

Shop Built Magnetic LED Light



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LED Light With Magnetic Base For Woodturning Info

Attached are the web links for the instructions video as well as two sources of supply for the LED lamp.

YouTube video for construction of base and mounting.

<https://www.youtube.com/watch?v=yCuXq8tCvtg>

Note the video really doesn't give much detail about how to mount the magnet (which is available from Harbor Freight). Because of the screw to hold the magnet. I drilled two holes in the magnet case and then mounted the magnet with the two new holes 90 degrees to the magnet will have to be twisted off each time the light is remounted. If the screws holding the magnet were not securely mounted

IKEA LED Table Lamp

<http://www.ikea.com/us/en/catalog/products/20169658/>

Amazon listing for the IKEA LED lamp.

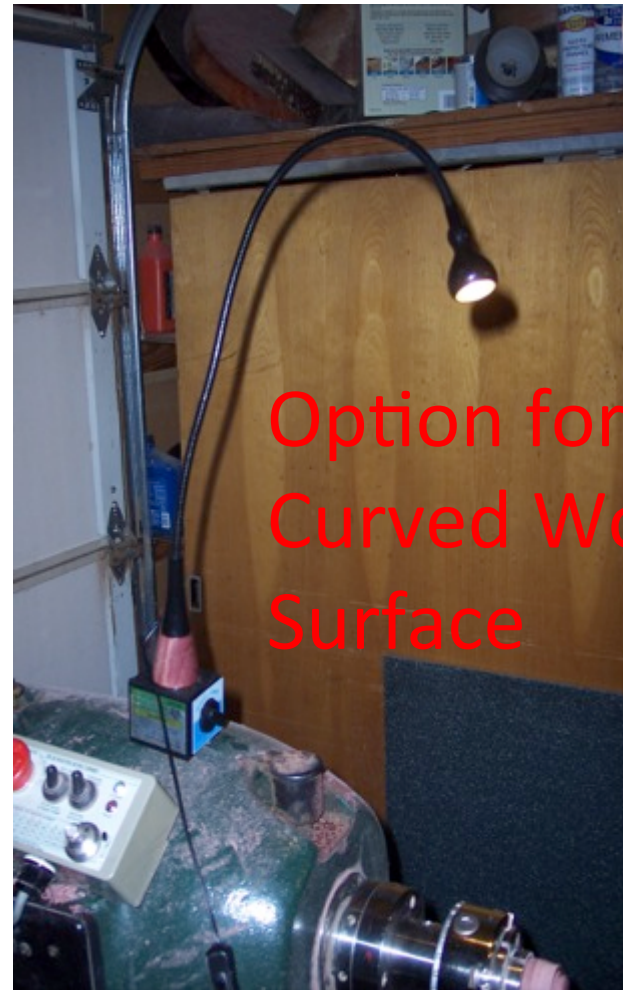
http://www.amazon.com/gp/product/B0055IVM1l/ref=pd_lpo_sbs_dp_ss_1?pf_rd_p=1944687582&pf_rd_s=lpo-top-stripe-1&pf_rd_t=

