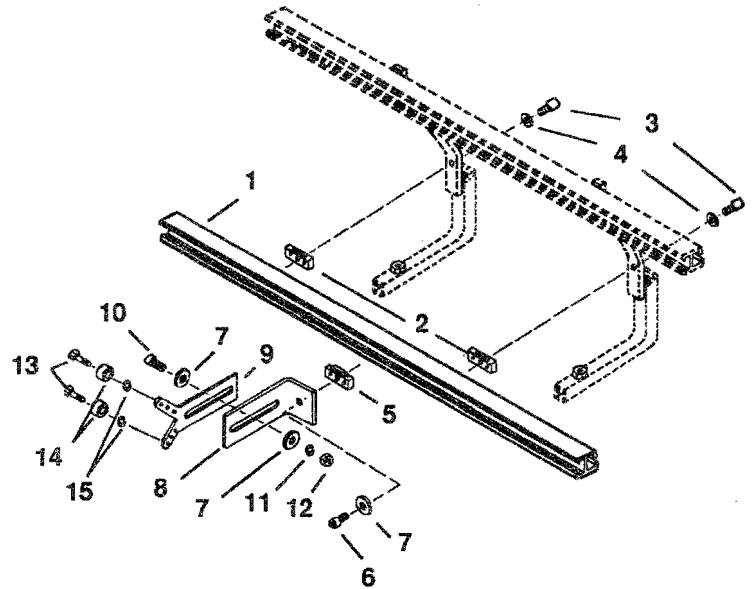




Steady Rest for the Lathe Duplicator

PARTS LIST

Ref. No.	Part No.	Description	Qty.
1	517938	Channel	1
2	515542	T-Nut, 1/4-20	2
3	513201	Socket Head Cap Screw, 1/4"-20 x 3/4", black finish	2
4	502333	Flat Washer, 1/4"	2
5	514491	T-Nut, 3/8"-16	1
6	514940	Socket Head Cap Screw, 3/8"-16 x 5/8"	1
7	120394	Flat Washer, 3/8"	3
8	514708	Bracket	1
9	515281	Y-Support Bracket	1
10	514744	Socket Head Cap Screw, 3/8"-16 x 7/8"	1
11	120382	Lock Washer, 3/8"	1
12	120377	Hex Nut, 3/8"-16	1
13	515282	Shoulder Screw	2
14	514007	Ball Bearing	2
15	120380	Lock Washer	2



The Lathe Steady Rest attaches to the Shopsmith Lathe Duplicator. It reduces "whip" and vibration of a spindle as it rotates against a lathe chisel. The result is a safer and smoother cut. Use the Steady Rest with spindle stock measuring from 3/16" to 3-1/2" in diameter. Follow the instructions below:

Tools Required:

- 5/16" Allen wrench
- 3/8" wrench

INSTALL THE CHANNEL

1. Set up your Lathe Duplicator according to its instruction manual.

2. Slide a T-nut (2) into the channel (1). Attach the T-nut to the Lathe Duplicator's support bracket with a black cap screw (3) and flat washer (4), as demonstrated in Fig. 1. Do the same for the other side of the channel. When attached, the Lathe Duplicator should look like Fig. 2.

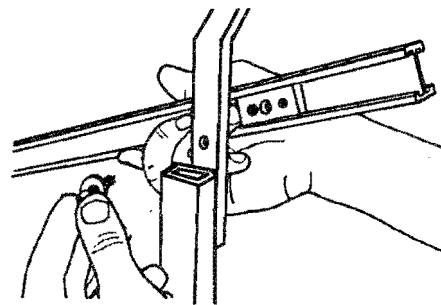


Fig. 1

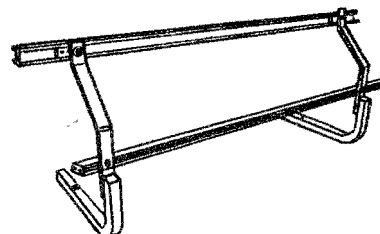


Fig. 2

ATTACH THE BRACKET

3. Place a $\frac{3}{8}$ " washer (7) on a $\frac{5}{8}$ " long cap screw (6). Thread the screw through the bracket (8) and into the $\frac{3}{8}$ " T-nut (5), as seen in Fig. 3. Do not tighten yet.

