

# SCULL HANDLES AND GRIPS INSTRUCTION BOOKLET

## Contents

**Section I: Scull Grip Replacement: Fixed Handle or 10 cm Length Adjustment System**

Refer to this section if you need to replace the grips on your fixed or 10 cm adjustable scull handle.

**Section II: Scull Grip Replacement: 5 cm Length Adjustment System**

Refer to this section if you need to replace the grips on your 5 cm length adjustment system.

**Section III: Replacing Wood Scull Handles with the 5 cm Length Adjustment System**

Refer to this section if your sculls currently have wood handles and you are replacing the handles with the 5 cm length adjustment system.

**Section IV: Replacing 10 cm Length Adjustment System Scull Handles with 5 cm Length Adjustment System Scull Handles**

Refer to this section if your sculls currently have 10 cm length adjustment system handles and you are replacing the handles with 5 cm length adjustment system.

**Section V: Replacing Aluminum Scull Handles with 5 cm Length Adjustment System Scull Handles**

Refer to this section if your sculls currently have aluminum handles and you are replacing the handles with 5 cm length adjustment system.

**Section VI: Replacing Wood Scull Handles with Wood or Composite Scull Handles**

Refer to this section if your sculls currently have wood handles and you are replacing the handles with wood or composite handles.

**Section VII: Required Maintenance of 10 cm Length Adjustment System**

Refer to this section for inspecting, cleaning, and proper maintenance.

**Section VIII: Schematics**

Refer to this section for diagrams of both the 5 cm length adjustment system and the 10 cm length adjustment system.

**Important:** If you would like to remove a bonded composite handle from a scull shaft, please call Concept2 for instructions at 800.245.5676.

Materials Needed	Procedure Overview
<ul style="list-style-type: none"> <li>• Inflating needle</li> <li>• Air Compressor ( a good floor model bicycle pump will work with the help of another person)</li> </ul>	<ul style="list-style-type: none"> <li>• Remove old grips</li> <li>• Install new grips using compressed air</li> </ul> <p><b>Note:</b> If you have narrow composite handles, see instructions on page 2</p>

## Procedure

Scull grips are generally installed and removed using a cushion of air to slide the grip on or off the handle. The more pressure and volume of air between the grip and handle, the easier the process.

### GRIP REMOVAL

Method 1: If the grip is worn out and will be discarded, remove it by cutting it off with a sharp knife.

Method 2: If the grip is to be saved, remove it with compressed air and an inflation needle. Insert the needle into the grip by piercing the end of the grip. (Look for an existing hole. If there is one, use it). Have someone else hold the oar or brace it against something. Start the air while holding the grip, guiding it off the handle.

**Note:** With smaller diameter narrow composite handles the grips may have been glued on. If this is the case, you must cut them off.

### GRIP INSTALLATION

1. Position the oar with the blade wedged against some fixed object or between the floor and the wall. Use padding to protect the blade from damage.
2. Insert the inflating needle at an angle into the end of the grip. See photo A. If a pinhole already exists in the grip, use it.

**Note:** If installing **black grips** start the grip onto the handle. Slip the inflation needle between the handle and the open end of the grip. This allows installation without piercing the end of the grip which can cause black grips to rip.

**Note:** With unvarnished wood handles it will be helpful to seal the round end of the handle. This prevents any air from leaking through the porous wood. This can be done by either varnishing the wood or by applying a thin layer of white glue to the end of the handle. See photo B.

3. Start the grip onto the handle. Holding the needle and grip together as shown in photo C start the airflow while pushing the grip onto the handle. (**Note:** With low pressure or volume of air it may be helpful to lightly squeeze the open end of the grip against the handle to keep the air trapped in the grip. It may also be helpful to twist the grip as you slide it on.)

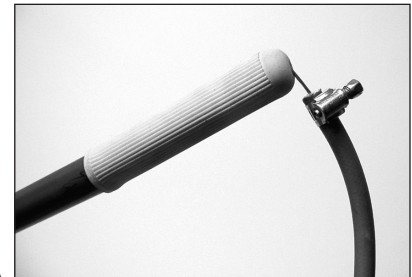


photo A



photo B

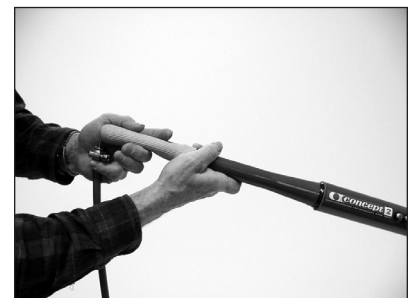


photo C

Procedure continued

4. When the grip is completely on, the needle should be removed while still holding the grip on to avoid the air pressure from pushing the grip back off.
5. If dead space appears at the end of the grip, you may “stroke” it on or reinsert the needle and push it on a little harder and farther. To stroke it on, use the round shank of a screwdriver or some similar smooth object. Pressing hard, rub the shank of the screwdriver along the grip from the tip of the handle toward the shaft. Work your way around the handle until the grip is in position. See photo D.



photo D

**Note: NARROW COMPOSITE HANDLES:**

If you are installing grips on the narrow composite handle you may want to glue them on to guard against possible slipping. We recommend using a gel type of instant glue available at hardware stores. You will not need air. Spread a generous bead of the glue around the end of the handle and around the inside edge of the grip. The glue will act as a lubricant and make it relatively easy to push the grip on, but you must push it all the way on in one motion. If you stop to catch your breath, the glue may set-up with the grip only part way on and you will probably need to cut the grip off and start again. Avoid glue contact with skin.

**Note: TALCUM POWDER**

We suggest you install the grips without using talc (baby powder) or water pressure. Either one can cause the grip to slip after it is in place. If you must use talc as a lubricant, use a light dusting inside the grip.

