



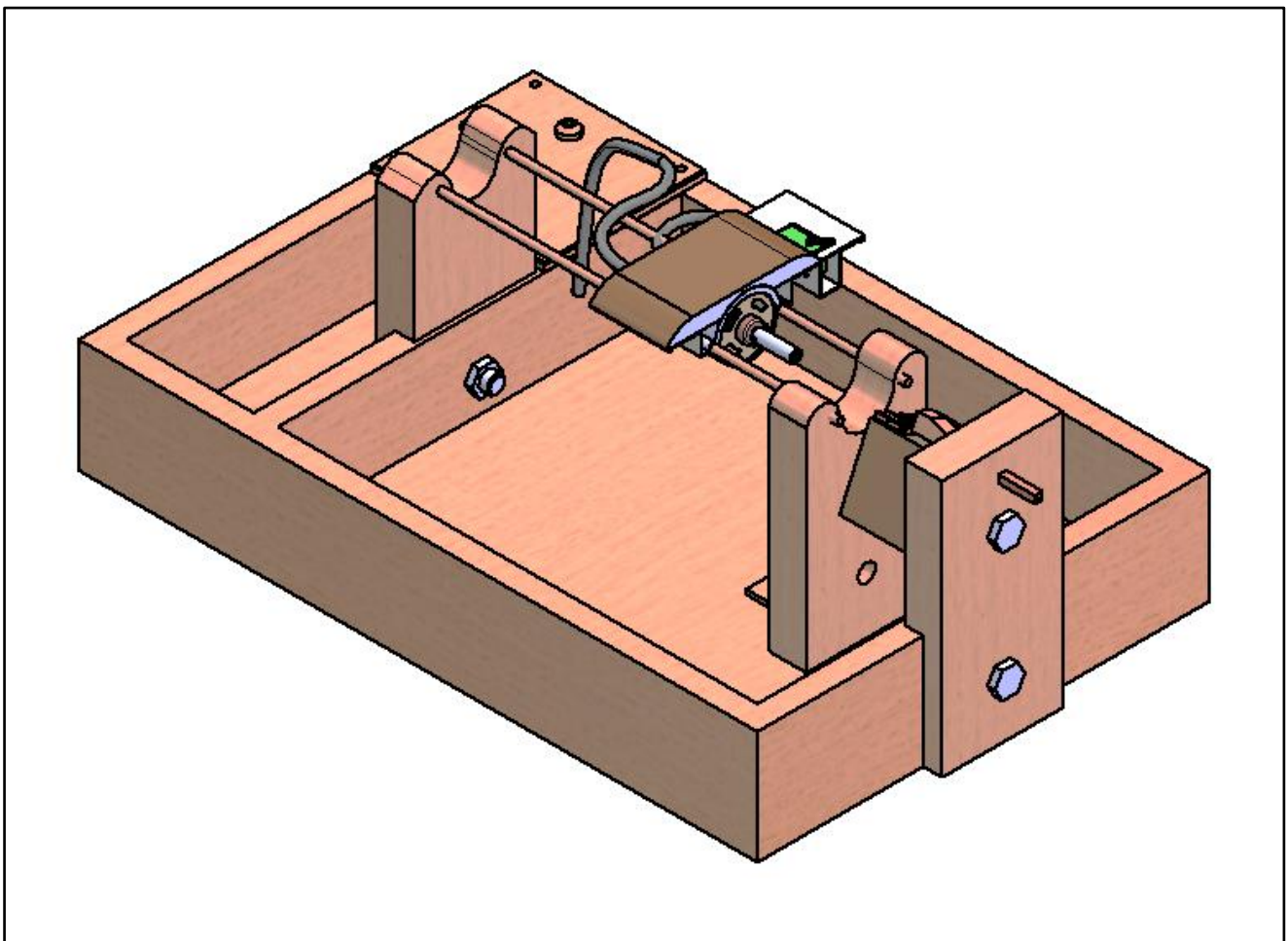
USER'S MANUAL

A PRODUCT OF RuTAG IIT DELHI



TULSI MALA BEAD MAKING DEVICE

MODEL: TMB05 -10/2016



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Revision sheet

Revision no.	Date	Revision description	Created by
Revision 0	27/08/2020	User's manual created	Yashwant Prasad

1 INTENDED USE

The machine is used to make Tulsi mala beads of various shapes that can be produced by turning operation. It also performs drilling hole while turning. It can cut beads from size 5mm to 10mm diameter.








