WARNING

The Guardian buoyancy compensation jacket (BCD) is not a life jacket. It is not designed to provide permanent buoyancy not to keep the head of an unconscious wearer above the water.

INTRODUCTION

The Guardian BCD is a sophisticated piece of equipment and these instructions are not intended to replace training in the use of the BCD by a suitably qualified instructor. Read the instructions carefully before using the BCD. If you have any doubts at all seek the help of a qualified instructor from a recognized training agency.

TEST ALL FUNCTIONS OF THE BCD BEFORE EACH USE

THE GUARDIAN BCD IS DESIGNED TO BE USED TO A MAXIMUM DEPTH OF 50M/160ft.

THE OPERATING TEMPERATURE RANGE IS +50c - 0c.

DO NOT INHALE THE CONTENTS OF THE BCD BLADDER/BAG

CORRECT FITTING

Select a size which comfortably fits over the protective clothing that you will be wearing during your dives. When fitting the cummerbund around your waist, ensure there is a minimum of 75mm overlap of the fastening system to prevent unintentional loosening.

Adjust the shoulder straps/buckles by pulling down on the 'D' rings so that the BCD fits snugly and comfortably. The position of the buckles can be adjusted by slackening the webbing that passes through the bars of the buckle and repositioning the buckle in a new position on the webbing. Locate excess webbing in the recesses.

INFLATION

There are several methods of inflating the BCD.

BEFORE EACH USE, CHECK THAT THE INFLATION SYSTEMS FUNCTION CORRECTLY.

The direct feed inflator is a low pressure inflation system (max 14 bar). The system uses low pressure gas from the scuba system's first stage. The scuba manufacturer often refers to the connecting port on the 1st. stage as the 'low pressure' or 'intermediate port'. The connecting of the low pressure hose supplied with the Guardian BCD to the scuba 1st. stage should be carried out by a competent technician and if in doubt send the BCD low pressure hose and scuba to Northern Diver for fitting. Test the connection for leaks after fitting.

To connect the low pressure hose to the inflator module, follow this routine:

> Before turning on the air supply to the scuba and low pressure hose, grip the chromed brass quick-release coupling and push back the sliding ring and push the hose fitting onto the nipple.

> When the low pressure inflator is correctly fitted to the scuba air supply, the BCD should fully inflate within 7 - 10 seconds.

> The Guardian BCD can also be fitted with a small high pressure air cylinder. The size of the cylinder is 0.4 litre. The small cylinder can be refilled by attaching it to a standard scuba cylinder. Ensure that the pressure of air in the main scuba cylinder is no greater than the maximum working pressure of the regulator.

> Make no attempt to transfer air from the main cylinder to the bladder until you have been shown how to do so. Ask the dive store to demonstrate the filling routine or contact Northern Diver for information.

> When the filled cylinder is attached to the BCD and the valve is operated, high pressure air will enter the BCD bladder. Over-rapid inflation of the BCD whilst underwater can produce a sudden increase in buoyancy and a dangerously rapid ascent. Always open the valve gradually to control the rate of buoyancy.

TRAINING IN INFLATION AND BUOYANCY CONTROL IS ESSENTIAL

The Guardian BCD can also be inflated orally. By depressing the button at the end of the inflator module and simultaneously exhaling into the mouthpiece, the BCD bladder can be inflated.

Note that careful coordination between opening the valve and closing the valve and exhaling is required to avoid gas being discharged from the BCD bladder.

DEFLATION

There are several ways of allowing excess air to be vented from the BCD bladder. Holding the inflator above the head and operating the vent valve (l) will allow air to escape from the BCD. Pulling down on the convoluted hose will also open a dump valve (k) which can vent excess air from the BCD providing the valve is tilted to a position that is higher than the wearer.

If the BCD is overfilled and a rapid ascent occurs, increased air venting can be achieved by operating over-pressure valves (m) and (N). This is achieved by pulling firmly on the cord toggles (o).

GUARDIAN

ATTACHING BCD TO SCUBA GAS CYLINDER

The Guardian BCD is attached to the scuba cylinder by means of webbing bands and Velcro fastening. There are cam buckles (p) which provide for a firm grip on the scuba cylinder. It is essential that the webbing straps are very tight otherwise the scuba cylinder might slip from the fixing. Locate the BCD on the scuba cylinder at a convenient height.

