

## Inflatable Canoes for Recreational Boaters

by Michael Strahan



(l to r) Jack Mosby, Pat and Heather Fleming, Rich Crain, Eagle River, Alaska

Inflatable canoes are growing in popularity among casual weekenders and day-trippers to aggressive whitewater paddlers and multi-day expedition boaters. Today's inflatable canoe more than meets the need, with numerous sizes and styles of boats available.

No single boat will meet all needs; boaters looking for a “do-all”, “be-all” boat will likely be disappointed. Additionally, canoes have certain limitations by their very design that must be considered before a decision to purchase or rent is made. Simply put, a canoe is still a canoe;

regardless of its length, height or width. It is not a raft, and attempts to load it like one may meet with disaster. If you're on a budget but need a full-sized boat, you're better off saving your money for the right boat than purchasing a canoe that will be inadequate for your purposes. That said, there are many situations where only a canoe will do. Here are some considerations.

### **Physical Dimensions**

Inflatable canoes are ideal for folks with limited storage space at home, or for solo travelers who don't want the hassle of moving a hard-shell canoe around. They can be rolled up and stowed in a closet or small duffel, then loaded in the trunk of a car for transport to the river or lake. For remote trips, an inflatable canoe is easily loaded in a light aircraft, and can be deflated, rolled up and loaded into a backpack for portaging. Some designs are not suitable for backpacking or long portages because of their weight or bulk.

### **Weight and Balance**

A basic knowledge of how conventional rafts and catarafts are normally loaded is essential to understanding how canoes should be loaded, and the hazards of doing it incorrectly. With conventional boats, the standard practice is to keep the load as low in the boat as possible, while suspending it off the floor. This reduces the tendency of the boat to capsize if it is trapped against an obstacle, and prevents impact damage to the floor if the boat slides over a rock or other hard object. The floor must be able to flex, or it can be torn in such situations. With canoes, it's different. If you suspend the load off the floor it will probably be too high, and your chances of capsizing will be much greater.

If you have a large load, load a layer of soft items such as sleeping bags, clothing and the like on the bottom (in dry bags of course), then place game meat on top of that layer, ensuring that the meat is at or below the mid-point of the tubes. Your boat will be balanced and the soft items on the bottom will allow the floor to flex somewhat. This also keeps your meat off the floor, where it would otherwise become saturated with river water and condensation. Place a cargo net over the top of the load, or secure it well with straps or cord laced across the top. This keeps your meat and gear with the boat if it capsizes.



*Overloading is a common problem; field testing SOAR prototype (Bartlett)*

Inflatable canoes have limited interior space for gear and passengers compared to other inflatable boats. Be a minimalist; overloaded canoes are more likely to capsize, are very difficult to maneuver precisely, and a highly-piled load can make it impossible for paddlers to see and avoid river hazards. If you must carry lots of gear, consider a larger boat. In short, don't try to force a canoe to do the work of a regular raft; it's a canoe. Load it like a canoe!

### **Stability and Handling Issues**

Most hard-shell canoes are tippy by nature. Surprisingly, this is not generally true of inflatable canoes. The greater overall width of the boat (as a result of tube width) gives the boat a wider stance than a conventional canoe, and the inflated tubes keep paddlers closer to the centerline of the boat than with conventional canoes. These factors make a more stable, safer boat than many hard-shell designs. Some designs have more rocker than others, making them easier to turn with standard maneuvering tactics.



*Stability makes inflatable canoes ideal for hunting.*

Increased stability comes at a price though. Larger tubes require paddlers to reach farther and use longer paddles than with conventional canoes or inflatables with smaller tubes. This can cause more upper-body strain while paddling, especially on longer expeditions.

### **Construction**

One of the most important aspects of any inflatable boat is the quality of the material it's made of. Boaters would be well advised to learn who makes the fabric their boat is made

of, how long the manufacturer has been using that material, and how well they back it in warranty claims. Other considerations pertain to features and actual construction.

Inflatable canoes should have an inflatable floor. This provides structural rigidity to the boat; a performance enhancement essential for such a small, narrow boat. The air floor also provides an insulating layer between your feet and frigid water temperatures. Some inflatable canoes are self-bailing, that is, they have holes around the perimeter of the floor to allow water from rainfall or splashing to drain out of the boat. Self-bailers are easy to clean, because the boat can be rinsed with a bucket, while the water drains out on its own. Non-bailing boats retain all water that enters them, and must be dumped out periodically. This usually involves unloading the boat. Because bailer holes can also allow water to enter the boat if it's loaded heavily, and because canoe loads are frequently placed directly on the floor for balance purposes, canoeists would do well to consider a non-bailing boat.

Inflatable floors are kept flat in any of several ways. Most inflatable canoe floors are either I-beam construction or C-beam construction. C-beam floors are weaker, because they lack the additional layers of material holding the floor together. Your boat should have an I-beam floor.

Valve type and placement is an important consideration. Go with a well-known brand such as Leaffield or Halkey Roberts; both are low-profile valves that take up little space. Valve placement is limited to two choices and both come down to personal preference. Valves located on the inside of the boat are protected from impact against river obstacles, however they may be difficult to access when the boat is loaded. Valves positioned on the outside are easy to access, but are at risk of impact damage. Pick your poison; there is no "right" or "wrong" placement. Inflatable canoes should have a well-made overpressure valve in the floor, preferably in a location where it won't be stepped on all the time. This valve is designed to release floor chamber air if the boat impacts a submerged obstacle, and without it, the floor could blow an I-beam or rupture. The same holds true of overpressure valves that have been disabled or are clogged with sand and debris. Make a habit out of regularly inspecting your overpressure valve.



