



## SB-3 CHAIN GUIDE INSTALLATION INSTRUCTIONS

Thank you for purchasing an MRP chain retention system. MRP invented the chain retention system in the mid 90's and forever changed downhill and freeride racing. MRP's patented dual roller system offers the quietest, lowest drag, most mud shedding chain retention system on the market. We continue to innovate with the addition of our line of patented chain guards and retention systems for freeride, urban and jump applications. To ensure the best out of your MRP chain retention system, we recommend that you have a trained service technician at your local bike shop install your MRP. A properly installed MRP will function flawlessly every time!

**WARNING RIDING A BIKE CAN BE DANGEROUS. NOT PROPERLY MAINTAINING OR INSPECTING YOUR BIKE AND COMPONENTS CAN CREATE MORE DANGER. READ AND FOLLOW THESE INSTRUCTIONS.**

Your MRP chain retention system was engineered to fit a wide variety of frames. With so many different frame designs on the market, however, specific fit may require modification to your MRP and/or frame. Do not make any modification to your frame without consulting your frame manufacturer.

### **Installation will require the following tools:**

4mm, 5mm and 8mm Allen keys, Pedal wrench, Crank arm removal tool, Bottom bracket tool

### **Before you begin:**

Make sure that you have the right MRP kit for your bike. There are three (2) different mounting standards that the SB-3 is available in:

- 1) Direct bottom bracket mount MRP boomerang attaches to the bottom bracket with pressure from the bottom bracket cup.
- 2) ISCG MRP boomerang attaches to three tabs around the bottom bracket shell. The SB-3 is not currently available in ISCG-05. If you have an ISCG-05 frame, you will have to use a direct bottom bracket mount boomerang. If you are unsure if you have ISCG or ISCG-05 tabs, contact the frame manufacturer. We recommend that you purchase the proper MRP system for



your frame to ensure the best fit and performance possible. MRP does make an adapter that converts an ISCG MRP kit to bottom bracket mount. This adapter works in most situations. In a few situations, the adapter may push the chain line out and reduce performance or require a longer bottom bracket spindle.

## Installation:

### Step 1 (if your bike is not assembled, go to Step 3)

Using a pedal wrench (or a 6mm Allen or 15mm box wrench depending on your pedals) remove your pedals.

### Step 2

Remove both crank arms, chain, chainrings and drive side bottom bracket cup according to the manufacturer's instructions.

**IMPORTANT** - Inspect all of your drivetrain components to ensure that they are in good working condition and are to the original manufacturer's specifications. If any drivetrain components are damaged, replace them.

### Step 3

Install the upper and lower rollers onto the boomerang. You will note that the roller has a thin flange and a thick flange on each side of the chain groove. This is designed to allow for additional adjustment for certain frames. **The vast majority of frames will require that the thin flange be positioned next to the boomerang install it this way to begin.** The button head screw with the lock washer on it should be inserted through the back of the boomerang. **The flat washer should be installed between the boomerang and the roller.** Note use a thread lock (Blue Loctite ) on the screws to prevent the rollers from coming loose. You will need to adjust the rollers after installation. At this point, set them at their furthest point out in the slots and slightly snug them to keep them in that position.



### Step 4

Install the outer bash guard and chainring to the crank spider. MRP offers a number of different bash guards to meet your specific needs. Follow the instructions below for the type of bash guard you are using:

#### Aluminum Bash Guard

The bash guard should be mounted to the spider in the large chainring position. The chainring should be positioned in the middle chainring position. Use standard chainring bolts (not included with your MRP kit as they are standard with most spiders). Tighten the chainring bolts.

#### Party Crasher Bash Guard

The bash guard should be mounted to the spider in the large chainring position. The chainring should be positioned in the middle chainring position. Use the extra long chainring bolts included with your system. The nut of the chainring bolts should pass through the chainring from the backside, through the spider and into the Party Crasher guard. **IMPORTANT - use the included washer under the head of the chainring bolt head.** Torque the chainring bolts to 43 in-lbs. **WARNING** If you over tighten the chainring bolts the Party Crasher may crack. **DO NOT** use any Loctite or other chemicals on the Party Crasher as it can cause the bash guard to crack.

### Step5

Install the boomerang. Follow the instructions below for the type of mounting system you are using:

#### ISCG

If you have ISCG tabs on your frame, install the boomerang with the supplied bolts. The boomerang is designed to have 30 degrees of rotational adjustment to allow for proper positioning of the top roller. Initially position the boomerang so that the top roller is at the 11:30 position if you are looking straight on at the chainring. See Figure 1 below. Tighten

the ISCG screws tight enough to hold the boomerang in position, but loose enough that you can rotate it to the proper position in the steps below.

