

AERIAL

SPOTTER PARACHUTE

Wind Drift Determination System
Part # AMTC - K1075

**TECHNICAL MANUAL
OPERATION AND SERVICE INSTRUCTIONS**

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SECTION I INTRODUCTION

This technical manual covers the operational and service instructions for the wind drift determination parachute, further referred as the “spotter parachute”. The wind drift determination parachute is a weighted, glide free, wind drift parachute designed for use by military personnel to aid in the pre-determined spot to release parachutist. The alternate orange and white gores will assist with good visual contact throughout the flight pattern.

The spotter parachute consists of three major components; the canopy, the deployment bag with static line attached and the weight. The canopy is a 12-foot pound canopy with twelve 8.5-foot suspension lines all attached to a single connector link. The deployment bag with static line attached houses the parachute and weight and provides a means of automatic opening and deployment for the canopy. The weight is attached to the suspension lines by means of the single connector link and is variable from approximately 17 pounds base to 22 pounds with all additional weights installed.

SECTION II DESCRIPTION

2-1 The spotter parachute assembly part # AMTC-K1075 consists of the components listed in figure 2-4.

2-2 Canopy part # AMTC-S1242 is a round parachute constructed of MIL-C-7020D, Type I fabric. The canopy is composed of 12 MIL-C-5040, Type IIA suspension lines with core lines removed. Each suspension line is attached to the skirt hem and terminates at a single connector link (MS22021). Standard retainer bands (NSN: 1670-00-568-0323) are used to stow lines and static line. See figure 2-1.



Figure 2-1 12' Spotter Parachute



Figure 2-2 Deployment Bag with Static Line

2-3 The deployment bag with static line part # AMTC-C1100-DA is constructed to enclose the packed parachute and weight. One end includes an elastic (bungee) cord installed in the mouth of the bag to retain the weight from exiting until being deployed from the aircraft. The static line attached to the opposite end of the opening is constructed of type XII MIL-W-4088 nylon webbing and is approximately 14 feet 6 inches in length. See figure 2-2.

2-4 The weight part # AMTC-M2046-17 is attached to the single connector link and assists the rate of descent of the canopy. The base weight is approximately 17 pounds with eye bolt (see figure 2-3) and has 2 two pound and 1 one pound additional weights to increase the rate of descent as desired. The additional weights are identified in figure 2-4 for further reference.



Figure 2-3 17lb weight with eye bolt

NOMENCLATURE	PART #
Assembly, Spotter Parachute	AMTC-K1075
Canopy, Spotter Parachute	AMTC-S1242
Deployment Bag with Static Line	AMTC-C1100-CA
Weight, Base Weight 17 pounds with Eye Bolt	AMTC-M2046-17
Weight, Additional Two (2) Pounds	AMTC-M2046-2
Weight, Additional One (1) Pound	AMTC-M2046-1
Assembly, Spotter Parachute Flotation (Optional) <i>See Section 7</i>	AMTC-R1107-BL/R
Assembly, Auto-Inflator	707100
Cartridge, CO2 38 gram (1/2" thread)	36203
Bobbin	707100-B
Standard Retainer Band (NSN: 1670-00-568-0323)	Outsource

Figure 2-4 Components of Spotter Parachute Assembly

SECTION III OPERATION

3-1 The spotter parachute is recommended for use in training and operational jumps by military personnel using standard round parachute systems, generally at low altitudes.

Aircraft type should be the same as the intended aircraft for live jump operations and aircraft speed should not exceed live jump speeds.

The spotter parachute should be dropped from the same relative altitude and airspeed that the jumps will be conducted.

The weight below the canopy stabilizes the canopy and controls the weight of descent. Under average conditions the spotter parachute with minimum weight will descent and drift in a manner that will compare to a man and equipment total weight of 170-230 pounds. Maximum weight (22 pounds) will compare to a man and equipment total weight of approximately 300 pounds. 17 lb weight will produce a rate of descent of approx. 15-18 FPS, whereas 22 pounds will produce a ROD of approx. 17-20 FPS.

SECTION IV PREPARATION FOR USE

4-1 Place the canopy on the packing table with the identification panel facing up. Install suspension lines in proper sequence on the single connector link. Insert the other half of the connector link into the base weight assembly.



