



INSTALLATION GUIDE

Bowl with confidence.



Switch Grip™ Interchangeable Thumb Inserts allow bowlers to have the same fit and feel in every bowling ball they own.

Since it's worldwide debut in 1994, Switch Grip™ has had several revisions, each one better than the last. From larger locking tabs of the Inner Sleeve (320# PSI), improved material strength of components and revisions to the locking ramps at the bottom of the Outer Sleeve, Turbo is the strongest, most reliable, easiest to install and most widely endorsed interchangeable insert product on the market.

Bowling balls are made from multi dense materials which expand and contract with changes in climate. If Switch Grip™ components are tight on initial installation and ball contracts or expands, components will bind and be very difficult to remove. The composition of bowling balls and proper installation are variables in the success of long term use and durability of Switch Grip™. Do not leave bowling equipment in your vehicle, basement, or other storage area for prolonged periods of hot or cold temperatures. This will not only affect use of Switch Grip™ but can ultimately affect the performance of the bowling ball.

USBC and PBA Approved.

Installation of New **Thumb** Assemblies

Pre Installation Tip

Reduce the speed of your drill press to 500-600 rpm. This slower speed will allow better cutting or drill performance. Apply steady, consistent pressure to drill hole. Never use force on the drill as this may cause chipping or scarring of the cover material and/or create insert height variances from ball to ball.

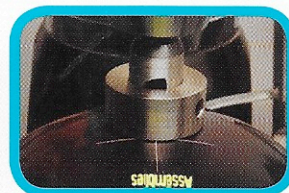
Recommended Installation Procedure

- 1** After you have measured drill specifications, start by drilling a pilot thumb hole of 1 1/4" or 1 3/8". Switch Grip™ requires the use of the 1 1/2" hole for the installation of the Outer Sleeve. The pilot hole will help reduce "wobble" or drift keeping the 1 1/2" drill more centrally aligned. Dense core materials make the drill drift more than softer materials. Drifting typically occurs more toward the bottom of hole when closer to weight block. The pilot hole removes 90% of material ensuring a more consistent hole circumference from top to bottom. **SPECIAL NOTE:** Switch Grip™ is NOT recommended for balls with ceramic cores.



Pitches: Desired pitch should be set and drilled when installing Outer Sleeve. Inner Sleeve should be drilled at same pitch.

- 2** Remove 1 1/4" or 1 3/8" drill and replace with required 1 1/2" drill. Drill through pilot hole to bottom of Auto Depth Stopper. Repeating the same drill depth in every bowling ball is critical to proper installation. To ensure correct drill depth, the Auto Depth Stopper is set on all Straight Shank drills purchased with a Switch Grip Starter Kit or direct from Turbo. If your press does not allow for the use of Auto Depth Stopper, call Tech Support for proper drill depth information.



- 3** Vacuum hole (Turbo Vac recommended) and inspect for residual debris along the edges which will prevent loose material from get jammed into the bottom causing height variance or locking obstruction once Outer Sleeve is installed.

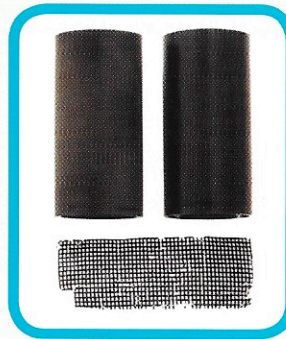
- 4** Before gluing into place, press Outer Sleeve into hole. Outer Sleeve should press easily into hole by hand. Do NOT force. If insert does not fit properly, sand hole with hand sander or run drill bit through the hole again. For high volume Switch Grip shops, we recommend the use of our Reamer Drill. Forcing Sleeve into hole will constrict Sleeve ultimately not fitting or locking into Outer Sleeve properly.

5 Find the Indicator Mark (small notch) on the top edge of the Outer Sleeve. Indicator Mark should be aligned along the center line of the span at 6 o'clock. Because the Inner Sleeve can only be inserted into Outer Sleeve in one direction, the 6 o'clock alignment will ensure the orientation of Inner Sleeve is always the same when interchanging between balls.