*The Leaffield C-7 is an excellent canoe valve.*

### **Field Repair**

A working knowledge of repair techniques is an essential skill for anyone canoeing in back-country areas. Make sure your glue is still good; glue that is two years old or older



should be replaced, as should glue that has been previously frozen. If you expect freezing temperatures in the field, keep your adhesives in a cooler to insulate them. Boats made by AIRE are more easily repaired in the field, because the inner bladder is temporarily patched with urethane tape instead of glue and patches. This can save huge amounts of time in the field.

## CANOE COMPARISONS

For this article, several brands of inflatable canoes were tested head-to-head. Some of the test criteria were:

1. *Warranty and customer service issues.*
2. *Features, construction and materials.*
3. *Storage, dry-land handling characteristics.*
4. *Performance with light, medium and heavy loads.*

The boats were tested initially on a downstream run in Class III whitewater with nothing but paddlers aboard. The average weight of the paddlers was 170 lbs., and all boats were paddled both solo and tandem for all tests. Following the downstream run, all boats were tested solo and tandem with medium (120 lbs.) and heavy (600 lbs.) payloads. The loads consisted of 60-pound sacks of gravel and were, at the recommendations of the paddlers, distributed in the boats in a manner necessary to balance the boat properly. The load tests were all conducted on Class I flatwater in a river with a current ranging from two to four miles per hour. All boats were inflated to factory specs, and verified with a pressure gauge for accuracy. The water temperature was 38°F and the ambient air temperature was 26°F. Boat pressures were monitored periodically to ensure that the colder temperatures didn't lower the pressure ratings. The testing was observed by representatives of all the canoe companies included in the test, except Grabner and Incept. All parties involved agreed to the testing criteria, and all boats were tested in exactly the same conditions.

The paddlers involved in the testing all have extensive whitewater canoeing experience, averaging 27 years each, with one having experience stretching back over forty years. Most are current whitewater canoeing instructors and are proficient in all whitewater canoeing skills, including the ability to solo roll an open hard-shell canoe. Some of them spend an average of 100 days and in excess of 1,000 miles a year canoeing rivers in Alaska rated up to Class IV, including the first and second canyons of Six Mile Creek, Lion's Head on the Matanuska, the lower canyon of Willow Creek, the Nenana River canyon, the Kennicott, Nizina, Chitna, Copper, Fortymile, Yukon, Gulkana, Birch Creek, Delta River, Chulitna River and the Wind-Peel in the Yukon Territories, to name a few. A detailed discussion of the test conditions and criteria, along with background information on the testers and a complete report of their observations is available as a separate document. The canoes tested represent a broad spectrum of sizes and shapes; the test results should therefore provide useful information to a broad base of users. Because of the differences between the boats, it is not surprising that each boat performed well in some areas and not as well in others.



## AIRE Traveler

<b>Company Info:</b>		AIRE is the largest U.S. based manufacturer of inflatable boats. Their boats are manufactured in Meridian, Idaho out of welded PVC and urethane material.			
<b>Warranty:</b>		Ten year, no-fault. Regardless of the cause, the damaged boat will be repaired or replaced by AIRE for the first ten years of the life of the boat. If the damage is the customer's fault, the customer pays shipping both ways. If not, AIRE pays the return shipping. Customers in Alaska may drop their boat off at Alaska Raft and Kayak to avoid shipping charges for repairs done in-house.			
<b>Web:</b>		<a href="http://www.aire.com/aire/traveler.shtml">http://www.aire.com/aire/traveler.shtml</a>			
<b>Contact:</b>		In Alaska: Alaska Raft and Kayak <a href="http://www.alaskaraftandkayak.com">http://www.alaskaraftandkayak.com</a> or call AIRE at 1 (800) 247-3432			
<b>Fabric Composition:</b>		PVC coated 1100 denier polyester over an inner bladder of 8 mil. urethane membrane. Fabric weight is 24 ounces / yard. Air chamber in floor is urethane coated 420 denier nylon. All seams are thermo-welded.			
<b>Dry Weight:</b>	55 lbs.	<b>Rolled Dimensions:</b>	14"x23"x23"= 7406 cu. in.		
<b>Outside Length:</b>	15'	<b>Outside Width at Widest Point:</b>	47.9"		
<b>Tube Diameter:</b>	14"	<b>Compartment Width:</b>	16.5"		
<b>Floor Thickness:</b>	7.9	<b>Rocker:</b>	9"	<b># Chambers</b>	3
<b>Stated Capacity:</b>	750 lbs.	<b>Calculated Max. Load:</b>	2478		
<b>Calculated Safe Load:</b>	1487	<b>Optimal Performance Load:</b>	991		
<b>Features:</b>	<b>D-Rings</b>	None			
	<b>Valves</b>	Leaffield C-7 valves on tubes, overpressure valve on floor. Valves on tubes are placed just above the midline on the inside of the boat.			
	<b>Handles</b>	Hard Plastic handles on the inside of the bow and stern.			
	<b>Colors</b>	Blue, Purple, Red, Yellow, Green			
	<b>Accessories</b>	Ships with repair kit.			
	<b>Other</b>	Non-bailing design			

### Performance

The AIRE Traveler is very stable with or without a load. It's very nimble and maneuverable when lightly-loaded, but it has some limitations if you run it with two paddlers and a load. Here are some details.

1. **Stability:** Both primary and secondary stability good with all loads tested.
2. **Wet Ride:** Scored close to mid-range, with some paddlers commenting that it was a wet ride. This is due to the low profile, relatively flat bow (compared to other designs).



*Tracey Harmon with AIRE Travelers on a moose hunt.  
(Harmon)*

3. Eddy Turns: No problems with light load, but became progressively more difficult with a large load.
4. Upstream Ferry: Scored just below mid-range, with a slight downward trend with a heavy load.
5. Downstream Ferry: About the same as the Upstream Ferry.
6. Tracking: Turned easily (poor tracking) with a light load, but improved with more weight.
7. Hull Flex: There was no noticeable hull flex, even with the heavy loads.
8. Other comments: Paddlers were impressed with how easy the boat is to carry with the tee-handles in the bow and stern.

