

**ONLY
KIRTON**
offer a full range
of sprint
and marathon
classes



KIRTON KAYAKS LIMITED
Crediton, Devon, England

Kirton match bodyweight and ability for your best performance

When you buy your racing kayak consider the three fundamentals of design to achieve your potential.

SPEED, STABILITY, DISPLACEMENT

At Kirton we offer a range to suit just about every reasonable variation, and advice to help you choose the most suitable craft for your purposes.

First, SPEED

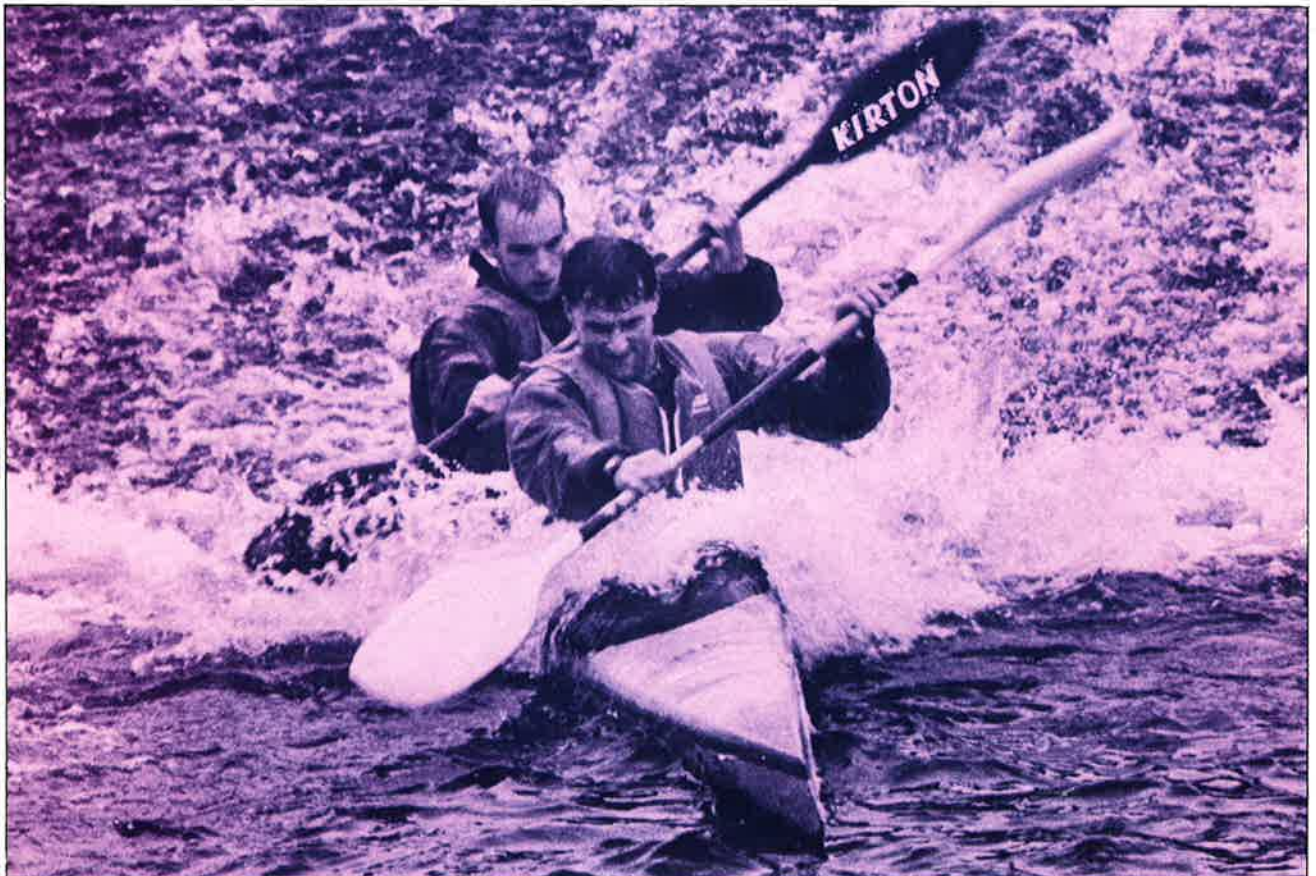
This is affected by length and resistance to surface area. Forward speed in any displacement boat is directly proportional to the square root of the waterline length which means that the most effective way to improve that economical speed is to increase the waterline length. The sport's International Rules, however, limit the length of the craft for each class and so **Resistance due to Surface Area** becomes an important factor in canoe/kayak design if we are to take the maximum advantage from paddler's available power. Unfortunately the cross sections which produce the lower friction surface areas tend to offer the most unstable paddling platforms and so compromises have to be sought to deal with individual balancing problems.