Figure 4-1 Attach Link to Weight



Figure 4-2 Place cap on link

4-2 Replace the cap of the connector link and tighten the screw to the full seated position. Torque the screw to 20-25 inch pounds.

NOTE: The serrated part of the screw should automatically move to the locked position. If plate does not move, back off screw and press the plate to closed position and retighten.

4-3 If using spotter parachute for water operations, refer to section 7 for further information on attaching flotation.

SECTION V INSPECTION AND REPAIR

5-1 Only personnel qualified to pack parachutes should perform inspection, repacking and maintenance of the assembly.

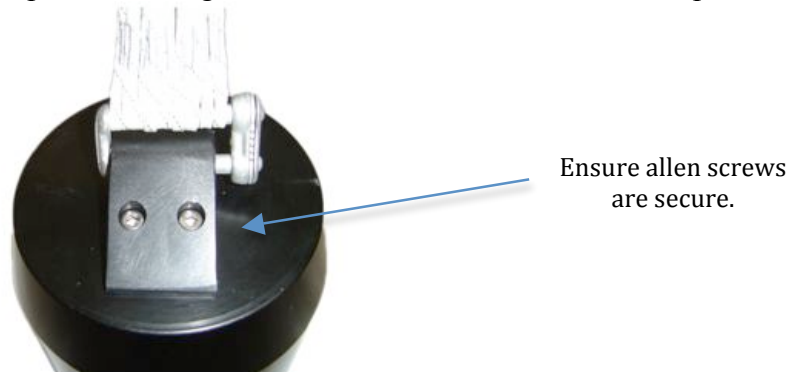
5-2 PREFLIGHT INSPECTION: Observe condition of all visible components. Ensure deployment bag and static line are free of broken threads, cuts frayed areas or other damage. Inspect snap hook for rust, corrosion, freedom of operation and proper attachment.

Inspect elastic cord for proper installation, deterioration and over all usability. If additional weights are installed, inspect for tightness of bolt and ensure weights are free of dings, burrs that could cut components in which they might come in contact with. If flotation is installed, ensure the flotation system is installed properly in elastic retainers and speedlink is tight.

5-3 COMPLETE INSPECTION consists of unpacking and stretching the canopy out on the packing table. Canopy should be shaken out of all debris. Inspect suspension line continuity and over all condition of the parachute in accordance with applicable personnel manuals (MC-1B, MC-1C,...) Limit repairs to what is allowed for personnel parachute systems.

Inspect deployment bag and static line completely inside and out for broken stitching, holes, cuts and small tears. All small repairs should be done in the loft. Inspect snap hook for rust, corrosion, freedom of operation and proper attachment.

Inspect complete weight assembly for burrs and/or damaged areas. Check threads of weight and eye bolt for damage. Replace if damage is found. Ensure allen screws on top of weight are tight.



5-1 Check Allen Screws

Complete inspection should be done every 360 days or earlier if applicable.

5-4 SALT WATER IMMERSION - If parachute is exposed to salt water for less than 3 days (72 hours) immediately rinse the parachute assembly in fresh water. Canopy should be washed a minimum of three separate times. The canopy should then be suspended to dry in a drying tower for at least 48 hours or longer to ensure canopy is thoroughly dry. Suspension lines should be untangled allowing for an equal suspended weight on the canopy.

Fresh water immersion is harmless if clean, but canopy should be washed in accordance with section 5-4 above. This should be done incase there are unknown chemicals in the fresh water.

5-5 STORAGE – Parachute assembly should be stored in a clean room, away from direct sunlight. Also should be kept on a shelf to avoid moisture or dirt, which may be on a floor.

SECTION VI PACKING

6-1 PACKING should be completed by qualified individuals and in a clean environment.. Qualified individual is one who has had formal instruction on parachute packing and maintenance. All tools should be accounted for before and after the packing is complete. A missing tool or not following the instructions may lead to a malfunction of the system.

6-2 LAYOUT - The layout of the canopy consists of placing the apex to the top of the table and attach the connector link to a board or the weight for the system can be used as long as the weight does not roll. There should be 6 gores to the right and 6 to the left.

