User Manual

Version 1.0 – February 2007

Disclaimer:

The following information must be read and understood before any use of this equipment.

The user knows the risks of skydiving and BASE jumping and accepts that:
Skydiving and BASE jumping cause deaths and serious injuries. Many of these deaths and injuries can be attributed to equipment malfunctions. Skydiving equipment can fail, even if the user takes all possible precautions.
Failure to open the main or reserve parachute (or to follow emergency procedures) at a safe altitude, and/or equipment failures can result in severe injury or death.
It is the user's responsibility to:

- Receive proper training before any use of all skydiving and BASE jumping equipment.
- Be extremely careful and cautious.
- Read and understand all owner's and operations manuals for all skydiving equipment.
- Check all parachuting equipment and replace any defective or worn component prior to use.
- Review emergency procedures before each use of this and all parachuting equipment.
- Check equipment warnings - do not exceed equipment limitations.
- Never violate the training and experience requirements for the specific equipment in use.

Because of the unavoidable dangers involved in the use of this and all parachute equipment, Phoenix Fly (including, but not limited to, all owners, officers, staff and employees) makes no warranties of any kind, expressed or implied. It is sold with all faults and without any warranty of fitness for any purpose. By using this equipment or allowing it to be used by others, owner/buyer waives any liability of Phoenix Fly for personal injuries, death or damages from such use. Any promises or representations inconsistent with, or in addition to, this statement of warranty are not authorized by Phoenix Fly and shall be not binding. If any customer of a Phoenix Fly suit declines to waive liability on the part of the manufacturer or authorized Phoenix Fly dealer, the customer may have a full refund of the purchase price by returning the suit before it is used. Return the suit to the manufacturer or authorized dealer within 21 days from the original date of purchase. Skydiving, wingsuit flying and BASE jumping are high-risk activities which may cause or result in serious injury or death.

Section 1: How to use this manual

We know you are excited to receive your new Tracking Suit and will most likely be wearing it now as you read this manual (after already doing a few test flights around your home and receiving strange looks from your family!)

Please take time to read this manual completely - it makes great restroom reading!

You will learn about:

How to assemble and safely use your: Tracking Suit
The great new features of your:
How to get the most out of your:
How to take care of your:

W A R N I N G

PHOENIX FLY TRACKING SUIT - USER MANUAL

This manual is **not** a course of instruction on how to make a parachute jump, fly a tracking suit, nor does it contain regulations that govern sport parachuting and related activities.

Section 2: Introducing Phoenix Fly

Phoenix Fly is a cutting edge new company dedicated to the design, development and production of high performance clothing for human flight.

Phoenix Fly's main goal is the production of state-of-the-art high performance wingsuits for skydiving and BASE-jumping. The product line also includes tracking pants, jackets and other accessories for skydiving and BASE jumping.

The founder of Phoenix-Fly is Robert Pecnik, the designer of the first commercial wingsuit and co-founder of BirdMan International, Inc. Robert started his skydiving career in Zagreb, Croatia in 1982. Since his early skydiving days, he has produced and tailored a number of RW suits.

In 1997, inspired by the late Patrick de Gayardon, Robert began working on a new wingsuit design. His first design was revolutionary, primarily in the field of safety. The quick wing release system provided the wingsuit flyer with the option to quickly and safely detach the wings in case of an emergency; thus enabling the jumper to continue his jump like a regular skydive by allowing complete movement of the arms.

Robert has since designed a number of improved wingsuit designs that have reached performance levels that until now were never thought to be possible. Today, Robert is reaching new heights with his new company, Phoenix Fly.

The company has already launched the revolutionary Track Pants & Jacket, Prodigy, Phantom, Acro and Vampire 2 wingsuits.

The Phoenix-Fly Tracking Suit will set new levels for the distances and delays that can be achieved in a track. Experienced trackers are obtaining glide ratios approaching that of an entry level wingsuit.

Phoenix Fly already has other new products in development that will continue to push the performance envelope for skydivers and BASE jumpers of all experience levels.

For information on the complete range of products and the latest news from Phoenix Fly please visit our website http://www.phoenix-fly.com

The Phoenix has risen!

