



# SEA-BIRD ELECTRONICS, INC.

13431 NE 20th Street, Bellevue, Washington 98005 USA  
Telephone: (425) 643-9866 Telex: 292915 SBEI UR  
Fax: (425) 643-9954 email: seabird@seabird.com

SBE P/N 50112

DATE	REV	REVISION RECORD	AUTH	DR	CHK
4.99	B	Added reference to pre-assemblies	MJ		
6.7.05	C	Updated Drawings	CB	KLP	
11.4.05	D	Updated parts list & drawing		KLP	
11.15.10	E	Reworked drawing to display correct configuration quantities	CB	PC	

## SBE 32 1" Frame Assembly Hardware Kit

### KIT CONTENTS

SBE P/N	Description	Primary SBE Application	QTY
23694	SBE 32 Cage U-Bolt	Interface Extension Stand to Lower Guard	4
23695	SBE 32 Cage Flange	Interface Extension Stand to Lower Guard	4
30044	Seacat Anode, 1"	6 used on guards, 2 used on extension stand	8
30409	Teflon Tape	Used on all strapping, and contact points of U bolts and flanges	3'
30666	Blue Moly	Used on all threaded hardware to prevent seizing of metal on metal	1can

### HARDWARE

SBE P/N	Description	Primary SBE Application	QTY
30210	Nut, 3/8-16 nylon stop	Extension stand U-Bolts; 1 on CTD bolt (30195)	8
30231	Nut, 1/2-13 Hex	Pylon hub to top & bottom guards	8
30257	Washer, 3/8 flat	Extension stand U-Bolts	8
30259	Washer, 1/2 flat/narrow	2 on each Hub/Plate/Guard bolt (30603)	16
30594	Washer, 1/2 split ring	1 on each Hub/Plate/Guard bolt (30603)	8
30596	Screw, 1/4-20 x 1-1/2 FH	Frame bars to guards	12
30603	Screw, 1/2-13 x 3-1/2 Socket	Adapter plates / hub to guards	8

### Kits:

SBE P/N	Description	Primary SBE Application	QTY
50199	Extension Stand CTD Installation Kit	Contains parts to mount a cage to the extension stand	1
50297	1" Deck Pad Kit	Contains parts to attach deck pads to frame	1

### SBE Drawings:

**40683** CTD Extension Stand Installation  
**40684** Hub/Adapter/Frame Assembly  
**40714** Carousel Frame Parts Table  
**67117** Deck Pad Assembly

### Sea-Bird Electronics Procedure

PROCEDURE NUMBER: **67049**

TITLE: **SBE 32 1" Frame Assembly Hardware Kit**

REVISION: **E**

EFFECTIVE DATE: **11/15/2010**

CHECKED BY: \_\_\_\_\_ PAGE 1 of 4



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### APPLICATIONS:

#### Accessory Parts

SBE P/N	Part Description	Primary SBE Application	QTY
30044	Seacat Anode, 1"	6 used on guards, 2 used on extension stand	8
30409	Teflon Tape	Wrap 8" around each position where a U-Bolt will go	3 ft
30666	Blue Moly/NeverSeez	Apply liberally to ALL threaded areas that receive nuts	1 can

#### Hub to Bottom Adapter Plate and Lower Guard

SBE P/N	Part Description	Primary SBE Application	QTY
30231	Nut, 1/2-13 Hex	Pylon hub to top & bottom guards	4
30259	Washer, 1/2 flat/narrow	2 on each Hub/Plate/Guard bolt (30603)	8
30594	Washer, 1/2 split ring	1 on each Hub/Plate/Guard bolt (30603)	4
30603	Screw, 1/2-13 x 3-1/2 Socket	Adapter plates / hub to guards	4

#### Hub to Top Adapter Plate and Upper Guard

SBE P/N	Part Description	Primary SBE Application	QTY
30231	Nut, 1/2-13 Hex	Pylon hub to top & bottom guards	4
30259	Washer, 1/2 flat/narrow	2 on each Hub/Plate/Guard bolt (30603)	8
30594	Washer, 1/2 split ring	1 on each Hub/Plate/Guard bolt (30603)	4
30596	Screw, 1/4-20 x 1-1/2 FH	Frame bars to guards	12
30603	Screw, 1/2-13 x 3-1/2 Socket	Adapter plates / hub to guards	4

