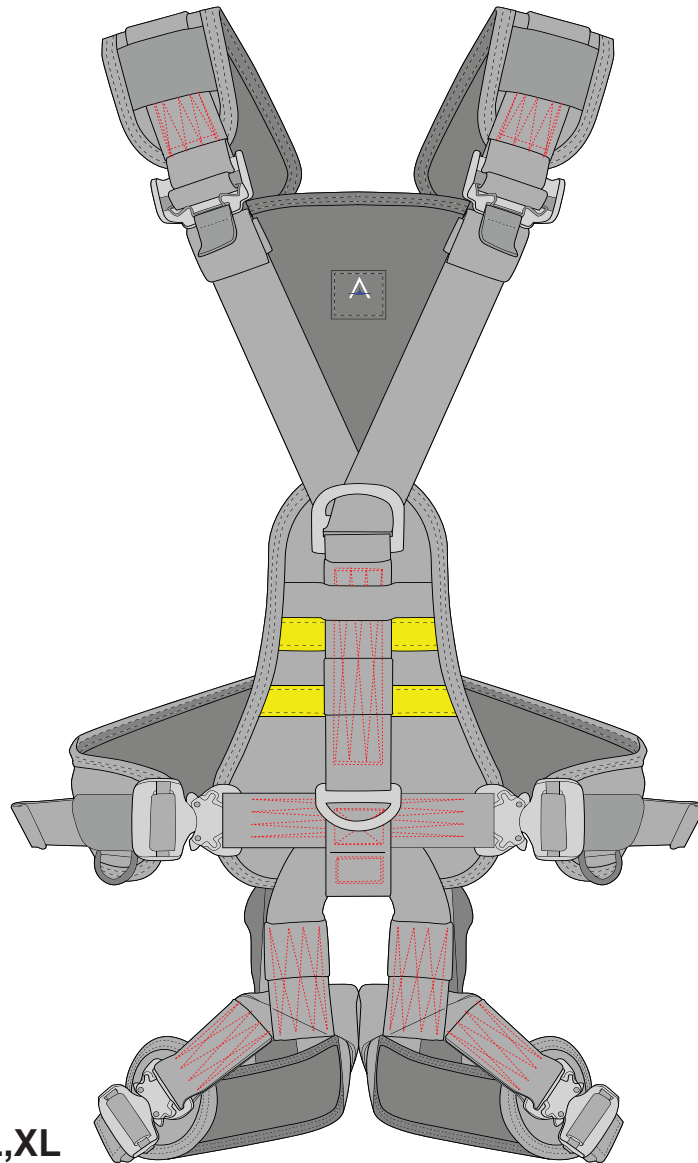


# Chameleon Tactical Rescue Harness (CTRH)



AMTC-H1037-M,L,XL

Aerial Machine and Tool Corp.  
P.O. Box 222  
4298 JEB Stuart Hwy  
Vesta, VA 24177-0222

**AERIAL**  
SAFETY—ABOVE AND BEYOND

[www.aerialmachineandtool.com](http://www.aerialmachineandtool.com)  
Phone: 276-952-2006  
FAX: 276-952-2231

REV DATE: 14 June, 2010

## Table of Contents

| <u>Section</u>                              | <u>Page</u> |
|---|-------------|
| 1. Introduction                             | 3           |
| 2. PreFlight (30 Day) Inspection Procedures | 5           |
| 3. Operation / Wear, Section                | 8           |
| 4. Cleaning and Storage                     | 13          |
| Appendix A. Harness Inspection Log Sheet    | 16          |
| Appendix B. Optional Items List             | 17          |
| Appendix C. Nomenclature Diagram            | 18          |

### Copyright Notice

This owner's manual is copyrighted, all rights reserved. It may not, in whole or in part, be copied, photocopied, reproduced, translated or reduced to any electronic medium or machine readable form without prior consent in writing from Aerial Machine and Tool Corp.

Copyright © 2009 Aerial Machine and Tool Corp.

