Buoyancy Compensator User's Guide

For Model:

	ATS
	HD 100
	Solo
	Elite 2
	Switchback
	HTS 2
	S25
	S38
	X37
	X55
	BAC 65
	BAC 85
	BAC D85

Buoyancy Compensator Users' Guide, Doc. No. 12-4012 Rev. 3 7/16/09

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PATENT NOTICE
U.S. Patents have been issued, or applied for, to protect the following design features: backpack systems (U.S. Patent No. 5,378,084, Gas Impermeable Laminate (U.S. Patent No. 5,693,412), Harness Buckle (U.S. Patent No. D409,114), Weight Drop System (U.S. Patent No. 5,218,745), Soft Backpack (U.S. Patent No. 4,952,095), and Compensating Waistband (U.S. Patent No. 4,732,305. Also other Patents Pending.

LIMITED WARRANTY
For details, refer to the Product Warranty section on the Hollis web site:

www.hollisgear.com

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Introduction

This User's Guide describes the unique functions and features of Hollis buoyancy compensators (BC) and various optional accessories. The more acquainted that you become with your new BC, the more you will enjoy your diving experience. By following the instructions in this guide, you will understand how your BC product works, how to make best use of its features and how to ensure it is set up best for your needs.

All Hollis BC's are constructed with the highest quality materials and utilize the latest computer aided design and manufacturing techniques to ensure their highest performance and reliability. There are a number of Hollis BC systems that are designed to match your type of diving. With a selection of bladder systems and accessories, a diver can configure his or her BC system to work in any environment they are operating in.

 **WARNING**: This indicates a potential hazardous situation which, if not avoided, may result in serious injury or death.

 **CAUTION**: This denotes instances that if not handled properly could result in damage to the equipment.

 **NOTE**: Represents important information.

⚠ WARNINGS:

- Hollis BC's are intended for use by divers who have successfully completed a nationally recognized course in scuba diving.
- Hollis BC's must not be used by untrained persons who may not have knowledge of the potential risks and hazards of scuba diving
- As with all underwater life support equipment, improper use or misuse of this product can cause serious injury or death.
- Improper use of the oral Inflation/ Deflation or dump valve assemblies may allow water to enter the BC with a subsequent reduction in buoyancy. Reducing buoyancy can cause a loss of buoyancy control resulting in serious injury or death.
- Temperature conditions for use (1 to 40 degrees C / 34 to104 degrees F)
- Limitations of dimensions of cylinders (20L single cylinder, or Twin 15 litre cylinders)
- This is not a lifejacket it does not guarantee a head up position of the wearer at the surface.
- DO NOT depend on any Hollis BC to save your life under any circumstances.
- Prior to each dive, inspect and test your BC for proper operation. If any part does not function properly, DO NOT USE!
- In an emergency, Hollis BC's may not provide face-up flotation in all cases for all persons.
- DO NOT inhale gases from within any Hollis BC.
- On the Hollis dual bladder, the bladder against the diver's back is the primary bladder. Do not inflate both bladders at the same time, this could decrease the overall lift provided by the bladder.
- If you do not fully understand how to use your Hollis BC, or if you have any questions regarding its functions, you should seek instruction in its use from your authorized Hollis dealer before you utilize this product.
- Read and understand the owner's guide completely before diving with any Hollis BC system.
- It is the diver's responsibility to assure that fully configured, ready to dive systems are able to achieve neutral buoyancy at the beginning and end of any dive. Adding Non-Drop weights or switching from a single cylinder configuration to twin cylinder configuration can add significant in water weight.

BCD Systems

Hollis offers two traditional style Buoyancy Compensator Device systems. It is important when choosing a BCD that there is enough buoyancy to float the diver and equipment at the surface. Hollis BCD Systems are designed for traditional diving. Adding non ditch-able weights can add significant in water weight. It is the diver's responsibility to ensure adequate lift for the gear configuration being used.

Our BCDs are constructed with a 1000 Denier Cordura w/ PU Lamination Outer Shell and 15mm Urethane Internal Bladder or better. Each BCD also comes standard with a 1" diameter corrugated hose with the Hollis power inflator. Corrugated hoses are offered in a variety of lengths for the diver to choose from to customize their system.

BCD systems offered by Hollis:

- ATS – SM & MD 34 lbs (15.4 kg) Lift LG & XL 44 lbs (20 kg) Lift
  part # 208.1100.00X
- HD 100 – SM & MD 36 lbs (16.3 kg) Lift LG & XL 38 lbs (17.2 kg) Lift
  part # 208.1150.00X

ATS

HD 100

BC Bladder Systems

Hollis offers a variety of bladder systems to match any diver's needs. It is important when choosing a bladder that there is enough buoyancy to float the diver and equipment at the surface. Adding non ditch-able weights or switching from a single cylinder configuration to twin tank configuration can add significant in water weight. It is the diver's responsibility to choose a bladder appropriate to the needs of his configuration.

All of our bladders are constructed with a 1000 Denier Cordura w/ PU Lamination Outer Shell and 15mm Urethane Internal Bladder or better. Each bladder also comes standard with a 1" diameter corrugated hose with the Hollis power inflator. Corrugated hoses are offered in a variety of lengths for the diver to choose from to customize their system.

