

Security Forces Squadron Weapons Vault

Request: a weapons rack system to hold their current inventory of weapons with room for growth.

The current inventory of: 600+ rifles, 24 machineguns, 24 M203's and 350 M9 hand guns, are stored in traditional military rifle racks and home made boxes using every square foot of vault space. At the beginning of each shift, members of the security forces are issued their weapons, typically consisting of an M4 carbine, 30 round magazines, M9 handgun with magazines, radio and night vision gear, through a security window in the vault. Members at the end of their shift are returning like weapons.

Our Findings:

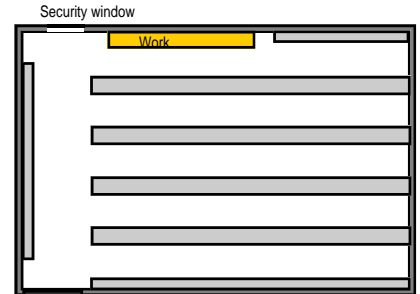
- Problem:** The varied weapons and equipment stored in different areas of the vault and the long isles require many trips back and forth to retrieve required equipment. The isle are so narrow that 2 people cannot easily pass.
- Result:** Shift changes are very slow with a long line forming outside the security window. Rapid deployment is impossible.
- Problem:** Current rack systems require in excess of 200 pad locks
- Result:** Inefficiency, logistical problems arise due to the volume of locks being opened and closed inspections frequently reveal locks left open.
- Problem:** traditional military racks are modified to hold M4 carbines and handguns then stacked two high
- Result:** Access to upper row can be difficult. M4s do not properly fit with scopes or other attachments Scopes and accessories are frequently damaged by the locking bars on the racks.

The challenge : To design an efficient weapon storage solution that could accommodate the current inventory with room for expansion and eliminate the ergonomic problems inherent in using traditional military spec weapons racks to house a modern arsenal.

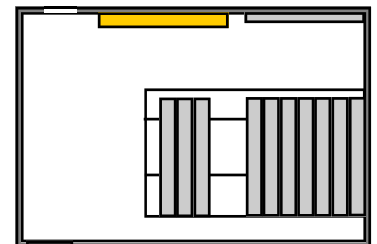
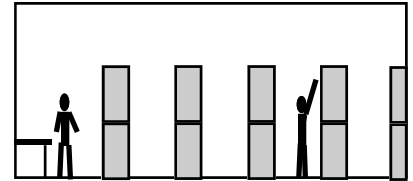
The Solution: Group the weapons and equipment by individual not by weapon type. Place the racks on a mobile base storage system. Not only does this significantly reduce time and effort managing the vault, the complete system requires 1/2 the floor space freeing up valuable vault space.

Using our 64 1/2" high racks on a mobile carriage system, reduced space requirements by half. Efficiency was dramatically increased by storing each team members equipment vertically: M4, magazines, M9 with clips, Radio and NVG. The balance of weapons are stored in like groups.

During a shift change the vault operators open the required isles and quickly issue each member his equipment and return end of shift equipment with minimal foot traffic.



Vault door



All components are easily adjustable by the vault operator. Reconfiguring a rack to hold different weapons takes minutes.

