



MAD RIVER CANOE

OWNER'S MANUAL



Dear Mad River Canoe Owner,

We sincerely thank you for purchasing a Mad River Canoe. Complete with the canoe comes our confidence that it will provide a superior level of performance and owner satisfaction. For over 35 years the Mad River name has become synonymous with quality, innovation and reliability.

Please take a few minutes to read through this owner's manual, it'll help you get the most out of your new canoe. The information in this manual is not comprehensive nor is it intended to be a "how-to" instructional course on canoeing. Mad River Canoe strongly recommends that all paddlers acquire certified training before paddling. Such education will also help you get the most out of your canoe by teaching you how to take advantage of the design performance built into every Mad River Canoe.

Enjoy your new canoe. We're glad to provide you with the means to chase your dreams.

See you on the water,
The folks of Mad River Canoe

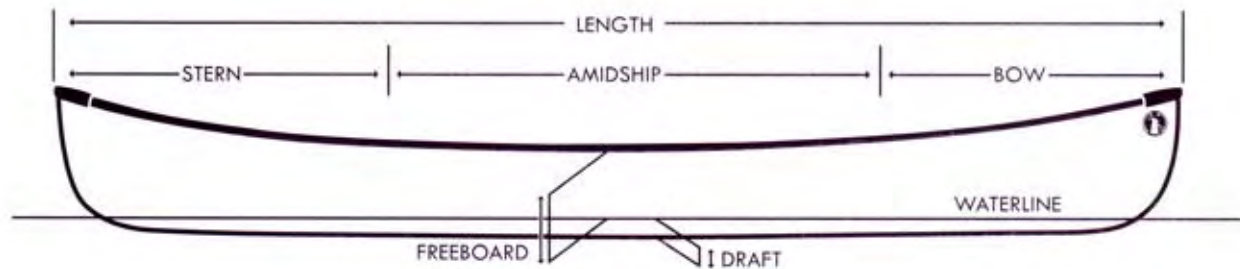
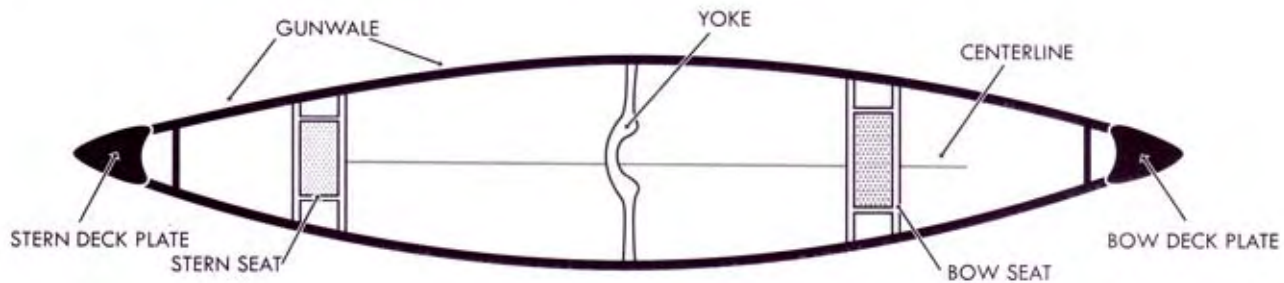
The Legend behind the Mad River Rabbit



The legend of the Confident Rabbit is rooted in eastern Native American lore. As the tale is told, Confident Rabbit sits secure and comfortable amidst the ferns, enjoying his pipe, even though he knows his mortal enemy, Lynx, prowls nearby. For Confident Rabbit knows that he has his own strengths, talents, and intelligence to draw upon to escape and befuddle Lynx time and time again.

You'll find our Confident Rabbit on the bow of every Mad River Canoe and it represents our guarantee that your canoe has been designed and built as best it can be so that you can put your confidence in your canoe and give your full attention to the environments and experiences that paddling can open for your enjoyment.

GET TO KNOW YOUR CANOE



INSTALLING GRAB LOOPS

Included in the packet containing this manual are two lengths of cord (All models except Adventure 14, 16, and Synergy 12, 14 - integral carry handles already installed). These are to be used for grab loops at the ends of your canoe. Thread one cord through hole under your deck at each end of canoe and tie off into loop. As the grab loops can be subject to significant stress, we recommend that you use a knot such as a Fisherman's or Flemish knot to form the loop. It is also recommended that you set up $3/16"$ - $1/4"$ diameter "painter" lines approximately 8-10' in length at bow and stern of canoe. These lines make for easy and fast security when landing or tying off boat to shore. They can be tied off to the carry handle behind each deck or to the grab loops. Keep the lines coiled when not in use so they do not pose an entrapment hazard for paddlers.

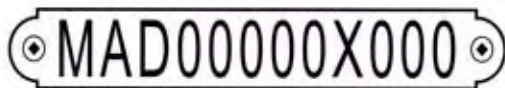


CHECK HARDWARE

It is possible for fittings to work loose in a new boat as the wood dries and/or during shipping and handling. Grasp each seat, yoke, thwart, etc. and shake to see if it is still firmly attached to the gunwales. Snug up any loose fitting with a Phillips head screwdriver and a $7/16"$ wrench.

SERIAL NUMBER

Your canoe's serial number is stamped on a brass plate located on the starboard (right) side of the stern under the gunwale. It is a good idea to record the serial number in the space provided in this manual. Retaining your serial number is essential to reclaim a lost or stolen canoe, to obtain state registration or warranty service.



(Record your Serial Number here for your records)

CHECK OUT YOUR STATE'S REGULATIONS

Some states require that all canoes be registered. To register your canoe you will need your M.S.O. (Manufacturer's Statement of Origin). In effect, the M.S.O. is the title to your canoe and these are provided to our dealers when the canoes are delivered. In most cases, you should receive the M.S.O. for your canoe when you took delivery. If not, check with your retailer. If it has been lost, have your dealer contact Mad River Canoe and we will provide a replacement. **MAKE SURE THE SERIAL NUMBER ON YOUR M.S.O. MATCHES THAT ON YOUR HULL.**

IQ AND IQ2 GUNWALE SYSTEM

Introduction

The patented Mad River IQ and IQ2 Modular Gunwale Systems are some of the most innovative developments to come to canoeing in years. The benefits of the IQ are many. The IQ Systems are complemented by a growing range of interchangeable modular accessories that can be added when needed or desired and removed when type of paddling changes. You can rig the boat for whitewater paddling one day, bring it home and set it up for a week long camping trip the next. The beauty of it all is that nothing is permanently installed, no longer do you have to haul permanent whitewater outfitting along on casual outings or annual canoe trips. Want a boat that can be paddled solo or tandem? Before IQ, the only way to go was to have three seats in the boat, adding weight and clutter. With the IQ, you remove one seat and slide the other to center; the result is a lighter, more responsive canoe that can be retrofitted for tandem use in less than 5 minutes.

