



Salon Loge Construction



Building a 200' Nautilus, Plans by David McCamant

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Author

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Crespo

Winner of 2007
Mr. Nautilus Award



Joined: 30 Jul 2005
Posts: 587
Location: Reno, NV

Posted: 20 Mar 2007 12:23 pm Post subject: Salon Loge Construction



I'm somewhat baffled about the Salon Loge Construction. When you look at the blistered housings of the Salon Loge with its view ports it's difficult for me to figure out what the underlying structure would be. The outer iron plates are riveted to the hull but how would these openings in both sides of the hull be supported beneath? I'm guessing at a round underlying hole braced from within on both sides of the outer hull? Would this bracing be placed equal distance around the opening like the spokes of a wheel? Do you think the majority of the underlying blister to be several large cast iron units? The inner hull shape follows the outer blister area reaching out into it. There is about 2 feet of room under the loge deck and 14 or so inches above. The stresses placed on the hull in these areas would require tremendous bracing...any ideas?

Regards, Dave

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Goffan

Ops Manual
Editor

Posted: 20 Mar 2007 06:25 pm Post subject:



Dave, I agree that this is one area that is puzzling. I haven't studied it as closely as you must be doing now, but it seems that when you get to the salon windows - the area surrounding



Joined: 20 Mar 2005
 Posts: 524
 Location: Manhattan

them mirrors the exterior as seen in the hero miniature. Seemingly a very thin, non supported area. I know this can't be so - that the structure needed to support the salon windows should be massive - but there it is. Even stylistically, it seems that Goff wanted us to think that the interior walls seen leading to the setees in the salon viewports mirror the exterior.

Maybe the area is comprised of two parallel sets of plates (8" to a foot apart) supported by interior bracing that extends to the viewport windows. A kind of double hull. This is a tough one. HmMMM.

Richard

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sourdoh

Posted: 20 Mar 2007 08:56 pm Post subject:

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Joined: 03 Jun 2005
 Posts: 738
 Location: Peoria, Arizona

Without even thinking about it too much, I always just assumed that the surrounding structure for the Salon viewports was a three-part casting shaped like a tapered tube flanged out to attach to the hull bracing. Kind of a truncated cone. That way the three struts that hold the viewport window and the outside ring could extend all the way back to the hull and be rivetted, not only to the ring that holds the glass, but brace the entire structure. We are so used to seeing the glass ring and the three struts as a separate item in models that we might fail to think of them as a structural member. The three tapered casting would be immensely strong as they tighten inward under pressure and form a kind of egg shell effect under compression. Then the curved external cladding would attach to framing that would simply hold it's shape and not have to be as heavy as it would need to be to frame the entire viewport.

~ Sourdoh

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ancientrambler

Posted: 21 Mar 2007 03:33 pm Post subject:

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Joined: 08 Nov 2005
 Posts: 100
 Location: SW Wisconsin

While I've never thought in too much depth about this (no pun intended), I've always more-or-less felt that there is an inner and outer plated hull shell here too, and that there would be an interior bit of bracing same as elsewhere. Had never considered the trio of visible window frames running further back within the hull, however - a good thought. Also, the curved surfaces, since they are closely if not precisely segments of a globe, would tend to strongly resist external pressure - more so than the vast majority of the hull. Would this be adequate to counteract the relatively weaker glass areas ? (And if not double-plated, then where do the iris' go?)

I feel, though, that at our remote point of departure timeframe, we might tend to oversimplify/underestimate what was not only possible, but everyday practice in construction techniques and especially materials. It just does not seem logical to assume that Nemo would

have specified cast iron anywhere within the hull of Nautilus - it's just too damned brittle. Cast steel was available for the framing, along with maleable iron, rolled iron and steel plate, etc., etc. Sure, it would cost a bit more, but then, he DID have deep pockets.

Wally

Verbosity rules!