NOTE: Ensure that canopy is not inverted and suspension lines have good continuity.



6-1 Layout of canopy
six gores should be on each sides



6-2 Fold left and right hand
sides to the center



6-3 Fold canopy into thirds by folding left side half way on top of right side



6-4 Fold right side on top of left side

6-3 STOWING CANOPY – Grasp the apex and place in upper right corner of deployment bag. (see figure 6-5) Continue stowing canopy making “S” folds alternating from left to right until canopy is folded to skirt hem.



6-5 Apex to top right corner



6-6 Six inch “S” folds - Retainer bands doubled

6-4 Double “S” fold suspension lines, starting approximately six (6) inches from skirt hem. Folds should be approximately six (6) inches long in *standard doubled retainer band. Space the stows evenly up to connector link. See figure 6-6

* Standard retainer bands: 1670-00-568-0323, P/N 11-1-4095-1, CAGE 46619

6-5 Gather all stowed suspension lines in one hand. Grasp the open end of deployment bag and insert stowed suspension lines into open end of bag. See figure 6-7



6-7 Grasp suspension lines and insert into deployment bag

6-6 Slide weight into open end of deployment bag. Weight should be stowed entirely into bag. Deployment bag material should wrap around weight approximately $\frac{3}{4}$ - 1” as shown in figure 6-8.



6-8 Slide weight into bag completely.

6-7 ADDITIONAL WEIGHT – If additional weight is required, this can be accomplished in one pound increments. (See example of adding 3 pounds in figure 6-9) An eye bolt is provided with the base 17 pound weight.



6-9 Additional three (3) pounds of weight added

NOTE: Eye bolt is needed for addition of weight and/or attachment of flotation system. Ensure eye bolt is finger tight.

6-8 “S” fold static line and secure ends with a standard retainer band doubled at each end. (See figure 6-10) Stows should be 10-12”.



6-10 10-12” Folding of static line. Retainer bands doubled

SECTION VII FLOTATION

7-1 Flotation for the spotter parachute part #AMTC-R1107-BL/R is designed specifically for the spotter parachute. (See figure 7-1) The flotation has a bladder capable of 35-40 lbs buoyancy. The flotation is equipped with a device that is designed to actuate the 38 gram (1/2” thread) CO₂ upon entry into the water. The flotation is attached to the deployment bag via elastic loops and will release when the weight is extracted from the deployment bag. The flotation is attached directly to the weight tab via type XII webbing and speed link. The bladder is yellow in color

with reflective tape to be highly visible for retrieval.



7-1 Flotation with safety spring hook

7-2 PREPARATION FOR USE

1. Inspect the flotation unit for serviceability. Ensure the unit is packed and there is no visible damage. Attempt to flex the unit to ensure it contains a CO2 cartridge. If unsure, open the unit and inspect visibly for a CO2 cartridge.

NOTE: Ensure that the flotation unit has a 38 gm cartridge (weight 147.0 grams). Failure to have a full cartridge will result in possible loss of the system.

2. Slide flotation into elastic sleeve. Safety spring hook to the bottom. See figure 7-2.



7-2 Slide flotation into elastic sleeve
Ensure safety spring hook faces bottom (opening) of bag



7-3 Connect safety spring hook to eye bolt tab

3. Attach the safety spring hook to the eye bolt tab located on the bottom of the weight. Tuck excess webbing under flotation assembly. See figure 7-3

7-3 INSPECTION

Inspection should be completed every 180 days for visual and repack. Bladder should be inflated for inspection every 360 days.

1. Inspect bladder and pouch completely for holes, tears, broken stitching.
2. Inflate orally and allow to sit for 4 hours.
3. Thoroughly inspect unit for leaks. Replace if damaged.
4. Inspect inflation unit. Replace if damaged.
 - a. If full functional test is desired, ensure 38-gram cartridge is installed. Pull inflator lever to inflate.

5. Deflate bladder
6. Install new 38 gram CO2 cylinder. Minimum gram weight is 147.0 grams

7-4 PACKING

Packing should be done in a clean environment free of obstructions, which may damage the flotation assembly.



