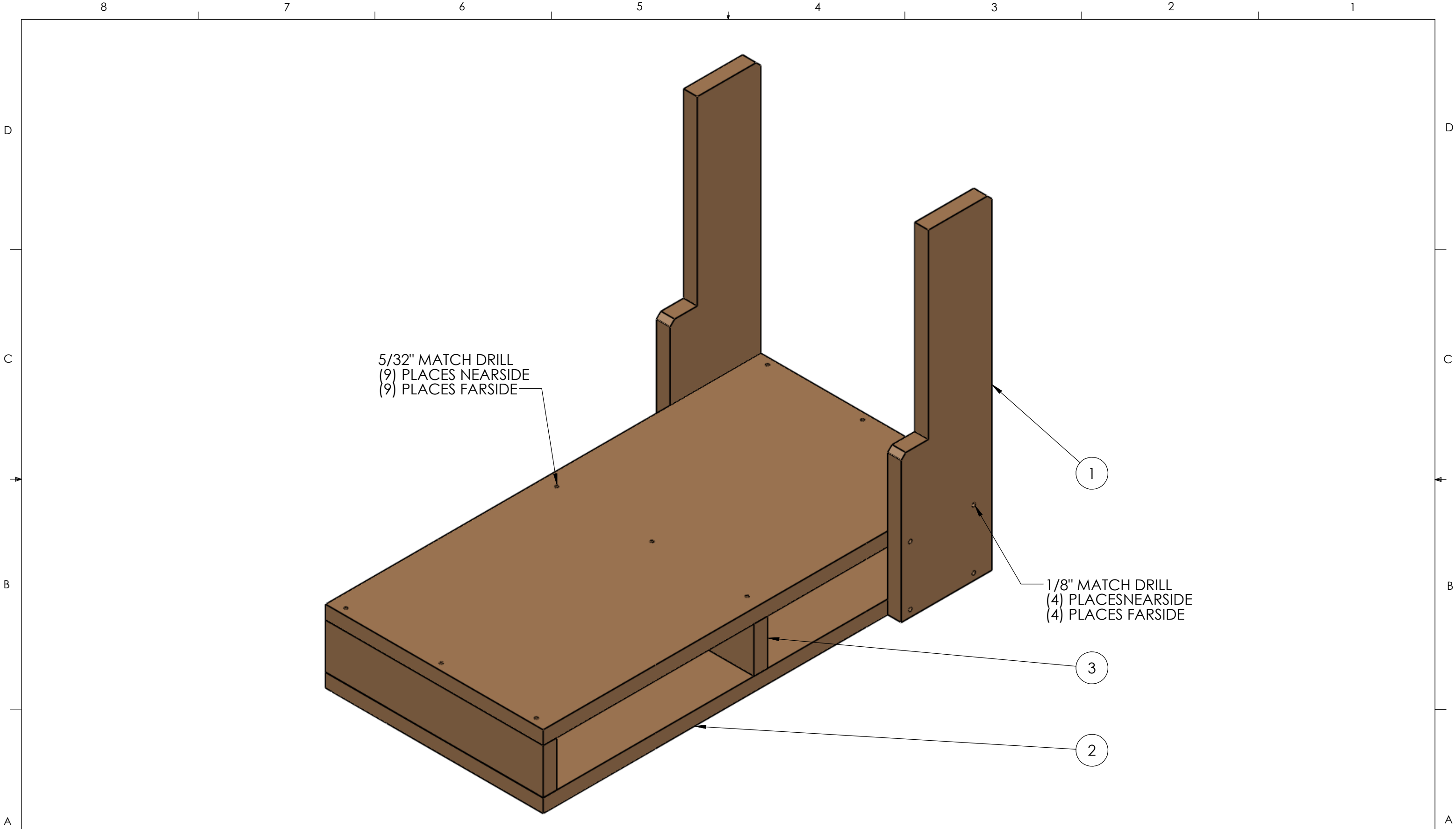


ASSEMBLY STEPS

1. BUILD THE BASE UNIT (ITEM #1)
2. ASSEMBLE THE X-AXIS (ITEM #2)
3. LOCATE X-AXIS IN PLACE AND MATCH DRILL END PLATES TO BASE
4. ASSEMBLE Y-AXIS (ITEM #3)
5. ASSEMBLE Z-AXIS (ITEM #4)
6. LOCATE Z-AXIS ONTO Y-AXIS AND MATCH DRILL END PLATES
7. LOCATE Y-AXIS TO SIDE SUPPORTS AND MATCH DRILL

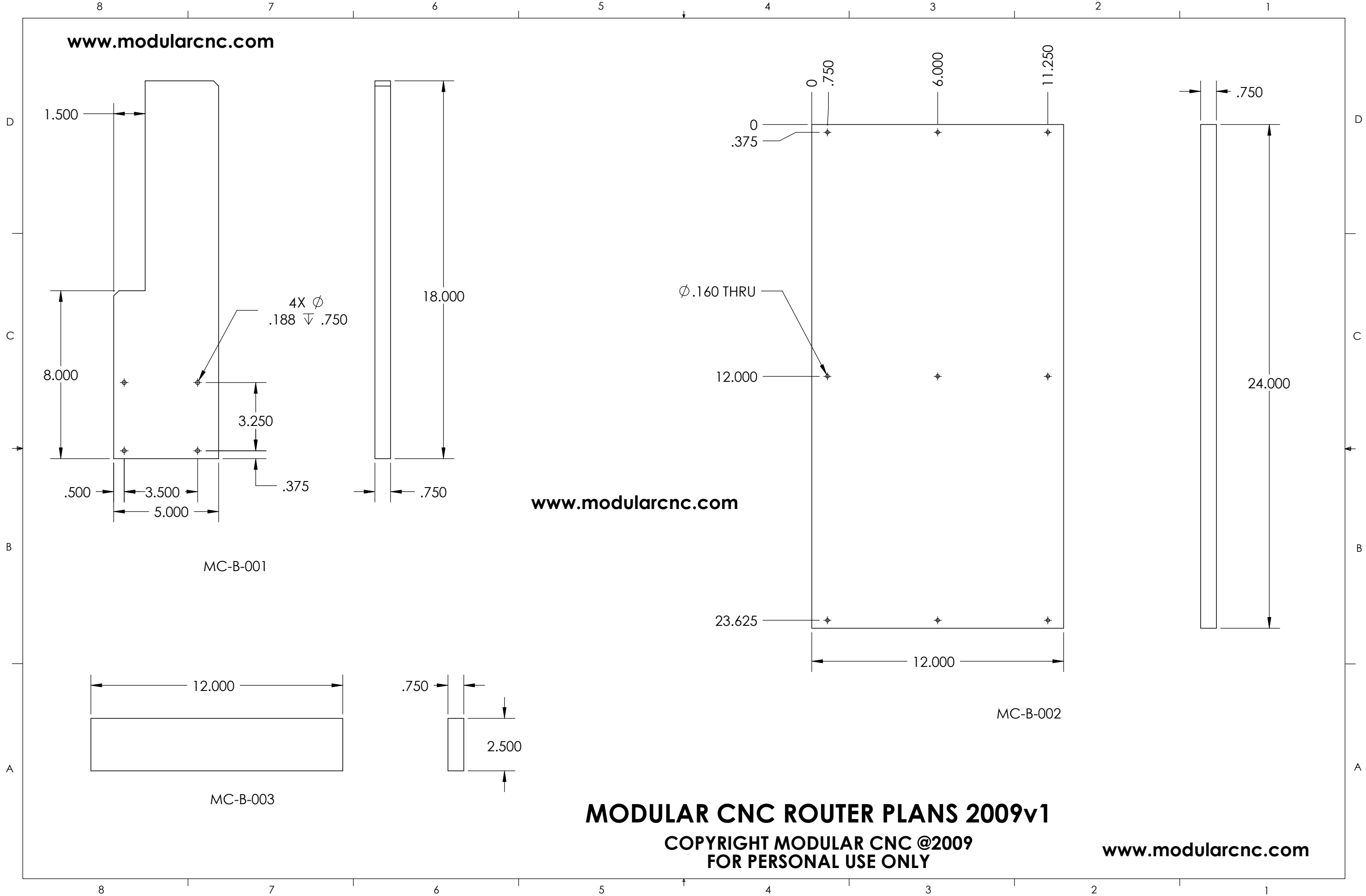
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| ITEM NO. | PART NUMBER     | DESCRIPTION          | QTY. |
|----------|-----------------|----------------------|------|
| 1        | MC-Base Assy    | MACHINE BASE         | 1    |
| 2        | MC-X-Axis Assy  | X-AXIS SLIDE         | 1    |
| 3        | MC-Y-Axis Assy  | Y-AXIS SLIDE         | 1    |
| 4        | MC-Z-Axis Assy  | Z-AXIS SLIDE         | 1    |
| 5        | HF-ROUTER ASSY1 | ROUTER SPINDLE MOUNT | 1    |