## SECTION II: SCULL GRIP REPLACEMENT – 5CM LENGTH ADJUSTMENT SYSTEM

PAGE 1 OF 2

Follow Method 1 if you want to replace your grips with Concept2 grips.

Follow Method 2 if you want to install a non-Concept2 grip.

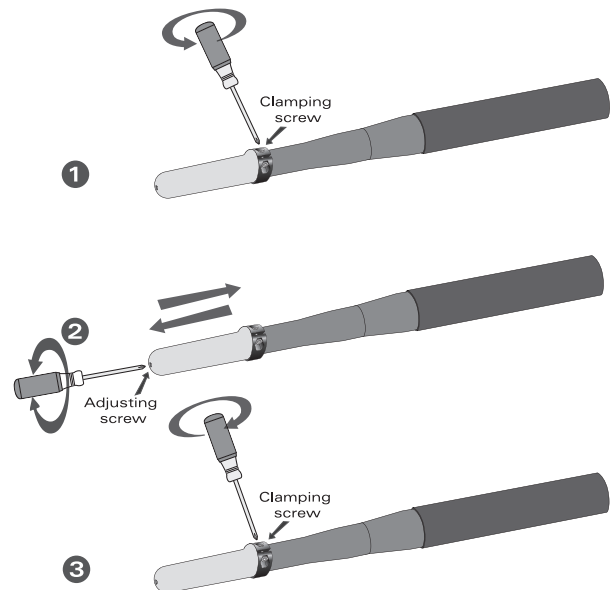
### Method 1 – Replacing your grips and cores with new Concept2 grips and cores.

Materials Needed	Procedure Overview
<ul style="list-style-type: none"> <li>Adjustable grips</li> <li>Screwdriver or power screwdriver</li> </ul>	<ul style="list-style-type: none"> <li>Remove old adjustable grips</li> <li>Install new adjustable grips.</li> </ul>

### Procedure

With the 5 cm length adjustment system, all the adjusting happens at the grip. The easiest way to change grips on this system is to purchase new grips that are already installed on the core of the adjustable grip system. This is true of the green over-molded grips, as well as the blue and black grips we've sold for some time. To replace grips using this method:

- Purchase your new grips and cores from Concept2.  
**Note:** Note the setting on the length sticker before removing grip and core.
- Loosen the clamping screw on the old grip. (The clamping screw is located in the black band of the grip.)
- Unscrew the old grip completely off the oar by turning the adjusting screw.
- Screw the new grip onto the oar. Screw the new grip on until you reach the same overall length as you had with the old grip. **Note:** To ensure the adjusting screw engages the hole in the end plug, use a screwdriver to push in on the adjusting screw while pushing the grip onto the handle.
- Tighten the clamping screw.



### Method 2 - Installing a Non-Concept2 Grip on the Concept2 Adjustable Core or Green Over-molded Grip

Materials Needed	Procedure Overview
<ul style="list-style-type: none"> <li>New grips</li> <li>Screwdriver or power screwdriver</li> <li>Source of compressed air with nozzle</li> <li>Glue - see note on next page</li> </ul>	<ul style="list-style-type: none"> <li>Brace oar</li> <li>Blow new grip onto grips and core</li> <li>Finish installing grip with screwdriver shaft</li> </ul>

Note: We have found that grips installed on the bare adjustable core may slip after time, or if water gets under the grip. For this reason we glue all Concept2 grips to the adjustable core. Grips installed on an adjustable core with an overmolded grip do not seem to have this problem.

If you are putting non-Concept2 grips onto the bare adjustable core, we suggest you glue your grips to the core. We use Locktite 409™. Other glues may work but have not been tested at Concept2. Be careful not to get glue on the head of the adjusting screw or in the area of the clamping screw. Clean any glue residue immediately.

If you use glue you may not need to use compressed air, as the glue acts as a lubricant, allowing the grip to slide onto the core.

## Procedure

If the core is currently installed on your oar, start with Step 3.

If you've just purchased the core from Concept2 and it is not yet installed on your oar, we recommend installing it on the oar for better leverage (start with Step 1).

1. Screw the core onto the oar.
2. Tighten the clamping screw.
3. Check the length of the grips you want to install on the core. If the new grips are longer than the core, use scissors to shorten them. **Note:** If your grips do not have a hole in the tip, you will need to punch a hole in it, approximately 5/16" in diameter. This will allow access to the adjusting screw.
4. Use compressed air to blow grips on core:
  - a. Position the oar with the blade wedged against a fixed object or between the floor and the wall.
  - b. Insert the air nozzle into the hole in the end of the new grip. Start new grip onto core. Holding the nozzle and grip together as shown at the right, start the airflow while pushing new grip onto the core. See photo A.

**Note:** With low pressure or low volume of air, it may be helpful to lightly squeeze the open end of the grip against the core to keep the air trapped in the grip. It may also be helpful to twist the grip as you slide it on.

  - c. When grip is completely on, the nozzle should be removed while still holding the grip on to avoid the air pressure from pushing the grip back off.
5. If dead space appears at the end of the grip, you may "stroke" it on or use compressed air and push it on a little harder and farther. To stroke it on:
  - a. Press hard with the round shank of a screwdriver or some similar smooth object, and rub the shank of the screwdriver along the grip from the tip of the core toward the shaft. See photo B.
  - b. Work your way around the handle until the grip is in position.