Bladder systems offered by Hollis:

- S25– Single Tank Bladder 25 lbs (11.3kg) Lift part # 208.1251.025
- S38 – Single Tank Bladder 38 lbs (17.2kg) Lift part # 208.1251.038
- X37 – Double Tank Bladder 37 lbs (16.8kg) Lift part # 208.1250.037
- X55 – Double Tank Bladder 55 lbs (24.9kg) Lift part # 208.1250.055
- BAC 65 – Double Tank Bladder 65 lbs (29.5kg) Lift - Removable bungee included part # 208.1250.060
- BAC 85 – Double Tank Bladder 85 lbs (38.6kg) Lift - Removable bungee included part # 208.1250.085
- BAC D85 – Double Tank Dual Bladder System 85 lbs (38.6) Lift Each – removable bungee included part # 208.1252.085

S25 S38

X37 No Bungee

X55 No Bungee

BAC 65

BAC 85

BAC 85D

All Hollis Bladders are designed to be used with the following Hollis Harness Systems:

Solo – Switchback – Elite 2 – HTS 2

NOTE: For the 85lb (38.6kg) lift Bladders, Clause 5.5.2 of CE Inflation test with mechanical device did not pass. Maximum buoyancy was not achieved in 20 seconds (using a 7 Bar (100 psi) IP). However, maximum buoyancy was achieved in 24 seconds (using a 7 Bar (100 psi) IP) and SGS has accepted this inflation rate within safe limits for a device of this size.

Pull Dump

(used on ATS, HD 100, S25, S38 v.2, X37, X55, BAC 65, BAC 85, BAC D85)

All Hollis bladders have a lower right pull dump w/ knob (Fig.1) that can be removed and knotted for a more streamline system. To remove the pull knob, slide the knob back on the cord to expose the knot (Fig.2). Untie the knot and slide the knob off the cord and then retie the knot on the cord Fig.3). To dump air from the bladder, pull lightly on the cord. Inspect the pull dump regularly to make sure it is working properly and is not sticking or leaking.

Fig.1

Fig.2

Fig.3

Bungee Cords

(used on BAC 65, BAC 85, BAC D85)

Bungee cords are elastic bands that are used to keep the bladder more streamlined and compact on the diver. All Hollis bungeed bladders have the option of removing the bungee. First unclip the bungee from each side of the bladder on the lower inside D-rings (Fig.4). Remove the clip from one end of the bungee by pulling the shoulder back and releasing the tabs (Fig.5 & 6). Then pull the bungee through the guides (Fig.7). It is recommended to reattach the clip to the bungee so you do not lose it.

Fig.4

Fig.5

Fig.6

Fig.7

Installing BC Inflator Quick Disconnect Hose

(used on ATS, HD 100, S25, S38 v.2, X37, X55, BAC 65, BAC 85, BAC D85)

Low pressure (LP) and high pressure (HP) port thread sizes are different, making incorrect installation of hoses unlikely. However, to avoid damage or personal injury that may occur due to incorrect installation, Hollis strongly recommends having hoses installed professionally by an Authorized Hollis Technician. If this is not possible, proceed as follows.

Installing Hoses:

After having determined the preferred orientation and the correct Low Pressure Port –

- Remove the port plug from the port to be used by turning it counter clockwise with a 5/32" hex key. Save the port plug for possible future use.
- Lightly lubricate the hose-end threads and o-ring with Tribolube-71 or Christo-Lube MCG111 lubricant (silicone grease is acceptable only if the regulator is not intended for use with nitrox).
- Thread the hose clockwise into the port until secure, and then tighten it with an open end wrench 9/16 in (or 1/2 in) of the appropriate size to a torque of 40 in-lbs.
- After all hoses are connected, test the complete regulator assembly by attaching it to an appropriate tank, pressurizing the system, and carefully listening for leakage of breathing gas.

BC Inflator System Use

(used on ATS, HD 100, S25, S38 v.2, X37, X55, BAC 65, BAC 85, BAC D85)

W	LP Hose Connector
X	Power Inflator Button
Y	Mouthpiece
Z	Deflate/Manual Inflation Button

Hollis Inflator Systems are designed for working pressures of 120 psi (8 Bar) minimum, 140 psi (9Bar) nominal and 160 psi (11 Bar) maximum.

With the Hollis Inflator you can inflate the BC by two methods, Manually and Power Inflation.

Manual Inflation:
To manually inflate the BC, depress the Manual Inflation Button and blow into the Mouthpiece. Be sure to release the Manual Inflation Button before you remove your mouth from the Mouthpiece to ensure you do not lose any air through the Mouthpiece. Repeat until desired buoyancy is achieved.

Power Inflation:
To power inflate the BC, depress the Power inflator button. This can only be achieved when the Low Pressure Inflator Hose is connected and under pressure from the regulator 1st stage. Use short bursts of air to inflate the BC being careful not to add too much air.
Note: Have an authorized Hollis technician attach the LP hose to the regulator 1st stage.

WARNING: If you depress the Power Inflator fully, the BC will inflate rapidly. Be careful not to overinflate the BC causing an unwanted rapid rise towards the surface.

Deflating the BC through the Inflator Mouthpiece:
To deflate the BC using the Inflator, hold the Power Inflator higher than the top of the BC and depress the Deflate button to release the air. The Mouthpiece must be higher than the BC to ensure complete deflation of the BC. While underwater, be sure to release the Deflate button before all air is released to prevent water from entering the BC.

RE (Rapid Exhaust) Valve Shoulder Dump:
You can only dump air from the shoulder if you have an attached RE Valve available as a separate option (Standard shoulder elbows will not dump air in this manner). In an upright position with your shoulders towards the surface, pull on the corrugated inflator hose from the Power Inflator end. This will open the RE valve on your shoulder and will release the air.

Attaching the LP (Low Pressure) Inflator Hose:
With the inflator Hose attached to the regulator, connect the regulator to a pressurized SCUBA tank. Grasp the QD (Quick Disconnect) end of the LP Inflator Hose and pull back the coupling release and press it onto the connector on the Inflator System and let go of the coupling. Make sure the LP Hose is securely attached before pressurizing the regulator system. Pressurize the regulator system by slowly opening the tank valve. Now press the Power Inflator Button until you hear air flowing into the BC.

Buoyancy Control:
Using the inflation and deflation methods described will help you maintain neutral buoyancy throughout your dive at different depths. A diver who practices Buoyancy Control can hover in mid water with varying depth, wetsuit compression or weights'. Having good Buoyancy Control will allow a diver to shed unnecessary lead weight and use less energy creating a longer, more relaxed dive.