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Posted: 21 Mar 2007 03:55 pm Post subject:

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Hi Mates, Thanks for the feedback. As far as I can tell the entire boat is a double hull design, just the reverse of what we do now. Its pressure hull is the exterior one. I like your idea about the three part casted assembly Sourdoh. It does make sense that these areas would require serious structure. For some inexplicable reason I had totally forgotten about Nemo's wealth Ancientrambler Sir. Since price was not an object, Nemo would have used the most advanced technology of the day (or invented it himself). I am very much interested in these steel construction ideas of yours. Where would one find information on how these techniques were used at the turn of the 19th century?

Regards, Dave

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Posted: 22 Mar 2007 08:20 am Post subject:

 [edit](#)  

After examining the housing more carefully it is the one place on the Nautilus where the rivet pattern appears to support the underlying structure. Starting with Sourdoh's idea of large casted units, the housing looks like it divides into 4 sections more evenly than 3 (imho). These would join together leaving the opening for the view port basils and interior structure. The overall assembly would then be sandwiched between the outer cladding and the inner hull that we see in the salon. What do you think mates?

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Joined: 30 Jul 2005
Posts: 587
Location: Reno, NV

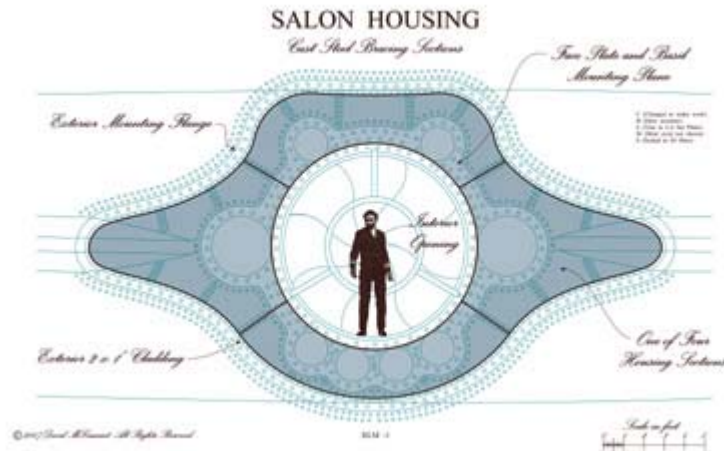
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Posts: 587
Location: Reno, NV



Regards, Dave

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Posted: 22 Mar 2007 08:27 am Post subject:



Dave, Wouldn't the ring that holds the iris mechanism have to be pretty robust in order to bridge the inner and outer hull - make room for the iris leaves to slide in and out - and not allow the outer hull to crush into the inner hull at depth?

Richard

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Posted: 22 Mar 2007 09:37 am Post subject:



Richard, you are so right there. To my thinking that ring iris support housing would be the 5th element of the structure. With the outer part acting like a keystone, the pressure would be carried down to the hull much like a cathedral dome. I think the iris mechanism would be attached to the inner part after the whole unit was installed. Then the inner plating and finally the internal basil would be affixed. I'm using Ty's design to make the iris fit into the housing (with his gracious permission). Those leaves could easily be handed through the opening for assemblage. Right now it looks as if the electric mechanism to operate the iris fits best under the loge floor. These would consist of a large ring gear with connecting gearing to a small DC Dynamo laid flat. Whew!

Regards, Dave

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sourdoh



Joined: 03 Jun 2005
Posts: 738
Location: Peoria, Arizona

Posted: 22 Mar 2007 10:10 am Post subject:

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I agree, Dave. The Cathedral Dome idea is perfect. and the 4, instead of 3 segments make sense too. I see the outer part of the ring having a concavity that holds the entire Iris mechanism and has flanges that rivet to the Hull. The inner part of the opening rivets to the inner hull and to the outer Hull in a sandwich where the Iris sits. I believe that the Viewport window would be a very thick piece of glass with non-linear outer and inner curvatures that would limit distortion.

~ Sourdoh

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babynuke

Winner of 2005
Mr. Nautilus Award



Joined: 19 Feb 2005
Posts: 418
Location: Raleigh, NC

Posted: 22 Mar 2007 12:57 pm Post subject:

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The viewport is a double layer.
Ty

"A few feet beneath the waves, their reign ceases... Here I am free!"