6 When you are comfortable with fit and alignment, rough up outside surface of Outer Sleeve with a sanding disk or course abrasive to ensure better adhesion; 80 grit or lower is recommended. Apply Slo Zip gel adhesive to the perimeter of hole being sure that the Indicator Mark is set at 6 o'clock on centerline and push sleeve into hole. Allow 1-2 minutes to set properly and dry.

SPECIAL NOTE: Only Slo Zip or a gel-type adhesive should be used. Do NOT use Turbo Zip Plus or other super glue-type adhesives as they will set up too quickly potentially bonding materials together before installation is complete. Adhesive should always be used sparingly. Excess adhesive may cause damage, weaken locking mechanism or delay drying process. Acetone will melt sleeve material and should not be used.



7 With ball remaining in press, drill chuck can be lowered onto sleeve to ensure an even alignment into hole. Use a block, slug, or handle of mallet to press Outer Sleeve into hole. With Use of a hammer or tapping can cause locking mechanism to pinch or bind Inner Sleeve not allowing it to move freely. Review video installation for recommended method.

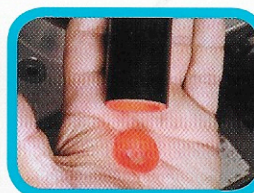
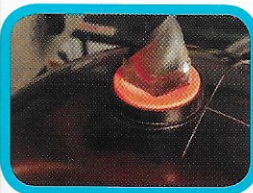


8 If installed properly, a 1/4" of Outer Sleeve will remain above ball surface. Cut this remaining material flush with ball surface (Turbo Plug Cutter recommended). Remove any residual material from edge or hole with Handy Blade, debur tool or by gently sanding. Remove any debris which may have fallen to bottom of hole. (Turbo Vac recommended).



9 Install and lock Inner Sleeve into Outer Sleeve either by hand or use of pliers or channel lock. Inner Sleeve should be securely locked into position to prevent Sleeve from spinning or binding during the drill process. Inner Sleeve can only be inserted in one direction and will lock with 90 degree turn.

10 Drill Inner Sleeve (pre-installed Urethane Solid) to desired thumb size and drill to a depth measurement of 2 1/2" or less. Drill at slow, steady pace paying mindful attention to drill depth gauge. Drilling too deep will cut into lock assembly causing damage by weakening assembly or complete failure.

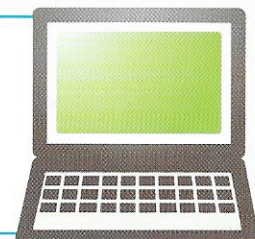


11 Once locked into position, the Inner Sleeve will be sticking up about a 1/4" from ball surface. Like the Outer Sleeve, cut excess material flush to ball surface using a plug cutter or router. If router is used, start at the center and work to the outside. Cut away small portions at a time. (This step can be skipped and performed once the Inner Sleeve has been drilled to the proper thumb size. Pro shop preference.)

Pitches: Pitch measurement is drilled with installation of Outer Sleeve. However, allowable changes in pitch and/or span can be made in Inner Sleeve depending on the size of the thumbhole. **Call Technical Support at 800-530-9878 for assistance.**



Video Installation Guide available on YouTube.com (search Turbo Switch Grip Install Video) or in the video section of our web site at www.turbogrips.com.



Removing a Thumb Insert from Worn Inner Sleeve

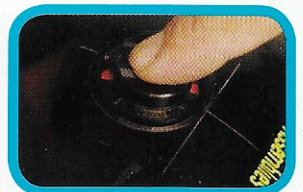
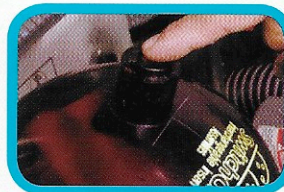
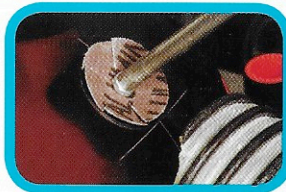
The bevel, shape and/or angle of a thumb insert is very unique to each individual and critical to a bowlers sense of comfort and confidence on the lanes. When an Inner Sleeve is worn and no longer locks securely, it is possible to remove thumb insert from Inner Sleeve component with a few steps. Removal will depend on your ability to index inner and slowly peel away the outer material of the Inner Sleeve.