The following symbols are used throughout this manual:



**WARNINGS** indicate a procedure or situation that may result in serious injury or death if instructions are not followed correctly.



**CAUTIONS** indicate any situation or technique that will result in potential damage to the product, or render the product unsafe if instructions are not followed correctly.

**NOTES** are used to emphasize important points, tips, and reminders.

## 1. Introduction

The Chameleon Tactical Rescue Harness (CTRH) is an innovative Class III full body harness designed to be used in a wide variety of tactical and rescue scenarios faced by heliborne law enforcement, public safety, and military personnel. This harness meets all requirements set out in NFPA 1983.

**NOTE:** Additional Information concerning life safety harnesses can be found in NFPA 1500 (Standard on Fire Department Occupational Safety and Health Program), NFPA 1983 (Standard on Life Safety Rope and Equipment for Emergency Services), and FAA TSO 167 (Personnel Carrying Device Systems, PCDS)

The CTRH is constructed of durable fire retardent materials to prevent melting.



Fire retardent materials do not protect user from flames or burns but merely prevent materials from melting onto users skin. Fire retardant materials char when exposed to flame but do not support flame. Carry your harness carefully and do not expose your harness to flame or high temperatures as this could cause the harness to fail.

The harness incorporates four tether points; two in front and two in back. The waist belt incorporates standard one inch molle mounting and can accommodate a variety of attachments and pockets. The harness comes in sizes MED, LG, XLG.

## 1. Introduction (continued)

Your Chameleon Tactical Rescue Harness (CTRH) is an important piece of survival equipment. Proper care and maintenance will ensure your harness will accomplish the level of safety performance it is designed for. It is important that you become familiar with these instructions to safely use this harness.



Retain this manual and appendices for reference. Once removed from the package make a copy for your permanent records and a working copy to stay with your harness. Always refer to the inspection and use guidelines in this manual before and after every use. Record all inspections and damage found on harness inspection log sheet, Appendix A, once harness is placed into service.



### **WARNING**

***KEEP YOUR HARNESS INSPECTED AND IN USABLE CONDITION. IMPROPER WEAR MAY RESULT INJURY OR DEATH. ALWAYS COMPLY WITH THE INSTRUCTIONS AND CARE PRESCRIBED IN THIS MANUAL. IMPROPER USE OR NEGLIGENT CARE OF THIS EQUIPMENT CAN CAUSE SERIOUS INJURY OR DEATH.***

### 1.1. RESCUE HARNESS LIFE LIMIT

Aerial has set life limits for rescue harnesses at seven (7) years service life from date harness is put into service. Life limit not to exceed ten (10) years from date of manufacture. Date of manufacture can be found on label. Record your date of manufacture and serial number in appendix A, Harness inspection log sheet.