BC Harness Systems

Solo Harness

Solo Harness Kit:

- Continuous Weave One Piece Harness System w/ 2in (5.1cm) Crotch Strap
- 7 Loose D-Rings w/ keepers to be Custom Placed by Diver (Suggested 2 on Each Shoulder, 1 on Each Waist and 1 on the Crotch Strap.
- 2in (5.1cm) Stainless Cam Buckle
- Shoulder Pads
- **Backplate not included**

Solo Harness Kit

Complete Assembly

Rear View

Solo Harness

Shoulder Straps: Insert main harness webbing through top slot of plate that would be on your right shoulder. Make sure the grommet is in front of the plate with about 6in (15.2cm) of webbing between the grommet and the front of the plate (Fig.8). Now insert grommet side of webbing back through angled slot next to the top slot and pull webbing through so the grommet is now on the back side of the plate (Fig.9). Pull the webbing across the back of the plate and insert the webbing though the angled slot on the opposite side of the plate. Adjust the webbing so the grommet is centered with the bolt hole in the plate (Fig.10). Now from the front, pull webbing back through the top slot so the webbing mirrors itself on both shoulders (Fig.11). Place plate so that the front is facing forward and bring webbing to the front (Fig.12).

Fig.8

Fig.9

Fig.10

Fig.11

Fig.12

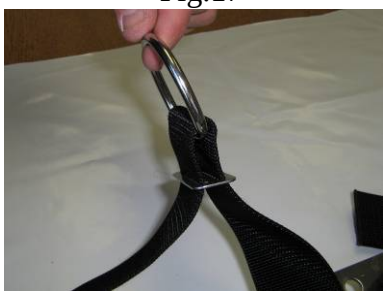
Shoulder Pads: Make sure when installing the shoulder pads that they curve away from the center of the backplate; so that they wrap naturally around your body. Each pad has 3 elastic slots that the webbing must weave through (Fig.13). Between the elastic slots are 2 spaces for included D-rings. Slide the pad on to the harness webbing to where you feel it will sit best on your shoulder and insert D-rings with slide between each elastic slot to hold shoulder pad in place (Fig.14). Pads can be adjusted later when harness is complete. Repeat same process on opposite shoulder (Fig.15).

Fig.13 Fig.14 Fig.15



Waist Straps: Making sure the shoulder straps contour in and around the body, pull webbing through lower inside angled slots. Insert webbing through metal keeper on the backside of the backplate and then back through lower outside angled slots so the webbing is on the front side of the plate (Fig.16). Adjust webbing so there is enough slack in the shoulder area to don harness. Additional adjustments can be made when harness is complete. If desired, included D-rings can be inserted on either side of the harness waist strap (Fig.17 & 18). D-rings can be adjusted to any position on the waist webbing as desired.

Fig.16 Fig.17 Fig.18


Crotch Strap: Take the side of the crotch strap that is not looped; insert the slide/keeper leaving about 8in (20.3cm) of webbing between the slide and the end of the webbing. Then weave webbing through the larger slot at the center of the backplate's bottom and back through the slide/keeper (Fig.19, 20 & 21). This is where adjustment to the crotch strap will be made. The looped end will thread onto the waist strap.

Fig.19

Fig.20

Fig.21

Your Solo harness is now complete.

Switchback Harness

Switchback Harness Kit:

- Left side waist webbing with left side sternum strap on SS round ring and female half of left shoulder buckle with attached D-ring. 1 SS D-ring with slide/keeper.
- Right side waist webbing with right side sternum strap on SS round ring. 1 SS D-ring with slide/keeper and SS waist cam buckle.
- Crotch strap with attached SS round ring, plastic buckle and 2 plastic slides.
- Shoulder webbing with centered grommet. Male end of left shoulder buckle. 5 plastic slide/keepers with 3 bent SS D-rings.


Left Waist Webbing


Right Waist Webbing


Crotch Strap


Shoulder Webbing

Switchback Harness

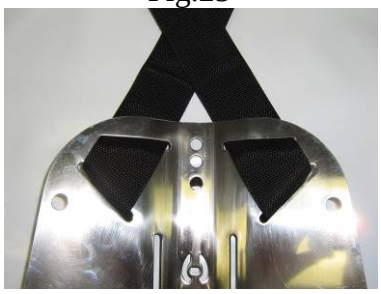
Shoulder Straps: Insert shoulder harness webbing through top slot of plate that would be on your right shoulder. Make sure the grommet is in front of the plate with about 6in (15.2cm) of webbing between the grommet and the front of the plate (Fig.22). Now insert grommet side of webbing back through angled slot next to the top slot and pull webbing through so the grommet is now on the back side of the plate (Fig.23). Pull the webbing across the back of the plate and insert the webbing though the angled slot on the opposite side of the plate. Adjust the webbing so the grommet is centered with the bolt hole in the plate. Now from the front, pull webbing back through the top slot so the webbing mirrors itself on both shoulders (Fig.24). Webbing will naturally cross creating the cross-back feature of the Switchback harness system (Fig.25).

Fig.22

Fig.23

Fig.24

Fig.25



Waist Webbings: With the female shoulder buckle and sternum strap laid flat facing away from the plate (Fig.26), inset left waist webbing through lower left inside angled slot (front to back) and weave back through lower outside angled slot (back to front)(Fig.26). Repeat the same process with the right waist webbing (Fig.27).

Fig.26

Fig.27

At this point the system should look like Fig.28. Using SS slides, insert flat SS D-rings, one on each side of the waist (Fig.29, 30 & 31). Adjustments can be made later.

Fig.28

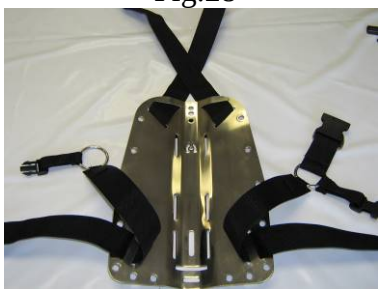


Fig.29

Fig.30

Fig.31

Waist Cam Buckle: Insert waist cam buckle on left side webbing. See "BC Waist Cam Buckle" section for recommended buckle weave. At this point the system should look like Fig.32.

