

Combi Autodialer Instructions



LOCKMASTERS®
I N C O R P O R A T E D

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800.654.0637 Monday - Friday 8:00 am to 5:30 pm ET

www.lockmasters.com

Important Safety Notice

LKMCOMBI uses a powerful motor for its autodialing procedure. Power should always be disconnected during installation and removal.

When in use no one should be allowed near the dialer. Users should take care with long hair, jewelry, loose clothing, and similar objects which may get caught in the dialer. LKMCOMBI should only be operated by individuals trained in its use.

Overview

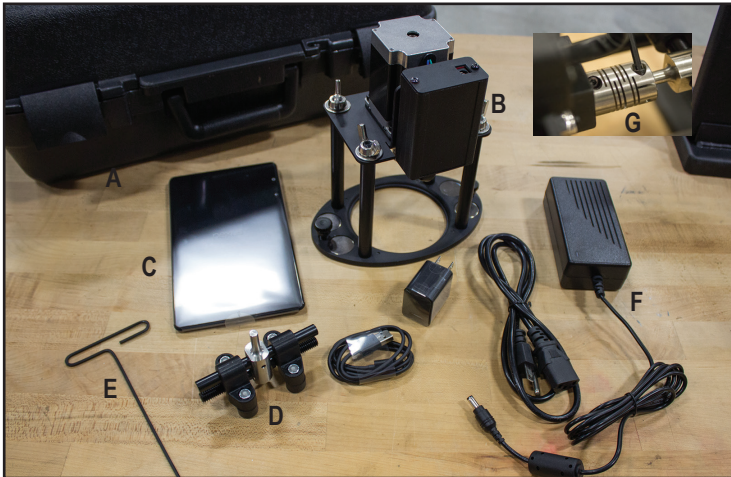
LKMCOMBI is a tablet-controlled robotic dialer for opening Group 2 mechanical combination locks.

Generally, all 3- and 4- wheel Group 2 mechanical combination locks are supported. Examples of supported locks include the S&G 6730 and LA GARD 3330. This excludes Group 1 locks such as the S&G 8500 as well as any direct drive locks.

LKMCOMBI requires a maximum of 17 hours to dial through all possible combinations for a 3 wheel lock. The dialer is controlled via Bluetooth from the Nexus 7 tablet, so the tablet must remain on and connected throughout the dialing process.

Kit Contents

- 1 - (A) Carrying Case
- 1 - (B) LKMCOMBI Base
- 1 - (C) Nexus 7 Tablet
- 1 - (D) Universal Chuck
- 1 - (E) Hex Key
- 1 - (F) 110/220V Power Supply
- 1 - (G) Flexible Coupler (attached to the base)



Pre-Installation Procedure

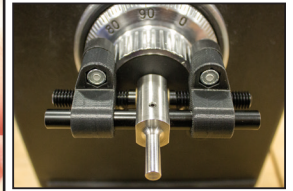
Prior to installing LKMCOMBI the user should confirm that the lock is functional and is of a supported type. Below are some general suggestions:

- Look up the make and model of safe using standard safe technicians' literature to confirm combination lock type.
- Confirm the number of wheels in the lock to ensure lock is functional.
- Confirm that the lock is not direct drive. If no drop in is felt or if handle pressure binds the dial, the lock is likely direct drive and is unsupported.
- The dial should spin freely. Too much friction will make autodialing more difficult.
- Confirm that the lock is splined correctly by identifying the location of the contact points. If the lock is splined incorrectly the drop-in position will need to be changed in the Android app.

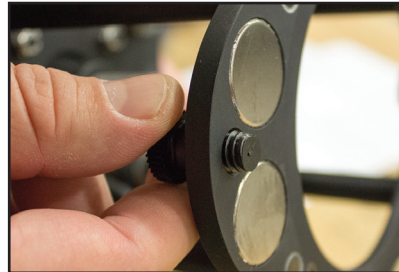
Installation

Installing LKMCOMBI is quick and easy

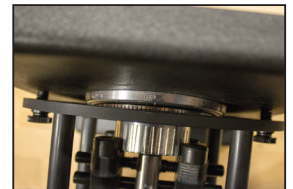
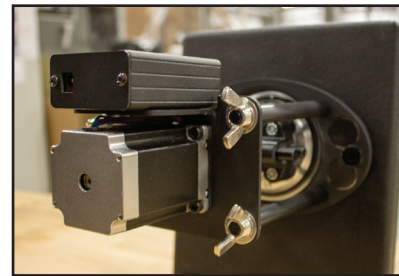
NOTE: Make sure the LKMCOMBI is not connected to any power supply before installing.



