



**PARK TOOL CO.**  
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**BOTTOM BRACKET  
TAPPING AND  
FACING SET  
BTS-1**

## **INTRODUCTION**

The Park Tool BTS-1 Bottom Bracket Tapping and Facing Set is a precision tool system that provides a piloted means of tapping the threads in the bottom bracket shell of a frame. After tapping, the taps act as guides to keep the included facing mill cutter square with the axis of the bottom bracket for cleanup of the faces of the bottom bracket shell.

The BTS-1 includes English/ISO/BC taps, 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. Italian taps (36mm x 24 TPI, Part #693) and French taps (35mm x 1mm, Part #694) are available as accessories. Both Italian and French drive and non-drive side taps are right hand thread. Two Italian taps or two French taps must be ordered to make a set.

The BTS-1 is designed only to clean up the face of the bottom bracket shell. If a large amount of material is to be removed, such as converting a 70mm bottom bracket to a 68mm bottom bracket, a Park Tool BFS-1 Bottom Bracket Facing Set should be used.

Because this is a precision tool system, all components should be used and stored with extreme 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. Store the cutters in their shipping container or other safe place.

Metal cutting tools by their nature must be hard, and the teeth of a tap are in fact "fragile". Even when care is taken to follow correct procedures, the bottom bracket shell may have local areas of hardness from welding or other anomalies that result in less than optimal results, and can in fact damage the taps. The taps, like all cutting tools, will require periodic sharpening.

Always wear safety glasses when using the BTS-1.

## **OPERATION**

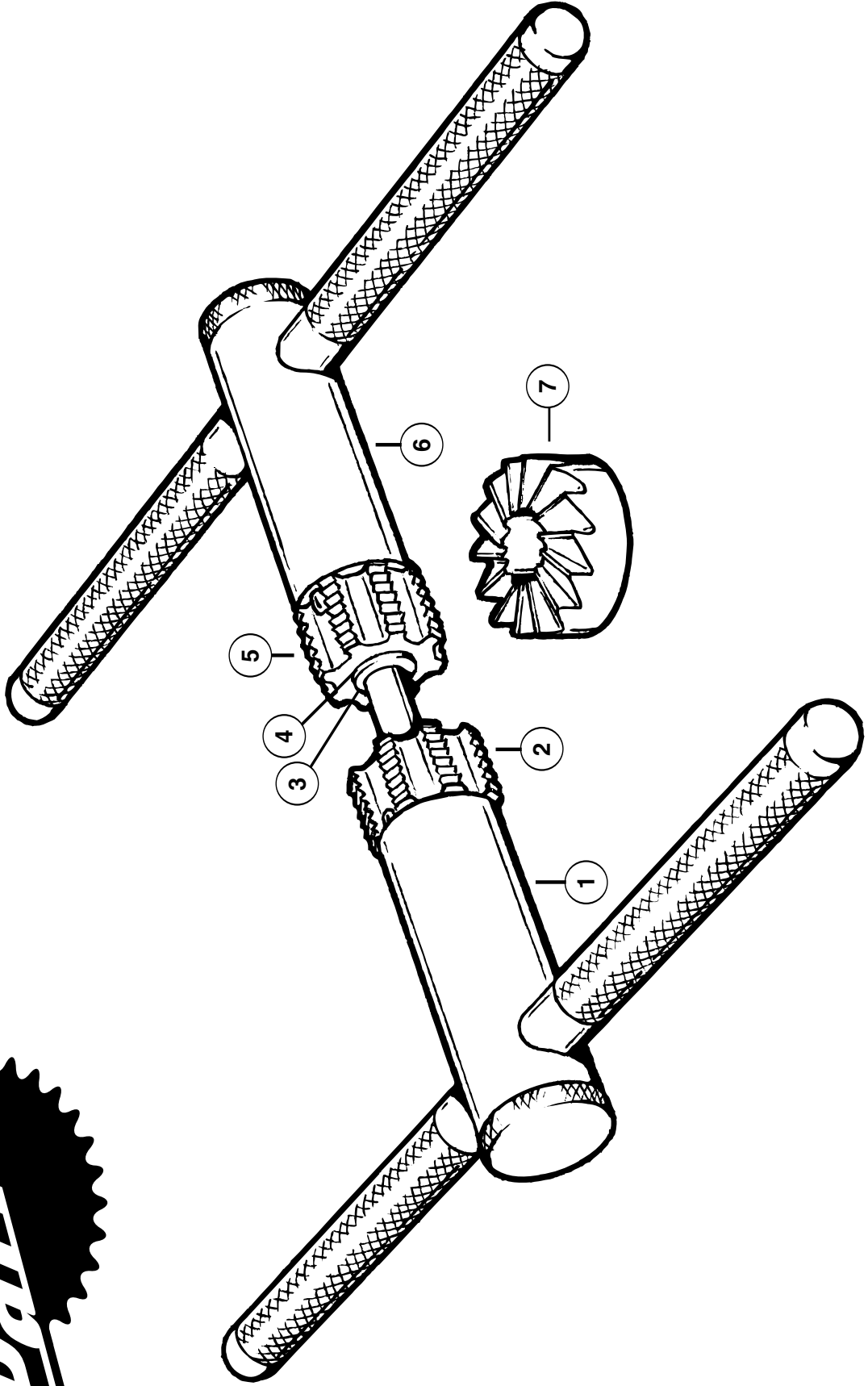
1. Mount the frame to be tapped in a stable fixture such as a Park Tool repair stand.
2. Install the taps onto the handle weldments by slipping them over the spring retainers and onto the driver pins. The use of round spring retainers allows the handles to be removed while the taps are left in the frame to act as bushings during facing of the bottom bracket. Care should be taken that when the taps are on the handles, the handles are not dropped or swung sharply downward as the taps could fall off and be damaged. The spring retainers, Part #674, are inexpensive wear parts. If tap retention becomes too loose, they should be replaced.
3. If in doubt as to thread standard of bicycle, measure the bottom bracket cup removed from the bike for diameter and thread pitch. English taps are marked in the flutes with RH and LH, which designates the direction of the threading, NOT the side of the frame the tap is to