It is possible to alter the combined weight distribution of the diver and scuba set when attaching the BCD to the scuba gas cylinder. When the user is correctly weighted, by raising or lowering the BCD's position on the scuba gas cylinder it is possible to alter the weight bias so the diver is held upright or even have a slight backward tilt. It is recommended to train in a swimming pool with a suitably qualified scuba instructor and learn the ideal weight and equipment configuration.

GENERAL

The Guardian BCD is designed to operate within the following parameters:
The Guardian BCD is designed for recreational scuba diving.
Maximum depth is 50 metres.
Temperature range is + 50 degrees C to 0 C.
Avoid all contact with acids, hydrocarbons, etc.

BUOYANCY GUIDE

The buoyancy of a BCD is dependent on its size. The approximate buoyancy for the Guardian BCD is calculated for freshwater.

Size:	S	M	L	XL
Kg:	20	22	25	28
lb:	44	48	55	62

It should be borne in mind that these values are approximate and that factors such as the setting of the over-pressure valve, restrictions on the inflation of the BCD by other equipment and slight variations in the shape of the BCD can affect the actual buoyancy figure.

MAINTENANCE

After each use the Guardian BCD should be washed with freshwater inside and out. All water should be emptied out from the inside of the bladder and the b ladder should then be partially inflated to assist drying and drainage. It will help to clean the inner bladder if occasionally warm water is swilled around the inner bladder as this will help dissolve crystallized salt particles. When emptying the bladder it can help to remove the over-pressure valves to assist in the draining of the BCD.

If the drain valves are removed, be sure to reassemble them correctly and test their operation. Do not inflate the BCD when there is water inside the bladder as this can cause excessive pressure in the bladder.

Store the BCD on a wide padded hanger. It is not recommended to store the BCD in a dive bag or in a folded condition.

Take the BCD to a Guardian authorized service centre for an annual check.

IMPORTANT NOTES

A - Read the instructions manual before use of the BCD. Read it fully and understand the contents. If you have any doubts, ask Northern Diver (International) Ltd. or the dive store supplying the BCD.

B - Have your Guardian BCD set-up and checked at the dive store.

C - Pre-dive check on all functions immediately prior to each dive.

D - Complete the after-dive maintenance - take pride in the care of your equipment.

E - Check the scuba cylinder is secure before donning the BCD.

F - Have the Guardian BCD serviced every 12 months. Ensure that the mini air cylinder is thoroughly examined by a suitably qualified scuba technician every 12 months. Get it re-tested in accordance with the laws of the country where you dive.

G - Keep exposure to sunlight to a minimum. All colours can fade if exposed to direct sunlight. Avoid contact with chemicals and detergents, oils and hydrocarbons that cause premature deterioration.

H - Do not over-pressurize the BCD underwater as this can cause a rapid ascent.

I - Do not connect the direct feed hose to the HP air source/regulator that delivers air at over 200 psi/3 bar.

J - Do not store the mini air cylinder or travel with the mini air cylinder fully charged. Keep only approximately 100 psi/1.5 bar pressure in the mini air cylinder when not diving.

The PPE (Personal Protective Equipment) mentioned in the above instructions was submitted to the test for design validation by Istituto ricerche breda-tuv italia-tuv bayern (italcert), viale sarca, 336, Milano, Italy. Notified body no. 0426.

GUARDIAN

The PPE (Personal Protective Equipment) mentioned in the above instructions was tested according to EN 250 as body harness for scuba and is CE marked according to European directive 89/686/eec and subsequent modifications (directives 93/95/eec, 93/68/eec and 96/58/ec). CE 9685699.

Guardian is a registered trademark and brand of Northern Diver (International) Ltd.

Manufacturer:
Northern Diver (International) Ltd.
Appley Lane North
Appley Bridge
Lancashire
England
WN6 9AE

Telephone: 44 (0) 1257 254444
Fax: 44 (0) 1257 251234

email: info@ndiver.com

The Ultimate Diving System

Northern Diver

www.ndiver.com