Next, STABILITY

It is not enough to be able to stay upright in the boat. The paddler must be able to work it to the best of his ability. It is always better to choose a design that you can cope with, even if this design has a greater surface area than would be theoretically ideal. The boat may be potentially slower but you will certainly go faster if you are able to direct all your strength and technique to the paddle. To make your choice easier we have established our own stability 1 - 10 grading scale. '1' is the most unstable but theoretically fastest, and '10' the most stable, within the design rules, which a novice can master very quickly.

Finally, DISPLACEMENT

The design rule is to choose a racing machine having the correct volume for your weight. A boat's measured underwater volume establishes its carrying capacity, and we feel strongly that to reduce deck height with a view to offering the same shape for the lighter paddler is wrong. This is why Kirton offer the racing canoeist such a wide range. To make your choice easier we specify the recommended weight range for each of our craft.



RACING SINGLE KAYAKS K1

Cleaver-X K1. Designed by Jorgen Samson, this Struer kayak created a new era in design - probably the only kayak developed through extensive full scale, government sponsored ship tank test research. The original model was uncompromisingly fast and, for the select few who could control it to take advantage of its unequivocal performance, it was "the boat". Struer have now modified the design retaining the exceptional speed of the original but overcoming its tendency to yaw under pressure. Although more paddler-kindly, the new model is still very unstable in cross section and is therefore best suited to the very experienced.

Stability grade 1. For paddlers over 75kg.

Tiger K1. Another magnificent STRUER design for the lighter paddler. Designed after the first Cleaver, using all the principles the tank tests brought to light. It has proved to be the most popular racing kayak we have ever made. For those with the ability to cope with its unstable cross section, this beautiful looking design is a very fast boat.

Stability grade 1. For paddlers 65kg-75kg.

Talon K1. A KIRTON design now in its third edition. Minor changes have been made each year as a result of extensive testing and we now believe that we have a very fast kayak with a special niche in the racing market. The Talon is designed for the paddlers (and there are many) who find the cross section of the Tiger/Cleaver types just too unstable. Tall heavily built paddlers, and many champions, prefer a slightly more stable platform on which to work. The Talon is particularly kind when under pressure from the powerful stroke of the bigger paddler.

Stability grade 2 to 3. For paddlers 65kg-80kg.

Prelude. This KIRTON model results from a collaboration with Rodger Davey who has been for many years closely connected with the National Junior Racing Squad. With Junior Paddlers particularly in mind, it has a lower deck line than the Talon. It performs well and is remarkably stable for a kayak in this class.

Stability Grade 3. For paddlers 65kg-80kg.

X-Lancer K1. This STRUER design is the third version under the Lancer name. A classic design in the old style. Sea kindly but still fast, it will perform well in calm and rough conditions. Its veed forward sections permit a wide range of weight.

Stability grade 3. For paddlers 65kg-95kg.

Joker K1. A recent STRUER low line kayak design with fine rounded sections which will, in some instances, directly rival the X-Lancer. Its low line makes it particularly good for the shorter bodied paddler. With its well veed forward sections, it performs well in all weather conditions and will carry a wider weight range than more extreme designs.

Stability grade 3. For paddlers 60kg-85kg.

Triton K1. A special KIRTON design for the lighter paddler. Remarkably stable and sea kindly for such a fast kayak.

Stability grade 4. For paddlers 50kg-70kg.

Talisman K1. Designed by KIRTON for the paddler who has come late to canoeing yet who wishes to have a go at races such as the Devizes to Westminster Marathon. The Talisman looks every bit a racing kayak yet it has achieved a very stable cross section and a surprisingly good turn of speed.