1. Index thumb insert to identify where the back of the thumb is along the centerline of the grip. An index mark at 6 o'clock will be necessary in re-installation in later steps.
2. Safely secure Inner Sleeve into any stationary, fixed position. Scribe a straight line from top to bottom along outside of Inner Sleeve. A straight edge or span ruler is best to create straight line from top to bottom.
3. With use of a hacksaw blade or sharp bevel knife, cut through outer material down to thumb insert. Use caution as sharp objects can slip and cause personal injury.
4. Pry back or peel outer material away from thumb insert using a flat bladed screw driver.
5. Remove any glue residue from outside of thumb insert by gently sanding and test fit into Blank Inner Sleeve.
6. Install & lock a Blank Inner Sleeve into the Outer Sleeve of customer's current equipment.
7. Cut excess material of Blank Inner Sleeve flush with ball surface. (Turbo plug cutter recommended.) Remove any loose debris from bottom of hole or from around edges.
8. While remaining in locked position, place mark on Blank Inner Sleeve with grease pencil to identify 6 o'clock position along the centerline of span.
9. Remove Blank Inner Sleeve. Gently sand walls of Blank Inner Sleeve with abrasive. 80 grit or lower is recommended. Test fit of thumb insert in the new Blank Inner Sleeve.
10. With the Blank Inner Sleeve removed from the ball, apply an 1/8" bead of Slo Zip adhesive along the inside perimeter of Sleeve. Align the mark on thumb insert with the mark on Blank Inner Sleeve you created, turn upside down and press insert into Sleeve. Leave in this position for 1-2 minutes or until adhesive is completely dry. This will prevent excess adhesive from creeping to bottom of Sleeve, potentially damaging locking mechanism.
11. After drying, test fit of newly assembled Inner Sleeve in ball. To ensure fit consistency from ball to ball, adjust any tightness or stiffness noted in Tips for Replacing Components.

Tips for Adjusting Components

If a customer comes into your pro shop that already has Switch Grip installed, you will want to use the following precautions before installing new components.

1. Make sure new Inner Sleeve fits into existing Outer Sleeves installed in customer's ball. Check the fit when in locked position.
 - a. If Inner is loose, the Outer may be slightly worn but can be shimmed up with a piece of black bowlers tape (strip 1/4"- 1/2" W x 2" L). Use one or two pieces placed 180 degrees apart. This should extend life of Outer Sleeve.
 - b. If Inner Sleeve is tight, two options can be considered; 1 - lightly sand inside of the Outer Sleeve or 2 - sand outer surface of Inner Sleeve. Consideration should be given to the fit of new Inner Sleeve in all balls. If you choose to sand inside of Outer Sleeve, start from top edge working down about 2". After sanding, always re-check fit before drilling or gluing into place. You can also test fit components by inserting Inner Sleeve upside down in Outer Sleeve. This will help identify the area of tightness.
 - c. New Inner and Outer Sleeve components are stiff on initial installation. Use a Switch a Roo Locking Tool to twist Inner sleeve back and forth several times locking and unlocking the assembly. This will help set the tabs of the Inner Sleeve into the Outer to ease use.
 - d. If Inner assembly is still tight after considering the above adjustments, lightly bevel and sand smooth the round opening at bottom of Outer Sleeve. See photo. Test fit and adjust as needed.



Switch Grip™ Finger Assemblies are designed to compliment our **Switch Grip™ Thumb Assemblies** and aid pro shops offering the **Try Before You Buy** service. **Switch Grip™ Finger Assemblies** can also be beneficial to bowlers who suffer from shrinking and swelling fingers. Please follow these simple steps for proper installation:



Installation of New **Finger** Assemblies

1 Preparation. Switch Grip™ Finger Assemblies require a 1 1/8" drill with auto stopper to drill to required depth. Drills purchased direct from Turbo are pre-set to correct drill depth. A slow setting gel-type adhesive and a rough abrasive sanding disk to sand the Inner and Outer Assembly components should be readily available.



2 Calculate Span. Layout the ball and drill the finger holes to the required length of span. Be sure to calculate the wall thickness of grip while inserted into Inner component and subtract measurement from total span.