Section 3: Features of your Tracking Suit

PHOENIX-FLY proudly presents the **Tracking Suit**.

The Tracking Suit is the result of 9 years of continuous human flight development.

Our design objectives for the Phoenix-Fly Tracking Suit wing suit were:

- to create a suit that significantly enhances tracking performance, allowing longer delays and greater horizontal distance to be covered
- to create a suit that is comfortable and easy to wear that does not restrict the range of movement
- to create a suit that looks great and offers weather protection when used in the BASE environment

The Tracking Suit was designed with skydivers and BASE jumpers in mind who are looking to boost their tracking performance. The suit uses ram-air technology to reduce the fallrate of the tracker whilst increasing the horizontal speed. For skydivers this means longer track dives covering more ground. For BASE jumpers this means longer delays and increased object separation - helping to reduce the risk of object strike, the main cause of BASE accidents.

Since their launch in 2004, the original PF Track pants & jacket have become essential equipment for BASE jumpers and skydivers serious about tracking. 2007 sees the launch of the improved Tracking suit.

The Tracking suit improves your flying performance but is also practical for hiking and offers light weather protection.

The Phoenix-Fly Tracking suit allows the jumper to track faster, flatter and to fly further than ever before. The ram air inlets in the pants and jacket allow the suit to inflate, increasing the surface area and enhancing the aerodynamic shape of the jumper. In turn this produces more lift and helps reduce drag. The Tracking suit increases the distance you can track and also the time you spend in freefall.

The new version of the Tracking suit uses the same great inlet technology as on the original pants and jacket but the inlets have been improved to provide even better pressurization. The Tracking Suit also includes many improvements as a result of feedback provided by our customers to enhance the comfort and durability of the suit on the ground and in the air. The features of the Tracking Suit are:

- **Improved Inlet design**
- **New colour panel options**
- **Reinforced knees, shoulders, butt and elbows**
- **New stronger bootie clip**
- **New stronger belt**
- **Mesh lining on pants and jacket**
- **Foam padding on the shoulder for increased comfort carrying the stash bag**
- **Jacket length increased, giving more overlap at the waist**
- **Cargo pocket added to jacket**
- **Zip pockets**
- **Side pockets**

The original inlet technology has been maintained and improved. This smart design provides quicker pressurisation in order to create a larger, smoother and more rigid surface on the legs and arms.

The "bootie clip" feature provides additional tension on the leg sleeves to help keep the proper form and shape of the pants during freefall. This advanced feature helps the jumper adjust the length of the pants to suit the length of their own legs without restricting freedom of movement in any way.

The Tracking suit is made from Zero Porosity material and robust double row stitching. The butt, knee, shoulder and elbow areas are reinforced with Parapack for increased durability. The long zippers on the inside of each pant leg make it easier to get in and out of them without the jumper having to remove their footwear.

The Tracking suit enables good trackers to access a whole new level of performance, approaching the performance levels that have been achieved with basic wingsuits models! The Tracking suit does not restrict the jumper's freedom of movement in any way during the jump.

The Tracking suit can also be worn as normal clothing as it is very comfortable and practical to wear. The jacket also features a built in hood, that provides excellent rain protection. The tracking suit has various pockets to carry your radio, mobile phone and also for keeping your hands warm.

Section 3.1: Main features of the PF Tracking Suit are

Lightweight hood concealed in zip pouch on jacket collar.

Sturdy “Balloon” rip-stop ZP construction (1.9 oz), Reinforced with Parapack at the knees, elbows, butt and shoulders.

Arm inlets on upper arm allow rapid inflation of the jacket

Leg inlets on the inner and out thigh ensure quick and solid pressurization of the pants

Adjustable bootie clip attaches to the laces of your shoes to increase forward drive

User friendly zips on the legs make putting the pants on very easy, even whilst wearing boots.

The jacket has side pockets and also zip pockets on the front to store your radio and mobile phone, there is an additional pocket on the rear of the jacket for stowing your stash bag. The pants also have zip pockets on the thighs.

Section 4: Recommended Experience Level & Preparation for the Tracking Suit

The Tracking Suit was designed for skydivers and BASE jumpers who already have solid tracking skills. If you are a poor tracker the Tracking suit will not suddenly make you into a great tracker.