The IQ aluminum gunwale system offers the capability of movable seats, allowing seating to be positioned for optimum trim no matter the size of the paddlers. Seats are not permanently positioned so that they can be moved for best trim as your paddling partners change, from trip to trip or even from morning to afternoon. Seats can also be positioned to best respond to the changing conditions encountered while paddling. Position for level trim when paddling calm waters, move seats to stern to lighten bow and enhance the canoe's performance on rivers or when paddling downwind. Move seats forward to lower the bow for upwind work; it's all possible and easy to do with the IQ.

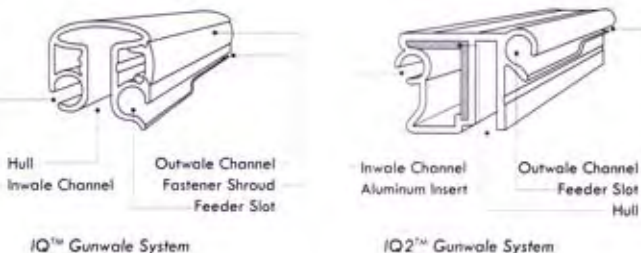
Movable seats are not possible with the IQ2 vinyl gunwale system as the vinyl extrusion is not strong enough to lock the seat fittings into the gunwale channels.

Getting to know IQ & IQ2

At first glance, the IQ and IQ2 may look like any other vinyl or aluminum gunwale system. Take a few moments to learn why it's so different and the potentials it offers.

The elaborate internal structure of the IQ gunwales provides the strength necessary for use in whitewater or expeditionary paddling unlike most aluminum gunwales.

Feel along the lower parts of the inwale and outwale and locate the slots or channels that are the heart of the system. They run end to end, from deck to deck. Each channel is independent of the other; you can insert one module in the internal channel and another in the exterior.



IQ AND IQ2 GUNWALE SYSTEM

Fasteners

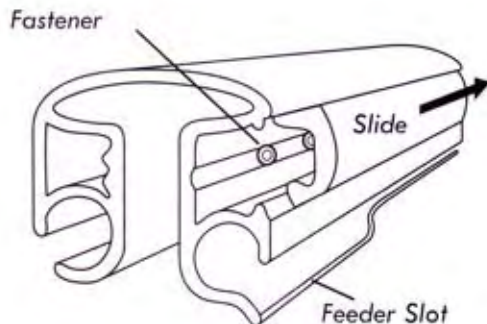
The IQ aluminum gunwale is fastened to the hull via hidden self-tapping square drive screws. A cover sleeve runs along the outside of the gunwales concealing the fasteners and also providing a softer bumper to minimize bumps or dents as well as providing a clean look to the system. Removing one of the decks and sliding the sleeve out of the gunwale can remove the sleeve to provide access to the fasteners.

Fasteners for the IQ2 vinyl gunwale are also self-tapping square drive screws and are visible below the exterior channel and extend into the "box" on the inwale. By doing so, all sharp edges are covered and paddlers protected.

Feeder Slots

As you run your hands along the slots you'll encounter a number of spaced openings or "feeders." These feeders are placed to allow you to add or remove components or modules. Along the inwale slot you'll find pairs of feeders behind the bow deck, on either side of the center thwart, and in front of the stern deck. On boats with a second or "tripping" thwart, you'll find additional feeders on the stern side of that thwart. Along the outwale slot, you'll find feeders behind the bow deck and in front of the stern deck. All told there are 6 to 10 feeders on the inwale and 4 feeders on the outwale depending on model.

Once you have used your IQ for while, you may find you'd like additional slots installed for particular purposes. We offer a Spreader Tool that will allow you to customize your system. Contact your local dealer.

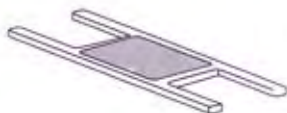


IQ NOTE: The center thwart and carry handles are also slotted. However, these slots cannot be opened as a more rigid aluminum was chosen for the cross pieces for added strength and rigidity. Do not attempt to bend a slot into cross members as this can result in fracturing edges of the slot. The slot in the thwart was designed to accommodate the Adjustable Tie Downs (#62-02290) and future modules. The thwart(s) or carry handles are not designed to be movable as this could distort the hull and cause damage. Movement of any thwart or carry handle will void your Lifetime Warranty.

IQ AND IQ2 GUNWALE SYSTEM

IQ2 System Seats

IQ2 models with cane or webbed wood seats are ready to go, right out of the "box." Eventually, they may require a fresh coat of varnish (spar or exterior polyurethane). On cane seats, apply coat of varnish to cane as well as seat frame. For webbed seats, apply varnish only to wood seat frame.



Cane Wood Seat

Traditional flat ash framed seat with cane insert. Lightweight and comfortable and cane does not hold or absorb water making for a drier ride. Standard on Royalex and composite canoes with wood, vinyl, IQ2 or aluminum gunwales.



Webbed Wood Seat

Traditional flat ash framed seat with woven webbing seating. Provides increased durability over cane at comparable weight. Standard on Explorer 16TT, 14TT, and Orion with vinyl, IQ2 gunwales and optional on Royalex and composite canoes with wood, vinyl, or aluminum gunwales.

IQ System Seats

The IQ seats are contoured to provide maximum security of position and comfort. Not only are they adjustable fore and aft but can be positioned for height, from side to side or centered, and for rake (angle of seat front to back). Proper trim not only improves the efficiency of your canoe and the ease of paddling but provides a much safer, more stable boat as well. Trimming a canoe towards level places maximum hull in the water for added stability.



IQ Bucket Seat

Bucket seat is contoured for stability and can be adjusted for height and for angle for maximum comfort and support. Standard on all IQ outfitted canoes.

IQ AND IQ2 GUNWALE SYSTEM

IQ Bucket Seat

Height Adjustment

One of the subtle advantages built into the IQ is the ability to adjust your seat height. Higher positions enhance paddling efficiency and are favored by experienced paddlers or in exceptionally stable canoes. Lower positions improve stability, security, and parent's peace of mind as children can be settled deeper in the canoe and less likely to tumble overboard. Lower seat height is often an advantage when paddling whitewater or in turbulent conditions. A nice thing about the IQ is you can have the best of both worlds by adjusting seat height to suit impending conditions, however quickly they may change. You're not stuck with one position that can become increasingly uncomfortable as you pile up the hours paddling.

