

 ***Morningstar Boats***

**The Ultimate
Aluminium Boat**



Revolutionary

Fibreglass boats are popular because of their hydrodynamic design which provides outstanding maneuverability, soft rides, and stylish looks. Pressed aluminum boats are also popular because they have the ability to be light weight and plane easier. Plate aluminum boats are highly respected because of their robust structure. Each category has its advantages, but none provide all the benefits together.

Only one craft offers all these advantages - Morningstar! By adopting advanced metal forming technology and new design concepts, Morningstar has revolutionized boating by providing superior control and riding quality with a light weight, easy planing, and robust hull.



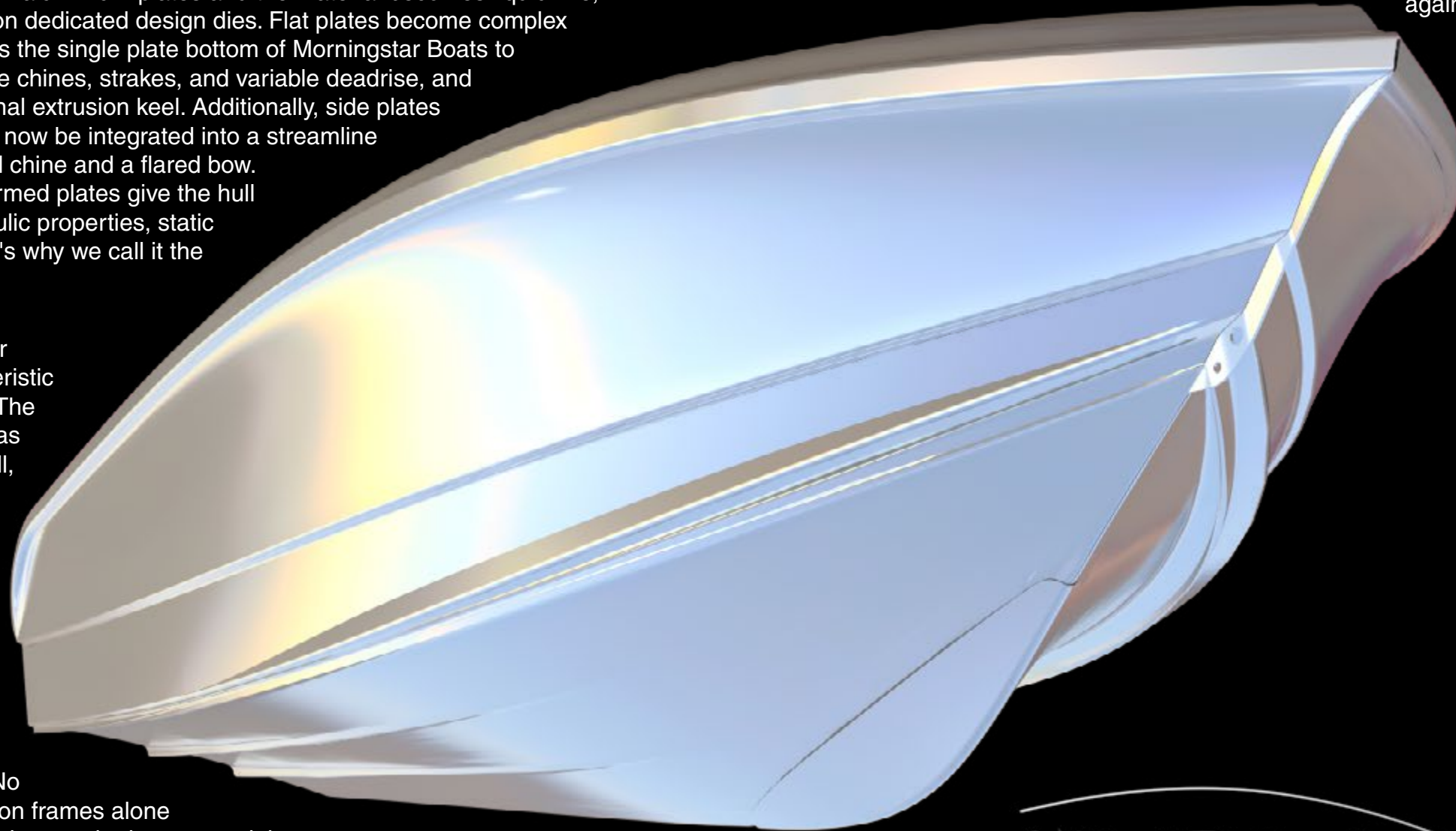
Hydro Hull

The Morningstar Boats are revolutionary because of their unique aluminium plate formed hulls. During forming, several thousand tonnes of force are applied on premium aluminium plates and the material becomes liquid-like, evenly spreading on dedicated design dies. Flat plates become complex shapes. This allows the single plate bottom of Morningstar Boats to incorporate reverse chines, strakes, and variable deadrise, and eliminate an external extrusion keel. Additionally, side plates and gunwales can now be integrated into a streamline shape with second chine and a flared bow. Together, these formed plates give the hull outstanding hydraulic properties, static and dynamic. That's why we call it the Hydro Hull.

