PARK TOOL CO.
6 Long Lake Road
St. Paul, MN 55115

BOTTOM BRACKET FACING SET BFS-1

INTRODUCTION

The Park Tool BFS-1 Bottom Bracket Facing Set is a precision tool that provides a piloted means of facing the bottom bracket shell of a frame. The BFS-1 is ideal when a large amount of material is to be removed, such as converting a 70mm bottom bracket to a 68mm bottom bracket.

The BFS-1 includes English bushings 1.370" x 24 TPI right hand thread for the non-drive side and 1.370" x 24 TPI left hand thread for the drive side. The non-drive side is the left side of the bike as seen while sitting on the bike. The drive side is the side with the chainrings, and is the right side of the bike as seen while sitting on the bike.

An Italian thread bushing, 36mm x 24 TPI right hand thread (part # 688) is available as an accessory. Italian non-drive and drive side cups are both right hand thread. Two bushings #688 must be ordered to make a set.

The BFS-1 is a precision tool system and all components should be used and stored with care. Components must not be dropped or otherwise abused. Components should be cleaned then wiped with an oily cloth or other rust inhibitor before storage, especially in a damp or humid environment.

The facing cutter #690 requires occasional sharpening to insure proper performance. Contact a local tool and die grinder, or use one of the bicycle industry's grinding services.

INSTRUCTIONS

NOTE: The accuracy of the facing can only be as good as the accuracy of the threading in the bottom bracket shell. It is recommend that the bottom bracket be tapped or the existing threading cleaned up using the Park Tool BTS-1 Bottom Bracket Tapping Set before proceeding with facing.

If the bottom bracket width is to be changed significantly, accurate measurements should be taken to determine just how much material to remove from which side of the bottom bracket.

1. Mount the frame to be faced in a stable fixture such as a Park Tool repair stand.

2. To install the bushings into the bottom bracket shell, start the bushings by hand to insure no cross threading occurs. Do not force bushings into bottom bracket shell. If the thread is English 1.370 x 24 TPI, the bushing marked 1.370" x 24 RH is the bushing for the

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non-drive side of the bike, and is a right hand thread. The bushing marked 1.370" x 24 LH is for the drive side and is a left-hand thread. The handle weldment of the BFS-1 may be used to rotate the bushings once they are started. Each bushing should be turned in so its outer face is well below the face of the bottom bracket shell in order to prevent the facing cutter from hitting the bushing during the facing operation. NOTE: If the bottom bracket has just been tapped with the Park Tool BTS-1, the BTS-1 taps may be left in the bottom bracket shell to serve the function of the BFS-1 bushings.

3. Slide the facing cutter onto the pilot of the handle weldment #679 and onto the two pins. Insert the pilot through the bushings in the frame. Slide the knurled washer #686, the keyed anti-rotation washer #683, and spring #689 onto the pilot. Thread the knurled tension nut #680 onto the pilot until the spring begins to compress.

4. Apply liberal amounts of cutting fluid to the cutter face. Bicycle chain lubricants and regular shop lubricants are not suitable for use as a cutting fluid. Use a suitable cutting fluid for the material being faced. Park Tool Cutting Fluid CF-1 is recommended. Park Tool Cutting Fluid is a high quality, environmentally safe cutting fluid that can be effectively used on all metals (except magnesium).

5. Rotate the handles clockwise to begin facing the bottom bracket shell. ROTATE ONLY IN A CLOCKWISE DIRECTION. Counter-clockwise rotation will cause the cutter to dull. Start with only a small amount of spring pressure applied. Rotate the tension nut gradually to increase spring pressure if necessary. Use only enough spring pressure to provide a smooth cutting action.

6. Continue to rotate the handles several complete turns, then stop to check progress. Loosen tension nut then pull facing cutter back to view bottom bracket shell. If the objective of the operation is only to face the bottom bracket shell, remove only enough material to expose a fresh cut completely around the face of the shell. If the objective is to reduce the width of the bottom bracket shell, continue facing until the predetermined amount of material has been removed. Measure the bottom bracket shell width regularly to avoid cutting too much material. Due to a combination of factors (ex. the type of material being faced, the amount of spring pressure used, the type of cutting fluid used, etc.) "chattering" marks may appear on the finished surface. This "chattering" is cosmetic only and does not affect the function of the bottom bracket.

7. When one side is finished, remove tension nut, and turn facer clockwise with light hand pressure only to remove any burrs.

8. Repeat process on second side of bottom bracket.

9. When both sides are completed, remove handle from bottom bracket and remove facer from handle. Use the handle to unscrew the bushings from the frame.

