RB-Ftr-09
6V, 270RPM, 18.34 oz-in 34:1 Spur Gear Motor

These are what your robots have been waiting for. Our custom engineered robot drive motors are designed to handle the rigor of combat without breaking, and they won't hurt your wallet either!

• The extra-long 3mm shaft is triple-supported internally so that wheels can be mounted directly.
• Having the same face mount pattern as the now-obsolete BaneBots 16mm gearmotors means they can be a direct drop-in replacement for all your combat-worn BaneBots motors.
• Spur gear reduction motor with mabuchi FK-050 motor.
• 9 different gear ratios of 20, 35, 50, 63, 86, 115, 150, 250, and 360:1
• At only 28grams (0.99oz), these are a lightweight and still powerful motor.

These motors make is super simple to get a robot moving! Just pick up a pair of Lite Flite wheels and Lite Hubs to mount them, solder on a pair of tinyESCs and your motors are ready to be driven by radio control! For mounting the motors, use these 2-56 screws. We now also carry 3mm bearings for supporting the shaft in heavy robots or weapon systems.

Motor (Mabuchi FK-050SH-13125) Specifications

- Operating Voltage: 4.5V - 22.2V (>7.4V decreases motor life)
- Nominal Voltage: 6Vdc
- No Load RPM: 11530rpm
- No Load Current: 0.05A
- Stall Current: 1.3A
- Stall Torque: 0.0461kg-cm (0.64oz-in)
- Kt: 0.0352kg-cm/A (0.49oz-in/A)
- Kv: 1573rpm/V
- Efficiency: 52%
- RPM @ Peak Eff: 9100
- Current @ Peak Eff: 0.34A

Physical Specifications

- Gearbox Length: 11.6mm (0.455in)
- Total Length: 40.3mm (1.59in)
- Gearbox Diameter: 15.5mm (0.61in)
- Shaft Diameter: 3mm (0.12in) with flat along length
- Shaft Length: 38mm (1.5in)
- Mounting Holes (2): #2-56 spaced 11mm (0.433in) apart
-do not use screws that protrude more than 4mm (0.156in) into gearbox
- Weight: 28grams (0.99oz)

Speed (rpm)	Voltage						
Gear ratio	5	6	7.4	11.1	14.8	18.5	22.2
20 :1	393	472	582	873	1164	1455	1746
35 :1	225	270	333	499	665	831	998
50 :1	157	189	233	349	466	582	698
63 :1	125	150	185	277	370	462	554
86 :1	91	110	135	203	271	338	406
115 :1	68	82	101	152	202	253	304
150 :1	52	63	78	116	155	194	233
250 :1	31	38	47	70	93	116	140
360 :1	22	26	32	49	65	81	97

Motors have been tested to work up to 22.2V (6 lipoly cells), but don't expect the motor to run that high forever!

Torque (kg-cm)	Voltage						
Gear ratio	5	6	7.4	11.1	14.8	18.5	22.2
20 :1	0.63	0.75	0.93	1.40	1.86	2.33	2.79
35 :1	1.10	1.32	1.63	2.44	3.26	4.07	4.88
50 :1	1.57	1.89	2.33	3.49	4.65	5.82	6.98
63 :1	1.98	2.38	2.93	4.40	5.86	7.33	8.79
86 :1	2.70	3.24	4.00	6.00	8.00	10.00	12.00
115 :1	3.61	4.34	5.35	8.02	10.70	13.37	16.05
150 :1	4.71	5.66	6.98	10.47	13.96	17.45	20.93
250 :1	7.86	9.43	11.63	17.45	23.26	29.08	34.89
360 :1	11.32	13.58	16.75	25.12	33.49	41.87	50.24

Exceeding 6.84kg-cm (95oz-in) will damage the output gear stage. Do not stall the motors highlighted in red at the indicated voltage.