Special Thanks to Bill Clark of the Kern
Woodturners

Shop Built Magnetic LED Light

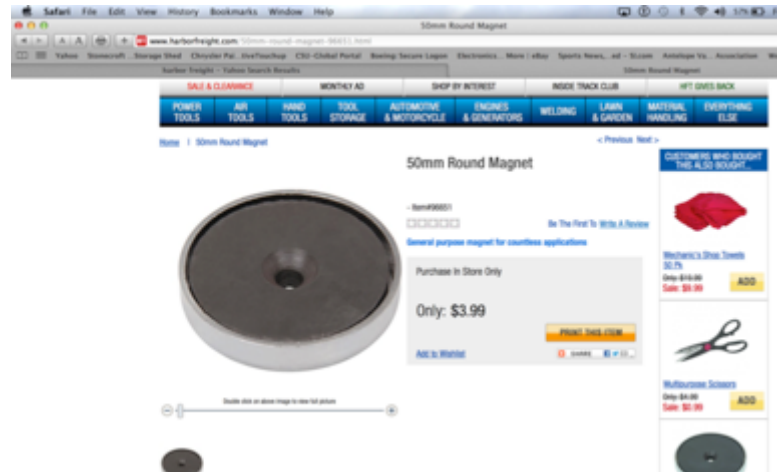
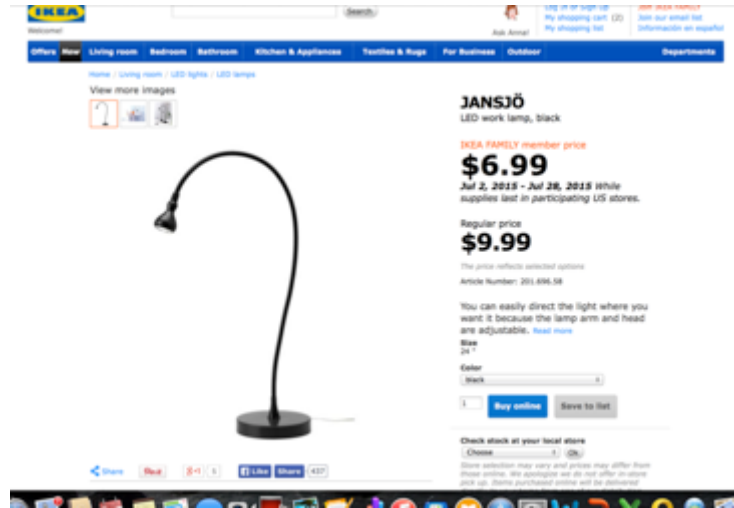


Option for a Flat Work Surface



Option for a Curved Work Surface

Flat Magnetic LED Light Parts Needed



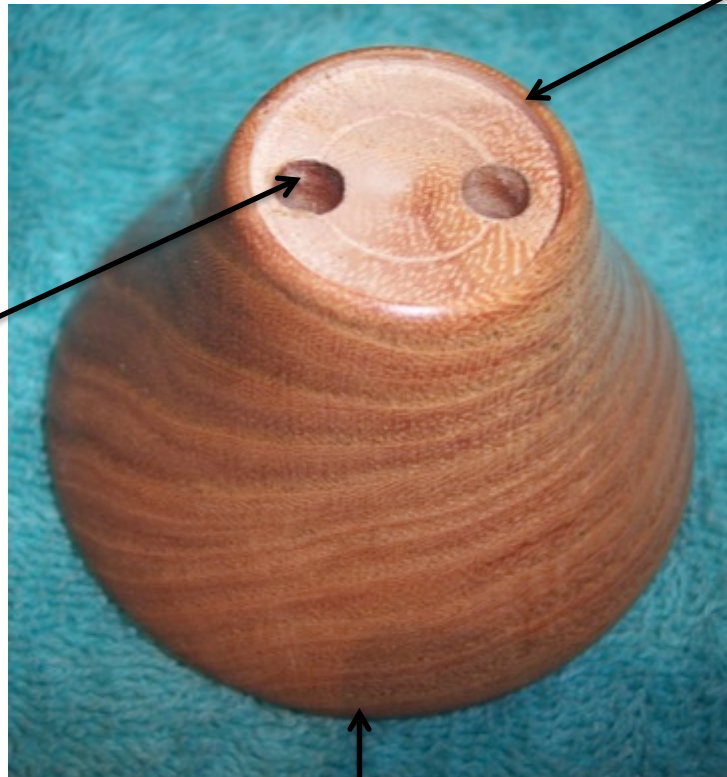
- IKEA
201.696.58
Jansjo Desk
Work LED
Lamp \$9.99
- Harbor
Freight 50mm
Round
Magnet \$3.99
- Block of wood
3 x 3 x 2
(approximate)
- Screws to
hold Magnet
in place

Flat Magnetic LED Light Base Dimensions



Drill two 1/8 holes 5/8 inches apart all the way through to work piece.