#### Extension Stand

SBE P/N	Part Description	Primary SBE Application	QTY
23694	SBE 32 Cage U-Bolt	Interface Extension Stand to Lower Guard	4
23695	SBE 32 Cage Flange	Interface Extension Stand to Lower Guard	4
30210	Nut, 3/8-16 nylon stop	Extension stand U-Bolts; 1 on CTD bolt (30195)	8
30257	Washer, 3/8 flat	Extension stand U-Bolts, 2 on CTD mount bolt (30195)	10
30409	Teflon Tape	Used on all strapping, contact points of U bolts and flanges	3'

### Note on Prep Work

1. Many parts for the extension stand may already be installed.
2. All of the anodes may be installed.
3. Deck pads are installed.
4. Lifting bale assembly will not be installed on the hub, but the bail insulators may be installed.
5. All screws need a liberal amount of Blue Molly/NeverSeez applied before installation.

#### SBE Drawings:

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**40684** Hub/Adapter/Frame Assembly  
**40714** Carousel Frame Parts Table  
**67117** Deck Pad Assembly

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### Carousel Frame Final Assembly

*Refer to SBE Assembly drawing for details*

1. Clear off a large enough space and cover the floor with carpet or cardboard to protect the paint on the frame.
2. Assemble the frame according to the following instructions.

#### **A. Install and secure the hub and lower adapter plate to the lower guard.**

1. Set the lower frame on 2x4's to allow access for hardware installation.
  - a. Brace the frame on no less than 4 equally spaced blocks to prevent tipping.
2. Place the bottom plate on the lower guard so that all the pins are facing up.
  - a. Align it so that the 2 largest holes on the plate are lined up with the same size holes on the guard. (these are for the lifting bale that will be installed later)
3. Install the hub, without the pylon, onto the bottom plate.
  - a. The end of the hub with the most holes goes upward.
  - b. Secure the hub to the bottom plate and lower guard with 4 bolts (30603), 8 flat washers (30259), 4 lock washers (30594), and 4 nuts (30231).
  - c. From the top – put each bolt through one flat washer then through the hub, the bottom plate and lower guard, a second flat washer, a lock washer and finally the nut.
  - d. Position the bolts so that they go through the four smaller holes, not the ones that will be used for the lifting bail.
    - *See the assembly drawing for more information*

#### **B. Install and secure upper plate and upper guard.**

1. Install the top plate so that the curved edge of the outer ring is on top.
  - a. Line up the plate so that the large holes line up over the large holes in the lower plate/hub.
2. Install the upper guard over the top plate.
  - a. Align it so that the 2 largest holes on the guard are lined up with the same size holes on the plate.
    - *These are for the lifting bale that is installed later.*
  - b. Secure the hub to the bottom plate and lower guard with 4 bolts (30603), 8 flat washers (30259), 4 lock washers (30594), and 4 nuts (30231).
  - c. From the top – put each bolt through one flat washer then through the hub, the bottom plate and lower guard, a second flat washer, a lock washer and finally the nut.
  - d. Position the bolts so that they go through the four smaller holes, not the ones that will be used for the lifting bail.
    - *See the assembly drawing for more information*
  - e. Do not tighten these all the way at this time – it will make it difficult to put the side bars in.
3. The side bars are secured to the upper and lower guards with one bolt (30611) on each end.
  - a. There are two different styles of side bars – one has 1 arc on each end, the other has 1 arc on one end and a double arc on the other.
  - b. The 3 bars with single arcs on both ends line up under the three bars on the upper guard.
    - *The arched area goes over the outside of the carousel guard frame.*
  - c. The other 3 bars go in the remaining places, with the double arc end attached to the upper guard and the arched area on the bottom goes over the outside of the carousel guard frame.
4. Tighten down the bolts in the center of the adapter plate.