Stability grade 8-9. For paddlers 60kg-90kg.

Effendi K1. Essentially a touring/racer. Very stable and very sea kindly. Just the kayak to take on everything from a fast tour to a lower division marathon race. A pleasant, comfortable and enjoyable kayak to paddle.

Stability grade 10. For paddlers 60kg-100kg.



kayak. Maximum length 520cm. Minimum beam 51cm

kayak. Maximum length 650cm. Minimum beam 55cm

kayak. Maximum length 1100cm. Minimum beam 60cm



Speed-Stability

INTERNATIONAL C4 Racing four seater canoe. Maximum length 900cm. Minimum beam 75cm

INTERNATIONAL C2 Racing double canoe. Maximum length 650cm

INTERNATIONAL C1 Racing single canoe

CIRTON

ane, Credlton, Devon EX17 1ES, England. Telephone: 03632 3295

RACING DOUBLE KAYAKS K2

Regina K2. This recent K2 design from STRUER has very fine forward sections and a low wetted surface. It has long comfortable cockpits which allow a wide range of adjustment for accurate trimming even with differing crew weights. Although designed to carry crews in the weight range 120-160kg, the kayak is so popular with the world's top sprint paddlers that one often sees it winning major events with heavier crews. Our newest version has a modified front deck to prevent the tendency to dive in rough conditions.

Stability grade 2. Recommended crew weight 120kg-160kg.

Fanfare K2. The latest K2 from Struer. Designed for the heavier crew. Available in our constructions for the 1991 season.

Stability grade 2. Recommended crew weight 140kg-190kg.

Leader K2. A radical new design for KIRTON through a collaboration with Alan Williams. It has an even finer entry than the Regina. In its first season it has already proved to be a very fast boat, particularly favoured by marathon paddlers because of its ability to match the speed of the Regina yet having superior turning characteristics.

Stability grade 2. Recommended crew weight 120kg-160kg.

Makker K2. A classic design by STRUER now eclipsed in ultimate performance by the Regina - but still popular with paddlers who need a more stable platform.

Stability grade 3. Recommended crew weight 120kg-150kg.

Pacer K2. When this kayak was first introduced by STRUER it was considered to be too unstable. It is a grossly underrated design which really comes into its own with heavy crews and performs exceptionally well in rough conditions.

Stability grade 2. Recommended for crew weight over 150kg.

Pacer Sprint K2. A STRUER approved modification of the Pacer by KIRTON. The Pacer Sprint is lower in the deck line in the cockpit area which overcomes many of the paddler complaints of problems with technique caused by the depth of the cockpits. It opens up the use of the Pacer to stockier built paddlers.

Stability grade 2. Recommended for crew weights over 150kg.

Mirage K2. This famous KIRTON design, now in its fourth edition, must have introduced more British paddlers to kayak racing than any other double. The latest version includes the new long cockpits to aid trimming with mis-matched paddler weights. Cockpits have been set further apart for greater paddler freedom. A classic design, it still has sufficient speed to be regularly included in the first 10 boats home in the annual Devizes to Westminster super marathon.

Stability grade 5. Recommended for crew weights 120kg-180kg.

Mystère K2. Designed by KIRTON to cater for the would-be racers who find the other boats too unstable, this model has already established a firm following. The deck design matches that of its sister, the Mirage. In its trials the Mystère surprised us with an unexpected turn of speed - which has been confirmed by satisfied users.

Stability grade 8. Recommended for crew weights 120kg-190kg.

RACING FOURS K4

Commander K4. This design from STRUER has superceded all previous models and now totally dominates the World Racing Scene. The deep, narrow sections make it superior to the previous designs, both hydrodynamically and for longitudinal stiffness.