### **Bottom Bracket Mount**

If your bike does not have ISCG tabs, mount the boomerang by removing the drive side bottom bracket cup and inserting it through the MRP boomerang. **IMPORTANT** make sure that there is no grease around the outside edge of the bottom bracket shell or the part of the bottom bracket cup that engages the boomerang. Grease in these areas can allow the boomerang to slip during contact. Clean these areas with a degreaser if necessary. In normal set-up, the bottom bracket cup should sit into the recess in the MRP boomerang. Initially position the boomerang so that the top roller is at the 11:30 position if you are looking straight on at the chainring. See Figure 1 below. Tighten the bottom bracket cup tight enough to hold the boomerang in position, but loose enough that you can rotate it to the proper position in the steps below.

### **Non-ISCG Adapter**

If you are mounting an ISCG MRP kit to a bike without ISCG tabs, you can use the non-ISCG adapter (must be ordered separately). Follow the bottom bracket mounting instructions above to install the non-ISCG adapter and the ISCG/ISCG-05 instructions above to then install the boomerang to the adapter. The top hole on the non-ISCG adapter should be positioned at the 1:00 position. See Figure 2 below.



**FIGURE 1**



**FIGURE 2**

### **Step 6**

Install the drive side crank arm with the chainring and bash guard (along with the chain) and bottom bracket completely according to the manufacturer's instructions. Position the rollers so that they are almost touching the bash guard. The rollers do not need to actually touch the bash guard. But they should not be more than a few sheets of paper away from the bash guard.

**IMPORTANT if the gap between the rollers and bash guard is too large, the chain may get sucked between the roller and bash guard.** Check to make sure that the groove in the top roller is centered over the chain. If it is not, you may need to either flip the roller over so that the thick flange is towards the boomerang, or space out the roller using washers. **NOTE** whatever changes you make to the top roller, do the same to the bottom roller. Tighten the rollers using an Allen key on the front and back screws (don't forget the loctite). **IMPORTANT** it is necessary to tighten both screws in the rollers simultaneously to ensure proper tightness.

### **Step 7**

Make sure that the distance between the guide portion of the boomerang and the chainring. The distance should be 4mm or less. If the distance is greater than 4mm, the chain can fall between the guide plate and the chainring. If the distance is further than 4mm, if you have an ISCG boomerang, shim out the boomerang using washers between the ISCG tabs and the boomerang until the gap is correct. If you have a bottom bracket mount boomerang, shim out the boomerang using bottom bracket cup shims. Follow the instructions with your bottom bracket to properly shim the boomerang until the gap is correct. If the chain is rubbing on the guides, you may need a longer bottom bracket to accommodate a chain guide. .

### **Step 8**

Check the position of the top roller. When the bike is completely bottomed out, the chain should just be touching the groove in the top roller. **IMPORTANT** the top roller is designed to be a guide, not to tension the chain at any point in the bike's travel. This is very important! Improper top roller position may result in broken or lost rollers, bent boomerangs and dropped chains. The best method for determining the top roller position is to remove the spring from the rear shock and bottoming the bike out completely. Rotate the boomerang so that the chain just touches the top roller when the bike is completely bottomed out. Mark the position of the boomerang.

**NOTE** MRP chain retention devices are designed to ISCG and ISCG-05 standards. Our experience is that some frame manufacturers position the tabs not according to the standard. These frames may require modifications or special installation instructions. If you find you do not have enough adjustment, it may be due to the frame manufacturer not following the standards. Please contact MRP for further instructions for fit.

### **Step 9**

Remove the drive side crank arm, chainring assembly. Make sure that the boomerang is in the position that you determined in Step 8 and secure it. If you have ISCG, tighten the ISCG screws. If you are using a bottom bracket mount boomerang, tighten the bottom bracket cup to the manufacturer's specifications. The boomerang may want to rotate as you tighten the cup, so double check the position after everything is tight. Reinstall the cranks and bottom bracket according to the manufacturer's instructions.

### **Step 10**

Finishing Touches

Make sure that all bolts and screws are tight. Check your chain length by shifting through all gears. It should be easy to shift through all gears, but not have a lot of extra chain slack. Keep in mind that most full suspension frames require additional chain length to accommodate rear travel. Check chain length with the chain on the largest rear cog and bottoming out the bike.

### **Step 11**

Go ride!!!

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