### **Synopsis**

With the best warranty in the business and superb customer support in Anchorage, the AIRE Traveler is an excellent choice for recreational paddlers looking for a whitewater play boat, or a small craft suitable for one or two people with a light to medium load. The Traveler has a firm niche in Alaska hunting, but would not be the best choice for extended expeditions where it would be expected to carry a whole moose and a complete camp. Interior space is limited by the tube diameter and the narrow bow and stern. The lack of D-rings is a drawback that must be addressed by owners who require ample tie-down points for gear. Traveler owners should add at least four D-rings to each side of the boat, strategically placed to secure the load.



*AIRE's double hull greatly simplifies repairs*

Buyers should take a close look AIRE's warranty, together with the advantages of the double hull system before making a final decision. The no-fault warranty means that if the boat blows off the top of your roof rack onto the freeway, and is cut in half by a semi, it will be swapped out for a brand-new one. This completely re-sets the warranty for another ten years, because the warranty is calculated by the serial number of the boat, which is dated by the time when it was manufactured; not when it was purchased (they go by the last two digits

of the serial number). As to the double hull system, raft repair guru Tracey Harmon reports a personal experience involving 42 grizzly fang holes in a 3'x10" area of his AIRE Traveler. The boat was repaired in 30 minutes with the supplied urethane tape, was re-inflated and remained at full pressure for the remaining seven days of the hunt. A



conventional glued repair in field conditions would have taken many hours. The double hull allows easy access to the inside of the shell, where the patch can be applied to the inside. Having no patches on the outside of your boat means there's no chance of one catching an edge and peeling off. It also allows you to wax the bottom of the boat with ski wax or auto wax, so it can be pulled across the tundra with ease in a portage situation. This is something you'd never do with any other boat, because the wax would prevent a patch from adhering to the fabric. With the AIRE design you don't care if a patch will hold on the outside of the hull, because you'll be patching it on the *inside*.



## Alaska Series Tripper 17

<b>Company Info:</b>		Alaska Series, 2604 W. 32 <sup>nd</sup> Avenue, Anchorage, AK 99517	
<b>Warranty:</b>		Five years no-fault warranty. Boat will be repaired free, regardless of cause of damage, for the first five years. Serviceable locally in Anchorage and Seattle.	
<b>Web:</b>		<a href="http://www.alaskaseries.com/">http://www.alaskaseries.com/</a>	
<b>Contact:</b>		Jim King, 1 (907) 248-2900	
<b>Fabric Composition:</b>		Urethane/PVC blend over 1100 denier poly base. 31 oz. / sq yd.	
<b>Dry Weight:</b>	80 lbs.	<b>Rolled Dimensions:</b>	22"x34'X12"=8976 cu. in.
<b>Outside Length:</b>	17'	<b>Outside Width at Widest Point:</b>	45"
<b>Tube Diameter:</b>	10"	<b>Compartment Width:</b>	26"
<b>Floor Thickness:</b>	5"	<b>Rocker:</b>	<b># Chambers</b> 3
<b>Stated Capacity:</b>	1300 lbs.	<b>Calculated Max. Load:</b>	
<b>Calculated Safe Load:</b>		<b>Optimal Performance Load:</b>	
<b>Features:</b>	<b>D-Rings</b>	2 (one at each end on the outside)	
	<b>Valves</b>	Halkey Roberts	
	<b>Handles</b>	Bow and stern deck provides grab space.	
	<b>Colors</b>	14 color choices (availability varies).	
	<b>Accessories</b>	Grommet strips full length on inside. 8" bailing sock can be closed for larger loads. Outboard bracket attaches behind seats, outboard extends through bailing sock. Includes boat bag, repair kit, foot pump.	
	<b>Other</b>	Boats are all built overseas and are pre inflated for three days at the factory before shipping.	

### Performance

The Tripper 17 is a top performer with or without a load, but will require two paddlers for proper handling with bigger loads. Here's an overview of some important performance characteristics.

1. **Stability:** Primary and secondary stability remained good with light through heavy loads.
2. **Wet Ride:** No problems encountered with splashing aboard this boat. The traditional canoe shape provides excellent deflection of spray.
3. **Eddy Turns:** Performance in eddy turns came in about average, and earned some comments about the difficulty of turning the boat with solo paddlers. The boat required twice as many strokes to turn with a heavy load as with a light load with a solo paddler.



*Pat & Heather Fleming paddle a Tripper 17 on the upper Kenai River (King)*



4. Upstream Ferry: The boat kept a good angle with minimum correction. The boat received above average marks in this category with light and medium loads, but performance dropped into the mid-range with a heavy load.
5. Downstream Ferry: Received high marks with solo paddlers and light load, but with tandem paddlers or heavier loads, performance dropped off to average or slightly below average.
6. Tracking: Tracked very well with light load, but secondary inertia was difficult to overcome with big loads.
7. Hull Flex: There was no noticeable hull flex with light loads, but some flex was noted with tandem paddlers or heavy loads.
8. Other comments: Paddlers commented that the boat could use a deck in the bow and stern for carrying the boat out of the water. The boat has a self-bailing sock which greatly simplifies the process of draining water out of the boat. Overall, it is a good performer, but requires tandem paddlers to handle effectively; especially with a heavy load.

### **Synopsis**

The Tripper 17 offers a proven design that works well in Alaska conditions. Though there was no wind on test day, it could be surmised that the high bow and stern sections would have an effect on tracking in cross-wind situations beyond that experienced with lower-profile boats. On the other hand, the traditional bow and stern design offers a much drier ride than these other boats.