#### SBE Drawings:

40683 CTD Extension Stand Installation  
40684 Hub/Adapter/Frame Assembly  
40714 Carousel Frame Parts Table  
67117 Deck Pad Assembly

#### **Sea-Bird Electronics Procedure**

PROCEDURE NUMBER: 67049

TITLE: **SBE 32 1" Frame Assembly Hardware Kit**

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### C. Install the Lifting Bail

1. Install two large 2.85" bail insulators (23921) from the top into the large holes in the upper guard/top plate.
  - a. The flange will rest on the top.
2. Install the four 1.2" bail insulators (23920) into the large holes in the bottom plate/lower guard.
  - Two go in from the top, the other two from the bottom.
  - The flange rest on the outside of the parts.
3. Insert the two legs of the lifting bail into the two upper bail insulators.
4. Thread on a nut (30231), a lock washer (30594), and a flat washer (30259) (in that order) onto the leg of the lift bail.
  - a. Thread these up far enough that the spacers in the top adapter plate are sitting on the surface of the upper bail insulators.
5. Feed the legs of the lift bail through the insulators in the bottom plate and lower guard.
  - a. Make sure that the insulators through the bottom of the guard aren't pushed out.
6. On the bottom of the lift bail install a flat washer, a lock washer, and a nut (in that order). Tighten these down.
7. Tighten down the nuts on the top of the bottom plate.
  - a. The nuts should be tightened down on the top and bottom of the bottom plate/lower guard.

### D. Install CTD cage into extension stand per drawing 40683

1. Place the extension stand, deck pad side down, onto the floor.
2. The CTD and cage installs into the frame per drawing 40683 with pre-installed hardware.
  - a. You will need to remove the hardware and use it to install the cage.
3. Any external sensors may be mounted later for safety, or now for convenience.

### E. Install the carousel onto the extension stand per assembly drawing 41468.

1. Wrap the top bar of the extension stand with 1" wide Teflon tape (pn 30409).
  - a. Three (3) locations total – evenly spread out around the extension stand.
  - b. Wrap each location 2-3 times.
2. Use a winch to lift the carousel and set it on the extension frame.
  - a. If a winch is not available have 4 or more people lift eh carousel and set it on the extension frame.
  - b. Line up the support bars with the extension stand uprights.
3. Wrap the surface of the lower guard with 1" wide Teflon tape corresponding to the tape on the extension stand.
4. Secure each location with one u-bolt (23694), one cage flange (23695), two washers (30257) and two nuts (30210).
  - a. Place the u-bolt over the lower guard then the extension frame, then place the cage flange over both legs of the u-bolt; one washer and one nut, in that order, are placed over each leg of the u-bolt and evenly tighten down.

#### SBE Drawings:

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**40684** Hub/Adapter/Frame Assembly  
**40714** Carousel Frame Parts Table  
**67117** Deck Pad Assembly