Then enlarge the holes to 1/4 inch by 1/2 inch deep



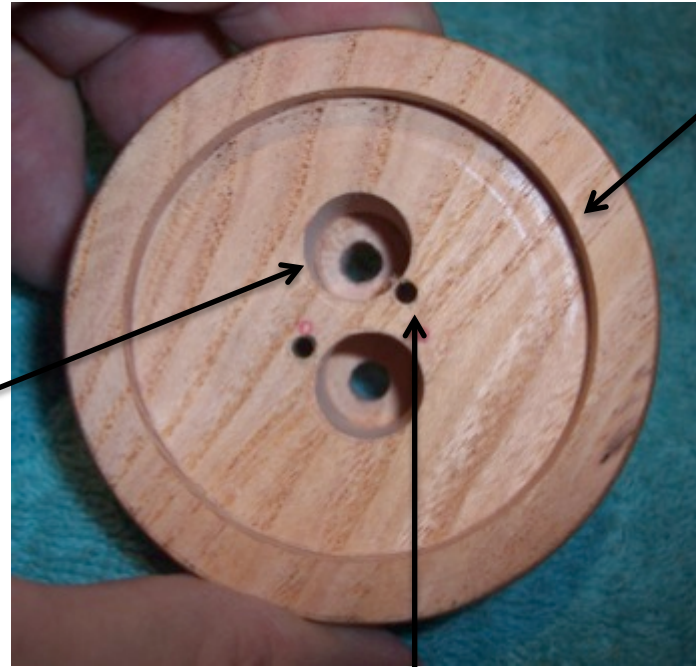
Recess the top 1 inch wide by 1/10 inch deep to fit the tendon in the IKEA lamp

The size of the base should be big enough to cover the magnet

Flat Magnetic LED Light Base Dimensions



Follow the 1/8 inch pilot holes with a 1/2 inch Forstner Bit until you reach the 1/4 holes previously drilled. Should be 1/2 inch or so from the top of the part.



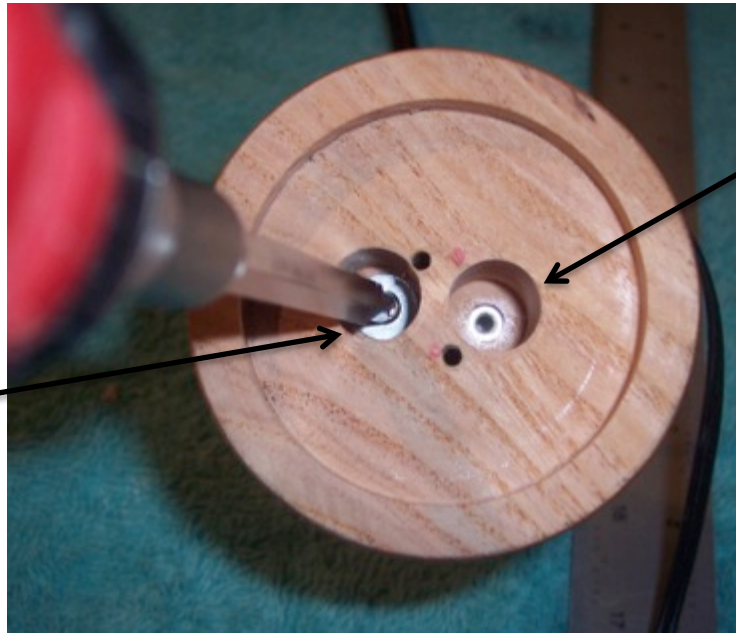
Pilot holes for mounting magnet

Recess the bottom to fit the size of the magnet
When finished the magnet should be exposed slightly in order for the magnet to make good contact with the metallic surface.

Flat Magnetic LED Light Assembly Instructions



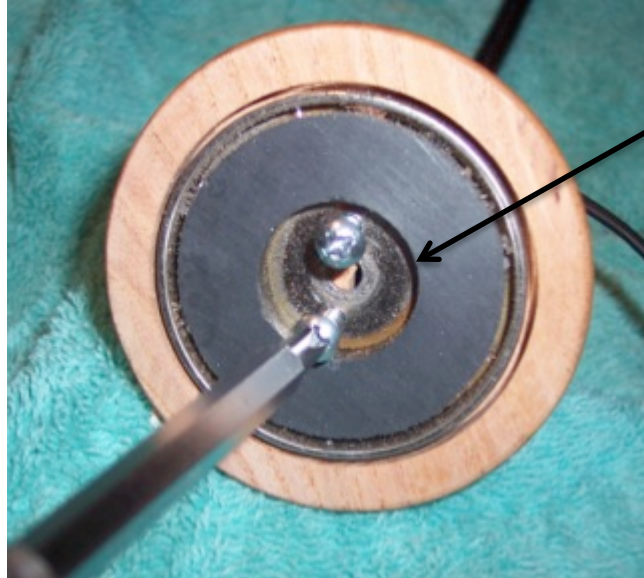
Install the lamp parts using the screws and washers supplied with the lamp



Notice how the recess does not quite reach the top of the mounting stems on the IKEA lamp base. You should have room enough to install the screws but the stems on the light should stick through the $\frac{1}{4}$ inch holes

Be careful not to drop the screws on your saw dust covered shop floor. Do not ask me how I know that!