| ITEM NO. | PART NUMBER | DESCRIPTION  | Vendor         | Material | Cost   | QTY. |
|----------|-------------|--------------|----------------|----------|--------|------|
| 1        | MC-B-001    | SIDE SUPPORT | PLASTIC SUPPLY | HDPE     | \$10   | 2    |
| 2        | MC-B-002    | BASE PLATE   | PLASTIC SUPPLY | HDPE     | \$20   | 2    |
| 3        | MC-B-003    | BASE SUPPORT | PLASTIC SUPPLY | HDPE     | \$3.00 | 3    |

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MC-B-002

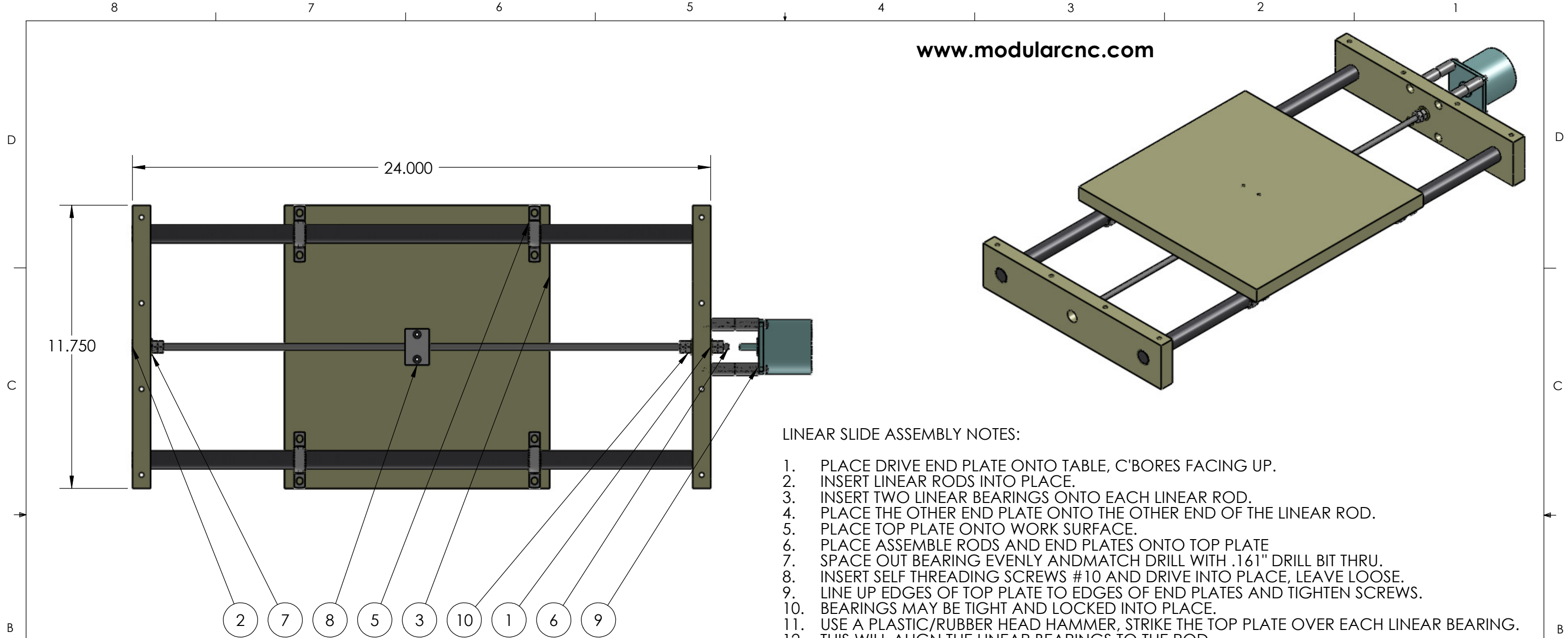
MC-B-001

MC-B-003

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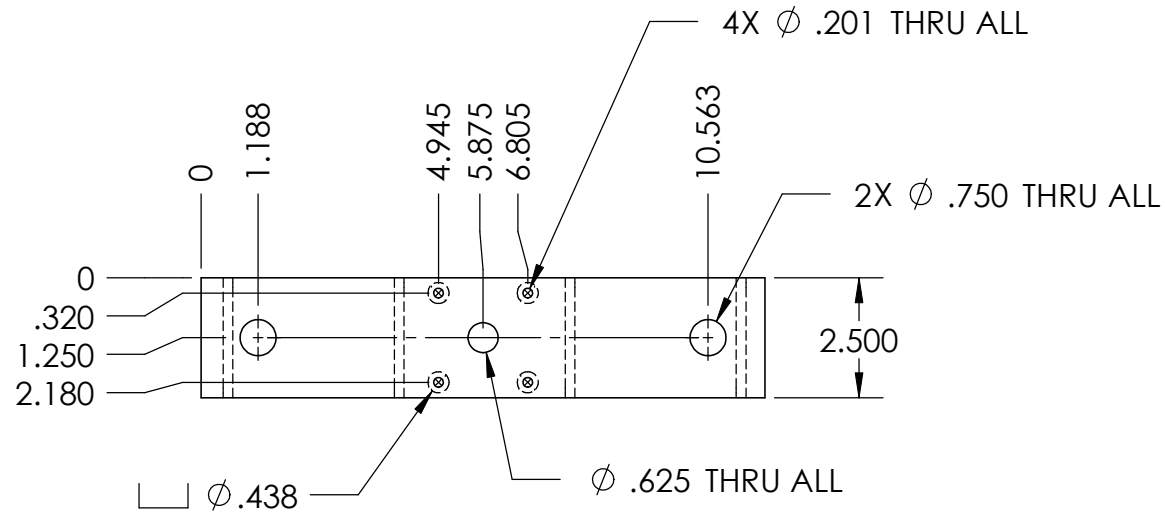