2 SAFETY PRECAUTIONS

 WARNING	Failure to follow these instructions properly may result in personal injury or loss of life.
 CAUTION	Failure to follow these instructions properly may result in property damage or personal injury, which may be serious depending on the circumstances.

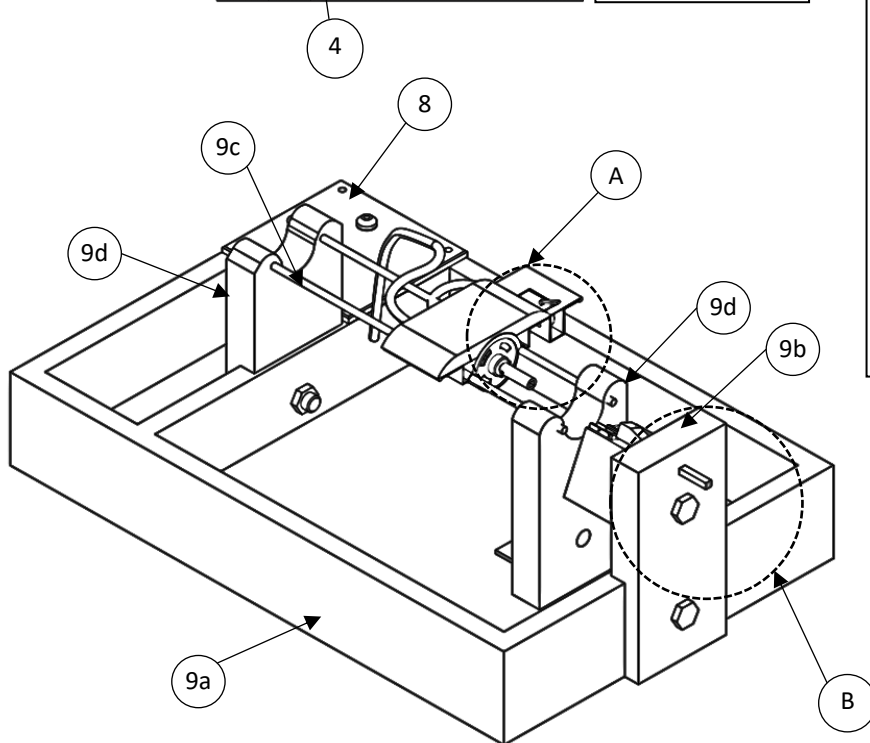
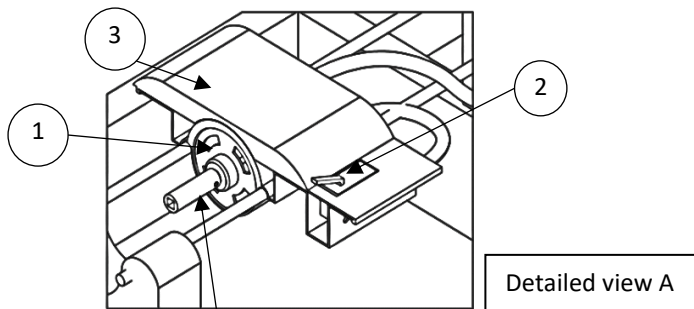
 DO NOT ATTEMPT

 BE SURE TO FOLLOW INSTRUCTIONS

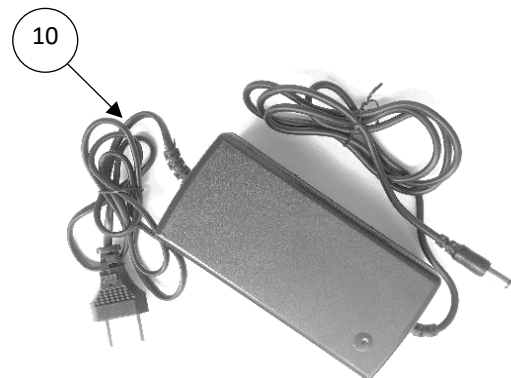
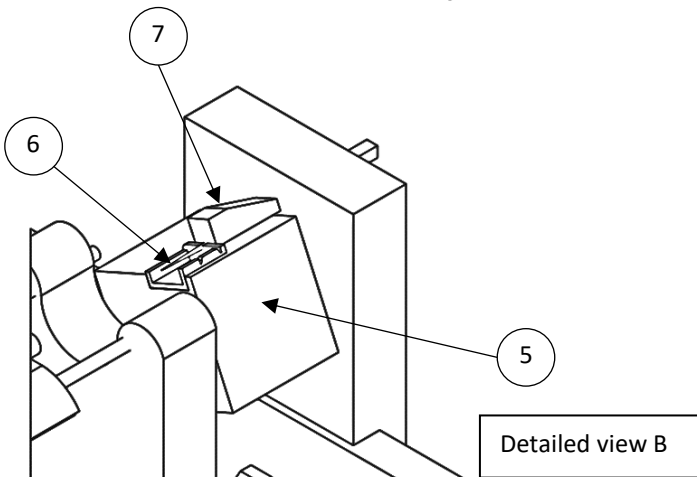
 BE SURE TO ESTABLISH EARTH CONNECTION