Since the company is local in the Anchorage area, customers should be able to settle warranty issues expeditiously. The full-length grommet strip provides plenty of adjustments for seats and for lash points for gear. At this writing, the builder is considering slimming down the tubes in the bow and stern areas to create more interior space for gear. The self-bailing sock is unique to the Alaska Series boats, and was greatly appreciated by experienced paddlers because it meant that the boat didn't have to be unpacked and flipped over to drain. The manufacturer claims that the sock is large enough to serve as a dry boot for a small, center-mounted outboard motor. Keep in mind though that the exhaust gasses from an outboard inside the boat may discolor the fabric and possibly leave deposits on the material that would make it difficult for a patch to hold. We were unable to verify this either way, or demonstrate the performance of the outboard with this setup, so there are no facts to report on that aspect in this test.



## Alaska Series Explorer 14.7

<b>Company Info:</b>		Alaska Series, 2604 W. 32 <sup>nd</sup> Avenue, Anchorage, AK 99517	
<b>Warranty:</b>		Five years no-fault warranty. Boat will be repaired free, regardless of cause of damage, for the first five years. Serviceable locally in Anchorage and Seattle.	
<b>Web:</b>		<a href="http://www.alaskaseries.com/">http://www.alaskaseries.com/</a>	
<b>Contact:</b>		Jim King, 1 (907) 248-2900	
<b>Fabric Composition:</b>		Urethane/PVC blend over 1100 denier poly base . 31 oz. / sq yd.	
<b>Dry Weight:</b>	55 lbs.	<b>Rolled Dimensions:</b>	20"x34"x11"=7480 cu. in.
<b>Outside Length:</b>	14'4"	<b>Outside Width at Widest Point:</b>	41"
<b>Tube Diameter:</b>	9"	<b>Compartment Width:</b>	23"
<b>Floor Thickness:</b>	5"	<b>Rocker:</b>	<b># Chambers</b> 3
<b>Stated Capacity:</b>	900 lbs.	<b>Calculated Max. Load:</b>	
<b>Calculated Safe Load:</b>		<b>Optimal Performance Load:</b>	
<b>Features:</b>	<b>D-Rings</b>	2 (one at each end on the outside)	
	<b>Valves</b>	Halkey Roberts	
	<b>Handles</b>	Bow and stern deck provides grab space.	
	<b>Colors</b>	14 color choices (availability varies).	
	<b>Accessories</b>	Grommet strips full length on inside. 8" bailing sock can be closed for larger loads. Outboard bracket attaches behind seats, outboard extends through bailing sock. Includes boat bag, repair kit , foot pump.	
	<b>Other</b>	Boats are all pre inflated for three days at the factory before shipping.	

### Performance

The Explorer 14.7 came in around the middle of our five-point scale and returned slightly below average performance in some categories. On the other hand, it received high marks for stability and tracking.

1. **Stability:** Very stable boat, receiving above-average marks with light to heavy loads.
2. **Wet Ride:** No problems encountered with splashing aboard this boat. As with the Tripper 17, the traditional canoe shape provides excellent deflection of spray.
3. **Eddy Turns:** Much easier to turn with tandem paddlers with light to heavy loads. Solo paddlers' experience varied dramatically as the loads became heavier with the final comment with big loads that the boat was very slow and required three times the number of strokes to turn.



*Rich Crain on Eagle River in a Tripper 14.7*



4. Upstream Ferry: Received average marks in all load classes by solo paddlers, but slightly above average with tandem paddlers.
5. Downstream Ferry: Average performance with solo paddlers in all load classes, and slightly above average with tandem paddlers.
6. Tracking: The boat tracked well in all load classes and received above average marks throughout, with both solo and tandem paddlers.
7. Hull Flex: No flex was noted in light and medium loads, but some sagging in the center occurred with heavy loads.
8. Other comments: As with the Tripper 17, paddlers commented that the boat could use a deck in the bow and stern for carrying the boat out of the water. The self-bailing sock makes getting rid of interior water easy.

### **Synopsis**

The Explorer 14.7 was noted to perform better with a load, but was difficult to get in and out of, along with being harder to lean. Tandem paddlers observed that the front seat was too far forward, and requested more adjustability for seats. The grommet strip is a great convenience for lashing gear, but some thought it occasionally interfered with paddling. Handles would be an excellent addition to both sides of the hull in the bow and stern. The Explorer 14.7 would be an acceptable choice for solo hunters with light loads or day-trippers in a tandem situation. This boat features the self-bailing sock found on the Tripper 17, and the comments mentioned about the sock in that writeup apply here as well.



## Grabner Adventurer 14

<b>Company Info:</b>		In 1986 Grabner purchased Semperit, a German boat factory, and began producing rubber inflatables under the name GRABNER inflatables. In 1989, Metzler sold all production machinery to Grabner. Many original Metzler designs were sold to Grabner during and following that time. The Metzler / Grabner canoe designs are among the most unique and imitated designs in the world.	
<b>Warranty:</b>		Five years on the fabric, 2 years factory defects (workmanship).	
<b>Web:</b>		<a href="http://www.grabner-sports.at">http://www.grabner-sports.at</a>	
<b>Contact:</b>		(800) 500-2404, (949) 955-1501, fx: (949) 955-1638 , nordleth@aol.com	
<b>Fabric Composition:</b>		1100 denier Hypalon	
<b>Dry Weight:</b>	37 lbs.	<b>Rolled Dimensions:</b>	26"x16"x10"=4160 cu. in.
<b>Outside Length:</b>	14'9"	<b>Outside Width at Widest Point:</b>	37"
<b>Tube Diameter:</b>	18"	<b>Compartment Width:</b>	24"
<b>Floor Thickness:</b>		<b>Rocker:</b>	<b># Chambers</b> 3
<b>Stated Capacity:</b>	990 lbs.	<b>Calculated Max. Load:</b>	
<b>Calculated Safe Load:</b>		<b>Optimal Performance Load:</b>	
<b>Features:</b>	<b>D-Rings</b>	4	
	<b>Valves</b>	Three Halkey-Roberts valves.	
	<b>Handles</b>	None	
	<b>Colors</b>	Red & black two-tone	
	<b>Accessories</b>	Repair kit, bilge tube, valve wrench. Outboard bracket available.	
	<b>Other</b>	Grommet strip for tiedown of gear.	

