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1. INTRODUCTION

- 1.1. The purpose of this document is to list the upgrades made to the standard one-design supply during the 2021 season and define their type.

2. DEFINITIONS

- 2.1. Upgrades are of one of the following types:
- 2.1.1. **Functional:** made for the purpose of reducing/simplifying maintenance and minimizing replacement frequency. This kind of upgrade is **not mandatory** for taking part in the Grand Prix 2022.
 - 2.1.2. **Structural:** made in order to mitigate structural issues that repeatedly occurred on one or more boats during the 2021 season. This kind of upgrade is **mandatory** for taking part in the Grand Prix 2022.
 - 2.1.3. **Performance:** made for the purpose of improving the performance of the boat and/or simplifying its use (e.g. maneuvers). This kind of upgrade is not mandatory for taking part in the Grand Prix 2022 but it will be in 2023.

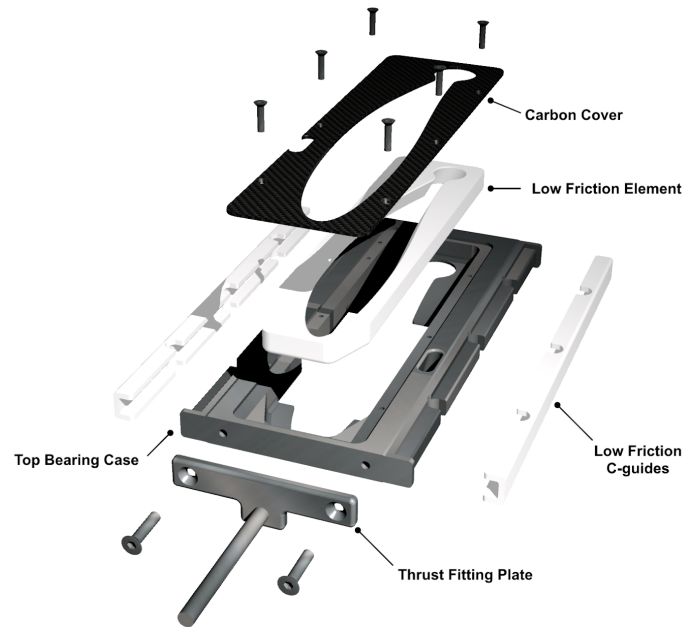
3. LIST OF UPGRADES

Item	Description	Type
Foil top bearing	Titanium top bearing case with updated low friction element and cover design	Functional
Roller bearing	New roller bearing component to prevent rust formation in salt water	Functional
Rudder rake control line	Closed rake line system crossing the boats from side to side	Performance
No-fall stick shock cord	Shock cord on one end of no fall stick in order to facilitate rigging/unrigging and removing need to tension the line every day	Functional
Sails	New mainsail and jib design and material	Performance
Mainsail lock strop	Replaced steel wire with soft strop	Structural

Foil-up dyneema line	Adjustable splice	Functional
Retriever line	Double shock cord on retriever line for improved slack picking up	Performance
Sailmon MAX carbon support bracket	Stronger carbon support bracket for Sailmon MAX	Functional
Jib halyard and tack line's covered soft shackles	Soft shackles with higher SWL and resistance to wear	Structural
Bowsprit-out system	Added 20mm lead ring on front soft loop	Structural
Gennaker flip flop blocks	Shock cord on gennaker flip flops to prevent rotation outboard	Performance