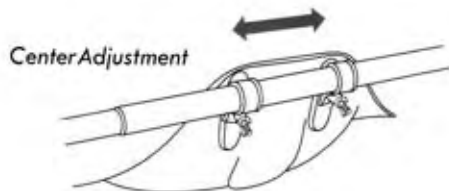
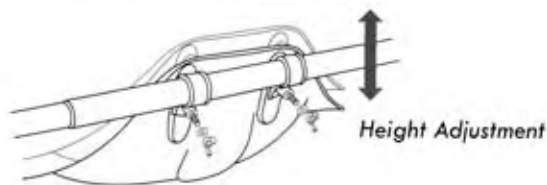
Start with the seats in the lowest position. Sit in the canoe and get a feel for this position. Given the ease with which you can change seat height, it makes sense to take the canoe out and paddle for a real test before making any further adjustments. Bear in mind with the IQ, nothing is permanent, it can all be changed, shifted, moved, added, removed, etc., etc., etc.

To change seat height, locate the two wingnuts securing the straps looping around the crossbar behind the seat. Loosen the wingnuts and remove wingnut, washer, and spacer and set carefully aside. Remove bolt through seatback. Raise or lower seat to desired position, aligning holes in seat back with holes in ends of straps looping over cross bar. There are four alternative heights. Insert bolt through seat back and through holes in both ends of strap. Push spacer and then washer over end of bolt and secure with wingnut. When IQ is new, the straps may be quite stiff and pinching ends together with pliers may make threading bolt in position easier. Tighten securely.

Center/Set On One Side

The IQ also allows you to position a seat in center of canoe or to one side or another to favor a personal paddling "side." Solo paddlers or teams with preferred sides most appreciate this feature as it allows for maximum paddling comfort and efficiency, reducing the side extension necessary to put paddle in the water efficiently.

To adjust side to side position of seat, loosen wingnuts under stern crossbar. Do not remove completely. Reach under bar and shake the spacer and strap to relieve tension. Lift seat slightly and slide to desired position. Tighten wing nuts to secure and adjust front webbing tension as necessary.



IQ AND IQ2 GUNWALE SYSTEM

IQ Bucket Seat

Rake Adjustment

With the IQ system, the angle of the seat front to back is adjustable. This provides added positional security for the paddler and capability to change amount and position of thigh support, a much appreciated advantage by long distance paddlers.

To adjust the rake of the seat, loosen the webbing strap that runs from one gunwale through seat to opposite gunwale. Sit in seat and test position. To raise front of seat, get your weight off of seat and tighten webbing, pulling front of seat up. Test position and if satisfied, you're done. With the IQ system, it's easy to fine tune or re-adjust position at any time.

Being able to adjust the rake of the seat allows the seat to double as a kneeling thwart when front is lowered. One of the biggest safety advantages offered by the IQ is the free swinging seat front. As the seat is suspended by webbing it easily kicks up, minimizing the entrapment hazard posed by feet trapped under rigid seat frames.

As seats are moved in the canoe, it will be sometimes necessary to also adjust tension on web strap to maintain desired rake angle as seat moves to a narrower or wider section of canoe.

Moving Seat Fore and Aft

One of the most apparent advantages of the IQ system is the ability to move the seats for best trim. The ability to accommodate differing paddling teams with the IQ is unique. The IQ even makes the trial and error process of determining the best trim for your personal use a lot easier. Never before have paddlers been able to readily adjust the trim of their canoe to account for varying paddlers and gear as well as the ever changing conditions you can expect to encounter.

To move seats towards a wider section of the canoe, first loosen webbing suspending front of seat. Pushing equally on each side of crossbar move seat towards desired position, depressing the lock button in bar as canoe widens. Position seat so that lock button extends through hole in bar. Adjust tension on front web straps as desired to restore rake angle of seat.

To move seat towards a narrower section of the canoe, push equally on each side of crossbar, depressing button as needed to allow tubes to contract. Choose seat position that allows locking button to extend through hole in cross bar. It will be necessary to snug up the web straps at front of seat to adjust rake angle.

Securing Seat Position

In most cases, the paddler's weight is sufficient to hold the seat in selected position. However, if you're anticipating some very active paddling such as working your way down a stretch of whitewater or twisting your way down a swamp river with tight turns and blow-downs, you may want to consider locking the seat in position.

This is easily done using the Adjustable TieDowns (#62-02290). Sold as a set of four, insert a TieDown in the slot behind and/or in front of the seat assembly and tighten in place.

IQ AND IQ2 GUNWALE SYSTEM

IQ Bucket Seat

Adding or Removing Seat

An exclusive IQ advantage is the ability to add a third seat for passenger or added paddler or to remove an unneeded seat.

The seat assembly is suspended from the inwale slot by a tube over tube crossbar behind the seat and web straps at the front of the seat. Linking these is a spindle that slides within the slot. Each end of the spindle is shaped to receive and connect with the molded tabs securing the webbing and the brackets supporting the crossbar. The spindle keeps the seat centered side to side and limits the possibility of the seat getting crooked in the canoe.

To add a seat, locate the feeder slots on the same side of the center thwart that you want to place the seat. For a seat forward of the center thwart, you will insert the front end of seat assembly first. For seat aft of thwart, the end of assembly with cross bar will be inserted first.

To add a seat aft of center, examine spindle. At each end you'll find a 3" flattened section. This section will mate with fittings suspending the seat. Before attempting installation of seat, test fit these pieces together to understand how they work.

Open the stern cross bar sufficiently to allow it to span the width of canoe at feeder slot. Position seat so that it is oriented properly and sitting in bottom of canoe. Mate the bracket on one side of cross bar and fitting on end of spindle and insert into one feeder slot. Push assembly back just far enough to clear the feeder slot and then repeat on other side to suspend stern of seat.

Mate the tab holding the webbing with the fitting on other end of spindle and feed the spindle into the slot until the tab and fitting slide up and into slot. Repeat with other side.

Using equal pressure on each side, slide the seat assembly towards desired position. It may be necessary to depress the locking button in the cross tube to allow seat to move to

desired position. Once in position, make sure the locking button is engaged in one of the holes of the cross tube.

To install a seat forward of center, use the slots in front of center thwart and follow the above procedure, starting with the tab securing the webbing and finish with the bracket holding the cross tube.

To remove a seat, slide seat assembly towards appropriate feeder slot. Take flat head screwdriver or point of knife or similar object and use to guide end of spindle down and out the feeder slot. Left to its' own devices the spindle is designed to stay up in the slot and will just slide by the feeder.

Pry the head of the spindle out the feeder slot and pull out gently until the spindle and either bracket or tab can be separated and then repeat procedure on other side. Once both sides are released from slot proceed to remove the rest of spindle and assembly at opposite end. Be careful to remove spindle when removing fittings as it can be difficult to retrieve the spindle from the slot.

It may be helpful to wiggle and lift or lower assembly to increase its' chances of coming free of the slot. Avoid forcing seat assembly out of slot as this can result in breakage of the connecting spindle.

