

BHJ Products, Inc.

Parts List & Instructions

Product Name: **Bor-Tru**
BHJ Part#: **BTK**

Page 1 of 1

Kit Contents:

- | | |
|-------------------------------|--|
| 1x Deck Plate Plate | 4x Deck Plate Socket Head Bolts |
| 2x Alignment Side Arms | (sized per engine application) |
| 1x Positioning Spacer | 2x 3/8"-16 x 1" Socket Head Bolts |

Description

BHJ's Bor-Tru is a specially designed blueprinting fixture for establishing correct cylinder bore and dowel locations on semi-finished cylinder blocks, as well as any stock factory block, when a sufficient overbore will allow correction of out-of-position cylinders.

The Bor-Tru Kit enables the machinist to quickly and accurately locate the cylinder bores over the correct crankshaft journal location. When properly installed, the Bor-Tru references from the rear main surface or rear main thrust surface (depending on block configuration) as a zero datum for front-to-rear positioning of the fixture on the deck surface. Other applications may align at different locations in the block. In addition, the Bor-Tru spaces the bores at the correct center-to-center distance from one another.

Provisions have also been made for correction of cylinder head dowel-hole locations for both solid and ring/split dowel applications. In the standard configuration, the I.D. of the drill bushings used is on size to the dowel O.D. Special, oversized-I.D. drill bushings are also available to facilitate the use of a specially ground cutter to oversize the existing hole for installation of a stepped dowel pin.

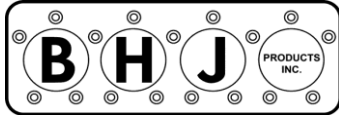
Use of the Bor-Tru Kit requires BHJ's 2" Precision Support Bar and Main Bearing Bore Adapter Rings, which are sold separately.

NOTE: Before installing and using the Bor-Tru, the cylinder block must have the deck surfaces machined flat, parallel and perfectly square. The Bor-Tru relies on the squareness of the deck to determine the correct location of the cylinder bank in the sideways direction.

Careful handling and set-up of the BHJ Products Bor-Tru Precision Fixture will take the guesswork out of correcting cylinder bore locations.

Machining

1. Slide Main Bearing Adapter Rings onto 2" Support Bar.
2. Slide Positioning Spacer onto 2" Support Bar.
3. Place assembly into front and rear main bearing saddles, positioning flanged style Positioning Spacer so that the flange is against main thrust surface and the non-flanged end protrudes from the rear of the block. If the Spacer has no flange, it is intended to contact the rear face of the block.



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Page 2 of 2

Machining (continued)

4. Install front and rear main caps.
5. Turn the block over and slide the Alignment Side Arms onto the 2" Support Bar. Arm "A" goes to the rear of the block with the two machined rails facing inward. Arm "B" goes to the front of the block.
6. Place the Bor-Tru Plate on the deck surface. Install the attachment bolts, but do not tighten.
7. Install the Alignment Side Arms into the plate and tighten the two bolts. CAUTION Be sure the contact surfaces between the arms and the plate are absolutely clean.
8. Firmly press down on Deck Plate, allowing it to find its own center on the deck surface, at the same time slide the assembly gently toward the Positioning Spacer. Release the pressure prior to tightening the deck bolts, as the alignment bar is easily deflected.

NOTE: If substantial error in bore or dowel location in the front-to-rear direction is noted, check further to find the cause. Crankshaft thrust surfaces have been found to be as much as .062" out of position.

9. Firmly tighten attachment bolts. (Full torque is not recommended since it is unnecessary and may distort the aluminum deck plate.)
10. Align boring bar with deck plate and bore block accordingly. (Most boring stands will require removal of the 2" Support Bar and Alignment Side Arms.)
11. If required, the block dowel holes can be plugged and re-drilled using the hardened steel bushings in the Deck Plate as a guide.

Call BHJ at (510) 797-6780 with any questions regarding the part, its setup, or operation.