### Performance

The Grabner Adventure 14 offers good protection from splashing, excellent stability and ferries well with light and medium loads. On the other hand, many performance characteristics start to drop as loads are increased.

1. **Stability:** Stable boat, with above-average marks in all weight classes.
2. **Wet Ride:** Very dry boat, owing to the traditional canoe shape and high sides.
3. **Eddy Turns:** Received above average marks with a light load, but turning ability became progressively worse as the loads increased in weight. Was referred to as "very slow" with a heavy load.
4. **Upstream Ferry:** Received above average marks in all load classes, but dropped slightly with large load.



*Jack Mosby on Eagle River in an Adventure 14*



5. Downstream Ferry: Similar performance to upstream ferry; twice as slow to turn with heavier loads.
6. Tracking: Hard to paddle in a straight line with light load and solo paddler, but performance increased substantially as weight was added. Received above average marks in middle and heavy weight classes.
7. Hull Flex: No flex noted with light loads, but some sagging was experienced with heavy, unbalanced loads.
8. Other comments: One paddler pointed out that the boat is designed to keep paddlers from sliding around; a problem with some designs.

### **Synopsis**

The Grabner Adventure 14 has been around for many years. The design was originally developed by Metzler and was one of the first inflatable canoes ever made. When Metzler went out of business, they sold their manufacturing equipment and many of their boat designs to Grabner. The Adventure 14 carries some original Metzler features found on other boats we tested, including a grommet strip for lashing loads down, a canoe-style bow, and high sidewalls. Overall, this boat would not be recommended for large loads (such as tandem paddlers on extended expeditions or moose meat where the entire animal must be carried), but it would be acceptable for pack-in trips or for any activity where a light load would be carried. Because the Grabner is a rubber boat, it packs up into a smaller package than a comparable plastic boat, however the rigid plastic bow and stern pieces are not pliable.



## Incept C42T

<b>Company Info:</b>		Incept Marine is based in Tiahape, North Island New Zealand. The company was founded in 1989 by John, Alastair and Philip Booth, and they have been joined since then by Cliff Kingston. They build a full line of inflatable sport boats and rafts, inflatable kayaks and inflatable canoes.	
<b>Warranty:</b>		Five years on workmanship and materials.	
<b>Web:</b>		<a href="http://www.incept.co.nz/C42T.htm">http://www.incept.co.nz/C42T.htm</a>	
<b>Contact:</b>		<a href="#">Warren River Expeditions</a> , Dave Warren, Salmon Idaho 1 (800) 897-1995	
<b>Fabric Composition:</b>		Urethane coated PVC with 1100 denier polyester base cloth. All seams, D-rings and rope beackets are welded, chafer strips are glued.	
<b>Dry Weight:</b>	50 lbs.	<b>Rolled Dimensions:</b>	22"x19"x17"= 7106 cu. in.
<b>Outside Length:</b>	13.7'	<b>Outside Width at Widest Point:</b>	41"
<b>Tube Diameter:</b>	11.8"	<b>Compartment Width:</b>	16"
<b>Floor Thickness:</b>	4.9"	<b>Rocker:</b>	<b># Chambers</b> 3
<b>Stated Capacity:</b>	2 people	<b>Calculated Max. Load:</b>	1641 lbs.
<b>Calculated Safe Load:</b>	985 lbs.	<b>Optimal Performance Load:</b>	657 lbs.
<b>Features:</b>	<b>D-Rings</b>	One on the bow and stern, respectively, and two on each side at the bow and stern.	
	<b>Valves</b>	Halkey Roberts valves.	
	<b>Handles</b>	None	
	<b>Colors</b>	Red, yellow.	
	<b>Accessories</b>	Outboard bracket available.	
	<b>Other</b>	The floor uses I-beam construction. External grab line mounted in bow and stern, through existing D-rings. Boat ships as a non-bailer, but with a way for user to punch bailer holes out if desired. This is a permanent solution that can be restored only by patching.	

### Performance

The Incept C42T offered dramatically decreased performance as the load factor went up.

1. **Stability:** Wildly variable. The boat received very high marks lightly-loaded, but came in last on secondary stability. With a heavy load, it was off the chart.
2. **Wet Ride:** Flat bow allows water to surge aboard easily.
3. **Eddy Turns:** Received above average marks for turns, but dropped to average with a medium load and fell completely off the chart with heavy loads.
4. **Upstream Ferry:** Spins easily, and requires strong correction to keep it in a straight line. Received above-average marks from some paddlers.



*Pat and Heather paddle an Incept C42T on Eagle River*



5. Downstream Ferry: Above average marks, but poor performance with large load.
6. Tracking: Spins well with light load, but tracks well with medium load.
7. Hull Flex: No flex noted.
8. Other comments: There was some disagreement on the performance of this boat in light and medium load classes, but there was a marked drop in all performance classes with a heavy load.

### **Synopsis**

The Incept C42T offers good primary stability, but tends to roll if you get too close to the edge. The low bow allows water to enter the boat in some circumstances, and the boat is nearly impossible to control with a large load. Therefore, though this boat may be of use for portaging meat on small lakes or sloughs (especially if it were lined from the bank), it is not recommended as a primary boat for float hunting. On the other hand, this boat would be an acceptable choice as a whitewater play boat.

Regrettably, the longer version of this canoe (the C52Q) was not tested, as it would have undoubtedly offered much better performance than the C42T.