Flat Magnetic LED Light Assembly Instructions



Assemble the magnet with screws Not provided in kit from IKEA

Flat Magnetic LED Light

About \$15



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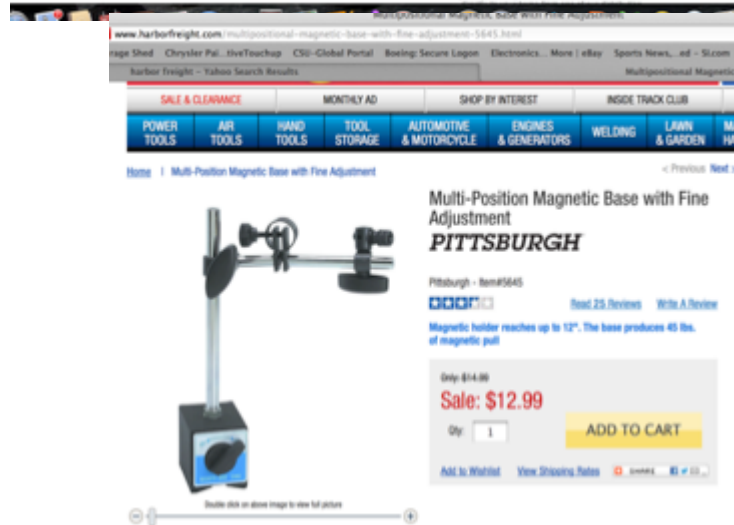


Curved Surface Magnetic LED Light

with On and Off Switch

Parts Needed

- IKEA
201.696.58
Jansjo Desk
Work LED
Lamp \$9.99
- Harbor Freight
Multi-Position
Magnetic Base
\$12.99
- Block of hard-
wood 2 x 2 x 4
(approximate)
- 8-1.25 mm by
20 mm flush
screw Lowes
\$1.29



Curved Surface Magnetic LED Light

with On and Off Switch

Supplies Needed

- 5- Minute Epoxy any Brand
- Double Back Tape. I used Woodturners Tape. (The tape is an option)
- What ever wood finish is desired. I used Carnauba Wax



Curved Surface Magnetic LED Light

with On and Off Switch

Assembly Instructions



Round out
the wood
blank to
approximate
ly $1 \frac{3}{4}$ inches



Part off the
Top section
of the wood
blank at
about $1 \frac{3}{4}$
inches

Curved Surface Magnetic LED Light

with On and Off Switch

Assembly Instructions



Recess to top at
least 1 ¼ inch wide
by 5/8 Inch deep



Cut a tendon
on the waste
block to form a jam
chuck and
mount the
Top Section

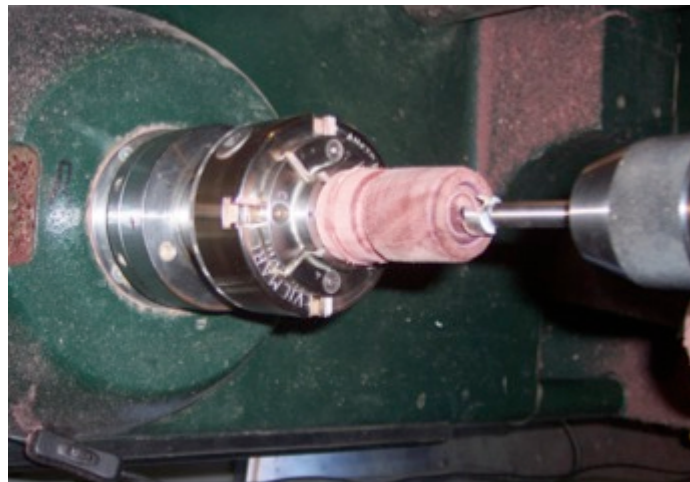
Curved Surface Magnetic LED Light

with On and Off Switch

Assembly Instructions



← Recess the other side of the top 1 inch wide by 1/10 inch deep to fit the tendon in the IKEA lamp