<http://www.raleightime.com>

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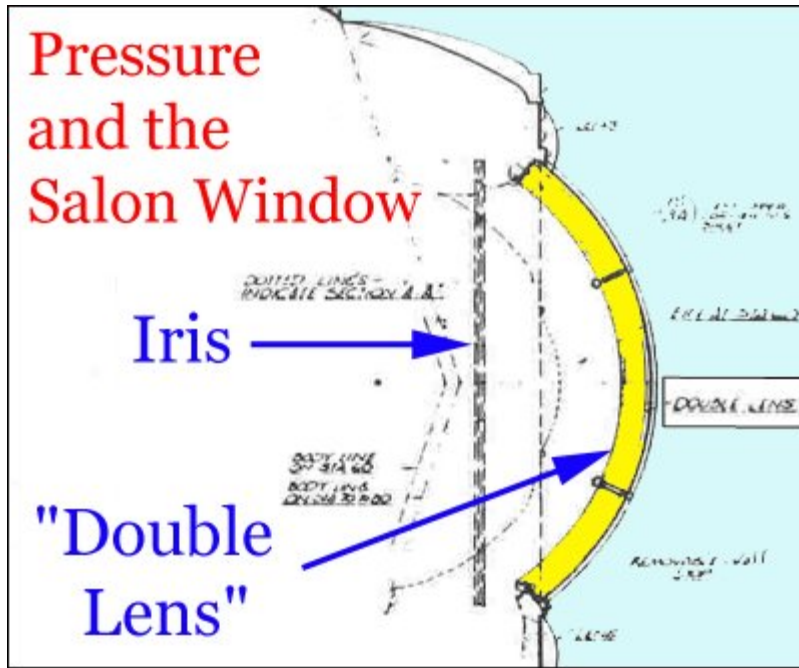


Joined: 15 Feb 2005
Posts: 880
Location: San Francisco

Posted: 22 Mar 2007 01:07 pm Post subject:

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Theo

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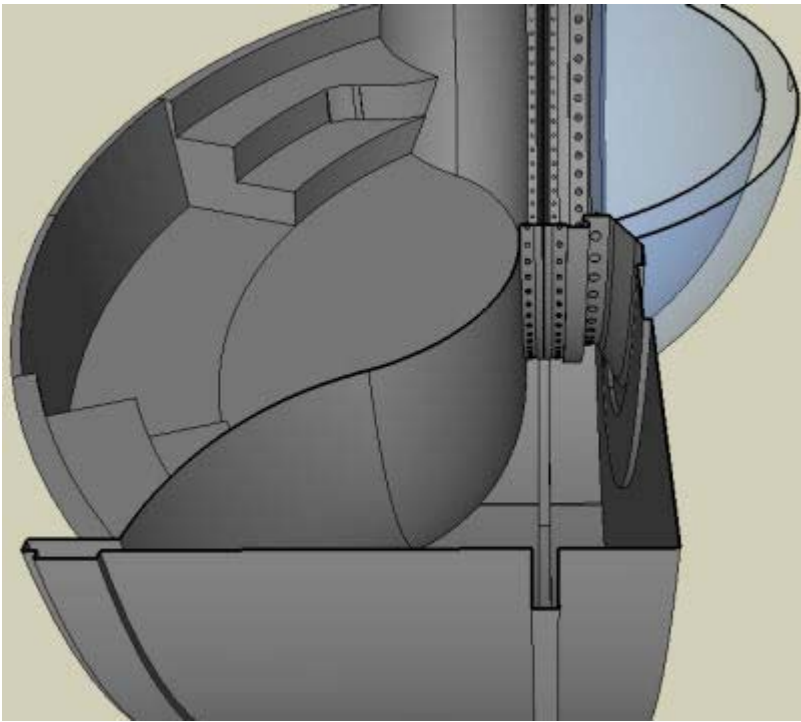
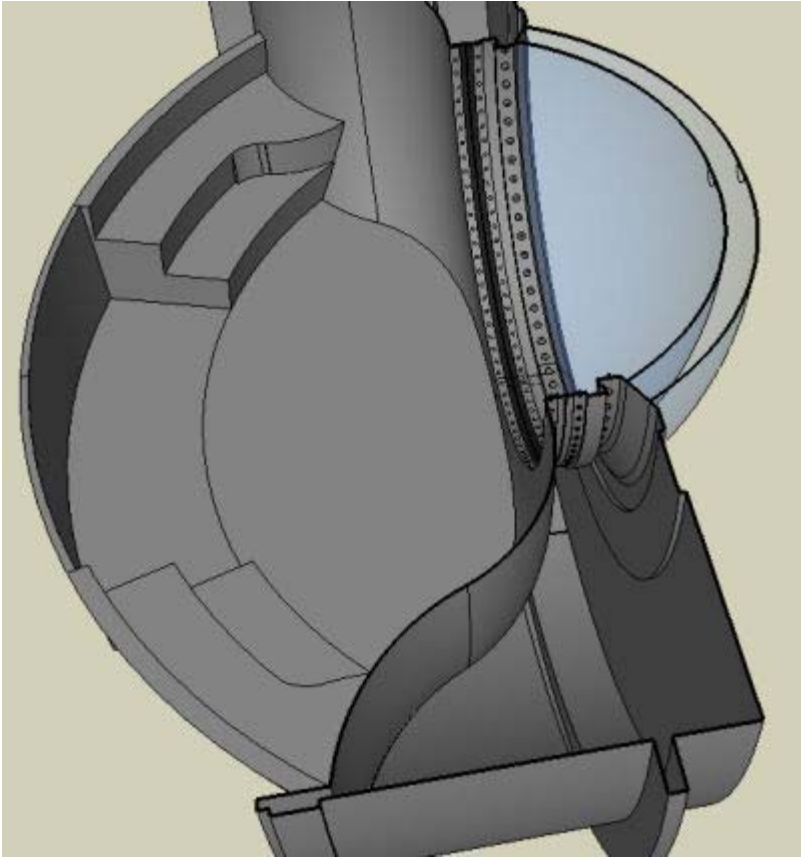
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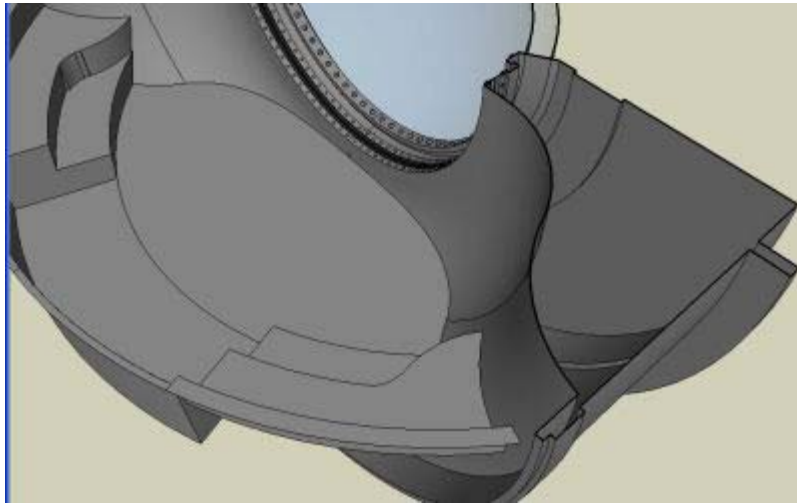
Posted: 22 Mar 2007 07:50 pm Post subject:



Joined: 19 Feb 2005
Posts: 418
Location: Raleigh, NC

Don't know if this helps with the visualization or not. This is not done with the exterior housing, only the interior dimensions with a cavity reserved for the iris leaves and the outer hull face where the lights would mount.





Ty

"A few feet beneath the waves, their reign ceases... Here I am free!"

