

Owners Manual MAX-31k Upper Receiver



NFA Warning

This upper receiver is designed to be used with the SWD M-11A1 and RPB M-11A1 .380 ACP submachine gun. NFA (National Firearms Act, Title 26, United States Code) rules apply to its use and possession.

It is the owners/users responsibility to comply with all local, State and Federal laws and regulations in the use of this product.

Description/Features

The MAX-31k Upper Receiver is designed to provide additional capability to the SWD M-11A1 submachinegun. Utilizing a heavy bolt and longer bolt stroke, the rate of fire is reduced to around 650 to 700 rounds per minute. This allows easy controllability of fire and the ability to consistently fire single and two round bursts from the automatic setting.

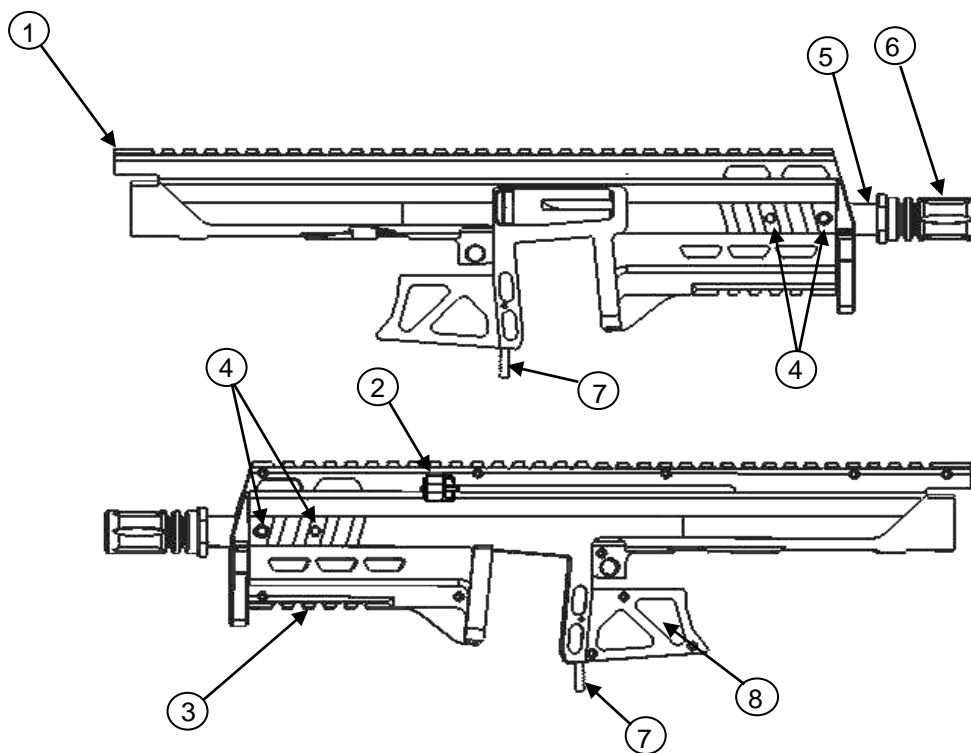
The MAX-31k is designed to use Suomi M31 50 round coffin magazines or modified Sten magazines. The MAX-31k will not function with the 36 round Suomi stick mag's which are double feed.

The MAX-31k does not include removeable sights, scope or optics.

The MAX-31k attaches to the stock M-11A1 lower receiver without any modification to the lower receiver.

Features:

- | | |
|--|---|
| 1) Scope/Optics rail 13-1/2" | 6) Flash Suppressor |
| 2) Cocking Handle (non-reciprocating) | 7) Mag catch |
| 3) Lower Accessory Rail 2-3/4" | 8) Trigger guard filler |
| 4) Side Accessory Rail Mounting Points | (contains mag' catch and mag' catch spring) |
| 5) 5-3/4 inch barrel length, removeable
(threaded 1/2-28) | |



Length: 16-3/8"

Width: 2-1/4"

Height: 4-11/16"

Overall length with 9-1/2" stock- 26"

Weight: 3 pounds 4 ounces

Installation

- ① Insure firearm is unloaded. Point in a safe direction. Remove magazine and pull bolt to the rear to insure chamber is empty.



- ② While holding cocking knob, pull trigger and ease bolt forward into closed position.



