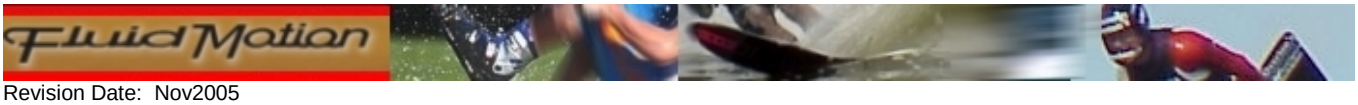


Revision Date: Nov2005

FM Course Record Fin System

The following parts are included with your fin upgrade kit:

Course Record Fin blade
Optional:
Fin clamp assembly for D3/Goode/HO or O'brien skis.
Quantity 6 SS inserts
6 collared washers
6 8-32 flat head screws

Introduction

Fluid Motion's ***Course Record(CR)*** fin is designed to alter the balance & dynamics of the ski and provide for improved performance in "fast" water conditions such as spring or fall skiing or for salt water. The Course Record fin is also advantageous for skiers looking to improve performance when their weight is on the low end of a ski's range or they are seeking to implement a larger ski length.

The Course Record features re-positioned & large diameter vent holes along with a cutaway tail. The fin is typically run with increased length to give more tip pressure when on edge, faster turns and improved tracking for skis that tend to ride higher in the water.

Setting Up

Use the chart below to note the standard stock fin area of your ski. Suggested starting points for each ski are given, but these can vary significantly due to the type of water you are skiing, the size of the ski and the skier's weight. It is important that you maintain a setting that is close to the stock fin area (or your personal area chosen) so use the formulas to back-calculate one dimension if making a change to either the depth or length.

	Goode Standard	O'Brien 66	O'Brien 67.5	O'Brien 69	D3 Skis	HO Monza
Net Stock Area (sq.in.)	11.740	11.760	11.860	11.980	11.660	11.750
CR Depth	2.450	2.425	2.445	2.455	2.445	2.445
CR Length	7.260	7.310	7.310	7.310	7.230	7.280

Length Change Equation:
Area Change = (New Length-CR Length)* 2.5

Depth Change Equation:
Area Change = (New Depth -CR Depth) * 4.7

To change one dimension you must change the other to preserve the Net "stock" area number.

Example:
1. The Obrien 67.5 has a net area of **11.860** sq. in.
2. In this example you'd like to increase your depth setting to **2.500**. At this depth area increase equals = (2.500-2.445)*4.7 = 0.258 sq inches.
3. The length therefore must be reduced, so we now solve for new length which equals = 7.310 - 0.258/2.5 =7.207
4. The new settings are **2.500 and 7.207**

Notes:
1. The ski feels "squirrely" when riding with too little fin area, particularly throughout the offside turn and pull.
2. The ski feels very locked down and hard to turn with too much fin area. Because the ski stays under you, the onside turn is difficult to complete aggressively and without slack. The onside pull brings on a crushing rope load.

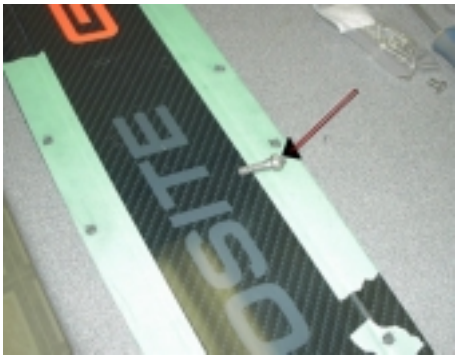
3. A thinner or more flexible fin may require slightly more surface area to perform identical to a stiffer one.

Installation

1.0 Installation of Stainless Steel Inserts for #8-32 Screws

Remove the existing fin block. The new fin clamp may be used with or without inserts. If you are going to be adjusting your fin throughout the season we strongly suggest the use of the SS inserts provided.

To install the inserts first tape the ski as shown. Drill the 6 existing holes with a 13/64" drill followed by a counter-sink bit applied to the top of the hole for a cleaner flush finish, as shown. **OPTIONAL STEP:** A Dremel cutting disc can be used to put a small slot in each insert so a flat blade screwdriver can be used to get the insert set just below the ski top, after the insertion bolt has been removed.