IQ NOTE: When using an IQ seat, it is critical that the locking button be fully engaged in a hole on the seat cross tube. The button must be visible. Failure to do so can create excessive seat movement or bending of the cross tube. When positioning a seat in the center of the canoe make sure to leave adequate room between seat and center thwart to allow for easy escape should it be necessary. Entrapment under the center thwart can occur if seat is too close to thwart. It is recommended you position seat no closer than 20 to 24" to the center thwart.

IQ AND IQ2 GUNWALE SYSTEM

IQ Bucket Seat

Adding or Removing Seat

Steps 1-9 show you visually how to install the IQ Bucket Seat. To remove, just reverse the order of steps.



Fitting wand to seat bracket



Fit wand to strap fitting



Repeat steps 1-6 on other side



Inserting seat bracket into slot



Inserting strap fitting into slot



Adjusting seat position and height



Slide bracket leaving wand for strap fitting



Adjusting seat barwidth by pressing button



Done!

IQ AND IQ2 GUNWALE SYSTEM

IQ/IQ2 ACCESSORY MODULES

The process of developing IQ and IQ2 modular accessories is a happily never ending process. We will continually be expanding the available options

A) Chameleon Camouflage - Take full advantage of the interchangeability of the IQ with our camo system, nicknamed Chameleon as you can change camo patterns to best match habitat and season. 4 piece side drapes and separate top cover are designed to fit any 14' to 17.5' canoe outfitted with IQ or IQ2. Choice of New Break Up or Shadowgrass patterns.

B) Sprayshields - Partial spray covers secured in the exterior IQ channels eliminate need to drill your hull. Available for IQ in tandem, short tandem, and solo editions and for IQ2 in tandem, all sprayshields feature stays to keep cover from sagging in your lap and to resist implosion from waves. Zippered attachment system makes installation and removal a matter of moments and cover can be unzipped and flipped to one side to access gear. Black.

C) Belly Cover - Center cover counterpart to sprayshields. Zippered attachment system makes installation and removal a matter of moments and cover can be unzipped and flipped off to access gear. Stays keep cover crowned to shed rain and resist implosion from waves. One size fits all IQ and IQ2 tandem canoes. Black.

D) Tandem End Overbag - Designed to hold flotation bags or gear in front of bow paddler or behind stern paddler. Mesh sides and bottom won't capture water. Top zipper for easy access to contents afloat or ashore. Two part zipper installation makes it easy to install or remove and integral carry handles let you lift Overbag and contents and carry to campsite or across portage trail without unloading.

or "modules." For more information on existing modules and to keep tabs on additional modules, we suggest you log on to www.madrivercanoe.com.

E) GloveBox - A place to store all those things you need at a moment's notice. Can be positioned beside, in front of, or behind the paddler, wherever preferred, and provides 300 cu in of storage capacity. Tapered design also allows it to fit alongside of traditional cane or web canoe seats.

F) Adjustable Tie Downs - Does just what the name suggests, slides in the IQ or IQ2 gunwale and can be moved wherever necessary to secure gear. Multiple cut-outs will accommodate 1" webbing and/or 1/4" diameter cord. Spin knob locks tie down in place and reverses to allow removal or relocation. Sold as set of 4.

G) Workstation - Think of it as a desk, a dinner table, or a work bench with storage capability. 14" x 12" surface provides plenty of room to fix meals, make notes, sort and organize flies, lures, lens, etc. Station is movable, slide it up close when needed and then away when not. 1400 cu. in. storage provides a lot of room to stow often needed items close to hand. Fits IQ and IQ2.

H) Center IQ Bucket Seat Module - Add another seat to your IQ canoe. Fully adjustable to best trim canoe and for height and angle to bring new level of comfort to anyone along for the ride. Easily removed when not needed. Fits IQ system only.



IQ AND IQ2 GUNWALE SYSTEM

- I) Lash-In System** - Versatile quick and secure system to lash in gear or flotation. Spaced tie-down loops on webbing runner provide multiple tie-in points and slide in and out of channels with ease. Sold in pairs and can be cut for specific fit. Fits IQ or IQ2.
- J) Removable Yoke** - Deluxe cupped yoke that can be attached to IQ or conventional canoes. Aluminum frame with dense neoprene-covered foam provides secure carry. Contoured shape keeps boat secure on up and down hill portage trails.
- K) Center Overbag** - Companion piece to the Tandem End Overbag designed to fit in center of canoe much like old-style Wanigans. Adjustable width accommodates canoes of varying beam. Half moon top zipper for easy access to contents. Integral carry handles allow removal without unloading. Will also fit Voyageur Mini Center float bags or others of similar dimensions (34" x 16"). Fits IQ and IQ2.
- L) Outrage & Outrage X Flotation Overbags** - Specific bags for both Outrages with either IQ or IQ2 gunwales eliminate need to install eyelets in gunwales or worse, drill through hull to secure flotation bags. Protect bags from abrasion and can be removed or installed in moments. Generous mesh pocket at end with clip-in for throw bags or water bottles. Yellow.



M) Spreader Tool - IQ and IQ2 canoes come with installed feeder slots that allow access to just about all parts of the boat but the Spreader Tool lets you add slots wherever desired for added convenience or to suit your personal needs. Spreader tools available for either IQ or IQ2 systems and can be used to restore bent or crimped channels as well.

N) Adjustable Footbraces - Any experienced paddler knows the value of a good footbrace in terms of significantly improving paddling efficiency and reducing fatigue. IQ footbrace is adjustable both for position and height to accommodate any paddler. Fits IQ or IQ2 canoes.

O) Seat Pad and Backrest - Enhance the comfort of the IQ contoured seat with our adjustable backrest and seat combination. Wings on backrest are cut low and wrap around to offer positive back support. One of the few backrests that you can actually use while actively paddling. Fits IQ Bucket Seats only.

P) Waterproof Chine Bag - How long have you been waiting, for a dry storage bag that will always be within arms reach, one that you don't have to tie or lash in? Waterproof zipper makes for easy in and out and 100% reliable dry seal. Features external lash straps to secure paddles, tripods, rods, etc. and D-rings to clip in water bottles, throw ropes, and more. Generous 33" x 10" dimensions provide generous capacity yet bag tucks away below gunwale, out of the way but close to hand. Fits IQ and IQ2.



CARE & MAINTENANCE

Transporting Canoe on Vehicle

Canoes can be carried safely on just about type of vehicle. The most common systems used to transport canoes are foam block "racks" or rigid cross bar sport rack systems.

