

Chapter 10

PARACARGO RETRIEVAL



LESSON PLAN OUTLINE

PROGRAM: SMOKEJUMPER

LESSON: CARGO RETRIEVAL

OBJECTIVES: Upon completion of this unit, the trainee will be able to retrieve cargo safely and expediently from parachutes that hang up in trees, lowering all gear to the ground in an operable condition.

INTRODUCTION: Efficient initial attack of fires requires that tools and other equipment be delivered to firefighters in usable condition. This unit deals with the retrieval of paracargo that hangs up in trees.

I. PARACARGO RETRIEVAL

A. Drop Zone Safety

1. Clear the danger zone of all persons, animals, and vehicles before dropping cargo. Danger zone is 200' wide on each side of the flight path, 300' in the direction of the approach and 1300' in the direction of departure.
2. Keep the danger zone clear until dropping is completed.
3. Keep personnel in the vicinity of the danger zone of bunching up. Have them in an open area, away from weak trees and snags.
4. Provide lookouts to observe and log where cargo is landing and to keep the danger zone clear.
5. If helicopter operations are present or expected, gather and secure all parachutes to prevent fouling a rotor system.

B. Retrieving Cargo

1. Use these steps as guidelines. Slight amendments and changes to these procedures may be implemented as the jump spot environment is dynamic and procedures cannot be written to cover all situations.
2. All personnel will wear PPE.
 - a. Long-sleeved shirts, leather gloves and hard hats at a minimum.
3. Cargo retrieval requires two people. One person will climb the tree and one will stay on the ground to assist the climber.
 - a. All tree climbing will follow the guidelines and procedures of the lesson “Tree Climbing” from this training guide and the Health & Safety Code, Tree climbing.
 - b. Climbing above the 4” tree bole diameter requires a safety tie-in at or below that point.
 - c. If the cargo is above the ½ length of your letdown tape, retrieval will require two tapes.
 - d. The climber should take the loose end of one tape up the tree, paying the tape out of the birdnest coil or rope bag on the ground. The climber may choose to take the tape up in the tree to the retrieval area and throw from there to the ground.
 - e. The jumper on the ground will monitor the letdown tape for knots and help feed the tape up to the climber.
 - f. The climber should ascend to the attachment point of the parachute riser and the cargo bundle.
 - g. The climber will thread the end of the letdown tape through a friction device. Route the tape through a carabiner attached to the parachute riser or lashed to a large limb with parachute cord. Another option is to route the tape over a strong limb, however this system causes undue wear on the tubular tape. Be certain to complete a thorough inspection of the tape before using again.
 - h. The letdown tape will continue on and tie to the cargo loop, or the cargo bundle strapping with three half hitches. This strapping will be made of nylon webbing, Kevlar strapping, or Avis strapping.

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- i. The slack in the tape should be taken up by the jumper on the ground at this time.
 1. If there is any doubt as the amount of tape needed, then a second tape should be added at this time.
 2. The jumper on the ground should grasp the tape in one hand and pass the tape behind the back. As the tape is passed behind the back, the jumper on the ground will grasp the tape by the other hand. Friction will be increased by sliding along the lower back or buttocks. The jumper on the ground should grip the tape firmly and back away from the tree slightly. The slack in the tape will be taken up at this time.
 3. The jumper on the ground will tell the climber that the slack has been taken up and the actual letdown of cargo may begin. The jumper on the ground must make a concerted effort to move away from the base of the tree. If the bundle should freefall, no one on the ground would be injured. It is important to stress this safety step!
 4. Unhook the tied riser from the bundle. This can be done if enough slack can be put in the riser to disconnect. However, if this cannot be done, then the climber will use a knife to cut the cargo loop or parachute riser if no loop is present. The climber will first notify the jumper on the ground that the nylon loop or riser is going to be cut. No cutting should be done unless the jumper on the ground first responds positively to this warning. Emphasize this procedure!
 5. The jumper on the ground will let the bundle down from the tree by letting the tape pass through one hand and across the back. The rate of descent can be controlled by the amount of friction on the tape.
 6. The climber should stay in place to assist the descent of the cargo bundle. However, the climber may have to move down the tree to assist the cargo descent by sawing tree limbs. Note: If two tapes have been used, the knot that tied the two together may have to be pushed through the friction loop.
 7. The climber will stay in the tree until the jumper on the

ground releases the cargo bundle all of the way to the ground.