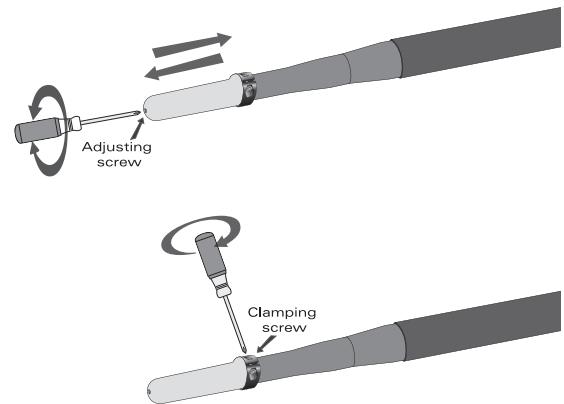


photo A



photo B

# SECTION III: REPLACING WOOD SCULL HANDLES WITH THE 5CM LENGTH ADJUSTMENT SYSTEM

Materials Needed	Procedure Overview
<ul style="list-style-type: none"> <li>• New handle</li> <li>• Tape measure</li> <li>• Sandpaper (80 grit)</li> <li>• Masking tape</li> <li>• Concept2 2-part injectable urethane glue</li> <li>• Rags or paper towels</li> <li>• Drill and 4 mm (5/32") drill bit</li> <li>• Hacksaw</li> </ul>	<ul style="list-style-type: none"> <li>• Remove wood handle</li> <li>• Shorten the shaft</li> <li>• Bond new handle of adjustment system into shaft</li> <li>• Apply length sticker to handle</li> </ul>

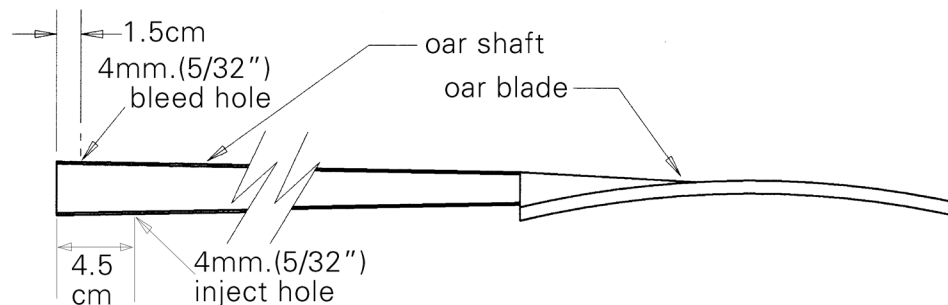
## Procedure

1. Measure and mark the shaft:
  - a. Measure overall length of oar and make a note of it.
  - b. From end of shaft where shaft meets handle, measure 10cm towards the blade and make a mark.
  - c. Wrap masking tape around shaft, placing one edge of tape on mark. This will serve as your cutting guide, so apply the tape uniformly.

photo A



2. Shorten shaft:
  - a. Using tape applied in step 1 as a guide, cut the shaft with a hacksaw. See photo A.
  - b. Sand any rough edges of cut.
3. Wipe inside of shaft and scuff first 5 inches of inside of shaft with sandpaper.
4. With 4mm (5/32") drill bit, drill two holes near end of shaft. See diagram below.



5. Test fit new handles into end of shaft.
  - a. Inside end of handle should be snug in shaft when handle is 1/2" - 1" from final position.
  - b. If handle is loose, remove handle and wrap masking tape around end of handle as needed until fit is snug. See photo B.
6. Check handle and grip orientation:
  - a. Slide new adjustable grip part way onto handle.

photo B



**Procedure**

7. Orient handle in shaft so that clamp on adjustable grip is in same direction as blade face. See diagram at right.
  - a. Push or tap handle all the way into the shaft.
8. Begin gluing:
  - a. Assemble glue gun.
  - b. Apply glue nozzle to drilled hole farthest from handle.
  - c. Squeeze until glue emerges from other hole.
  - d. Wipe up excess glue immediately.
  - e. Ensure clamp on grip is still properly oriented as described in Step 6. Adjust if needed.
  - f. Ensure handle is completely inserted in shaft. Adjust if needed.
9. Allow glue to set for 24 hours.
10. Install new adjustable grips:
  - a. Ensure clamping screw is loose.
  - b. Ensure double keyway on grip aligns with double keys on the handle.
  - c. Slide grip on.
  - d. Use screw- or powerdriver to turn screw in end of grip clockwise until overall length of scull is at the maximum length of your new 5 cm adjustment range. The maximum length on your new range should be set so that you have 2.5 cm on either side of the original overall length you measured in step 1.
  - e. Trim ends of length sticker so that it includes min and max lengths of new range.
  - f. Align sticker with double keyway of grip.
  - g. Apply sticker with current length of scull at edge of adjustable grip. See photo C.
  - h. Turn end screw in grip until you achieve desired overall length.
  - i. Tighten clamping screw.

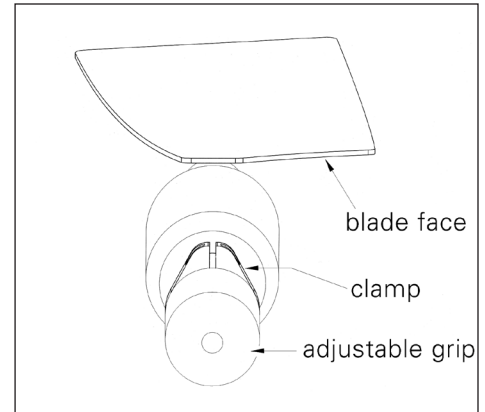


photo C

# SECTION IV: REPLACING 10 CM LENGTH ADJUSTMENT SYSTEM SCULL HANDLES WITH 5 CM LENGTH ADJUSTMENT SYSTEM SCULL HANDLES

Materials Needed	Procedure Overview
<ul style="list-style-type: none"> <li>New handle</li> <li>Tape measure</li> <li>Sandpaper (80 or 120 grit)</li> <li>Masking tape</li> <li>Concept2 2-part injectable urethane glue</li> <li>Rags or paper towels</li> <li>Drill and 4 mm (5/32") drill bit</li> <li>Hacksaw</li> </ul>	<ul style="list-style-type: none"> <li>Ensure overall length of finished scull will meet your needs, cutting shaft shorter if necessary</li> <li>Bond handle of new adjustment system into shaft</li> <li>Apply length sticker to handle</li> </ul>

