SAFEGUARDS FOR MOUNTING
1. Once an electronic lock has been mounted, no more welding can be done on the safe.
2. Keep metal dust, filings, etc. away from the lock.
3. Never oil, grease, lubricate or paint the lock.
4. Keep cables away from sharp edges and moving parts.
5. Never carry keypads or locks by the cable.
6. Use 9-Volt ALKALINE batteries only. The use of a high quality, name brand battery (Energizer® or Duracell®) is recommended.

DESIGN PARAMETERS FOR REDUNDANT MECHANICAL LOCKS
1. Bolt dimensions (nominal): .312 inches x 1.000 inches/8 x 25.4mm
2. Bolt movement (nominal): .465 inches/11.8mm
3. Bolt extension: .465 inches/11.8mm
4. Maximum load movable by the bolt: 5 lbs. (22N)

NOTE: LA GARD dead bolt locks may not open if more than 5 lbs. (22N) of force is applied to the end or side of the bolt.

5. Maximum load against bolt when thrown (all directions): 224.8 lbs. (1kN)
6. The lock can be fitted to safes or vault doors of any material.

NOTE: As is the case with all mechanical and electronic locking devices, the container and boltworks must be designed to protect the lock.

PREPARATION FOR NEW INSTALLATION: (IF REQUIRED)
MOUNTING THE ELECTRONIC ENTRY DEVICE
Follow the mounting instructions for the particular Entry Device you are using.

1. Use the template provided to establish the exact locations (relative to the spindle hole) of the mounting holes for the Entry Device and the lock assembly. Be sure to consider the cable length from the entry device to the lock.
2. To connect the Entry Device cable to the lock assembly, an additional through-hole in the container door is required. The cable hole diameter can be a minimum of .406" (10.3mm) to a maximum of .438" (11.1mm). The .406" (10.3mm) diameter is recommended. Cable hole must be deburred.
3. The Entry Device mounting screws require drilled and tapped holes to 3/8" (9.5mm) depth if possible (minimum 1/4" or 6.4mm depth required). Drill either the two horizontal mounting holes or the two vertical holes.
4. When mounting the lock unit (i.e., integrating it in a boltwork), make sure that the lock bolt has clearance to freely move to its end positions and that the shifting force works only in the axial direction (direction of movement). Lateral forces should not be exerted on the lock.
5. If other parts of the boltwork are to be connected to the lock unit (e.g., for activating a blocking device), corresponding adapters can be fixed with screws (#10-32 or M4) to the front of the lock bolt (tightening torque for 15mm screwing depth: 200Ncm maximum).
INSTALLATION OF DIAL AND LOCK
In order to use a Redundant Mechanical lock, a method of retracting the bolt is required. Use of the VISIONGARD Dial (P/N 2085) is recommended (Figure 4). An entire range of LA GARD dials is available for alternate dial options.

1. Locate, drill and tap holes to mount the Lock Assembly to the inside of the safe door using the installation template available on-line at www.kaba-mas.com.
2. Locate and drill the two holes for the dial ring to be mounted.
3. Attach the lock assembly to the door using the three US 1/4-20 mounting screws provided. Tighten the mounting screws to a torque setting of 30 in./lbs. (3.4 N•m.)

**NOTE:** Ensure the lock assembly spindle hole is properly aligned with the spindle through hole in the safe door.

4. Measure total mounting thickness (door thickness + mounting plate). (Figure 3.)
5. Cut the spindle to a length of 1.125" (28.6mm) plus the total mounting thickness.
6. Mount the dial ring centered on the through hole, and attach to the safe door using the two mounting screws supplied with the dial assembly. The opening index reference mark must be in the twelve o’clock position (Figure 4).

7. Place the dial bearing onto the dial ring.

**NOTE:** It is recommended the lock bolt remain in the retracted position throughout the installation procedure. To ensure this keep one finger over the bolt while installing the dial spindle into the lock cam.

**WARNING:** Ensure that you are properly grounded to protect the system card from Electrostatic Discharge (ESD) damage before proceeding with the next steps.

8. Remove the two cover screws from the back cover of the lock assembly, and remove the lock back cover (Figure 2).
9. Carefully unplug the solenoid connector from the system card. (If applicable, unplug the bolt switch connector from the system card.) (Figure 2.)
10. Remove the mounting screw from the system card, and gently lift the system card out of the case (Figure 2).
11. Insert the spindle through the spindle hole in the front of the door.
12. With the bolt retracted, carefully thread (clockwise) the spindle into the drive cam of the lock assembly until tight.
13. Next, rotate (counterclockwise) at least 1/2 turn until the groove in the spindle is aligned with the correct spline position. The correct spline position for the installation orientation showing in Figure 2 is RH (for a “Right Hand” door). Refer to the following Spline Key Position Chart for all mounting positions.
Spline Key Position Chart
The lock may be mounted in four positions - align the spindle groove with the corresponding cam position. The positions are marked as follows:

- **RH** (right hand)
  Lock bolt points right as you view the lock from the back side of the door.

- **LH** (left hand)
  Lock bolt points left as you view the lock from the back side of the door.

- **VU** (vertical up)
  Lock bolt points upward.

- **VD** (vertical down)
  Lock bolt points downward.