Strength is another important characteristic of the Hydro Hull. The formed plates act as a strong outer shell, an exoskeleton. This 'unibody' concept might seem familiar, because it is highly popular with high-end sports cars, airplanes, automobiles and top-end bicycles. No longer dependent on frames alone to provide structural strength, the net result is a stronger, lighter and more rigid integral structure. Special folding technology is also used to construct stiffeners and transom. A folded stiffener system and transom dramatically decrease welding and increase rigidity and durability.

Hydro Hull take things another step further: a rigid shell means robot welding is now a possibility. Robots are blind and can only follow fixed paths. If the deviation between pieces is greater than 1mm, parts cannot be welded by

robots. High-tech forming turns flexible plates into self-rigid exoskeletons and keeps the deviation under control. The end effect is that we are able to consistently reproduce identical welds on the Hydro Hull time and time again.



HYDRO HULL
The Ultimate Aluminium Hull

Superior Riding

Morningstar construction results in a craft of superior riding qualities: easy planing, soft and dry rides along with the ability to keep on track. Geometric limitations of the conventional V bottom makes it difficult for normal aluminum boats to combine all these properties simultaneously.

Thanks to forming technology, Morningstar Aluminum Boats are able to have it all by incorporating a hull form similar to modern fibreglass boats.

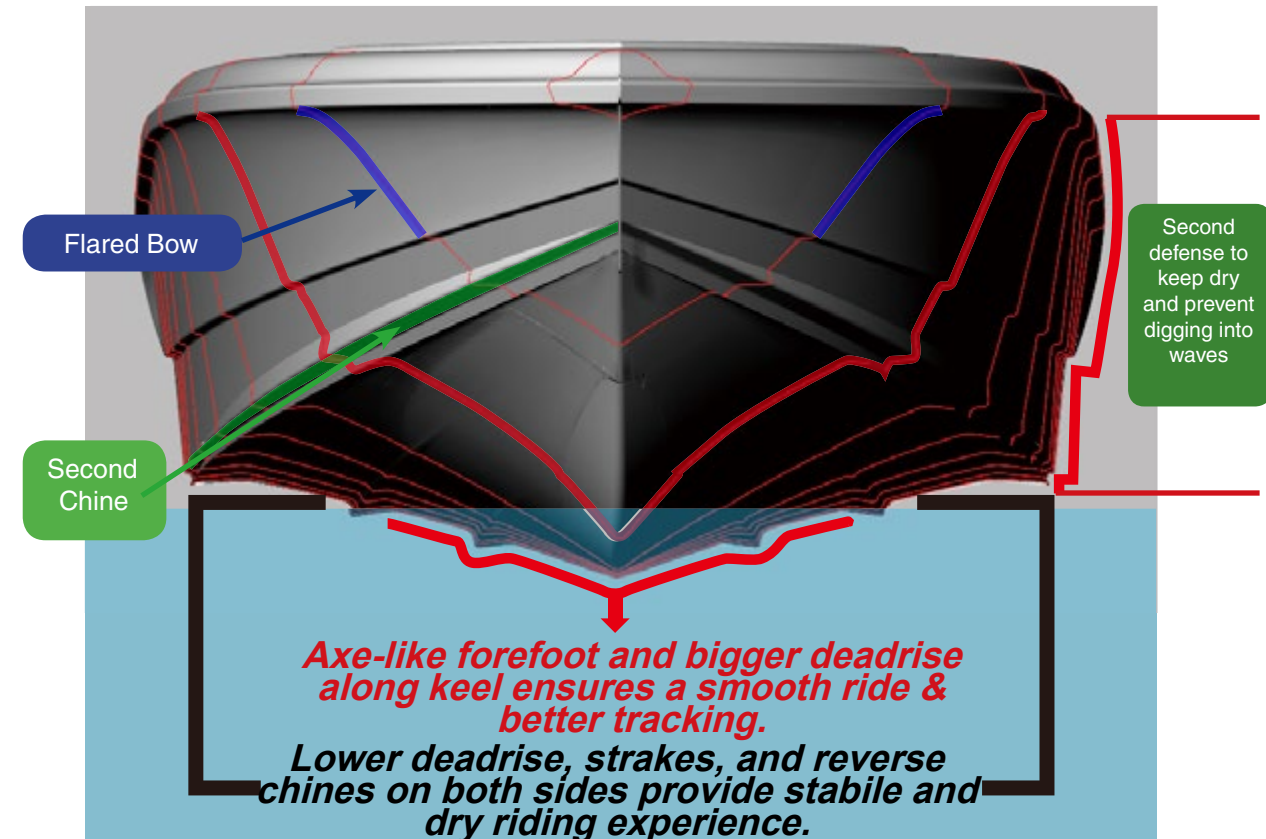
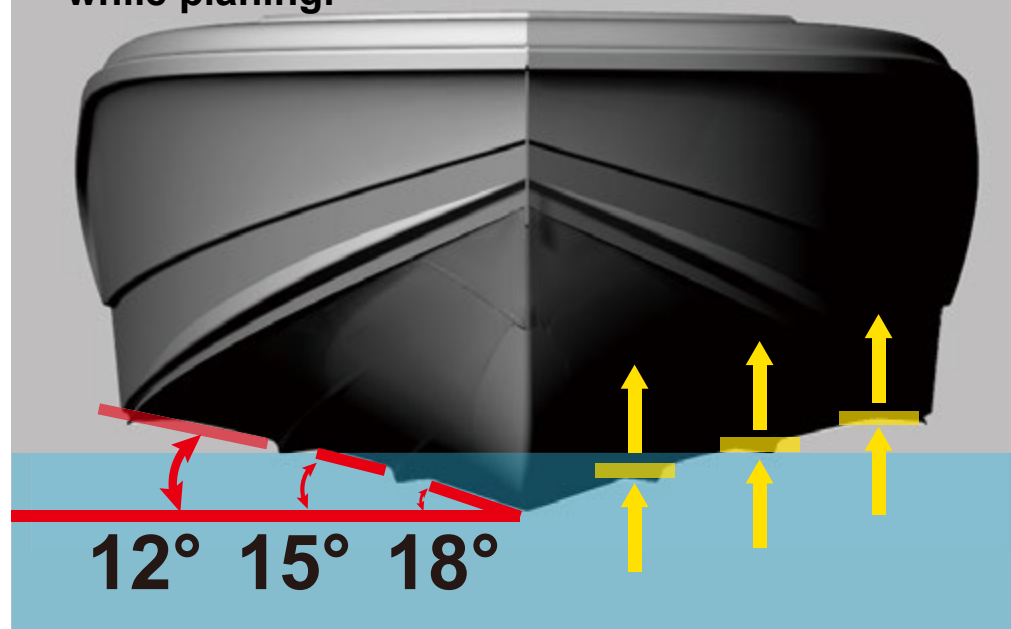
These include bow-to-aft reverse chines, twin planing strakes, and