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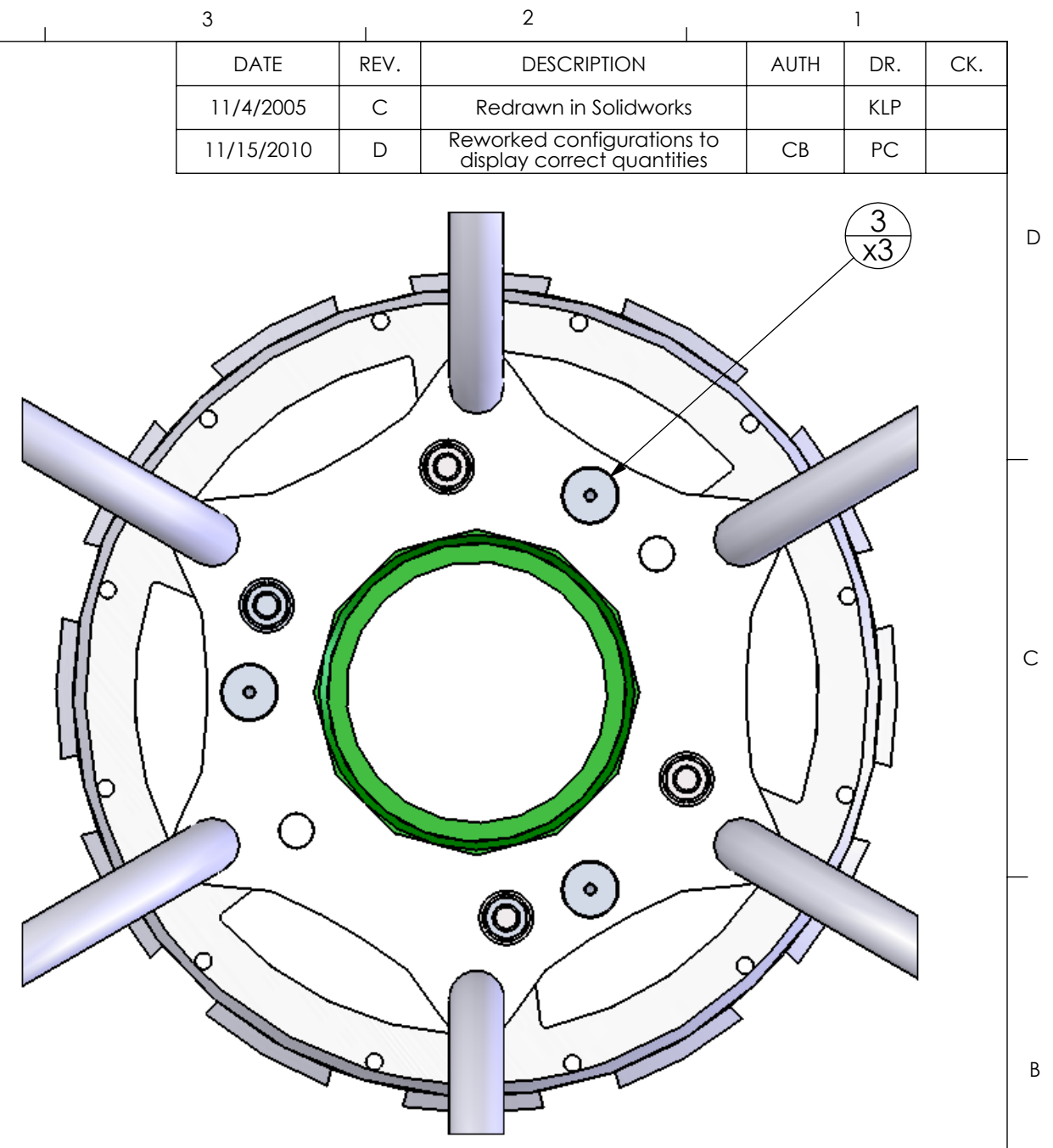
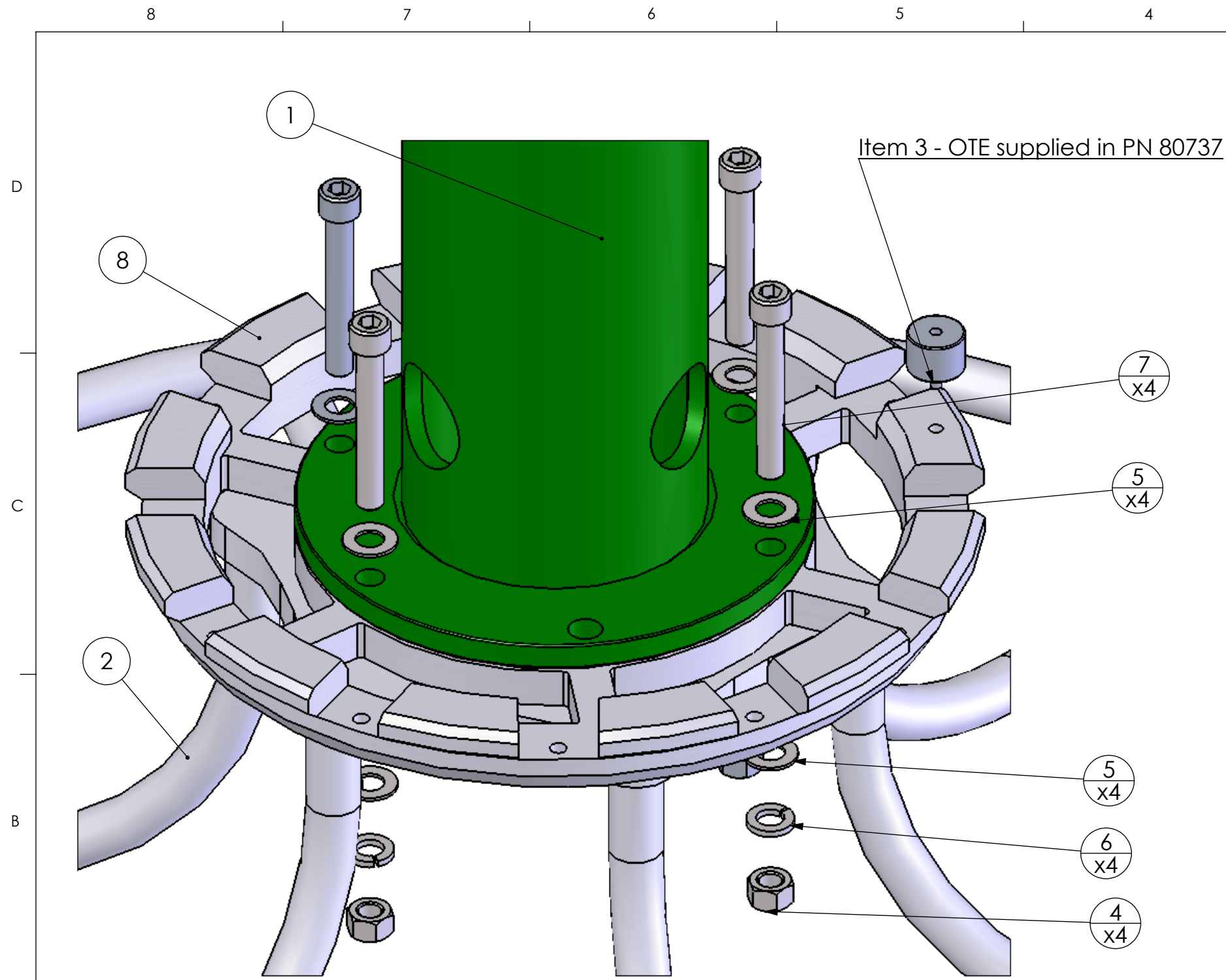
TITLE: **SBE 32 1" Frame Assembly Hardware Kit**

