Introduction/Technical Specifications

Thank you for your purchase of the Big Groove™. This machine is designed for duplicating high security, laser-cut automotive keys. The versatile jaws hold virtually all 2-track and 4-track, internal and external cut keys. The machine has been calibrated and tested. It is ready to cut right out of the box.

Please read this manual to become familiar with the features and operation of your Big Groove™ machine.

Also, please complete and return the enclosed warranty registration card along with a copy of your invoice.

We are confident your Big Groove™ will provide years of reliable service for you. If you have any questions or comments about this machine (or any HPC products), please contact us.

Thank you.

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Toll-free in USA & Canada: 800.323.3295
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www.hpcworld.com
Important Notes

When moving the machine, lift from under the base, and steady the machine with your other hand on the post. Do NOT lift from the X-Y table.

When duplicating track keys it is imperative to remove a sufficient amount of material. If the depth into the face of the blank is not deep enough, then the key will not work.

The depth of the track should be as close to the original as possible. We recommend using a caliper to verify the depth of the tracks.
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1. Accessories and Parts Designation

- Handle for Lowering Cutter (Assembly required)
- Power Switch
- Power Inlet
- Cutter Assembly
- Cutter
- Jaws
- X-Y Table
- Handle
- Safety Shield
- Tracer
- Jaw Knob
- Pivot Knob
- Locking Knob
Technical Specifications

120VAC  50/60hz  133 watts  1.0amp  .178hp  6500rpm

Replacement Parts

Jaws No. BG-10
Cutter - No. CW-LPA-2.5
Tracer - No. BG-11
Handle - No. BG-12
Jaw Knob - BG-13
Safety Shield - No. BG-14
Pivot Knob - No. BG-15
Locking Knob - BG-16
Tip Gauge - BG-17

Accessories Included

Tip Gauges
No. BG-17

Calibration Pins (2)
No. BG-18

Allen Wrench 2.5mm
No. WRENCH-13

Allen Wrench 1/8 inch
No. WRENCH-9

Tip Gauges
No. BG-17

Calibration Pins (2)
No. BG-18

Allen Wrench 2.5mm
No. WRENCH-13

Allen Wrench 1/8 inch
No. WRENCH-9
2. Holding and Gauging of Keys

To ensure accurate duplication, it is imperative to gauge both the original key and the key blank in exactly the same way. The original key and the key blank must be flat (not tilted) and held securely in the jaws.

There are 2 slots in the jaws for inserting the tip stop. Most keys can be gauged using the slot at the back of the jaw. Depending on the design of the key and the length of the blade, some keys should be gauged using the slot closer to the front of the jaw. Make certain that the key is gauged so that the entire length of the key to be cut will be engaged by the tracer and cutter.

Some track keys have a shoulder and can be shoulder gauged on the front of the jaws.
The head of the Big Groove™ pivots to provide easier access when loading the keys. To pivot the head, loosen the rear knob and pivot the head to the left.

If the head is pivoted, make certain the rear knob is tightened after pivoting the head back to the cutter position.
The “key” to duplicating track keys is to make certain the cuts are deep enough into the face of the blank, without being too deep.

The cutter assembly is lowered with the handle to engage the keys. The proper height will vary depending on the thickness of the blank and depth of the tracks.

To set the proper height, with the machine switched off, first load the original key on the cutter side.
Use the handle to lower the cutter assembly so the cutter is at the bottom of the track on the original key but does not impede the movement of the carriage.

Holding the handle at this position, tighten the knob to lock the cutter assembly in place at this height.
Remove the original key from the cutter side. Gauge and secure the original key on the tracer side.

Move the carriage so that the tracer engages the track of the original key to verify it is not impeding the movement of the carriage and is properly tracing the track.

With the cutter assembly properly positioned, gauge and secure the key blank in the same manner as the original key. The head can again be pivoted for greater access if needed.
3. Cutting Keys

The Big Groove™ was designed for 2-hand operation. This design provides complete hands-on control of the X-Y table.

Do not rush the cutting process. To ensure accurate cutting and extend the life of your cutter, it is imperative to cut slowly.

Lower the safety shield.
Switch the machine on.
Using both hands and a firm grip on the handles, gently guide the platform and use the tracer to follow the angles of the cut. The cutter will cut an identical path on the key blank. Keep tracing until the entire key has been cut.

**TIPS FOR SUCCESSFUL CUTTING**

- Cut slowly. Do not rush the cutting process.

- Make multiple passes as needed.

- Practice cutting. It may take a few keys to become proficient at cutting track keys.

- On INTERNAL tracks, start at the tip and cut straight down the center, then up the right side and back down the left side.

- On EXTERNAL tracks, start at the bow-end of the track and cut up the right side, then cut down the left side.
Switch the machine off.
Remove the duplicate key. Flip the key over and repeat the gauging and cutting process for the 2nd side of the key.

Note: These keys are usually cut the same on both sides. Therefore, it is usually not necessary to flip the original key to trace the other side.

Remove all burrs from the new key before trying it in the lock.
4. Changing the Cutter

When the cutter becomes worn you will need to replace it with a new cutter. The cutter is held in place by a set screw on the mandrel.

Loosen the screw with the 2.5mm Allen wrench that was supplied with the machine. The cutter will be easily removed from the collet.

Install the new cutter in the collet to the approximate height of the tracer. Tighten the set screw to secure the cutter in the collet.