a true variable deadrise on its single-piece bottom plate. This gives Morningstar Boats the ability to plane easily, stay on track, and give you a soft and dry boating experience.

Easy and Stable Planing

When you push the throttle, the outboard engine will drive the boat forward, while the water gives the boat a lifting force to plane. Bow-to-aft reverse chines and strakes on the Morningstar bottom plate help to conserve more lifting-force and allow the boat to plane quicker and increase its cruising stability.

Bow-to-aft reverse chines and twin planing strakes provide better upward raising force, facilitate quick planing, and maintain stability while planing.



Superior Traction

An axe-like forefoot allows Morningstar Boats to cut into waves briefly, while a deeper V near keel slices water to provide a smoother ride and a stable track.

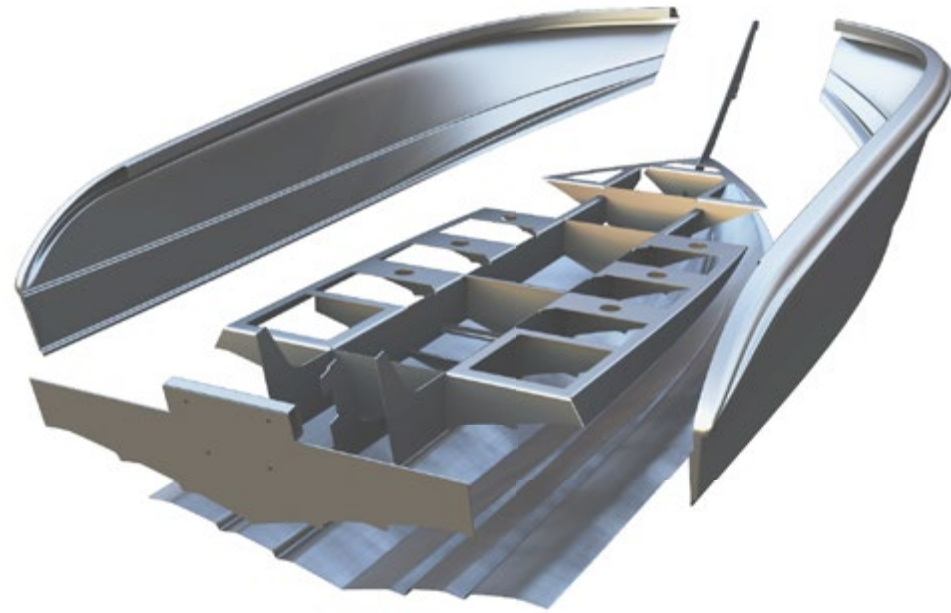
When turning, particularly at high speeds, the last thing you want is your boat slipping sideways and not making the turn as you would expect.

The reverse chines and strakes on Morningstar bottom plate act like tire treads on your car wheels. These help to hold the boat steady.

