

PowerShell™
Technical Manual

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2003 World Championships Silver Medallist - Will Asher (GBR)

**Team GOODE Member Will Asher
Turning 2 ball at the 2003 World Championships
on his PowerShell™ Boot System**

Introduction

Dear Skier,

Congratulations on your purchase of a new GOODE PowerShell™ 4 Binding System! The patented GOODE PowerShell™ 4 features a new releasable G-10 composite plate, hard shell boots, and an adjustable spring system (available on the double boot model). At GOODE we started from the ground up to design a water ski boot system that increases edge power, control and comfort.

Water ski boots must perform three functions: (1) hold your foot to the ski; (2) provide control; and (3) release your foot during a bad fall. The tighter you make rubber boots for increased control, the more they hurt and the less likely they are to come off in a fall. The looser you make a rubber boot, the more comfort and safety you will have, sacrificing control and power.

The new, screwless GOODE PowerShell™ 4 Binding System does all three functions better. The PowerShell™ Boots fit comfortably, providing increased edge control and power. The boots are mounted on a releasable G-10 composite plate which attaches to the ski with the patented Inter-Loc™ System.

In September of 1996, I broke my left ankle while skiing in a rubber water ski boot. After six weeks in a cast, I vowed never to put my foot back in a rubber boot. I hear from a lot of skiers and this is an all too common problem. It was from this accident that our engineering staff and I developed the GOODE PowerShell™ System. I am not promoting it as a safety binding as I believe you can still get hurt while skiing with the GOODE PowerShell™ System. However, I do believe that it is safer than traditional rubber water ski boots or other hard shell boot systems that do not release.

The Inter-Loc™ System allows your ski to "Free Flex". The GOODE PowerShell™ 4 does not bind or change the ski's flex as do traditional rubber boot plates. The PowerShell™ 4 System is also much lighter. It weighs about one-half the weight of traditional rubber plate bindings.

The technical advantages are evident by GOODE PowerShell™ performances. Skiers are using hardshell boots to win Local, Regional, National and World Competitions. Will Asher (photo page 2) finished 2nd in the 2003 World Championships after skiing only 5 months on the PowerShell™ System.

After reviewing this Technical Manual, please call my staff if you have any questions or comments. To learn more about GOODE Ski Technologies and our latest innovative products, please visit our website at <http://www.goode.com>.

Thank you for choosing GOODE!



