

Quick Reference to Combining BEST Cores

General guidelines for combining cores

- Use only authorized system codes from BEST. Begin combining from the rear of the core and work your way to the face of the core.
- Always complete the pin loading process for each individual barrel before proceeding to the next barrel.
- Never split pin segments. For example, do not use two number 2 pin segments in place of a number 4.
- If the core is not operating smoothly while you are loading it, do not tap the core against a metallic block. Use a block made of nylon or an equivalent material.
- Do not use a metal-headed hammer on cores. Use a plastic-headed hammer only.
- Do not use excessive force to stamp core markings on the side of cores. Excessive force may cause the barrel opening to close slightly.
- Do not stamp the core on the bottom lobe.
- Do not enlarge segment holes. This may cause problems with segment capping.

Combining facts and example

System pin segment types and ranges

A2 System

Top segments 1B–19B
Bottom segments 0A– 9A
Stack height 23

A4 System

Top segments 1F–11F
Bottom segments 0E– 5E
Stack height 14

Caution: BEST pin segments are manufactured to exact tolerances specifically for use with BEST interchangeable cores. For optimum performance, always use BEST springs, caps, and segments with BEST cores.

Example of an A2, 6-pin core combination

Stack ht	23	23	23	23	23	23	
Top	6	6	4	7	10	12	B segments
Control	8	8	16	8	6	6	
Master	4	4	2	4	—	2	
Bottom	5	5	1	4	7	3	

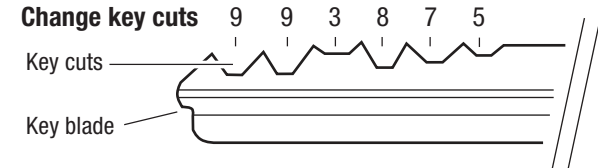


Figure 1 — Showing how pin segments mate key cuts.

Capping instructions

- 1 Insert the pin into the appropriate hole. See figure 3.
- 2 Place the *combined core* (without springs) into the capping block and push it in until it stops.
- 3 Starting at the front open hole of the capping block, insert springs into each hole.
- 4 Make sure all of the springs are seated inside the capping block. No spring should protrude above the top of the capping block.
- 5 Slide a cap onto each open hole that holds a spring.
- 6 Holding the capping pin, strike the top so that the cap is driven into the barrel 0.025 to 0.040 inch. See figure 2.
- 7 Remove the completed, capped core.

Drive cap to a depth of .025 to .040 inches

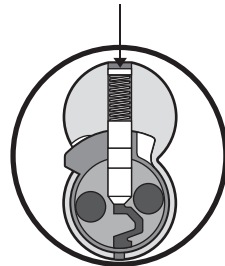


Figure 2 — Driving the cap to the proper depth.

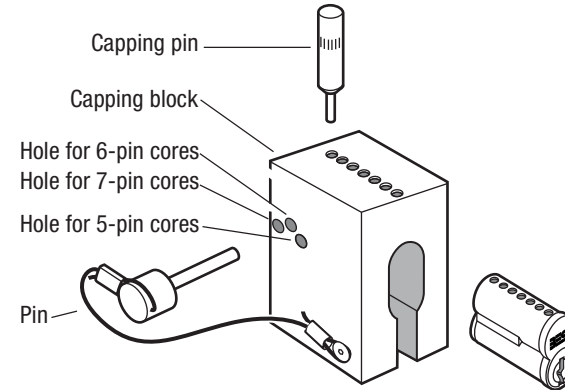


Figure 3 — Hand combining the core.

Using the key cut indicator

- 1 Insert your key into the key cut indicator as shown in figure 4.
- 2 Slide the key until it contacts the top and bottom. Read the aligning key cut number.
- 3 Make sure that the key cut corresponds to the key cut for that position listed on your *Masterkey Specification*.
- 4 Repeat steps 1 through 3 for each key cut.

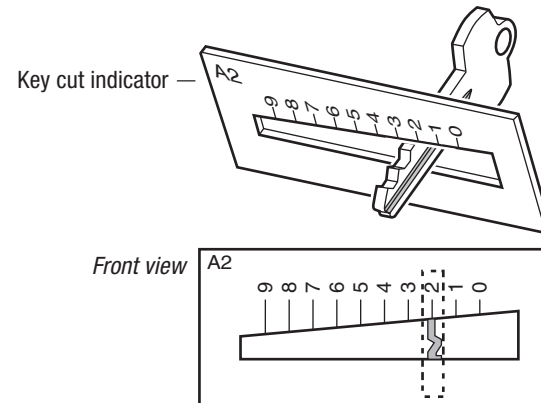


Figure 4 — Checking a key cut in the key cut indicator.

Troubleshooting

Problem: It is difficult to insert or remove the key.

Possible causes

- Key's keyway is not compatible with the core.
- Key is damaged.
- There is foreign material on the key or in the keyway of the core.
- Keyway of the core has been damaged.
- Barrels of the core are not loaded correctly.
- Caps are inserted too deeply into the barrels.

Problem: The key does not rotate the core plug or control lug.

Or: The key does not rotate smoothly.

Possible causes

- Key is not cut properly.
- Barrels of the core are not loaded correctly.
- Key Combinator needs to be recalibrated.

Problem: The core does not insert into the cylinder or receptacle.

Possible causes

- Core lug is not fully retracted.
- Throw pins inside the receptacle are not aligned with the holes in the core.
- There is foreign material in the cylinder or receptacle.
- For mortise locks only: the cylinder set screw is installed too tightly.

For complete information on combining cores and masterkeying, see the *BEST A2, A3, or A4 System Service Manual*, the *Core & Key Service Manual*, or the *Key Combinator Service Manual*.