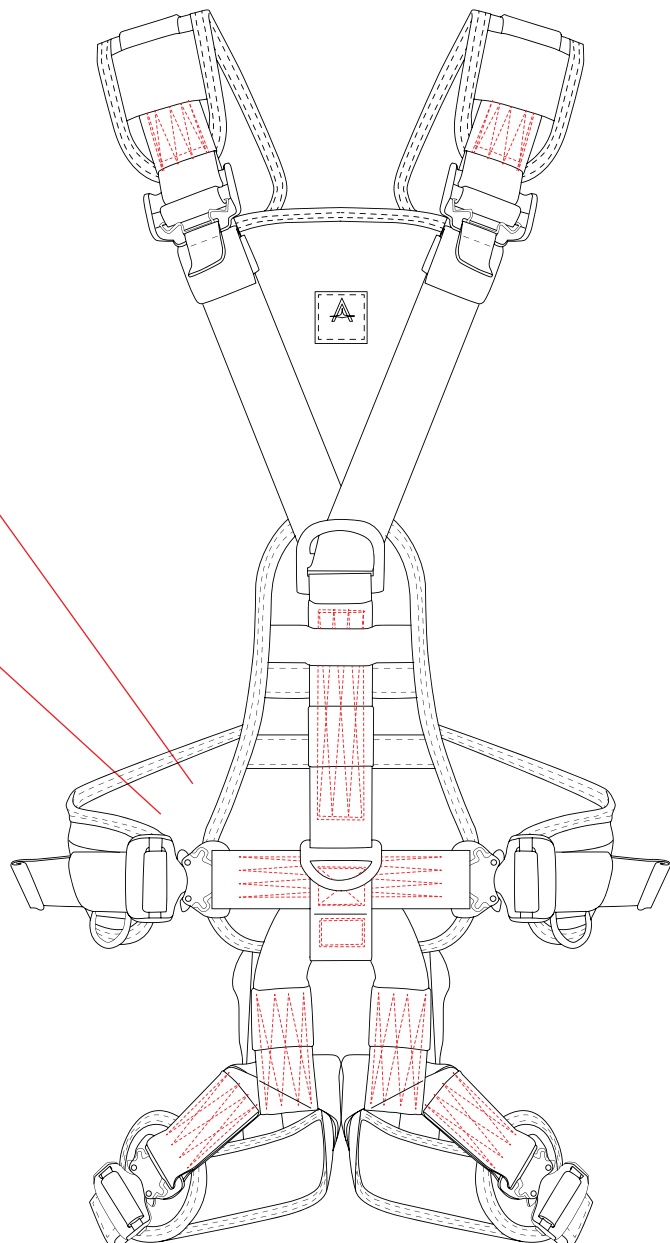
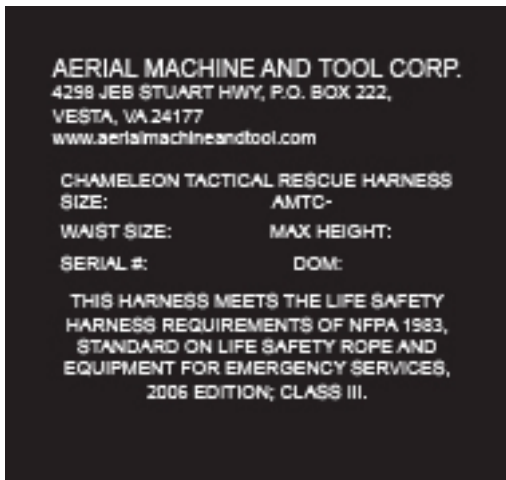
## 1.2 LABELING INFORMATION

The CTRH labeling information is located on mid-scapular back pad. Follow all warnings and guidance provided on label and in user guide. Important information such as data manufacture and serial number are located on label as shown below.



**WARNING**

***LABEL REQUIRED BY NFPA 1983-2006. DO NOT REMOVE LABEL.***



## 2. PREFLIGHT INSPECTION

It is the responsibility of the user to inspect the CTRH before flight operations. Perform a preflight inspection prior to each flight and at intervals not to exceed 30 days. If damage is found during an inspection, the harness shall be removed from service until repaired.

2.1. Inspect all tether & load bearing points, front chest, front waist, rear back, rear waist, shoulder adjustment point, and leg strap attachment points for:

- Cuts, tears, and abrasion damage
- Open seams and loose or broken stitching
- Contamination damage such as petroleum products and corrosives



### WARNING

**BROKEN STITCHING - NO BROKEN STITCHING IS ALLOWED ON LOAD BEARING SEAMS IDENTIFIED IN PICTURES BELOW. NO LOCAL REPAIRS ARE AUTHORIZED. IF DAMAGE TO LOAD BEARING SEAMS IS FOUND, HARNESS SHALL BE REMOVED FROM SERVICE AND SENT BACK TO AERIAL MACHINE AND TOOL FOR REPAIR. IF THREE (3) OR MORE CONSECUTIVE STITCHES ARE BROKEN ON A LOAD BEARING SEAM, THEN HARNESS IS BEYOND REPAIR AND SHALL BE DISPOSED OF.**