RACING CANOES

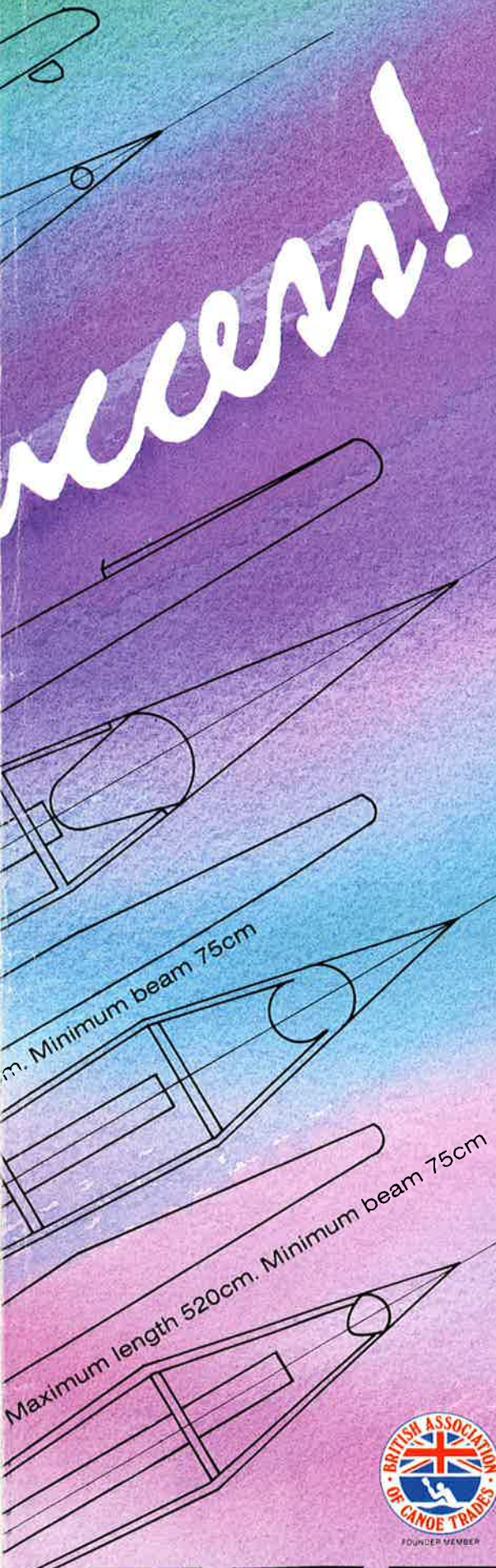
Single C1, Double C2, Fours C4.

Delta C1. Designed by STRUER and surely the most popular C1 ever.

Cheeta C2. This classic design by STRUER is still the most popular with canoe paddlers. It confirmed its ability to win races with the first ever gold medal in the first ever World Marathon Championships in 1988, and first and second places in the World Cup, 1989.

Matric C2. A bold new design by KIRTON aimed at improving cross wind performance in canoe racing whilst matching the speed of the Cheeta. Generally considered to be more stable than the Cheeta. This canoe is a radical new approach to canoe race thinking and we believe that it will set new trends in the future.

Force C4. The latest design by KIRTON to meet the requirements of this new class of International Racing. A true racing machine designed to thrill.



CONSTRUCTION OPTIONS

For Sprint and Marathon Racing the design is usually chosen on the basis of paddler ability and weight, irrespective of the discipline. The construction of the craft, however, does ideally differ between disciplines. For ultimate performance a rigid hull surface is desirable in Sprint Racing. For Marathon Racing, although the same principles still apply, a tougher, more flexible skin is generally necessary to survive the rigours of the event. For this reason we have adopted a range of constructions which might be labelled Sprint (No's 2, 8 & 13) and Marathon (No's 1, 9, 10, 11, 12).

The choices are made essentially on a price basis, since the tougher constructions generally use Carbon Kevlar combinations. The high price of these raw materials affects the final costing.

Sprint Racing minimum weights are set by the International Canoe Federation and all under-weight craft have to add weight to bring them up to specification. This rule does not apply to International Marathon events. There is no minimum for these craft. In the non-sandwich constructions 1, 9, 10 & 11 only small savings can be made to the finished weight by the introduction of Carbon Kevlar into the laminate. If large savings are expected in these constructions then the result will be a flexible (floppy) skin. The correct way to get maximum weight reduction for Marathon is to use No 12 construction which gives optimum stiffness with light weight.

PEOPLE

Something about the people . . .

STRUER. The collective name given to the fine range of wood veneer canoes and kayaks built in Struer, Denmark, by the two companies Kajakbyggeriet Struer ApS and Kirk and Storgaard.

