Mechanical Service Tips

dormakaba

Table of Contents

(Click on Symptom Below)

Symptoms

1000/L1000/EE1000/LP1000

1. Latch bolt will not retract fully so that latch bolt and faceplate are flush
2. Buttons feel dead or have no click when pushed
3. Latch retracts every time the outside lever/knob is activated
4. Latch does not retract when the code is entered
5. Key override will not work
6. Inside lever does not return to normal position. Inside lever turns up and down
7. The outside lever/knob does not return to normal position.
8. Code works intermittently; does not work every time.

5000 Series

1. Code works intermittently; does not work every time.

1000/L1000/EE1000/LP1000

Symptom:

Latch bolt will not retract fully so that latch bolt and faceplate are flush.

Possible Problem:

- Latch is damaged; tailpiece of latch is bent, broken, or came loose.
  - Replace latch. Check latch and strike installation. Deadlatch should not fall into the strike hole cutout.
- Latch bolt has come unhooked from the shoe retractor in the cylindrical drive unit.
  - Re-attach latch bolt. Hole for latch is oversized and needs a stabilizer, mounting screws are too loose and need to be tightened, or door has no internal latch stabilizer to secure the rear of the latch; over time the latch has kicked out.
- Drive shaft pins are bent, twisted, or sheared.
  - Replace drive shaft. Check latch and strike installation. Deadlatch should not fall into the strike hole cutout. Check the door for warpage and assure the load on the door is not too great.
- Clutch cover screws are loose.
  - Tighten screws. Use thread locker if needed. Screws have worked loose over time.
- Shoe in cylindrical drive unit is broken.
  - Replace the drive shoe. Excessive load on the door and latch can cause this type of damage.
- Shoe in CDU will not retract more than half way.
  - Conversion for door thickness possibly made, but incorrect length screws were used. They are too long. The shoe in the cylindrical drive unit is hitting the top of the screws while the shoe is trying to retract the latch bolt. The screws block the shoe from retracting, therefore, the latch bolt will not retract fully. Review conversion instructions for different door thickness. Make corrections as necessary.
- Clutch linkages (one or more) may be damaged.
  - Replace clutch assembly. Check latch and strike installation. Deadlatch should not fall into the strike hole cutout. Check the door for warpage and assure the load on the door is not too great.
- Drive shaft is positioned wrong in clutch assembly.
  - Turn drive shaft to the correct position. (1000 = vertical: L1000 (right hand) = vertical: L1000 (left hand) = horizontal) Could have happened during any repair before the backplate was re-installed or this can happen as the key override cylinder is being installed. The cylinder should install easily with the manipulation of the driver inside the knob or lever.
- Drive insert inside cylindrical drive unit is broken; will not allow enough rotation for the shoe to be retracted.
  - Replace the drive insert. Check latch and strike installation. Deadlatch should not fall into the strike hole cutout. Check the door for warpage and assure the load on the door is not too great.
- Cylindrical drive unit screws are loose or out.
  - Tighten screws. Use thread-locker if needed. Screws have worked loose over time or wrong length screws were used.
- Tailpiece is not turning far enough to retract latch fully (LP models only).
  - The drive hub was not properly adjusted to work properly with the exit device being used. See installation instruction for adjusting the drive hub/cam. This will give you a different starting and stopping point and will allow compatible model panic devices to fully retract the latch.
- Tailpiece is bent, twisted or broken (LP models only).
  - Replace the tailpiece assembly. The drive hub was not properly adjusted to work properly with the exit device being used. See installation instruction for adjusting the drive hub/cam. This will give you a different starting and stopping point and will allow compatible model panic devices to fully retract the latch.

- Drive shaft underneath hub is broken (LP models only).
  - Replace the drive shaft assembly. During initial installation, it is likely the shaft was damaged by over tightening the set screws when adjusting the timing on the drive hub.

Symptom:

Buttons feel dead or have no click when pushed

Possible Problem:

