



ROLEX

# Rigging Care Program

**NAVTEC**<sup>®</sup>  
Performance Rigging

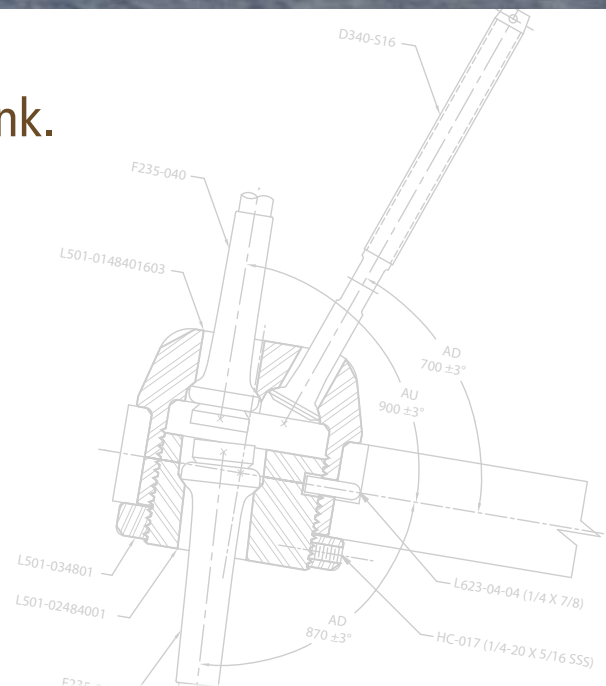
A DIVISION OF LEWMAR

**NAUTOR'S**<sup>®</sup>  
**SWAN**



## The rig is no stronger than its weakest link.

One system frequently overlooked in the maintenance schedule of any sailing yacht although critical to the performance, reliability and safety of any sailing vessel is the mast and its associated rigging components. Your rigging - rod rigging as well as PBO rigging - as it consists of many critical highly tensioned moving parts, some of which are often never inspected due to their position on the rig usually





# NAUTOR'S SWAN AND NAVTEC JOINT RIGGING CARE PROGRAM

Do you **really** care about your rigging?



show little or no tale tale sign of imminent failure. Beyond routine mast and rigging visual inspection schedules, a periodic professional service of such hidden parts could prevent you from sailing with a potential problem. The rig is no stronger than its weakest link. In order to prevent costly downtime and lost charter revenues, whether you are a coastal cruiser or a super yacht captain with a professional crew, sooner or later comes the time to pull the mast out. Nautor Service and Navtec are now going to give you a hand.



## Rod Rigging Life Expectancy

Depending on the amount of time and/or miles the yacht has been in service, the loads are put on the rod in comparison to its breaking strength, the yacht's predominant sailing conditions, the amount of care and maintenance given to the rigging, Navtec recommends;

1. At a minimum a **Level A** - comprehensive visual inspection, at least once a year but not to exceed 2 years or 20,000 miles between inspection intervals regardless of yacht sailing program. Inspection - jack-down visual & fitting inspection/lubrication.
2. **Level B** comprehensive full service mast inspection/refurbishment, once every 4 years though **not to exceed 6 years**

