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Super Slab Roller

24, 30 and 36" models

Slab Roller Operating Information

Revised September, 2019. All prices and specifications subject to change without notice.

First things first...

Thank you for investing in a North Star Slab Roller. We've been making them for more than 45 years and they have earned an excellent reputation all around the world.



If you give yourself adequate time to get used to the machine and give it a small amount of care, you will find you have made a wise investment indeed. It will last for a very long time, will serve you dependably, and your clay work will warp and crack less in drying and firing than slabs made with any other machine design.

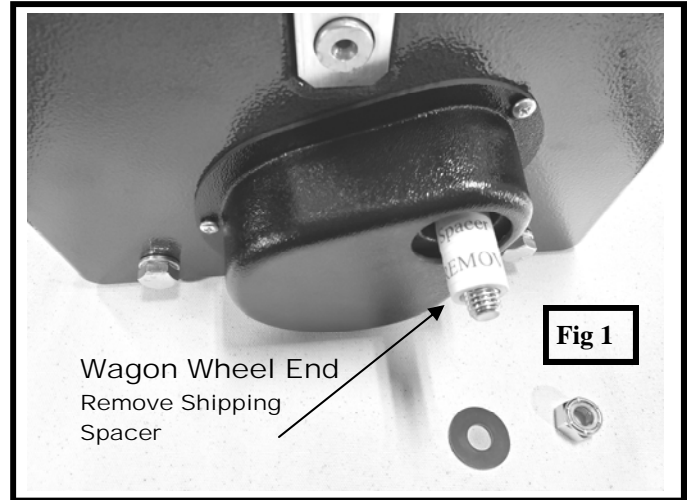
Check it out...

Before you go further, carefully check what you have. You may not have everything unpacked yet, but you should have received either two or four cartons with the following:

Carton #1:

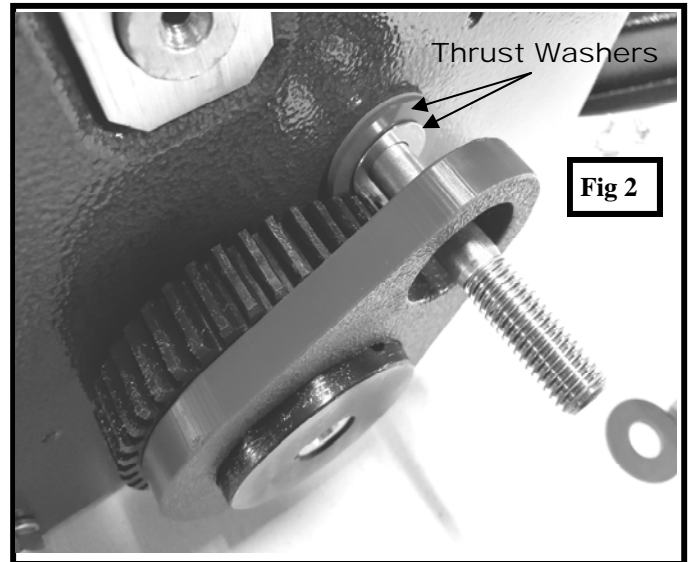
- Slab Roller and gear guard
- Two pcs #6 canvas 24, 30 or 36" wide by 72" long
- Hex key for Gear Guard
- These instructions

VERY IMPORTANT NOTE: The PVC thrust washer (Fig. 2) extends partly behind the large gear and it must remain in place.



Wagon Wheel End
 Remove Shipping
 Spacer

Fig 1



Thrust Washers

Fig 2

Carton #2

WagonWheel Handle with grasp handle

If you have the Super Slab Roller Package (i.e., Super Slab Roller with table) you should also have Cartons 3 and 4:

Carton #3: Table Frame

- A. Four table legs
- B. Two long rails with square notch
- C. Two end rails
- D. Two 12" long "L" mounting brackets
- E. Hardware package (nuts & bolts)
- F. Two extension rails with connector plates bolted in place (Do not disassemble!)
- G. Worktable assembly instructions

Carton #4: TableTop

Three TableTop sections
(each 24" wide
by 24, 30 or 36" long)

NOTE: If you have purchased accessories such as Wings (table extensions) or shelves, they will be in additional cartons with their own installation instructions.

Something Missing/Damaged?

North Star Equipment guarantees delivery in good condition, no matter how or where our products are shipped. If anything is missing or damaged, contact us immediately. See the heading at the top of Page 1 or "Some Final Notes..." on Page 6 for our address and phone and fax numbers. If all is OK and you have the Super Slab Roller Package, go to the assembly instructions in the worktable carton and return here to PART B when finished with the table.

PART A: TABLETOPPER

(If you have the
Slab Roller with Worktable
this section will not apply.)

If you have purchased the Slab Roller by itself, intending to fasten it to your own bench or table, you will need to build a platform on both sides of the machine to provide a place to lay out canvas and clay and receive finished slabs.

Fasten the Slab Roller where you want it with wood- or lag screws, making sure the handle has plenty of clearance.

Dimensions: There are no set dimensions for this platform, or "TableTopper" as it is called, nor must it be constructed of any particular material. The width (from near side to far side), of course will be 24, 36 or 30". This dimension is the same as the length of the rolls of the machine. The length of the two sides can be anything you want it to be. Most people seem to find that two or three feet on the side where slabs will be started and four to six feet on the outfeed side is about right. The height of the platform should be about $\frac{1}{8}$ " below the top of the bottom roll, about $4\frac{1}{4}$ " high.

Materials: Plywood is the material usually used for the tops of these platforms, but any sturdy material will do nicely. The smoother and more slippery it is, the easier it will make slab work. It is advantageous to put a 45° bevel on the bottom of the edge that butts up very close to the roll to decrease the gap between platform and roll. The tops can be held at the correct height by any of several means, but an easy method is underlay them with 2x4 lumber. For instance, if the tops are made of $\frac{3}{4}$ " plywood, you might form risers of lengths of 2x4 turned on edge, which would be $3\frac{1}{2}$ " high. This dimension plus the $\frac{3}{4}$ " of the plywood would give $4\frac{1}{4}$ ".

One easy way to hold all this in place is with long countersunk flat head wood screws through the face of the platforms, through the 2x4 and into the top of the bench. If the countersinking is done carefully the screws will never be noticed in the process of making slabs.

PART B: ATTACH HANDLES

Read this part carefully and take your time. It can be tricky or confusing.

*The **gear end** of the Slab Roller has a series of four steel gears on the outside. The other end of the machine has an egg-shaped plastic guard near the bottom and is referred to as the **handle end**. (See figure 1)*

It may be worthwhile removing the guard from the handle end (it is held in place with three Phillips head screws). Have a look at the large steel gear and the plastic spacer. Notice the way the spacer rides on the big steel gear and that it has a hole for the hub of the WagonWheel. You can see that the wagon wheel handle will ride on the bolt and that the small gear on the hub of the WagonWheel will go through the spacer and then engage the large gear. (See Figure 2) There is also a PVC thrust washer & a metal thrust washer on the handle bolt which lies flat against the housing. When the WagonWheel handle is installed the small gear on the wagon wheel, will come in contact with the metal thrust washer. The metal thrust washer is vitally important, because it prevents the end of the wagon wheel gear from destroying the PVC thrust washer. The PVC thrust washer keeps the small and large gears aligned.

On the inside of the housing at the handle end of the machine, you will see a hexagonal recess near the top of the lower roll. The head of the handle bolt, which will serve as the shaft for the WagonWheel handle must securely fit into this recess.

The other end of this bolt has a shipping spacer, a thin PVC washer, and an acorn nut or “finish nut” attached to it. This end protrudes through the plastic spacer strap and then the black plastic gear guard. (See Figure 1)

Leave the gear guard in place but remove the nut, PVC washer, and the shipping spacer from the handle bolt. Discard the shipping spacer.

Slide the WagonWheel onto the bolt. Make sure the small gear on the WagonWheel first passes through the plastic spacer and then engages the large gear. (See Figure 3, Page 4)

Push it all the way in. You may need to wiggle it around a bit to make the drive gear on the WagonWheel engage the large gear inside the guard but you will know when it is in place.

Replace the thin PVC washer and nut on the handle bolt and tighten until all space between the wagon wheel gear and the metal thrust washer has been taken-up. Do not over-tighten. You should have about a sixteenth inch of play (space), when the adjustment is complete.

Grasp Handle

After the WagonWheel has been installed, you will notice a small hole through the center spoke out very near the perimeter. If desired, the grasp handle can be installed on the WagonWheel by following these steps:

Remove the nut and one of the nylon washers from the grasp handle. (This is a nylon lock nut and a wrench may be needed.)

Mount the grasp handle on the WagonWheel projecting away from the hub. One of the nylon washers must be under it and the other must be behind the cross bar. Put the nut on the stud and tighten.

The adjustment of this nut is critical. It should be loose enough to allow the grasp handle to revolve in your hand as you turn the WagonWheel, but snug enough to prevent it from wobbling about. It may take some experimentation to get it just right.

Should this nut become lost or damaged, a replacement can be purchased at any hardware store for a few cents. Ask for a $\frac{3}{8}$ ” coarse thread nylock hex nut.

We suggest that if small children will use the machine without close supervision the grasp handle not be used because of their love of “driving” the Slab Roller as fast as they can make it go.

PART C: OPERATION

The opening between the rolls is controlled by moving the upper roll up and down with the adjusting screws at the top of each end of the machine. There is a pointer and scale at each end, but the scales cannot be divided finely enough to furnish more than an approximate measurement. Most potters, however, will find this to be completely satisfactory. If more precise settings are required there are other ways to calibrate the opening exactly: The first way is to count the number of turns of the screw from the closed position. Each turn of the screw will raise the roll by exactly one eleventh of an inch. For most purposes, this can be thought of as one tenth of an inch. The second method is to cut a set of gauge sticks for each thickness of slab you will frequently make.

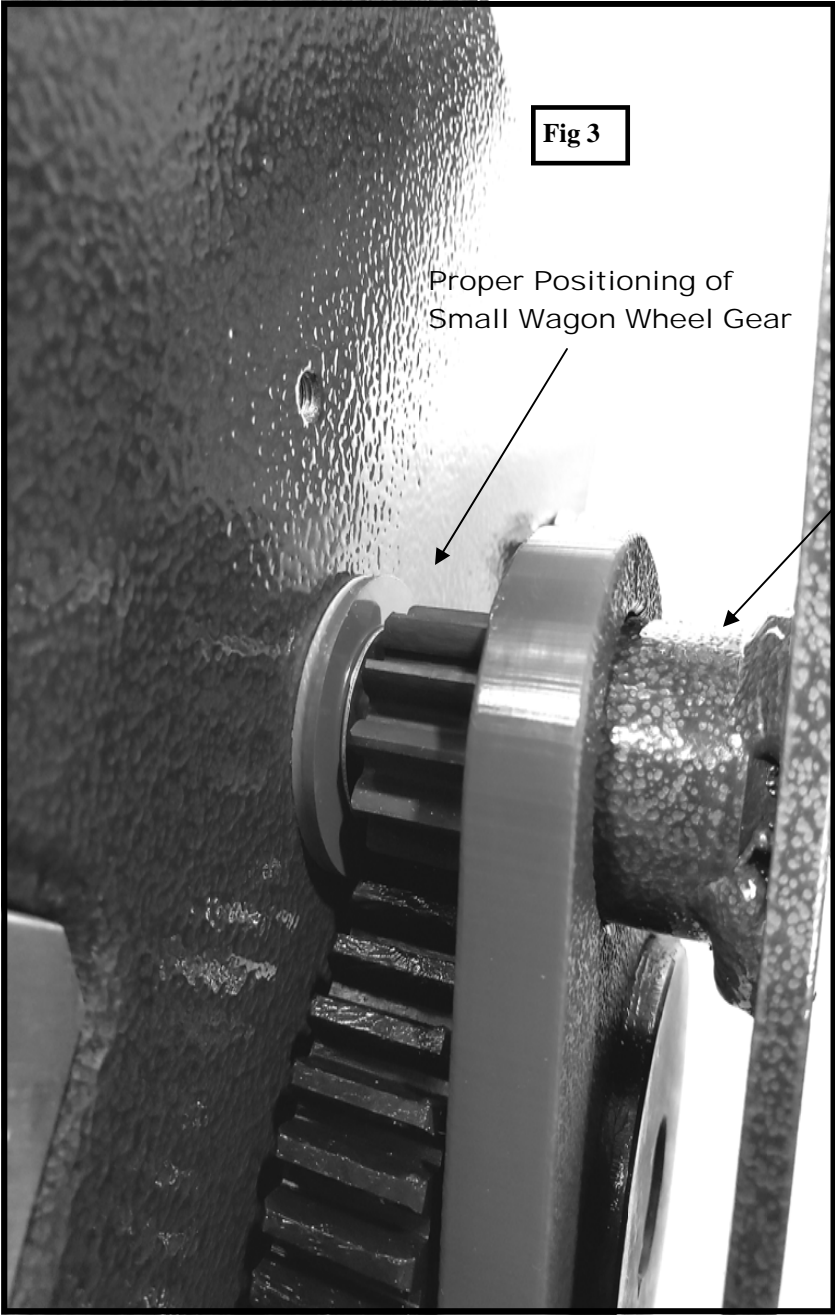


Fig 3

Proper Positioning of
Small Wagon Wheel Gear

Wagon Wheel Hub

These can be made of wood or any other convenient non-metallic material. Simply place a sticks between the rolls, screw the top roll down until it just makes contact, then turn the handle to crank the stick out of the machine.

Immediately under each star knob on the adjusting screws is a lock nut. It can be left in that position but, if the same slab is being made repeatedly, it can be screwed down and tightened against the end housing to lock the adjusting screw in place.

The rolls are made of heavy wall aircraft-quality aluminum tube. They have been trued to within 0.005" then knurled. The knurling serves to bite into the canvas and pull the slab through with minimum help from the operator. The canvas, not the roll, will impart some texture to the slab. For jobs where this texture is not acceptable, there are several ways to avoid it. See Paragraph C under "Some Important Details..." below.

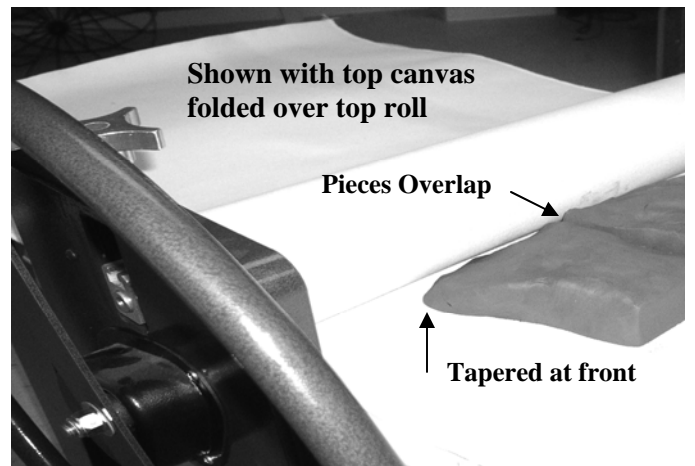
PART C: CANVAS

The canvas supplied with your roller is intended to be a starter set only. You may want more, larger or heavier pieces or material of a different texture later. Many different materials will work and are available from awning, upholstery and fabric shops everywhere. Canvas (or any material) should be kept fairly dry or it will stretch and wrinkle, and the clay will stick to it. If you are using your machine heavily, you will want to take special care of the canvas and perhaps buy several sets or secure water-repellent material.

At last....

PART D: MAKING A SLAB

Lay out one canvas on the infeed side of the roller (the short side of the table) and place the clay on it. This clay can be ragged and uneven and pieces can be overlapped, but it must be



roughly tapered at the front to allow the rollers to begin gripping it.

An easy way to do this is to simply slice clay from the pug with a string cutter. Overlap the slices on the canvas with the long dimension of the clay perpendicular to the roller. Use the heel of your hand to smash down the leading edge of the clay enough to "catch" between the rolls. Place the second canvas over the clay and start the "sandwich" into the rolls. Turn the handle with one hand and, if the slab is very thin, exert a steady pull on the slab coming through with the other. If the slab should have a hole or tear in it, don't throw it out. Just back up, lay a little clay over the defect and run on through. You will find that you can prevent many of these defects by the way you lay down the clay in the beginning.

You can add or remove clay at any time. Note that the larger the amount of clay behind the rolls, the more difficult it is to make the slab feed through and the harder it is to turn the handle. If too much clay builds up behind the rolls, back up and remove some. If you run out of clay before the slab is as long as you want, back up, add some more clay and go right on.

A major feature of the North Star Slab Roller is that it operates in either direction. When making very thin slabs, it is often easier to start with the rolls at a somewhat thicker setting and roll the slab back and forth several times, reducing the setting at each pass. With a little practice, this can be done very quickly.

PART E: SOME FINAL HINTS

Tapered slabs are easy because the opening between the rolls can be adjusted at each side, but you should take care not to induce more than about an inch of taper. Too great an angle on the top roll could cause the gear train to bind.

Also, almost unlimited textural effects are possible by running other materials through the machine along with the clay. We have used or seen used rope, burlap, brocaded upholstery fabric, press molds, leaves, flowers, tree bark and carved picture framing, to mention a few. Often such materials are allowed to remain in the clay and burn away in the fire. You will no doubt think of things that have not occurred to us. Some really spectacular effects can be created by combining clays of different colors or by rolling together two or more slabs of different-colored clays.

PART F: MAINTENANCE

There's not much, but the machine does require some.

Be careful not to score or gouge the rolls. If you get clay on them, let it dry and then remove it with a brush. Never use a metal tool.

At least once a month check the setscrew in the large steel gear at the handle end of the machine (you will have to remove the small gear cover) to make sure it is tight. When you do this, you should also do two other things: Apply a small amount of any light grease to the large gear and check the tightness of the four spreader bolts. (Spreader bars are the two steel rods parallel with and near the bottom of the bottom roll.) The spreader bolts go through the end housings into the spreader bars and the heads of these bolts are found on the outside of the end housings near the bottom. These should always be tight!

Some important details about slabs and Slab Rollers...

A. Two-point thickness adjustment...

We are often asked why we insist on using two adjusting screws to set the thickness, and the answer is this: Over the years we have looked at a number of arrangements to set the thickness with a single adjustment. We have not found one that works reliably over time that does not add unreasonably to the cost of the machine. Most people tend to make the same slabs over and over and they say the inconvenience is minor. We feel that the saving is substantial, and the resulting simplicity, which affords quicker, easier repairs, is highly desirable.

B. Motorized Slab Rollers...

Many people have asked about motorized slab rollers. We've built several over the years and they're not difficult. We've never sold one, however, for one simple reason: When the rolls are geared down enough to make clay slabs the power behind them is enormous and no one has yet been devised a guard (at a price any of us can afford) that will distinguish between a potter's (or a child's!) hand and a lump of wet clay.

C. Texture on slabs...

The knurling or texturing on the rolls bites into the canvas and pulls the slab through with very little help from you. The canvas, not the roller, imparts a texture to the slab. When this is not acceptable, there are several ways to avoid it. Other materials can be used in place of or in addition to the canvas supplied with the machine. Many Naugahyde upholstery fabrics have one smooth side that can face the clay and the other side will be gripped well by the rolls. A very dense weave fabric, such as pillow ticking can be used inside the canvas or, in some cases, instead of canvas and will yield a smooth slab.

D. Identifying your Slab Roller...

Your Slab Roller does not bear a serial number. Should you need to contact the factory for maintenance or repair parts, you will need to identify it so the proper items can be located.

To identify it correctly you will need to provide just two items of information: The series (“Super” series) and the length of the rolls (most often, 24, 30 or 36’)

SOME FINAL NOTES...

The factory mailing address is:
North Star Equipment, Inc.
1341 W 1st Street
Cheney, WA 99004

The shipping address is the same. Please note that no merchandise can be accepted at the factory unless it has a RAN (Return Authorization Number) marked prominently on the outside of each carton. Should a return be necessary, contact the factory for the shipping address and a RAN.

The factory toll-free telephone number is (800) 231-7896. This number is also on the gear guard of the machine. North Star’s offices are open from 8:00 to 5:00 PST Monday through Thursday except major U.S. holidays. If you are in North America (the Continental United States, Alaska, Hawaii, Puerto Rico, Guam and Canada) and need service or parts for your Slab Roller, call this number. If possible, have your telephone at the machine or be prepared to describe the part or problem in detail.

If you live elsewhere in the world, the factory phone number is (509) 235-9200. This number is answered from 8:00 a.m. to 5:00 p.m. Pacific Standard Time Monday through Thursday.

The fax number is (509) 235-9203 and this line is in service 24 hours every day of the year.

Remember to add the country code for the United States and be sure to give us full information. We may need your name, address, telephone number and, if you have one, your fax number.

SYNOPSIS OF THE SUPER SLAB ROLLER GUARANTEE:

The online warranty registration must be completed within 30 days of receipt of product. Warranty is not transferable. North Star Equipment will, at North Star’s option, repair or replace the product or furnish any repair parts needed for the lifetime of the original purchaser only, provided the warranty registration is on file. Obvious abuse or use for other than the intended purpose voids warranty. If repairs are needed, contact North Star directly. If it is necessary for a machine to come back to the factory for repairs (seldom needed), you must pack it and prepay inbound shipping by United Parcel Service or the carrier of your choice. It will be repaired, rebuilt or replaced at our option and returned freight prepaid without charge.

REBUILDING OFFER: At any time, no matter how new or old your North Star product may be, North Star Equipment will rebuild and repaint it, replace every worn part and install all available updates for one third the current list price of that model or its equivalent (if that model has been changed). To take advantage of this offer, follow the return procedure in the paragraph above.

SUPER SLAB ROLLER PARTS LIST

Part name	Number req'd	Contact North Star Equipment for current prices
Top roll, 24"	1	
Top roll, 30"	1	
Top roll, 36"	1	
Bottom roll, 24"	1	
Bottom roll, 30"		
Bottom roll, 36"	1	
End housing, gear end (End casting)	1	
End housing, handle end (End casting)	1	
Gear guard, large (gear end)	1	
Gear guard, small (handle end)	1	
WagonWheel handle with gear	1	
Grasp handle with hardware		
Adjusting screw assembly w/ shaft collar and knob	2	
Riser block, aluminum	2	
¾" Nyliner bushing	4	
Handle drive gear, large steel	1	
Nylon gear with roll pin - Mounting shoulder bolt not included.	2	
Nylon idler gear without pin - Mounting shoulder bolt not included.	4	
Spacer strap #1 (Links nylon gears at gear end.)	2	
Spacer strap #2 (Links steel gears at handle end.)	1	
Shoulder bolt with nut and washer (Mounts nylon idler gear.)	2	
Poly thrust washer (behind WagonWheel handle gear)	1	
WagonWheel shaft bolt w/ acorn nut and washer	1	
Slab roller mounting bolt, nut and lockwasher	4	
Scale decal, set of two (One for handle end and one for gear end.)	2	
Scale pointer w/ standoff and hardware (Fits either end.)	2	
Spreader bar, 24", with hardware	2	
Spreader bar, 30", with hardware	2	
Spreader bar, 36", with hardware	2	
Hardware package (hex keys only)	1	
Instruction set	1	



North Star Equipment
Warranty
&
Service
Information



**Be sure to fill out the online
warranty form at**



www.NorthStarEquipment.com

Your warranty is not in effect until the form has been received by North Star.



**Record the filing date below and retain this form
permanently.**

**The information enclosed supersedes all prior
warranty and service policies.**

Rev. July 2008

Warranty registration form filed on (date):