Fig.32

Crotch Strap: Take the side of the crotch strap that is not looped; insert the slide/keeper, leaving about 8in (20.3cm) of webbing between the slide and the end of the webbing. Then weave webbing through the slot at the center of the backplate's bottom and back through the slide/keeper (Fig.33, 34 & 35). This is where adjustment to the crotch strap will be made. The looped end will thread onto the waist strap.

Fig.33

Fig.34

Fig.35

Left Shoulder Installation: Install plastic slide on each shoulder so there is about 3in (7.6cm) between the plate and the slide (Fig.36). The harness will criss-cross, so the webbing from the right shoulder of the plate will go over the left shoulder of the diver (shoulder release buckle side). Using 1 plastic slide, install 1 bent SS D-ring on the left shoulder side (Fig.37 & 38) (Adjustments can be made later). Then install the male side of the shoulder buckle, positioned in the center between the distance from the plate to the end of the webbing (Fig.39). Then weave the webbing back through the plastic slide with the D-ring (Fig.40). Adjustments can be made later.

Fig.36

Fig.37

Fig.38

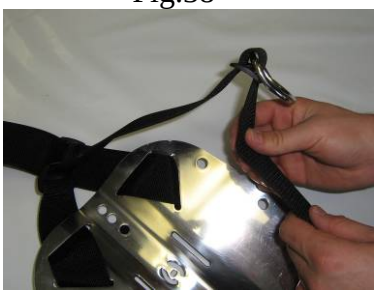


Fig.39

Fig.40

Right Shoulder Installation: The harness should criss-cross so the webbing from the left shoulder of the plate will go over the right shoulder of the diver. Using the 2 plastic slides, install the 2 bent SS D-ring on the right shoulder side (Fig.41) (Adjustments can be made later). Then weave the webbing through the SS round ring of the right side waist webbing (make sure the waist webbing is curved correctly so it contours around the body and the sternum strap is on the correct side facing in). Positioned the SS round ring in the center between the distance from the plate to the end of the webbing, then weave the webbing back through the plastic slides with the D-rings (Fig.42, 43 & 44). Adjustments can be made later.

Fig.41

Fig.42

Fig.43

Fig.44

Weave extra webbing from both shoulders through plastic slides 3in (7.6cm) from plate (Fig.45 & 46). Then fasten left shoulder buckle (Fig.47) (make sure the waist webbing is contoured correctly so it curves around the body and the sternum strap is on the correct side facing in).

Fig.45

Fig.46

Fig.47

Your Switchback harness is now complete.

Elite 2 Harness

Elite 2 Harness Kit:

- Waist Strap and Lower Shoulder Strap Assembly Components
- Upper Shoulder Strap Assembly Components
- Crotch Strap Assembly Components

Waist/Lower Shoulder As.

Upper Shoulder Assembly

Crotch Strap Assembly

Elite 2 Harness

Crotch Strap: Take the side of the crotch strap that is not looped; secure a D-Ring with a slide/keeper leaving about 8in (20.3cm) of webbing between the slide and the end of the webbing. Then weave webbing through the backplate from the back side (Fig. 1a). Use the larger slot at the center of the backplate's bottom and weave the webbing back through the slide/keeper (Fig. 2a). This is where adjustment to the crotch strap will be made. The looped end will thread onto the waist strap. When adjusted properly the D-ring should be spaced approximately one hand width from the backplate, facing the backside, and secured with a Slide/Keeper (Fig. 3a).

Fig. 1a

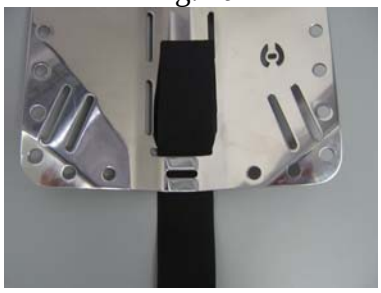


Fig. 2a

Fig. 3a

Waist Strap Assembly: The Elite 2 comes with two lengths of 2 in (5.1 cm) Nylon Webbing Straps. **Use the shorter of the two** to construct the Waist Strap Assembly. Working from the backside of the backplate, run the 2 in (5.1 cm) Nylon Webbing through the Waist Slots on the Backplate as shown (Fig. 4a, 5a). Next run the Shoulder Strap Plate through the Waist Strap as shown (Fig. 6a). Repeat on the other side. Install the Slide Keeper and D-ring one on each side as shown (Fig. 7a, 8a).

Fig. 4a

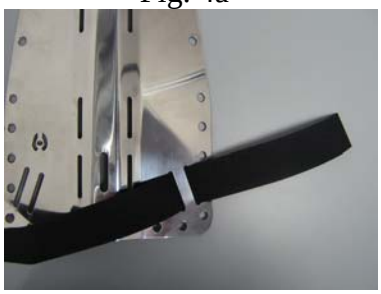


Fig. 5a

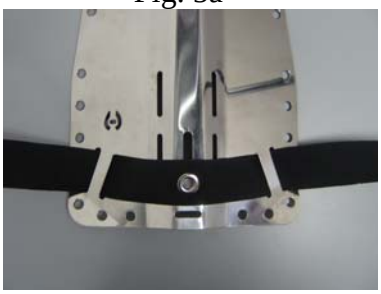


Fig. 6a

Fig. 7a

Fig. 8a

Waist Cam Buckle: Insert waist cam buckle on left side (Fig.51). See "BC Waist Cam Buckle" section for recommended buckle weave.

Upper Shoulder Strap Assembly:
With the longer of the two lengths of webbing provided with the Elite 2 weave the strap as follows. From the back side of your backplate insert the webbing as shown (Fig. 9a, 10a, 11a).

