



Z-axis Assembly:
The Z-axis both holds the spindle and moves it up and down. There are a number of alternative ways to assemble it, as well as several replacement / upgrade options. Please see the wiki for details.

- Instructions:
- 1 Mount the Motor to the motor mount plate. If you can't tighten the bolts all the way down, use an extra m3 washer between the bolt head and the bottom of the plate
 - 2 Assemble the coupler to the end of the threaded rod. You only need about $\frac{3}{16}$ - $\frac{1}{4}$ " of threaded rod into the coupler for it to grab. Tighten firmly with the hex wrench.
 - 3 Snug 1 M8 hex nut (jam nut) against the coupler.
 - 4 Tighten the other M8 hex nut (jam nut) against the first, and tighten them together
 - 5 Slide the other end of the coupler over the NEMA 17 shaft. Do not tighten yet.
 - 6 Slide the bearing over the threaded rod (from the bottom) until you can press the bearing into the motor mount plate. This is a friction fit so you may have to press pretty hard. Some people have found it helpful to chamber the edge of the pocket with a utility knife.
 - 7 The bearing is in the correct place once it is flush with the bottom of the plate.
 - 8 Attach 200mm section of makerslide to the plate using 2 M5 x 16mm bolts and washers (as shown)
 - 9 Once your makerslide is attached. Pull down on the threaded rod until the M8 jam nuts are seated against the bearing.
 - 10 Tighten the coupler on the NEMA 17 stepper motor.

| ITEM | QTY | PART NUMBER | TITLE |
|------|-----|-------------|--|
| 1 | 1 | SM-S06 | Z-Axis Mount Plate |
| 2 | 2 | SM-H03 | M5 Flat Washer |
| 3 | 2 | SM-H13 | M5 x 16mm SHCS |
| 4 | 1 | SM-M07 | Z-Axis Bearing |
| 5 | 2 | SM-H10 | M8 Jam Nut |
| 6 | 1 | SM-H12 | Coupler |
| 7 | 6 | SM-H02 | 3/4" Nylon Spacer |
| 8 | 1 | SM-E01 | Nema 17 Stepper Motor (60oz/in holding torque) |
| 9 | 1 | SM-H05 | Threaded Rod |
| 10 | 1 | MSK01-03 | Makerslide Extrusion - 200mm |
| 11 | 3 | SM-H06 | M3 x 50mm SHCS |



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TOLERANCES
(EXCEPT AS NOTED)
BETWEEN
FINISHED SURFACES

FRACTIONAL: $\pm 1/64$ "
DECIMAL: $\pm .010$ "

DETAIL DIMENSIONS: $\pm 1/16$ "

DESIGNED BY:
ERF

DETAILED BY:
ERF

DATE:
6/5/2012

TITLE
Z Axis Spindle Mount

| | |
|--------------|---------------------------|
| SIZE B | DRAWING NUMBER SM-ZA02 |
| SCALE | |
| SHEET 1 OF 1 | |