Phoenix-Fly recommends that skydivers have a **minimum of 50 jumps** before trying the Tracking Suit.

Phoenix Fly expects its customers to exercise common sense and to seek advice from their instructor before using tracking clothing.

Phoenix-Fly strongly recommend BASE jumpers make numerous skydives using the Tracking Suit before using them in the BASE environment.

If you have any questions regarding the experience level required for the Tracking Suit please contact us, we will be happy to answer your questions: **info@phoenix-fly.com**

Section 5: Putting on Your Tracking Suit

The process required to attach the Tracking Suit to your rig is straight forward and quick.

- Put on the Jacket, adjusting the bungee chord around waist and completely closing the zip on the front of the suit.
- Put your rig on over the Jacket, fitting your leg straps and tightening your chest strap firmly
- Put on the pants over your leg straps, making sure the jacket is completely tucked inside the pants.
- Tighten the waist belt, it must be quite tight and you should feel the tension in the lift webs of your harness.
- The bootie clip should pull tension on the leg sleeve when you point your toes. If the bootie clip is too loose you can move the Velcro sandwich one slot higher or like wise if it is too tight you can move it one slot lower. (see photos below)

To attach the bootie clip, first thread the strap through your laces, as close to your toes as possible.

- Thread the strap upwards through the middle slot of the buckle and then back down through the end slot.

- Pull on the loose end of the strap to adjust the clip to the correct length, the leg sleeve should be under tension when you point your toes.

- Tuck the excess strap under the buckle and you are ready to go.

- To remove the bootie clip pull the end of the buckle up towards you and un-thread the strap.

Section 6: Body position required for the Tracking Suit

Every person finds their own individual flying position. A position that works great for one person may not work for somebody else (due to the variables of weight, size and height)

There seems to be two broad types of body position:

Wide delta position

- arms straight and out to the side
- straight legs spread slightly more than shoulder width
- toes pointed
- back straight
- head tucked

(There is a variation on this position used by some BASE trackers, where the leg stance is made even wider with the arms spread but quite close to the sides)

OR

Max-track position

- arms close to body
- legs straight and together
- toes pointed
- butt pushed upwards (de-arch)
- head tucked

You can adjust the flight angle by using your torso and hips. To achieve maximum glide you will have to fly with a steeper ('head low') angle resulting in increased forward speed.

On your first few flights you may find the suit fish-tails slightly (yawl motion), this normally ceases after a few jumps once you get used to the suit.

For turns simply look where you want to go and make small movements with your upper body. (large movements will decrease your performance)

Section 7: Deployment Procedures

Section 7.1: Wave-off

A normal skydiving wave off can be used, remember to always check your airspace before you deploy.

Section 7.2: Pull / deployment

Before you deploy you must make sure you allow yourself time to slow down / reduce your horizontal speed. This is done by simply coming out of your track position and going into your natural “box-man” freefall position for a few seconds before deploying.

Failure to do so can cause hard openings with the likely consequences being bodily injury and equipment damage.

The deployment position and procedure is exactly the same as for any other normal skydive. We recommend you deploy slightly higher than normal for your first few flights with the suit.

Section 7.3: Advanced technique

An experienced tracker could choose to perform a barrel roll prior to wave off to check their airspace 100%. Obviously any tracker who performs this manoeuvre must be able to do it as 2nd nature without any instability.

Section 8: Emergency Procedures

Emergency procedures whilst wearing the Tracking Suit are the same as for any other normal skydive.

Section 8.1: Instability in Flight

In the unlikely event you experience instability in flight you should just arch and return to the box-man position. Once you are stable you can try transitioning slowly back into the track position again.

Section 9: Making A Flight Plan

Section 9.1: Weather Conditions

Because you can fly long distances with the suit, make sure that the weather conditions allow you to have visual contact with the ground opening point at all times during your flight. Remember that the same physical laws apply to you as to any non-powered flyer. You travel longer and faster in relation to the ground when you fly with the wind and the reverse happens when flying against the wind.

Section 9.2: Briefing your fellow jumpers, pilots, etc.

Before entering the aircraft you need to inform your fellow jumpers and the pilot about your intention to make a track jump.