Soft and Dry Ride

You will be impressed by how soft and dry rides work on Morningstar boats. The axe-like forefoot and deep V give a smooth entry. Flattened V, strakes, and reverse chines act like brakes gradually slowing down the boat and preparing for another raise. At the same time, water is deflected away from the boat at a very low angle, giving you a soft and dry ride.

Second Chine, flared side plates, and an extra-volume bow area design gives you a second line of defense when confronting rougher water.



Tremendous Strength

Premium material, strong structure, and quality construction are three foundations in building a boat with real strength. To reach this ultimate goal, Morningstar boats have adopted a revolutionary simple but strong hull structure, premium 5083 aluminum alloy, advanced forming technology and robot welding during construction.

Revolutionary Hull Structure

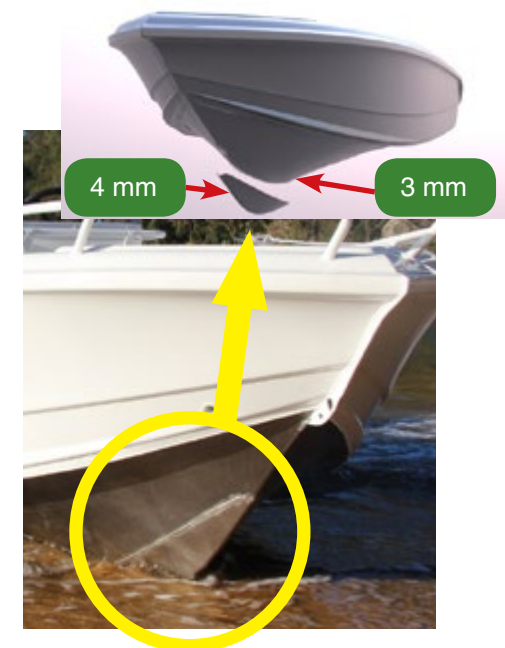
Different from conventional pressed or plate alloy boats, Morningstar boats utilise a 3D formed single-plate bottom, single plate sides which incorporate gunwales, and patented Origrad stiffener system. Fewer parts means less welding and fewer weak links in the structure.

Reduction is the code in reengineering Morningstar's hull structure, but there is one exception, the forefoot. The forefoot is the part that usually encounters the most impact. Morningstar boats have a double-plated forefoot. A 4mm-thick 5083 alloy formed forefoot shield is fully welded over the 3mm single-plate bottom. The 4mm shield acts not only like a bumper but also an extra structure reinforcing strength at the bow.



3D Forming Technology and Robot Welding during Construction

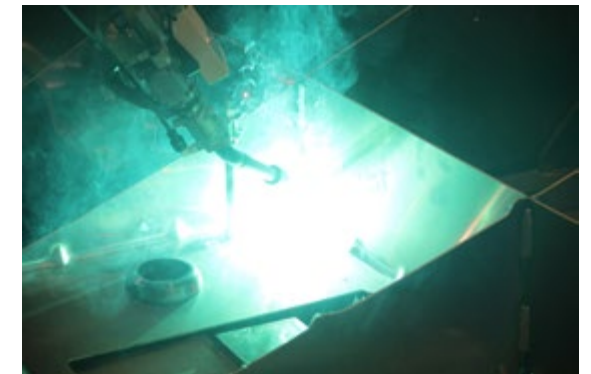
3D forming techniques are applied to the production of the hull plates. The forming of non-developable surfaces stretches the hull slightly in multiple directions and dramatically increases its strength. At the same time, 3D geometric shapes, such as curved surfaces, strakes, and steps, are built into the plates. These shapes are not only for style or hydrodynamic purposes, but also to increase the strength of the hardened plates further. Robots are used in most of the Morningstar boats welding jobs. The precise and consistent welding works ensures every Morningstar boat reaches its design quality.



Premium 5083 Aluminum Alloy

Aluminum alloy 5052 is the most popular material for building pleasure craft, because it is softer and easier to bend and manipulate. However, its weaker strength causes serious boat builders, particularly those building demanding commercial boats, to switch to 5083 alloy. Compared to 5052, 5083 offers roughly 50% higher tensile and yield strengths.

Morningstar boats are built to last. All the plates of Morningstar boat hulls are 5083 alloy with DNV certification.