LINEAR SLIDE ASSEMBLY NOTES:

1. PLACE DRIVE END PLATE ONTO TABLE, C'BORES FACING UP.
2. INSERT LINEAR RODS INTO PLACE.
3. INSERT TWO LINEAR BEARINGS ONTO EACH LINEAR ROD.
4. PLACE THE OTHER END PLATE ONTO THE OTHER END OF THE LINEAR ROD.
5. PLACE TOP PLATE ONTO WORK SURFACE.
6. PLACE ASSEMBLE RODS AND END PLATES ONTO TOP PLATE
7. SPACE OUT BEARING EVENLY ANDMATCH DRILL WITH .161" DRILL BIT THRU.
8. INSERT SELF THREADING SCREWS #10 AND DRIVE INTO PLACE, LEAVE LOOSE.
9. LINE UP EDGES OF TOP PLATE TO EDGES OF END PLATES AND TIGHTEN SCREWS.
10. BEARINGS MAY BE TIGHT AND LOCKED INTO PLACE.
11. USE A PLASTIC/RUBBER HEAD HAMMER, STRIKE THE TOP PLATE OVER EACH LINEAR BEARING.
12. THIS WILL ALIGN THE LINEAR BEARINGS TO THE ROD.
13. INSERT THREADED ROD WITH ATTACHED DRIVE NUT, MATCH DRILL NUT INTO PLACE.
14. ASSEMBLE THRUST BEARINGS AND MOTOR MOUNT ACCORDINGLY

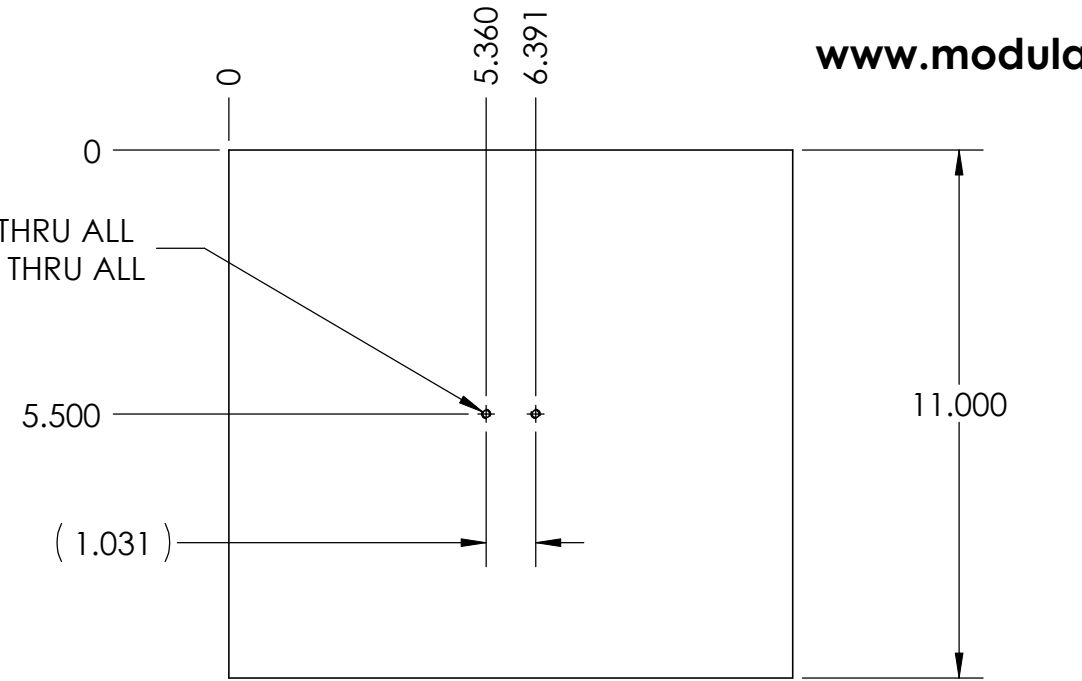
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| ITEM NO. | PART NUMBER           | DESCRIPTION         | Vendor                | Material            | Cost     | Default/QTY. |
|----------|-----------------------|---------------------|-----------------------|---------------------|----------|--------------|
| 1        | MC-X-001              | X END PLATE         | MODULAR CNC           | HDPE                | \$10.00  | 1            |
| 2        | MC-X-002              | X END PLATE         | MODULAR CNC           | HDPE                | \$10.00  | 1            |
| 3        | MC-X-003              | X TOP PLATE         | MODULAR CNC           | HDPE                | \$25.00  | 1            |
| 4        | MC-X-004              | LINEAR BEARING RAIL | SPEEDY METALS         | 3/4" 1018 CRS STEEL | \$8.00   | 2            |
| 5        | 3813T3                | LINEAR BEARING      | MODULAR CNC           | PURCHASE            | \$1.50   | 4            |
| 6        | .25 x 20 Thd Rod x 24 | LEAD SCREW          | McMASTER CARR/H.D.    | PURCHASE            | \$2.00   | 1            |
| 7        | SFZZR4 Bearing        | THRUST BEARING      | EBAY                  | PURCHASE            | \$1.50   | 3            |
| 8        | MC- DRIVE NUT         | DRIVE NUT           | MODULAR CNC           | NYLON               | \$2.50   | 1            |
| 9        | MC-Motor Mount Assy   | NEMA 23 MOUNT       | MODULAR CNC           | PURCHASE            | SEE ASSY | 1            |
| 10       | 90498A029             | 1/4-20 NUT          | McMASTER CARR or H.D. | STEEL               | \$.03    | 6            |