## SOAR Pro Pioneer

<b>Company Info:</b>		The term "SOAR" is an acronym that stands for "Somewhere On A River". The company has made a name for itself primarily as a producer of inflatable canoes, which first came to market under the SOAR name in 1993. The design of SOAR canoes was originally produced by Metzler and subsequently sold, along with Metzler's manufacturing equipment, to Grabner.			
<b>Warranty:</b>		Five years workmanship and materials.			
<b>Web:</b>		<a href="http://www.pristineventures.com/inflatable-canoes.html">http://www.pristineventures.com/inflatable-canoes.html</a>			
<b>Contact:</b>		Pristine Ventures: <a href="http://www.pristineventures.com">http://www.pristineventures.com</a> or 1 (877) 716-4366			
<b>Fabric Composition:</b>		Main tubes: Hypalon over 840 denier nylon for main tubes. Tube fabric is 30 oz. / sq. yd. Floor bottom is 40 oz. / sq. yd. neoprene with 840 denier nylon base cloth. Floor uses I-beam construction.			
<b>Dry Weight:</b>	80 lbs.	<b>Rolled Dimensions:</b>	16"x12"x20" = 3840 cu. in.		
<b>Outside Length:</b>	15.9'	<b>Outside Width at Widest Point:</b>	45.9"		
<b>Tube Diameter:</b>	13.9'	<b>Compartment Width:</b>	18"		
<b>Floor Thickness:</b>	4.9"	<b>Rocker:</b>		<b># Chambers</b>	3
<b>Stated Capacity:</b>	1500 lbs.	<b>Calculated Max. Load:</b>	2458 lbs.		
<b>Calculated Safe Load:</b>	1487 lbs.	<b>Optimal Performance Load:</b>	991 lbs.		
<b>Features:</b>	<b>D-Rings</b>	Seven 1" D-rings on each side, along the outside of the tubes, in the upper quadrant of the tubes.			
	<b>Valves</b>	Leaffield C7			
	<b>Handles</b>	Large fabric handles at the bow and stern, two fabric grab handles on each side at the bow and stern.			
	<b>Colors</b>	Blue with black bottom.			
	<b>Accessories</b>				
	<b>Other</b>	This boat has a full-length grommet strip glued to the inside of each tube that can be used for additional gear tie-down or for seat tie-downs.			

### Performance

The Pro Pioneer performed well in all categories, earning the highest marks in stability and performance with larger loads. The biggest drawback noted was the long reach needed to work around the large tube diameter. Paddlers would do well to consider longer paddle shafts, a kayak paddle, or a rowing setup.



*The Pro Pioneer struts its stuff. (Bartlett)*

1. **Stability:** Received the highest marks for stability of any boat tested.
2. **Wet Ride:** Some water over the bow during whitewater run, because of the flatter bow section.
3. **Eddy Turns:** Received average marks from solo paddlers in all weight classes because of the boat's size, but very high marks from tandem paddlers.



4. Upstream Ferry: Above average marks in all weight classes by both solo and tandem paddlers.
5. Downstream Ferry: Average to above average in all load classes with both solo and tandem paddlers, but performance dipped slightly with tandem paddlers with heavy load.
6. Tracking: Tracks well in all load categories, but a bit slower with large load.
7. Hull Flex: No flex noted.
8. Other comments: The bow and stern handles were greatly appreciated by paddlers, as were the side handles.

### **Synopsis**

The Pro Pioneer, though falling in the middle of the pack in terms of length, is in a class all it's own. The wide beam offers a huge amount of interior space, making this boat arguably the best big load hauler tested. On the other hand, the large side tubes may require longer paddle shafts than normal. It is also expected that the paddling angle required with this boat will contribute to upper body strain with some paddlers to a greater degree than some other designs. This makes the Pro Pioneer an excellent candidate for a small rowing station. Another consequence of the boat's large capacity is it's overall weight. At 85 pounds, this is not a boat for backpackers. The Pro Pioneer is an ideal boat for two hunters and a medium payload, or one hunter and a moose.

Boats delivered to Alaska customers are personally unpacked and inspected before they are delivered to the customer, and much effort is made to ensure customers are completely satisfied with their purchase. From a customer service standpoint, this boat scores very highly and it's unlikely that a purchaser will experience a warranty issue that will remain unresolved.

The overall interior width of the Pro Pioneer is perhaps its greatest strength, and its Achilles heel at the same time. Paddlers inexperienced in backcountry travel will want to fill this space with meat and gear, which can make the boat unmanageable on moving water. This isn't a reflection on the boat at all, but on common boating sense; just because you have space doesn't mean you have to use it all. If you're having a tough time with a fully-loaded Pro Pioneer, lighten it up a bit. You'll see a huge performance boost.

Whereas other boats tested derive their shape by the convergence of the side tubes to form a traditional canoe shape, the Pro Pioneer maintains its width from bow to stern by the inflation of the floor. In the unlikely event of a floor puncture, some experts claim that the tubes may roll together; especially if there is a lot of weight on the floor. This round of testing didn't examine this issue, and was therefore unable to confirm or deny this claim. Perhaps this aspect can be clarified in a future test.

## Powered Canoes

This article would be incomplete without some reference to inflatable canoes with built-in transoms, even though none were tested for this study. There are currently two on the market; the Grabner Outside, and the AIRE Power Traveler. At a later date the Grabner can be reviewed; what follows is a review of the Power Traveler.

### **AIRE Power Traveler**

The Power Traveler is AIRE’s newest offering at this writing. A major departure from their whitewater line, the Power Traveler is a unique narrow freight hauler destined for a secure home on deep rivers too narrow for a conventional sportboat. The boat is 17-feet long, with a beam of 57 inches (inside width 25 inches), and has been successfully tested with a Mercury 25-horse two-stroke outboard jet. Current tests are under way to run this boat with a 40-horse outboard.