B. Problem Cargo Letdowns

1. Situations may arise that call for some “on the spot” decisions. One of the problems is when the cargo is suspended away from the trunk and out of reach of the climber. The steps to retrieve this type is:
 - a. Follow all of the steps of a normal retrieval up to the climber reaching the attachment point of the parachute riser and cargo bundle.
 1. Use two jumpers, one to climb the tree and one on the ground.
 2. Follow accepted tree climbing practices.
 3. If the cargo is above $\frac{1}{2}$ the length of your tubular tape, it will take 2 letdown ropes to complete the procedure.
 4. Take the running end of the tape up the tree with the climber.
 - b. When the climber has reached the cargo attachment point, the jumper on the ground should tie a stick to the letdown tape.
 - c. The climber will pull the tied stick up to them.
 - d. The climber should tie to stick to the running end of the letdown rope. The stick with the tape attached should be thrown through the lines of the parachute.
 - e. The tape and stick provide a means to pull the cargo bundle to the climbers arms reach.
 1. The climber will thread the end of the letdown tape through a friction device. Route the tape through a carabiner attached to the parachute riser or lashed to a large limb with parachute cord. Another option is to route the tape over a strong limb, however this system causes undue wear on the tubular tape. Be certain to complete a thorough inspection of the tape before using again.

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2. The slack in the tape should be taken up by the jumper on the ground at this time.
 - a. If there is any doubt as to the amount of tape needed, then a second tape should be added at this time.
 - b. The jumper on the ground should grasp the tape in one hand and pass the tape behind the back. As the tape is passed behind the back, the jumper on the ground will grasp the tape by the other hand. Friction will be increased by sliding along the lower back or buttocks. The jumper on the ground should grip the tape firmly and back away from the tree slightly. The slack in the tape will be taken up at this time.
3. The letdown tape will continue on and tie to the cargo loop, or the cargo bundle strapping with three half hitches.
4. The jumper on the ground will tell the climber that the slack has been taken up and the actual letdown of cargo may begin.
5. The remaining procedures are the same as in the previous outline.
6. The climber will stay in the tree until the jumper on the ground releases the cargo bundle all of the way to the ground.

C. High Impact Cargo

1. If high impact cargo is hanging in a tree with no limbs and not higher than 35-40' above the ground, the bundle may be cut at the cargo strapping.
 - a. Remember, if this is a high impact delivery system, the cushioning material has not been damaged.
 - b. The reason for no limbs is that the bottom of the cargo box may hit a limb and tip. The box could then land on its top and damage the tool handles and other equipment necessary for fire suppression.

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- c. Do not use this technique with water cubitainers as they would more than likely break on impact.

D. Progressive Training

1. Stress working as a team. Good teamwork is necessary to safely and expediently lower cargo to the ground.
2. Utilize classroom work with an emphasis on interaction.
3. Utilize field work to simulate actual operation jump conditions. Integrate paracargo retrieval training into all training jumps that are possible. Consider hanging cargo to provide experience and training during these jumps.

E. Evaluation Parameters for Cargo Retrieval

1. At the completion of this unit, the trainee will demonstrate correct procedures for the retrieval of cargo by:
 - a. Experienced jumpers will be able to correctly describe the correct procedures for safely and efficiently retrieving paracargo during operational parachute jumps.
 - b. New trainees will demonstrate the correct procedures for cargo retrieval in conjunction with field tree climbing exercises. During field training, paracargo will be hung in timber and the trainees will climb the trees and correctly remove the cargo following the accepted procedures of this lesson plan.