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be used in. Optional Italian taps and French taps are both right hand. It is easy to lose orientation on a bare frame, especially if the frame is inverted. The drive-side is the side with chainrings, and the non-drive side is the side without chainrings. If the thread standard is English/ISO/BC, the drive side uses the left hand tap (LH).

4. Flood the bottom bracket with cutting fluid and apply a liberal amount of fluid to each tap. Insert simultaneously both taps with the handles into the appropriate sides of the bottom bracket. Aerosol lubricants and general purpose oils are not suitable lubricants and use of them will shorten the life of the taps and reduce the quality of the threading. Use a suitable cutting fluid for the material being tapped. We recommend the use of Park Tool CF-1 Cutting Fluid. Park Tool Cutting Fluid is a high quality, environmentally safe cutting fluid that can effectively be used on all metals, except magnesium.
5. Carefully start each tap into the bottom bracket shell by a few threads. When both taps are started, turn each tap in the appropriate direction just until resistance is felt. From this point on, each tap should be turned no more than one half turn into the resistance then backed up one quarter turn to break the chips. Apply more cutting fluid every full rotation of the tap. Cut slowly for a good quality thread and to insure long tap life, taking 4 or 5 seconds to complete one half revolution. Alternate from one side to the other and keep the taps flooded with cutting fluid. If facing is desired, proceed tapping until the back side of each tap is below the face of the bottom bracket shell.
6. Pull on either handle to remove it from the bottom bracket. Install the facing mill cutter on handle. Either handle may be used to hold facing mill cutter. Reinsert the handle into the taps. Taps will now act as guides for the facing mill cutter. Apply fluid to the cutter. Apply pressure by hand to center of each handle and rotate the facing mill cutter in a clockwise direction ONLY to clean up the face of the bottom bracket. Counter-clockwise rotation will cause premature wear on the facing mill cutter. Check frequently and remove only enough material to make a clean cut 360 degrees around the shell face. If excess pressure is applied during facing, or if the bottom bracket material is extremely hard, there may be a slight chattering appearance on the faced surface. This is cosmetic only and does not affect the function of the bottom bracket. Pressing and rotating with light pressure will minimize any chatter. Remove both handles, then switch each to the opposite side. Repeat the facing procedure.
7. Remove the handle holding facing mill cutter from the bottom bracket. Remove the facing mill cutter and reinsert the handle into the tap. Unscrew the taps simultaneously. Do not remove either tap until both are fully disengaged from the threads.
8. Rotate the frame so the bottom bracket is down and allow the fluid to drain. Clean up fluid and chips with a rag followed by a brush and solvent.
9. If more permanent tap installation is desired, the outermost spring retainers on each handle may be replaced with the furnished snap rings, Part #675. The other spring retainers should be left in place. If snap rings are used, the handles cannot be slipped out of the taps while they are in the frame, and the taps cannot be used as guides during the facing operation.
10. Clean debris and chips from facer and taps with a brush, and wipe clean of fluid. **DO NOT CLEAN CUTTING TOOLS WITH COMPRESSED AIR.** Flying chips may cause injury.

# BOTTOM BRACKET TAPPING & FACING SET BTS-1



## PARTS LIST FOR THE BTS-1 BOTTOM BRACKET TAPPING & FACING SET

Ref. No.	Part No.	Description	Qty.
1	676	Handle Weldment with Arbor	1
2	691	1.370 x 24 TPI Right Hand Tap - English/ISO/BC	1
3	675	Snap Ring Retainer for optional permanent tap mounting	2
4	674	Spring Retainer	4
5	692	1.370 x 24 TPI Left Hand Tap - English/ISO/BC	
1			
6	671	Handle Weldment	1
7	690	Facing Mill Cutter	1
	693	36mm x 24 TPI Italian Right Hand Tap (Optional - 2 required)	
	694	35mm x 1mm TPI French Right Hand Tap (Optional - 2 required)	