Fig. 9a

Fig. 10a

Fig. 11a

On the Left side weave the Shoulder pad with the 2 in (5.08 cm) webbing panel at the top as shown in (Fig. 12a, 13a). Next weave a Slide/Keeper and then through the panel on the appellate (Fig. 14a).

Fig. 12a

Fig. 13a

Fig. 14a

Weave a Slide/Keeper and Bent D-Ring As shown (Fig. 15a). Then weave under the 1 in (2.5 cm) panel (Fig. 16a). Next weave another Slide/Keeper and Bent D-Ring onto the webbing (Fig. 17a, 18a).

Fig. 15a

Fig. 16a

Fig. 17a

Fig. 18a

Take one of the two D-Rings with the webbing leads and clips attached and weave the webbing as shown (Fig 19a). Make sure the larger female clip faces down. The Sternum Strap (lead with the smaller clip) should face inward toward the center chest (Fig. 19a, 21a). Weave the webbing back through the 3 Slide/Keepers (Fig. 20a). The left side Shoulder strap should look like the photo (Fig. 21a).

Fig. 19a

Fig. 20a

Fig. 21a

Repeat the steps to install the shoulder strap on the right side. When complete your harness should look like the photo (Fig. 22a).

Fig. 22a

Slide/Keepers and D-Rings will need to be adjusted for optimal positioning and sizing. When fitted properly the lowest D-Ring on the shoulder strap should line up with your nipple. Your Elite 2 Harness is now complete.

HTS 1 & HTS 2 Harness:

The HTS Harness System does not require any assembly, but there are many adjustments and items that can be removed or added to the HTS to customize your harness.

Cummerbund Assembly: If desired, you can remove the cummerbund and only use the 2in (5.1cm) webbing for your waist strap. To remove the cummerbund; first pull cummerbund ends through both straps on the back side of the weight pockets (Fig.66 & 67). Now pull up lower portion of backpad from attached a self gripping fastener and pull cummerbund through straps on the back side of the backpad (Fig.68). Lastly, pull up center a self gripping fastener /grommet section of the cummerbund and pull cummerbund through harness guide straps (Fig.69). To install cummerbund, follow the same process in reverse. (Will accommodate all sizes of Hollis cummerbunds, Fig.70)

Fig.66

Fig.67

Fig.68

Fig.69

Fig.70

Crotch Strap: Take the side of the crotch strap that is not looped; insert the slide/keeper, leaving about 8in (20.3cm) of webbing between the slide and the end of the webbing (Fig.71). Then weave the webbing through the D-ring attached to the bottom center portion of the harness and back through slide (Fig72). This is where adjustment to the crotch strap will be made. The looped end will thread onto the waist strap (Fig.73). Use the clip for convenience of donning and doffing gear.

Fig.71

Fig.72

Fig.73

D-rings: Each shoulder includes 1 adjustable SS D-ring with the ability to add additional D-rings as desired. To adjust or add D-rings, undo weave of 2in (5.1cm) shoulder strap webbing from slide/keepers on the top portion of the shoulder straps (Fig.74, 75 & 76). Add or move D-ring to desired position (Fig.77). When adjustments and additions are made, weave the webbing back through the top slide/keeper to secure the strap (Fig.78 & 79).

Fig.74

Fig.75

Fig.76

Fig.77

Fig.78

Fig.79

Attaching Cam Bands and Bladder to HTS Soft Pack: With the harness back facing you and cam straps set so the buckle is to the right side and the no slip catch webbing is facing out (Fig.80 & 81), thread the cam straps (metal cam straps available) through both the top and bottom guide slots on the back of the harness (Fig.82, 83 & 84). The HTS 2 provides a second pair of guide slots that provide different spacing see * (Fig. 82). Use these second pair of narrower spaced guide slots when using cam bands to attach a Hollis S 25 Ver. 2 or S 38 Ver. 2 that has cam slots.
Choose the bladder to attach and lay it on the back of the harness with the black side out and the Hollis logo on the lower right side. Pull cam bands through the slots in the bladder (Fig.85). When a tank is attached to the harness the bladder will be securely fastened between the tank and the harness, but for added security, Hollis bookend screws can be used to attach the bladder to the harness system (Fig.86 & 87). Align grommet holes from the harness with the grommet holes on the cam band and on the bladder, then from each side (outside bladder and inside harness under packpad) thread the male and female parts of the bookend screws and tighten (Fig.88). This will make the bladder and harness a solid unit when a tank is not attached.

Fig.80

Fig.81

Fig.82

Fig.83

Fig.84

Fig.85

Fig.86

Fig.87

Fig.88

Double Mounting Plates: Hollis recommends using HTS Double Mounting Plates part # 208.1034 when using Double Tank kits with the HTS 1 or HTS 2 (Fig. 89). Unweave and remove the Cam Bands from the HTS Harness because they will not be used in this application. To install the Mounting Plates and Tanks, peel back the Padded Back Pad to reveal the mounting grommets on the HTS Harness (Fig. 90). Lay your selected Bladder Wing over the Tanks with the bolts going through the Wing's grommets. Then lay the Harness over the Bladder Wing and Double Tanks with the mounting bolts going through the grommets. Next position the each Mounting Plate with the bolts going through the holes. Secure the Mounting Plates and Tanks with Wing Nuts and Hardware provided with your Doubles Tank Band Kit. The HTS Double Mounting Plates should be positioned so the width of the plate lies laterally (Fig. 91). When tightened properly the V shape of the Mounting Plates will pull the harness against the two tanks and the wing nuts will be very snug (tight enough to not unintentionally come loose).

Fig. 89

Fig. 90

Fig. 91

BC Single Tank Mounting Adaptor

The Single Tank Mounting Adaptor is easily attached to any Hollis backplate system. Not only does the adaptor allow for fast and easy switches between single and double tank assemblies, but it also provides a more stable mount for larger single tanks.