GOODE SKI TECHNOLOGIES

Dave Goode
Founder/President

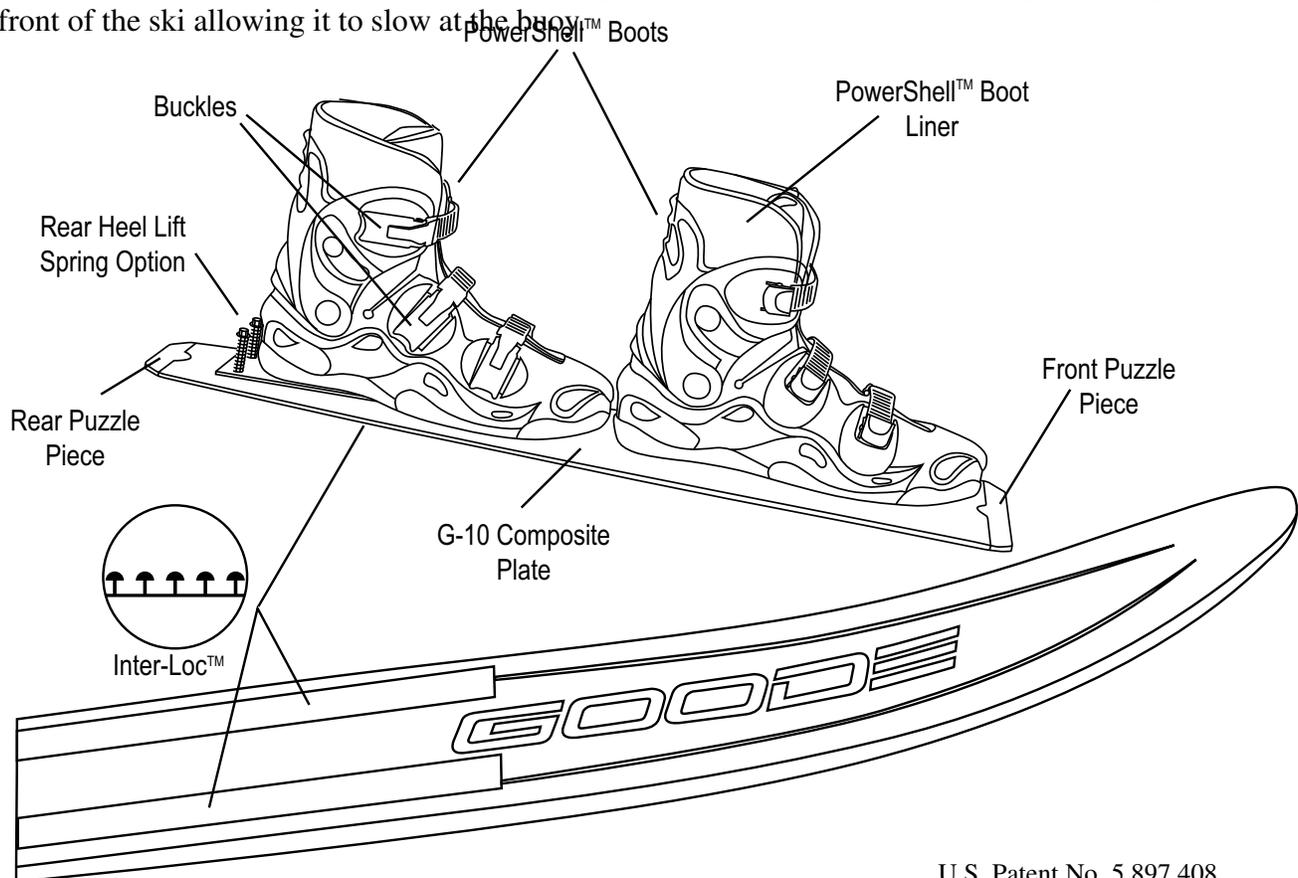
Technical Diagram

The GOODE PowerShell™ 4 Binding System is made of hard shell boots, attached with adjustable stainless screws to a G-10 composite binding plate. The binding plate attaches to the ski with the patented Inter-Loc™ System. The Inter-Loc™ attaches to the plate and to the ski with an adhesive. This material has incredible holding power, about 35 lbs. per square inch. When pressed together, hundreds of mushroom-shaped stem interlock with one another. An audible snap announces that the Inter-Loc™ is locked.

In the event of a hard fall, the binding plate will separate from the ski. Two "Puzzle Pieces" help relocate the binding plate. You can adjust the force that the PowerShell™ 4 releases by adding or removing the amount of Inter-Loc™ between the binding plate and ski. As a rule, you should have about 1-1/2" length of Inter-Loc™ material behind your rear foot. If your binding plate releases too easily then you can add additional version 250 Inter-Loc™ only. If you feel that you have fallen and the ski should have released, you can remove Inter-Loc™ by trimming it with a razor knife and peeling it off either the ski or the binding plate.

The PowerShell™ 4 Binding System allows for micro adjustments of the individual boots forward, backward and angling them side to side, allowing you to precisely adjust your balance and stance.

Skiers with double boots have two adjustment options for their rear boot heel raise: 1.) Fixed heel option or 2.) Heel raise option. The fixed heel option does not allow the skier's back foot heel to raise off of the ski. With the ski heel raise option (recommended) installed, skiers can adjust their rear spring tension to allow their rear heel to raise. This slight heel raise permits the skier to place weight on the front of the ski allowing it to slow at the heel.



U.S. Patent No. 5,897,408

Boot Sizing

The following chart is a size selection guide from the GOODE PowerShell™ Boots. The boots should be fitted so they are not tight. Performance is obtained from the lateral stiffness of the hard shell, not how tight the boot fits your foot. If you require arch supports or orthotics, allow for the necessary extra room when choosing your boot size.

