Tonka

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Bike Model: 1185

Transmission

Gear	Diameter (inch)	Number of teeth	Circular Pitch
One	5	28	0.5610
Two	7	38	0.5787
Three	9	48	0.5890

Table 1: Front gear assembly specifications

Gear	Diameter (inch)	Number of teeth	Circular Pitch
One	4	28	0.4488
Two	$3\frac{1}{2}$	24	0.4581
Three	$3\frac{1}{4}$	21	0.4862
Four	3	18	0.5236
Five	$2\frac{3}{4}$	16	0.5400
Six	$2\frac{1}{4}$	14	0.5049

Table 2: Rear gear assembly specifications

Gear	Diameter (inch)	Number of teeth	Circular Pitch
Upper	$1\frac{3}{4}$	11	0.4998
Lower	$1\frac{3}{4}$	11	0.4988

Table 3: Derailleur gear assembly specifications

Front gear	Rear gear	Gear Ratio
One	One	1.0000:1
One	Two	1.1667:1
One	Three	1.3333:1
One	Four	1.5556:1
One	Five	1.7500:1
One	Six	2.0000:1
Two	One	1.3571:1
Two	Two	1.5833:1
Two	Three	1.8095:1
Two	Four	2.1111:1
Two	Five	2.3750:1
Two	Six	2.7143:1
Three	One	1.7143:1
Three	Two	2.0000:1
Three	Three	2.2857:1
Three	Four	2.6667:1
Three	Five	3.0000:1
Three	Six	3.4286:1

Table 4: All possible gear ratios

Linkages

Bearings

Location	Type	Function
Front axle	Radial ball bearing	Allow the front axle to turn freely and move the wheel
Rear axle	Radial ball bearing	Allow the rear axle to turn freely and move the wheel
Brake handle	Radial ball bearing	Allow the brake handle to be pulled smoothly during braking
Front sprocket	Radial ball bearing	Allow the front sprocket to turn freely while pedaling
Rear sprocket	Radial ball bearing	Allow the rear gear assembly to turn freely while pedaling
Derailleur tensioner	Radial ball bearing	Allow the derailleur to move freely when tensioning the chain
Derailleur gear change	Thrust ball bearing	Allow the derailleur to be at an angle from its mounting point so gears can be changed
Derailleur sprocket	Radial ball bearing	Allow the sprockets to turn freely while pedaling
Handlebars	Radial ball bearing	Allow the fork tube to turn freely while steering
Fork tube	Radial ball bearing	Allow the fork (attached to fork tube) to turn freely while steering

Table 5: Location, type, and functions of all bearings