4. Slide the T-Nut into the front side of the channel, as shown in Fig. 4. Make sure the bracket's slotted side faces to the left.

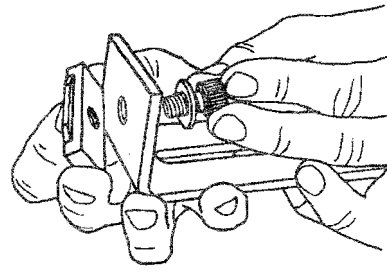


Fig. 3

ATTACH THE Y-SUPPORT BRACKET

5. See Fig. 5. Place a flat washer (7) on a $\frac{7}{8}$ " long cap screw (10) and insert the screw through the Y-support (9) and the bracket (8). Attach it with a flat washer (7), lock washer (11) and a hex nut (12).

6. Thread shoulder screws (13) through ball bearings (14) and lock washers (15), then into the Y-bracket support (9), as illustrated in Fig. 6.

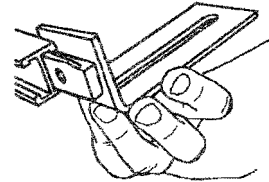


Fig. 4

7. Use a $\frac{5}{16}$ " Allen wrench to tighten the cap screw (10), as seen in Fig. 7.

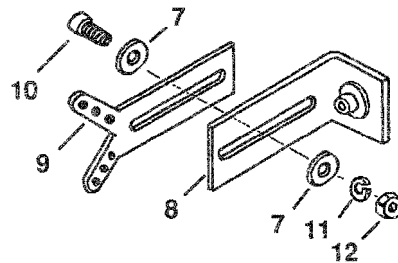


Fig. 5

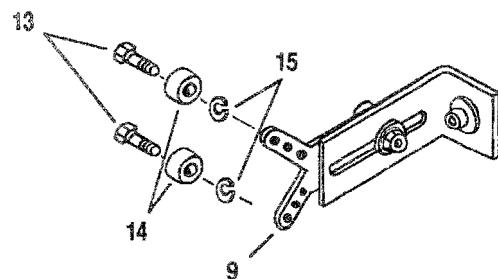


Fig. 6

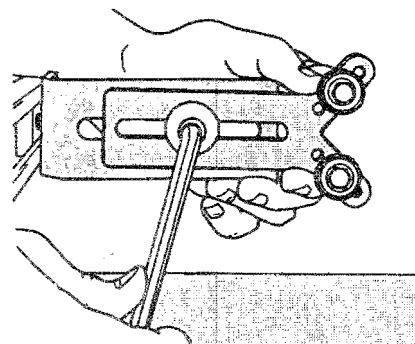


Fig. 7

Operations

WARNING

- Follow all the information in the your Mark V and Lathe Duplicator instruction manuals when you use the Steady Rest.
- Do not mount the Steady Rest to the channel until after the spindle stock has already been rounded.
- The lathe turning speed must be set at "Slow" before positioning the Steady Rest bearings against the stock.
- When turning thin spindle stock, do not place the Steady Rest so that the support bearings press against and bend the stock. If the stock is bent, it could snap and be thrown from the lathe. Also, if the stock is bent, the final profile of the spindle will be reduced in diameter.
- Remove the Steady Rest from the channel before you start to turn additional spindles.
- Before sanding the spindle on the lathe, remove from the Mark V the Lathe Duplicator with the Steady Rest channel attached.
- Maximum diameter of a spindle used with the Steady Rest is 3-1/2".

Follow these instructions each time you use the Steady Rest with the Lathe Duplicator:

1. Prepare the spindle stock according to the Lathe Duplicator instruction manual. Round the stock into a cylinder. Shape the largest diameter profile nearest the center of the stock. The largest diameter profile must be as smooth as possible because this is where the bearings will contact the spindle. Any rough spots will cause the stock to vibrate against the Steady Rest and will affect the quality of the cut.