← Mark the center of the part and the 5/8 spread for the Mounting the IKEA base. A 5/8 inch Forstner Bit comes in handy for marking purposes

Curved Surface Magnetic LED Light

with On and Off Switch

Assembly Instructions



← Using the 5/8 inch marks from the Forstner Bit Drill two 1/8 holes all the way through to work piece.



← Then enlarge the holes to 1/4 inch by 1/2 inch deep

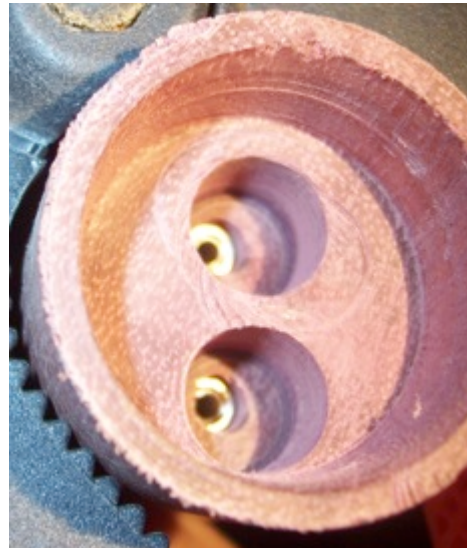
Curved Surface Magnetic LED Light

with On and Off Switch

Assembly Instructions



From the other side, follow the 1/8 inch pilot holes with a 1/2 inch Forstner Bit until you reach the 1/4 holes previously drilled. Should be 1/2 inch or so from the top of the part.



Now is a good time to fit check the IKEA lamp. You should have room enough to install the screws but the stems on the light should stick through the 1/4 inch holes

Curved Surface Magnetic LED Light

with On and Off Switch

Assembly Instructions



Remount the part on the jam chuck and turn to the desired shape.



Sand to desired finish

Curved Surface Magnetic LED Light

with On and Off Switch

Assembly Instructions



← Apply the desired finish I used Carnauba Wax



← Remove the finished top and turn down the tendon in the jam chuck to a loose fit. This is to insure that the glue joint is not starved of epoxy.

Curved Surface Magnetic LED Light

with On and Off Switch

Assembly Instructions



Drill and countersink to fit the 8-1.25 screw.



Part off the tendon of the jam chuck to the depth of the recess in the finished top part.

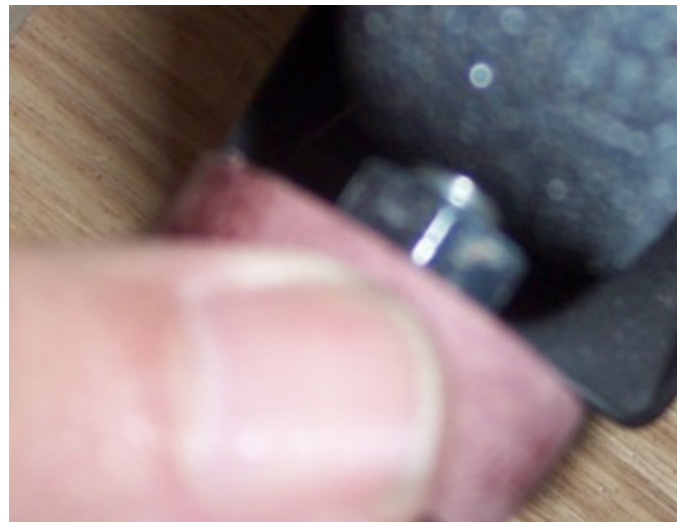
Curved Surface Magnetic LED Light

with On and Off Switch

Assembly Instructions



Use the nut that came with the Magnetic Base to check the bolt length. If the bolt sticks past the nut the lever in the Magnetic Base will not work



If the bolt sticks past the nut grind it down flush to the surface of the nut.