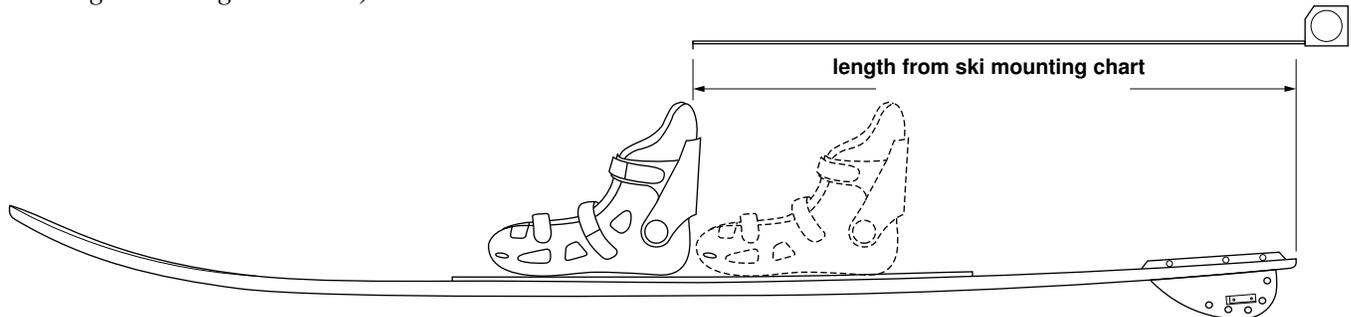
GOODE Sizes	USA-Canada Sizes		Euro Sizes	UK Sizes
	Men	Women		
XS	4	5	36	3 1/2
	4 1/2	5 1/2	36 2/3	4 1/3
	5	6	37 1/3	4 1/3 (5)
	5 1/2	6 1/2	38	5
	6	7	38 2/3	5 1/3
S	6 1/2	7 1/2	39 1/3	5 1/3 (6 1/2)
	7	8	40	6 1/2
	7 1/2	8 1/2	40 2/3	6 1/3 (7 1/3)
	8	9	41 1/3	7 1/3
M	8 1/2	9 1/2	42	8
	9	10	42 2/3	8 (8 2/3)
	9 1/2	10 1/2	43 1/3	8 2/3
	10	11	44	9 1/2
L	10 1/2	11 1/2	44 2/3	9 1/2 (10 1/3)
	11		45 1/3	10 1/3
	11 1/2		46	11
	12		46 2/3	11 (11 2/3)
	12 1/2		47 1/3	11 2/3
	13		48	12 1/2

Models

STOCK NO.	DESCRIPTION	XS	S	M	L
WS100DL	GOODE POWERSHELL DOUBLE BOOT - LEFT				
WS100DR	GOODE POWERSHELL DOUBLE BOOT - RIGHT				
WS100SL	GOODE POWERSHELL SINGLE BOOT/TOE SLIP - LEFT				
WS100SR	GOODE POWERSHELL SINGLE BOOT/TOE SLIP - RIGHT				

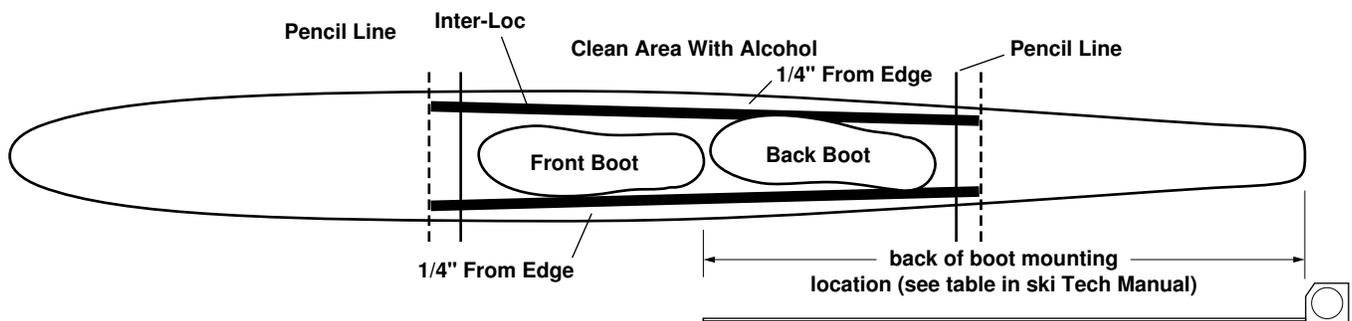
Binding Installation

1.) To install bindings on your ski, place the PowerShell™ binding plate on the ski in the proper location (refer to your ski Technical Manual or <http://www.goode.com/wspowershell.html#mount> for proper binding mounting locations).



Using a pencil, trace a line along the width of the front plate, and draw a line behind the back of the binding plate.