**CONTAMINATION - IF CHEMICAL CONTAMINATION, I.E. PETROLEUM, CORROSIVES, ETC, THEN EXAMINE FOR OBVIOUS DAMAGE AND DEGRADATION. IF DAMAGE FOUND THEN HARNESS IS BEYOND REPAIR AND SHALL BE DISPOSED OF. IF NO DAMAGE EVIDENT THEN CLEAN ACCORDING TO CLEANING PROCEDURES IN SECTION 4.1 OF THIS MANUAL.**

FRONT CHEST TETHER POINT

FRONT WAIST TETHER POINT



## 2. PREFLIGHT INSPECTION (CONTINUED)



### REAR (Lumbar) WAIST TETHER POINT

Be sure to inspect the stitching above and below the D ring for damage.



REAR BACK TETHER POINT



SHOULDER ADJUSTMENT POINTS  
(Right and Left)



LEG STRAP ATTACHMENT POINTS (Front and Rear)



## 2. PREFLIGHT INSPECTION (Continued)

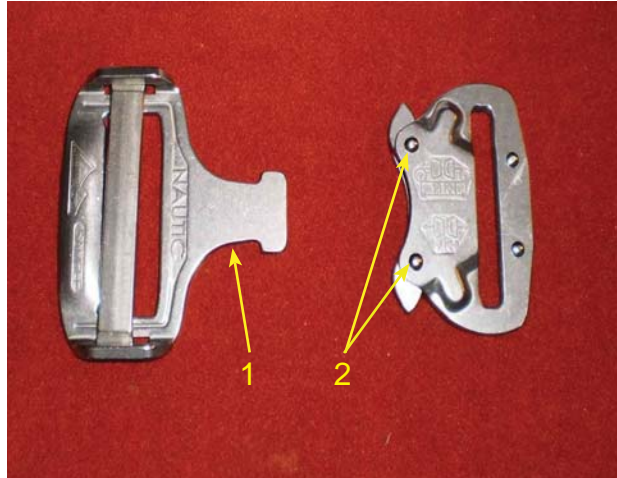
### 2.2 Inspect all Harness Hardware for:

- Cracks and Deep Gouges
- Deformity and Corrosion

**NOTE:** On the stainless steel Nautic buckles, the male fitting (1) and the release tab post pins on the female fitting (2) should be inspected for cracks, deformities and corrosion

### NAUTIC STAINLESS STEEL BUCKLE

(Located on waist and leg straps)



### WARNING

**HARDWARE DAMAGE - NO DAMAGE OTHER THAN MINOR SCRATCHES AND SURFACE CORROSION OF A MINOR NATURE ARE ALLOWED. IF CRACKS, DEFORMITY, OR SEVERE CORROSION RESULTING IN DEGRADATION OF METAL IS FOUND THEN HARNESS IS TO BE REMOVED FROM SERVICE AND RETURNED TO AERIAL FOR INSPECTION AND EVALUATION.**

### 2.3 Inspect all webbing for:

- Cuts, tears, and abrasion damage
- Contamination damage such as petroleum products and corrosives



### WARNING

**WEBBING DAMAGE - IF ANY LOAD BEARING WEBBING SHOWS ANY CUT, TEAR, OR SIGNIFICANT ABRASION BEYOND SLIGHT PILING, THEN THE HARNESS IS UNREPAIRABLE AND SHALL BE CONDEMNED.**

**CONTAMINATION - IF CHEMICAL CONTAMINATION, I.E. PETROLEUM, CORROSIVES, ETC., THEN EXAMINE FOR OBVIOUS DAMAGE AND DEGRADATION. IF DAMAGE FOUND THEN HARNESS IS BEYOND REPAIR AND SHALL BE DISPOSED OF. IF NO DAMAGE EVIDENT THEN CLEAN ACCORDING TO CLEANING PROCEDURES IN SECTION 4.1 OF THIS MANUAL.**

## 2. PREFLIGHT INSPECTION (Continued)

2.4 Record preflight inspection on harness inspection log sheet, appendix A.

**NOTE:** A detailed log of harness inspection, cleaning, and repair is crucial to the upkeep of your CTRH. Always log inspections, damage, and repairs during the service life of your CTRH.