Built to Last

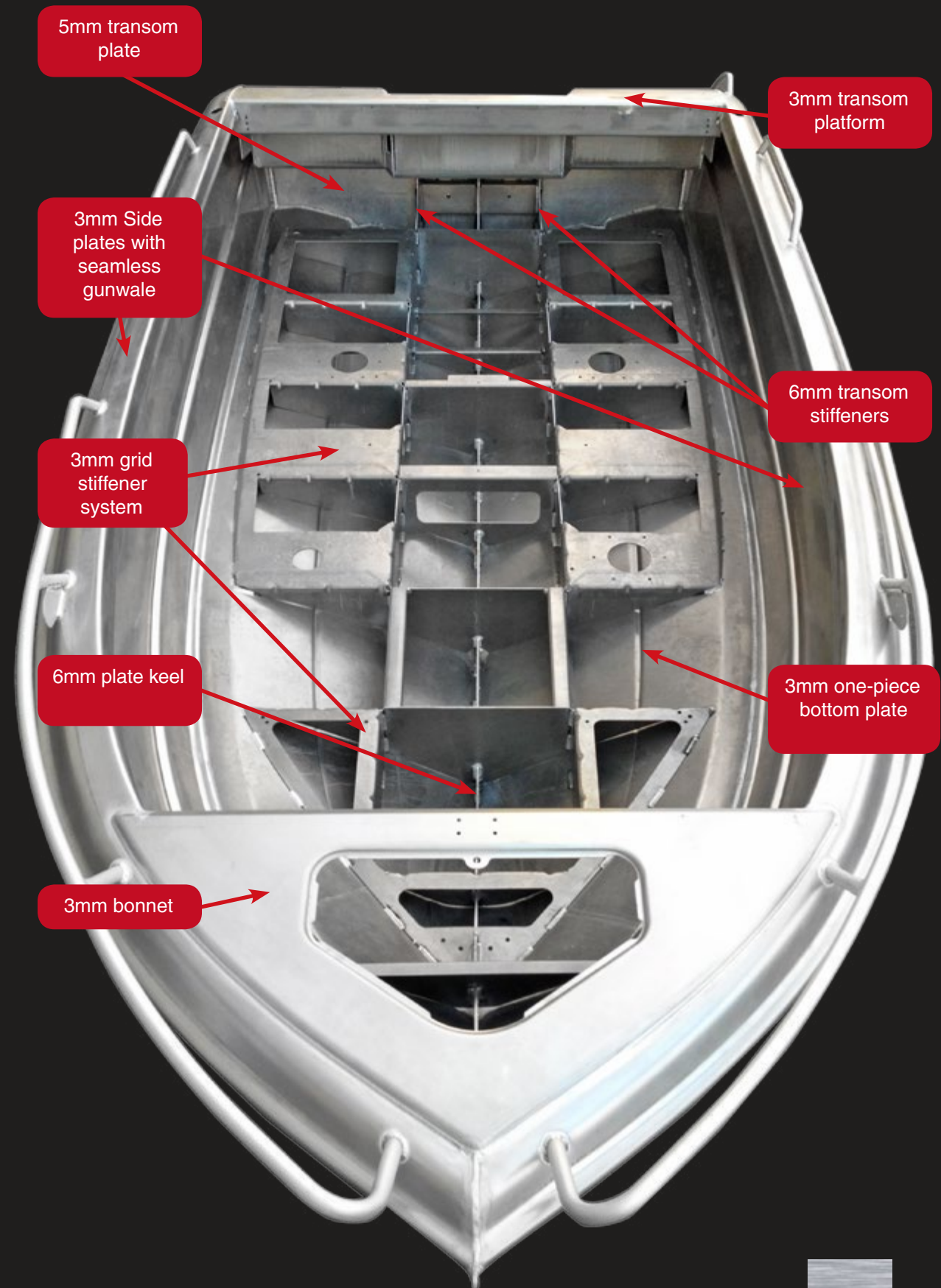
The Morningstar Hydro Hull is built to last. To achieve this goal, the hull is designed to surpass the Australian Standard of Commercial Vessel and meets the CE standard. All the aluminum plates used in building the hull are DNV certified 5083 aluminum alloys.

- **Bottom Plate:** 3mm high strength 5083 alloy
- **Side Plates:** 3mm high strength 5083 alloy
- **Grid Stiffeners:** 3mm high strength 5083 alloy
- **Bonnet:** 3mm high strength 5083 alloy
- **Transom Platform:** 3mm high strength 5083 alloy
- **Forefoot:** 4mm high strength 5083 alloy
- **Transom:** 5mm high strength 5083 alloy
- **Keel:** 6mm high strength 5083 alloy

Morningstar Hydro Hulls have tremendous strength and are rigid. This solid foundation allows the interior to be designed with modular concepts in mind. Modularized interior settings provide flexibility to meet your special needs, and can evolve to meet your different life style later. No matter if it's fishing, cruising, water sports, or just having fun with the family.



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Real Stylish

Angler 498A

The Morningstar Angler 498A has a classic side console layout, but adopts features that you won't see on normal side console tinny. This includes a 3mm checker plate floor, strong alloy rod holders, and an alloy casting platform.