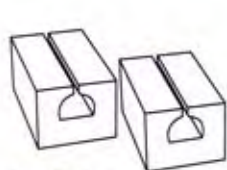
Foam block systems are the least expensive and also less secure. They consist of four foam blocks with milled slots to fit over the canoe gunwales. The canoe rests on the roof on these blocks and is secured at either end by ropes or straps running to the car and by a single or multiple over center strap or rope. Foam block systems are fine if you're hauling your canoe locally and are handy when making a shuttle run but are not recommended for long trips at highway speeds.

The sport rack systems consist of two rigid steel crossbars supported by feet or towers that are clipped into your vehicle's rain gutters or doorframes. The canoe rests on the cross bars and is tied off bow and stern to the vehicle and at each crossbar. These racks are very secure and function well for long distance hauling at high speeds. Most rack systems also have a multitude of accessories that will carry bikes, skis, snowboards, lumber, luggage cases, etc. If you plan on using the luggage rack that came with your car, first make sure that it is rated adequately for the weight of your canoe. It is imperative that canoes be tied down at bow and stern and overhead in all applications.

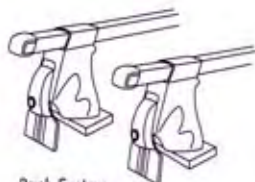
If you plan to carry your canoe in the bed of a pick-up truck, be aware that the canoe will be considerably longer than your bed and may extend far enough out behind your vehicle to require a red warning flag. Tie your canoe snugly into the bed and run it parallel to the vehicle, do not angle it to one side or the other as this can result in the canoe extending into neighboring traffic lanes.

Whichever system you choose to haul your canoe, it should be carried gunwales-down to avoid the chance it could fill with rainwater. A canoe full of water will weigh in excess of a 1000 lbs. and no vehicle is able to support that much weight safely.

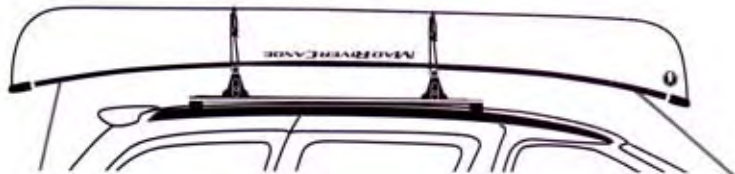
Regardless of your rack system, make sure your ropes or straps are snug and tight but not so tight that they deform the hull in any way. Be careful tensioning the bow and stern tie downs as it's quite easy to put stress on the hull by over tightening these lines. On hot sunny days, relieve the tension in your tie downs if you'll be leaving the canoe on a stationary vehicle for any length of time. Periodically check that straps remain at proper tension and are not chafing or wearing themselves, the vehicle, or the boat. Rainy weather will often result in ropes or straps stretching and becoming loose over time. If using a bar rack overhead straps or ropes should be routed inside of the rack towers.



Foam Blocks



Rock System



CARE & MAINTENANCE

Storing Canoe

Canoes are best stored hull up/gunwales down on evenly spaced supports, either rigid such as sawhorses or beams securely attached to a wall or via web slings. Supports should be positioned approximately 1/3rd of the canoe length from each end.

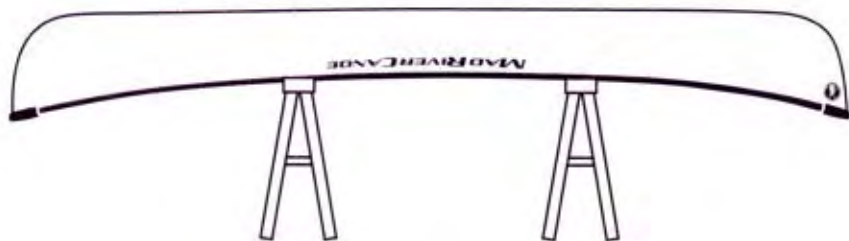
- Do not store the canoe leaning on its' side or flat on the ground as this can deform the hull or flatten the hull over time.
- Do not suspend the canoe right side up by hanging from the grabloops as this can increase the rocker (curvature of keel) of the hull.
- Do not place any objects on top of the canoe as this can also deform the hull.

If at all possible, store the canoe indoors in a heated area. Do not place the canoe near a direct source of heat such as a furnace or where it will be exposed to chemical vapors or car exhaust.

If you must store your canoe out of doors, make sure that it is securely tied down to prevent it from being blown off of rack. Do not store canoe where it will be exposed to snow loads or where it might be hit by branches falling from trees.

If canoe will be out of doors, treat hull with a UV protectant such as 303 when putting it up for winter. If your boat has wood gunwales, apply fresh coat of Gunwale Guard before storing it for winter.

A cover will provide some protection from the elements but do not let cover rest directly on the hull as the cover will trap condensation and this can discolor the hull. Set wood or foam blocks on top of hull and drape cover over these risers to create an air space between hull and cover. Make sure cover is secured so it will not blow off.



CARE & MAINTENANCE

Storage of Royalex Canoes

Winter

Royalex is a thermoformed vinyl/plastic/foam composite material and like all plastics is susceptible to shrinkage when exposed to freezing temperatures or to sudden temperature drops. If certain precautions are not taken, this contraction can result in cracks occasioned by the hull trying to contract while being restrained by the gunwale fasteners.

If the forces are sufficient the result is a sheering fracture running vertically from the gunwale line towards the keel line forming what is called a cold crack. It must be stressed that this is not a material defect but a material limitation inherent in Royalex. Nor is it a frequent occurrence, afflicting less than 1/4 of 1% of all Royalex canoes in use, new or old.

If you live in an area that experiences below freezing temperatures or is subject to rapid temperature fluctuations, there are a number of precautions you should take to minimize the chance of cold cracks, particularly if your canoe has wooden gunwales. It is imperative that wood gunwales be consistently and properly treated with Gunwale Guard™, Mad River's penetrating gunwale oil finish to minimize chances of cold cracks. Any moisture that is absorbed by unprotected gunwales will expand upon freezing and cause the gunwales to expand accentuating the stress the hull is subject to in cold temperatures. Older canoes can be more prone to cold cracking as plastic becomes more brittle and less elastic as it ages.

Mad River Canoe does not warranty cold cracks as they are due not to material defect but to material limitations. Cold cracks are repairable and Mad River will be glad to assist your local dealer in providing the necessary materials and instructions.

Royalex Canoes with Synthetic Gunwales

Cold cracks are less prone to occur in Royalex canoes with synthetic gunwales but it is not unheard of. In most cases, these occur when a sudden and severe drop in temperatures occurs. If forecast calls for a severe drop in temperature in a very short period of time, covering your canoe with an insulator such as a moving blanket can help lessen the chance of cold cracking.

Mad River Canoe Gunwale Guard. Choice of Natural or Stain.



CARE & MAINTENANCE

Royalex Canoes with Wood Gunwales

The best way to prevent cold storage problems is to store the canoe indoors in a heated area.

