engines, heavier riders and higher clutch biting revolutions. The heaviest weight (Z5) is only suitable for shoes with significantly worn lining.

CLUTCH WEIGHTS					
	WEIGHTS ASSY.	Z1	Z2	Z3	Z4
TOTAL WEIGHT ASSY. (g)	1,85	2,61	4,23	4,83	5,53

Tabel 2.



Clutch with weight Z3

Clutch Maintenance

After each ride, the clutch should be cleaned with compressed air and the clutch drum and shoes checked for dirt and wear and tear. Use a brake cleaner instead of petrol or thinner to degrease. Regularly check the wear of the lining and clutch biting point. If necessary adjust accordingly.

Gear ratio settings

Gear ratio settings depend on many factors such as rider's weight, riding ability, racetrack type, maximum engine speed, engine performance, etc. From the point of view of clutch wear, it is recommended to start with lighter gear ratio and gradually test heavier. Approximate gear ratio values for different types of riders and tracks are given in Table 3.

GEAR RATIO SELECTION EXAMPLES		TRACK		
		SHORT TECHNICAL	TECHNICAL WITH STRAIGHTS	MEDIUM FAST
RIDER	LEVEL	INDOORS (HALL)	KART TRACK	BRNO
RIDER 35 kg / RM14	ROOKIE	6/70	6/67	6/65
RIDER 80 kg / W40	ROOKIE	6/76	6/71	6/68
	ADVANCED	6/74	6/73	6/70
	PROFESSIONAL	6/74	6/68	6/66

Tabel 3.