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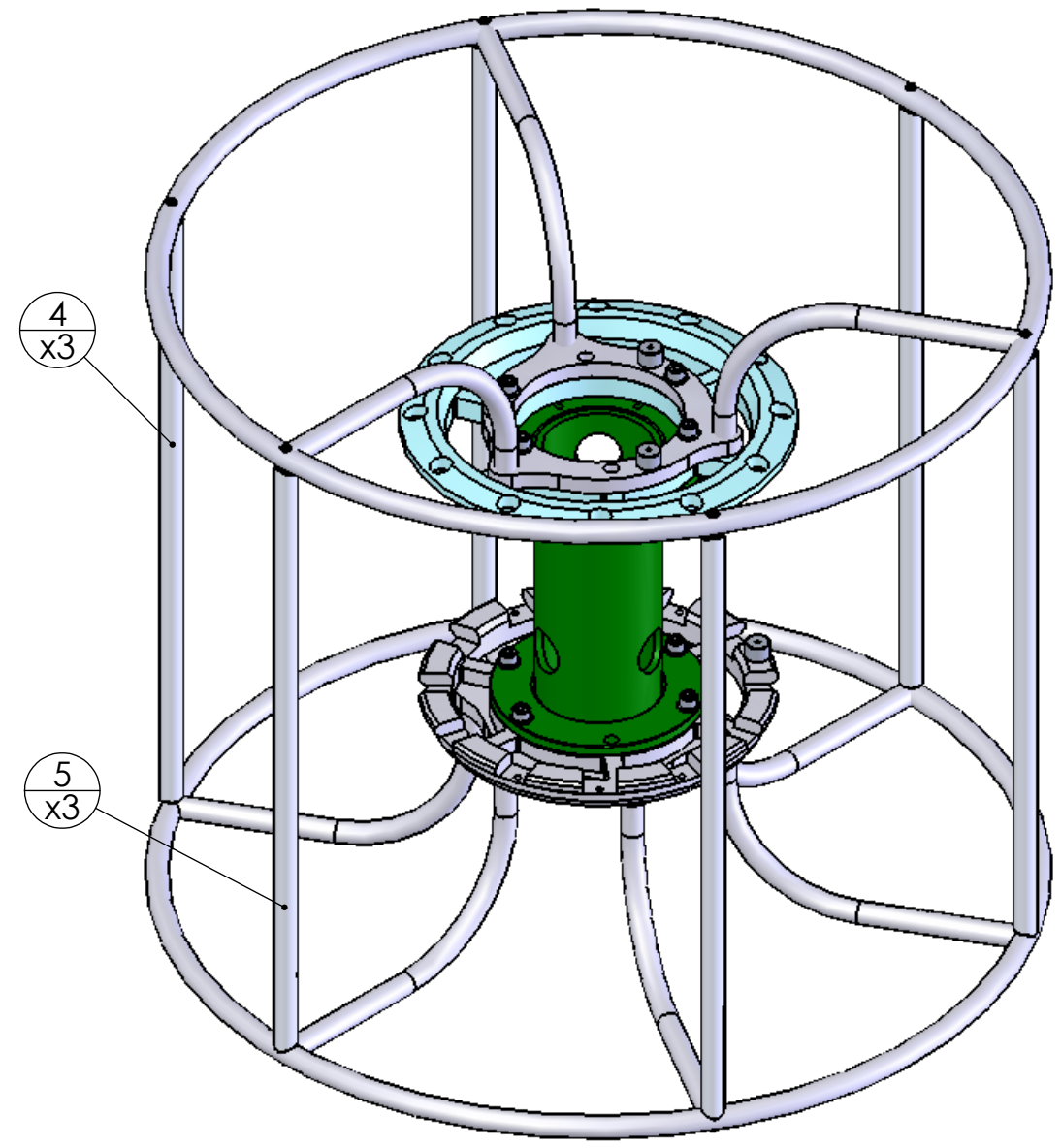
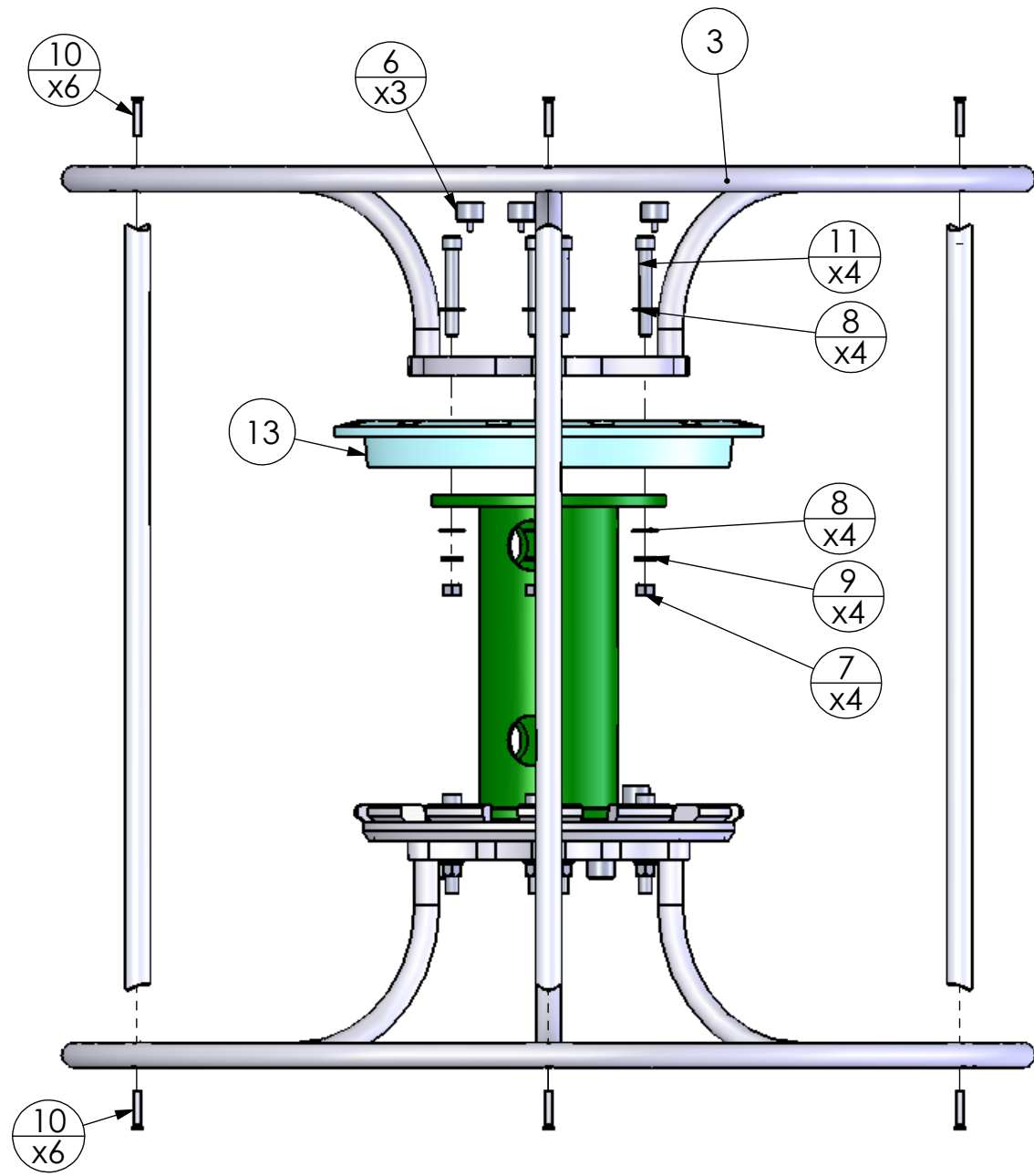
DATE	REV.	DESCRIPTION	AUTH	DR.	CK.
11/4/2005	C	Redrawn in Solidworks		KLP	
11/15/2010	D	Reworked configurations to display correct quantities	CB	PC	