Curved Surface Magnetic LED Light

with On and Off Switch

Assembly Instructions



Before assembling the base fit check the plug and ensure the on and off switch is working. If it is not working shorten the screw as shown in the prior step.



Remove the plug and apply the double back to lock the plug screw assembly in place. This prevents the plug from rotating on the screw. As an option you could use epoxy.



Curved Surface Magnetic LED Light

with On and Off Switch

Assembly Instructions



Peel of the tape backing and install the plug by installing the screw.

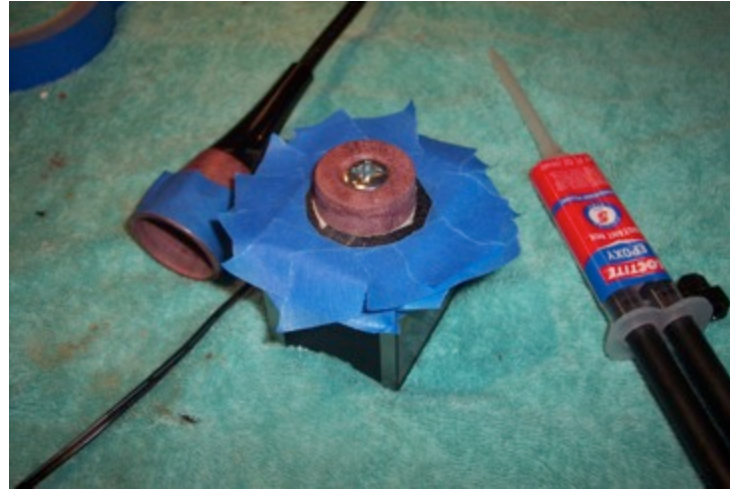


Install the lamp parts using the screws and washers supplied with the lamp

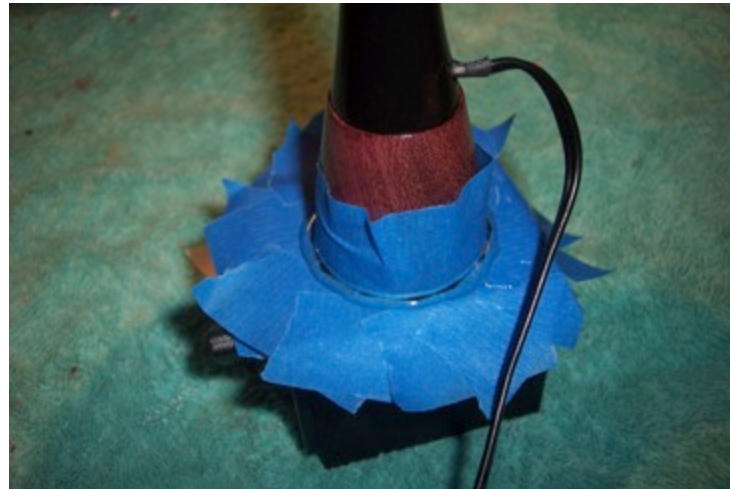
Curved Surface Magnetic LED Light

with On and Off Switch

Assembly Instructions



After one last fit check mask the areas of the part you do not want to be covered with epoxy



Install a liberal amount of 5-minute epoxy and assemble the parts. You will need to keep the parts from moving until the epoxy sets.

Curved Surface Magnetic LED Light

with On and Off Switch

Assembly Instructions



Remove the masking tape before the epoxy sets-up



Give the Epoxy a chance to harden and you are ready to use your new Shop Light



\$71.90 at
Craft Supplies

About \$25 for
DYI



Sources

- YouTube video for construction of base and mounting.
 - <https://www.youtube.com/watch?v=yCuXq8tCvtg>
- IKEA LED Table Lamp
 - <http://www.ikea.com/us/en/catalog/products/20169658/>
- Amazon listing for the IKEA LED lamp.
 - http://www.amazon.com/gp/product/B0055IVM1I/ref=pd_lpo_sbs_dp_ss_1?pf_rd_p=1944687582&pf_rd_s=lpo-top-stripe-1&pf_rd_t=201&pf_rd_i=B00R3LSOC4&pf_rd_m=ATVPDKIKX0DER&pf_rd_r=1FC48SRWZ7SJ1EPT1SCM
- Magnets Harbor Freight
- Hardware Lowes