





PRODUCTION BOAT
EDITOR, BARRY HENSON
FINDS OUT HOW HUNTER
MAKE THEIR YACHTS IN
THE USA.

HOW THEY'RE MADE THE HUNTER FACTORY

THIS story takes place in the US state of Florida. While it is known for its beaches and Disney World, Florida is actually a state of incredible diversity. In many ways, Florida is three states in one. From Miami southward you're in a Hispanic heartland, full of Cuban and South American language, culture and food. The middle section of Florida from Fort Lauderdale to Orlando is full of New York émigrés: retirees, holidaymakers and people fleeing the cold northern winters.

But this story, the story of Hunter Marine, takes place in the north of the state. Northern Florida is horse country, a forested rural area full of ranchers, farmers and cabinetmakers, and it's the presence of this last group that was the deciding factor in Warren and John Luhrs' decision to base Hunter Marine here.

Whereas our last two factory visits were with semi-custom luxury yacht builders, Oyster and Nautor, who use cellular manufacturing techniques better suited for small volume construction, Hunter yachts are a medium volume (300 boats per year) production boat builder and they use a production line manufacturing system, with each job done by a specialist at that job.

Hunter, which is located in Ocala, Florida, has six buildings on site: an administrative/engineering building, a fibreglass shop, a varnish shop, a woodworking shop, and two large assembly sheds. In addition they have a man-made lake, complete with alligators, for conducting float and leak testing. You definitely don't want to fall off the boat!

THE PRODUCTION SYSTEM

Ted Norris, Hunter's International Sales Manager, led me through their plant.

As always, boats start as ideas on paper. Glenn Henderson, a well-regarded naval architect, draws the hulls for Hunter and the in-house design team does the rest. Working with CAD systems integrated with Hunter's CNC cutting and routing machines, as soon as an engineer makes an improvement to the design, the improvement flows through to the manufacturing process.

Hull shells, pans and decks are made on-site in moulds. While the layup varies by model, it starts with gelcoat, then they build up to 10 layers of multi-directional and woven fibreglass with Kevlar in the forward impact zones (bow through to the leading edge of the keel). Fibreglass matting is cut by CNC machine to ensure the efficient use of materials. Balsa coring is used above the waterline to insulate the hull.

Pans are plumbed and wired prior to being placed in their shell. The pan and hull are joined using Plexis, then the fitout begins.

Cabinetry components are cut from hardwood using a CNC machine, then go to the varnish shop where stains and varnishes are applied as appropriate to protect the wood. Feature items, like a salon table, will receive 10 base coats of varnish plus four finish coats. They are then put into a spray booth for finishing. Cabinetmakers assemble each piece of furniture. Furniture is then stored

OPPOSITE PAGE:
The good-looking
Hunter 50 under
full sail.

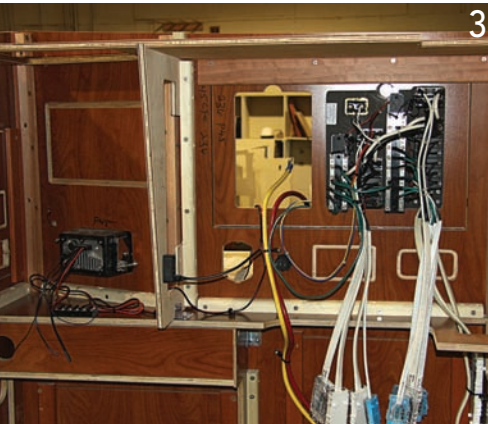
ABOVE: The floor
pan is plumbed
and wired prior to
installation in the
hull, which makes
the manufacturing
process faster and
more efficient.



1



2



3



4

FROM START TO FINISH IT WILL

by boat model, so one storage area will contain all the cabinetry necessary to make an e36 or a Hunter 39.

Bulkheads go through much the same process, only they're created from laminate instead of hardwood. Structural bulkheads are glued in place.

Fibreglass furniture items, such as shower stalls, are formed up and coated with a microbial gelcoat that helps prevent the formation of mould.

Cabinetry is fitted to the hull and pan before the deck is put on. Initially, during fitout, the deck will be secured by S/S screws every 50mm. Once the internal fitout is complete, the deck will be secured with 3M 5200 and every second screw will be replaced with a nut and bolt.

Standardisation and robust sales enable Hunter to manufacture to meet a forecast sales schedule, which in turn allows the manufacturing manager to schedule the purchase of raw materials and the use of manufacturing machinery and human resources much more efficiently than if he was manufacturing boats one at a time. For example, the manufacturing manager might decide to produce the cabinetry for two Hunter 39s, even though he only has a firm order



Photography - Andrea Francini

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TAKE SEVEN TO EIGHT WEEKS TO BUILD A NEW BOAT.

for one, because he's confident that the other will sell within a reasonable time frame. In the above example the production of two sets of furniture, rather than the one, allows him to reduce changeover and set-up times, and thus to reduce costs. Those costs savings are reflected in Hunter's pricing, and are ultimately passed on to you, the consumer.

As each boat moves through the production line, new equipment, from the engine to deck hardware, is fitted by specialists. Shallow draft keels will be fitted before shipping. Deep draft keels are shipped separately and fixed as part of the commissioning process. From start to finish it will take seven to eight weeks to build a new boat.

A large percentage of the overall cost of building a boat is the materials. In Hunter's case materials can account for over 70% of the building cost, with the labour content accounting for only 30%, which is low by industry standards. The labour savings are largely due to automation and good manufacturing practices.

When a boat is finished they crane it into the pond, where they conduct checks of all the major systems. An overhead shower gantry then 'rains' on the boat for 24 hours to check for leaks.



While Hunter's manufacturing processes are designed to put their boats within reach of the average sailor, they are careful to ensure the quality of their product. Years ago Hunters were considered 'cheap', then Warren and John Luhrs set out to improve their manufacturing processes. Employees were empowered to stop production if they saw something that was not up to standard, and they were encouraged to input into solutions. The result was a significant improvement in quality, still at an affordable price.

Hunter Marine is represented in Australia by US Yachts. ✱

1. Hunter's CNC machines are linked to the engineering department so changes to the design are immediately incorporated into manufacturing.
2. All the cabinetry for a particular boat is marshaled into one area to await installation.
3. The wiring is done from the back of the furniture prior to installation. This makes wiring the boat easier and reduces costs.
4. The varnish shop applies ten coats of varnish plus four finish coats to furniture like this salon table.
5. This deck will be married up with its hull once all cabinetry has been installed.

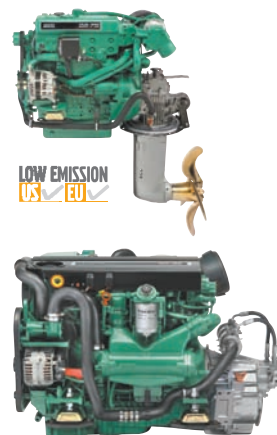


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