## 3. OPERATION / WEAR

Follow the instructions provided below to properly adjust and wear you chameleon harness.

**NOTE:** Initial wear and adjustment will require a second person to help with rear torso adjustment.

**3.1 Donning and Adjustment.** Before you put on your harness release all attachment buckles and make sure you let out the webbing slack in all adjustment buckles. Then follow the steps in this section to properly wear and adjust your harness.

**3.1.a** Place harness shoulder straps over right forearm with front tether points facing forward



**3.1.b** Step through middle of harness with your right leg until right leg is completely through harness and foot is back on the floor.



### 3. Operation / Wear (Continued)

**3.1.c** Pull shoulder straps over head and center up harness on torso.



**3.1.d** Pull waist belt around waist with belt centered in lumbar (lower) area of back and mate waist buckles at front waist tether point.



**3.1.e** Second person now adjusts torso height by pulling on rear torso adjustment webbing and centering up rear back tether ring between upper half of user's shoulder blades, keeping back pad off user's neck. Stow excess webbing in elastic keeper



**3.1.f** Mate the leg strap buckles and tighten snug but not so tight as to interfere with user's circulation.



### 3. Operation / Wear (Continued)

**3.1.g** Adjust front shoulder strap webbing so harness rides snug on torso and chest. Stow excess webbing in elastic keepers.



**3.1.h FINAL CHECK.** Do a good head to toe and recheck all buckles and adjustments for proper fit and security. Recheck the following items:

- Rear Torso Height Adjustment
- Front Shoulder Adjustment
- Waist Adjustment & Buckles
- Leg Strap Buckles
- Excess Webbing Stowed



Always perform a final check of your equipment before entering the aircraft or starting the mission.

### 3. Operation / Wear (Continued)

**3.2 Optional Items for CTRH.** The pictures below show optional uses for the CTRH. A Complete list of optional Items are listed in Anex B.



#### WARNING

**USE SPECIFIED AERIAL OPTIONAL ITEMS ONLY. LISTED ITEMS ARE DESIGNED SPECIFICALLY FOR USE WITH THE CTRH AND ARE NOT INTENDED TO BE INTERCHANGEABLE WITH OTHER SYSTEMS.**

**3.2.a Dual Pick Off Strap.** The dual pick off strap is an optional item designed to give the rescuer an option of connecting to survivor for a double pick up. It can be used on the front waist or front chest tether point. (Front Chest Recommended). Carabiner attaches to Rescuer's Chameleon. "V" ring attaches to hoist. Two way gated hook is for survivor or other SAR equipment hook up.



Dual Pick Off Strap is rated by manufacturer at 1000 lbs (454 kgs) operating load and 4500 lbs (2041 kgs) max load.

### 3. Operation / Wear (Continued)

**3.2.b Shoulder Protector Pads.** Shoulder protector pads are available for use during hoisting operations and are available in right and left configuration. Pads are intended for hoist operators who practice cable management with cable on their shoulder during helicopter hoisting operations. The pads protect expensive flight suits from grease and wear. Replacements can be ordered using part number in Anex B.

Step 1: Mate pad hook to shoulder pad pile on bottom of pad.



Step 2: Fold protector pad back over shoulder pad ensuring harness shoulder adjustment buckle is covered.



Step 3: Put on and adjust harness. Mate the Shoulder Protector Pad plastic buckle and snug strap around arm.



## 4. Cleaning and Storage

### 4.1 Cleaning procedures

**NOTE:** A detailed log of harness inspection, cleaning, and repair is crucial to the upkeep of your chameleon harness. Always log inspections and cleanings in appendix A, Harness Inspection Log Sheet.