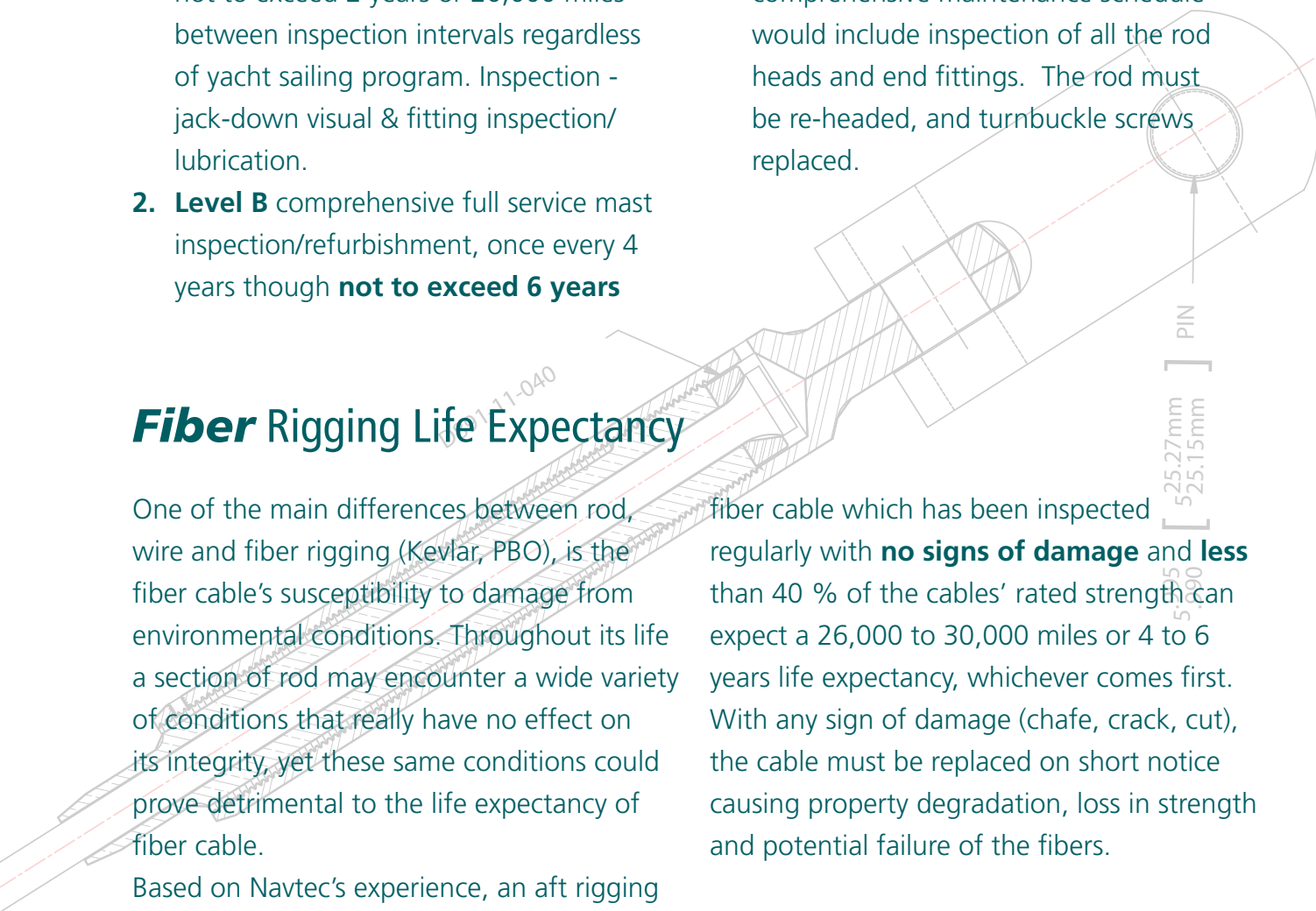
**or 60,000 miles** between inspection intervals whichever comes first. This comprehensive maintenance schedule would include inspection of all the rod heads and end fittings. The rod must be re-headed, and turnbuckle screws replaced.

## Fiber Rigging Life Expectancy

One of the main differences between rod, wire and fiber rigging (Kevlar, PBO), is the fiber cable's susceptibility to damage from environmental conditions. Throughout its life a section of rod may encounter a wide variety of conditions that really have no effect on its integrity, yet these same conditions could prove detrimental to the life expectancy of fiber cable.

Based on Navtec's experience, an aft rigging

fiber cable which has been inspected regularly with **no signs of damage** and **less than 40 %** of the cables' rated strength can expect a 26,000 to 30,000 miles or 4 to 6 years life expectancy, whichever comes first. With any sign of damage (chafe, crack, cut), the cable must be replaced on short notice causing property degradation, loss in strength and potential failure of the fibers.





## Mast System Inspection Levels

### LEVEL A: VISUAL INSPECTION W/ MAST IN - JACK DOWN

- Comprehensive general mast system visual inspection
- Check all fittings/terminations, rod/fiber/wire, spreaders, sheaves, halyards, headstay, backstay, mast base, partners, halyard blocks and chainplates
- Check for cracks, corrosion, pitting, rust and proper fitting alignment
- Service log/ update schedule for next service

### LEVEL B: INSPECTION W/ MAST OUT

- Un step mast
  - Clean/polish rod, cold heads & fittings to facilitate inspection process
  - Visual inspection for cracks, corrosion, pitting, rust, general discoloration: remember- Rust may indicate a crack
- Non Destructive Testing (NDT) of Rod
  - Dye penetrate testing (liquid penetration testing)
- Alternative methods: X Ray, ultra sound testing, eddy current testing
- Visually inspect and test all fiber rigging
- Reassemble mast system
- Re-step/ re-tune mast
- Update service log/ update schedule for next service