## Preparation - Determine Overall Length, Range of Adjustment, and Shorten Shaft if Needed

1. Currently, your sculls have a 10 cm range of overall length adjustment. You will have a 5 cm range of overall length adjustment with the new system. This preparation step will help you determine whether you need to cut the oar shaft to achieve the right range of adjustment.
  - a. On the left side of the following chart, find your current 10 cm range of adjustment.
  - b. Look across the same line to the corresponding numbers on the right. The numbers on the right represent your 5 cm range of adjustment post-conversion if you were to bond the 5cm length adjustment system handles into your oar shaft at its current length.

10 cm range before conversion	5 cm range after conversion
282–292	286–291
283–293	287–292
285–295	289–294
290–300	294–299
291–301	295–300
292–302	296–301

**Note:** If your current 10 cm range is not listed above, use the following formula to determine your new 5 cm range:

New 5 cm range = (Short end of current 10 cm range plus 4) to the (long end of current 10 cm range minus 1).

For example, if your current range is 294-304, then your 5 cm range after conversion would be 298-303.

- c. If you need to make the 5 cm range shorter, you can do so by cutting the shaft. Every centimeter you cut off the shaft alters the adjustment range down 1 cm. For example, if your current range is 283–293, and you remove 1 cm from the shaft, your new 5 cm range will be 286–291 vs. 287–292 noted in the chart above. Removing 2 cm will produce a 5 cm range of 285–290, and so on.
- d. It is not possible to make the 5 cm range longer than what is noted in the chart above.
- e. To shorten the range, proceed to step 2. **If the range noted in the chart above is acceptable to you, then proceed to step 1 of the Modification Procedure on page 10.**



## Preparation

2. Mark the shaft:
  - a. At the handle end of shaft, measure the number of centimeters you want to remove. Mark shaft at this location.
  - b. Wrap masking tape around shaft, placing one edge of tape on mark. This will serve as your cutting guide, so apply the tape uniformly.
3. Remove the old handles:
  - a. Loosen the adjustment screws two turns.
  - b. Tap screws down.
  - c. Pull handles and wedges out.
  - d. Completely remove adjustment screws.
  - e. Remove nut plate inside shaft.
  - f. Cover holes with masking tape.
4. Shorten shaft:
  - a. Using the tape applied in step 2 as your guide, use a hacksaw to cut the shaft. See photo A.
  - b. Sand any rough edges off cut.
5. Proceed to Step 2 of the Modifications Procedure.



photo A

## Modification Procedure

1. If you have shortened your shaft, skip to step 2. Otherwise, remove the old handles:
  - a. Loosen the adjustment screws two turns.
  - b. Tap screws down.
  - c. Pull handles and wedges out.
  - d. Completely remove adjustment screws.
  - e. Remove nut plate inside shaft.
  - f. Cover holes with masking tape.
2. Wipe inside of shaft and scuff first 5 inches of inside of shaft with sandpaper.
3. With 4mm (5/32") drill bit, drill two holes near end of shaft. See diagram.

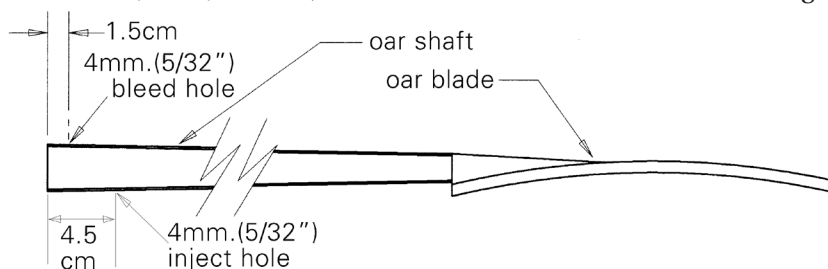


photo B

4. Test fit new handles into end of shaft.
  - a. Inside end of handle should be snug in shaft when handle is 1/2"-1" from final position.
  - b. If handle is loose, remove handle and wrap masking tape around end of handle as needed until fit is snug. See photo B.



**Modification Procedure - continued**

5. Check handle and grip orientation:
  - a. Install new adjustable grip part way onto handle.
  - b. Orient handle in shaft so that clamp on adjustable grip is in same direction as blade face. See diagram at right.
6. Remove grip and push or tap handles in shaft until snug.
7. Begin gluing:
  - a. Assemble glue gun.
  - b. Apply glue nozzle to drilled hole farthest from handle.
  - c. Squeeze until glue emerges from other hole. (If you shortened your shaft, apply pressure on tape over old adjustment holes to prevent glue coming out there.)
  - d. Wipe up excess glue immediately.
  - e. Ensure clamp on grip is still properly oriented as described in Step 5. Adjust if needed.
  - f. Ensure handle is completely inserted in shaft. Adjust if needed.
8. Allow glue to set for 24 hours.
9. Install new adjustable grips:
  - a. Ensure clamping screw is loose.
  - b. Ensure double keyway on grip aligns with double keys on the handle.
  - c. Slide grip on.
  - d. Use screw- or powerdriver to turn screw in end of grip clockwise until overall length of scull is at the maximum length of your new 5 cm adjustment range.
  - e. Trim ends of length sticker so that it includes min and max lengths of new range.
  - f. Align sticker with double keyway of grip.
  - g. Apply sticker with current length of scull at edge of adjustable grip. See photo C.
  - h. Turn end screw in grip until you achieve desired overall length.
  - i. Tighten clamping screw.