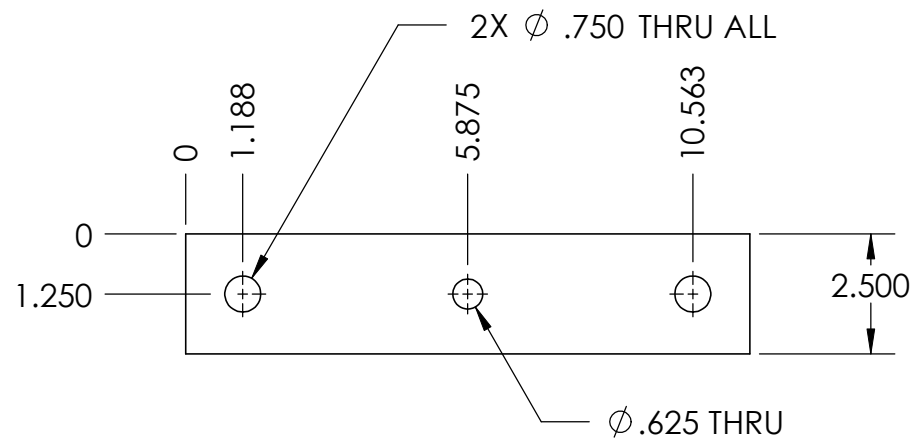


MC-X-001

2X  $\phi .150$  THRU ALL  
10-24 UNC THRU ALL



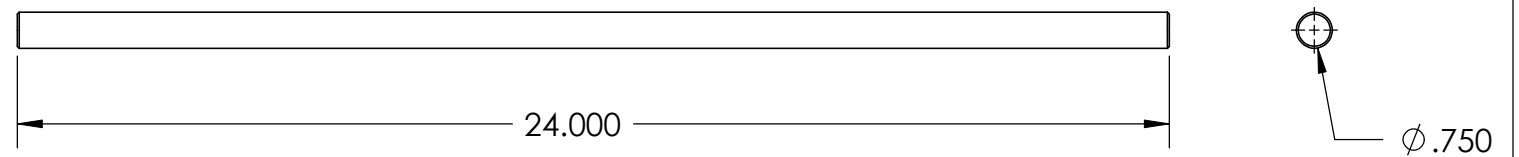
MC-X-003



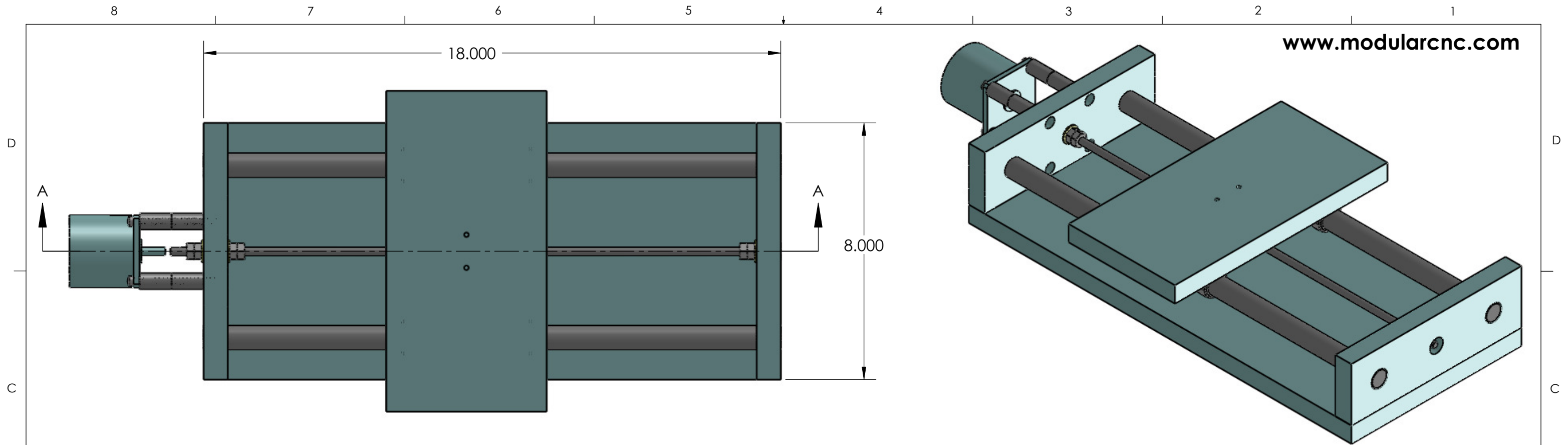
MC-X-002

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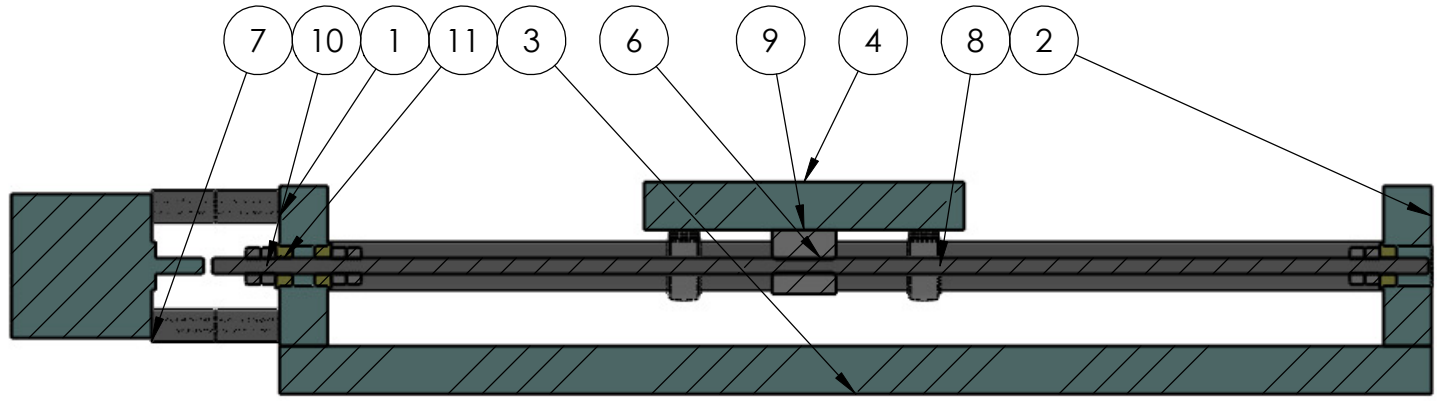


MC-X-004



LINEAR SLIDE ASSEMBLY NOTES:

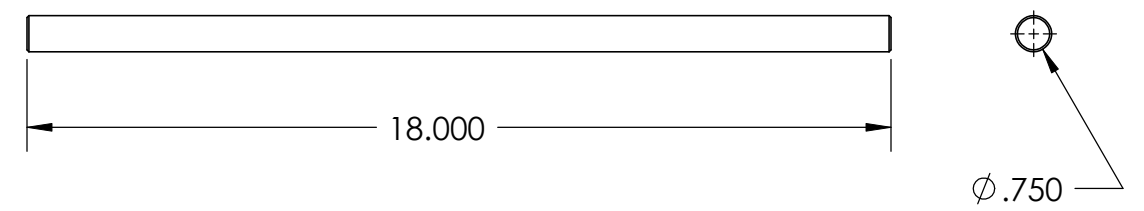
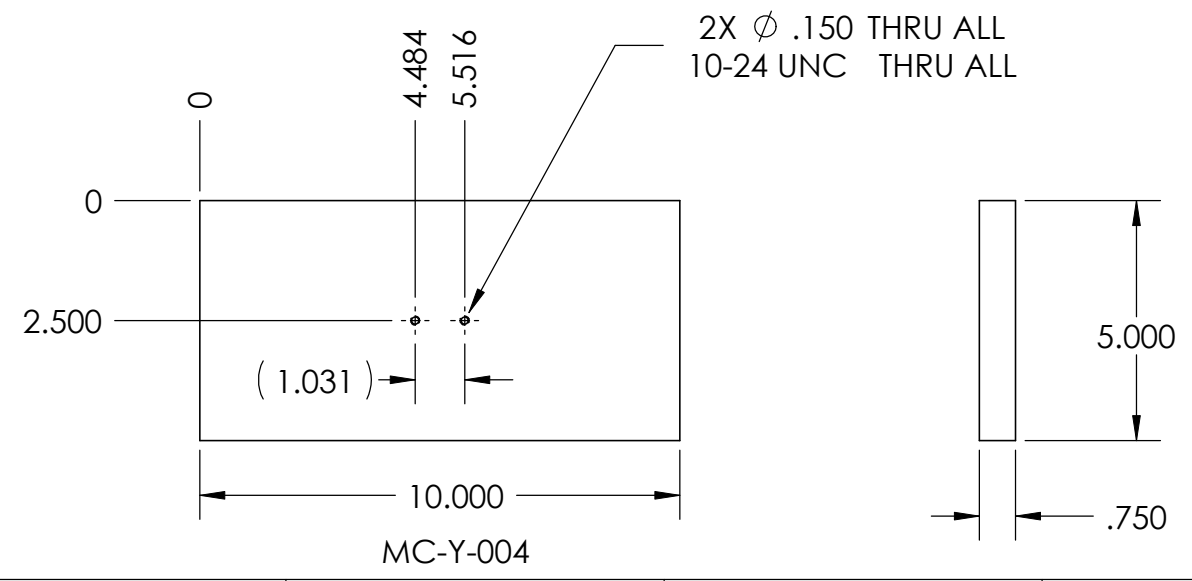
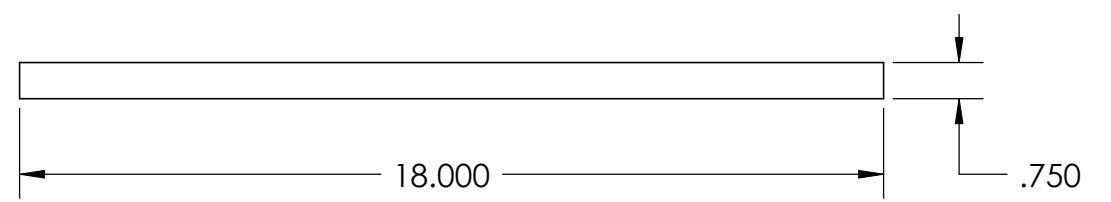
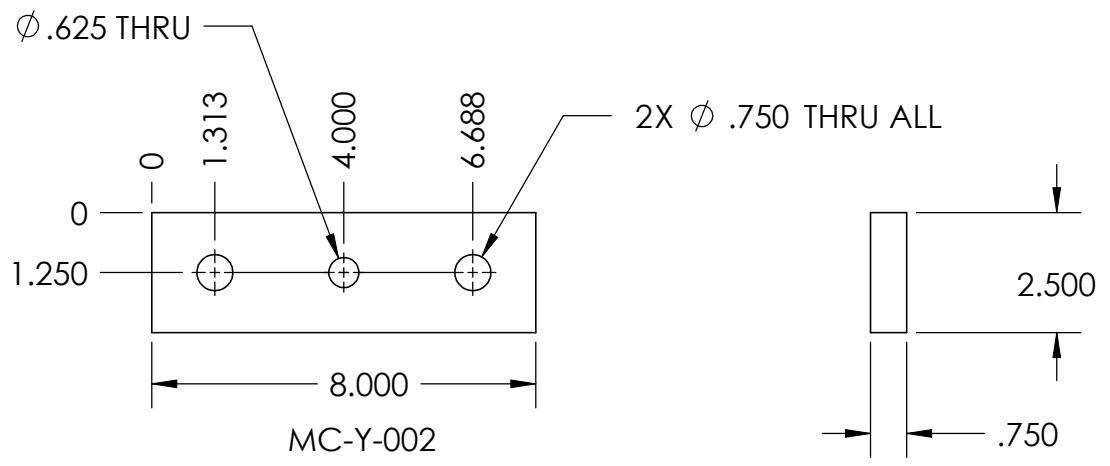
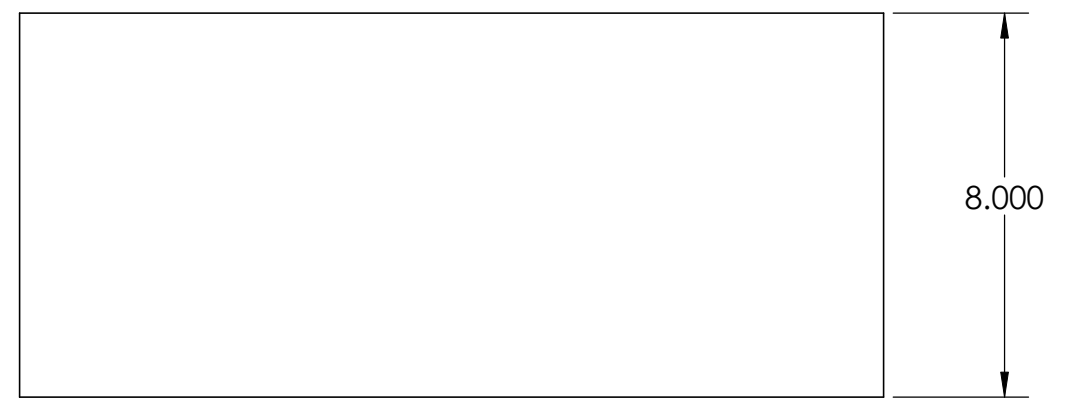
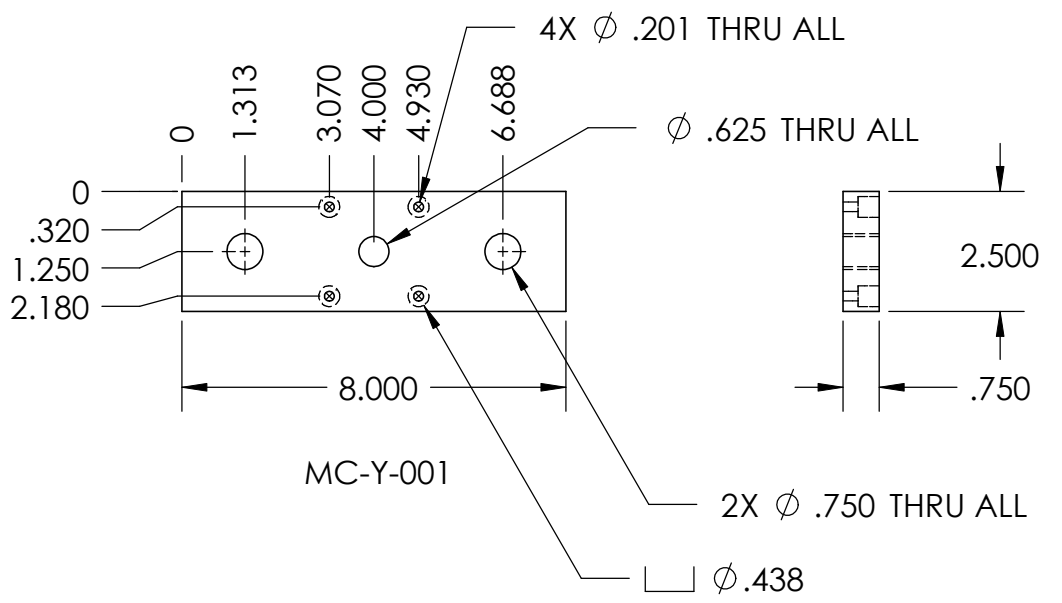
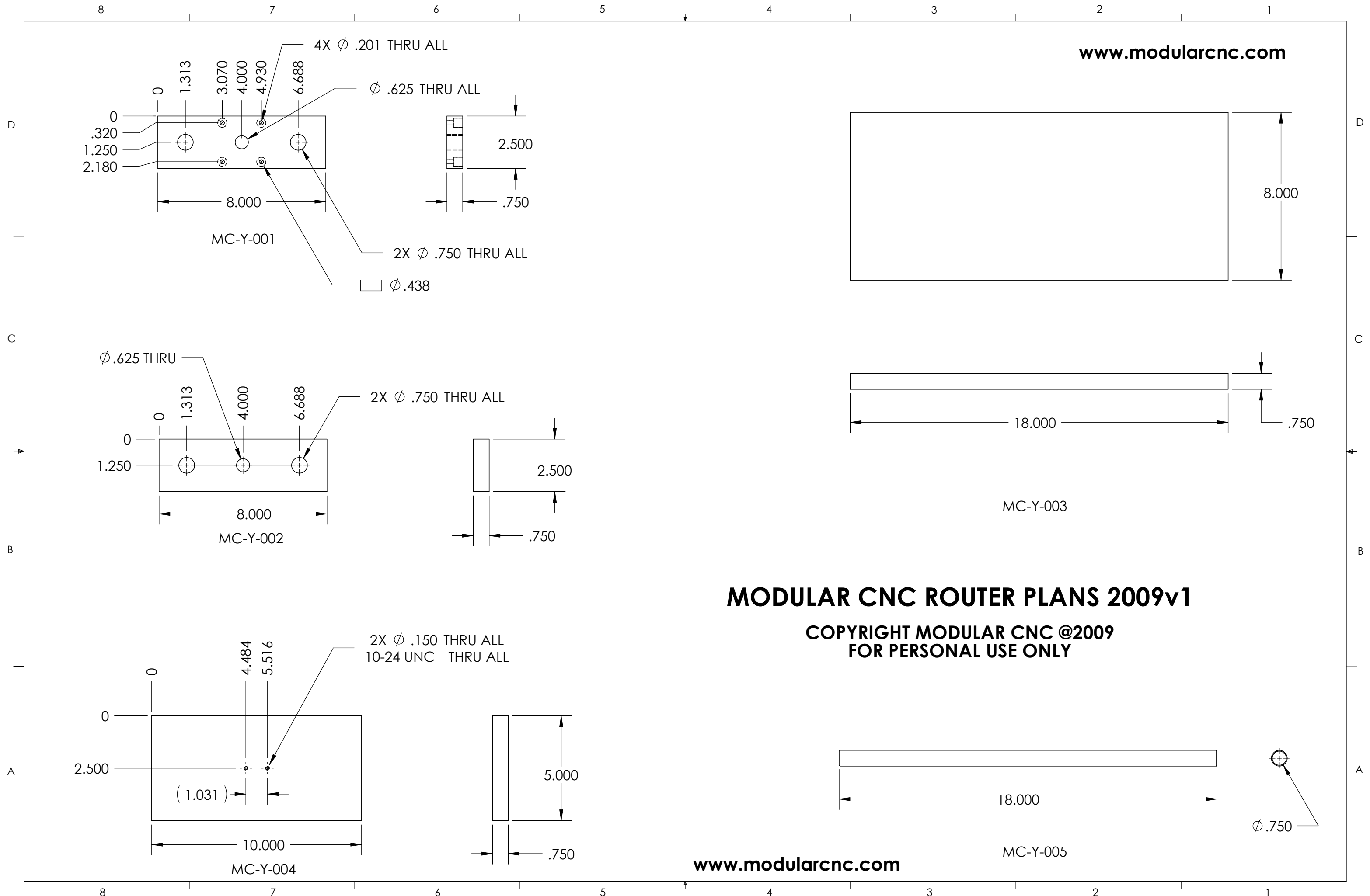
1. PLACE DRIVE END PLATE ONTO TABLE, C'BORES FACING UP.
2. INSERT LINEAR RODS INTO PLACE.
3. INSERT TWO LINEAR BEARINGS ONTO EACH LINEAR ROD.
4. PLACE THE OTHER END PLATE ONTO THE OTHER END OF THE LINEAR ROD.
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14. ASSEMBLE THRUST BEARINGS AND MOTOR MOUNT ACCORDINGLY