3 Calculate Pitches.

a. Demo Purposes only – The pitches used for demo balls should be calculated at a lateral angle no less than 7/16 L and 7/16 R. A forward or reverse pitch can be used but forward pitch is generally not recommended as to allow for wider range of bowler use.

b. Drilling for Customers – When drilling for specific customer use, it is important that the sum of the drilling angle of lateral pitches exceeds a total of 7/8". Example: 1/4"L + 5/8"R = 7/8" Acceptable Total. Example 3/8"L + 3/8"R = 3/4" Total Not Acceptable. Though your customer may use these pitches for standard insert use, we can not guarantee the safety and performance of Switch Grip Finger Assemblies because the assemblies may touch below the surface of the ball and be drilled into causing premature failure due to improper installation method.

4 Ready to Drill & Install.

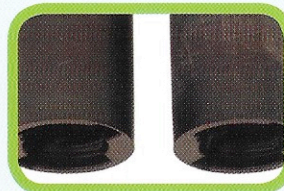
a. Drill 1 1/8" hole using the recommended bit with stopper with recommended pitches. Allow stopper to gently touch surface of ball without scarring the cover stock.

b. Clean all debris from holes. Turbo Vac recommended.

c. Rough up outside surface of Outer assembly with coarse sanding abrasive or screen.

d. Apply a small bead of slow setting adhesive near the surface of the ball to the front and back side of the hole.

e. For demo purposes only, find Indicator Marks or Arrows at the top edge of each Outer component. Marks or arrows should be placed in a parallel direction along the centerline of the span. Place arrow at 6 o'clock position on Left Finger and 12 o'clock position for Right Finger. This will allow for either removable assembly of the same size to be used in either hole as long as the insert styles are oval in shape and lateral pitches are the same and forward and reverse pitches are zero (recommended for demo purposes).



Indicator mark shown at right.

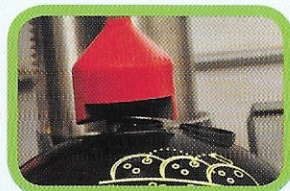


f. For specific consumer use, indicator marks should be aligned at 6 o'clock for both fingers so that bowler is unable to interchange incorrectly.

g. Once aligned properly, press Outer assembly into hole until it hits bottom. Excess force should not be used. Assembly should have modest press fit. Any forced pressure may constrict assembly and cause Inner assembly not to fit properly.

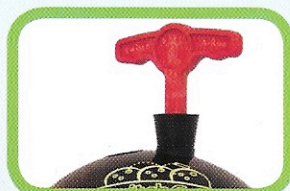
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Routing. If inserted properly, the Outer assembly will stick up on top surface of ball. Use a sharp plug cutter to cut flush with ball surface. Each assembly should be cut separately to prevent damage of adjacent component. Note: "The sharper the plug cutter, the better the final product." Trim or de-burr any excess material left behind in finishing process with a sharp bevel knife or cutting blade.



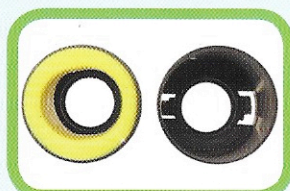
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Installing the Inner Component. Twist and lock the Removable Inner component into place and router down to surface of ball. Cut separately and remove any debris like process noted above. Once complete, remove Inner component and ready to install traditional finger insert.



7

Installing Finger Inserts. Re-install Removable Inner component into Outer component. Note: Only standard $\frac{31}{32}$ " o.d. finger inserts can be used. Insert finger insert into Inner component so that it sits flush with surface of ball. Depending on type of insert used, insert may need to be cut to fit properly. Pull insert back from wall of Inner component and apply a small drop of adhesive to a few contact points just below perimeter edge. Allow to set for 1 minute. Check for fit and ease of removal. Repeat step for other finger. CAUTIONARY NOTE: Use of excess adhesive can bond the Inner and Outer components together. Use adhesive cautiously and sparingly.



TRY BEFORE
YOU BUY



Switch Grip™ is used by many of the industry's leading brands of bowling balls including Brunswick, MoRich, Motiv, Roto Grip, Storm and 900 Global. It's easy. It's affordable and by far the most reliable interchangeable insert on the market making Switch Grip the obvious choice for their popular on-lane demonstrations.

Pro shops worldwide are now getting in on the action and you can too! Expand your service offerings to include Try Before You Buy this season. Try Before You Buy creates a new level of consumer interest and excitement along with a potential new revenue stream with rental income. The possibilities are endless!

Start Up Kit for Finger Assemblies (shown above) now available.

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