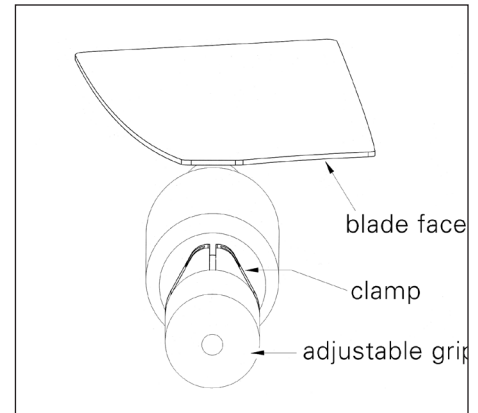
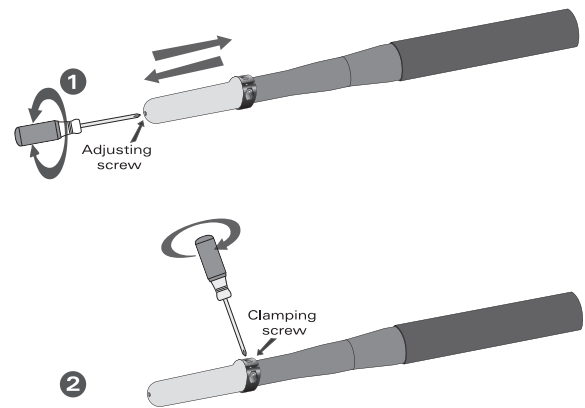


photo C



**SECTION V: REPLACING ALUMINUM SCULL HANDLES WITH 5 CM LENGTH ADJUSTMENT SYSTEM SCULL HANDLES** PAGE 1 OF 2

Materials Needed	Procedure Overview
<ul style="list-style-type: none"> <li>• New handle</li> <li>• Tape measure</li> <li>• Sandpaper (80 grit)</li> <li>• Masking tape</li> <li>• Concept2 two-part urethane glue</li> <li>• Rags or paper towels</li> <li>• Drill and 4 mm (5/32") drill bit</li> <li>• Hacksaw</li> <li>• File</li> </ul>	<ul style="list-style-type: none"> <li>• Remove aluminum handle</li> <li>• Bond new handle of adjustment system into shaft</li> <li>• Apply length sticker to handle</li> </ul>

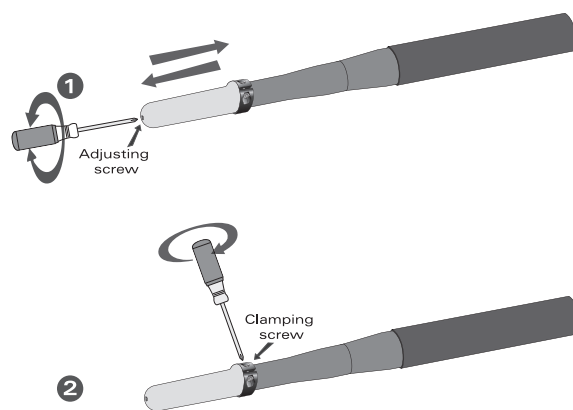
Procedure	
<ol style="list-style-type: none"> <li>1. Measure the overall length of your sculls and make a note of it.</li> <li>2. Remove aluminum handle:               <ol style="list-style-type: none"> <li>a. Use hacksaw to cut aluminum handle off flush with end of shaft.</li> <li>b. Smooth cut with sandpaper or file. Inside edge of cut must be completely smooth (no burrs).</li> </ol> </li> <li>3. Cut 3.5cm (1 3/8 inches) off larger end of new carbon handles (this is to allow them to fit in the shaft with remainder of aluminum handle).</li> <li>4. Wipe inside of shaft and scuff first 3 inches (more if you can reach) of inside of shaft with sandpaper.</li> <li>5. Test fit new handles into end of shaft.               <ol style="list-style-type: none"> <li>a. Inside end of handle should be snug in shaft when handle is at final position.</li> <li>b. If handle is loose, remove handle and wrap masking tape around end of handle as needed until fit is snug. See photo A.</li> <li>c. If handle is too tight, cut more length off large end of handle using small increments, until fit is correct.</li> <li>d. <b>Note:</b> To aid in clean-up, cover end of shaft and end of handle just beyond shaft with masking tape.</li> </ol> </li> <li>6. Slide grip partially on handle. Ensure double keyway on grip aligns with double keys on the handle.</li> <li>7. See glue instructions. You will use half the glue for each handle:               <ol style="list-style-type: none"> <li>a. Mix equal parts of 2-part glue on disposable surface, i.e. cardboard, etc.</li> <li>b. Using mixing stick, spread glue evenly inside shaft and onto portion of handle that will be in shaft.</li> <li>c. Slide handle into shaft, rotating handle while you slide it in to spread glue.</li> <li>d. Rotate handle so clamp on adjustable grip is oriented in same direction as blade face. See diagram at right.</li> <li>e. Push handle into shaft as far as it will go.</li> <li>f. Wipe up excess glue immediately.</li> <li>g. Ensure clamp on grip is still properly oriented as described in Step 6. Adjust if needed.</li> <li>h. Ensure handle is completely inserted in shaft. Adjust if needed.</li> <li>i. Use a strip of masking tape to secure handle in shaft to keep it from moving as glue sets.</li> </ol> </li> <li>8. Allow glue to set for 24 hours.</li> </ol>	<div data-bbox="1055 1092 1477 1365" data-label="Image"> </div> <p style="text-align: center;">photo B</p> <div data-bbox="1055 1554 1477 1953" data-label="Diagram"> </div>