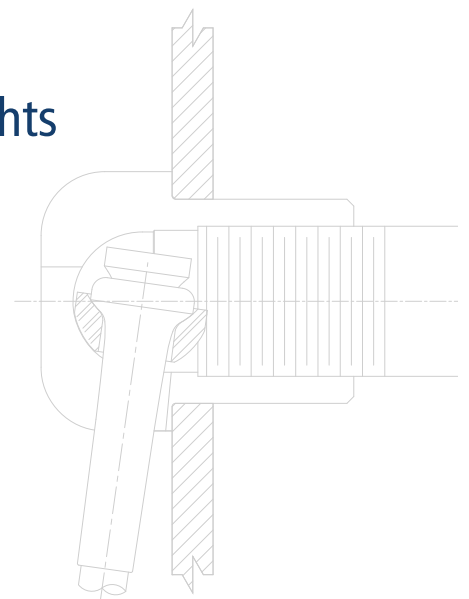
### LEVEL C: FULL SERVICE W/ MAST OUT

- Un step mast
- Complete stripping of rig and mast fittings
- Non Destructive Testing (NDT) of Rod
  - Dye penetrate testing (liquid penetration testing)
- re-head or replace rod, replace any fittings or rigging screws
- Disassembly of furling system
- Repaint mast, replace electrical and mast head unit wiring.
- Reassemble mast system
- Re-step/ re-tune mast
- Update service log/ update schedule for next service



## Now accommodating all sizes of SWAN yachts

No need for long downturn and costly ferries, trips or shipments of contractors or components across Europe; all work whether for a visual inspection or a complete rigging change is carried out locally by a team of highly qualified and experienced technicians using only OEM approved parts and guidelines.

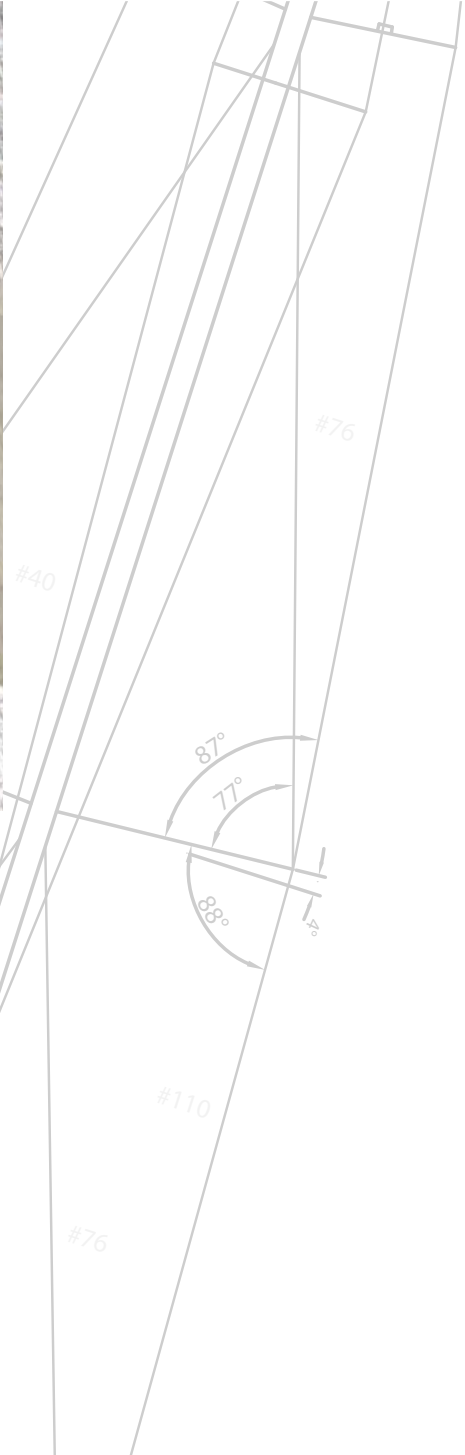




35  
years  
of  
shared  
experience  
of  
sailing

*"One system frequently overlooked in the maintenance schedule of any sailing yacht although critical to the performance, reliability and safety of any sailing vessel is the mast and its associated rigging components."*

Yves Le Cornec  
NAUTOR'S SWAN SERVICE Manager



With a facility that can now accommodate all sizes of SWAN yachts can be dismasted and all type of rigging work can be performed under the manufacturer's strict guidelines and supervision. At the same time, other jobs can also be carried out on the yacht by the highly experienced Nautor Service technicians who know what make your Swan yacht so unique.



## At the heart of the Mediterranean playground

NAUTOR'S SWAN SERVICE centre for the Mediterranean is settled on the French Riviera, in the **Villefranche sur Mer** harbour since 1996. It is now teaming up with NAVTEC and is now offering a comprehensive rigging inspection and maintenance program to NAUTOR'S SWAN owners and operator's right at the heart of the Mediterranean playground.

NAVTEC a leading supplier to the Superyacht and performance yachting market and factory supplier of almost all NAUTOR'S SWANS built for the past 35 years, have built a well established reputation for delivering high quality rigging and hydraulic systems. NAVTEC south European subsidiary is located minutes away with the inventory, the tools and the experience.

