

KING ARTHUR'S TOOLS®

GUINEVERE®

The FLEXIBLE Finisher

INSTRUCTIONS

Sanding & Polishing with the Guinevere® Flexible Finisher



Instructions for Sanding and Polishing with the Guinevere® Flexible Finisher

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Introduction

Congratulations! You have just purchased one of the finest sanding and polishing kits in the world. The Guinevere® Flexible Finisher is a total system for final sanding, waxing and polishing. Guinevere sanding sleeves are made of highly flexible, top quality abrasive cloths, ensuring an extremely long life for each sanding sleeve. They are excellent for wood and may also be used to finish metal, bone, horn and other materials.

GUINEVERE PUTS FUN INTO FINISH WORK

For finishing and polishing, the cloth and brush sleeves not only do a fantastic job, they greatly reduce labor when applying wax and buffing. Used correctly, Guinevere will virtually eliminate hand sanding. By following these instructions you can easily achieve an incredible finish not even possible with hand polishing. For more information, view our entertaining DVD after reading these instructions.

TIP: For best results, you must gradually change the grit size of the sanding sleeves - progressing from coarse to extra fine - in order to achieve a velvet smooth surface on wood.

Read This Before You Start!

Air Pressure - The correct air pressure in a Guinevere inflatable sander is crucial for optimum function. It is usually best to have ***as little air in the sanders as possible*** so the sanding sleeves do not wander. Please note that a little extra air surge (one half to one full thrust or pump) is used when inflating sanders for the very first time. The air pressure in normal use is as low as 8 pounds per square inch (psi).

INFLATING AND DEFLATING THE SANDERS - Detailed instructions for inflating and deflating the four different sanders are outlined below.

Inflating and Deflating Sanders

1. **TO INFLATE:** Firmly hand tighten the nut on the shaft of the sander, making sure that the rubber bulb is centered under the large washer. Place sanding sleeve over bulb. For the short and long sander, slide down with ends protruding equally at the top and bottom. For the round sleeve, slide it down until the small rubber dimple on the tip of the bulb projects through the hole in the top of the sanding sleeve. Insert the shaft of the sander securely into the throat of Guinevere's hand pump.

2. Hold the sander and pump in the same hand while pumping with the other hand as shown. Pump with small thrusts. It is always best to have as little air in the sanders as possible but enough so the sleeves don't move. One–two thrusts should suffice (8 psi).

3. To deflate the round, short and long sanders squeeze the bulb firmly around the circumference with thumb and index finger and unscrew the nut maximum one full turn. While still squeezing the bulb, take hold of the shaft of the sander and wobble it back and forth. This will allow the air to escape while preventing the bulb from popping out over the washer. If it does pop out, take the nut off, pull the bulb off, remove the washer, pull the bulb on over the metal rim of the sander again, and replace the washer and nut. This process only takes a minute.

Drum Sander Part #11351

Use the Allen key at the top of the sander to tighten (before inflation) and untighten (to deflate) the drum sander. *All other instructions for sleeve fitment and inflation are the same as above for the other sanders.*

1. **Grip the sander with your thumb, index finger, and middle finger.**

2. **Insert the pump on the drive shaft and then grip the pump using your ring finger and little finger.**

3. **Pump 1–2 times with small distinct thrusts.**

TIP: Hold the Guinevere sander and pump in one hand and pump with the other hand.

Long Drum Sanders *(8mm air shaft diameter vs 6mm for round, drum & short sanders)*

1. **TO INFLATE:** Tighten the brass ring on the micro pump until it is finger tight.

2. Loosen the brass fitting on the micro pump by turning it two half revolutions counter clockwise to allow sufficient space for the shaft to be inserted into the brass fitting.

3. Place sanding sleeve over rubber bulb and slide it down with ends protruding equally at the top & bottom.

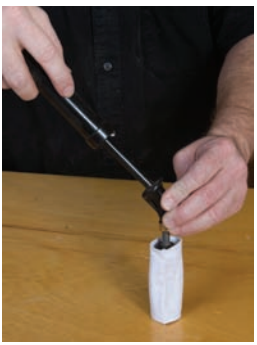
4. We strongly recommend you fully extend the pump handle before inserting the shaft of the sander securely into the pump.

5. Inflate using same hand positions as described and shown below or if this is awkward or your fingers are too short, follow steps 1 – 3 and read on.

6. Lay two quarters or same diameter flat washers or spacers on top of each other on a flat table surface. Stand the sander vertically on top so the sanding sleeve protrudes about 1/8" (3.175mm) over the coins/washers and apply 4. above. Apply pressure so that the vertical shaft inserts snugly into the brass ring of the pump.

7. While holding the sander with your left hand, use your thumb & index finger to apply pressure to secure the hand pump and sander. Make sure the shaft of the sander remains inside the brass fitting while pumping.

8. Using your right hand, pump the handle down once. To Deflate: Loosen the nut one full turn and wobble and squeeze the sander until pressure is released.



TIP: Stand the long sander on top of 2 quarters so the sanding sleeve protrudes about 1/8" (3.175mm) over the coins.

Pliancy Test

A simple pliancy test may be performed by pressing the sander together using your thumb and index finger. *It should be easy to press down the rubber and sanding sleeve against the inner spindle.* An alternative test is to take a 3/8" (10mm) dowel or pencil in diameter and press it in the middle of the sander. It should be easy to press the sander together against the inner spindle**.**

Application Pressure

The pressure exerted when holding the sander against the material being sanded affects the result. The abrasive should not be applied too hard, and must be allowed to cut at its own rate. Pressing too hard results in the sanding sleeve rapidly filling with dust and resin while generating heat. The resins react and harden due to the heat and the abrasive grits in the sleeve clog up. Too much pressure may press down fibrous areas that later rise during surface treatment as patchy surfaces.

Using a Guinevere inflatable sander at normal inflation pressure *(i.e. filled with very little air),* allows the sander to press against the material so that the rubber body fits itself to the material it is touching. This means that the rubber is pressed together from about 3/16" (5mm) on the short inflatable sander to about 3/8" (10mm) on the drum sander. *When the sander is properly inflated, it will sand into and around the material it is pressed against.*

Releasing Air and Removing Sleeves

Releasing air from the short, long and round inflatable sanders can bring about an unexpected "banging" noise. To avoid this and simplify the sleeve replacement process, proceed as follows:

Grip the Guinevere sander in one hand (e.g. left) and squeeze quite hard. While doing this, loosen the nut two turns with your other hand. Using the left hand, grip the drive shaft and wiggle it to and fro. Continue to squeeze gently as the air is released. *Drum, long and short sanders may also be deflated using the Allen Key.*

Take care to ensure that the rubber remains under the edge of the washer before retightening the nut by hand. The sander is now ready for the next sanding sleeve.

Fitting Brush Sleeves and Cloth Sleeves

The instructions for mounting, inflation and deflation of brush and cloth sleeves are the same as for the sanding sleeves.

Bulb Dimensions

Long Drum #11371 – 1"W x 3"L (25mm x 76mm)
Drum #11351 – 1 3/4"W x 1 3/4"L (45mm x 45mm)
Small Drum #11361 – 3/4"W x 1 1/4"L (19mm x 32mm)
Round #11341 - 1 3/4"W x 1 1/2"L (45mm x 38mm)
Small Round #11361SR – 3/4"W x 3/4"L (19mm x 19mm)

Cleaning Stick

Whenever sanding sleeves become clogged, use the cleaning stick to increase the life of each sleeve. *Regular cleaning can extend sleeve life by between 10 to 15 times.* Turn the motor on and position the cleaning stick at the top of the sanding sleeve. Use any corner of the cleaning stick to press against the sleeve then at a medium pace and light pressure, pull the cleaning stick back down the sleeve. This motion rapidly removes wood dust.

Alternatively, hold the cleaning stick steady in one hand. With light pressure pull the sanding sleeve from bottom to top. In both examples, repeat as necessary until the sleeve is cleaned. A little practice will give you the feel and speed at which to pull the cleaning stick from top to bottom or bottom to top.

Sanding Tips

1. *Direction of Sanding* - Wood fibers follow the tree's longitudinal direction. They are woven together by diverse binding agents. At times you can experience wood as fibrous especially in the soft wood species. This means the wood is absolutely strongest in the direct of the grain, which has a great significance when choosing the material for your product. Frequently it can be difficult to determine the fiber direction on a piece of wood. Planks are always sawn in the fiber direction. When you sand you should also follow the longitudinal direction of the fibers wherever possible. When you sand across the fibers they are cut off, forming sharp edges.

The most attractive wood pattern is usually found in burls, knots, root systems and deformities. These are often ideal for bowl-shaped items. The fibers usually run in all directions and it is not important in which direction you sand. With end grain, efforts should be made to sand "downhill". It is also important to move the sander all the time using even and smooth movements.

2. *Undulations (waves)* - There are always some fibers that are livelier than others even when the final sanding has been done. This may be because certain fibers absorbed water more easily than others or due to sanding with a heavily clogged abrasive sleeve resulting in fibers being pressed down on the surface. Also, the belief that by pressing hard improves the sanding result is incorrect. These lively fibers usually protrude when you subsequently treat your product with oil or varnish. In the worst case the wood can be completely patchy, but normally the surface is slightly furry.

The furry, downy surface is hardly visible, but you can clearly feel it with the tops of your fingers. It is sanded off using extra fine grit 320 sanding sleeve or possibly grit 220 for lacquer work. You can further attract the lively fibers out by applying warm water on a damp cloth over the surface so it is slightly moistened. This dampening of the wood surface is important when you want a lasting velvet surface. Sanding the wood surface requires some care so that only the raised fibers are sanded off. The moistening affect is lost if you sand more.

Uses for Guinevere

Guinevere can generally be used for all types of woodworking applications. A small proven list include woodcarving, 3D Intarsia, wood turning, furniture finishing, didgeridoos, drums, refinishing pieces such as frames, billiard tables, distressed and tired furniture, wood window frames, polishing silver and a multitude of other D-I-Y projects. It has also been used for polishing chrome on cars and motorcycles as well as bone, burl, horn and antler knife handles. The Detail Sanding and Polishing Kit is especially well suited to 3D-intarsia, a craft that is based on joining together pieces of wood from different tree species in different dimensions to create a three dimensional piece of art. In addition to the wood, you need a pleasant pattern, a jig saw, and the Guinevere Sanding and Polishing System.

Three Stages of Finishing Work

1) *Final Forming* - Before any polishing is started, you need to complete the final forming and shaping of the work surface. We have chosen to call this forming for the simple reason that we are doing final shaping in removing material rather than “improving” the surface. Another reason is that the Guinevere inflatable sanding system replaces a number of different tools such as rasps, files and cutting tools such as knives, chisels, etc. For final shaping and forming, first use the course 80 grit sanding sleeve on our inflatable sanders. This process can sometimes take a little longer to achieve but is easily recovered when it comes to the final sanding stage.

2) *Sanding* - Most people dislike sanding and the enormous amount of time and energy it takes. Using the Guinevere inflatable sanders, the aim is to achieve that special velvet wood surface as quickly as possible. It is a job that primarily consists of using Guinevere sanding sleeves in grit graduations of medium (150grit), fine (220 grit) and extra fine (320 grit).

The Guinevere sanding system significantly shortens sanding time when compared to other conventional methods. *It actually becomes fun and a lot less labor intensive. Who woulda thunk it! Sanding? Fun?!* In many cases several days of laborious hand sanding can be reduced to hours! There is no comparison to using the quietness and ease of the Guinevere machine sanding system to conventional or hand sanding methods.

TIP 1: The inflatable sanders are surprisingly aggressive in comparison with other types of sanding sleeves or when sanding by hand. As soon as you feel the sander is removing too much, switch to a finer grit.

TIP 2: Over very uneven materials where you want an even surface, you should move the sander quickly back and forth so that the tops are successfully sanded down. At this stage during final forming, you should not attempt to achieve an absolute, final finish. There will still be some ridges, especially on the smaller radii which are removed with finer grit. The ridges are clearly visible to the eye, but hardly noticeable to the touch.

TIP 3: On a really finely cut or planed surface, two to three changes in grit size may be enough, for example, 220 and 320 grit. Wood that is turned or carved wet normally requires 120 or 180 grit with initial sanding. Before switching grit size, the surface produced by the previous grit must be completely sanded down and residue removed.

TIP 4: For best results, there are no shortcuts. Final polish with 320 grit on soft woods and hardwoods before starting surface protection.

3) *Surface Protection* - You should exercise care when touching the surface before treatment. Fingers always have a natural layer of grease that can be rubbed into the wood surface. Sanding dust should preferably be removed using a fine brush or compressed air to prevent blocking the now open pores with particles of dust.

After the velvet wood surface has been achieved using the sanding process above, you're ready to complete the final stage, surface protection. Nearly all wood requires some surface treatment that protects against moisture and dirt; however, we wanted to take it further! The inspiration behind Guinevere's Organic Oil Wax was to provide maximum surface protection on finely sanded wood, horn, leather or bone whilst emphasizing the object's own beauty and naturalness, leaving a silky matte surface with a velvet touch AND make it food safe! Please note that the beautiful touch and feel of the velvet wood surface requires a minimum of surface treatment using Guinevere Wax!

Guinevere Organic Oil Based Wax

Guinevere's Organic Oil Wax is a high quality non-toxic product which contains 1) Swedish cold pressed Linseed Oil which dries well and penetrates into the wood, 2) Beeswax and is enhanced with 3) the wax from the Arctic Bearberry Plant *(Arctostaphylos Uva Ursi)*.

Correctly applied, the oil penetrates down into the wood while the wax stays on the surface and forms a protective layer against moisture and dirt, leaving a silky matte finish. We strongly recommend using Guinevere brush and cloth sleeves for waxing and polishing to eliminate laborious hand labor. They also enhance the object's feel and final appearance.

Interesting Facts

A layer of resistant wax covers the Arctic Bearberry plant's small evergreen leaves. The leathery, slightly glossy leaves are filled with wax that protects the plant against extremely cold, barren and windswept mountainous Arctic weather conditions with its short summers and long freezing winters. To make Guinevere oil wax, the Bearberry plant is specially harvested in Sweden's mountains above the Arctic Circle.

Apply wax in small sections

Wipe off surplus

Use brush sleeve to spread wax

Use cloth sleeve to polish

Drying Time

Guinevere's Organic Oil Wax dries in 1–4 days, curing time 2 weeks. It is non-toxic in every stage of drying and can be used safely on objects that come into contact with food. It leaves the wood as natural looking as possible, with an incredibly smooth finish.

Coverage

300ml covers approximately 19-26 sq. ft. (6-8 m2).
50ml covers approximately 3-4 sq. ft (1-1.3 m2)

Applying Guinevere Organic Oil Wax

Guinevere Organic Oil Based Wax is primarily intended as a natural surface treatment on products that have undergone a final sanding finish according to the Guinevere method.

It can also be used as a surface finish on interior refinishing and remodeling projects on wood, e.g. dining tables, furniture, carvings etc., leaving a natural matte finish and emphasizing the wood's own beauty.

1. *Final Preparation:* Complete final sanding with 320 grit. Moisten the wood with a damp cloth to draw up any remaining fibers. Allow it to dry thoroughly and sand off any last fibers. Make sure that any sanding dust is brushed or blown clean from wood surface.

2. *Heating:* It is preferable to first gently heat the wax with a hair drier or hot air gun. Alternatively, the oil paste may be melted by placing it in a jar, then placed in a saucepan with cold water at medium heat. The paste will melt and becomes very easy to apply.

NOTE: *The heating process has several purposes. It softens the paste so that it penetrates deeper into the wood; simultaneously it significantly shortens the hardening and drying time.*

3. *Application:* Rub a thin layer of the oil paste, in small sections, across the entire surface of the wood, leather or horn with a clean soft cloth, rag or paper towel. Wipe off any surplus. Let the oil paste cool off and dry for a couple of minutes.

4. *Using brush and cloth sleeves*: Use a Guinevere brush sleeve to evenly spread and rub the paste into the pores of the object. The object of using a brush sleeve at this point is not to increase gloss but to evenly spread the oil paste over the entire surface. Remember that the surface is still rather uneven even though you cannot see this with the naked eye.

To increase gloss, or for a more lustrous surface shine as well as further improve surface protection, you can apply Guinevere wax in one or more additional layers. Each layer should be applied thinly and left to dry for a couple of days before the next layer is applied. After each application, wax the surface with a brush sleeve when the oil has dried and hardened a little. The oil paste dries relatively quickly and objects can be used as soon as the surface feels dry.

The actual hardening time is about two weeks. During this period, the surface dries gradually leaving a superior protective finish. The amount of layer differs depending on the type of wood. On wood that is not too porous a third layer of the Guinevere oil paste tends to settle as a film on the outside of the wood. Film formed surfaces should be polished with Guinevere cloth sleeves after they have dried and hardened.

F.A.Q.

Q. ***What if my sanding bulb will not hold air or has a very slow leak?***

A. Pump up the bulb, place it in water and find where the bubbles are coming from. If they come from the top or bottom of the sanding bulb by the screw flange you do not have your bulb sealed properly. Loosen the screw, reline the bulb and tighten. If the bubbles come from the bulb itself, you have a hole in it. Take the bulb off the shaft, turn the bulb inside out and repair it with a bicycle patch. If the bubbles come from the top of the stem where you pump air into the sanding bulb, you have trash in the valve. Take the bulb and peel back the rubber valve inside, clean debris from under the rubber sleeve and then reassemble.

Q. ***How do I get the Allen Key to loosen the bottom screw on the drum sanders?***

A. Always clean out the Allen head screw on the 2" drum sander. This screw head gets full of sawdust and prevents the Allen Key from getting a good "seat" in the socket. This will eventually round out the socket, making it difficult to release the air from the sanding bulb. You can blow the socket out with air, or use a large needle or dental pick to get packed in sawdust out of socket.

Q. ***What if I stripped out the hex hole on the drum sanders trying to release air?***

A. Take the screw off and cut a line in the middle of the screw top using a hacksaw or small metal cutting blade. Cut just deep and wide enough for you to use a standard screw driver to tighten and loosen the screw.

Q. ***How can I keep from pulling the motor off the work bench as I work?***

A. Attach the Guinevere motor to a scrap piece of 3/4" thick plywood that is a little larger than the base of the motor (about 6" square). This will make it easy to secure the motor, by clamping or screwing the plywood to your workbench.

Q. ***I misplace the sanders as I work; what's a good method to store them?***

A. Drill a few holes in the plywood that you have mounted the motor to and with a 1/4" drill bit, drill holes to accommodate the sanding drums, chuck key and Allen Key.

Q. ***How can I stop the Flex Shaft from getting a bad bend at the motor as I work?***

A. Attach the Guinevere motor to a scrap piece of 3/4" thick plywood that is the exact size of the base (5" X 5-1/2") Affix a 5" Lazy Susan bearing to the plywood attached to the base, and then apply a larger piece of 3/4" thick plywood to the Lazy Susan bearing. Once clamped to your workbench, the Guinevere system will swivel with you as you work.

SAFETY

There is a risk of cloths and paper saturated in linseed oil spontaneously combusting. You should flush any paper you have used down the toilet or burn it – safely! After use, Guinevere brush and cloth sleeves should be kept fully sealed in glass jars.

Surface Treatment *Surface treatment is a science in itself!* Rough and poorly sanded wood surfaces require a great deal of treatment; however, any wooden surface can be treated in many different ways. They may be painted, stained, varnished, steeped in lye, oiled, waxed, glazed, tarred, vitriol treated or French polished.

Additional Information Regarding General Surface Treatment

Generally you can divide surface treatment into two groups: 1) Surface impregnation treatment and, 2) Film forming surface treatment.

SURFACE IMPREGNATION TREATMENT

Surface impregnation treatment in liquid form penetrates into wood. It protects against water and other forms of attack on the wood in the form of decay. It is in this group you find the large majority of surface treatments that come directly from the vegetable kingdom and which we could call natural. This generally includes different types of oils like linseed oil, walnut oil, etc). Stains are also found in this group as well as glazes and even tar.

We recommend Swedish cold-pressed linseed oil, which has very good protective qualities. This is pressed from the same type of linseed that we find in different types of food dishes - thus it is completely organic and non-toxic. It can also be used on bowls and spoons that come into contact with food. Cold pressed linseed oil is thin-bodied and has small molecules that penetrate deep down into the wood. It is important to wipe off all surplus oil once you have saturated the wood with oil as linseed oil forms a skin. One disadvantage of linseed oil is that it has a long drying and hardening time. The Swedish cold-pressed linseed oil, which contains a high content of linoleic acid, and which we use in Guinevere Organic Oil based Wax has a relatively short drying time, about five (5) to eight (8) days depending on the temperature and air humidity. Remember that different forms of treated oils offering short drying times have toxic additives, which should not come in contact with foods.

FILM FORMING SURFACE TREATMENT

This is, as the name implies, a surface treatment that settles like a film on the outside of the wood. High gloss surfaces require film forming surface treatment. This finish is either the type that places itself like a tight lid on the wood surface or one that can breathe. The tight forming ones are mainly synthetic, not permitting wood to "breathe", e.g. acid-resistant or polyurethane lacquers, colored or uncolored. These treatments when new are very strong and protect against dirt and moisture. The disadvantages are that 1) they also lock any moisture in the wood and 2) by not allowing the wood to breathe it breaks the wood's hygroscopic character, i.e. its natural ability to adapt to the surrounding moisture.

If the wood is not sufficiently dry it can rot from the inside. Sooner or later small cracks or checks can occur in the surface treatment through which moisture can penetrate into the wood.

Discoloration can then occur around these cracks. It is difficult to then repair sealed surface finishes. The surface usually needs to be sanded down to bare wood and a new finish applied.

Film forming surface treatments that allow the wood to breathe come in different types of waxes and natural resins. They are not as resistant as sealed surface treatments, yet are significantly more durable and easy to maintain. Wax surfaces are usually polished in several layers and with that the degree of gloss increases. The most common waxes are beeswax and carnauba wax; the most common resin is shellac. Organic Oil Based Wax is reinforced with the wax from the Arctic Bearberry Plant *(Arctostaphylos Uva Ursi).*

GUINEVERE® Parts & Accessories

Part #	
11300	Sanding & Polishing Motor
11395	Sanding & Polishing Motor 220 Volt
11320	Hand Pump
11321	Swedish Organic Wax 50 ML
11322	Swedish Organic Wax 300 ML
11331	Cleaning Stick

11341 Inflatable Round Sander

11342	4 Assorted Round Sleeves
11343	3 Coarse Round Sleeves 60g
11344	3 Medium Round Sleeves 120g
11345	3 Fine Round Sleeves 180g
11346	3 Extra Fine Round Sleeves 320g
11347	Replacement Round Sander Bulb
11348	2 Cloth Sleeves for Round Sander
11349	Brush Sleeve for Round Sander

11351 Inflatable Drum Sander

11352	4 Assorted Drum Sleeves
11353	4 Coarse Drum Sleeves 80g
11354	4 Medium Drum Sleeves 150g
11355	4 Fine Drum Sleeves 220g
11356	4 Extra Fine Drum Sleeves 320g
11357	Replacement Drum Sander Blub
11358	2 Cloth Sleeves for Drum Sander
11359	Brush Sleeve for Drum Sander

11361 Small Drum Sander

11362	4 Assorted Small Sleeves
11363	4 Coarse Small Sanding Sleeves 80g
11364	4 Medium Small Sanding Sleeves 150g
11365	4 Fine Small Sanding Sleeves 220g
11366	4 Extra Fine Small Sleeves 320g
11367	Replacement Small Sander Bulb
11368	2 Cloth Sleeves for Small Sander
11369	Brush Sleeve for Small Sander

11361SR Small Round Sander

11362SR	Small Round Assorted Sleeves
11363SR	3 Small Round 80G Sleeves
11364SR	3 Small Round 150G Sleeve
11366SR	3 Small Round 320G Sleeves
11367SR	Replacement Small Round Sander

11371 Long Drum Sander

11372	4 Assorted Long Sleeves
11373	4 Coarse Long Sanding Sleeves 80g
11374	4 Med Long Sanding Sleeves 150g
11375	4 Fine Long Sanding Sleeves 220g
11376	4 Extra Fine Long Sleeves 320g
11377	Replacement Long Sander Bulb
11378	2 Cloth Sleeves for Long Sander
11379	Brush Sleeve for Long Sander

See our complete line of unique specialty tools for carving, woodworking and more at **KATools.com**

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