If this is not possible, the following procedure has been developed by one of our long time dealers located in the Yukon in northern Canada. He's used Royalex canoes for over 20 years, wintering over 25 or more canoes a season outdoors with very rare problems:

- 1) Clean and dry exterior and interior of hull. Apply treatment of 303 inside and out.
- 2) Oil gunwales with Gunwale Guard. If protectant hasn't been applied regularly during the season, it would be wise to sand the rails to try to dissipate any moisture absorbed by the wood before applying Gunwale Guard.
- 3) Back out all gunwale screws except the middle three in each gunwale.
- 4) Release the inside gunwales from the stems of the canoe and slide a scrap piece of wood crossways between edge of hull and gunwales to maintain separation. Take the opportunity to apply coat of oil to the inner surface of the gunwale that has been in contact with the hull of the canoe as well as the underside of the decks.
- 5) Do not touch or move the canoe. If snow piles up on hull, use broom to remove snow build up. Do not lift canoe or tilt to dump snow load. Avoid moving canoe when temperature is below freezing or if temperatures have been below freezing recently. Allow time for hull of canoe to warm up to air temperature.
- 6) To re-assemble gunwales, you'll find having several clamps helpful to reposition and hold gunwales in proper alignment with existing holes in hull and gunwales. Starting from center realign gunwales with top edge of hull and clamp in position. Insert screws and tighten working from center towards ends. Start all screws before final tightening.



Cleaning Hull



Gunwales with Screws Loosened



Oiling Gunwales



Lifting In-wales, Deck Free of Hull, and inserting Wood Spacer



Loosening Gunwale Screws



Canoe Ready for Winter Storage



Mad River Canoe Gunwale Guard. Choice of Natural or Stain.

CARE & MAINTENANCE

Gunwales

IQ Gunwales

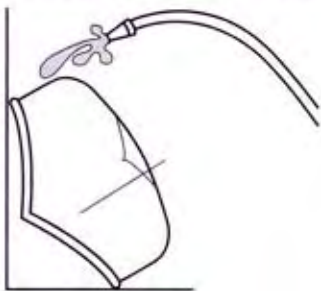
As there are few moving parts, there is little required maintenance on the IQ systems. As with any other piece of performance equipment, keeping it clean will enhance its ease of use and longevity.

Periodically rinse both inwale and outwale slots by setting boat on side and flushing with water from center so that water and debris flow towards ends. Removal of the decks on IQ models will allow greater flow. Rinse gunwales after use in salt water or whenever you find the sliders or rope binding or encountering obstructions.

Should slot be dented or otherwise bind movement, use of spreader tool to bend slot to proper alignment will usually solve the problem. Pliers can be used but care must be taken to bend the gunwale slowly and evenly to eliminate sharp edges.

Aluminum IQ gunwales and cross members are anodized for protection against weather, scratches, and abrasion. No surface coating will eliminate all bumps and bangs. Touch up scratches with flat black enamel paint.

Periodic applications of 303 Protectant to IQ2 Vinyl Gunwales ensure longest serviceable life.



Vinyl Gunwales (Including IQ2)

Whenever you treat your hull with a UV Protectant such as 303, apply to your gunwales as well, following manufacturer's instructions. Be aware that the gunwales will be slippery to handle immediately after application. Wipe off the excess protectant.

Aluminum Gunwales (including IQ)

Our aluminum gunwales are protected via an anodized black surface finish from UV degradation. The protective finish can be worn off by abrasion and the natural silver color of aluminum will be exposed. This is not a structural problem; the gunwale will not be weaker or more prone to failure. If the cosmetics bother you, lightly sand the exposed area, wipe with denatured alcohol and touch up with flat black enamel paint.

It is always a good idea to rinse aluminum gunwales with fresh water after use of your canoe in salt water. Salt water will corrode aluminum and while it takes a long time for this to become a structural issue, corrosion will cause change in color and cosmetics of gunwales. Corrosion could also result in binding in the IQ gunwale system. To prevent corrosion, flush gunwales with fresh water after salt-water exposure. No soap or detergent is needed.

For additional information on maintenance of IQ Gunwale Systems refer to IQ Section of this manual.

CARE & MAINTENANCE

Wood Gunwales

Mad River prides itself on using the finest straight-grained northern white ash for our wood gunwales. Wood gunwales are "alive," that is, they flex with the hull when in motion; it is not advisable to use a varnish to protect the wood. Varnish is a rigid surface coating that will develop hairline cracks in response to the wood flexing. This will allow moisture to get in under the surface coat and cause deterioration from the inside.

Mad River uses a proprietary oil based protectant that penetrates into the wood structure for maximum protection. Each gunwale is treated to three coats of our Gunwale Guard at the factory. It will be necessary to periodically recoat your gunwales with Gunwale Guard to ensure maximum longevity. How frequently depends on amount of use the canoe sees and how it is stored. In most cases, four times a year will provide superior protection: when boat is first used in spring, once or twice during the season, and finally when the boat is put into winter storage. An easy way to test whether your gunwales need treating is to drip some water on them. If it beads up and runs off you're fine. If it soaks in, it's time to refinish.

Re-oiling your gunwales is pretty straightforward. Clean your gunwales with a mild cleanser and lightly sand with medium or fine grit sandpaper. Apply liberal coat of Gunwale Guard to the gunwale and let sit for a couple of minutes. Wipe residue with a clean dry cloth. If you want to create a superior finish, wet sand the standing Gunwale Guard with fine or extra fine sand paper and then wipe clean. Be sure to treat the underside of each gunwale and to wipe any drips off your hull. Treat your wood decks, carry handles, and seat hangers with Gunwale Guard at same time you are oiling your rails. As seats, thwarts, and yokes are varnished they should not be treated with Gunwale Guard.

Royalex Gunwales

If you have a Royalex[®] canoe, remove the top deck plates at least once a year and treat exposed gunwales with Gunwale Guard. If your canoe has dark stained gunwales, use Mad River's Gunwale Guard Stain to restore color.

If your canoe is stored out of doors, even thoroughly protected ash gunwales will naturally grey as they weather. You can restore the blonde finish of your gunwales by sanding them or by rubbing them down with a weak bleach solution.

CARE & MAINTENANCE

Hulls

In terms of maintenance, modern hull materials (Royalex, Polyethylene, or Fiberglass or Kevlar Composite) require very little upkeep other than periodic cleaning and UV protection. 303 Protectant works very well with all hull materials and is a simple spray it on-wipe it off application.

