

# Boat to Plane to Foxhole: Seven Key Steps to Intermodal Operations

BY CAPTAIN CHRISTOPHER SHEEHAN

Transferring cargo from sea to air transportation can be a very challenging part of an overseas deployment. But units can ease the difficulty by concentrating on seven critical areas.

**W**hen the 1st Air Cavalry Brigade at Fort Hood, Texas, received orders to deploy to Operation Enduring Freedom 11–12, it first had to plan how to get there. Afghanistan presents a transportation nightmare because it is a landlocked nation and it is surrounded by nations with less-than-secure lines of communication, to put it lightly. Since Afghanistan has no seaport of debarkation and very limited and unsecure overland transportation, most supplies, troops, and equipment come into the country by strategic airlift.

Planning to deploy any brigade into combat presents many logistics challenges, but deploying a maintenance-heavy aviation brigade into three different airfields, with further support to be provided to at least six forward bases, presents a near impossibility. After many planning sessions, the brigade's leaders determined that the biggest point of friction in deploying to Afghanistan would be the intermodal port.

The intermodal port is the point where cargo changes modes of transportation. For the 1st Air Cavalry Brigade, our cargo changed from the sea leg to the air leg at Naval Station Rota, Spain. With help from the Navy, Air Force, and civilian support personnel, the brigade supervised and facilitated the offloading of 64 helicopters and over 240 pieces of equipment. This equipment included rolling stock, crated equipment, and containers. Once offloaded from the boat, all equipment was moved to the airfield to prepare it for shipment by Air Force strategic airlift assets.

While preparing cargo to be shipped into Afghanistan, we learned seven key steps to successfully and safely deploying our cargo by air. In less than 30 days, the 1st Air Cavalry Brigade team at Rota was able to push 27 "chalks" of cargo using Air Force C-5 Galaxy transports. [A chalk is the personnel, equipment, and supplies that make up the load of an aircraft. It refers to a chalk number



*An Air Force loadmaster oversees a 1st Air Cavalry Brigade Soldier during the loading of aviation ground support equipment.*

that is assigned to an aircraft and the corresponding chalk number given to personnel, equipment, and supplies that will be loaded on that aircraft for transport.] Although most units can adapt on the fly to succeed, these seven lessons learned will better prepare your unit to conduct intermodal operations.

## The Right Supplies

As with any unit movement operation, having the right supplies on hand can mean the difference between success and failure. The most common items we needed were ones that every good unit movement officer (UMO) has on hand at home station. Unfortunately, we were not at home station. We found ourselves short on zip ties, boltcutters, one-time locks, document protectors, and duct tape. Although mundane, all of these items were crucial to preparing cargo for air load.

The zip ties were used to affix paperwork and radio frequency identification (RFID) tags. The boltcutters became

important because we had to open all of our containers so that the Air Force joint inspection (JI) team could certify our loads. The extra one-time locks were then used to reseal all containers.

If your unit is involved in intermodal operations, after completing load certification you will be required to affix pallet identifier forms (Air Force Form 2279) to all equipment. To ensure that this paperwork stays intact, you should use document protectors and duct tape. You also should use duct tape when you mark your equipment's center of balance and identify its gross weight during the JI process.

### **Recon the Port in Advance**

To ensure the success of any port support activity, you need to reconnoiter the port in advance. This is even more important when you are dealing with a combined seaport and airport. Conducting a reconnaissance of your port ahead of time will provide you with important contact information for support and a conceptual picture of the operation and will also allow you to identify requirements for life support (such as billeting, food, and transportation) your unit will need while at the port.

To gain an even better conceptual understanding of the requirements to be successful, conduct your reconnaissance while a unit similar to yours is moving through the port. For instance, our unit sent our support operations officer to Naval Station Rota while the 159th Combat Aviation Brigade was deploying through there. The lessons learned and physically seeing another aviation brigade deploy provided us with invaluable information.

To fully reap the benefits of your reconnaissance, ensure that it is conducted well in advance of your movement timeline. Conducting it 180 days out is optimal, but 120 days out will suffice.

### **Preparing Your Sensitive Items**

When preparing sensitive items (SI) containers, some of the most important things to remember are also the most obvious. Ensuring that your DD [Department of Defense] Form 1750s (packing lists) are extremely detailed and accurate is the most important thing to remember. Remember that all SI packing lists are secured to the inside of the container, and only "dummy" packing lists are affixed to the outside (to maintain operational security). Make sure that your UMO at the intermodal port has copies of all 1750s for your SI containers and hazardous materials (HAZMAT), too.

The more accurate the SI packing lists are, the easier your JI will be. You should expect that the JI team will inspect every piece of cargo down to the smallest detail. If your packing lists do not reflect the additional cargo in a container, specifically SI, the JI team can require you to empty all of your containers and repack them while they supervise.