7-5 Lay out bladder



- 7-6 Rotate bladder 180 degrees into container
- Check for proper CO2 and weight
 - Ensure activation lever is seated
 - Clear cover should be against mesh with no obstructions



7-7 Fold bladder in half
Oral inflator should be on top



7-8 Fold left side in half towards center



7-9 Roll remainder towards center



7-10 Slide rolled portion into container next to actuator and CO2 cylinder.



7-11 Fold other side in half towards center



7-12 Fold remainder in half



7-13 Fold remainder in half again. Should lay on top cylinder and left side bladder.



7-14 Pull bottom flap up towards center and attach to top flap. Do not pull tight.



7-15 Bring right side flap with hook Velcro to center.



7-16 Close left side and mate Velcro

7-5 Re-Arming the Auto-Inflator

The auto inflator is designed to actuate upon entry into water. Care must be taken to protect inflator and keep it clear from water unless intentional inflation is desired. The auto inflator is re-armed in accordance with manufacturers instructions. See enclosure 1.

DISASSEMBLY (see figure)

- Step 1: Unpack or open the life vest so that the manual / automatic inflator is visible.
- Step 2: Remove gas CO₂ cylinder by firmly rotating cylinder counterclockwise. **Discard cylinder.**
- Step 3: Remove clear cap by turning counterclockwise.
- Step 4: Remove bobbin from cap or housing unit. **Discard bobbin** (yellow). Check the housing to be sure it is clear and dry.

Note: The bobbin (yellow) body may remain in the housing or in the cap assembly when you remove the cap. The bobbin body must be removed prior to assembly.

REARMING

Note: Rearming must follow the sequence below.

- Step 5: Check the date on the bobbin in the rearm kit. The date should not be over four (4) years from today's date.

IMPORTANT!

Bobbin (yellow) must be installed into the **Housing** (**see figure), white side facing away from the inflator towards the cap (clear), aligning the slots on the bobbin with the ridges inside the threaded housing. The bobbin will slide in easily if installed correctly.

- Step 7: Install cap by screwing clockwise until it meets the housing shoulder.

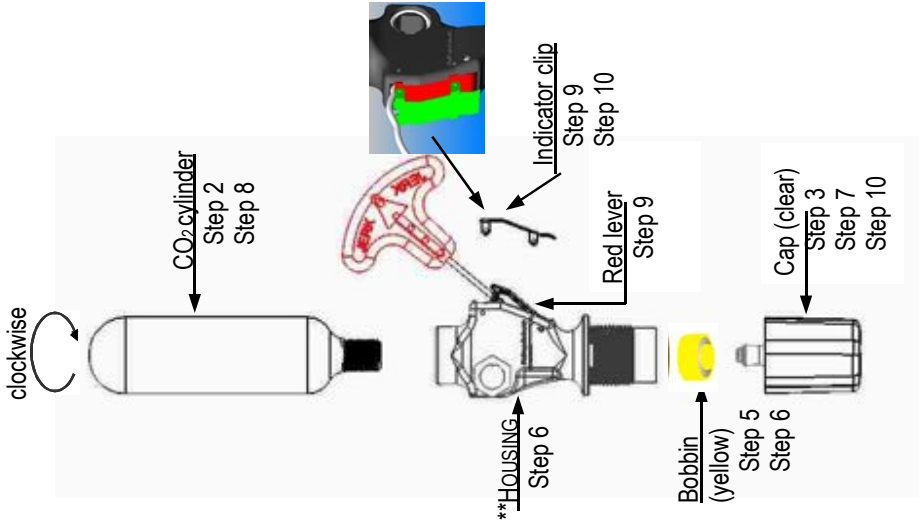
Note: No gap.

- Step 8: Install cylinder by rotating clockwise into inflator until cylinder is secured firmly in inflator.

- Step 9: Place indicator clip over red lever by aligning the arms on the clip with the slots in the inflator. Push firmly in the middle of the clip to snap in place.

- Step 10: Check to be sure service indicator is green and green indicator clip is firmly attached.

**ALPHA 9000 INFLATOR
SERVICE INSTRUCTIONS**



Service Indicator – Step 10



If red, stop and service unit.



If green and clip is present, unit is operable.

HRC 7-2004