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## **HOW TO MAINTAIN AND REPAIR** **A DURAFLEX FULCRUM ASSEMBLY**

Every diving coach should have a basic working knowledge of how a Duraflex Fulcrum Assembly fits together as well as how to perform routine maintenance. Not only will this help extend the life of your equipment, but keeping the fulcrum assembly in good working order will make it move easily and will help to keep it quiet – and as any diving coach will tell you, there is nothing worse than a loud fulcrum that won't move!

The basic tools that every diving coach should have available at the pool are:

½ " box wrench (At least one, preferably two)  
9/16" box wrench (At least one, preferably two)  
15/16" box wrench  
Grease Gun (Duraflex Item PM110)  
3 oz. Tube of Grease (Duraflex recommends Mystik JT-6 -- Item PM111) – for greasing fulcrum  
Bag of Rags  
Can of de-greaser spray (brake parts cleaner or orange clean de-greasing spray)  
Small can of "3 in 1" Brand Oil (for hinges)

### **WEEKLY MAINTENANCE (Time required – 2 minutes per fulcrum)**

Spray the fulcrum slide tracks with brake parts cleaner or similar de-greaser. Wipe off using a clean rag. Be sure to thoroughly clean all FOUR sides of the fulcrum slide track – the top, both sides AND the (exposed inside) bottom. The grease solvent should clean the fulcrum slide tracks to look virtually brand new. NOTE: The fulcrum slide tracks should be all black. If you can see any shiny metal on the fulcrum slide tracks, they should be replaced.

After thoroughly wiping the fulcrum slide tracks, grease the fulcrum assembly and the fulcrum slide tracks. To do this, put two "pumps" of grease into each Roller Block (Item #517) by attaching the grease gun to the "zerk fitting" (grease nipple) that is located near the bottom corner of each Roller Block. Then, put a SMALL amount of grease on each slide track and using your fingers, spread it over all FOUR sides of the fulcrum slide tracks. TWO COMMON MISTAKES: 1) Putting the grease on too thick; 2) Not spreading the grease over all four sides of the fulcrum slide track including the bottom.

As part of your weekly maintenance, it is a good idea to lubricate the hinge assembly with some "3 in 1" brand oil. To do this, fill each "hole" in the hinge with a couple of drops of oil. Also, add a few drops of oil to the small gaps in the hinges. Doing this keeps the hinge assemblies moving easily. NOTE: When the diving board is being bounced, if the hinges make a loud noise, it is probably due to missing or broken Nyliners (Item C209) in the hinge assembly.

## **YEARLY MAINTENANCE**

If your diving board gets a great deal of use, it is probably a good idea to replace some of the fulcrum parts yearly. The fulcrum small parts (“guts”) that should be replaced are: the Rubber Bumper (Item #515), the Anti-Rattle Clamp; (Item #516), the Slide Bearing (#518), the Roller Clamp (Item #521), the Roller Bearing (Item #524), the Anti Rattle Bolt and Nut (Item #528) and the Tie Plate Nuts, Bolts and Washers (Item #526) and the Roller Clamp Studs and Lock Nuts (Item 533) . Every two years, you should replace the complete Roller Block Assembly (Item #517). This item includes all of the “small parts” listed above plus the actual roller block itself. Simply purchase a complete Roller Block Assembly, which will arrive to you fully assembled so you can see how it fits together and therefore make it easier for you to install. If your equipment is in really bad shape, you may even want to consider replacing the entire fulcrum assembly – the Fulcrum Parts Kit (Item FP500). NOTE: You will need to specify if you need a LONG Roller or a SHORT Roller. The LONG Roller is used with Duraflex Stands WITH Guard Rails. The SHORT Roller is used with Duraflex Stands WITHOUT Guard Rails.

## **COMMON PROBLEMS / POSSIBLE CAUSES / REPAIR SUGGESTIONS**

**PROBLEM:** Fulcrum assembly will not move / slide easily.

**POSSIBLE CAUSES:**

- 1) Slide tracks need to be cleaned and greased.
- 2) Roller Block needs to be greased (via “zerk” fitting / grease nipple)
- 3) Fulcrum small parts (“guts”) are old and worn and should be replaced.

**PROBLEM:** Fulcrum wheel turns but the fulcrum assembly does not move.

**POSSIBLE CAUSES:**

- 1) Roller Clamps are too loose and should be tightened. (Tool required: ½” wrench) – use your index fingers to press down on the outer edges of the roller clamp – if there is any movement up or down, tighten the bolt on that side. Turn ¼ or ½ turn and re-check) NOTE: The roller clamp should be symmetric and even when installed over the fulcrum roller.
- 2) Anti-rattle Clamp is too tight and should be loosened. (Tool required: 9/16” wrench) This is accomplished by loosening the anti-rattle bolt and nut. The nut is on the very bottom of the roller block assembly. Loosen using ¼ to ½ turns and then re-check.
- 3) Tie plate assembly is not holding the two roller blocks “taut” and should be reinstalled correctly. (Tool required: ½” wrench) When installing two roller block assemblies, attach the tie plate, tie plate bolts, washers and nuts but DO NOT YET TIGHTEN. First, attach the tie plate to the roller block assemblies making sure that the roller blocks assemblies are lined up even with each other. Then apply pressure from the outside of each roller block towards the center by pushing IN towards each other and THEN tighten the nuts and bolts that hold the tie plate to the roller blocks. NOTE: This is much easier to do with two people or using a large slide clamp if you are doing the work by yourself.

## **COMMON PROBLEMS / POSSIBLE CAUSES / REPAIR SUGGESTIONS (Cont.)**

- 4) Slide tracks are worn out (can see shiny metal usually on top, sometimes on the side) and should be replaced. (Tool required: 1/2 " wrench) This can be rather difficult to do for two reasons. First, these bolts have been painted at the factory and therefore it is sometimes difficult to get the wrench over the bolts. Secondly, these bolts are aluminum and if your equipment is old, these bolts may be corroded and the heads can snap off the bolts when you try to remove. You will notice that the five holes on the underside of each slide track are slightly offset from the centerline. Make sure when you install the new slide tracks that you attach them the same way the old slide tracks were removed.
- 5) Although a rare occurrence, the actual fulcrum roller tube might need to be replaced because the "ribs" on it are worn down or crushed. NOTE: You can only purchase the fulcrum roller with foot wheel already attached.

**PROBLEM:** The fulcrum makes a loud noise every time the board bounces.

**POSSIBLE CAUSES:**

- 1) The anti-rattle clamp is too loose and should be tightened. (Use 9/16" wrench – this nut is on the very bottom of the roller block assembly. Tighten using ¼ to ½ turns and then re-check.
- 2) The slide bearing (Item #518) is missing, broken or not correctly positioned. To replace or check this, you will need to disassemble the roller block assembly and remove it from the slide tracks. If replacing it with a new one, be sure to rub some grease over the top and bottom of it before installing to the Roller Block.
- 3) The Roller Bearing (Item #524) is broken or incorrectly installed. Remove and reinstall correctly or replace.

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As part of your diving board maintenance, check the tightness of the guardrail clamps (Use 1/2 wrench) and the tightness of the stand installation bolts (Use 15/16 inch box wrench).

To clean the dirt and algae off of your diving board, the Duraflex Factory suggests using muriatic acid and a soft bristle brush. We prefer a very LIGHT pressure washer with the widest spray nozzle (40 degrees) Start at the back end of the diving board and use a constant back and forth motion across the board. NOTE: If at any time you see paint chips coming off the board, immediately stop. Do not use a hard bristle brush on your diving board as it can remove the non-skid surface.