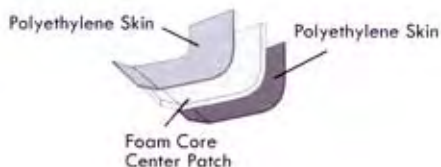
Waxing your hull is not recommended. Wax will not adhere well at all to Royalex or polyethylene hull and will interfere with and inhibit the application of more effective protectants such as 303.

Triple Tough™ Hulls (Rotomolded Polyethylene)

Triple tough hulls are extremely durable and care free. They shrug off most impacts and abrasions. Most dents or depressions will often work themselves out if left exposed to bright sunlight. Heating the hull with a hair dryer or hot air gun can restore more serious dents. Keep heat moving at all times and do not bring source of heat into contact with the hull. Heat on side of hull with dent and press against other side of hull with hand to push hull back into position. At no time should hull surface get too hot to touch. It is possible to melt the Triple Tough skin even if excessive heat is applied.

Polyethylene is a flexible material and when tied down tightly or stressed, can take a "set." In vast majority of instances,

Triple Tough™



this temporary set can be reversed by leaving the boat out in bright sunlight with afflicted area facing the sun. Avoid tying your canoe down tightly for long periods of time on hot, sunny days.

Over time and depending on type of use, it is possible to abrade the outer layer of the hull, exposing the foam core. This is to be avoided, as this will allow water to penetrate into the foam core and expand damage and weaken the hull. The hull exterior can be welded and appropriate materials and information are available from your local authorized Mad River Canoe dealer.

Gen2™ Polyethylene Hulls

The Adventure 14 & 16 and Synergy 12 & 14 have a single layer polyethylene hull and provides exceptional durability. Periodic treatment with 303 Protectant will help maintain the factory-fresh color intensity.

For all the virtues of polyethylene, one of its' drawbacks is that it's tough to get anything to stick to it. This makes it very difficult to get a patch to stick to cover a cracked hull. The hull can be welded but extensive or numerous cracks can compromise the integrity of the hull and a canoe in this situation should be retired, recycled, and replaced.

Gen2™ Polyethylene

Polyethylene Skin



To recycle your canoe, locate a recycler who accepts linear polyethylene. Remove all fittings such as decks, gunwales, seats, and yokes or thwarts prior to handing the hull over to your choice of recycler.

CARE & MAINTENANCE

Composite Hulls

Scratches and abrasion will show white on composite hulls regardless of hull color. Many paddlers understand and accept this and regard scratched hulls as badges of honor and testimony to good trips and fine memories.

It is important to be able to identify whether hull damage is cosmetic or structural. Inspect any new damage carefully. Test for increased flexibility in the hull in area around damage. Compare side of canoe with damage to like area on other side. If area maintains comparable rigidity and you can't see any raised or broken fabric feathers or strands, it's likely that your canoe has suffered only cosmetic damage that limited to the gel coat.

Many superficial scrapes or scratches can be removed by wet sanding with 200 or 400 grit sandpaper followed by rubbing and/or polishing compound. This is often all that is required to correct shallow scratches. Such scratches are too often too shallow to support a gel-coat repair and are best left as is or color matched using aerosol spray paint.

If the gel coat has been cracked or chipped away it will be necessary to remove any loosened or lifted gel coat and to fill repair area with color matched gel coat available from your authorized Mad River Canoe dealer.

If you have determined that your canoe has suffered structural damage Mad River does provide Kevlar® and Fiberglass Repair Kits to help the repair along. It will be necessary to add additional fabric to the interior of the hull to restore integrity followed by an exterior gel coat repair.

While composite repair is quite straightforward, it can be tricky in terms of temperature and cure times and is messy. This may be a task you want to turn over to a professional. Your local

dealer may offer these services or direct you to someone who can repair your canoe.

Mad River composite hulls enjoy a well earned reputation for durability. Most of the wear and tear your canoe will experience will likely be cosmetic. Composite hulls will scratch and as scratches are inevitable, most paddlers simply accept them as part of the paddling experience.

Periodically inspect the bottom of your hull to determine if scratches have penetrated into the interior layers of the hull. A general guideline to go by is if you can see the fabric-like weave of the fiberglass cloth then you should repair the area to prevent further damage. One of the purposes of the gel coat finish on a hull is to be somewhat sacrificial when exposed to abrasion.

Kevlar®



CARE & MAINTENANCE

Hulls

Royalex® Hulls

Royalex is well proven as a tough durable hull material for canoes. It is not, however, indestructible.

Scratches and abrasions are not as evident in Royalex as they tend to be in composite hulls. The majorities do little more than scuff up the hull, requiring no repair or touch-up. Some more significant impacts can result in shallow dents in the hull. Again, the majority require no attention. If the dents are quite deep, you can often re-expand the hull in the damaged area by heating with a powerful hair dryer or a heat gun. Keep heat moving at all times and do not bring source of heat into contact with the hull. Heat on side of hull with dent and press against other side of hull with hand to push hull back into position. At no time should hull surface get too hot to touch. The interior and exterior skins of the Royalex® material are vinyl and can be melted if care is not taken.

If the outer skin of the hull is cut or abraded away and the next layer of differing color is visible, you should protect your hull by spray-painting the exposed substrata to cover from UV degradation. It's best to cut away any lifted portions of the exterior skin with a sharp knife before painting over the exposed interior layers.

Royalex® Skid Plate Kit

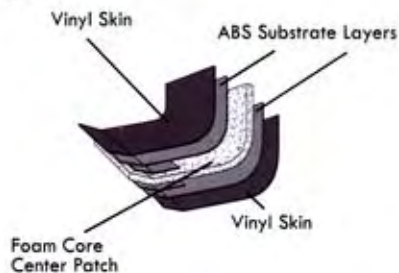


Skid Plate

If the underlying ABS layer is cracked or flexible when pushed, it will require repair. Mad River Canoe offers proprietary Royalex® patching resin for this type of repair. The resin can be used by itself for exterior repair of fractured ABS layers. If foam core is flexible the repair procedure will entail an exterior coat of resin and the addition of multiple layers of fiberglass or Kevlar cloth on the interior of hull embedded in the Royalex® repair resin. All materials can be obtained via your authorized Mad River Canoe dealer.

If you anticipate paddling whitewater or shallow rivers, a worthwhile investment to consider would be to install a pair of Kevlar® skid plates on the ends of your boat. These rigid reinforcements protect the end of your boat from impact and abrasion. Skid plates can be added after a canoe has been damaged and repaired but it makes sense to heed the old adage of better safe than sorry.