HYDRO HULL
The Ultimate Aluminium Hull

SPECIFICATIONS

Overall Length:	4.98 M
Beam:	2.0 M
Midship Height:	0.98 M
Transom Height:	20"(51cm)
Deadrise:	Variable 12°-18°
Boat weight(dry):	395 Kg
Max. Load:	750 Kg
Max. Persons:	5
Max. HP Capacity:	90 HP
Recommended HP:	60 HP
Under Floor Fuel Tank:	60 L
Flotation:	Basic



Real Strength

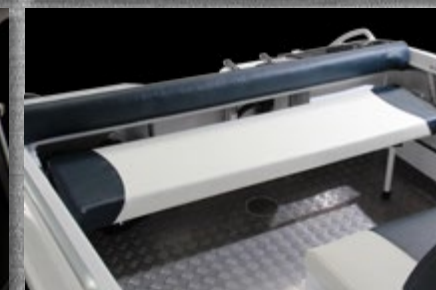
Bay Fisher 498F

The classic Morningstar Bay Fisher 498F is designed for serious fishing. Putting the console in the centre provides a 360 degree fighting position. Under the skipper box seat there is not only a huge storage space but also a live well with a circulation system to keep your catches alive. The foldable bench at transom allows you to turn your fishing machine into a family boat in seconds.



SPECIFICATIONS

Overall Length:	4.98 M
Beam:	2.0 M
Midship Height:	0.98 M
Transom Height:	20"(51cm)
Deadrise:	Variable 12°-18°
Boat weight(dry):	396 Kg
Max. Load:	750 Kg
Max. Persons:	5
Max. HP Capacity:	90 HP
Recommended HP:	60 HP
Under Floor Fuel Tank:	60 L
Flotation:	Basic



Bay Fisher 498F

HYDRO HULL
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Real Smile

Bay Rover 498R

The stylish Morningstar Bay Rover 498R is designed with your family in mind. The transparent low profile windscreen provides a suitable shelter for everyone on board, while the simple layout, featuring two skipper chairs up front and a foldable bench at aft, provides a large and flexible living space for the whole family, even for enthusiastic fishermen.



SPECIFICATIONS

Overall Length:	4.98 M
Beam:	2.0 M
Midship Height:	0.98 M
Transom Height:	20"(51cm)
Deadrise:	Variable 12°-18°
Boat weight(dry):	398 Kg
Max. Load:	750 Kg
Max. Persons:	5
Max. HP Capacity:	90 HP
Recommended HP:	60 HP
Under Floor Fuel Tank:	60 L
Flotation:	Basic



Real Steering

Sports Cuddy 498S

The Morningstar Sports Cuddy 498S is designed to have extra protection for people and gear on board. The Cuddy cabin shelters majority of the bow, and keeps you warm and your gear dry when the weather turns nasty. Still leaving enough space for a spacious cockpit fishing area. Aluminum rod holders, bait board, live bait tank, side pockets, and a swim ladder are among the long list of fishing-related features included on the Cuddy.



HYDRO HULL
The Ultimate Aluminium Hull

SPECIFICATIONS

Overall Length:	4.98 M
Beam:	2.0 M
Midship Height:	0.98 M
Transom Height:	20"(51cm)
Deadrise:	Variable 12°-18°
Boat weight(dry):	404 Kg
Max. Load:	750 Kg
Max. Persons:	5
Max. HP Capacity:	90 HP
Recommended HP:	60 HP
Under Floor Fuel Tank:	60 L
Flotation:	Basic



320CT 340CT 380CT 415CT

Real Slim



HYDRO HULL
The Ultimate Aluminium Hull



Rod Holder X2



Handle



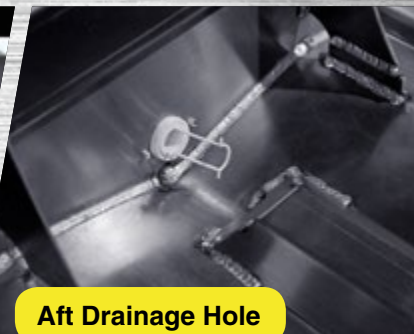
Foldable Wheels



Bow Storage



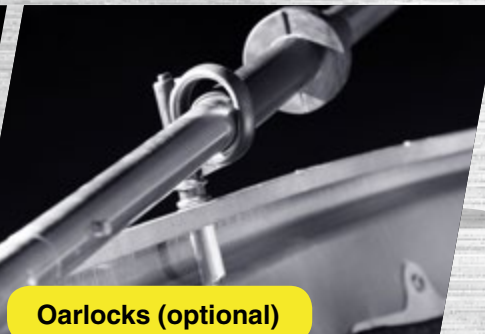
Paddle (optional)



Aft Drainage Hole



Level Flotation



Oarlocks (optional)



SPECIFICATIONS

	320CT	340CT	380CT	415CT
Overall Length:	3.2 M	3.4 M	3.8 M	4.15M
Beam:	1.65 M	1.65 M	1.65 M	1.65 M
Midship Height:	0.59M	0.59M	0.59M	0.59M
Boat weight(dry):	74 Kg	81Kg	93Kg	103Kg
Max. Load:	321Kg	331Kg	420Kg	435Kg
Max. Persons:	3	3	4	4
Max. HP Capacity:	15 HP	15 HP	30 HP	30 HP
Flotation:	LEVEL	LEVEL	LEVEL	LEVEL



Car Topper Series



Options and Accessories

FLOTATION

All Morningstar Boats come with Basic Flotation and could be upgraded to Level Flotation.