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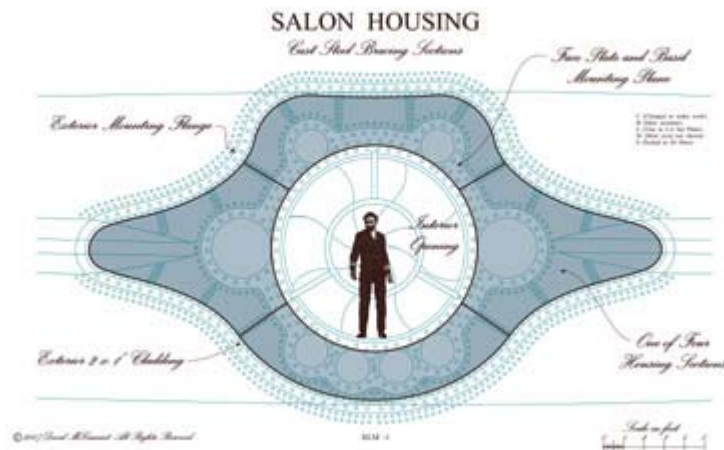


Joined: 30 Jul 2005
Posts: 587
Location: Reno, NV

Posted: 22 Mar 2007 09:27 pm Post subject:



Nice one Ty! I've got a similar idea but I think the walls have to be much thicker. Very cool though. Here's the image of the sections fellows.



Full size download below:

http://www.disneysub.com/board/dave_salonh.jpg

Regards, Dave

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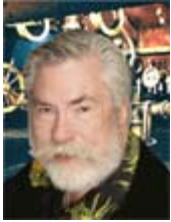
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sourdoh

Posted: 23 Mar 2007 09:16 am Post subject:



Joined: 03 Jun 2005
Posts: 738
Location: Peoria, Arizona

I can't really see much of the actual construction of the the Viewport. It looks great. The only small change I would make is to round the ends of the glass bracing -where it meets the frame and where it meets the center ring- to depict a rounded cross section.

~ Sourdoh

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Crespo

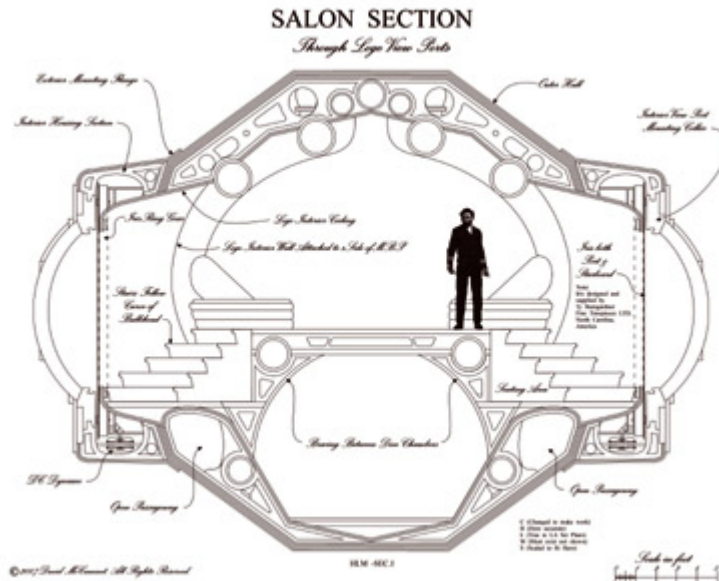
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Posted: 23 Mar 2007 01:35 pm Post subject:



Joined: 30 Jul 2005
Posts: 587
Location: Reno, NV

Hi Sourdoh, I'm not sure about the revisions you would like to see but if you could clarify them, I would be happy to make any changes. The drawing is more of an overview to show the 4 large cast pieces. I think I have a pretty good solution now based on everyones input so...here it is!



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http://www.disneysub.com/board/dave_salonsec_1.jpg

Regards, Dave

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aeolian



Joined: 05 Apr 2006
Posts: 109
Location: South San Francisco, CA.

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Joined: 30 Jul 2005
Posts: 587
Location: Reno, NV

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orzelw

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Joined: 28 Mar 2005
Posts: 777
Location: Murrieta, CA

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Crespo

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Posted: 23 Mar 2007 04:50 pm Post subject:

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I am probably missing something, but isn't that a lot of steps to the floor of the loge?