ITEM NO.	PN	DESCRIPTION	QTY.
1	23668	SBE32 HUB	1
2	VARIES	SBE32 1", LOWER GUARD	1
3	30044	Seacat Anode, 1" Dia., G1050	3
4	30231	NUT, 1/2-13 Nylon Stop, SS	4
5	30259	WASHER, 1/2" FLAT/NARROW, AN960C816L, SS	8
6	30594	WASHER, 1/2" SPLIT RING LOCK, SS	4
7	30603	CAP SCREW, 1/2-13 X 3-1/2" SOCKET HEAD, SS	4
8	VARIES	ADAPTER PLATES W/PINS, OCEAN TEST, bottom plate	1

UNLESS OTHERWISE SPECIFIED:		NAME	DATE	SEA-BIRD ELECTRONICS, INC. 13431 NE 20th Street, Bellevue, WA 98005 425-643-9866
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL: ± 1/x ANGULAR: ± 0.5° BEND ± .X ± .05 TYP RAD .01 .XX ± .01 .XXX ± .003 MACHINED SURFACES		DRAWN	KLP 10.29.05	
INTERPRET GEOMETRIC TOLERANCING PER: ANSI Y14.5M - 1994		<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF SEA-BIRD ELECTRONICS, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF SEA-BIRD ELECTRONICS, INC. IS PROHIBITED.		TITLE: SBE32 1" frame assembly hardware kit
MATERIAL		<b>COMMENTS:</b> <b>DEBUR AND BREAK SHARP EDGES</b> Old Part/Draw Info N/A / N/A		PART NO. <b>50112</b>
FINISH N/A	DO NOT SCALE DRAWING	SCALE: 1:2		SIZE DWG. NO. <b>B 40684D</b>
			SHEET 1 OF 3	