Procedure - continued

9. Install new adjustable grips:
  - a. Ensure clamping screw is loose.
  - b. Ensure double keyway on grip aligns with double keys on the handle.
  - c. Slide grip on.
  - d. Use screw- or powerdriver to turn screw in end of grip clockwise until grip is completely on handle.
  - e. Measure overall length of scull.
  - f. Trim length sticker so it includes the overall length you just measured plus next 5 cm longer.
  - g. Use screw- or powerdriver to turn adjustment screw in end of grip counter-clockwise until oar is 5 cm longer overall.
  - h. Align sticker with double keyway of grip.
  - i. Apply sticker with current length of scull at edge of adjustable grip. See photo B.
  - j. Turn end screw in grip until you achieve desired overall length you noted from Step 1.
  - k. Tighten clamping screw.



photo B

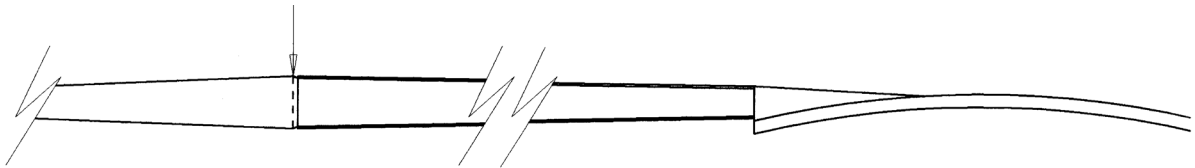


# SECTION VI: REPLACING WOOD SCULL HANDLES WITH WOOD OR COMPOSITE SCULL HANDLES

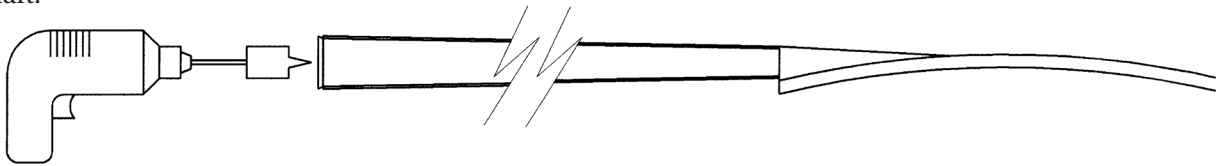
Materials Needed	Procedure Overview
<ul style="list-style-type: none"> <li>• Wood saw</li> <li>• Drill with 1" drill bit</li> <li>• 4mm (5/32") drill bit</li> <li>• Hammer</li> <li>• Chisel</li> <li>• Knife</li> <li>• Coarse sandpaper</li> <li>• Concept2 2-part injectable urethane glue</li> <li>• New handle (from Concept2)</li> </ul>	<ul style="list-style-type: none"> <li>• Cut off old handle at the shaft</li> <li>• Chisel out remaining wood from the shaft</li> <li>• Check and adjust fit of new handle</li> <li>• Inject glue</li> </ul>

## Procedure

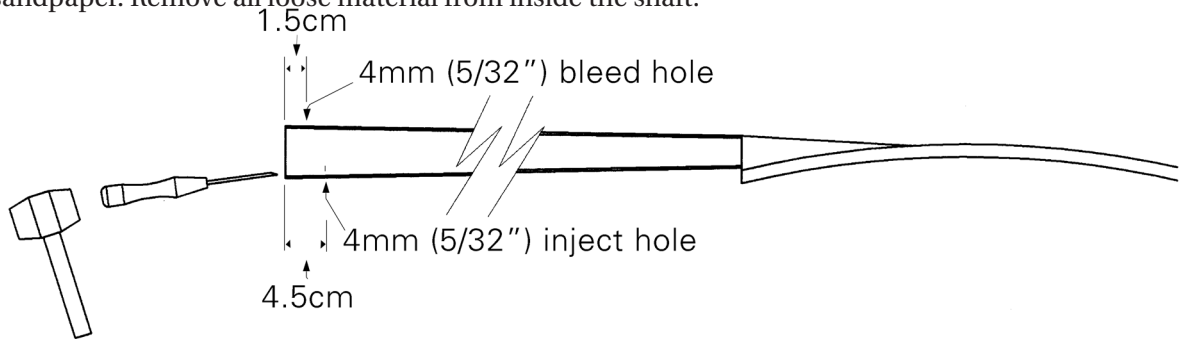
1. After measuring and noting the length of your oar, cut off the old handle at the end of the shaft.