 WARNING	 CAUTION
<ul style="list-style-type: none"> • To avoid injury, lock the stem into the spindle groove properly before starting the motor.  • Stopping motor with hand may cause injury. • Do not operate the device without eye protection glasses. • Keep the hand chisels away from children. • Be careful while sharpening the chisels. • Do not attempt to repair the device yourself. Improper workmanship may damage the product. • Maintain safe distance from others while operation.  • To avoid electric shock, make sure that the workplace has proper earthing connections.  	<ul style="list-style-type: none"> • Do not use the Tulsi Mala Bead Making Device for the purpose other than for which it is intended. It may cause adverse effects.  • Do not remove connector insulations. • Never sit directly on the ground while operating the device • Only connect with the specified battery (12V supply).  • Align the motor shaft and pin centre before operation. • Keep the knob of the speed regulator at minimum level before operation. • Protect the speed regulator circuit box from water ingress. • Check the insulation of all electrical connections.

3 PARTS AND THEIR FUNCTIONS



1. **Motor:** 40watt DC motor
2. **Limit switch:** on/off switch for motor
3. **Motor housing:** A sheet metal motor casing
4. **Stem holder:** Chuck for holding the stem
5. **Tool post block:** To support cutting tool
6. **Pin:** To drill hole
7. **Wooden wedge**
8. **Speed regulator:** To regulate motor speed
9. **Frame/ structure**
 - a. Base body
 - b. Bracket
 - c. Rods
 - d. Rod support
10. **Adapter:** Power supply connector (12V, 5Amp)



4 DEVICE FEATURES

1. Simultaneous turning and drilling operation
2. Variable speed regulation
3. Smooth sliding arrangement for motor housing
4. Novel spindle with hassle free stem holding mechanism
5. Ergonomically placed on/off switch for quick operation