- Wave spring underneath the clutch is flat. It should have bounce to it. If it is flat, it will not allow the clutch to rise and separate when the clutch is activated during cancellation. Therefore, the clutch does not rotate to clear the chamber. The buttons will feel dead.
  - Replace the wave spring.
  - (L/LP1000) = The old style was copper colored. The new style is stainless steel.
  - (1000) = The old is copper colored. If you find a stainless steel wave spring inside and it works correctly, then no change is required.
- Chamber has been damaged. Key stem may be bent or broken. Gears may be damaged causing them not to engage each other properly.
  - Replace combination chamber. Excessive force to the pushbuttons, extreme use where the code is never changed, or poor re-installation of internal components after service can cause such issues.
- Clutch linkages may be bent. If so, clutch does not rotate far enough to clear chamber.
  - Replace the clutch assembly. Check latch and strike installation. Deadlatch should not fall into the strike hole cutout. Check the door for warpage and assure the load on the door is not too great.
- Clutch linkages may be broken near linkage connection points.
  - Replace the clutch assembly. Check latch and strike installation. Deadlatch should not fall into the strike hole cutout. Check the door for warpage and assure the load on the door is not too great.
- Clutch linkage pins may have fallen out if the "c" clips have popped off.
  - If parts are found, you can reattach linkages as shown in exploded view. Make sure the linkages are put on in the correct order to avoid any permanent damage.
- Clutch cover screws are loose. The clutch slips and does not clear the chamber.
  - Tighten screws. Thread locker may be applied. Screws have worked loose over time.
- Clutch nibs are out. These are the 2 little dark (gray) 1/16" pieces inside the clutch on the L1000 and 1000. There are also 2 on the underneath side of the clutch on the 1000. If any one of has come loose, the clutch will not clear the chamber properly.
  - Replace the clutch assembly. Check latch and strike installation. Deadlatch should not fall into the strike hole cutout. Check the door for warpage and assure the load on the door is not too great.
- Wave spring is missing.
  - Replace wave spring. Usually put in wrong or left out during service, as the lock would have never worked had this part been missing.
- Wave spring has been put on incorrectly.
  - Put wave spring in correctly. The lock will not work properly if this part is missing.
- Guide bracket has been put on wrong. "-U-" portion is facing up toward the top of the lock, but it should be facing down toward the bottom of the lock.
  - Put guide bracket on as shown in the exploded view. If put on incorrectly, can damage the clutch if the arms of the clutch come out of the guide bracket. This can also cause the buttons in your combination chamber not to clear.

- Outside lever/knob is not being turned fully to the stop position when the code is entered and the lever/knob is actuated. If this happens, the 1st digit/digits in the combo may not be cleared.
  - Make sure the user is turning the outside lever/knob to the stop position. Re-educate the users.
- Cylindrical drive unit is set up wrong for certain thickness door. Screws that hold cylindrical drive to back plate are too long and are blocking the shoe from fully retracting. If so, the digits in the combo will not clear.
  - Conversion for door thickness incorrectly made; incorrect length screws were used. They are too long. The shoe in the cylindrical drive unit is hitting the top of the screws while the shoe is trying to retract the latch bolt. The screws block the shoe from retracting, therefore, the latch bolt will not retract fully, also preventing the clutch from rotating fully, allowing the combination chamber to clear. Review conversion instructions for different door thickness. Make corrections as necessary.

Symptom:

Latch retracts every time the outside lever/knob is activated.

Possible Problem:

- Passage feature is activated.
  - Deactivate the passage feature.
- Lock is in zero code.
  - Follow code change instructions omitting the step that instructs you to enter the existing code.
- Arms on clutch are bent causing clutch not to return to normal position.
  - Replace the clutch assembly and combination chamber.
- Shaft is in wrong position for that hand of lock.
  - Turn drive shaft to the correct position.
  - 1000 = vertical: LR/LRP = vertical: LL/LLP = horizontal
- Lock has wrong core in it. Core may not be compatible.
  - Replace core with compatible type.
- Clutch "c" link on L1000 is stripped. Tabs on chamber shaft linkage have been sheared and the link spins freely letting the clutch turn the drive shaft with no resistance.
  - Replace the clutch assembly and the combination chamber.
- Chamber is locked in zero code. Chamber has been damaged and will not reset or take a new code.
  - Replace the combination chamber.
- Stop plate is worn and is not letting the clutch fully reseat in its normal position. This keeps the chamber activated and allows you to turn the outside knob/lever and regain entry without entering a code.
  - Replace the stop plate and inspect the outside drive sleeve for wear.

Symptom:

Latch does not retract when the code is entered.

Possible Problem:

- Lost code; code is different than what it is thought to be.
  - See instructions for clearing a lost or unknown combination.
- Drive shaft pins are bent or sheared off. If the shaft pins are bent, then when the clutch rotates, the pins aren't turned far enough to pull the latch back fully. If sheared, the top pin will not turn the drive insert. If the bottom pin is sheared, there is nothing for the clutch to drive. In either case, you will not be able to gain entry.
  - Replace the drive shaft.

- Clutch arms are bent. They won't allow the chamber to move in the correct direction to properly activate the lock.
  - Replace the clutch assembly and the combination chamber.
- Screw on clutch backing plate is on the wrong side. It is blocking the lower clutch arm from moving up during activation.
  - Remove screw and put it in correct hole.
- Latch is broken. The tailpiece, to which the shoe in the cylindrical drive attaches to, has broken off.
  - Replace the latch bolt.
- Clutch actuator knob is broken. When the knob/lever is turned, the actuator knob should also turn to activate the clutch and chamber. If the actuator knob is broken, the knob/lever will not drive the clutch to operate the lock.
  - Replace the clutch assembly.
- The drive shoe is broken. If broken, there is nothing to grab and retract the latch tailpiece.
  - Replace the drive shoe.
- The drive insert is broken. When the code is entered, the clutch rotates correctly turning the drive shaft, but there is not enough turn in the drive insert to retract the latch fully or at all.
  - Replace the drive insert.
- Clutch cover screws are loose. This causes latch to partially retract then pop back out.
  - Tighten the clutch cover screws. Use thread-locker if needed.

Symptom:

Key override will not work.