10. Rotate the frame so the bottom bracket is the lowest point to allow cutting fluid to drain. Clean chips and cutting fluid with a rag, followed by a brush and solvent.

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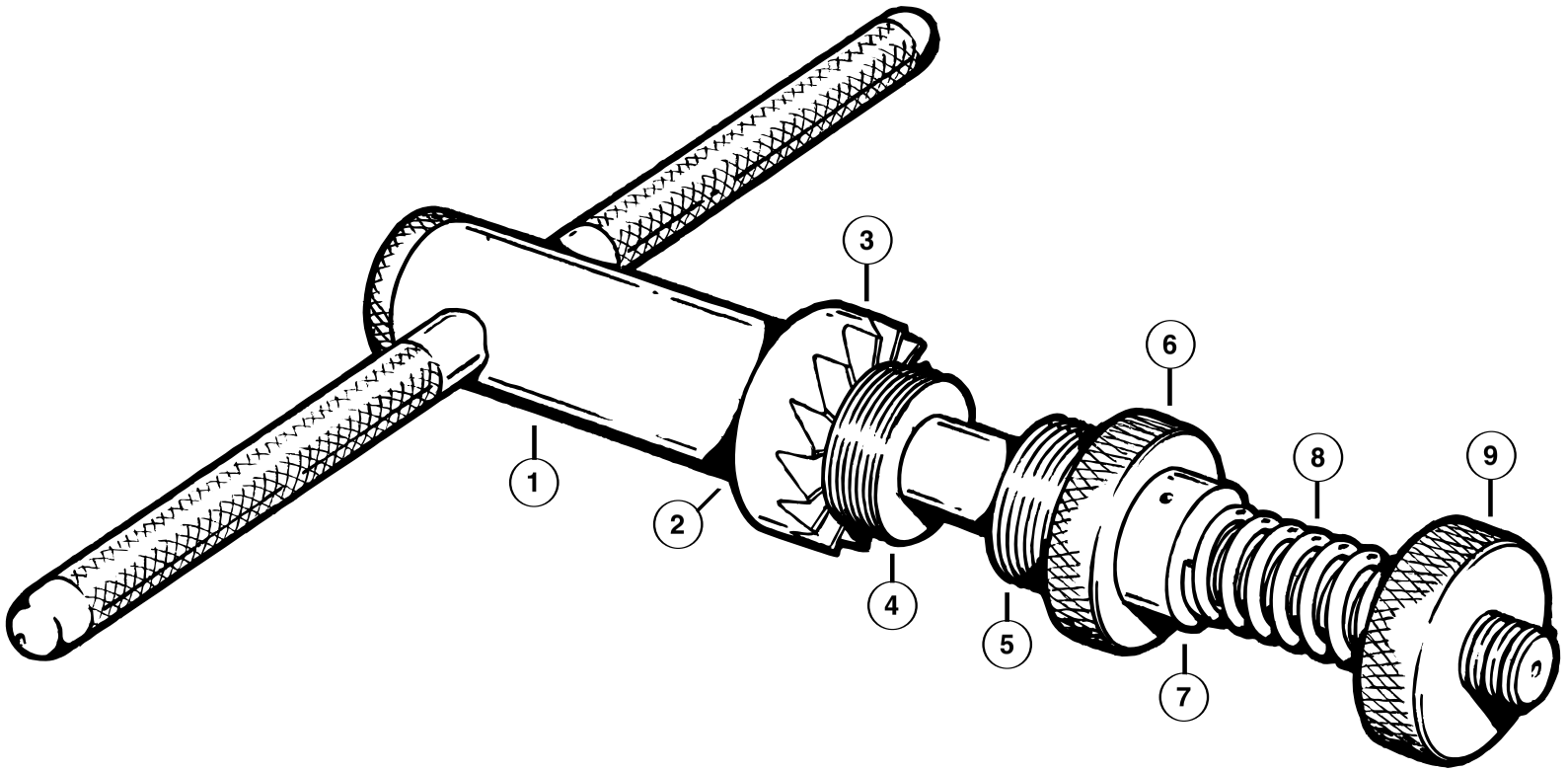

PARTS LIST FOR THE BFS-1 BOTTOM BRACKET FACING SET

Ref. No.	Part No.	Description	Qty.
1	678	Handle weldment	1
2	674	Spring retainer	2
3	690	Facing mill cutter	1
4	681	1.370 x 24 TPI Right hand bushing - English	1
5	682	1.370 x 24 TPI Left hand bushing - English	1
6	686	Knurled washer	1
7	683	Anti-rotation washer	1
8	689	Pressure spring	1
9	680	Speed nut	1
	688	36mm x 24 TPI Right hand bushing - Italian (optional, 2 required)	2