2.) After drawing your lines, remove your plate from the ski. Clean the area marked plus 1" in front of your plate and 1" behind the plate with isopropic alcohol. Allow one minute for it to dry.



3.) Peel back the adhesive 3M backing from you Inter-Loc™. Carefully position the Inter-Loc™ 1" ahead of the pencil line closest to the tip running to 1" behind the pencil line closest to the ski's tail. The Inter-Loc™ should be positioned 1/4" from the top edge of the ski. Using your fingers press the Inter-Loc™ down securely to the ski. *Use only version 250 Inter-Loc™ (3M Dual Lock). Do not use version 400 or the PowerShell™ bindings will not release and may result in an injury or broken ski.*

4.) Snap the PowerShell™ binding plate to the ski by pressing them firmly together. Measure to make sure the front boot is positioned according to the above chart. Use a rubber mallet to fully lock the Inter-Loc™ together by tapping along the perimeter of the aluminum binding plate.

5. When pressed together, hundreds of mushroom-shaped stems interlock. An audible “snap” announces the Inter-Loc™ is locked. Also, visually check to see that the Inter-Loc™ is snapped together. It should look like this:



6. Place the larger front “Puzzle Piece” tightly against the PowerShell™ binding plate and snap into place. Place the smaller rear “Puzzle Piece” tightly against the PowerShell™ binding plate and snap into place. These “Puzzle Pieces” help relocate the binding plate if it releases.

Ski Binding Adjustment

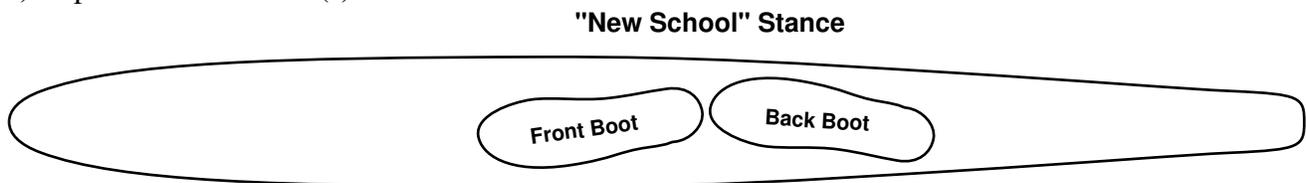
Water skis are extremely sensitive to binding placement. Our testing shows that the best binding locations are listed in our Water Ski Technical Manual and updated on our website. However, you can easily test different binding locations with the PowerShell™ system. Most rubber bindings only allow for adjustments of 5/16 (.312) forward or backward. The PowerShell™ system allows for micro adjustments forward, backward and side to side.

When first "dialing-in" a new ski, you should check to make sure your bindings are in the correct position before adjusting your fin. As a general rule, if your ski is over-turning on your on-side, your bindings need to go forward. If you are getting slack rope on your on-side, your bindings need to go backward.

You should also space your rear boot at a comfortable distance from the front boot. Your PowerShell™ System is shipped with both the front and the rear boots straight down the centerline of the ski. You can adjust this by rotating your feet into a more comfortable and powerful position. Many top skiers rotate their front foot outward and their rear foot the opposite direction.

To adjust your binding location forward or backward (small movements) or to rotate the boots side to side:

- 1). Remove the boot liner(s).
- 2). Use the supplied Allen 5/32" Wrench to loosen the four (4) hold-down screws located at the bottom of the inside of the boot.
- 3). Slide the boot forward, backward or side to side to the desired location.
- 4). Securely tighten the four (4) hold-down screws.
- 5.) Replace the boot liner(s).



To adjust your binding location forward or backward (large movement) or to remove the PowerShell™ from your ski:

- 1.) Remove the front "puzzle piece" from the ski by prying a corner of it off of the ski using the PowerShell™ Pry Tool and 12" PowerShell™ dowel rod . Use the 12" PowerShell™ dowel rod as a fulcrum for the PowerShell™ Pry Tool. Be careful not to gouge or damage the ski's top.
- 2.) Remove the PowerShell™ binding plate and boots from the ski by prying first a front corner of it off of the ski using the PowerShell™ Pry Tool and 12" PowerShell™ dowel rod . Use the 12" PowerShell™ dowel rod as a fulcrum for the PowerShell™ Pry Tool in the same manner as you did to remove the "puzzle piece". Once you have lifted the plate about 1/2' off the ski, slip you fingers under the raised portion of the plate.