Possible Problem:

- Drive shaft pins are bent or sheared off. If the shaft pins are bent, they may not allow the drive shaft to rotate far enough to pull back the latch. If sheared, the top pin will not turn the drive insert. In either case, you may not be able to gain entry.
  - Replace the drive shaft.
- Outside drive sleeve pins are broken. These are the drivers that are turned when you turn your key. If these are broken, there is nothing turning, but your key.
  - Replace the outside drive sleeve.
- Tailpiece on drive shaft (pie shaped piece) has broken, or is no longer seated inside the brass drive shaft bushing located between the clutch and outside drive sleeve.
  - Replace the drive shaft and bushing if needed.
- Key for key override is not the correct key.
  - Locate the correct key.
- Interchangeable core is no compatible or is too short (has too few pins).
  - Use compatible core. See if adapter is available for shorter cores.
- Outside drive sleeve tailpiece is no longer staked. Your key will turn and drive the drive sleeve pins, but there is no engagement of the outside drive sleeve tailpiece.
  - Replace the outside drive sleeve.
- You turn the key but it does not turn far enough to pull the latch back fully. Latch may be broken and is keeping the drive insert/shoe from turning far enough to retract the latch fully or partially.
  - Replace the latch.

Symptom:

Inside lever does not return to normal position. Inside lever turns up and down.

Possible Problem:

- The fixed sleeve is broken. There is a "¼" tab, which acts as a stop. This tab/stop is broken. Without this stop, the lever will turn up or down.
  - Replace the fixed sleeve.
- The inside lever return spring has a hole in both the lever insert and the fixed sleeve. Each hole receives one end of the return spring. If the spring has come out, then there will be very little spring tension, if any, on the inside lever.
  - The spring should be repositioned so the ends are properly secured in the lever insert and fixed sleeve.
- The inside drive sleeve has been forced and is now damaged. If forced beyond the stop point, the inside sleeve can be twisted. This will cause the inside lever to be extremely hard to get off. This will also cause the lever to appear higher or lower than normal depending on the direction the sleeve was twisted.
  - Replace the inside drive sleeve and inspect the fixed sleeve.

Symptom:

The outside lever/knob does not return to normal position.

Possible Problem:

- The knob/lever return spring is broken.
  - Replace the return spring.
- The 1000 stop plate is worn heavily allowing the clutch to catch inside the stop plate. This will cause the knob to stop before it fully resets; it does not return to the at rest position, therefore, it does not clear the chamber. This could cause the lock to continue to open as if in a zero code.
  - Replace the stop plate.
- The L1000 stop plate is worn heavily allowing the lever to hang down. This will make the lever seem like it has a lot of slop in it. This will also cause the lever to stop prematurely, which keeps the clutch from resetting the chamber. This could cause the lock to continue to open as if in a zero code.
  - Replace the stop plate and inspect the outside drive sleeve.
- The outside lever has been hit and is damaged. If the lever has been hit with excessive force, the lever may be broken. Either the insert is bent/broken or the hole in the housing for the lever has been deformed.
  - Inspect the lever and housing; replace either or both as needed.
- Clutch arms bent. Won't release the clutch to reset the knob/lever or keeps the clutch and chamber activated constantly as if in a zero code.
  - Replace the clutch assembly.
- The clutch has gotten caught in/against the passage release mechanism. This will cause the lever to hang down and the lock to malfunction.
  - Make sure the passage release and clutch are not interfering with each other. The passage release mechanism may be bent and in need of replacement. There should be enough clearance between the clutch and passage release mechanism so this does not happen again.

Symptom:

Code works intermittently; does not work every time.

Possible Problem:

- Code is hard to use when using multiple digits together in code sequence. Using more than one digit at a time can be hard to do for some persons. Remember, with multiple users, there are many variables like hand and finger size, hand or finger strength, eye-hand coordination, etc. that can play a role in the unit working as designed.
- Example: Code was 1&4 together, then 5. Change this code to 1, 4, 5 and see if this remedies the problem. Remember, if multiple digits are used together in the code sequence, these digits must be hit at exactly the same time for the unit to work as designed.
  - Change the code, making it easier to use.

5000 Series

Symptom:

Locks opens when the enter button is pressed and no code has been entered.

Possible Problem:

- Lock is in zero code.
  - Change the code using the code change instructions, but omit the step that states to put in the current or existing code, as there is not one in the lock.
- Actuator cam that works the chamber has been flipped inadvertently while the combination chamber was removed from the lock (usually done while a lost or unknown code is being retrieved)
  - Remove the chamber and flip the actuator cam back to the correct position. The small end of the actuator cam should point away from the combination chamber; the large end should be the end to come into contact with black, unlocking slide on the combination chamber.
- The combination chamber or one of it working components has been removed.
  - Replace the combination chamber.
- The spring for the locking piece in the extension sleeve is broken or has been removed.
  - Replace the extension sleeve.

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dormakaba USA Inc.
6161 E. 75th St.
Indianapolis, IN 46250
800.523.8483

www.dormakaba.us

dormakaba Canada Inc.
65 Struck Court
Cambridge, ON N1R 8L2
800.387.4938