# Enjoy your refit!



Just **20 minutes away from NICE International airport** with direct flights to everywhere in Europe, yourself or your crew will have the opportunity to enjoy the very mild and dry French Riviera winter weather with **quick access to many ski resorts** during the week-end while your yacht will undergo this critical step of its maintenance in good hands and be ready for the following season in the med.



## Minimizing downtime time

**A visit on your SWAN yacht** several months in advance is recommended to assess the level of service required and to identify the necessary components for refit. This step will ensure that all parts needed are manufactured prior to your yacht arrival in Villefranche.

This option can **save weeks of downtime** and significantly reduce the loss of charter revenues between the winter and summer season as well. Following this visit, a quotation will be issued based on the level of service required.



## Who but NAUTOR can take care of your NAUTOR'S SWAN yacht?

Please contact NAUTOR'S SWAN SERVICE to inquire about available openings for your yacht rigging service during the 2009-2010 winter.

Yves Le Cornec  
Port de la Darse - BP 33  
06231 Villefranche sur Mer - FRANCE  
Tel: +33 493 766 007 / Fax: +33 493 769 231  
Email: [yves@nautorvillefranche.com](mailto:yves@nautorvillefranche.com)  
Web: [www.nautorvillefranche.com](http://www.nautorvillefranche.com)

Models	From	To	Designers	Built
Swan 36	1967	1970	Sparkman & Stephens	90
Swan 36	1988	1996	Germán Frers	55
Swan 37	1970	1974	Sparkman & Stephens	59
Swan 371	1979	1986	Ron Holland	87
Swan 38	1974	1979	Sparkman & Stephens	116
Swan 39 Racing	1978	1979	Ron Holland	12
Swan 39 Cruising	1978	1980	Ron Holland	21
Swan 391	1981	1987	Ron Holland	52
Swan 40	1970	1972	Sparkman & Stephens	51
Swan 40	1992	2000	Germán Frers	58
Swan 41	1973	1977	Sparkman & Stephens	61
Swan 411	1977	1979	Sparkman & Stephens	42
Swan 42	1980	1985	Ron Holland	38
Swan 43	1967	1972	Sparkman & Stephens	67
Swan 431	1976	1978	Sparkman & Stephens	32
Swan 43	1985	1990	Ron Holland	28
Swan 44	1972	1975	Sparkman & Stephens	76
Swan 441 Racing	1978	1979	Ron Holland	5
Swan 441 Cruising	1979	1982	Ron Holland	40
Swan 44 Mk I	1989	1994	Germán Frers	19
Swan 44 Mk II	1996	2002	Germán Frers	68
Swan 45	2001	Present	Germán Frers	
Swan 46 Mk I	1983	1989	Germán Frers	81
Swan 46 Mk II	1990	1997	Germán Frers	28
Swan 47	1975	1984	Sparkman & Stephens	70
Swan 48	1971	1975	Sparkman & Stephens	54
Swan 48 Cruiser/Racer	1995	Present	Germán Frers	51
Swan 51	1981	1985	Germán Frers	36

Models	From	To	Designers	Built
Swan 53	1986	1994	Germán Frers	50
Swan 53 Mk I		Present		
Swan 55	1970	1974	Sparkman & Stephens	16
Swan 55	1990	1996	Germán Frers	22
Swan 56	1997	Present	Germán Frers	38
Swan 57	1977	1984	Sparkman & Stephens	49
Swan 57 CC	1996	2000	Germán Frers	
Swan 57 RS	1996	2000	Germán Frers	10
Swan 59	1984	1990	Germán Frers	21
Swan 60 Cruiser/Racer	1994	Present	Germán Frers	26
Swan 601		Present		
Swan 61	1985	1990	Germán Frers	14
Swan 62 RS	2000	Present	Germán Frers	3
Swan 65	1972	1989	Sparkman & Stephens	41
Swan 651	1982	1991	Germán Frers	19
Swan 651	1982	1991	Germán Frers	19
Swan 66		Present		
Swan 68	1991	Present	Germán Frers	22
Swan 70	2000	Present	Germán Frers	5
Swan 76	1979	1981	Sparkman & Stephens	5
Swan 75 RS	2003	Present	Germán Frers	
Swan 77	1992	Present	Germán Frers	9
Swan 80	1998	Present	Germán Frers	10
Swan 82 RS	2000	Present	Germán Frers	4
Swan 86	1988	1990	Germán Frers	3
Swan 90	1991	1991	Germán Frers	1
Swan 100 RS	2000	Present	Germán Frers	1
Swan 112 RS	1997	Present	Germán Frers	5



Partnership for your **safety**  
Location for your **pleasure**

Ask for your **Rigging Care Program**



**A DIVISION OF LEWMAR**

[www.navtec.net](http://www.navtec.net)



[www.nautorswan.com](http://www.nautorswan.com)