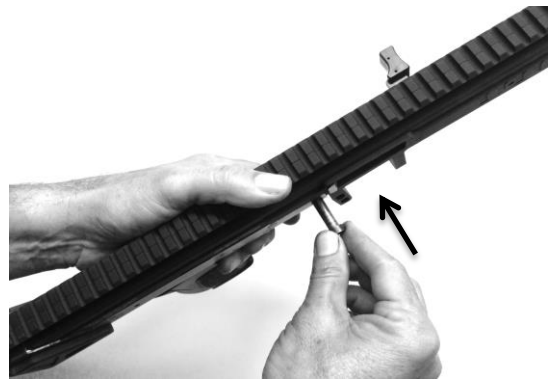
- ③ Remove front retaining pin and detach upper receiver from lower receiver.



- ④ Make sure selector is set to "SMG". This drops the trip down and makes it easier to install the upper. Hold upper receiver with muzzle pointing down to prevent bolt assembly from sliding out. Pull and hold trigger back while installing the upper. Install upper by aligning the rear of the upper receiver with the rear of the lower receiver, keeping both receivers parallel. As you slide the upper into the lower pay careful attention to not push the front of the lower receiver into the trigger guard filler of the upper receiver, or you may scratch the finish on your lower receiver. If receiver will not install all of the way forward, wiggle receiver up and down until it moves forward.



- ⑤ Align retaining pin hole and install retaining pin.



Removal

- ① Point firearm in a safe direction and ensure it is unloaded and magazine is removed.
- ② Hold gun with muzzle pointing down and remove retaining pin.
- ③ Pull lower receiver back about an 1/8", then pull trigger and hold. While holding trigger back, pull lower receiver downward and back to remove.



Operation

Recommended ammunition:

Use only full power 9mm ammunition such as Winchester White Box 115 gr. Round Nose ammunition.

Using weak ammo may result in short uncontrolled bursts of 3 to 5 rounds.

If you are unsure of your ammunition, only load 10 rounds in the magazine and test to see if it continues to shoot after releasing the trigger.

Do not use steel cased ammo in the 50 round Suomi coffin magazines. The increased friction of the steel cases will cause feed jams.

Rate of fire is dependent upon ammunition being used. "Hotter" ammo will run faster and weaker ammo will run slower. Winchester White Box ammo will run at approximately 700 RPM.

Magazines:

The MAX-31k is designed to use Suomi M31 50 round coffin magazines or modified Sten magazines. Sten magazines can be modified by sanding or grinding the front and back to make it narrower and adding a magazine catch to the back. While Suomi M31 72 round Drum magazines will fit and function in the upper, it is difficult or awkward to reach around the drum to hold on to the front of the upper. The upper will not function with the 36 round Suomi stick mag's which are double feed.

Due to variations in magazines, some magazines may be a snug fit but most will fit loosely. The magazine may have a lot of play after installation, but this will not affect functioning of the MAX-31k.

Condition of magazines- magazines are of varying quality due to the fact that they are surplus military magazines. Steel surface may show pitting, wear marks or light scratches. Magazine is coated with grease. Make sure you clean the inside thoroughly before loading.

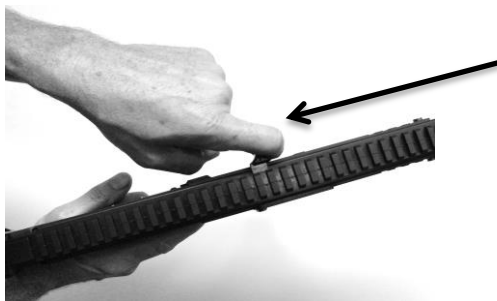
Load magazine:

Cock gun first before installing magazine.
Insert loaded magazine into mag well.



Cocking

Pull cocking knob to rear and release. Bolt will remain open.
Cocking knob has a spring return and will return forward after release.
Cocking knob is non-reciprocating and will remain forward when firing.



Note:

Cocking assembly may slightly bind when first used. With use and lubrication, it will feel smoother.

If gun jams with the bolt forced closed, do not force the cocking knob or hit it with a hammer. Remove upper receiver from lower receiver. Use a screw driver to depress the rear of the extractor and release the case rim. Remove the bolt assembly, then use a cleaning rod or dowel from the muzzle end to tap the bullet out.

Scope/Optics Rail

A full length rail for mounting a scope or other aiming device is located on the top of the upper receiver.

When installing a mount, do not force it or you may damage the upper receiver accessory rail.