If you decide to use standard locks on your SI containers, ensure that the UMO has the keys on hand; otherwise,

## **SEVEN STEPS TO IMPROVING INTERMODAL OPERATIONS**

1. Have the right supplies on hand.
2. Reconnoiter the port in advance.
3. Properly prepare sensitive items.
4. Make sure unit movement officers, HAZMAT certifiers, and air load planners are certified, experienced, and able to operate with minimal guidance from higher levels.
5. Prioritize cargo for movement.
6. Build standard pallets.
7. Have the right pallets, straps, chains, and other equipment.

all locks will be cut for the JI. The best tactic to forego any lock issues is to use one-time locks that have serial numbers. This provides security, a tracking number, and the ability to remove a lock with a pair of boltcutters (commonly called "the master key"). In addition to using serial-numbered one-time locks, it is a good idea to duct tape extra one-time locks to the inside of a container's doors. This will allow the container to be resecured with serial-numbered locks after the originals are cut by the JI team. These new serial numbers can then be annotated on the container's packing list and initialed by the UMO to denote a change.

One last major issue affecting SI containers during intermodal operations is physical security. Your containers may be stored on a very secure airfield or in a port container yard lacking proper security measures. But no matter where your containers are stored, it is imperative that you check with the local provost marshal or law enforcement agency. They will be able to inform you of all available security measures, such as police patrols or cameras. The local law enforcement officials will also tell you about possible unit or external requirements for storing your SI containers. Some seaports and airports will provide an armed guard, but other ports may require the unit to provide guards (with weapons).

Ensure that you clearly identify security requirements well in advance so you can arrange for ammunition, weapons, or contracted security. No matter what security measures are taken, it is always a good practice for UMOs to check all SI containers twice a day to ensure that no tampering or theft has taken place.

### **UMOs, HAZMAT Certifiers, and Load Planners**

Each unit needs to have three people who are certified, experienced, and able to operate with minimal guidance from higher levels. These people are your battalion UMO, HAZMAT certifier, and air load planner. The best prac-

tice is to ensure that seasoned noncommissioned officers (NCOs) are kept in these jobs, but sometimes it is necessary to use inexperienced junior officers and NCOs. In either case, each person must be school trained.

Although all three individuals are extremely important to movement, the UMO usually is the senior person with authority and overall responsibility for the success or failure of the unit movement. The UMO should be trained by your installation transportation office (ITO) in both unit movement operations and the use of the Transportation Coordinators' Automated Information for Movements System II (TC-AIMS II). Although courses in both unit movement operations and TC-AIMS II are required, the TC-AIMS II course is more important; it is also harder to be proficient at using TC-AIMS II.

The UMO you send to execute your intermodal operation should have all packing lists and a complete list of containers, RFID tag numbers, and transportation control numbers. This UMO should also have explicit guidance from higher headquarters on what cargo needs to be airlifted first. (See "Prioritizing Cargo" at right.)

Your HAZMAT certifier should be trained and certified by your ITO or through a troop school (usually an 80-hour course). This person should carry a full list of all HAZMAT being shipped. Every chalk pushed by airlift will include a Shipper's Declaration for Dangerous Goods (with red stripes on the side) that needs to be signed by the HAZMAT certifier. These forms should be filled out at home station for each piece of equipment containing HAZMAT. Every HAZMAT certifier should bring additional blank shipper's declarations as well as a copy of Title 49, Transportation, of the Code of Federal Regulations. You should ensure that a color printer is available at the port since shipper's declarations must have the red hashes on each side when printed.

The last important person for your intermodal operation will be your unit load planner. This person should be trained by the Air Force in two separate courses. One is the Automated Air Load Planning System (AALPS) course, which teaches the load planner how to use AALPS to produce an automated load plan for cargo to travel on Air Force assets. This load plan will be a part of the final packet for each chalk and must be signed by the load planner and approved by both the JI team and the airplane's loadmaster.

The second course each load planner should take is the Air Load Planner Course (ALPC), which is more hands-on than the AALPS course. ALPC walks each load planner through critical cargo preparation. Skills taught at ALPC include aircraft characteristics, aircraft capabilities and limitations, and cargo dimensions and limitations. In addition to classroom lessons, students will normally practice loading actual 463L pallets with cargo. The students will then take these pallets, as well as military vehicles, and learn how to weigh them, find their center of balance, and physically chain them onto an Air Force aircraft. All

of these skills are critical to the unit's success for air loading.

### **Prioritizing Cargo**

One of the main tasks in moving equipment can be determining cargo priority. Although UMOs should be able to execute movement operations with minimal oversight, this does not mean that they should plan movement operations without the commander's guidance. The prioritization of cargo, or which equipment needs to be in a theater first, should be something closely scrutinized by the entire chain of command to ensure that the right equipment arrives at the right place at the right time.

Often, a company commander, a battalion commander, and a squad leader will have different opinions about which equipment is critical and should hit the ground first. This confusion can cause the UMO to guess about which equipment needs to be pushed forward first. It is critical that all key leaders in a unit sit down and clearly identify a prioritization list for cargo, item by item. Leaders at the brigade level must also identify which subordinate units have priority of movement. This unit prioritization should be done down to the company level. Although one battalion may have priority over another, that priority does not necessarily mean that its personal equipment container is more important than another unit's maintenance container.