2. Turn the Mark V speed to "Slow." Then turn off and unplug the Mark V.

3. Install the Steady Rest on its channel (1). Position the Steady Rest's bearings at the turned profile on the stock, then use a 5/16" Allen wrench to tighten down the bracket (8) in the channel, as illustrated in Fig. 8.

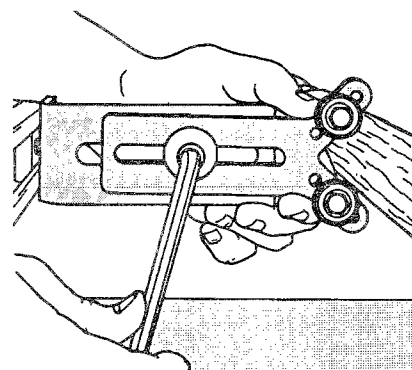
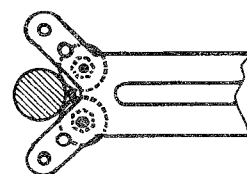


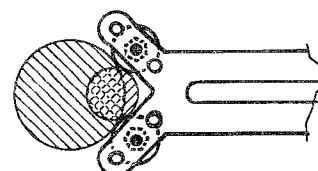
Fig. 8

DIAMETER RANGE FOR EACH SET OF HOLES

3/16" to 1"



1" to 2"



2" to 3-1/2"

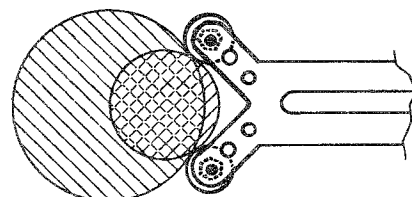


Fig. 9

4. Adjust the bearings to fit the diameter of the spindle stock. See Fig. 9 (above) for which holes to use for the size spindle. Apply light pressure against the stock, then use the 5/16" Allen wrench to tighten the cap screw (10) attaching the Y-support to the bracket (8).

5. Test the setting of the bearings by plugging in the Mark V (with the speed dial still set at "Slow,") and quickly turn the Mark V on, then off. Check the spindle. If the corners of the bearings are marking the stock, loosen the Y-support's cap screw (10) and re-adjust the bearings against spindle. Repeat this step to re-check, until the bearings do not mark the spindle. However, a slight polishing of the stock will happen where the bearings roll against it. This is normal. The polished surface will be removed during sanding.

6. Turn on the Mark V and set it at the proper speed referred to in the Lathe Turning Speed Chart, found in both the Mark V and Lathe Duplicator instruction manual.

7. Perform normal operations with the Lathe Duplicator and Steady Rest, as demonstrated in Fig. 10. Shape the profile of the spindle. When turning long spindles, keep the Steady Rest at its original position and reposition the Lathe Duplicator table and the tool rest, as needed. There are exceptions to this guideline, especially for long, very small diameter stock—then it may be necessary to reposition the Steady Rest bearings along the spindle as it is turned.

8. After completing the spindle, turn the speed dial to "Slow" and turn off the Mark V.

9. Use the 5/16" Allen wrench to loosen the bracket and remove the Steady Rest from its channel. (Leave the channel permanently attached to the Lathe Duplicator.)

10. Continue sanding and finishing the spindle.

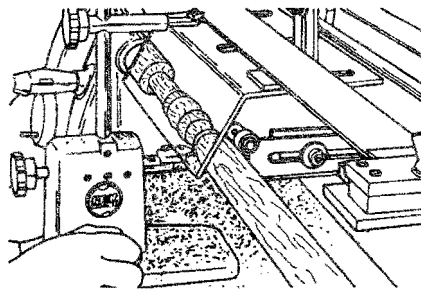


Fig. 10



Shopsmith, Inc.
3931 Image Drive
Dayton, Ohio 45414

Note: If you have further questions or need help, visit the Shopsmith or Woodworking Unlimited store in your area, or call Customer Services: Toll Free 1-800-762-7555. (In Canada, 1-416-858-2400.)

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