#### **WARNING**

***MANY CLEANING AGENTS CONTAIN CORROSIVE CHEMICALS WHICH MAY DAMAGE COMPONENTS ON YOUR HARNESS. USE MILD BIODEGRADABLE CLEANING AGENTS ONLY. AERIAL RECOMMENDS CLEANERS SUCH AS SIMPLE GREEN CLEANER, OR VERY MILD SOAP SUCH AS IVORY DISHWASHING LIQUID FOR THE REMOVAL OF CONTAMINANTS.***

**4.1.a** Before cleaning in water, brush all dirt and other contaminants from harness using a soft cleaning brush.

**4.1.b** Mix cleaning solution according to manufacturer's recommendations.

**4.1.c** Apply a generous amount of cleaning solution to the affected spot and lightly scrub with soft cleaning brush.

**4.1.d** Immerse in fresh warm water and agitate until all cleaning solution is removed. Check spot and repeat steps 4.1.c and 4.1.d as necessary.



#### **WARNING**

***IF STEPS 4.1.C AND 4.1.D ARE UNSUCCESSFUL REMOVING CONTAMINATION THEN HARNESS IS TO BE CONDEMNED AND REMOVED FROM SERVICE.***

**4.1.e** Hang harness out of direct sunlight to air dry.



#### **WARNING**

***DO NOT ATTEMPT TO SPEED DRYING BY PUTTING HARNESS IN CLOTHES DRYER OR BY USING ANY ELECTRICAL HEATED DRYING DEVICE. HEAT DEGRADES THE NYLON FIBERS IN THE LOAD BEARING WEBBING.***

#### **4.1 Cleaning Procedures (Continued)**

**4.1.f** Once harness is dry it is recommended, using dry filtered shop air, to blow out female side of cobra nautics and spray coat with a light water displacing compound such as ACF-50 or WD40 on female fitting release tab posts taking care not to contaminate harness webbing.

4.1.g Upon completion of cleaning procedure, log cleaning in harness inspection log sheet, Appendix A.

#### **4.2 Storage Procedures**

**4.2.a** Store your CTRH in a environmentally controlled area out of direct sunlight. If you must store your Chameleon on an aircraft, place it in a protective storage bag or in a compartment out of direct sunlight where it is protected from contamination by petroleum products.

