

Longworth Chuck

Material List: size
3/4" thick MDF (medium density fiberboard) basic ~ 2 ft x 2 ft
1/4" thick MDF basic ~ 2 ft x 2 ft

1 Store bought Face Plate
I used a 3" steel one for my chuck
We used a 4" steel one for Dawson's
as needed: good screws to mount the face plate to the 3/4" MDF

Qty Desc

- 6 5/16" x 18 unc (thread size) Hex head machine bolts (full threads)
If you use the above board thickness you will need these bolts to be 3" long
- 6 5/16" x 18 unc Wing nuts
- 6 5/16" x 18 unc nylon lock nuts - ya gotta have these or nuts & washers will FLY....!!
- 18 5/16" flat washers (3 for each bolt)
- 6 Rubber stoppers w/ hole (No. 7) (~ 1" to 1-1/4" diameter & 1" long)

Wax or Paraffin to grease the surfaces between the 2 MDF board

NOTES:

Maximum Board diameter... swing of your lathe minus ~ 1/2"
For example - my 12" gap lathe can swing ~15" at the headstock
so I could make my fixture ~14-1/2" diameter
For Dawson's lathe we made his ~ 20" diameter
Unless you want to buy a full 4' x 8' sheet of this MDF (which I doubt)
the smallest piece I found at Lowe's/Home Depot was a
2' by 4' piece. So anything under 24" is probably best.
BUT if you buy the 2 x 4 sheet then you have material for TWO chucks
maybe some of you can go in together on these items.

Face Plate - if you make a chuck like dawson's 4" in best

Article called for 1/4" size bolts... I stepped it up to
5/16" to make it "better"

Hamilton Hardware was the only place I could find
rubber stoppers... the No. 7 size is basically 1-1/4" diameter
at the top of the stopper. These are typically 1" high or long.
They didn't have one with holes, so I just got plain ones
and made a small holder on my lathe and just bored
an 11/32" holes myself.

See article for tools.....

if you use the 5/16" bolts you will need a 5/16" diameter x 1" long
straight cut router bit.