*The Power Traveler in post-production trials (AIRE)*

<b>Fabric Composition:</b>		Inner bladder: Urethane membrane. Outer shell: 37 ounce PVC coated polyester (tubes); 43 ounce PVC coated polyester.		
<b>Dry Weight:</b>	120 lbs.	<b>Rolled Dimensions:</b>	38"x21"x16"=12,768 cu. in.	
<b>Outside Length:</b>	17'	<b>Outside Width at Widest Point:</b>	57"	
<b>Tube Diameter:</b>	16"	<b>Compartment Width:</b>	25"	
<b>Floor Thickness:</b>	5.5"	<b>Rocker:</b>		<b># Chambers</b> 3
<b>Stated Capacity:</b>	1050 lbs.	<b>Calculated Max. Load:</b>		
<b>Calculated Safe Load:</b>		<b>Optimal Performance Load:</b>		
<b>Features:</b>	<b>D-Rings</b>	8 D-rings.		
	<b>Valves</b>	3 Leaffield C7 valves.		
	<b>Handles</b>	Fabric handles on both sides near stern area, handle up front.		
	<b>Colors</b>	Green / grey two-tone for now, others later.		
	<b>Accessories</b>	Repair kit, stiffeners in process for larger outboards.		
	<b>Other</b>	Non-bailing floor with drainage at transom. Transom is easily removed via quick-disconnect pins. Transom is adjustable for prop or jet outboard.		

The Power Traveler is unique in that it has no bulky floor components to deal with; the entire package easily fits through the door of a light aircraft for fly-out trips. The AIREcell technology results in a tight, stable floor that performs very well with an outboard. The narrow profile of the boat, combined with the large outboard potential give this boat capabilities that nothing else has. Simply put, there’s nothing else like it. The transom on this boat is fully adjustable to accommodate either a prop or jet outboard. The entire floor is a sealed double-hull air chamber, which gives this boat a significant performance boost over unsupported Zodiac-style fabric hulls. The Power Traveler runs, in the words of one boater, “like a scalded ape”!



## SUMMARY

All of the canoes listed in this article are appropriate for some uses but not for others; your choice depends on what you'll be doing with it. If you need a light, maneuverable boat your best choices are the Grabner, Incept, the AIRE Traveler or the Tripper 14.7. These would also be the best choices for any situation where the boat would be portaged or backpacked more than a half-mile or so, since all of them weigh under sixty pounds and will fit on a standard freighter pack frame with ease.

Canoes intended for payloads approaching 800 lbs. are not generally recommended for solo paddlers. They're hard to get moving and difficult to maneuver once under way. Go with tandem paddlers in such situations, or split the load into two smaller boats that can be maneuvered properly. Serious consequences could result from embarking on a river requiring precise maneuvering skills if the boat is not responsive on the water.

## Untested Canoes

Several other boats that were not tested for this article bear mention. The *Incept C52Q*, a 17' version of the C42T, comes in at a svelte 71 pounds compared to the Pro Pioneer and the Adventurer 17, and is acceptable for two paddlers and a light load, or one hunter with a large load. Because the boat is identical in design to the C42T, it's reasonable to expect a wet ride in rough water, and poor secondary stability. Keep the load low to avoid this problem. *Grabner's Adventure SL*, at 65 pounds and 16 feet, would come in somewhere between the Aire Traveler and the Alaska Series Adventure 17. Remember that this boat will have some flexing issues with larger loads. Be conservative when you load it. This would be an acceptable boat for two people and light or medium gear loads. The *SOAR Canyon*, a brand-new boat with similar features to the Pro Pioneer, comes in at 15 feet (nearly a foot shorter than the Pro Pioneer and 80 lbs. (the same as the Pro Pioneer). With about a \$250 difference in retail price, buyers will need to weigh the advantages of the additional space of the Pro Pioneer. At the extreme upper end, *Grabner's Adventure Team*, a 21-foot, 130 pound behemoth of a boat, would certainly haul the biggest loads of all. It's factory rated for a staggering 2,360 pounds. A boat this size will require two or three paddlers to get it moving and to control it once under way.

## General Recommendations

Many factors must be considered when choosing an inflatable canoe, but many purchasers tend to focus exclusively on load capacity. This is a mistake that can lead to disaster. Other factors that must be examined include the likelihood of encountering hazards (including swiftly-moving water) that can propel a heavily-laden boat into the opposite bank or into a logjam or overhanging sweeper or strainer. Do you plan to portage or backpack the boat anywhere? If so, you're better off with two lighter boats than one heavy one.

## Cata-Canoes

Some rivers are too narrow for a conventional raft in one section, but gradually become wider farther downstream. In such cases, especially if large loads are anticipated, paddlers should consider running two canoes with a supporting frame that can be assembled and added downstream, converting the twin canoes into a catamaran raft. Called a cata-canoe, this rig has a huge load capacity, including below-deck storage inside the boats themselves. A light-weight frame can be used for this setup, and it can even accommodate an outboard if needed.



*AIRE Traveler Cata-Canoe in western Alaska (Tatman)*

The following chart is intended generally for **working load capacity only**, and cannot account for conditions found on a particular river or for the experience level of the paddlers. It is the readers' responsibility to ensure that they avoid unsafe conditions. All of the boats listed will carry larger loads than mentioned on this chart, and may be able to do so safely in some conditions. This chart represents a conservative load target for persons of average experience on Class I-II rivers, that will allow a reasonable amount of maneuverability.