1. Use the included hex key to widen the chuck so it can be positioned over the dial. Then tighten to snug.



2. Take the LKMCOMBI base and ensure that both nylon screws are extended on the underside of the base.

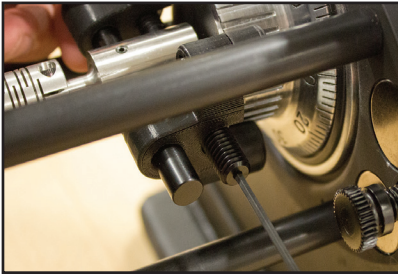


3. Center the base over the chuck, dial and dial ring. Aligning the base coupler over the spindle on the chuck.



4. Unscrew the two nylon screws on the base to bring the magnetic base firmly against the safe body ensuring that the chuck is perfectly centered.

continued to next page



5. Carefully tighten the chuck to the dial, making sure it is snug and centered. Overtightening may damage the chuck.
6. Confirm that the dial can rotate smoothly by rotating the chuck manually. If the dial is too tight, reinstall the tool taking care that everything is centered.



7. Take the hex key and tighten to snug the coupler



8. Connect power to LKMCOMBI Base.



9. Turn on the Nexus 7 tablet and open the Autodialer App.

Android App

The Android app on the included Nexus 7 is the heart of LKMCOMBI. LKMCOMBI is controlled by this app over Bluetooth and as such must always be in range of the dialer.

The app comes preinstalled on the Nexus 7 tablet and can be found on the home screen or in the app drawer. If needed the app may be installed on other Android devices, please contact us for further assistance.

Lock Tab

This tab is used to configure the settings for the current lock. Different lock types may be saved as presets and loaded using the "Load Preset" button.
Lock Name: The name of the lock

Forbidden Zone: The range of numbers on the last wheel which may not be used, which is typically 5 numbers outside of each contact point.

Contact Points: The left and right bounds on the contact points on the drive cam.

Check Distance: After each dialing attempt, LKMCOMBI will rotate the dial this distance past the contact point to check for a successful opening. This number should exceed the actual number required to retract the bolt.

Num Wheels: The number of wheels present in the lock. Only 3 and 4 wheel locks are supported.

Wheel 1 Rotation: This refers to the direction which the lock is first turned when normally entering the combination (this is normally Left for a 3 wheel).

Dialing Tab

This tab is used to start and monitor the dialing process after defining the lock in the Lock Tab.

By default this tab opens in "Autodialing Mode." This can be changed to "Dial Combination List" or "Dial Single Combo" mode by selecting the appropriate option from the menu on the right. To access this menu tap the icon with the three vertical dots.

Speed: Higher speeds will dial the lock more quickly, but lower speeds will cause less wear and may overcome tighter dials due to higher motor torque.

Default Coverage: This feature applies the selected increment values to all wheels in addition to setting all ranges to 0 to 99.

Wheel Range: This specifies the range of numbers being dialed. Set to "0 to 99" to dial all 100 numbers.

Offset: This optional setting instructs the dialer to add the number specified to each number dialed. For instance, if the wheel is set to start at 40 with an offset of 1, it will start at 41.

Increment: This is the distance the wheel is turned during each dialing attempt. For example, an increment of one would result in 30, 31, and 32 being dialed. An increment of 1.5 would dial 30, 31.5, 33. Most locks can be safely set to 1.5 or 2.

Calculate Offset: This allows the user to specify the lock tolerance to automatically calculate the appropriate increment and offset values.

A try-out combination button will appear in the dialing tab if the Clear Wheels after Open has been set and the lock has been opened and the wheels have been cleared. Press the try-out combination button to load the combinations needed to re-open the lock. These tryout combination are provided to make re-opening the lock easier. Several combinations may be dialed to re-open if the combination was found dialing in an abbreviated manner.

Settings

To access the app settings, press the menu button (three dots in the top-right corner) and select Settings.

Clear Wheels after Open: This option is useful for protecting the contents of a safe if it is being dialed unattended. Once the application detects that the correct combination has been found it will re-lock the container.

Note: In the setting of the tablet, go to Settings>Personal>Security>Screen Lock, then you can set the tablet to lock with a pin. This will prevent the tablet from being opened during the dialing process.

If the Clear Wheels after Open is checked and the tablet is locked, the safe will be opened, then the wheels will be cleared and the tablet will remain locked until the pin is entered to open the tablet.

Email Notification: This feature allows a notification email to be sent upon finding the correct combination. This is useful if the dialer is being left unattended. SMTP settings must be configured depending on the particular email provider being used.

Launch Bootloader: This is to be used only in updating the device firmware, further instructions will be provided with any update as necessary.

Set-up Instructions for Combi

Email Notification

Combi email notification is designed to notify the user when one of the following events occur.