Due to the reduced fall rate and high forward speed attained with the suit we recommend you exit the aircraft last (or before the wingsuits). If you have any doubts make sure you talk to your instructor/ jumpmaster prior to boarding.

Section 9.3: Flight Path

A motto that applies to all skydives: **"Plan the dive, dive the plan".** The distance that can be covered with the Tracking Suit can be **very** significant in the hands of a skilled tracking.

The factors that you should consider when deciding your flight path are:

- The run-in direction
- The wind direction
- Relative position of landing area to exit point
- Air space considerations (other air traffic, for example gliders or light aircraft)
- DZO preference
- Ground obstacles

Normally it is sufficient to track in a straight line at 90° to the jump run, choosing the direction to put that puts your opening point upwind of the landing area.

If you find a straight track takes you too far away from the landing area you could make a 90° turn toward the LZ around half way through the jump, creating an L-shape flight path.

- **Never fly across or near the line of flight**

There could be high canopies e.g. tandems or students that pose a collision risk

- **Always have a flight plan before you enter the aircraft**

Not having a plan is the first link in the "chain of events" that could lead to an incident report.

- **Open upwind of your landing area**

Section 10: Pre Flight Checks

Section 10.1: Pre-Boarding checks

Before getting on the aircraft:

- Make sure your leg and chest straps are in the correct position and firmly tightened.
- Make sure the bootie-clips are in place
- Make sure the waist belt is firmly tightened with the excess stowed away safely
- Make sure the jacket is fully tucked inside the pants and that you have clear access to your pilot chute.

Perform some practice pulls before you enter the aircraft to ensure that you can reach your pilot chute and that it is in the correct position.

ALWAYS REMEMBER to put on your leg straps!

Just because you can't see them doesn't mean you don't need them to save your life! Failure to wear and fit your parachute harness correctly under the pants will most likely lead to **serious bodily injury and or death.**

Section 10.2: Prepare for flight

Once the pilot gives the 2 minute call prior to exit check over your rig and suit, paying attention that all your parachute handles, waist belt and bootie clips are still in place.

REMEMBER TO CHECK THE THREE '3's:

3 straps (both leg straps and chest strap)
3 handles (reserve, cut-away and PC handle)
3 rings (check the correct assembly of your 3 ring circus)

Section 11: Maiden Flight

Before you jump your new suit for the first time make sure that you are current, performing some normal skydives and some tracking dives in your regular jumpsuit.

Wear the suit on the ground to get used to arm and leg stance. Take some time to study the suit construction on the ground.

Phoenix-Fly strongly recommend BASE jumpers make numerous skydives using the Tracking Suit before using them in the BASE environment.

Section 11.1: Practice

It is necessary to practice the exit, flight, pull and emergency procedures on the ground, before you do your first flight. If possible use the exit mock up (or the actual aircraft) to practice your exit. It is very important you have read and understood this manual completely before the first flight.

Section 11.2: Equipment

When using the Pants& Jacket we recommend the following when you select what equipment to use:

- DO NOT use a leg strap mounted pilot chute.
- Use a standard length bridle with the deployment bag packed in the normal orientation
- Normal freefall pilot chute (size depends on canopy size)

Phoenix-Fly recommends that trackers DO NOT deploy their canopy from full flight i.e. with significant forward speed as this can result in serious injury and damage to your wingsuit and parachute equipment (as a result of hard opening).

If the user decides to ignore Phoenix-Fly's warnings about deploying from full flight the user takes full responsibility for the consequences of such a manoeuvre. The following equipment changes may help avoid bag rotation problems in this scenario BUT hard openings are still a likely result.

- Dynamic or open corners on the container
- Packing the deployment bag with the grommet at the bottom of the tray (with dynamic corners)
- For BASE it is common to use a 36" PC (with standard BASE bridle) depending on canopy size. When packing – consider direct slider control and rolling the nose. If in doubt consult an experienced jumper or rigger.

Section 11.3: Phoenix Fly suit with AADs and audible altimeters

Because it is possible to achieve very slow vertical speeds with the Phoenix Fly tracksuit (good trackers are averaging just 140 km/h or 80mph) there is small risk your AAD will not fire your reserve if you are passing through the hard deck (the Expert Cypress is set up for 36 m/s, about 125 km/h (although it should work in the case of unconsciousness).