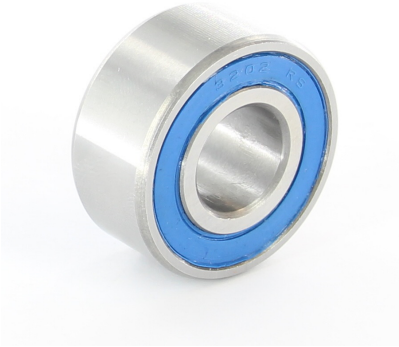
4. DETAILS

4.1. Foil Top Bearings



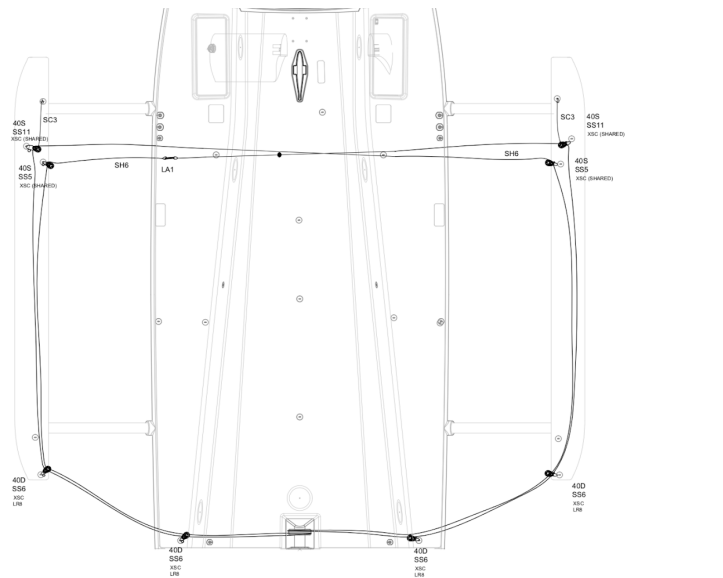
- 4.1.1. **Top bearing case** CNC machined out of Titanium Ti-6Al-4V
- 4.1.2. **Low friction element** to facilitate foil up/down sliding, CNC machined out of Arnite (same material as old part)
- 4.1.3. **Low friction C-guides** CNC machined out of POM (Polyoxymethylene) for improved sliding of titanium case inside carbon guides
- 4.1.4. **Carbon cover** CNC out of carbon c-plate to keep the low friction element in place
- 4.1.5. Advantages of new system:
- Reduced fracture risk of low friction element
 - Improved reliability (even in case of rupture of low friction element, the boat can continue to sail)
 - Low friction element is replaceable on the water. This was not possible with old part
- 4.1.6. Price: approx €4,973.10 + VAT. Cost is for a pair of bearing assemblies and may vary depending on quantities ordered. The cost of the individual components is:
- Arnite bearings €858.00 + VAT
 - Profili a C in POM €726.00 + VAT
 - Thrust fitting plates €204.60 + VAT
 - Carbon Case Cover €204.60 + VAT
 - Titanium case: €2,979.90 + VAT

4.2. Roller Bearings



- 4.2.1. Stainless steel bearings (Product Code: S3201 B2RS produced by ZEN Bearings)
- 4.2.2. Advantages:
 - Higher resistance to corrosion in salt water
 - Compatible with existing roller wheels
- 4.2.3. Price: approx €14,4/bearing + VAT (tot. 40 bearings - €576.00/boat + VAT). Cost may vary depending on quantities ordered.

4.3. Rudder rake control line



- 4.3.1. Closed single circuit
- 4.3.2. Advantages:
 - Rudder rake easier to control by flight controller when sitting inside the cockpit
 - Ball on one of the lines crossing the boat from side to side providing visual reference on current rudder rake setting
 - More even load on sheave for a smoother and softer control

- Saving 2x 40 mm T2™ Soft-Attach Block blocks
- 4.3.3. Price: €112.70 + VAT

4.4. No-fall stick shock cord



4.4.1. Shock cord on port end of no-fall stick line with medium ball for quick release. Additional shock cord to keep rudder swung to port side for quick removal/installation

4.4.2. Advantages:

- Quicker to fit
- Does not lose tension when load is applied to the line (e.g. mainsail at dock-out)

4.4.3. Price: €9.09 + VAT for shock cord + medium ball

4.5. Sails



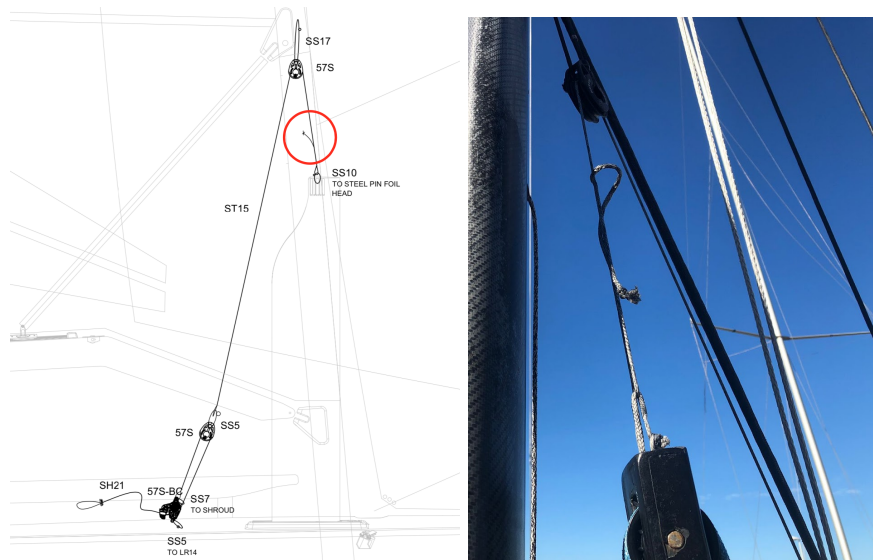
- 4.5.1. New material (Onesails' 4T Forte Membrane - seamless and glueless membrane with high-modulus STR fiber structure)
- 4.5.2. New mainsail and jib design
- 4.5.3. New zip pocket on jib for improved sliding of retriever line
- 4.5.4. Advantages:
 - Lighter and more durable
 - Improved performance by design
 - Zip pocket on jib makes it easier to drop the gennaker
- 4.5.5. Price: €11,000.00 + VAT. The price of the individual sails is:
 - Full-batten Mainsail FORTE 4T 225R: €5,900.00 + VAT
 - Full-batten Jib FORTE 4T 225R: €3,500.00 + VAT
 - Triradial Nylon Gennaker: €1,600.00 + VAT
- 4.5.6. Zip pocket can be added to existing jibs at the cost of €300.00 + VAT (work carried out by the Onesails Italy North East loft in Verona)