After installing the cutter the machine must be calibrated. Refer to the Calibration Section in the manual for details.
5. Calibrating the Cutter

Setting the cutter to the proper height is crucial to accurate duplicating. For smoother cutting the tracer should be slightly higher than the cutter.

To accomplish this as well as to protect the components of the machine, follow these steps: Using an ordinary sheet of paper (approximately 8.5" /22cm wide), fold the left side over 1/3 (approximately 2.5 inches / 6mm) across the sheet.

With the cutter assembly positioned over the flat surfaces of the jaws, place the paper over the jaws so that the doubled-over portion is under the tracer side only.
Use the handle to gently lower the cutter assembly until the carriage movement is impeded. Use the knob to lock the tracer/cutter in this position.

Gently pull on the paper to verify both sides are held securely by the tracer and the cutter.

If the paper on the tracer side is held firm, but moves under the cutter, loosen the set screw on the cutter and lower the cutter so it holds the paper firmly.

If the paper on the cutter side is held firm, but moves under the tracer, loosen the set screw on the cutter. Loosen the knob and lower the cutter assembly until the cutter is touching the paper.

Tighten the set screw.

Tighten the knob.

Pull on the paper to verify both sides are held firmly.
6. Adjusting the Carriage Alignment

Falling off a bench or rough handling during transportation may cause the carriage to shift out of alignment. The machine is designed to easily make adjustments to the lateral calibration.

If lateral calibration is necessary:

Install calibration pins in place of the cutter and tracer. Use the top of the jaws to ensure the pins are level.

Loosen the 2 set screws on the back of the platform using the 1/8-inch allen wrench supplied with the machine.
Pull the carriage against the calibration pins, ensuring it is flush against both pins.

Tighten the rear set screws.

Re-install the cutter and tracer, and calibrate as needed (refer to the Calibration Section for instructions).
7. Warranty and Service

Cleaning

With a soft bristle brush, remove all brass chips, dirt and grit from the surface of your machine that accumulates during the key cutting process. Take particular care in keeping the jaw area clean.

Warranty

The Big Groove™ machine is fully warranted for one year from the date of purchase, against factory defects in workmanship. Mail the warranty card and a copy of your invoice to us immediately, to validate your warranty.

Should your machine require factory repairs, please call the HPC Service Center at 800.323.3295 for a Repair Order Number prior to shipping the machine.

The machine should be packed securely (in the original box if possible), along with a letter clearly stating the nature of the problem, and returned to the factory.

During the one-year warranty period, you will be charged for handling and shipping only.
HPC SERVICE CENTER

If your HPC Key Machine should require service, please note the following information:

**HOURS:** The HPC Service Center answers questions involving key machine repair and replacement parts Monday through Friday from **8:00 am to 3:30 pm Central time.**
Please call **800-323-3295** (from the U.S. and Canada) or **847-671-6280** (from other countries).

**REPAIRS:** We recommend the replacement of cutters, brushes and external parts, the preventive maintenance and recalibration (as outlined in this manual) be the only repairs or adjustments that are done by the user. Internal parts and mechanisms should be factory-repaired only. Additional repair charges may be incurred by attempting to make these types of repairs by yourself.

**FACTORY SERVICE:** If you need to send your HPC key machine in for repair, first call the HPC Service Center to obtain a Repair Order number, then follow these instructions:

Include a letter explaining the problem you are having, as well as any other work you want done on the machine. Make sure your business name, address and phone number, as well as the name of the contact person are on the letter.

Your machine should be equipped with an HPC cutter when it is sent in for repairs. If you are sending in a Blitz™ or CodeMax™ machine also include the Black Horseshoe Tip Stop to insure proper tip gauge calibration. Please do not send in any other accessories (such as other cutters and code cards).

Pack the machine securely in a box strong enough to prevent damage during shipping (preferably the original box).

The Repair Order Number should be marked on the outside of the box.

All machines must be shipped prepaid. Collect shipments will not be accepted.

Our shipping address is:
**HPC, Inc.**
Attn. Service Center
3999 N. 25th Avenue
Schiller Park, IL 60176 USA

**REPAIR CHARGES & ESTIMATES:** Upon receipt and evaluation of your machine our technicians will provide a written estimate (by fax) of the repair charges. Some problems may be detected only while the repair work is being done. If after informing you of the repair estimate it becomes apparent that the cost will be higher, you will be notified of the additional charges before any additional work is done.

**REPLACEMENT PARTS:** Key machine parts can be purchased through an Authorized HPC Distributor or directly from the HPC Service Center. When ordering parts over the phone, please have the part numbers and descriptions ready to expedite the ordering process. A parts listing and an exploded view drawing is included in this manual. If the parts are needed urgently, express processing is available at an additional charge.

**PAYMENT:** Payment for parts and repair is required at the time of repair and before the parts are shipped. We accept payment by credit card (Visa, Mastercard or Discover) or by check. Repaired machines and parts can also be sent C.O.D. with an extra charge. If you wish to have your Authorized HPC Distributor billed for the parts or repairs, the distributor must call us with approval of the billing and provide a purchase order number for the parts or work being done, before the machine is repaired or parts are shipped.

Unless otherwise specified, key machines that are not under warranty will be shipped C.O.D. with an extra charge after the repairs have been made.

**LOANER MACHINES:** Sorry, but we do not have loaner machines available.