SECTION A-A  
SCALE 1 : 3

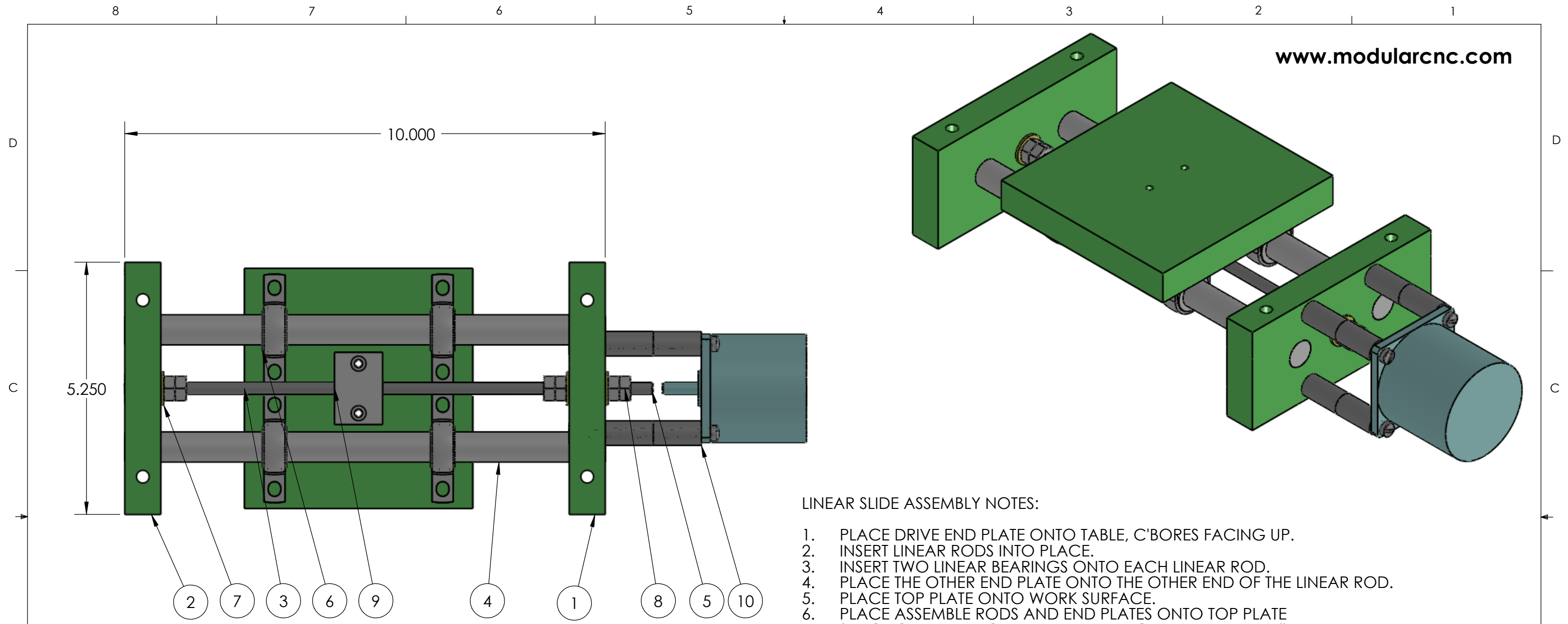
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| ITEM NO. | PART NUMBER           | DESCRIPTION    | Vendor                 | Material | Cost     | QTY. |
|----------|-----------------------|----------------|------------------------|----------|----------|------|
| 1        | MC-Y-001              | DRIVE PLATE    | MODULAR CNC            | HDPE     | \$10.00  | 1    |
| 2        | MC-Y-002              | END PLATE      | MODULAR CNC            | HDPE     | \$8.50   | 1    |
| 3        | MC-Y-003              | BASE PLATE     | PLASTIC SUPPLY         | HDPE     | \$15.00  | 1    |
| 4        | MC-Y-004              | Y TOP PLATE    | PLASTIC SUPPLY         | HDPE     | \$8.00   | 1    |
| 5        | MC-Y-005              | LINEAR ROD     | SPEEDY METALS          | 1018 CRS | \$8.00   | 2    |
| 6        | .25 x 20 Thd Rod x 19 | THREADED ROD   | MCMASTER OR H.D.       | STEEL    | \$2.00   | 1    |
| 7        | MC-Motor Mount Assy   | NEMA 23 MOUNT  | MODULAR CNC            | PURCHASE | SEE ASSY | 1    |
| 8        | 3813T3                | LINEAR BEARING | MODULAR CNC            | PURCHASE | \$1.50   | 4    |
| 9        | MC- DRIVE NUT         | DRIVE NUT      | MODULAR CNC            | NYLON    | \$2.50   | 1    |
| 10       | 90498A029             | 1/4-20 NUT     | MCMMASTER CARR or H.D. | STEEL    | \$.03    | 6    |
| 11       | SFZZR4 Bearing        | THRUST BEARING | EBAY                   | PURCHASE | \$1.50   | 3    |



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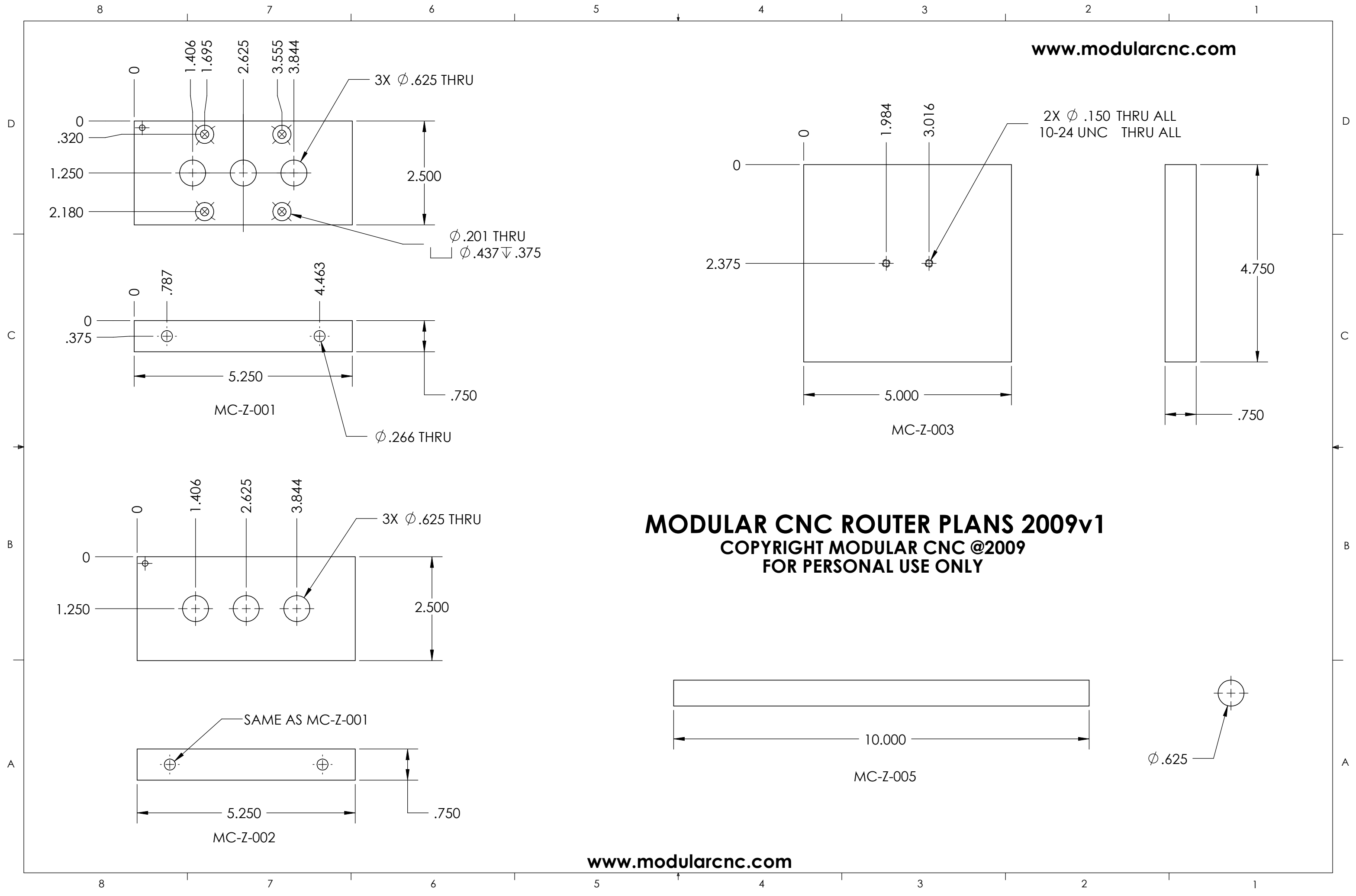
1. PLACE DRIVE END PLATE ONTO TABLE, C'BORES FACING UP.
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14. ASSEMBLE THRUST BEARINGS AND MOTOR MOUNT ACCORDINGLY