14. Insert the spline key fully into the cam from the back of the lock assembly by tapping it into place.

  **IMPORTANT Note:** Ensure the spline key is seated against the spindle.

15. Reinstall the system card.
16. Reconnect the solenoid (and bolt switch if applicable).
17. Reinstall the back cover.

**CONNECTING THE ENTRY DEVICE**

1. Connect the cable coming from the Entry Device directly into the connector port marked ENT on the lock.

   **NOTE:** Ensure the cable is secure and away from any moving parts.

2. Install battery with the door open. Test the lock by following the set up instructions for the version of lock firmware you are using. Each firmware version’s set up configuration differs slightly; therefore refer to the Manager instructions shipped with the lock to ensure proper operation.

**TESTING THE LOCK – ELECTRONIC**

The Redundant Mechanical lock has two independent methods of operation. The primary method is the electronic entry device. To test, enter a valid combination, and turn the dial clock-wise to retract the bolt. The factory default combination is 1-2-3-4-5-6 or “1” for non-configured locks. Refer to the Manager instructions for the particular lock model you have.

**CHANGING THE COMBINATION – ELECTRONIC**

Refer to the Manager instructions shipped with the lock.

**TESTING THE LOCK – MECHANICAL**

The second method of operation is the 4-wheel mechanical lock. LA GARD mechanical locks are shipped with the factory combination of 50. To test, turn dial to the LEFT (counter-clockwise) passing 50 at least five times, then stop when 50 lines-up with the Opening Index. Turn RIGHT (clockwise) until dial stops, this will retract the bolt. (This may vary slightly by one or two numbers either up or down due to variations in alignment of dial ring during installation.)

**NOTE:** If using the VisionGard Dial (2085 or 2090 Series) and a lock with the factory combination, then the lock will open on 47.

**NOTE:** When dialing a combination, if you passed the number which you intended to stop on, you cannot reverse the dial to correct. The opening procedure must be repeated from the beginning.
NOTE: before changing the combination verify that the dial stopped between 90 and 0 on the OPENING index when the bolt is fully retracted.

OPERATING AND CHANGING COMBINATION – MECHANICAL
Use the CHANGE INDEX (Figure 6).
To verify the combination, first open the safe door by dialing the existing combination using the OPENING index.

To change the combination, you will need to know the existing combination and have a LA GARD 4-Wheel change key (P/N 1315). When selecting a combination choose a four number sequence from 0 - 99. For security purposes, do not select a combination from personal data (such as birth date, phone number, etc). Never select numbers 0 to 20 as the LAST NUMBER of the combination; this is the “Forbidden Zone.”

LA GARD mechanical locks are shipped with the factory combination of 50. To change the combination from factory setting turn the dial to the LEFT(counter-clockwise) passing 50 at least five times then stop when 50 lines-up with the Change Index. Insert the change key into the back of the lock, and turn RIGHT (clockwise) one-quarter until the key stops (Figure 7). Follow the “Setting a Combination” instructions below. If the change key does not go in easily, the wheels are not properly aligned. Redial the existing combination using the CHANGING Index.

SETTING A COMBINATION – USE THE CHANGING INDEX
1. Dial the existing combination as previously described using the CHANGING Index (Figure 6). STOP the dial on the fourth number of the combination.
2. Insert the change key into the change key hole (Figure 7). If the change key does not go in easily, the wheels are not aligned. Redial the existing combination using the CHANGING Index.
3. Turn the change key to the RIGHT (clockwise) one-quarter turn until the key stops. Leaving the key in the lock, set the new combination (Figure 7).
4. Next turn the dial to the LEFT (counterclockwise) at least five complete rotations to clear the lock; the lock is now ready to accept the new combination. Never quickly spin the dial to clear the lock.
5. Using the CHANGING index: EXAMPLE 10-20-30-40

6. Turn the change key to the left (counter-clockwise) one quarter turn, and remove the change key. The new combination is now set.
To test, dial the new combination using the OPENING index. ALWAYS perform this test with the safe door open! Test several times before closing the safe door.

NOTE: When locking the safe always turn the safe handle, if present, to the locked position (bolts extended) before turning the lock dial (five complete rotations to the LEFT) to relock. If you notice any resistance DO NOT force the dial to turn. This may cause damage to the lock.
**HOLDUP SWITCH OPERATION (REFER TO FIGURE 8)**

The lock has two switches installed to monitor the bolt and the first or third gate wheel.

The switches operate as follows:

**BOLT SWITCH**
When the bolt is in the locked position, connection to the contacts NO and C will indicate an open circuit condition. Connection to contacts NC and C will indicate a closed circuit condition.

When the bolt is in the unlocked position, connection to the contacts NO and C will indicate a closed circuit condition. Connection to contacts NC and C will indicate an open circuit condition.

The bolt switch may be used to monitor safe openings or the number of times the bolt is retracted.

**HOLDUP WHEEL SWITCH**
This feature is used to signal a holdup condition and is activated when the first number of the normal combination is dialed 10 numbers higher than the normal combination. For example, if the normal combination is 10-20-30-40 then the holdup combination will be 20-20-30-40.

The gate wheel switch is optionally available where dialing the third number of the combination activates this feature. For example, if the normal combination is 10-20-30-40 then the holdup combination would be 10-20-40-40. Both the normal and the holdup combinations will open the lock.

**NOTE:** The holdup signal is sent once the bolt is retracted and NOT when the holdup combination is dialed.

**SWITCH CONNECTIONS FOR THE HOLDUP FEATURE ARE AS FOLLOWS:**

A. During normal use, connection to contacts NC and C will indicate a closed circuit condition, while connections to contacts NO and C will indicate an open circuit condition.

B. During holdup, contacts NC and C will indicate an open circuit condition and contacts NO and C will indicate a closed circuit condition.