Basic Flotation is aimed to prevent the boat from sinking. Most of the flotation foam is located at the bottom. The boat will float in any position when swamped.

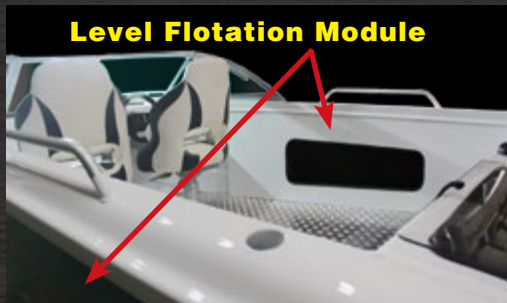
Morningstar Level Flotation Module passes both Australian and CE tests. A Morningstar boat with Level Flotation and under full loading can still keep level when swamped.



Symmetrical Fully-laden



Asymmetrical Partially-laden



Level Flotation Module

Notes: The foam arrangement is different between Basic and Level Flotation. Converting basic flotation to level flotation not only requires putting on side foam modules, but also requires rearranging of flotation foam below floor.

UNDER FLOOR FUEL TANK

Every Morningstar comes with a 60L under floor aluminum fuel tank. This tank is built with 3mm 5083 alloy. The tank has 2 chambers and 2 vents to maximize the stability of fuel in the tank.

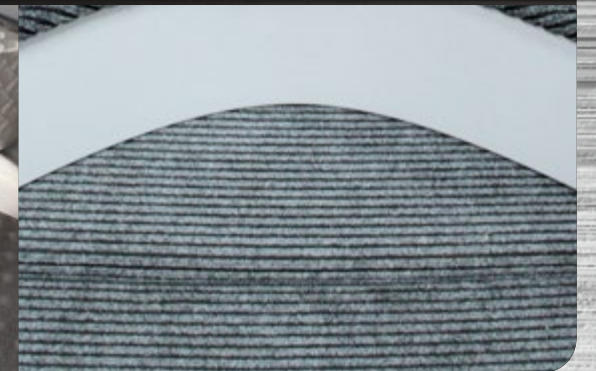
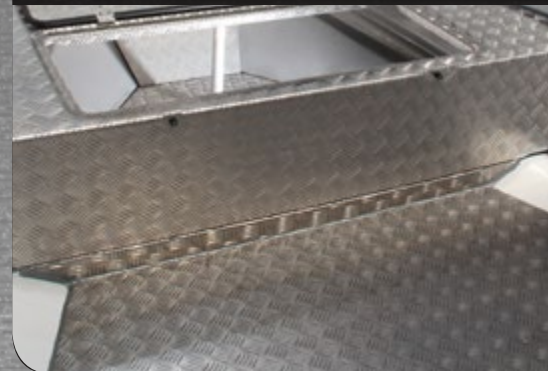


FLOOR

Morningstar boats come with 2 kinds of floors: carpet and aluminum.

The carpet floor is constructed with marine grade plywood covered with marine grade carpet.

The aluminum floor is constructed of 3mm aluminum checker plates. After riveting, the floors are sealed with marine grade structure glue.



AC58 ALLOY CONSOLE

AC58 aluminum console is made of 3mm 5083 aluminum alloy. Every AC58 comes with the following fittings:

- Night light switch
- Navigation light switch
- Bilge pump switch
- Live bait tank switch
- Aux. switch
- 12V outlet socket
- Anti-scratch Polycarbonate (PC) Windscreen



SEATS

The classic **CM500 Foldable Seat** has extra-thick sponges that provides a comfortable seating experience. This seat can be installed on various pedestals, including an air-powered height adjustable base or a tackle box seat base.



The deluxe **CM520 Skipper Seat** comes with a flip-up fore-seat that allows instant height adjustment in any condition. This flip-up seat can be installed on various pedestals, including a pneumatic lifting, height adjustable base or a tackle box seat base.

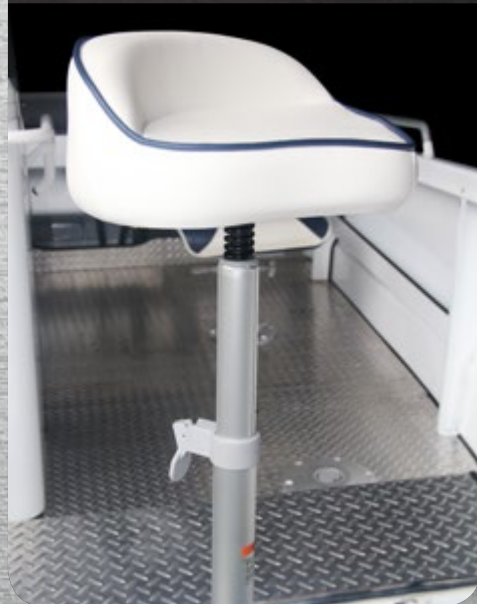
TACKLE BOX SEAT BASE

This durable **Tackle Box Seat Base** is made of 3mm 5083 alloy plate. It comes with 5 tackle boxes that are perfect for holding lures and squid jigs. Either CM500 or CM520 could be mounted on this base.