- 3.) With your hand, pull up on the plate, breaking it away from the ski.
- 4.) Reposition the PowerShell™ binding plate to the desired location.
- 5.) Re-snap the PowerShell™ binding plate to the ski by pressing them firmly together. Use a rubber mallet and 12" PowerShell™ dowel rod to fully lock the Inter-Loc™ together by tapping on top of the binding plate. The 12" PowerShell™ dowel rod should be used in areas where it is difficult to reach with the rubber mallet. When pressed together, hundreds of mushroom-shaped stems interlock. An audible “snap” announces that the Inter-Loc™ is locked. Also, visually check to see that the Inter-Loc™ is snapped together.
- 6.) Replace the “puzzle piece” close to the PowerShell™ binding plate and snap it into place.

PowerShell Tips

Before skiing each time, visually inspect to see that your Inter-Loc™ is snapped together.

Use only GOODE supplied version 250 Inter-Loc™ (3M Dual Lock). Do not use version 400 Inter-Loc™ (3M Dual Lock) or the PowerShell™ bindings will not release and may result in a serious injury and/or a broken ski. Any warranty is void if version 400 Inter-Loc™ (3M Dual Lock) used on either the ski, binding plate, or both.

To put the boots on your feet, remove the liners and slip them on your feet (this will prevent bunching). Start with your back boot first. No soap is needed. Buckle the straps to the desired tightness. The boots should be comfortable, not tight.

It is recommended that you count and remember the number of “clicks” of each buckle. This will ensure the same setting each time you ski. You can feel the performance of each “click”. The tighter the boots, the more edge control. You may need to back off a “click” if you have too much edge.

We also recommend that the middle strap on the back boot be the loosest of all the buckles. Your rear foot heel actually lifts slightly while skiing and this, along with the ABS design, helps ski performance.

Use care when taking your PowerShell™ Boots off the ski. Your binding plate and boots without liners will not float. It's best to remove your boots on the swim platform.

Special attention should be given to your PowerShell™ Boot liners. When you have finished skiing remove the liners and let them dry. Your liners are replaceable, however proper care will extend their wear. The liners are not designed to walk around in.

You can adjust the force that the PowerShell™ releases by adding or removing the amount of Inter-Loc™ between the binding plate and ski. As a rule, you should have about 1-1/2" length of material behind your rear foot. If your binding plate releases too easily then you can add additional Inter-Loc™. If you feel that you have fallen and the ski should have released, you can remove Inter-Loc™ by trimming it with a razor knife and peeling it off either the ski or the binding plate.

GOODE Thermo-Fit Liners

Performance and comfort of your GOODE PowerShell System can be enhanced by using Thermo Fit Liners. You can use Thermo Fit liners as they are delivered or you can custom mold them to your feet.

Instructions for Custom Molding:

1. PRE-HEAT Conventional Oven to 250 degrees F (121.1 degrees C)
2. Place Liner(s) in oven for 15 minutes. **Be sure temperature does not exceed 250 F.**
3. Place thick socks on your feet. Remove Liner(s) from the oven and place them on your sock covered feet.
4. Place your feet into the warm liners and slip them into your PowerShell Boot.
5. Buckle the boot(s) to the desired comfort level. Leave boot(s) on for 5-10 minutes, allowing them to form fit to your feet and cool down.

CAUTION: Do not exceed 250 degrees F (121.1 degrees C). If heated too hot, liner will shrink. Some home ovens may not provide accurate temperature controls.

GOODE PowerShell™ Care

Be careful not to damage the hundreds of Inter-Loc™ mushrooms on the ski or bottom of the binding plate. Damaged Inter-Loc™ can cause unwanted premature releases. If you notice damaged Inter-Loc™ on your ski or binding plate, call 801-621-2300 and order new Inter-Loc.™ **DO NOT SKI WITH DAMAGED INTER-LOC.** *Use only GOODE supplied version 250 Inter-Loc™ (3M Dual Lock). Do not use version 400 Inter-Loc™ (3M Dual Lock) or the PowerShell™ bindings will not release and may result in a serious injury and/or a broken ski. Any warranty is void if version 400 Inter-Loc™ (3M Dual Lock) used on either the ski, binding plate, or both.*

You can damage Inter-Loc™ by prying the aluminum binding plate off the ski with a screwdriver that is placed between the Inter-Loc™. It can also occur if you stand in the boots when the binding plate is not attached to the ski. If you notice the adhesive that holds the Inter-Loc™ to the ski or binding plate separating, replace this Inter-Loc™.