2. Drill a large hole through the center of the remaining wood (3"-4" deep). Be careful not to damage the shaft.

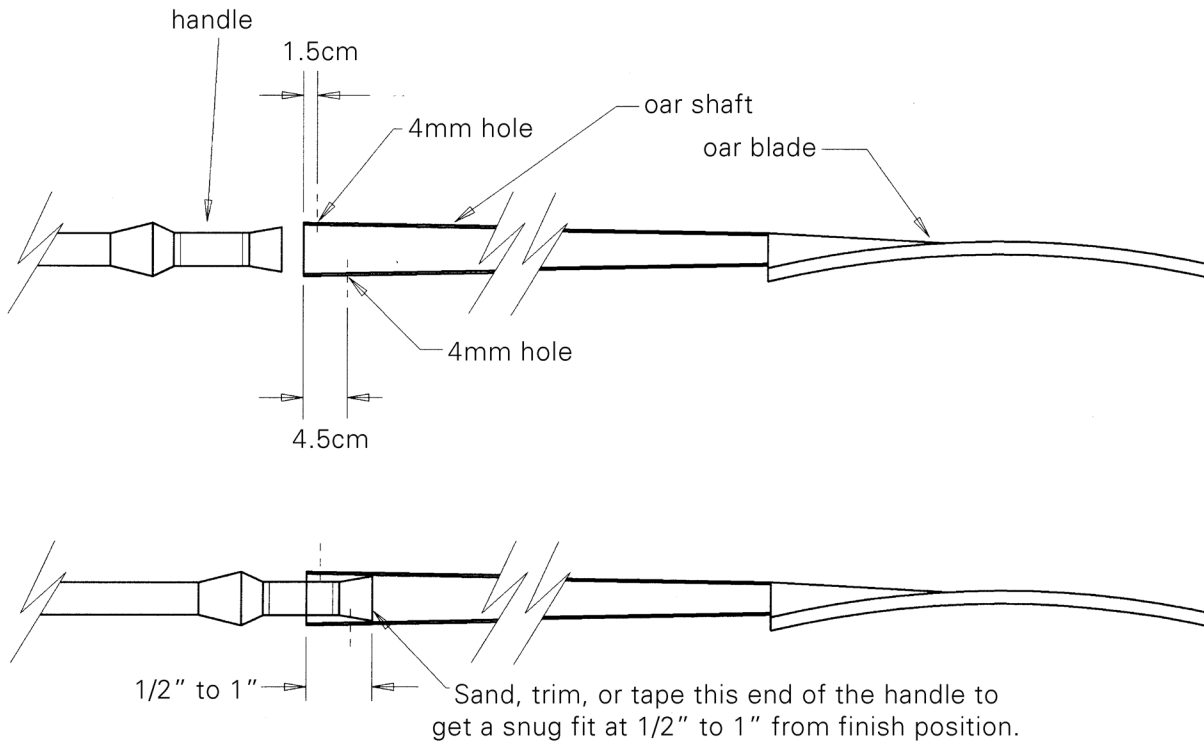


3. Chisel all of the remaining wood and glue from the inside of the shaft, doing a final clean-up with a knife and sandpaper. Remove all loose material from inside the shaft.

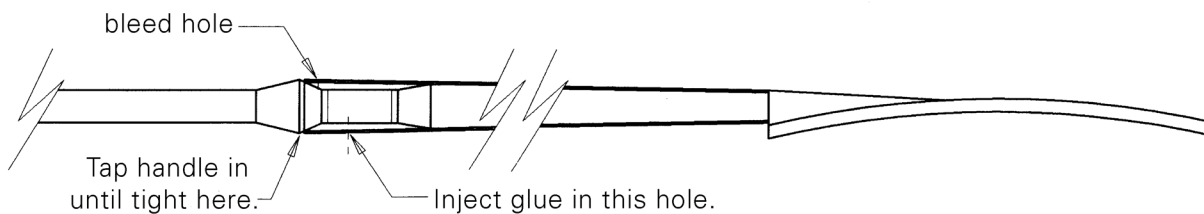


4. Drill the glue injection and bleed holes as shown in the drawing.  
**Note:** These holes may already be drilled but may need cleaning out.
5. Test and correct the fit of the new handle. Wooden handles should snug up about 1/2" - 1" from the final position. Use sandpaper or masking tape on the inside end of the handle to achieve this fit, then tap the handle the rest of the way in with a hammer. Composite handles should also snug up at about 1/2" - 1" from the end and can be taped if they are too loose. If it is too tight, the inside end of the handle should be trimmed in 1/8" increments to achieve the correct fit. Tap the handle home with a hammer. Check the overall length of the oar before gluing.

Procedure - continued



6. The handle is now ready to be glued. Follow the adhesive instructions for the Concept2 2-Part injectable urethane glue.
7. Inject the glue into the inject hole as indicated until the glue flows from the bleed hole.  
**Note:** The glue flows slowly and you should not try to inject too quickly.



8. After the glue has set up (one hour), proceed with adjusting the final length of the handle by cutting the handle to desired length with a hacksaw.
9. Install the end cap into the end of the handle and install grips.

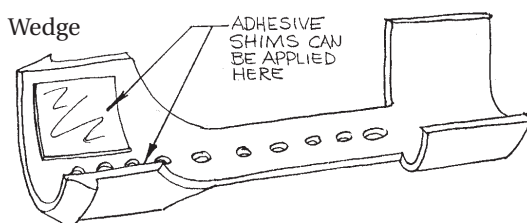
## SECTION VII: REQUIRED MAINTENANCE OF 10 CM LENGTH ADJUSTMENT SYSTEM

**Note:** Proper maintenance of the 10 cm length adjustment system will greatly prolong the life of this system. You should remove the handle for maintenance at least once a season, more often if you row in salt water. Inspect and clean the handle parts each time you adjust the length of the oar.

Materials Needed	Procedure Overview
<ul style="list-style-type: none"> <li>• Phillips screwdriver</li> <li>• Paper towel or rag</li> <li>• Oil (machine or mineral oil, Concept2 chain oil)</li> <li>• Shims for wedges</li> <li>• Krazy Glue™ or Super Glue™</li> </ul>	<ul style="list-style-type: none"> <li>• Check for handles that are too loose or too tight, adjusting if necessary</li> <li>• Inspect and clean the handle and parts of the adjustment system</li> <li>• Replace any worn or broken parts</li> </ul>

