

Rusty Keel Bolts



Back Ground Information

- Cast Iron keel use galvanized bolts - There are threaded sockets cast into the keel
- Lead keels use stainless steel nuts - There are threaded rods cast into the keel

You can use stainless steel bolts in a cast iron keel, but you should remove and inspect the threads for galvanic corrosion yearly. There is a part number cross reference table at the end of this document.

A bolt only has to engage the threads $1\frac{1}{2}$ times the diameter of the bolt to be effective. 90 % of Beneteau Keel bolts are 3 inches or less in length.

Replacing Information

Use a battery powered drill with a wire brush wheel. Clean the heads down to new metal. Tip: use a shop-vac to clean rust dust and flecks as you clean the heads.

Remove 1 bolt and inspect. At this point you should be able to make a determination if the bolt is structurally sound or needs to be replaced. A complete set of the bolts and washers can be ordered from the Beneteau Spare Parts Department. We will need the Model and Type of keel on of your boat.

14mm bolt uses	22 mm socket
20mm bolt uses	1-3/16 socket
30mm bolt uses	1 7/16 socket

If you have water entering the boat through the bolt hole, replace the bolt and make future plans with your local boat yard to haul, separate and reinstall the keel.

If the head of the bolts are so degraded that the socket will not back it out, use a side grinder to grind two flat sides on the bolt. This should allow you to remove the bolt with a wrench. Worst case scenario: Remove boat from the water, grind the heads

completely off and remove the keel from the hull. Then using the remaining shaft of the bolt, remove the bolts and reinstall the keel.

Coating the heads of the bolts with a rust preventative paint will prolong the life of the bolts. Tip: I have used Trailercoat from West Marine with success.

Do not use sealant on the bolt threads; only use sealant around the bolt heads to keep bilge water out of the bolt socket. You can use a small amount of Never-seez Compound on the threads of the bolts.

The keel to hull joint and exterior seam should be sealed with Marine Adhesive Sealant 5200.

Keel bolt Torque Specifications.

DACROMATISED STEEL BOLTS TYPE 8-8.

DIAMETER	M14	M20	M24	M30
TORQUE in M.Kg - minimum	5	13	23	45
TORQUE in M.Kg - maximum	9	27	46	90
TORQUE in ft.lb – minimum	36	94	166	325
TORQUE in ft.lb – maximum	65	195	333	651

TABLE 6.5.2

STAINLESS STEEL BOLTS TYPE A4-70 and A4-80

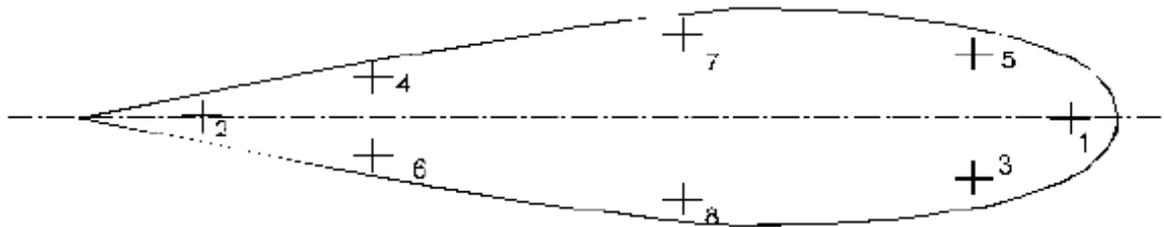
DIAMETER	M14	M20	M24
TORQUE in M.Kg - minimum	5	16	28
TORQUE in M.Kg - maximum	11	32	55
TORQUE in ft.lb – minimum	36	116	203
TORQUE in ft.lb – maximum	80	231	398

TABLE 6.5.3

STAINLESS STEEL BOLTS TYPE A4-55

DIAMETER	M30	M36	M42
TORQUE in M.Kg - minimum	19	33	52
TORQUE in M.Kg - maximum	38	65	104
TORQUE in ft.lb – minimum	137	239	376
TORQUE in ft.lb – maximum	275	470	752

Keel bolts should be tighten in staggered pattern, like lug nuts on a tire.



In January 2016 we stop supplying bolts as replacements and use the Threaded Rod + Nut System.

Tighten the threaded rods using a nut / lock nut to make sure to reach the thread root. Tightening torque for the ROD: 50Nm/37 ft-lbs

Each rod must be screwed into the keel 3 times the diameter of the rod. 20mm rod x 3 = 60mm. 60 mm of the rod must be threaded into the keel.

Size	Galv. Bolt	Galv. Washer	SS Bolt	SS Washer	Rod Size	Rod	Nut	Square Plate*	Round Washer*	Ground Plate
14 x 50	048552	078826	935640	044464						
14 x 70	030802	078826	046971	044464	14 MM	146601	956367	127294	791900	NA
14 x 100	072589	078826	935555	044464						
16 x XX					16 MM	122353	327000	127293	792000	047039
20 x 70	017541	015056	935700	042338						
20 x 80	NA *	015056	044990	042338						
20 x 90	017539	015056	954068	042338	20 MM	169845	327200	127292	792100	042868
20 x 100	NA	015056	024633	042338						
20 x 110	040607	015056	935650	042338						
24 x 110	NA	NA	053218	042338	24 MM	137038	327300	127291	059235	136530
30 x 110	017538	011513	NA	NA						
30 x 120	NA	NA	036539	013415	30 MM	171156	961058	127289	029389	029389
30 x 140	NA	NA	015586	013415						
30 X 130	032696	011513								
36 x XX					36 MM	081067	081074	136532	157412	NA
These parts have been replaced Rod System										
* Used either the Square Plate or Round washer for backing plates										