Installation with S25, S38, X37 Bladders

Choose a bladder. From the outside of the bladder (the black side) insert the bolts through the bolt holes in the single tank adapter plate and through the bolt holes in the bladder (Fig.101 & 102). Flip the bladder so that the blue side is up (Fig.103). Now place the plate over the bolts through corresponding holes (Fig.104, 105 & 106). If the plate, bladder or tank adaptor do not line up as desired you can adjust them by using different bolt holes. Now install in the following order (1 each per bolt) flat washer then a lock washer. Next thread the wing nuts onto the bolts and tighten securely; so they will not loosen during the dive. Now weave the cam bands through the slots on the adaptor and attach the tank (Fig.107 & 108). Refer to "Attaching a Single Tank w/ Cam Band to BC" section for cam buckle weave.

Fig.101

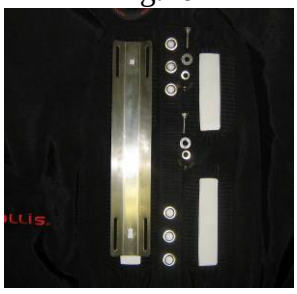


Fig.102

Fig.103

Fig.104

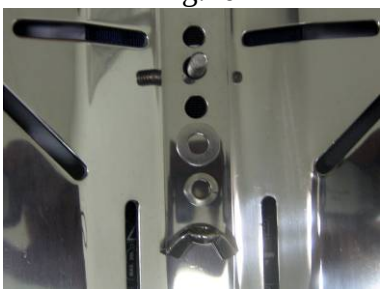


Fig.105

Fig.106

Fig.107

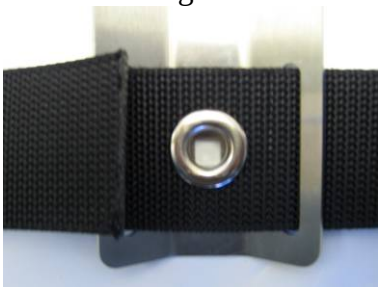
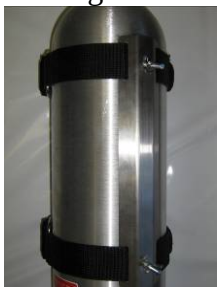


Fig.108

Fig.109



Mounting Double Tanks to BC

Installation with
X37, X55, BAC 65, BAC 85, BAC 85D Bladders

When mounting double tanks to your Hollis system, be sure that you have the correct band size for your tanks and manifold that you are using. It is very important that you select a wing designed for use with double tanks, and that it has adequate lift to allow neutral buoyancy for the equipment being used both at the beginning and end of the dive (at any tank pressure).

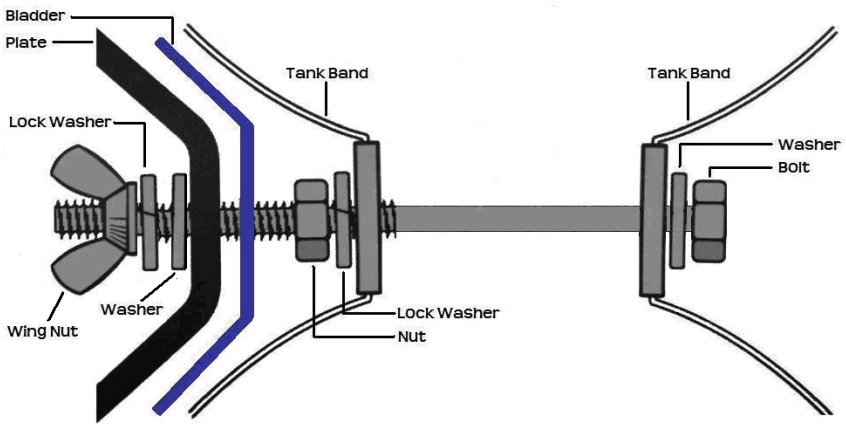
Included with Double Tank Band kit:

- 2 Stainless Steel Bands
- 2 Threaded Bolts
- 2 Wing Nuts
- 4 Flat Washers
- 4 Split Lock Washers
- 2 Hex Nuts

First place the flat washer on the threaded bolt. Then insert the threaded bolt through the holes in the tank band. Now place a split lock washer on the threaded side of the bolt and then thread a hex nut on to the bolt. Leave the bands loose enough to insert tanks. Now place the bands over the tanks and position them so they correspond with the holes in the bladder and backplate (11 inches apart). Now tighten the hex nuts so the bands are secure and there is no movement of the tanks. Any movement of the tanks can put stress on the manifold and cause possible manifold failure. Now place the bladder and backplate over the bolts. Secure the assembly with a washer, a lock washer, and a wing nut per bolt (following the diagram).

 **WARNING**: Make sure bands are tightened so there is no movement of the tanks. Any movement of the tanks can put stress on the manifold and cause possible manifold failure.

 **WARNING**: Seek the advice of an Authorized Hollis Dealer or Technical Instructor, from a recognized training agency, to advise proper placement of the tank bands for proper trim in the water.



Attaching a Single Tank w/ Cam Band to BC

(used on ATS, HD 100, S25, S38 v.2, X37)

Use the following steps to weave the cam band (2in (5.1cm) Nylon webbing) to the buckle. Nylon may loosen when wet, to ensure an extra secure hold, soak the straps in water before tightening:

- Pull the band through SS (Stainless Steel) attachment at the base of the buckle (Labeled 1) so the band is now on the on the outside of the buckle (Fig.110).
- Now weave the band through the middle slot (Labeled 2) from outside to inside (Fig.111).
- Now weave the band through the bottom slot (Labeled 3) of the buckle so the band is against the tank (Fig.112 & 113). Pull band tight to make sure there is no slack around the tank or in the buckle weave (Fig.114).
- With the band tight, weave the band through the top slot (Labeled 4) of the buckle from inside to outside (Fig.115). Pull tight and fold the buckle over so it snaps against the tank (Fig.116 & 117). Now attach remaining webbing to the webbing against the tank using the self gripping patch (Fig.118).

Steps in Fig.110 through Fig.113 can be done without the tank to make weaving the cam straps through the buckles easier. Make sure to leave enough slack to insert tank.