BOAT	1	2	3	4	5	Key to Chart
Incept C42T	X					1. Tandem paddlers, light load or solo paddler with medium load.
Grabner Expedition 14	X					
AIRE Traveler	X	X				2. Solo paddler with 120 lbs. payload.
AK Series Explorer 14.5	X	X				
AK Series Tripper 17	X	X	X			3. Tandem paddlers with 120 lb. load, solo paddler with 600 lb. load.
Pro Pioneer	X	X	X	X		
(Untested)						4. Tandem paddlers with 600 lb. load.
SOAR S16	X	?				
Grabner Adventure SL	X	X	X			5. Loads over 1,000 lbs. including at least two paddlers.
Incept C52Q	X	X	X			
SOAR Canyon	X	X	X			
Grabner Adventure Team	X	X	X	X	X	

Proper load planning cannot be over-emphasized; neither can the risks of paddling a heavy load in swift, narrow rivers that are particularly inviting for canoes. Many of these rivers contain dangerous conditions that are impossible to avoid with a canoe loaded close to the maximum payload capacity. Don't become a statistic!

## Rowing Setups

In some situations, a rowing setup is recommended over paddles. This is particularly true with large-tube boats such as the Pro Pioneer and the SOAR Canyon. Canoe frames can range from simple flat rowing frames to custom designs. One intriguing idea is the *Oar Saddle*, made by Rocking R Designs. It requires four D-rings properly situated on the side tubes, to which the Oar Saddle is strapped. The advantages of this system is that it is much smaller than a regular frame, and the rowing tower is removable from the base plate. This greatly simplifies packing the unit for fly-out or backpacking trips. The Oar Saddle appears to have a large enough footprint that it doesn't generate nearly the tube flex as previous designs did in the past. This is especially true in plastic boats, because of their inherent stiffness over rubber boats.



*The Oar Saddle on a Pro Pioneer (Rocking R)*

An alternative to the Oar Saddle is a simple rowing frame that attaches to the tubes, and includes two cross-bars. The cross bars provide solid anchor points to which a rowing seat and a passenger seat may be secured; a huge benefit on long trips where your back needs a rest.



### Test Info and Paddler Credentials:

Date:	10/18/05	Location:	Eagle River, Alaska
Administrator:	Michael Strahan		
Conditions:	Air Temp: 26°F.	Water Temp:	38°F.
	Average paddler weight:		170lbs.
Paddlers:	Jack Mosby Rich Crain Pat Fleming Heather Fleming		
Company Representatives:	Tracey Harmon, AIRE Larry Bartlett, SOAR Jim King, Alaska Series Inflatables		
Boat Air Pressures:	AIRE Traveler:	3psi. (.5 over factory specs.) NOTE: Paddlers thought AIRE's published specs were too conservative.	
	Alaska Series 17:	4psi. (factory specs)	
	Alaska Series 14.7:	4psi (factory specs)	
	Grabner Adventurer 14:	4.3 psi (factory specs)	
	Incept 14:	3psi in tubes, 2psi floor (factory specs)	
	SOAR Pioneer:	3.5 psi (factory specs)	
<b>Paddler Credentials:</b>			
<p><b>Jack Mosby:</b> I started paddling canoes in the early 1960's at Spirit Lake next to Mt. St. Helens. My wife and I took up whitewater canoeing in the early 1970's near Seattle followed by whitewater rafting in the late 1970's in Alaska. I've taught canoeing (moving water and whitewater) and rafting through the Knik Canoers and Kayakers club since the early 1980's in Alaska and was a commercial paddling guide around Alaska for about 8 years during the 1980's. I authored "Alaska Paddling Guide" in the early 1980's and am now working on the 4th edition. It's not uncommon for me to paddle over 1,000 miles per year across Alaska by canoe, kayak, and/or raft since I've retired.</p>			
<p><b>Rich Crain:</b> Completed KCK's flatwater and Moving Water Canoe Classes in 1982. Began instructing tandem paddling in both classes since 1983. Have been Lead Instructor since about 1988. Prefer classic style (Bill Mason) solo techniques to handle class 3 Rivers with 16 ft open canoes. Experienced with poling techniques to explore up rivers then paddle back down.</p> <p><b>White water rafting instructor through KCK. Raft experience goes back to 1977.</b></p> <p>Plans to offer an Inflatable Kayak Whitewater Hazards Class thru KCK in 2005.</p>			
<p><b>Pat Fleming:</b> I am an avid moving water canoeist and, I suppose, a fairly decent paddler. I certainly do not claim to be an expert of any sort.</p> <p>I bought my first canoe approx. 20 years ago with the contents of my loose change jar and started boating on flat and slow moving water. About 7 years ago I took a greater interest in whitewater, and have continued to passionately seek more knowledge and develop skills. For the past several years we've been canoeing Alaska rivers year round, and paddled a river at 4 below zero last winter.</p> <p>I currently own six hard shell canoes, both solo, and tandem. I can roll an open solo canoe. The past few years, I have spent 90-100 days per year in a canoe on moving water. This includes a lot of local Class II-III stuff and some water into the Class IV range -- first and second canyons of Six Mile Creek, Lion's Head on the Matanuska River, lower canyon of Willow creek, and the Nenana River canyon. I have also done a fair amount of longer trips with Heather in a loaded tandem canoe. (Kennicott - Nizina - Chitna - Copper, Forty Mile - Yukon, and the Wind - Peel in the central Yukon Territory, Canada) along with some of the standard canoe camping trips around Alaska: Gulkana, Birch Creek, Delta, Chulitna, ect.</p> <p>I took the KCK's Moving Water class here in Anchorage a few years back and was an instructor in a subsequent year. I took an intermediate whitewater canoe class given by two ACA certified instructors in Washington State in 2003, and have taken a swift water rescue class put on by Rescue 3 in the Mat-Su.</p> <p>I am currently a member of the American Canoe Association, the Fairbanks Paddlers, the Knik Canoers and Kayakers, and American Whitewater.</p>			
<p><b>Heather Fleming:</b> Heather's paddling experience starts 25 years ago at summer camp and she has been canoeing ever since, continuing with a college canoe class in the late 80's, and KCK's moving water class in 2002. She has good, solid paddling skills. All the camping trips mentioned above were done tandem with her. The majority of Heather's paddling experience is in a tandem canoe and she also started to canoe solo two years ago.</p>			