### Procedure

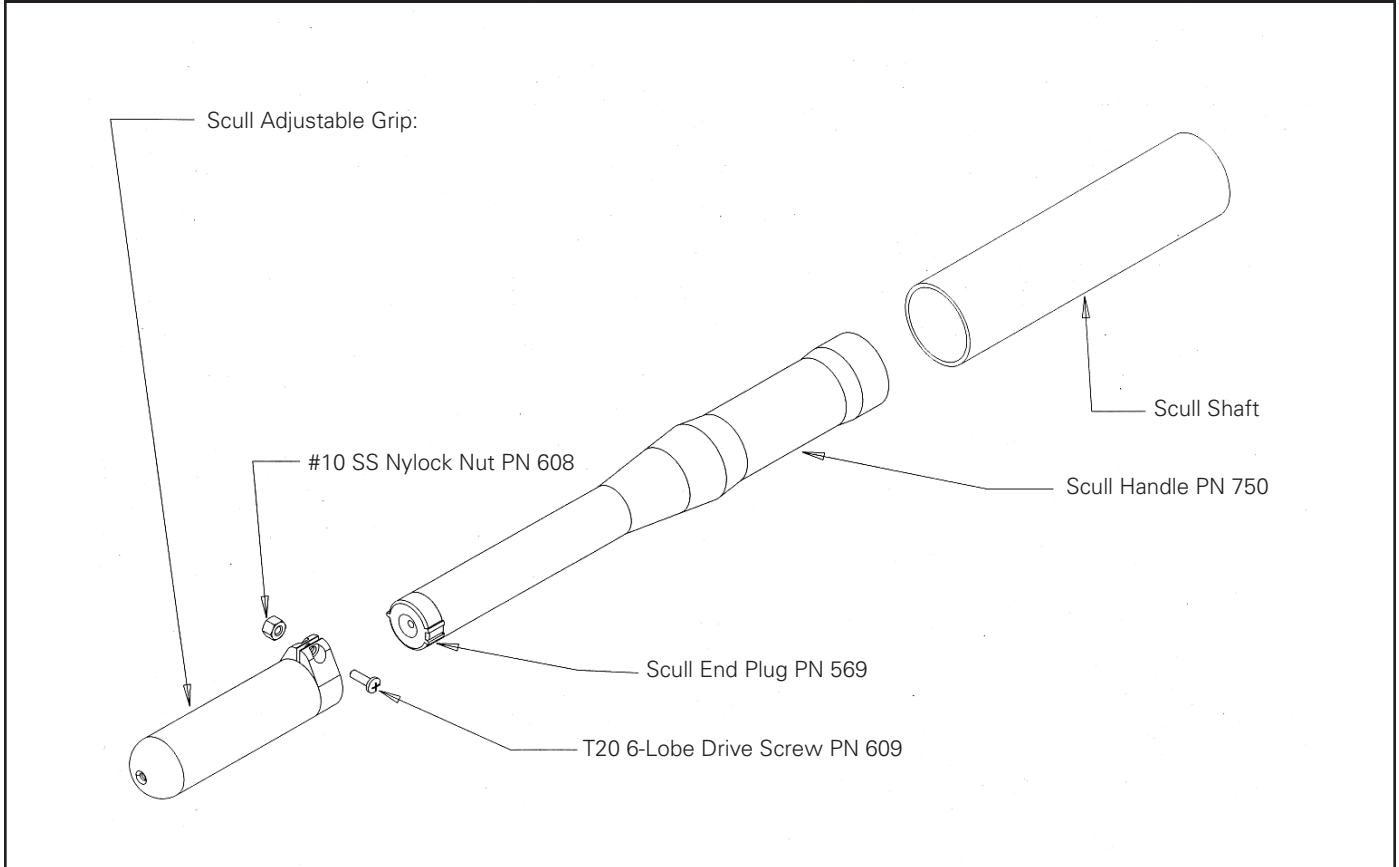
1. Loosen the handle screws with four complete turns and gently tap them down flush to disengage the internal nut plate from the handle slot.
2. With the screws loosened, support the shaft and wiggle the handle to check for looseness in the shaft. If it is loose you will need to adjust the fit. Refer to # 9 below.
3. Before removing the handle from the shaft, note the length setting for reassembly. If the handle does not come out, have someone else hold the shaft end of the oar on a stable surface while you ease the handle out. If the handle does not come out, call Concept2.
4. Check the condition of the handle screws. If they did not function smoothly, remove completely and clean and oil them, or replace both the nut plate and screws. **Note:** If the screw heads are damaged but the threads function smoothly, replace one screw at a time, avoiding reassembly of the internal nut plate. Be sure to tighten one screw before removing and replacing the other screw.
5. Inspect and clean the wedges (see drawing below) and the inside of the oar shaft. The wedges are fitted for snugness using thin plastic shims.
6. Inspect the handle, especially the slot, for excessive wear. If you are working on a sweep oar, ensure the two black plastic nubs on the nut plate that engage the wedges are in good condition. A scull nut plate does not have the nubs. If the condition of the handles, parts, or the inside of the shaft is a concern, contact Concept2.
7. Lightly oil the screw threads. Select your length and reassemble, making sure the handle goes back into the shaft from which it came.
8. It should take about 10 lbs. of force to push a clean handle completely to the seated position. If it is too tight, there may be dirt on the handle, shaft or wedges. If a clean handle is too tight, you can adjust the fit by removing one or more of the plastic shims on the wedge.
9. If the handle is too loose, you can add shims (available from Concept2) to the wedges in the location shown in the drawing below.



The shims are adhered to the wedges using Krazy Glue™ or Super Glue™. Concept2 recommends that you use four shims at most (two on each wedge). If the handle is still loose with four shims, contact Concept2 about possible fixes, which include bonding the handle to the shaft or retrofitting the 5 cm length adjustment system.

10. Tighten the two handle screws.

## ADJUSTABLE SCULL HANDLE PARTS - 5CM LENGTH ADJUSTMENT SYSTEM



## ADJUSTABLE SCULL HANDLE PARTS - 10CM LENGTH ADJUSTMENT SYSTEM