Fig.110 Fig.111 Fig.112

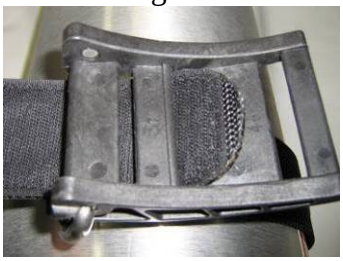


Fig.113

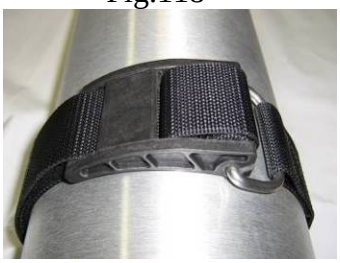
Fig.114

Fig.115

Fig.116

Fig.117

Fig.118



Integrated Weight Pockets for Elite, Switchback, Solo & HTS 2 Harness BC Systems

This optional integrated weight system is designed to be used with the Hollis Elite, Switchback and Solo Harness Systems. The integrated weight system provides up to 20lbs (9kg) of ditchable weight [10lbs (4.5kg) on each side], is equipped with waist positioned D-rings and is easily installed. Also, with its optional adjustable no sag straps; this weight system is clean and comfortable.

NOTE: The HTS 2 weight system has a slightly different design but the specifications and installation are the same accept where noted. The HTS 2 weight system comes with a permanent no sag strap standard.

Pocket Installation

Weight Pockets: Before installing this weight system you must remove all waist D-rings, waist cam buckle, and any other accessory that is attached to the waist webbing. Pockets are side specific; so make sure the Hollis logo reads upright and correctly when installing the pocket (Fig.119). The weight pockets must be on the outside, facing away from your body to function correctly. Slide webbing through both 2in (5.1cm) webbing slots (one on each end) on the back side of the pocket (Fig. 120 & 121. Slide the pocket all the way back to the plate and lay the plate on its front with the weight pocket laying flat facing you (Fig.122) At the back of the weight pocket there is a strap with 2 grommet holes so you can adjust the pocket to be more forward or back on the waist. Adjust the pocket's position to your preference (Fig.122). Using the provided bookend screws, attach the weight pocket to the backplate through the desired grommet (Fig.123). Repeat on opposite side. Now you can reattach your cam buckle and D-rings in front of the weight pocket (Fig.124).

Fig.119

Fig.120

Fig.121

Fig.122

Fig.123

Fig.124

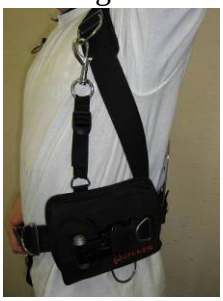
Optional Adjustable No Sag Straps: Clip the attached swivel bolt to your lower shoulder D-ring. Make sure the attached plastic buckle is facing forward and away from your body. Then weave the lower portion of the strap through the 1in (2.5cm) D-ring on top of the weight pocket from back to front (Fig.125). Bring the strap back up and weave it through the attached plastic buckle, first through the top slot from the back side, then back through the bottom slot so the remaining webbing is facing down (Fig.126). Adjust the strap so that it is secure and the weight pocket is not sagging on your waist (Fig.127).

NOTE: The no sag straps on the HTS weight system utilize a traditional quick clip that requires no installation procedure.

Fig.125

Fig.126

Fig.127



Loading Weight Pouches and Weight Pockets: Remove the weight pouch from the pocket and open the flap of the weight pouch (Fig.128). Insert desired weight (up to 10lbs) into pouch (Fig.129) and secure flap of the weight pouch with the self gripping fastener (Fig.130 & 131). Once the weight is secure in the pouch, insert the weight pouch into the pocket so that the buckle flap will fold outwards toward the self gripping fastener patch (Fig.132). Adjust the pouch so that it fits securely in the pocket and then fold buckle flap to attach the self gripping fastener (Fig.133) Insert pouch buckle into the pocket buckle making sure it snaps into place (Fig.134).

Fig.128

Fig.129

Fig.130

Fig.131

Fig.132

Fig.133

Fig.134

WARNING: The maximum weight capacity for each Weight Release Pocket is 10lbs (4.5kg). Amounts that you can actually load may be less due to the type and shape of weights being used.

Dropping Weight Pouches from the Pocket: In an upright position, grasp the handles of both pockets (right and left) and firmly pull the pouches completely out of the pockets. Hold the pouches out so they are clear of all of your gear, and drop them.

WARNING: Dropping the weights will present you with immediate positive buoyancy.

WARNING: Practice this technique with and without weights while out of the water with the BC removed from a tank. DO NOT use the drop handles to lift or carry the pouches. Store the weight pouches in a position that will not distort the curved shape (weights down or removed).

WARNING: Use of the weight drop system may not afford the diver with face up flotation, especially if the weights are loaded towards the front of the pouches.

BC Waist Cam Buckle:

(used on ATS, Solo, Elite, Switchback, and HTS)

Insert the waist cam (2in (5.1cm) Nylon webbing) buckle on the left side of the waist webbing. See pictures for recommended buckle weave. Weave (Fig.135). When at desired length pull remaining webbing through first slot and tighten (Fig.136).

Fig.135

Fig.136

ATS: Advanced Travel System

The ATS system does not require any assembly, but there are adjustments and items that can be removed or added to the ATS to customize your harness.

Cummerbund Assembly: If desired, you can remove the cummerbund and only use the 2in (5.1cm) webbing for your waist strap. To remove the cummerbund; first pull cummerbund ends through both straps on the back side of the weight pockets (Fig.137 & 138). Now locate zippered pocket underneath the lower lumbar support and unzip (Fig.139). Inside this pocket you will find the back of the cummerbund straps attached with a self gripping fastener to each other and the inside of the pocket (Fig.140). Undo the self gripping fastener and pull cummerbund straps out of each side of the zippered pocket (Fig.141). You can also adjust the length of the cummerbund in this pocket. Simply overlap the cummerbund straps until desired length and reattach the self gripping fastener to secure (Fig.140).