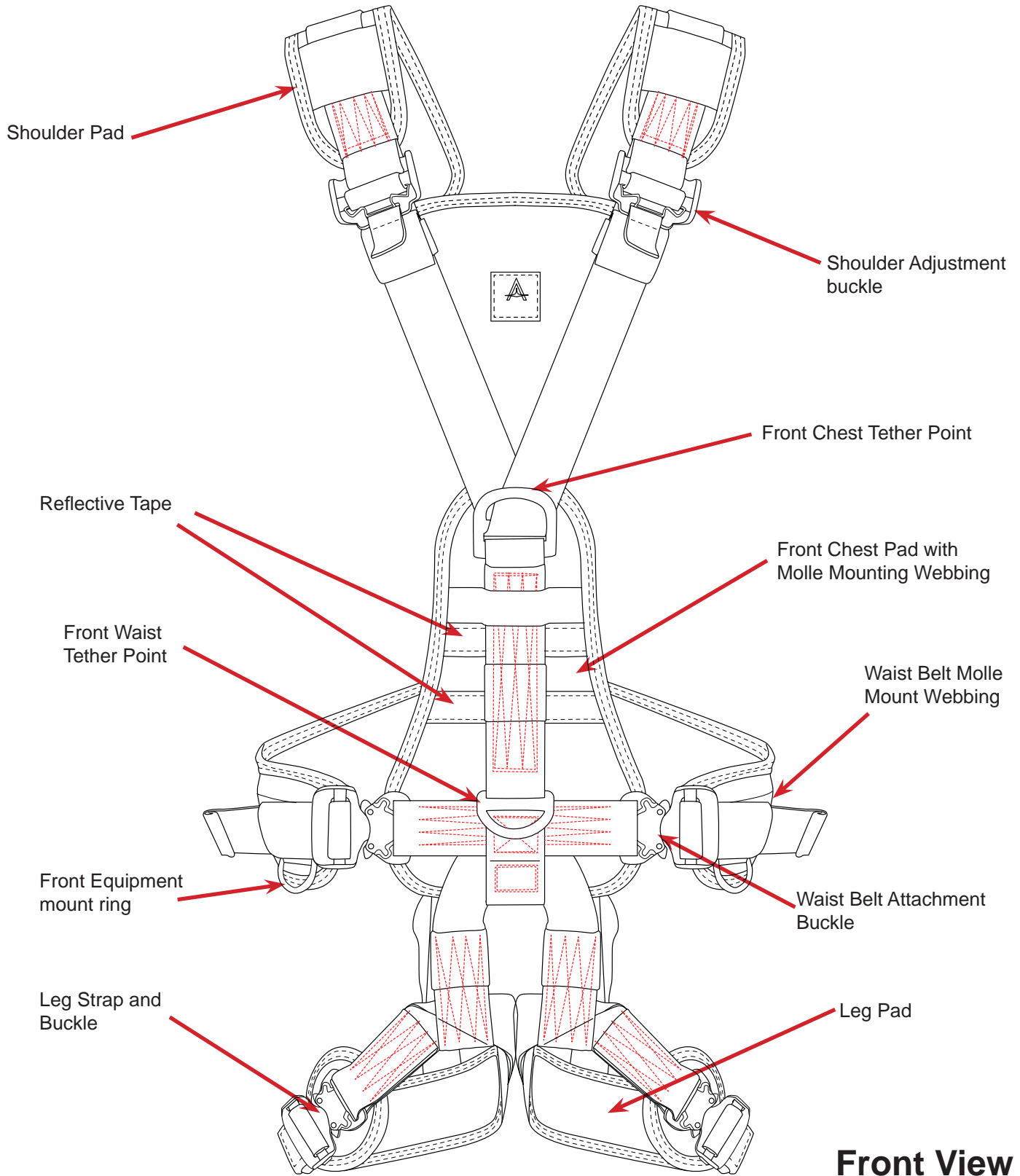


## Appendix B. Chameleon Harness Optional Items List

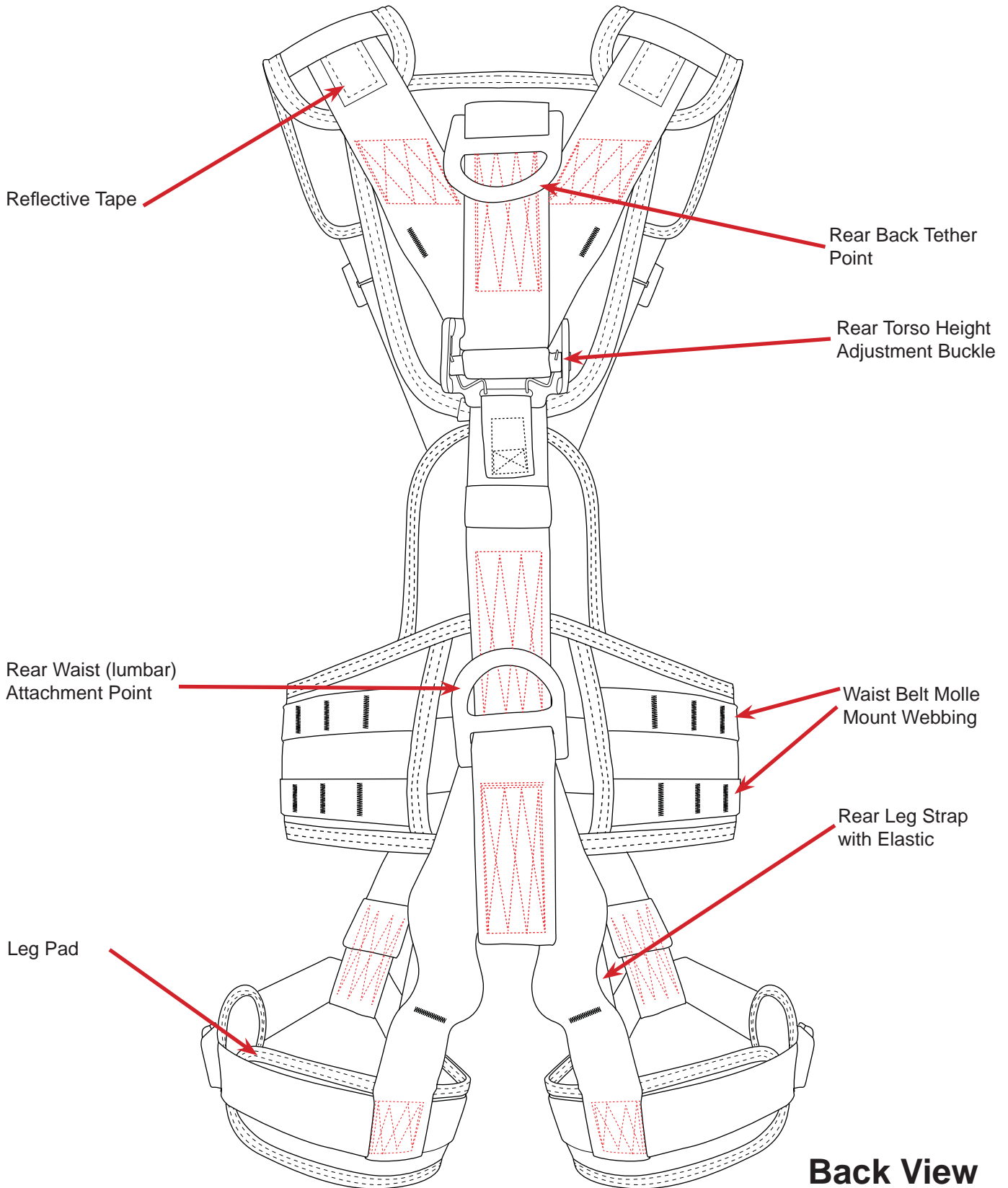
| ITEM DESCRIPTION                             | AERIAL PART NUMBER |
|--|--------------------|
| Shoulder Protector Pad (Right)               | AMTC-S1229-XX/ R   |
| Shoulder Protector Pad (Left)                | AMTC-S1229-XX/ L   |
| Dual Pick Off Strap                          | AMTC-S1230-XX      |
| Thigh Holser Adapter                         | AMTC-S1267-XX      |
| Handcuff Pouch                               | AMTC-P1247-XX      |
| 9mm Magazine Pocket ( other sizes available) | AMTC-P1225-XX      |
| Chemlite Pocket 3 x 7 x 0.75                 | AMTC-P1223-XX      |
| Utility Pocket 5 x 5 x 3                     | AMTC-P1222-XX      |
| 1.5 CU/IN Aqualung SEA Bottle Pocket         | AMTC-P1224-XX      |
| Medical Pack with Front Mount Clips          | AMTC-C1152-XX      |
| Chameleon Harness, Size Medium               | AMTC-H1037-XX / M  |
| Chameleon Harness, Size Large                | AMTC-H1037-XX/ L   |
| Chameleon Harness, Size Extra Large          | AMTC-H1037-XX / XL |

**NOTE:** The XX at the end of the part number indicates color. Currently CTRH are sold in Black only. Substitute "BL" for black. Other colors are available on request. Call Aerial for information and pricing 276-952-2006 (main office).

### Appendix C. Chameleon Harness Nomenclature



**Appendix C. Chameleon Harness Nomenclature (Contd)**



---

Chameleon Tactical Rescue Harness  
User's Manual

---

**SIZING:**

|                |                 |                |           |
|----------------|-----------------|----------------|-----------|
| MED fits waist | 30 to 36 inches | Maximum Height | 74 inches |
| LG fits waist  | 34 to 40 inches | Maximum Height | 76 inches |
| XLG fits waist | 38 to 46 inches | Maximum Height | 78 inches |