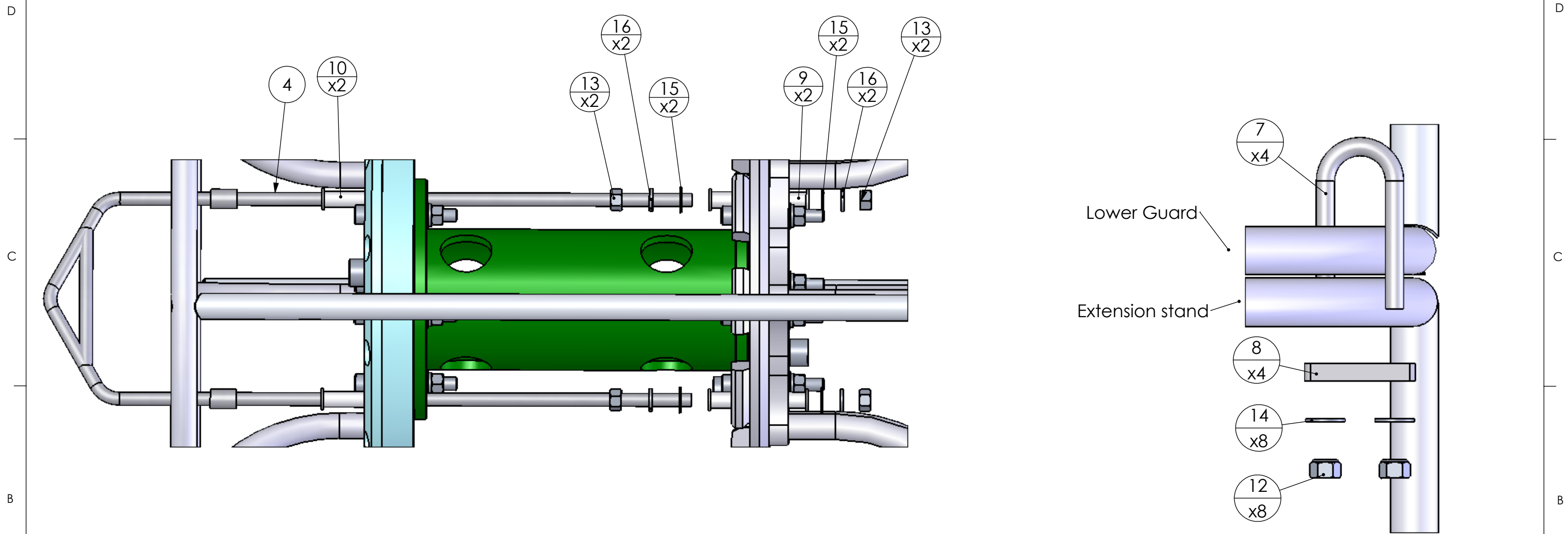
DATE	REV	DESCRIPTION	AUTH	DR	CK.
-	-	See Sheet1	-	-	-



ITEM NO.	PN	DESCRIPTION	QTY.
3	VARIES	SBE32 1", UPPER GUARD	1
4	VARIES	SBE-32 CAROUSEL 12/24 PLACE GUARD SIDE BAR 1	3
5	VARIES	SBE-32 CAROUSEL 12/ 24 PLACE GUARD SIDE BAR 2	3
6	30044	Seacat Anode, 1" Dia., G1050	3
7	30231	NUT, 1/2-13 Nylon Stop, SS	4
8	30259	WASHER, 1/2" FLAT/NARROW, AN960C816L, SS	8
9	30594	WASHER, 1/2" SPLIT RING LOCK, SS	4
10	30596	MACH SCREW, 1/4-20 X 1-1/2 FLAT HD SOCKET, SS	12
11	30603	CAP SCREW, 1/2-13 X 3-1/2" SOCKET HEAD, SS	4
13	VARIES	ADAPTER PLATES W/PINS, OCEAN TEST, Top plate	1

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			SCALE: 1:2	SHEET 2 OF 3

DATE	REV	DESCRIPTION	AUTH	DR	CK.
-	-	See Sheet1	-	-	-



	PN	DESCRIPTION	QTY.
4	23678	SBE32 1" FRAME, 12 PLACE LIFTING BAIL	1
7	23694	SBE32 1 IN, CAGE "U" BOLT	4
8	23695	SBE32 1" FRAME, CAGE FLANGE	4
9	23920	SBE 32 SMALL BAIL INSULATOR, 1.10"/ 20925C	4
10	23921	SBE 32 SMALL BAIL INSULATOR, 2.35"	2
12	30210	Nut, 3/8-16 Nylon Stop	8
13	30231	NUT, 1/2-13 Nylon Stop, SS	4
14	30257	WASHER, 3/8 FLAT, SS, 7/8" OD MAX	8
15	30259	WASHER, 1/2" FLAT/NARROW, AN960C816L, SS	4
16	30594	WASHER, 1/2" SPLIT RING LOCK, SS	4

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MATERIAL		Old Part/Draw Info N/A / N/A		PART NO. <b>50112</b>
FINISH N/A		DO NOT SCALE DRAWING		SIZE DWG. NO. <b>B 40684D</b>
				SCALE: 1:2 SHEET 3 OF 3