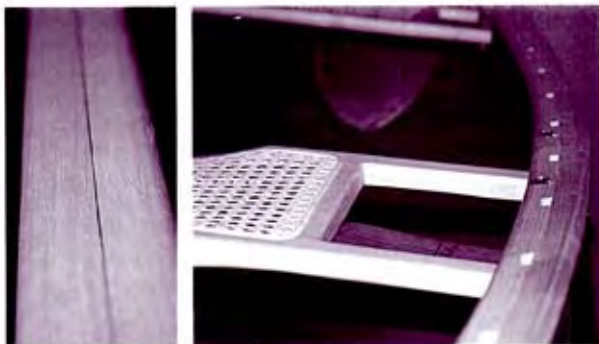
Royalex®



CARE & MAINTENANCE

Seats, Thwarts, Yokes

As these parts are rigid, they are finished with a marine spar varnish and any nicks or cuts should be recoated as soon as possible. Lightly sand with fine grit sandpaper, wipe clean and apply several thin coats of varnish, allowing each coat to dry before next application. An annual application of varnish to the cane in the seats will extend their longevity. Do not sand the cane; simply apply several light coats of varnish. Do not sand or varnish the webbing in webbed seats.



ACCESSORIES

Be sure to have the Necessary Accessories

While most accessories are optional, there are several that are not, whether required by the USCG or parallel government agencies or by common sense. Obtain advice on proper accessory selection from your local retailer or other paddlers. The Necessary Accessories include:

Personal Flotation Device

One is required for each person in the canoe. It is critical that they be sized properly for the wearer and that all fittings and fasteners are intact and working properly. It is strongly recommended that your PFD be worn at all times on the water.



Signaling Devices

The USCG requires the presence of an audibly signaling device on all watercraft. For a canoe, the best choice is a whistle. Small, compact and reliable, a whistle is best attached to your PFD so that should you and your canoe be parted, you still have the ability to signal for help when needed.



Paddles

At least one for each paddler and one spare paddle for each canoe, should a primary paddle be lost or broken. If that should happen and there isn't a spare paddle, where would that leave you? We all know the answer to that one.



Safety Essentials

There are all sorts of "10 Essentials" lists out there. For paddling, consider as a minimum: first-aid kit, compass, multi-blade knife or pocket tool, flashlight, duct tape, fire-starter materials, water purification system or tablets, sunscreen, lip balm, insect repellent, emergency blanket or insulation, and high energy snack food. Assemble these components and store in a dry bag. This "kit" should be left intact and stored with paddles and PFDs, always ready and accessible for every paddling trip, even if only for an hour or two.



Proper Wardrobe

Dress appropriately. Most paddlers will layer clothing so that they can remove or add on layers as dictated by changing conditions. A hat is strongly recommended, as are sunglasses. Long sleeve shirts provide protection from bugs and sunburn. Avoid heavy cotton clothing such as sweatshirts and blue jeans as these get extremely heavy when wet, lose the vast majority of their insulating capacity when wet, and take forever to dry. Lightweight protective footwear is also essential. Taking along a second set of dry clothing makes a lot of sense as well, either stowed in a second dry bag or on short outings of limited range, left in your vehicle.

OUTFITTING YOUR MAD RIVER CANOE

Canoes are the most versatile of watercraft and part of their beauty in this regard is the ease in which they can be custom outfitted to enhance selected capabilities. A comprehensive guide to outfitting is beyond the scope of this manual. Valuable advice and ideas for outfitting can be obtained from fellow paddlers, paddling schools and clubs, your local retailer, and from a selection of excellent books on the subject.

Please note the following potential issues that should be kept in mind when outfitting your canoe:

- Never compromise safety and your ability to escape from your canoe in event of a capsize or other hazardous situation. Never outfit your canoe in such a manner that you can be trapped in your boat. Always confirm that you have adequate foot room under seats or when paddling in a whitewater pedestal system. Always make sure there is adequate space between seating and kneeling positions and nearest thwart or yoke or other rigid cross member that could impede your ability to escape. Always remember that you may be dislodged from your paddling position by the force of the water on body or hull and that this can place you in a compromised position for escape. Always maintain an extra margin for safety.
- Changing hull shape by relocating or adding thwarts, seats, or yokes or by changing widths of thwarts, seats, or yokes can weaken the hull of your canoe and may decrease its stability. Changing your hull dimensions will also void your warranty.

- Be careful regarding choice and use of adhesives to install outfitting. Certain adhesives can damage the hull of your canoe as well as can certain application methods. Waterproof contact cements, commonly used to install foam outfitting components, can be particularly harmful to Royalex® canoes unless used as instructed by the manufacturer. Improper selection and/or use of adhesives will void your warranty.
- While not strictly an outfitting issue, it should be noted that towing your canoe behind a power or sailboat will void the warranty. A canoe hull is not designed as a planing hull and towing the canoe exposes the hull to stress and damages it was not designed nor engineered to withstand.



MAD RIVER CANOE LIMITED LIFETIME WARRANTY

At Mad River Canoe, we pride ourselves on building the best canoes in the world. Each canoe is finished by hand and represents the culmination of exhaustive research in design and materials placed in the hands of skilled and dedicated craftsmen.

For the original purchaser, our canoes are warranted against material or manufacturing defects for the usable lifetime of the canoe. If you have a problem with your canoe and you suspect that it may be due to defective materials or workmanship, contact the nearest authorized Mad River Canoe dealer. We will work together to resolve the situation. If our inspection indicates a defect that is not attributable to normal wear and tear, misuse or due to commercial use or structural alteration, we will repair or replace your canoe free of charge at our option. If it is required to bring the canoe to the Mad River factory for evaluation and possible repair, the customer will be responsible for delivery to and pick up from the closest authorized dealer.

Limitations & Exclusions

The warranty is valid to the original consumer purchaser of a first quality Mad River Canoe from an authorized Mad River Canoe dealer and upon submission of the owner's registration card within 30 days of purchase. This warranty is not transferable. Mad River Canoes sold as cosmetic seconds are not warranted against cosmetic defects but otherwise are covered by the full Mad River Canoe warranty.

- Mad River Canoes sold as "demos" or "As is" are not covered under warranty.
- This warranty does not apply to damage sustained by accident, neglect, improper use or handling, or normal wear and tear.

- This warranty does not apply to canoes used for commercial purposes such as rentals or tours.
- This warranty is void on canoes that have been towed by power or sail boats.
- This warranty is void on canoes that have been damaged by improper or excessive application of adhesives or other solvents.
- This warranty does not apply to canoes that have been structurally or dimensionally altered.
- This warranty does not apply to canoes damaged by weather extremes or environmental conditions or situations.
- This warranty is in lieu of all other warranties, expressed or implied, with regard to the products of Mad River Canoe, a division of Confluence Watersports. In some states the above limitation may not apply. Confluence Watersports, its' dealers, or its' agents will not be responsible for any incidental or consequential damages resulting from any defects. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

Validating your Warranty

Register your canoe online at
www.madrivercanoe.com



111 Kayaker Way
Easley, SC 29642

www.madrivercanoe.com