Consolidating unit and cargo prioritization at the brigade level and pushing the list to the company level can create a much smoother intermodal operation. This list becomes increasingly important if some of your airlift assets become not mission capable because of maintenance problems or if your unit experiences severe weather. If your chalks into the theater are delayed for either reason, the importance of having determined what equipment is needed first is exponentially increased.

### **Pallet Building**

No matter what type of cargo you move by strategic airlift, it has to be palletized on a 463L pallet. A 463L pallet is the standard pallet used for transporting military air cargo. A 463L pallet is approximately 108 inches long, 88 inches wide, and 2¼ inches high. Its usable surface area is 104 inches by 84 inches. The best pallet building methods are taught by Air Force sergeants in the ALPC. If your home station does not offer this course, you can check local Air Force bases or Joint Base Langley-Eustis, Virginia, or contact your ITO for information on similar courses.

If you are unable to have your designated pallet-building teams attend a course, at least send your key leaders so that they can subsequently train the teams at the unit level. These teams should train together in learning to build different types of pallets. For example, a wooden crate is much simpler to secure on a 463L pallet than a 20-foot container, which requires three 463L pallets connected together to form what is commonly called a T-3 pallet. The teams should standardize their chaining and tiedown

## NATIONAL STOCK NUMBERS OF PALLET EQUIPMENT

Ratchet Strap (white)	1670-00-725-1437
Top Net	1670-00-969-4103
Side Net	1670-00-996-2780
Adjuster Assembly (binder)	1670-00-212-1149
Chain	1670-00-516-8405

methods and their safety techniques, such as hand-and-arm signals and forklift procedures.

When you arrive at your intermodal port, ensure that both your assigned JI team and the senior loadmaster on site are present as you build the first chalk of pallets. This will ensure that your pallet teams, the JI team, and the loadmasters all follow the same standards for achieving a successful pallet build. Using this technique will ensure that your pallets are not kicked back for rebuild by either the JI team or the loadmaster.

The last and most important preparation for a pallet-building operation is having precut dunnage and shoring ready. Since you can have no metal-on-metal contact when shipping cargo by strategic air, you have to buffer all palletized metal containers with plywood on the pallet. Using your unit's unit deployment list will give you a solid idea of how many and what types of equipment will be moved by airlift. Using your ITO, UMO, and load planner, you then can determine how much dunnage and shoring is required. You should then have all dunnage and shoring precut and stored in a container to be used while you are on the ground at your intermodal port. This will save you from having to find and cut wood while at the port.

### Pallets, Straps, and Chains

The last important note to remember during an intermodal operation, or any movement operation, is to have the right equipment. Having the proper equipment, and plenty of it, is critical for a successful intermodal operation. Any unsatisfactory equipment will be kicked back by your JI team to be rectified. The key pieces of equipment needed to move your cargo by strategic airlift are 463L pallets, cargo nets, white cargo straps, chains, and binders.

Using air load equipment is usually easy since most arrival/departure airfield control groups (A/DACGs) will provide it for you. (The A/DACG can be a mix of military and civilian personnel who control all airlift operations.) The A/DACG will normally provide all straps, pallets, chains, and binders that are required to move equipment by strategic air. However, this is not the case when an intermodal operation moves any large element (squad or higher). In our case—moving a heavy aviation brigade—we could not rely on the local A/DACG to provide all of the equipment we needed.

Your unit should use the unit deployment list from your TC-AIMS II movement plan to identify how many pallets you will need for your movement. You also will be able to determine how many chains, binders, white cargo straps, and cargo nets are needed. Whether you use chains or straps depends on the cargo's dimensions. Your local A/DACG, load planner, and brigade mobility warrant officer will be able to determine which cargo requires which types of tiedowns. When in doubt, always refer to your local A/DACG for guidance.

Chains, bindings, white cargo straps, and cargo nets can all be ordered through the supply system using the national stock numbers (NSNs) in the chart at left. Pallets will have to be ordered through your brigade S-4 from the division transportation office in your division G-4. From there, your G-4 will redirect the request for pallet assets to the next level of command and ensure an allocation can be made.

Pallets are a commonly used and rotated asset in air movement operations. To ensure that they are being properly used and secured, most A/DACGs will track them and ensure that they stay at the airfield and are used strictly for air movement operations. Since pallets are so closely controlled, ensure that your brigade mobility officer or S-4 forwards your pallet request well in advance (at least 90 days).

Ensure when ordering your equipment that you use the right NSNs. A common mistake is to use yellow cargo straps (often used for vehicle recovery). Yellow cargo straps cannot be used for air load movement since their maximum gross weight is not clearly printed on the strap itself. A white cargo strap (see its NSN in the chart) has the markings printed in intervals on it stating "5000 LB CAP."

Conducting an intermodal operation—moving from the sea leg to the air leg—can be an enormous undertaking from the platoon UMO all the way to the brigade mobility officer. Although not all-inclusive, these seven key steps can help set your movement plan in the right direction. The biggest factors in any movement operation remain the same: using trained and qualified people, planning the operation well in advance, and allowing for flexibility throughout the movement. Often, having the right people and right equipment in the right place can mean the difference between success and failure. And remember: Nothing happens until something moves!

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