Event 1 – The encoder notices that the dial has stopped turning during a normal wheel movement attempt. This is called an unexpected motor stall. The message forwarded will look like the message below.

name@gmail.com
to me

Lock: Unknown

Start Date: Wed May 11 14:08:25 EDT 2016

Duration: 26 seconds and 45 milliseconds

Status: STALL

Last Combo: None

Event 2 - The encoder notices that the dial has stopped turning during the bolt retraction process and assumes the lock is open. This may also be a motor stall during the bolt retraction sequence. The message will be Lock Open. The message will look like the message below.

name@gmail.com
to me

Lock: Unknown

Start Date: Wed May 11 14:48:07 EDT 2016

Duration: 3 seconds and 455 milliseconds

Status: OPEN

Last Combo: 12-00-23

Set-up

- 1) Go to setup>
- 2) Enable email notification> check to turn on
- 3) Email: enter email address Ex. Name@gmail.com
- 4) Password: enter password for account Ex. passwd1234
- 5) SMTP Server Address: Outbound mail server from email host. Ex. GMAIL = smtp.gmail.com
- 6) SMTP Server Port: Ex. Gmail = 587
- 7) Send Test Email: Click this to test settings. You will see a pop-up message Failed or Successful. If failed check settings. If successful then parameters are configured properly.
- 8) Note every email server may have setting that need to be set differently. Consult email provider for proper setup.

Gmail Setting:

We have tested Gmail setting and we have provided the proper settings as noted above.

Gmail has become strict with their SMTP servers - they now reject an app if you're not using OAuth2 which is an authentication method that allows communication between google and yourself when you're not using a password. This is a Gmail only issue.

For using Gmail you will need to do the following:

- go to my account
- sign in / security
- scroll down to connected apps and sites
- click "Allow less secure apps" to ON.

Also, visit this page for more info:

<https://support.google.com/accounts/answer/6010255?hl=en>

Bluetooth Pairing: Nexus 7

The tablet and Dialer unit come pre-paired from the manufacturer. If pairing needs to be performed by the user, follow these steps:

Make sure the Dialer is powered.

Close currently running apps (select square button, swipe away apps).
Select the Settings app from the app drawer.

Select Bluetooth.

Unpair any Dialer units in Paired Devices (names start with RNBT or FireFly) by selecting the gear icon, then Forget.

Allow tablet to scan for devices by selecting the three dots icon, then Refresh.

Select Dialer unit to connect to (names start with RNBT or FireFly).

A Bluetooth icon may appear on the top bar, swipe down from the top of the screen then select Pair & Connect.

A dialog box with a pairing code will appear, select Pair to continue.

Dialer unit should appear under Paired Devices.

Bluetooth Pairing: Nexus 7 continued

Close currently running apps (select square button, swipe away apps).

Select Dialer app from the app drawer.

You should briefly see Not Connected in the app then the text should change to Connected to RNBT or Connected to FireFly.

If the text remains Not Connected, close the Dialer app and reopen the app. The Not Connected text should change within 5 seconds.

Troubleshooting

Stalled Motor or Tight Dial

The motor may stall if the dial is too stiff or if LKMCOMBI was not installed with the dial perfectly centered. The software may believe the lock has been opened if the motor stalls during the bolt retraction check.

Sometimes dials are bound by a shifted dial ring. If this is the case the dial ring may be lightly tapped back into place to relieve some pressure.

Spraying a light lubricant such as Triflow behind the dial may help in some cases. Care should be taken not to get lubricant on the front of the dial where LKMCOMBI will be gripping.

If the dial is tight due to side pressure from the handle the lock is likely a direct drive lock, which is not supported by LKMCOMBI.

If the motor continues to stall a slower dialing speed should be used.

Connection Problems

LKMCOMBI must be in constant Bluetooth range of the tablet to operate, which is approximately 30'. If the tablet goes out of range LKMCOMBI will stop and will resume were it left off once reconnected.

Power cycling LKMCOMBI and the tablet may fix some connection problems.

Warranty and Technical Support

Lockmasters warrants the LKMCOMBI to be free of defects in material or workmanship for a period of one year from the original date of purchase.

The warranty is a limited manufacturer warranty. Lockmasters' liability shall be limited to repair or replacement at the discretion of Lockmasters, Inc.

Lockmasters shall be under no liability for any defect in the product arising from willful damage, improper use, negligent use, or unauthorized modifications/repairs.

This warranty extends only to the original purchaser and shall not extend to any other consumer. This warranty is not assignable or transferable.

The Nexus 7 is covered under its own Asus warranty (see www.asus.com).

For LKMCOMBI technical support please contact:

Lockmasters, Inc.

800.654.0637

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