4.6. Mainsail lock strop



- 4.6.1. DSK Ultra 99 with dyneema cover and custom lock ball + carbon disk
- 4.6.2. Advantages:
 - Increased life
 - Cheaper and more practical to replace
 - Quicker to replace on the water, if needed
 - Possible to adjust knot in order to compensate for stretch over time
- 4.6.3. Price: €85.73 + VAT

4.7. Foil-up dyneema line



4.7.1. Adjustable splice on dyneema line between foil head and 57 mm T2™ Soft-Attach Block

4.7.2. Advantages:

- More practical system to fine tune foil max up/down correcting for stretch in the system over time

4.7.3. Price: €12.77 + VAT (dyneema line only)

4.8. Retriever line



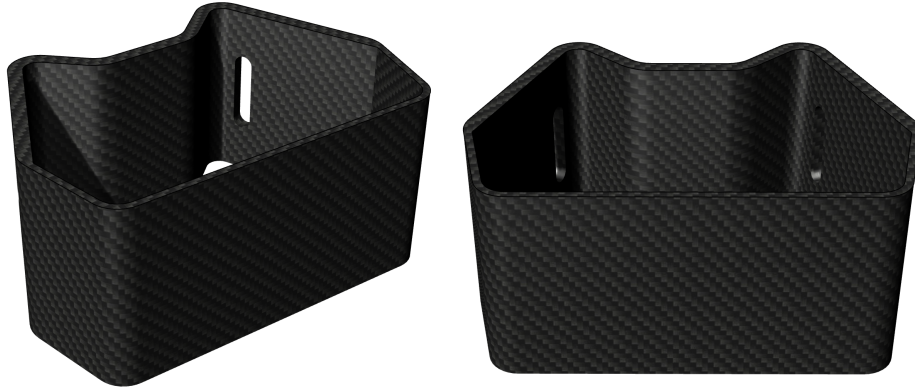
4.8.1. 4mm Shock cord fixed at aft end of gennaker bag, passing through a plastic fitting at the front of the bag and then running back again

4.8.2. Advantages:

- More stretch in the system to avoid frequent shock cord breakages

4.8.3. Price: €12.77 + VAT

4.9. Sailmon MAX carbon support bracket



4.9.1. Reinforced support bracket IWO hole for velcro strap

4.9.2. Advantages:

- More robust

4.9.3. Price: €66.00 + VAT (only carbon part with deck foam padding at the back)

4.10. Jib halyard and tack line's covered soft shackles



- 4.10.1. Covered soft shackles between:
- Jib's head and jib halyard
 - Jib's tack line and hull through deck fitting
- 4.10.2. Advantages:
- Higher SWL
 - More resistance to wear
- 4.10.3. Price: €10.82 + VAT (for both soft shackles)

4.11. Bowsprit-out system

- 4.11.1. Added Harken 3272 - 20mm Lead Ring and Harken 2160 - 57mm T2™ Soft-Attach Ratchamatic® Block replacing Harken 2626 - 57mm Ratchamatic® Block — Swivel, Becket
- 4.11.2. Advantages:
- Higher SWL
- 4.11.3. Price: €105.8 + VAT

4.12. Shock cord on gennaker's flip flop block



- 4.12.1. Added shock cord on Harken 2143 - 57mm Flip-Flop SB Block — Cam Cleat to keep it rotated inboard and prevent gennaker sheet from getting caught around the cam arms.
- 4.12.2. Advantages:
- Facilitates gybing maneuver
- 4.12.3. Price: €2.0 + VAT

5. ORDERS DEADLINE

- 5.1. For bulk orders' discount, the deadline for order confirmations is 31st January 2022.
- 5.2. To order, please send an email to shoreteam@69fsailing.com with a list of the parts you would like to order. You will then receive an order confirmation with the final price and expected delivery date.