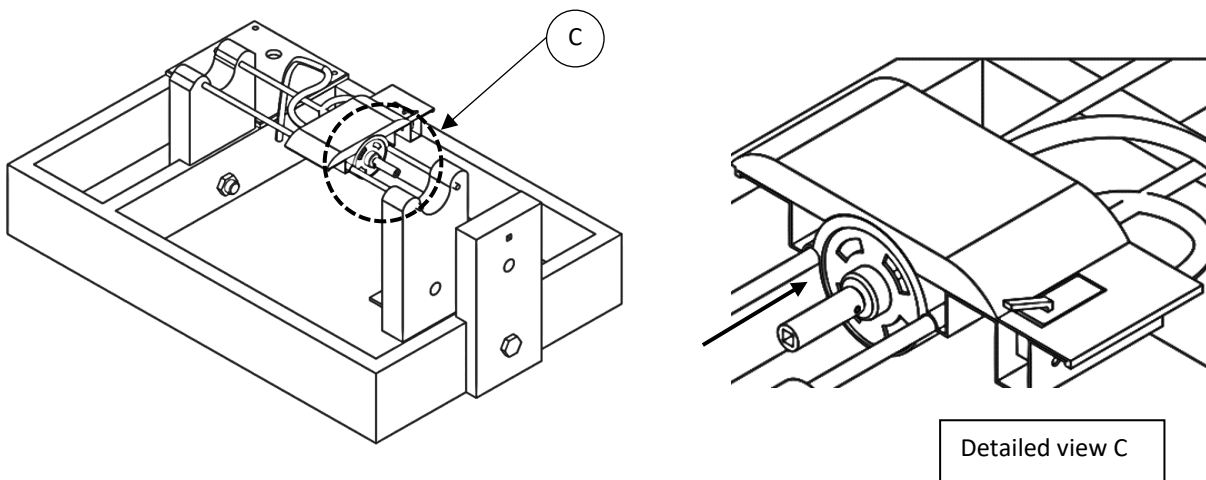
5 OPERATION

5.1 SETUP TOOLS

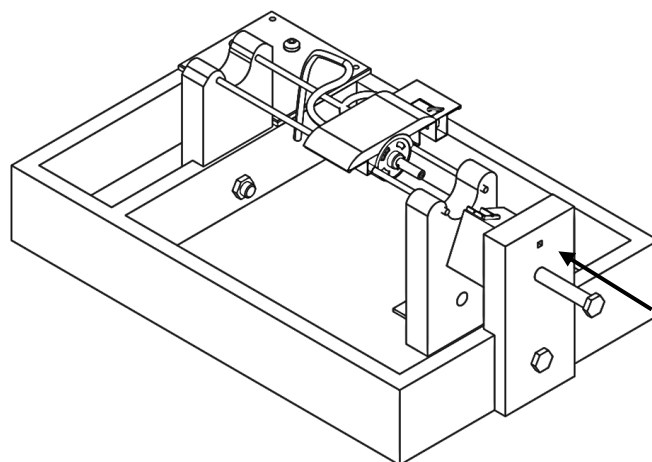
1. BSW M4 L Key
2. Plier
3. M10 wrench

5.2 DEVICE SETUP

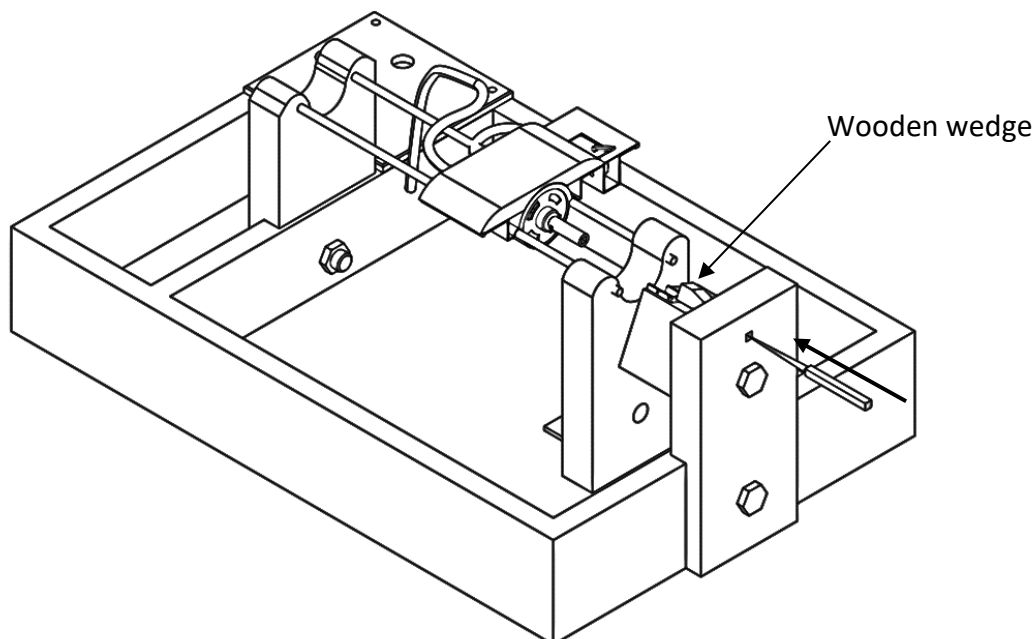
1. Insert the stem holder on the motor shaft and fasten it with M4 grub screw.



2. Tool post and pin assembly
 - a. Place the tool post block on the bracket as shown in the figure and fix it using M10 bolt.