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Posted: 23 Mar 2007 05:19 pm Post subject:

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Hi Aeolian, You are right Sir there are 2 more 9" steps than the set plans and about 6" less leg room too. These plans are to match my drawings for the 200 LOA thread (so I don't have to do them twice). To fit the dive chambers and changing rooms below, the salon floor needs to be about 18 inches higher. Actually, now that I think about it, the whole room moved up 18". The structure of the housing though wouldn't change much even with being true to the live action sets.

Regards, Dave

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Posted: 23 Mar 2007 05:41 pm Post subject:

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Dave, what I'm seeing is five steps, the first being level with the salon floor. Would it work out to eliminate the top step and move the whole flight back so the second step sits against the bay cutout in the salon floor? That would open up additional leg room. Or is that top step actually part of the floor, undercut for the customary toe room?

...or not...

WayneO

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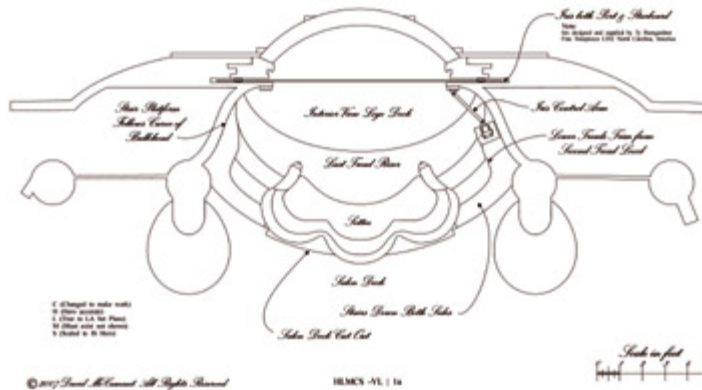
Posted: 23 Mar 2007 09:22 pm Post subject:

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Hi Mates, What? I'm a little confused about eliminating the top step. It's...the...top...step or opening in the floor...ah...you sort of need a top step. The figure of Nemo is standing on the deck of the salon which ends as the opening (with the customary undercut). One thing that's a bit hard to see is that where the flat face of the stairs are is the vertical drop to the loge deck; or the end of the loge arc. The top stair is not a landing. As you all know, the loge is

SALON DETAILS

Preliminary View Loge Plan



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Regards, Dave

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Crespo

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Location: Reno, NV

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Modeleers

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Posted: 08 Mar 2008 03:31 pm Post subject:

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Hey Mates, I've run into an interesting question concerning the view loges while working on the plans. On the starboard side the control arm is to the right of the view port. Would the placement stay to the right on the port or would it move aft to the left side to mirror the starboard? I'm of the mind that it would stay to the right side of the port view loge...what thinks ye?

Regards, Dave

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Posted: 08 Mar 2008 04:24 pm Post subject:

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Nemo looked to be right handed, so I think right sounds about right.

It's Not a model, it's a Passion! - m/m V.V.

Joined: 11 Oct 2005
Posts: 565

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aeolian

Posted: 08 Mar 2008 04:40 pm Post subject:

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Right you are!

Joined: 05 Apr 2006
Posts: 109
Location: South San Francisco, CA.

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John Garrity

Posted: 08 Mar 2008 05:47 pm Post subject:

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You appear to be on the right path, Dave.

Joined: 19 Feb 2005
Posts: 246
Location: New Carlisle. OH

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Goffan

Ops Manual
Editor

Posted: 09 Mar 2008 04:15 am Post subject:

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You left me behind on this one. But right you are. Thankfully, nemo wasn't ambidexterous. (I'm with the group on this one --- right side).

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Posts: 524
Location: Manhattan

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sourdoh

Posted: 09 Mar 2008 09:17 am Post subject:

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As you face the Viewport Loge from the center of the Salon the control should be on the right, no matter which way you are facing, port or starboard.

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Posts: 738
Location: Peoria, Arizona

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Crespo

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Joined: 30 Jul 2005
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Location: Reno, NV

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Posted: 09 Mar 2008 03:13 pm Post subject:

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As you wish Gentlemen, right it is.

Dave

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Modeleers

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Joined: 11 Oct 2005
Posts: 565

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Posted: 09 Mar 2008 04:36 pm Post subject:

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How *right* you are!

It's Not a model, it's a Passion! - m/m V.V.

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