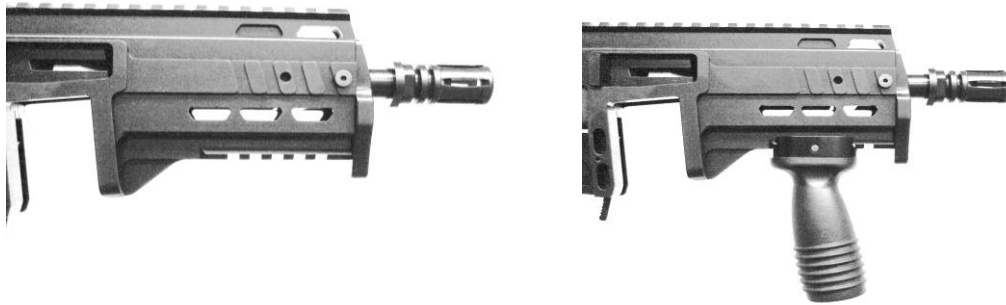
Lower Accessory Rail

A rail for attaching a front hand grip, laser aiming device, tactical flashlight or other device is attached to the bottom of the front handgrip.

Please note, some hand grips are not manufactured to the correct dimensions to mount on a Mil-Std-1913 rail. Ensure the grip is correct before attaching.

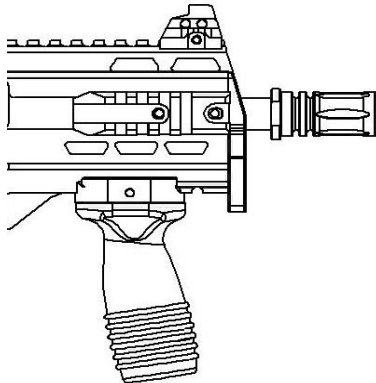
Additionally, tactical flashlights designed for use with pistol accessory rails will fit on the accessory rail but will be a tighter fit.

If the item you are going to install needs to slide on from the front, you can remove the two screws that hold the front cover on, pull it forward and rotate it out of the way. You can then slide on your grip, laser, light, etc. and re-install the front cover. Make sure you use Loctite 242 to secure the threads.



Side Accessory Rails (optional)

The MAX-31k can be fitted with left and right side accessory rails for mounting additional accessories. They are installed by using the threaded holes on the sides of the foregrip. Screw threads are #10-32. When installing the screws, use Loctite 242 on the threads and be careful not to overtighten the screws.



Variable Buffer System, VBS-4 (optional)

To adjust the rate of fire, the MAX-31k is designed to use a variable buffer system. (VBS) The VBS consists of a buffer spacer that can be placed on the bolt assembly between the rear of the bolt and the rubber buffer.

The following rates of fire can be achieved with multiple buffer spacers:

ROF	PMC	Blazer	Fed	S&B	WWB
Standard					
1 VBS	662	653	662	666	793
2 VBS	699	705	761	794	821
3 VBS	769	815	836	817	917
4 VBS	813	854	909	914	956
	902	917	948	967	1041

Different bullet weights, such as 124 gr. And 147 gr. , as well as lighter or stronger powered ammunition, will result in slower or faster rates of fire. The rates of fire above are approximate. The rate of fire of your ammunition may vary.



Attachment of other muzzle devices

The barrel is threaded 1/2-28. The flash suppressor is torqued to 25 foot/pounds and secured with Loctite Threadlocker 242. A lockwasher is intentionally not used in order to ensure the mounting surface of the barrel remains square and burr free for optional use with a suppressor. If you choose to replace the flash suppressor with another type of muzzle device, insure it is designed for use with 9mm caliber bullets.

To prevent marring of the finish, apply masking tape to the flats on the barrel end and the flash suppressor. To remove the flash suppressor, attach a 7/8" open end wrench to the wrench flats on the barrel. Attach a 3/4" open end wrench to the wrench flats on the flash suppressor. While holding the wrench attached to the barrel stationary, rotate the wrench attached to the flash suppressor counter-clockwise.



Attachment of a Sound Suppressor

A sound suppressor may be attached to the MAX-31k by removing the flash suppressor. The threads on the MAX-31k barrel are 1/2-28. A thread adapter can be used to couple suppressors with other thread sizes or mounting systems.

When using the suppressor with the thread adapter, regularly tighten the suppressor to the thread adapter. It will have a tendency to loosen during firing.

The recommended supplier for thread adapters is TROS USA. Remove the flash suppressor per the above procedure and install the thread adapter per the manufacturers' instructions.