Periodically check to make sure that the screws under the binding plate are securely fastened. These screws can work loose over time.

Keep the plastic insole in place in the bottom of the boot to avoid excessive wear on the bottom of the liner while skiing.

Remove the liners to dry after skiing. The standard liners are open-celled foam and like a sponge need to dry.

DO NOT WALK in the liners. They are designed to work inside the PowerShell™ boots **ONLY**.

After use, the liners will begin to show signs of wear. This is normal. The liners should be replaced once per year. If a small rip or tear develops, stop it from spreading by sewing the damaged area. You can also use tape to extend the life of your liners.

Warranty

The GOODE PowerShell™ Binding System carries a limited warranty for one year from the date of purchase. GOODE will replace (at GOODE's option) the binding system if found to be defective as to workmanship or material. This warranty does not extend to damage resulting from misuse, neglect or abuse, normal wear and tear, accident or exterior appearance or color, breakage (except breakage resulting from manufacturing defects), or improper mounting.

This limited warranty extends only to the original consumer who purchased a new PowerShell™ System factory-direct from GOODE Ski Technologies.

In no event shall GOODE be liable for incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation exclusions may not apply. All implied warranties or merchantability or otherwise are limited in duration to one year following the date of purchase.

If a defect arises in the PowerShell™ System within the limited warranty period, the user should promptly call GOODE for Return Authorization. GOODE will not be responsible for any costs, such as, but not limited to handling, shipping or insurance. If the binding system is replaced, the replacement product is covered only for the remainder of the original limited warranty period dating from the purchase of the PowerShell™ System.

Furthermore, if the product that needs to be replaced is a discontinued model, it will be replaced with a model of comparative performance. Please allow four weeks for completion of repairs or of replacement and return of the product.

This limited warranty gives the owner specific legal rights and possibly other rights which vary from state to state.

Warranty Procedures

Warranty service is very important to everyone concerned. Therefore, GOODE asks that the following procedures be complied with to ensure efficient service or replacement. **No returns will be accepted without prior Return Authorization from GOODE.** Compliance with these procedures will ensure the quickest possible resolution of the warranty claim.

To Obtain Return Authorization

An authorization number may be requested by emailing goode@goode.com or calling GOODE factory-direct Customer Service at **801-621-2300**

Be prepared to provide the following information:

1. Your name, shipping address, email address and daytime phone number
2. PowerShell™ Model
3. Size
4. Date of purchase
5. A brief description of the damage
6. **Make sure you record the Return Authorization number assigned to your warranty return.**

To Return Warranty PowerShell™:

1. Package the PowerShell™ Binding System carefully to prevent further damage.
2. Write the **RETURN AUTHORIZATION NUMBER (RA#)** clearly on the outside of the box being returned. No PowerShell™ will be accepted without a proper R.A. number.
3. Ship the PowerShell™ **FREIGHT PREPAID** to:
GOODE Ski Technologies
2450 Wall Avenue
OGDEN, UT 84401
ATTN: Water Ski Customer Service
4. Record your shipper tracking (FedEx, UPS, DHL) number. This number will help track the shipment if it does not arrive at GOODE Ski Technologies.

Warning

WATER SKIING CAN BE DANGEROUS. It exposes you to the risk of death or serious injury from impact with water or from impact with the ski during a fall.

THE BINDING IS DESIGNED FOR EXPERT SKIERS ONLY. It should be custom fit to the user and should not be used by others for whom it was not fitted, because it is designed for advanced maneuvers which require increased support and control, even if properly fitted. IT MAY NOT RELEASE IN SOME FALLS RESULTING IN SERIOUS INJURIES TO THE LEG, ANKLE OR KNEE.

Use only GOODE supplied version 250 Inter-Loc™ (3M Dual Lock). Do not use version 400 Inter-Loc™ (3M Dual Lock) or the PowerShell™ bindings will not release and may result in a serious injury and/or a broken ski. Any warranty is void if version 400 Inter-Loc™ (3M Dual Lock) used on either the ski, binding plate, or both.