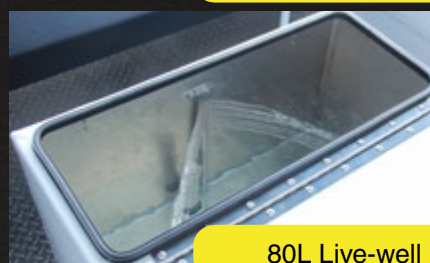
CM400 FISHING CHAIR

The **CM400 Fishing Chair** is not only extra cozy, but also comes with a height adjustable pedestal and a 360 degree swivel mount.



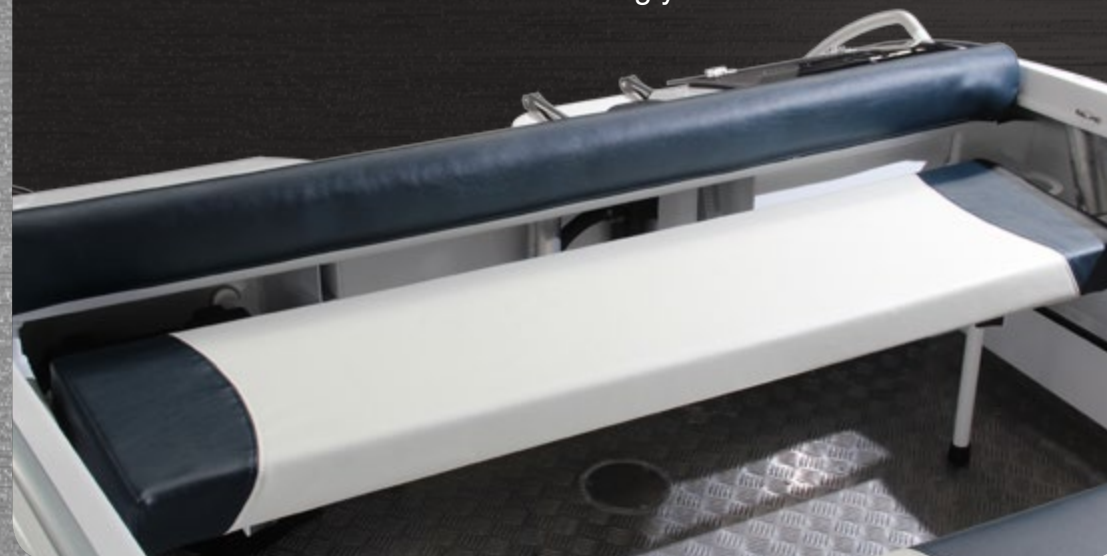
Deluxe Storage Seat

This **Deluxe Storage Seat** is wide enough to seat two people. Its lockable swingback rest provides comfortable and safe support. A circulation system can be installed to turn this alloy storage box into a pumped 80L live-well.



BN160 Removable BENCH

This can be used as a seat or small casting platform at aft. The BN160 can also be folded down to increase the internal space. The twin cup holders on the sides are ideal for securing your drinks.



Bow Casting Platform

Bay-Shaped Platform/Seats

This platform is not only a casting platform, but also a comfortable seating area. Underneath is a storage space. This platform suits carpeted plywood floor.



Alloy Casting Platform

With the ample storage underneath the checker plate casting, the platform is designed to suit the checker plate floor.



Bait Board

Small Bait Board

This light weight foldable plastic bait board can fit into rod holders without any tool.



Alloy Bait Board

This heavy duty bait board needs to be installed on a heavy duty alloy rod holder.



Anchor Locker & Bow Mount

An anchor locker is located at bow deck. It can hold an anchor of up to 10lb and ropes. A bow mount for installation of electric motor is also available on some models.



Bait Tank

To prevent fish from digging their noses into corners and shortening their lives, this live bait tank has big round smooth corners. A clear, high strength, and anti-scratch reinforced PC cover makes monitoring bait easy.



Side Pocket

Basic Flotation

This default module comes with roomy alloy side pockets that are great for storing extra gear.

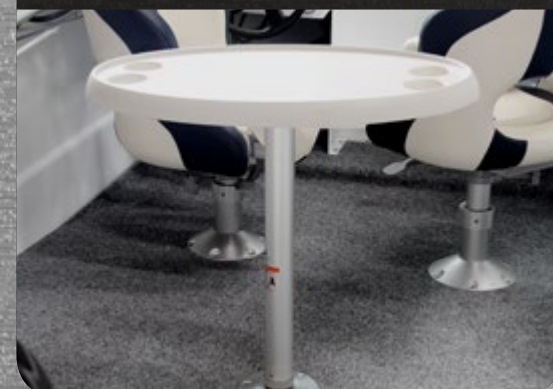


Level Flotation

The optional level flotation modules not only provide additional safety, but also include carpeted side pockets.



Oval Table



Bimini





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