

TwistGear worksheet

Component	Gear	Ratio	Shift	% step	Delta	Mesh ratio	Main shaft	Counter shaft	Final Drive	Overall ratio
Primary drive		1.440					36	25	32/70	34/70 33/65 34/65
1st gear ratio	1	3.531				1.72	18	31	11.12	10.47 10.01 9.72
2nd gear ratio	2	2.430	1-2	31.2		1.19	27	32	7.65	7.20 6.89 6.69
3rd gear ratio	3	1.730	2-3	28.8	2.4	1.19	32	27	5.45	5.13 4.91 4.76
4th gear ratio	4	1.349	3-4	22.0	6.8	1.52	38	25	4.25	4.00 3.83 3.71
5th gear ratio	5	1.000	4-5	25.9	-3.8	2.05	41	20	3.15	2.96 2.84 2.75

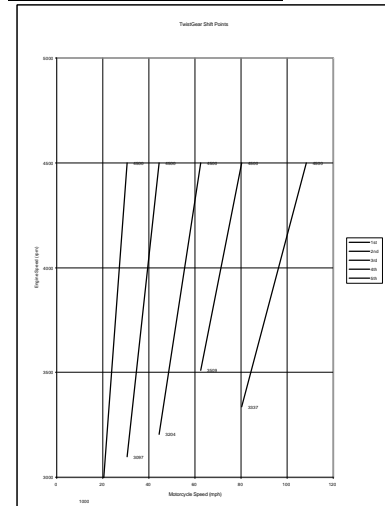
3000 rpm	75 mph					
Final drive	32	70	2.188	2.059	1.970	1.912
72 mph	3119 rpm	34	70			
Final drive - alt ratio	2935 rpm	33	65			
Final drive - alt ratio	80 mph	2808 rpm	33	65		
Final drive - alt ratio	83 mph	2725 rpm	34	65		

Rolling Radius	12.73 in
Circumference	80.0 in
Eng spd @ 60 mph	2495
Final: Center distance	511.0 mm
Final: # of teeth	125
Final: Belt pitch	14 mm

Motorcycle speed (mph)					
Eng rpm	1st gear	2nd gear	3rd gear	4th gear	5th gear
1000	7	10	14	18	24
5000	34	49	70	89	120
6000	41	59	83	107	144

	32/70	34/70	33/65	34/65
5th Gear	0.0	5.9	10.0	12.6
1st- 4th Gears	-10.0	-3.5	1.0	3.9

	TwistGear	OEM
1st - 2nd	2	31.2
2nd - 3rd	3	28.8
3rd - 4th	4	22.0
4th - 5th	5	25.9



Shift points	OEM 32/70	TG 32/70	TG 34/70	TG 33/65	TG 34/65
Engine rpm	1000	7	7	8	8
1st gear	4500	34	31	33	34
2nd Gear	3097	49	45	47	49
3rd Gear	3204	69	63	66	69
4th Gear	3509	88	80	85	89
5th Gear	4500	108	108	115	120

1st Gear	4500	33.7	30.7	32.6	34.0	35.1
2nd Gear	4500	49.0	44.5	47.3	49.5	51.0
3rd Gear	4500	68.8	62.6	66.5	69.5	71.6
4th Gear	4500	88.3	80.2	85.3	89.1	91.8
5th Gear	4500	108.2	108.2	115.0	120.2	123.8