THE POWERSHELL™ BINDING PLATE WILL NOT FLOAT. Please remove your feet from the boots mounted on the plate, only after you are on a boat's swim platform. Do not attempt to remove your feet from the boots while you are in the water. The binding plate and boots without liners will sink.

To reduce risk of injury, read and follow these rules:

- Use correct size ski and binding.
- Inspect skis, fins and bindings for loose screws, wear, cracks, delamination or tearing prior to each use.
- Do not use a tow rope unless it is in excellent condition. Check tow rope for frays or knots before each use.
- Always wear a U.S.-approved Type III (PFD) ski vest.
- Do not ski near pilings, docks, shore, shallow water or other boats.
- Do not ride over ramps or ski jumps.
- Do not ski while under the influence of alcohol or drugs.

To further reduce risk of injury, read and follow these guidelines:

- The faster the boat speed, the greater the risk of injury to the skier. Beginners should never exceed 20 mph. Under no circumstances should the boat speed exceed 36 mph.

Water skiing instruction will teach falling skills, general safety guidelines and proper skiing technique, thereby reducing the risk of injury.

WATERSPORTS SAFETY CODE*:

Watersports are fun and challenging but involve inherent risks of injury or death. To increase your enjoyment of the sport and to reduce your risks, use good judgment and common sense and follow these rules:

BEFORE YOU START:

- Familiarize yourself with all applicable federal, state and local laws. It is your responsibility to familiarize yourself with the proper use of the equipment and the risks inherent in the sport.
- Know the waterways.
- Always have a person other than the boat driver as an observer.
- Skier/rider, observer and driver must agree on hand signals.
- Never start out until skier/rider signals he/she is ready. Observer and skier/rider should maintain constant eye contact.

YOUR EQUIPMENT AND YOUR TOW ROPE:

- Inspect all equipment prior to use. Check bindings, fins, tube and attachment point, and flotation device prior to each use. Do not use if damaged.
- Always wear a U.S. Coast Guard Type III (PFD) vest.
- Rope should be attached to the watercraft in an approved fashion with hardware designed for towing. Refer to your watercraft manual for instructions on proper tow rope attachment.
- Tow ropes stretch during use. If a rope breaks or is suddenly released, it can snap back into the watercraft. Warn all riders, skiers and occupants of the danger of rope recoil.
- Inspect tow rope and its attachments before using. Do not use tow rope if frayed, knotted or damaged. Replace when signs of excessive deterioration are indicated by discoloration, broken filaments, unraveling or other obvious signs of wear on the rope or hardware.
- Use proper tow rope for the activity.
- Ensure tow rope is clear of all body parts prior to starting out or during use.
- Keep persons and ropes away from propeller when engine is running even in neutral. Should rope become entangled in propeller, SHUT OFF ENGINE AND REMOVE IGNITION KEY BEFORE RETRIEVING ROPE.

WHEN YOU SKI OR RIDE:

- Attempting land or dock starts can increase the risk of injury or death. USE THIS PRODUCT ONLY ON WATER.
- Before starting always remove any slack in the rope between watercraft and skier/ rider. Sudden shock loads may cause injury to skier/rider or failure of rope, resulting in snap-back or breakage.
- Do not ski or ride in shallow water, near shore, pilings, docks, rafts, swimmers, other boats or other obstacles. Such obstacles are examples of risks that are inherent in the sport.
- The driver and skier/rider must watch for and be able to stop or turn to avoid obstacles.
- Falling and the injuries that may result are inherent risks in the sport.
- Always ski or ride in control and at speeds appropriate for your ability. Ski or ride within your limits. Follow instructions on product for proper speed limits.
- Do not ski or ride over ramps or jumps without prior instruction.
- Use a flag to signal others that a skier or rider is in the water.
- Do not operate watercraft, ski or ride under the influence of alcohol or drugs.

THE WARNINGS AND PRACTICES SET FORTH ABOVE IN THE WATERSPORTS SAFETY CODE REPRESENT SOME COMMON RISKS ENCOUNTERED BY USERS. THE CODE DOES NOT PURPORT TO COVER ALL INSTANCES OF RISK OR DANGER. PLEASE USE COMMON SENSE AND GOOD JUDGMENT.

*Source: Watersports Industries of America



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