CAUTION: Due to the possible variance in the concentricity and squareness of the combined barrel, thread adapter and suppressor you will be using, it is recommended that thread adapters be installed by a qualified gunsmith and the mounted suppressor be inspected for alignment prior to firing. Additionally, some suppressor manufacturers warranties expressly require that they thread the barrel for the firearm that their suppressor will be used on. The warranty for the MAX-31k Slowfire Upper Receiver applies only to the upper receiver assembly and not any accessories subsequently attached by the Customer.

Removal of Barrel

The barrel has been designed to allow easy removal and installation. There are 7/8" wrench flats at the muzzle end.

To prevent marring the finish of the upper receiver use a padded vise or hard wood inserts. Clamp the front sides of the upper behind the front cover mounting screws. Using a 7/8" open end wrench on the wrench flats at the muzzle end, turn the wrench counter clockwise to loosen and remove the barrel. The trunnion will come loose after removal of the barrel.

To re-install barrel, replace trunnion into the body, beveled side forward with largest bevel down towards retaining pin hole. Place a snap cap round into the extractor in the bolt for barrel alignment. Replace bolt and use it to keep the trunnion in place. Apply Loctite Threadlocker 242 to the barrel threads and insert barrel into trunnion while applying pressure to the back of the recoil assembly. Hand thread barrel and tighten by turning the wrench clockwise. Use a torque wrench to tighten to 40 foot/pounds.

Cleaning, Lubrication and Maintenance

NOTE:

The MAX-31k upper receiver halves are secured together with screws. These are not intended to be removed for routine maintenance and cleaning.

Cleaning and lubrication should be carried out per the original manual provided with the M-11A1 with the following additional requirements:

Recommended cleaning interval is after each shooting session or 500 rounds of use.

Remove the upper receiver from the lower receiver. Slide the bolt assembly fully rearward and remove.

Clean upper receiver with solvent. The metal finish and polymer grips are resistant

to most cleaning chemicals including Mineral Spirits, Acetone and MEK. Inspect all mounting screws for tightness.

Clean the cocking groove in the top rail of the upper receiver by spraying with an aerosol gun cleaner. Add a couple drops of gun oil to the top of the cocking assembly.

Clean barrel using your preferred method.

Lightly coat all surfaces with gun oil. Wipe away any excess oil.

Clean the bolt assembly in solvent. Brush the bolt face and breach area with a nylon or brass brush to remove any built-up carbon deposits. Ensure the bolt face is clean and free of debris.

Using a fingertip, apply a thin coat of gun oil to the bolt surfaces. Wipe away any excess oil. Add a drop of gun oil to the recoil spring where it meets the back of the bolt. Inspect the sear engagement surface for rounding or burrs. Small burrs may be removed with a file. If the surface is worn and preventing the sear from reliably engaging, discontinue use and have it repaired immediately.

Lightly coat ejector rod with gun oil.

Insert the bolt assembly into the upper receiver.

Re-install upper receiver on to lower receiver.

Note:

Do not operate the MAX-31k without the buffer spacer installed. Increased rate of fire and increased sear wear will result. Rubber buffer is positioned behind the buffer spacer, in front of the rear plate.

Parts Replacement

The MAX-31k Slowfire Upper Receiver uses some parts that are common to the original M-11A1. All replacement parts can be purchased from LAGE Manufacturing, L.L.C. Additionally, you can purchase the following parts from any company that sells parts for the M-11A1:

- Buffer
- Back Plate
- Extractor
- Extractor Spring
- Extractor Roll Pin

Referenced Manufacturers

Loctite Threadlocker 242

Loctite is a trademark of Loctite Corp.
1001 Trout Brook Crossing
Rocky Hill, CT 06067

TROS USA

PO Box 680
Clackamas, OR 97015
www.trosusa.com

Warranty and Repair

WARRANTY

Note: Use of reloaded/remanufactured ammunition or aluminum cased ammunition will void your warranty

The MAX-31k Upper Receiver has been manufactured in a manner to insure it is defect free and durable. LAGE Manufacturing, L.L.C. warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of One Year from the original date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidental, repairs or alterations outside our facilities or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special or consequential damages arising from the use of this product. The above limitation of exclusion may be subject to state law and may not apply to you.

To utilize this warranty, the MAX-31k Upper Receiver must be returned to us packaged in a manner to preclude damage during transit and with shipping charges prepaid. Proof of purchase date and a written description of the complaint must be included. If upon inspection, the complaint is verified, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide a replacement. We will return the repaired product at our expense, but if we determine that there is no defect, or that the defect was a result of causes not within the scope of this warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may have other rights, which vary from state to state.