# MODULAR CNC ROUTER PLANS 2009v1

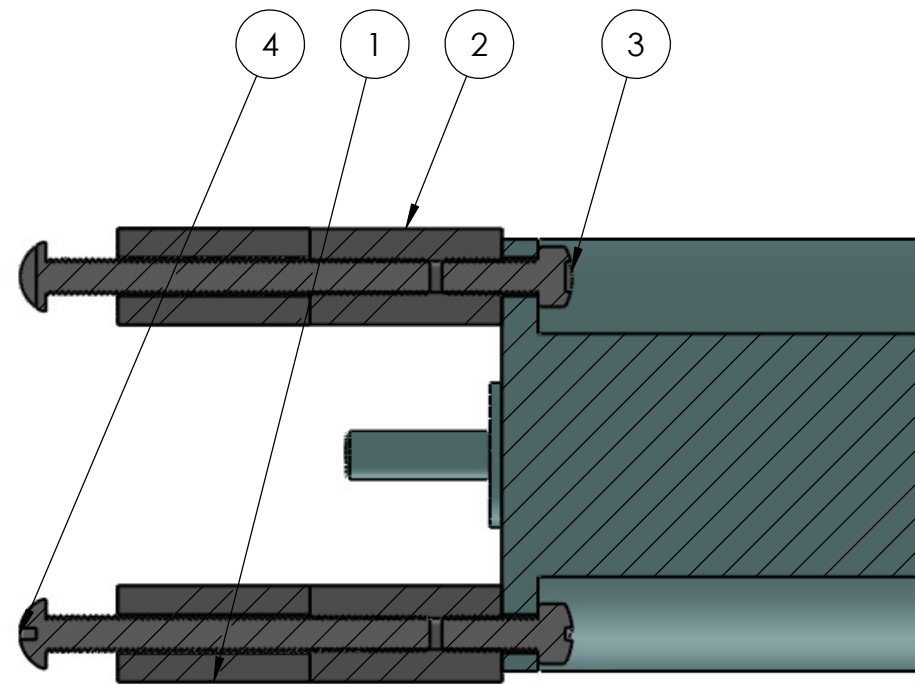
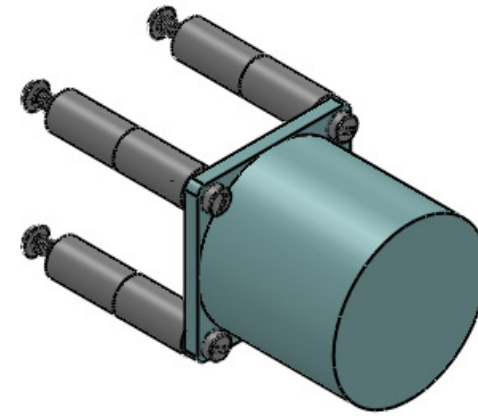
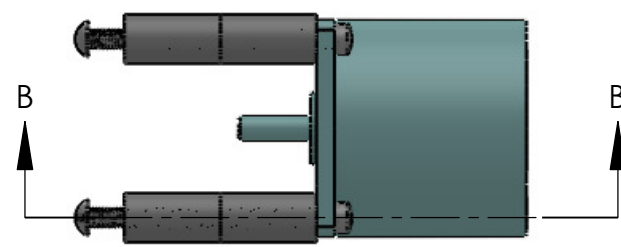
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| ITEM NO. | PART NUMBER           | DESCRIPTION     | Vendor                 | Material     | Cost     | QTY. |
|----------|-----------------------|-----------------|------------------------|--------------|----------|------|
| 1        | MC-Z-001              | DRIVE END PLATE | MODULAR CNC            | HDPE         | \$10.00  | 1    |
| 2        | MC-Z-002              | END PLATE       | MODULAR CNC            | HDPE         | \$8.00   | 1    |
| 3        | MC-Z-003              | TOP PLATE       | MODULAR CNC            | HDPE         | \$12.50  | 1    |
| 4        | MC-Z-005              | LINEAR ROD      | SPEEDY METALS          | 1018 CRS     | \$3.00   | 2    |
| 5        | .25 x 20 Thd Rod x 11 | LEAD SCREW      | MCMMASTER or H.D.      | THREADED ROD | \$1.00   | 1    |
| 6        | .625 ID Z-AXIS BRG    | .625 ID BEARING | MODULAR CNC            | BRONZE/STEEL | \$1.50   | 4    |
| 7        | SFZZR4 Bearing        | THRUST BEARING  | EBAY                   | PURCHASE     | \$1.50   | 3    |
| 8        | 90498A029             | 1/4-20 NUT      | MCMMASTER CARR or H.D. | STEEL        | \$.03    | 6    |
| 9        | MC- DRIVE NUT         | DRIVE NUT       | MODULAR CNC            | NYLON        | \$2.50   | 1    |
| 10       | MC-Motor Mount Assy   | NEMA 23 MOUNT   | MODULAR CNC            | PURCHASE     | SEE ASSY | 1    |





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SECTION B-B  
SCALE 1 : 1

MC-Motor Mount Assy

ITEMS NEEDED TO FINISH YOUR MACHINE:

1. CUTTING SPINDLE
2. SPINDLE MOUNT
3. ELECTRONICS PACKAGE (MOTORS, BOARDS, POWER SUPPLY)
4. CNC SOFTWARE
5. OLD PC
6. G & M CODES
7. CUTTING BITS/ENDMILLS
8. WORK HOLDING OR CLAMPING SYSTEM

OTHER WEBSITES TO VISIT:

- <http://freecncplans.blogspot.com>
- <http://modularcnc.blogspot.com>
- [www.xylotex.com](http://www.xylotex.com) (electronics packages)
- [www.linuxcnc.org](http://www.linuxcnc.org) (free CNC software)

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| ITEM NO. | PART NUMBER | DESCRIPTION                    | Vendor      | Material | Cost  | QTY. |
|----------|-------------|--------------------------------|-------------|----------|-------|------|
| 1        | MC-M-002    | THRU HOLE SO                   | MODULAR CNC | NYLON    | \$.25 | 4    |
| 2        | MC-M-003    | #10-32 TAPPED SO               | MODULAR CNC | NYLON    | \$.50 | 4    |
| 3        | 90280A829   | #10-32 x 1/2" FILISTER HD SCR. | MCMaster    | PURCHASE | \$.06 | 4    |
| 4        | 90276A838   | #10-32 x 2" RD. HEAD SCR       | MCMaster    | PURCHASE | \$.06 | 4    |