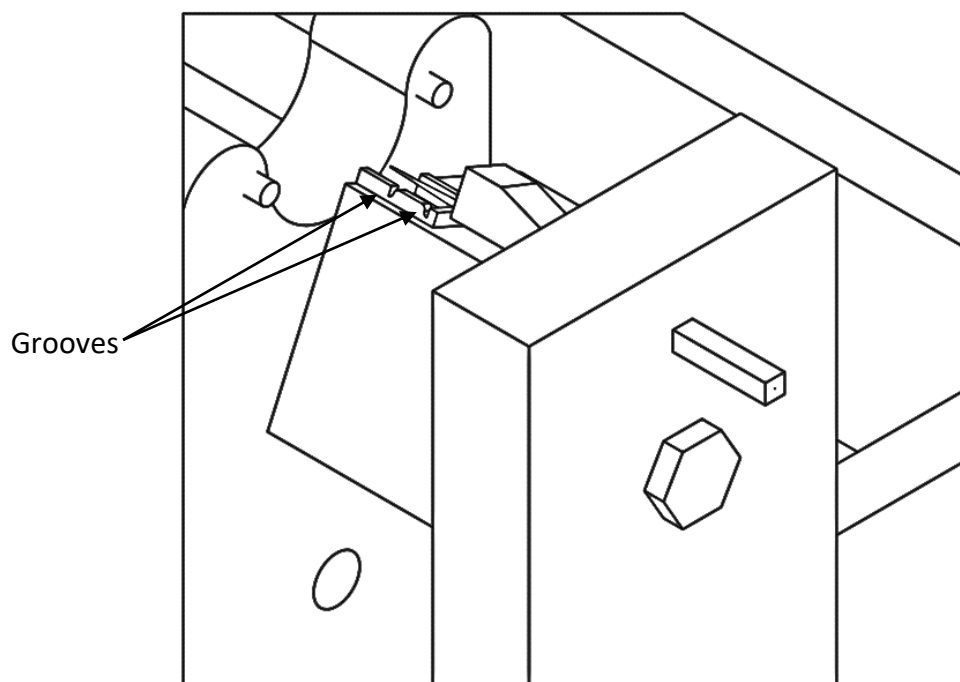


- b. Insert the pin through the square groove of the bracket till it reaches V-groove of the tool post block. Push the pin such that it extends 10 mm from the v groove.
- c. Place the wooden wedge inside square groove on the bracket just above the flat surface of the pin.



- d. Align the pin with motor shaft. Simultaneously adjust the orientation of tool post block according to the size of stem and your convenience.
- e. Tighten the M10 bolt completely and then hammer the wedge from behind to tighten the pin.

3. File the v grooves on the metallic sheet of tool post block as per desired size of beads



**CAUTION**

Make sure that pin and tail stock are assembled properly. One should check the tightening regularly.

5.3 OPERATING PROCEDURE

1. Place the machine on a table or flat surface as convenient such that the motor end is towards your left and the tool post towards your right.
2. Connect the power supply.
3. Slowly rotate the regulator knob from 0 to convenient operating speed.
4. Push fit the square tapered end of the Tulsi stem into the stem holder.
5. Insert the pin into the centre of the stem cross section.
6. Place your left hand over the motor housing and gently press the limit switch.
7. Push the motor housing towards the tool post such that pin penetrates the stem.
8. Place and hold the cutting tool on the tool post block and start turning operation.
9. Push back the motor housing and remove the finished bead from the pin.
10. Repeat steps 5 to 9 till the last bead is produced from the stem.

Note: 1. This machine is designed for right hand operators. Left hand version can be customized on demand.
 2. Make sure the machine is placed on insulated surface.
 3. Do not over tighten the spindle. It will reduce its life.

**WARNING**

1. Do not apply unnecessary pressure on the pin while operation. It may lead to serious injuries.
2. Do not wear loose clothes with long sleeves while operating.

6 TROUBLESHOOTING

CASE	EXPLANATION
Motor does not turn ON	Check adapter, regulator, and motor connections / regulator knob/ regulator fuse
Stem/ stem holder wobbling	Check Stem holder and pin alignment/ Check grub screw tightness
Pin loosening	Check wooden wedge grip



WARNING

1. When an abnormality (such as a burning smell) occurs, stop operation and turn off the circuit.
2. Continued operation in an abnormal condition may result in damaging circuit.

7 MAINTENANCE

1. Clean the deposition of saw dust around motor fan, shaft, and connectors regularly.
2. Keep checking the tightness of all fasteners (stem holder, motor housing and tool post)



WARNING

1. Do not attempt to repair device yourself. Improper workmanship may damage the product.
2. Stop operation if motor gets over heated.

8 SPECIFICATIONS

1. Voltage: 12V
2. Current: 5A
3. Spindle Speed: 7500 rpm
4. Bead diameter range: 5 - 10 mm
5. Weight: 9kg
6. Volume: 450 x 300 x 200 mm

9 WARRANTY/ GUARANTEE

One-year warranty for the device as per terms and conditions provided by the manufacturer.

10 DISPOSAL REQUIREMENT

Motor, speed regulator circuit and limit switch must be removed and disposed separately in accordance with relevant local and national legislation.

11 CONTACTS

Technical support: RuTAG IIT Delhi, Department of Mechanical Engineering, Block-III, Room No.-343, IIT Delhi, Hauz Khas, New Delhi – 110016

Ph. No.: 011-26591385

Local support NGO:

1. Human Social welfare society, Hathras, U.P.
2. Lupin Foundation Welfare Society, 160, Krishna Nagar, Bharatpur, Rajasthan

Manufacturer: