

Assembly Instructions For Lancelot® and Squire®

Congratulations and Thank You! You've just purchased one of the world's finest and most powerful cutting accessories.

King Arthur's Tools® (KAT) is pleased to present the first tandem mounted saw chain accessories whereby differing combinations of **Lancelot®** and **Squire®** may be paired together on the same disc grinder.

Our products cut with saw chain teeth and can be dangerous if not used properly. It is important to read these instructions carefully before proceeding further. You will be rewarded with an increased knowledge that allows you to safely enjoy the use of our products and increase your productivity.

Lancelot® and Squire® are efficient, versatile and highly maneuverable tools designed for the rapid removal of all kinds of materials – including WOOD, ICE, PLASTIC, PVC, AND RUBBER. Though primarily designed for the cutting, removal and sculpting of wood, Lancelot® and Squire®, whether used singularly or in combination can be used in a multitude of free form woodworking applications. Some of these include: WOOD CARVING AND TURNING, REMODELING, LOG HOME & GENERAL CONSTRUCTION, MUSICAL INSTRUMENT MAKING, SMALL STUMPS REMOVAL, BOWL & ICE CARVING.

INDIVIDUAL & COMBINATION USAGE PRECAUTIONS

1. When used individually, Lancelot® and Squire® fit most 4" (100mm), 4-1/2" (115mm) and for the European market only, 125mm disc/angle grinders. Models are available in M14(14mm), 5/8"(16mm) or 7/8"(22mm) arbor sizes. *See Diagram 1 - Model Sizes.*
2. **Under no circumstances can tandem mounted KAT accessories be used on 4" (100mm) grinders. When used in a tandem combination, Lancelot® can be matched with another Lancelot® or Squire® blade but only on 4-1/2" (115mm) or European market 125mm disc grinders with M14 (14mm) or 5/8" (16mm) threaded shafts.** They can be paired with the same or different tooth configuration, i.e. Lancelot®: 22 tooth and 22 tooth (22/22), 22/14, 14/14; Lancelot® and Squire®: 22/18, 22/12, 14/18, 14/12.
3. The best tandem combination is to match two KAT accessories with M14 (14mm) or 5/8" (16mm) center holes and the **KAT Universal Nut** which must be used when using this dual blade combination. As an added feature, the Universal Nut is specially designed to easily and safely tighten any other 5/8" (16mm) arbor accessories on your disc grinder.
4. The only other combination is to seat a Lancelot® M14 (14mm) or 5/8"(16mm) blade on the bottom of the threaded shaft with a 7/8" (22mm) on top, using manufacturer's flanged 7/8" (22mm) lock nut to secure both blades.

DIAGRAM 1 - MODEL SIZES

LANCELOT MODEL SIZES *(See tool decal)*

41414 - M14 (14mm) arbor, 14 teeth
41422 - M14 (14mm) arbor, 22 teeth
45814 - 5/8" (16mm) arbor, 14 teeth
45822 - 5/8" (16mm) arbor, 22 teeth
47814 - 7/8" (22mm) arbor, 14 teeth
47822 - 7/8" (22mm) arbor, 22 teeth

2 LANCELOT CHAIN SIZES:

40014 - 14 teeth (*wide cuts, rapid removal*)
40022 - 22 teeth (*quick, clean cuts; finer finish*)

SQUIRE MODEL SIZES

31412 - M14 (14mm) arbor, 12 teeth
31418 - M14 (14mm) arbor, 18 teeth
35812 - 5/8" (16mm) arbor, 12 teeth
35818 - 5/8" (16mm) arbor, 18 teeth
37812 - 7/8" (22mm) arbor, 12 teeth
37818 - 7/8" (22mm) arbor, 18 teeth

2 SQUIRE CHAIN SIZES:

30012 - 12 teeth (*wide cuts, rapid removal*)
30018 - 18 teeth (*quick, clean cuts; finer finish*)

WARNING: FAILURE TO OBSERVE ALL SAFETY RULES, INSTRUCTIONS AND PRECAUTIONS MAY RESULT IN SERIOUS INJURY TO USER OR OTHERS.

INSTRUCTIONS FOR USE

- Recommended for use with disc/angle grinders equipped with constant pressure switch (paddle, dead man or kill switch.)
- Unplug power source from grinder when assembling, cleaning, sharpening or removing the accessory or tool. Grinder switch must be OFF before connecting power.
- **It is EXTREMELY IMPORTANT the safety guard is RESET to the 'CORRECT' position as detailed in these instructions. DO NOT REMOVE SAFETY GUARD OR AUXILIARY HANDLE UNDER ANY CIRCUMSTANCE.**
- Never operate any of our power tools accessories while under the influence of narcotics, drugs or medications. Even if you think you may be capable, if you are not totally sober, fully awake and in absolute total control of your senses, DO NOT even think about turning on an angle grinder or any other power tool with any of our accessories. Period. It's stupid and dangerous.
- Always ensure work piece is securely held in a vise or by clamps. Do not grip or support the work piece with hands, feet or other body parts while using our accessories.
- Always remain in a relaxed but firm and balanced position. Falling or working off balance will lead to possible injury.
- Work gloves, preferably Kevlar® gloves, and closed in footwear (e.g. boots or solid shoes but not flip flops, thongs or bare feet) are highly, highly recommended.
- Always use safety glasses and/or a full face visor during operation.
- At all times, use both hands to operate the grinder: one hand on the auxiliary handle, the other on the rear body of the grinder.
- Never operate the grinder at face height or in any position above your head.
- Inspect and remove all nails, staples and wire obstructions from lumber before carving.
- Never start the angle grinder when the blade/s are in contact with stock material.
- Never put the grinder down until it has stopped completely. Failure to do so could cause the grinder to 'walk', causing injury or damage. Similarly, do not ram the cutting blades into wood to stop it turning prematurely once the power switch is turned off.
- Regularly clean the disc grinder's on/off switch and remove wood shavings and dust. Accumulated debris around and under the switch could clog the mechanism, making it hazardous in operation.
- Only operate Lancelot®, Squire® and any tandem combination of our saw chain blades at a safe distance from others.
- Let the cutting blades do the work. They are fully capable. Do not force tools into the work or apply excessive pressure.
- Keep your hands and face away from the cutting blades face and edge surfaces during operation. Do not reach underneath work or attempt to remove material while the blades are rotating.
- Keep the saw chains clean and sharp by using a 1/8" (3.175mm) or 5/32" (4mm) standard chainsaw or diamond file.
- Always read these instructions in conjunction with the disc grinder owner's manual for additional user instructions and safety rules. We are aware that some manufacturers do not recommend the use of chainsaw type accessories with their angle grinders.

LANCELOT® & SQUIRE® GENERAL SETUP



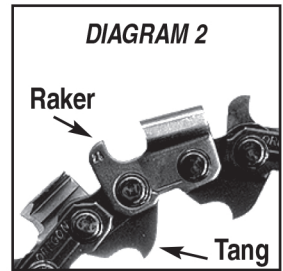
Remove any non-KAT accessory from the disc grinder.

Adjust the safety guard as shown on WARNING - SAFETY GUARD and assemble Lancelot® or Squire® as instructed in CHAIN AND DISC ASSEMBLY.

CHAIN AND DISC ASSEMBLY - Lancelot® and Squire®

1. Remove plastic center fastener. Retain for assembly when not attached to grinder.
2. Place BOTTOM disc on even surface, with the stamped word BOTTOM and directional arrow facing up.
3. Place chain on BOTTOM disc with number 25 or 72 stamped on tang facing down. Ensure chain link tangs fit over disc perimeter, with rakers facing left.
SEE DIAGRAM 2 - CHAIN DIRECTION. If assembled in reverse, saw chain blades will not cut efficiently and will appear blunt during operation by burning the wood.
4. Place TOP disc over chain circlet, with the decal and the side stamped TOP side facing up. Minor adjustment will secure chain between the two plates. *SEE DIAGRAM 3 - ASSEMBLY.* Lancelot® or Squire® is ready for mounting to disc grinder.

DIAGRAM 2



CHAIN DIRECTION

WARNING: DO NOT USE CUTTERS WITH INCOMPATIBLE GRINDERS

Do NOT Use Lancelot® or Squire® Saw Chain Blades, products of King Arthur's Tools®, on any 4" (100mm) angle grinder that requires safety guard modification by drilling an additional hole in the body of the grinder. *This includes any and all 4"(100mm) Makita® grinders that need the safety guard adjusted by drilling an additional hole in the body of the grinder.*

We do not support use of any 4" (100mm) angle grinders as described above.

We do, however, strongly support the use of 4-1/2" (115mm) angle grinders with a constant pressure switch (paddle, kill or dead man switch). **Safety** is our utmost priority and concern, however, under no circumstances will King Arthur's Tools take responsibility for any incident arising from improper use of our accessories or ignorance of our recommendations and instructions.



KATools
UNIVERSAL NUT

KAT Universal Nut

IMPORTANT: You must use the respective Universal Nut whenever tightening Lancelot®/ Lancelot® or Lancelot®/ Squire® tandem combinations with M14 (14mm) or 5/8" (16mm) centers.

The Universal Nut has a 13/16" (21mm) hexagonal head with a flat base which secures pressure evenly over the blades and allows ample locking threads to safely and securely tighten a dual combination. Available in either M14 or 5/8" 11, standard shaft sizes on most major manufacturers disc grinders. Simply tighten with a 13/16" (21mm) spanner, socket, spark plug socket or adjustable wrench. It's much easier and safer than the traditional two pin spanner wrench.

Using Lancelot® or Squire® 7/8" (22mm)

Blades As A Single Accessory

After GENERAL SETUP, place Lancelot® or Squire®, TOP side up, over threaded shaft until seated over 7/8" (22mm) arbor of manufacturer's adapter. Tighten securely with manufacturer's lock nut.

Using Lancelot® or Squire® M14 (14mm) or 5/8" (16mm) Blades as Single Accessory

When using either of the above sizes, insure the grinder's threaded shaft diameter matches the blade center hole diameter. It is generally recommended that the manufacturer's backing plate/adapter is removed so that blade sits on the bottom flange of threaded shaft.

There should be ample and sufficient distance and clearance for safe operation where the cutting teeth and the safety guard come closest. This method is especially recommended for grinders with oversize backing discs that will cause an interference to the depth of cut. Tighten securely with manufacturer's lock nut. If, however, blades touch safety guard, replace the manufacturer's backing plate, remount blade to sit on arbor and retighten.

There must be:

- 1) No movement or slippage of the saw chain between discs
AND
- 2) discs and hain must rotate as one unit.

DIAGRAM 3 - ASSEMBLY

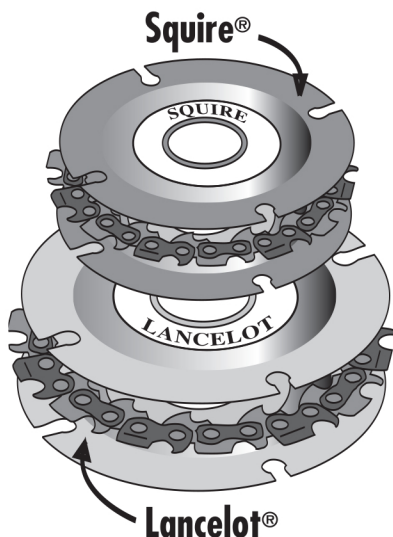
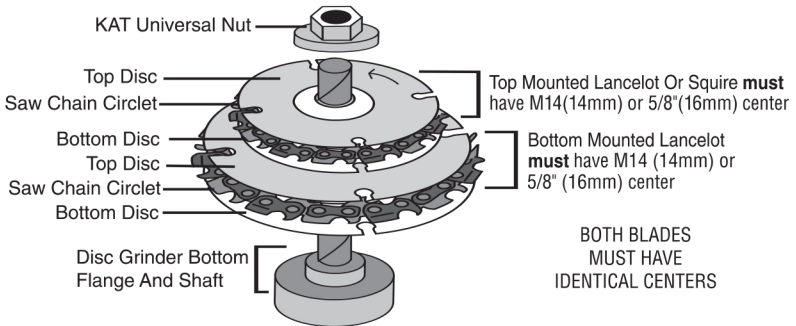


DIAGRAM 4

DUAL BLADE ASSEMBLY FOR 2 LANCELOTS OR LANCELOT & SQUIRE—Using King Arthur's Tools Universal Nut



IMPORTANT: BEFORE BLADE ASSEMBLY, Set SAFETY GUARD Position Per Instructions For CORRECT Position Of Safety Guard

TANDEM MOUNTING - Two Lancelots® or Lancelot®/ Squire® on M14 (14mm) or 5/8” 11 threaded shafts

1. REMOVE THE GRINDER BACKING PLATE - Manufacturers supply a flanged backing plate or adapter to accommodate 7/8” (22mm) accessories on all disc grinders.

When mounting two blades, both with the same centers, either M14 (14mm) or with 5/8” (16mm), remove this backing plate. If plate is not removed, there are insufficient threads on the threaded shaft for the universal nut to lock down this tandem combination. After removing plate, first mount one Lancelot® (NOT Squire®) over the threaded shaft followed by the second Lancelot® OR Squire®. The bottom disc of the top mounted Lancelot® or Squire® sits on the top disc of the first Lancelot® and is tightened with the Universal Nut.



You must use and tighten the Universal Nut with a 13/16” (21mm) spanner or socket, spark plug or adjustable wrench to secure this combination.

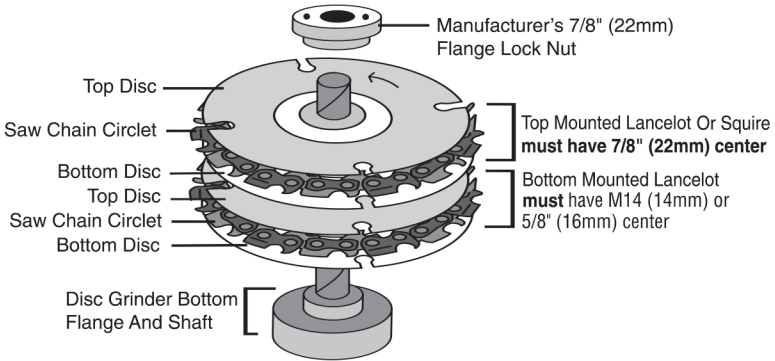
Tighten until one thread or less is left visible on the nut.

There must be 1) no movement or slippage of the saw chains between discs and 2) discs and chains must rotate as one unit.

SEE DIAGRAM 4.

DIAGRAM 5

DUAL LANCELOT ASSEMBLY—Using Manufacturer's Flange Lock Nut



**IMPORTANT: BEFORE BLADE ASSEMBLY, Set SAFETY GUARD
Position Per Instructions For CORRECT Position Of Safety Guard**

TANDEM MOUNTING - One Lancelot® With M14 (14mm) or 5/8" (16mm) Center and One Lancelot® or Squire® with 7/8" (22mm) Center

1. DO NOT ATTEMPT TO TANDEM MOUNT A 7/8" (22mm) LANCELOT® ON THE BOTTOM OF THREADED SHAFT WITH AN M14(14mm) OR A 5/8" (16mm) LANCELOT® OR SQUIRE ON TOP.
2. REMOVE THE GRINDER BACKING PLATE.
3. TIGHTEN WITH MANUFACTURER'S LOCK NUT.

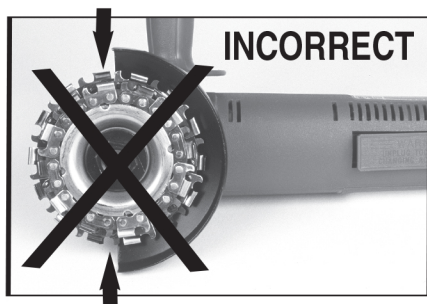
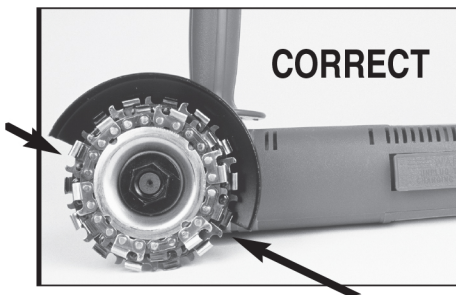
These instructions are generally the same as tandem mounting a dual combination with M14 (14mm) or 5/8" (16mm) centers with the following important exceptions. After removing the grinder backing plate, first mount one Lancelot® (NOT Squire®) with a M14 (14mm) or 5/8" (16mm) center over the threaded shaft followed by the second Lancelot® or Squire® with a 7/8" (22mm) center. Any minor play prior to tightening the nut should be eliminated when this combination is secured. **You must use the manufacturer's Flanged Lock Nut.**

Insert the flange nut face down into the center hole of the top mounted Lancelot® or Squire® and tighten securely using manufacturer's spanner wrenches. As a guide, the top of the nut will be level or below the top of the threaded shaft when secured. There must be 1) no movement or slippage of the saw chains between discs and 2) discs and chains must rotate as one unit. *SEE DIAGRAM 5.*

Whichever tandem combination you have chosen, if you followed these instructions, you are now ready to use one of the finest and most powerful cutting accessories in the world!

WARNING: ADJUST SAFETY GUARD BEFORE USE
UNDER NO CIRCUMSTANCES SHOULD LANCELOT® OR SQUIRE®
BE OPERATED UNLESS THE POSITION OF THE SAFETY GUARD
HAS FIRST BEEN ADJUSTED AS INSTRUCTED.

The angle of adjustment for the safety guard varies with each disc grinder manufacturer. THE MAIN CRITERIA IS THAT THE BOTTOM OF THE SAFETY GUARD MUST BE AS LEVEL AS POSSIBLE WITH THE BOTTOM OF THE BODY OF THE DISC GRINDER. In this position, the SAFETY GUARD WILL ADJUST BETWEEN THE (APPROXIMATE) ANGLES OF 23° and 45°.



**NEVER
OPERATE
WITHOUT
GUARD**

DO NOT REMOVE SAFETY GUARD

- ADJUST SAFETY GUARD 23° TO 45°- LEVEL WITH THE BOTTOM OF THE DISC GRINDER.
- SEE OPERATING INSTRUCTIONS. LANCELOT® AND SQUIRE® ARE DESIGNED TO CUT WITH THE GUARD ADJUSTMENT SET 23° TO 45°.
- WITHOUT THE GUARD RESET, CUTTERS WILL NOT CUT PROPERLY AND POSE A DANGER TO THE USER.

MAIN REASONS FOR THIS REQUIREMENT:

- 1. Safe and efficient operation:** Lancelot® and Squire® were designed to cut with their bottom and partially exposed left side cutting edges. Lancelot and Squire cut on their periphery (cutting edge), different than a traditional grinding wheel or sanding attachment which operates on its side (or face). With the guard rotated to the position stated in these instructions, it opens up the bottom surface of these cutting heads near the bottom of the grinder. This is where a considerable amount of the main cutting is done and is: A) a vital part of its versatility B) allows for optimum cutting utilization in a comfortable and safe position.
- 2. Direction of Waste:** With the safety guard properly adjusted, direction of wood chips and shavings will be angularly deflected over the top of Lancelot® and Squire®, hitting the top of the work piece and away from the operator's hands and face. If the guard is retained at 90°, wood waste is directed upwards toward the hands/face.

DANGERS OF NOT ADJUSTING SAFETY GUARD: Without the guard reset, it is very difficult and dangerous to complete the simplest of cuts and no cutting operation must be attempted. Operating the grinder at 90° forces the user to constantly operate the grinder in an awkward and unsafe manner for which these accessories were not designed.

METHOD OF ADJUSTMENT: Grinders may have two or three adjustable screws (generally Phillips) or a single screw “clamp” securing the safety guard. As a guide to this procedure, lay the grinder face up, remove the lock nut(s) and backing plate, loosen screws, turn the safety guard toward the left and upwards until the bottom of the guard is level with (or as close to) the bottom of the disc grinder and retighten. Refer *CORRECT Diagram*.

Q: What happens if I adjust the safety guard underneath the body of the grinder?

A: You will run into a potentially dangerous situation! We cannot overly stress how important this rule is to adjust the safety guard to the **CORRECT** position. Again, **THE BOTTOM OF THE SAFETY GUARD MUST BE AS LEVEL AS POSSIBLE WITH THE BOTTOM OF THE BODY OF THE DISC GRINDER.** In this position, the SAFETY GUARD WILL ADJUST BETWEEN THE (APPROX.) ANGLES OF 23° and 45°. DO NOT position the safety guard UNDERNEATH the Lancelot®, Squire® or any tandem combination blades at 225° ± and assume it is correct. SEE DIAGRAM 3. If you stupidly turn the grinder on and try to cut with the top of the cutting blade, dangerous things could happen, including immediate and severe kickback which could easily result in serious bodily injury.



Picture this bizarre situation. You buy a motorcycle and the manufacturer asks you to assemble the wheels, then fit the fenders over the wheels before you can ride the motorbike. But you don't follow instructions correctly! What you do is to assemble the wheels correctly but incorrectly position the fenders underneath the wheels, not over them. You then turn the engine on and expect this powerful motorcycle to move forward Surprise, surprise - it won't, but the wheels keep turning freely while the bike is balanced on the upside down fenders.

Compare this to the angle grinder! If you fit the blades correctly but place the safety guard underneath the body of the grinder at 225° ±, you can still cut/shape with the top of the cutting blade albeit, in a very uncomfortable position. But guess what? As soon as the top of the blade touches wood, you may experience an immediate kickback because it's reacting to opposite motor forces compared to shaping with the bottom of the disc (and operating easily and efficiently) when the safety guard is in the Correct Position.

Very simply, the grinder motor runs in a counter clock wise direction and operating it incorrectly as described above creates counter centrifugal forces which may be dangerous to your health! Please follow all directions and use common sense.

**DO NOT USE LANCELOT® OR SQUIRE®
WITHOUT ADJUSTING THE SAFETY GUARD.
If you have difficulty adjusting the safety
guard, call 1-800-942-1300**



3645 Hartsfield Road
Tallahassee FL 32303 USA
850-877-7650 • 1-800-942-1300
www.katools.com