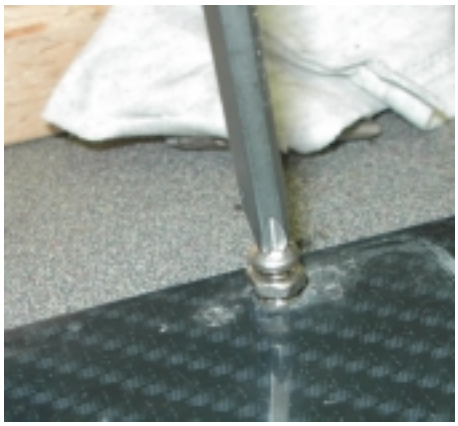


Load up the insert using the 8-32 bolt and nut as shown.

Put some 2-part clear Marine Epoxy on the insert threads before the installation. We use the West System available at any marine store or Devcon 2 part high quality epoxy available in syringe form. Use just enough to coat the threads.

Screw in the insert until the nut is flush and snug with the top of the ski.

▲ **DO NOT over tighten, otherwise the insert will simply strip the ski and become loose.**



Now use some pliers or a small spanner to back off the nut slightly on the #8-32 insertion bolt, while holding the #8-32 insertion bolt with a screwdriver. Unscrew the bolt until it comes free from the insert and can be removed.

To be sure the inside threads of the insert stay clean, take 6 #8-32 bolts lubricated with a small amount of silicone grease, and insert this bolt into the insert before the epoxy cures, removing 12 hours later.

Allow the epoxy to cure per manufacturer's instruction before final installation of the fin clamp.

2.0 Installation of Fin Clamp and Fin.

Install the fin into the fin clamp. Place the fin clamp on the ski and mount with the 6 8-32 screws and collared washers supplied .

Approximate your current settings so that the fin is centered in the slotted mounting holes.

Snug the 6 mounting screws.

Adjust the depth and length of the fin to your specs. Tighten the 3 fin mounting bolts to hold the fin in place.

Tighten the screws to contact plus an additional ¼ turn. DO NOT OVERTIGHTEN THE FIN CLAMP Screws or mounting bolts.

Check distance from tail (DFT) setting. Loosen the 6 mounting screws if necessary to fine tune the DFT setting.

Tighten the fin clamp mounting screws to contact plus an additional ¼ turn.

Periodically check your fin dimensions and tightness of all fasteners.

PLEASE HAVE QUALIFIED PERSONNEL INSTALL THESE products. THESE INSTRUCTIONS ARE INTENDED FOR QUALIFIED PERSONNEL who are familiar with water ski construction, marine hardware, water-ski Fin Clamp systems, ski inserts, epoxies and adhesives, shop tools and supplies.

WARNING - HIGH PERFORMANCE FIN CLAMP:
FOR USE BY EXPERIENCED SKIERS ONLY.
ASSUMPTION OF RISKS

I understand that water-skiing, wakeboarding and towed water sports involve risks, dangers and hazards, and that injuries are a common and ordinary occurrence of the sports. I FREELY ACCEPT AND ASSUME ALL RISKS, DANGERS AND HAZARDS ASSOCIATED WITH USE OF THE SYSTEM.
To reduce your risk of injury, follow these guidelines:

System must be installed by a qualified technician that is familiar with high performance towed water sports equipment.

Inspect ski, fins and Fin Clamps for loose screws, wear, cracks, delaminating or tearing.

Check Fin Clamps and fins prior to each use to ensure they are functioning properly before you ski.

The faster you ski, the greater your risk of injury. Exercise additional caution when riding at competitive speeds. Beginners should be towed at slower speeds that allow for good control and stability.

Water-ski instruction is recommended before use. Instruction will teach general safety guidelines and proper riding techniques, thereby reducing your risk of injury.

Warranty

The new Fin Clamp system designed for top performance and custom built to your specifications. All parts are warranted for 90 days.

Do not impact fixed objects such as turn balls, or gate balls. Consult a professional regarding ski tuning. A properly tuned ski is also a safe ski, and crashes are very infrequent – for example when was the last time you witnessed the top slalom skier take a header! We cannot recall any.

In no event shall Fluid Motion Sports be liable for incidental or consequential damages, shipping or remounting costs. Shipment charges are the responsibility of the customer.