Jorgen Samson has designed all STRUER canoes and kayaks since the formation of these companies. He has had winning designs in every Olympic Meeting since the London Olympics. His designs have always led the way and he is the acknowledged master of racing canoe and kayak design.

KIRTON are the licenced manufacturers in GRP and GRP Hybrid materials of designs from these companies. **KIRTON** are the **only** company in the Northern Hemisphere in this privileged position. We have a long history of designing and building fine racing craft using our own in-house designers as well as co-operating with well known paddlers and coaches to bring the latest ideas to the canoeist.

David Green leads the KIRTON design team. He paddled in the National Marathon Team and has been involved in the administration and development of Marathon Racing since the 50's during which time he has served as Committee member, National Coach and more recently Honorary Secretary.

Alan Williams a highly respected coach and paddler, has been one of our most successful racers in all distances from 1000 metres to 40 kilometres. Several times winner in the K1 event of the World Cup in International Marathon. His most notable achievement must be his K2 10,000 metre Gold Medal with Steve Jackson in the World Championships in Helsinki. This was the first time a British paddler had won a Gold at this level of competition.

Rodger Davey has for many years been coach to the National Junior Sprint Squad. He is particularly aware of the development of Junior paddlers. Well respected in the canoeing world.



KIRTON KAYAKS LIMITED

Marsh Lane, CREDITON, Devon EX17 1ES, England
Telephone: 03632 3295.

Telex: 42585 XONIA. Fax: 03632 5908

CONSTRUCTION DETAILS

Non Sandwich Standard Constructions.

No 1. G.R.P.

A combination of chopped strand matt and woven roving to make a strong economically priced kayak or canoe. Fitted with adjustable position and angle footrest, ethafoam buoyancy, overstern or understern rudder and glassfibre seat.

No 9. One Layer Carbon Kevlar.

As G.R.P. (1) construction but with Carbon Kevlar fabric in the hull. Fitted with adjustable position and angle footrest, ethafoam buoyancy, overstern or understern rudder and glass-fibre seat.

No 10. Two Layer Carbon Kevlar.

This can be a very tough construction unless great weight saving is requested. The hull has a centre core of glassfibre woven roving covered on either side with a layer of Carbon Kevlar. Fitted with adjustable position and angle footrest, ethafoam buoyancy, overstern or understern rudder and a Mark Gees wooden seat.

No 11. Three Layer Carbon Kevlar.

Similar to construction 10 but includes a deck of blended glassfibre and Carbon Kevlar fabric. Fitted with adjustable position and angle footrest, ethafoam buoyancy, overstern or understern rudder and a Mark Gees wooden seat.

Standard Sandwich Constructions.

No 2. G.R.P. Sandwich.

For deep water racing only. The hull laminate includes a core of firet with glassfibre on either side. This construction gives a stiffer laminate than No 1 at a low cost. Fitted with adjustable position and angle footrest, ethafoam buoyancy, overstern or understern rudder and a Mark Gees wooden seat.

No 8. Sandwich Carbon Kevlar.

For a stiffer more durable construction. Generally as No 2 but the inner layer of glass woven roving is replaced with Carbon Kevlar fabric. Fitted with adjustable position and angle footrest, ethafoam buoyancy, overstern or understern rudder and a Mark Gees wooden seat.

No 12. Vacuum Bag M (Marathon).

A special construction for lightweight canoes and kayaks with hull stiffness comparable to the best wooden constructions. Incorporates a blend of woven glassfibres, Kevlar and Carbon Kevlar fabrics with a core of rigid foam. The whole structure is vacuum bagged into place to give a very rigid, light weight structure. All internal fittings are handmade from foam, glassfibre, Kevlar & Carbon Kevlar combinations to give a maximum weight reduction. Understern rudder is fitted as standard although overstern can be supplied instead at no extra cost. The seat is made of carbon kevlar to reduce weight. Weight savings of 25-30% can be expected.

No 13. Vacuum Bag S (Sprint).

Generally the same laminate as No 12, with the addition of a vacuum bagged foam core stiffened deck, to add even greater rigidity to the construction. Weights to Sprint Racing I.C.F. rules.