Also, some audible altimeters may not function properly at slow vertical airspeeds. For these reasons it is very important to wear a visual altimeter and open at a proper altitude. Wear your visual altimeter as far away from your body as possible. We recommend wrist-mounted altimeters for the most accurate reading. Phoenix Fly Inc. strongly recommends using AADs and audible altimeters!

Additional equipment: Helmet, goggles, wrist altimeter and hook knife

Electronic Altimeters like the *Neptune* from Alti 2 which can serve as both a visual and audible altimeter can also be very useful for measuring your flight performance (speed and freefall delay). www.alti2.com

Section 11.4: Exits

For the first flights we strongly suggest that you exit from inside the aircraft, head high and with your chest to the relative wind (similar to an AFF level 1 exit.) Perform a good poised exit and assume the standard “box-man” position once out of the door. Look up at the aircraft as you exit and arch slightly for stability. After you have cleared the aircraft gradually spread your arms and legs into the track position and start your flight.

It is important to clear the aircraft before you go into the track position. If you fail to clear the aircraft, you risk hitting the aircraft (body or tail) resulting in severe injuries to you and damage to the aircraft.

Section 11.5: Exercises for first flight

The focus of your first few flights on the Tracking Suit must be on safety and not performance:

- Perform a solo tracking jump
- Make a nice stable exit
- Slowly transition into the track position
- Perform some practice pulls
- Pull slightly higher than usual

Once you are feeling comfortable with the suit you can start to work on finding the sweet spot and maxing the suit out for time and glide.

Section 11.6: BASE Exits

This section is only relevant to BASE jumpers.

There are two recognised ways to exit with the Tracking Suit and both have been observed to bring excellent results.

1. Head high stable exit with symmetrical transition to the track position. This exit is recommended for beginners.

2. Flat exit with transition into head low track (NOT head down). This approach involves a steep dive after exit allowing speed to build up before flattening out the track to transition the vertical speed into horizontal drive. This is an advanced technique; seek advice from an experienced BASE tracker before attempting this manoeuvre.

Section 12: Taking care of your Tracking Suit

Section 12.1: Storing your Tracking Suit

Always fold and store the suit carefully.

Don't leave your suit in direct sunlight for prolonged periods! The UV rays in sunlight will fade the colours and reduce the lifespan of your suit. (As applies to all parachuting equipment)

Do not make repairs or modifications to this product by yourself.

Section 12.2: Materials and washing instructions

The Tracking Suit is made from high grade materials such as "balloon" ZP. These materials were carefully selected to maximise the aerodynamic performance, comfort and durability of this product.

To wash your Tracking Suit:

- Hand wash in cool water (30° C / 85° F)
- Hang till dry
- DO NOT spin dry! DO NOT iron!

Conclusion

The key to becoming a good tracker is practice. Seek advice from other trackers and keep experimenting. Remember to listen to the relative wind and try to feel how the air is flowing over your body.

A new chapter in the history of human flight has only just begun!

The Phoenix Fly Team wishes you many happy & long flights!!

Appendix A:

Contact details

Phoenix Fly
Robert Pecnik
Ul. Platana 2
10434 Strmec
Croatia

Mobile phone 1: +385 98 326 123
Mobile phone 2: +386 31 259 686
Phone/Fax: +385 16 346 964

info@phoenix-fly.com

http://www.phoenix-fly.com

We are proud to use the following equipment:

http://www.basetroll.com/

http://www.baserigs.com

http://www.alti2.com

Appendix B: Notes for BASE jumpers

We strongly recommend you read the document " Advice for starting Wingsuit BASE jumping"

There are many sections of the document that also apply to trackers, as the glide performance of a skilled tracker approaches that of a entry level wingsuit, please pay special attention to the section discussing "reduced ground rush".

The document is available on:

http://www.phoenix-fly.com

http://www.blincmagazine.com

http://www.blincmagazine.com/cms/article_427.shtml

http://www.dropzone.com

http://www.dropzone.com/cgi-bin/safety/detail_page.cgi?ID=506

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