Fig.137

Fig.138

Fig.139

Fig.140

Fig.141

Crotch Strap: Take the side of the crotch strap that is not looped; insert the slide/keeper, leaving about 8in (20.3cm) of webbing between the slide and the end of the webbing (Fig.142). Then weave the webbing through the D-ring attached to the bottom center portion of the harness and back through slide/keeper (Fig.143). This is where adjustment to the crotch strap will be made. The looped end will thread onto the waist strap (Fig.144). Use the clip for convenience of donning and doffing gear.

Fig.142

Fig.143

Fig.144

Attaching an Air Tank: The ATS is only designed to handle a single tank and uses a single cam band against a contoured hard plastic backplate to hold the tank securely (Fig.145). Use the attached adjustable guide strap to position the tank on the contoured backplate by placing it around the neck of the tank (Fig.145). See "Attaching a Single Tank w/ Cam Band to BC" section for cam band weaving instructions.

Fig.145

Fig.146

Weight System:
See "Loading Weight Pouches and Weight Pockets" section for instructions for loading weights into the ATS.

HD100

The HD100 system does not require any assembly, but there are adjustments and items that can be removed or added to the HD100 to customize your harness.

Cummerbund Assembly: To access the cummerbund for adjustment pull down the back pad that is attached to the harness with a self gripping fastener. This will expose the plastic backplate and cummerbund ends. To adjust, pull cummerbund out of the harness slot and undo the self gripping fastener of the cummerbund (Fig.147). Reposition to desired length and reattach a self gripping fastener to secure (Fig.148). Weave back through harness slot (Fig.149 & 150). Repeat with opposite side of the cummerbund.

Fig.147

Fig.148

Fig.149

Fig.150

Crotch Strap: Take the side of the crotch strap that is not looped; insert the slide/keeper, leaving about 8in (20.3cm) of webbing between the slide/keeper and the end of the webbing (Fig.151). Then weave the webbing through the D-ring attached to the bottom center portion of the harness and back through slide/keeper (Fig.152). This is where adjustment to the crotch strap will be made. The looped end will thread onto the waist strap (Fig.153). Use the clip for convenience of donning and doffing gear.

Fig.151

Fig.152

Fig.153

Attaching a Tank: The HD100 is only designed to handle a single tank and uses a single cam band against a contoured hard plastic backplate that holds the tank securely (Fig.154). Use the attached adjustable guide strap to position the tank on the contoured backplate by placing it around the neck of the tank (Fig.155). See "Attaching a Single Tank w/ Cam Band to BC" section for cam band weaving instructions.

Fig.154

Fig.155

Weight System:
See "Loading Weight Pouches and Weight Pockets" section for instructions for loading weights into the HD100.

BC Donning & Fitting

(All Hollis models of BCD's, Wings, and Harnesses)

Before any dive make sure that your BC System fits properly. With your required exposure suit on, don your BC System. Make sure it fits comfortably, but is not too tight around your shoulders, waist, and crotch (when using a crotch strap). Two fingers laying flat should fit snugly between the shoulders and webbing. Make any adjustments as necessary. Adjust the D-rings and clips to your desired position. A good starting point is a position where you can reach your chest, with your hand held flat horizontally, and holding your arm and hand parallel to the ground. Fine tune the fit as needed.

NOTE: If you have any questions regarding your Hollis gear, visit your Authorized Hollis Retailer or contact Hollis Inc. and speak with one of our technical support representatives.

Care and Maintenance:

(All Hollis models of BCD's, Wings, and Harnesses)

Your Hollis BCD, Wing, and/or Harness is a reliable piece of equipment that was designed to withstand the rigors of diving and will last for many years if cared for properly. Follow the procedures below to ensure a long life for your BCD, Wing, and/or Harness. You should have the entire BCD or Wing inspected and serviced annually by an authorized Hollis dealer to ensure it is operating properly and that no components are showing signs of wear.

Pre Dive Care

(All Hollis models of BCD's, Wings, and Harnesses)

Before each dive check to make sure your equipment is working properly. If any piece of equipment is not working properly, DO NOT USE!, and return the BCD or Wing to your authorized Hollis Dealer for repairs.

- Under pressure, attach the Low Pressure Inflator Hose to the Inflator and depress the inflator button to make sure it is working properly.
- Check for leaks at connection of inflator.
- Check Oral Inflation/Deflation button is working properly.
- Fill the BC System with air and check to make sure there are no leaks in the Bladder. (Test both Bladders separately on Dual Bladder System)
- Check all dump valves to make sure air is not leaking in the closed position and that the air can be easily dumped.
- If using Integrated Weight System, make sure weight pockets are securely fastened.

Post Dive Care

(All Hollis models of BCD's, Wings, and Harnesses)

To keep your BCD, Wing, and/or Harness in top condition, follow these procedures, in sequence, after each day of diving:

- Fill the BC one third full of fresh water through the inflator mouthpiece.
- Inflate fully, then rotate and shake, ensuring a complete internal rinse.
- Hold upside down and completely drain the water through the mouthpiece.
- Thoroughly rinse the outside of the BC with fresh water.
- Store partially inflated out of direct sunlight in a cool, dry place.
- Periodically add BC disinfectant (available in dive stores) to rinse water to kill any bacterial growth.
- Transport your BC in a padded carrying case or equipment bag, separated from sharp items (e.g., dive knife, spear gun, etc.) that might puncture the bladder.
- You should also protect the inflation system from damage from heavy objects (e.g., dive light, weights, first stage, etc.).

RECORDS

Model(s): _____

_____

Serial No.(s): _____

Date of Purchase: _____

Hollis Dealer: _____

Dealer Phone No.: _____

Inspections & Service

Date	Service Performed	Dealer Technician

NOTES:

_____

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Compliance with EN 250:2000

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