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DATE	SYM	REVISION RECORD	AUTH	DR	CHK

SBE P/N 50341

SBE 32 Large Frame complete Hardware Kit

KIT CONTENTS

SBE P/N	Description	Primary SBE Application	QTY
231421	Rod, 1/2-13 Threaded, 18"	Secure and tighten Plates together	4
23686	SBE 32 CTD Mount Clamp	CTD Cage to Extension Stand	4
23687	SBE 32 CTD Insulator Bushing	Nylon bushing placed in extension stand CTD eyelet mounting hole	1
23688	SBE 32 CTD Insulator Washer	Nylon washer used with CTD eyelet mounting nut, bolt, and bushing	1
23714	SBE 32 Cage U-Bolt	Interface Extension Stand to Lower Guard	6
23715	SBE 32 Cage Flange	Interface Extension Stand to Lower Guard	6
23919	SBE 32 Deck Pad 1.375" Dia.	Deck Pads used to protect Carousel Base	6
23922	SBE 32 Large Bail Insulator	Bale to Lower hub / Adapter Plate	4
23923	SBE 32 Large Bail Insulator	Bale to Upper hub / Adapter Plate	2
30044	Seacat Anode, 1"	6 used on plates, 6 used on guards, 2 used on extension stand	14
30409	Teflon Tape	Used on all strapping, and contact points of U bolts and flanges	4'
30666	Blue Moly	Used on all threaded hardware to prevent seizing of metal on metal	1 can

HARDWARE

SBE P/N	Description	Primary SBE Application	QTY
30196	Bolt, 3/8-16 x 1-3/4 Hex SS	CTD cage top bar to extension stand	1
30210	Nut, 3/8-16 nylon stop	Extension stand U-Bolts; 1 on CTD bolt (30195)	13
30231	Nut, 1/2-13 Hex	18 on hub and guard bolts; 8 on threaded rod	32
30253	Washer, 1/4 fender	Used with CTD mounting clamp screws (30602)	4
30254	Washer, 1/4" Split Ring Lock	Used with CTD mounting clamp screws (30602)	4
30254	Washer, 1/4" Split Ring Lock	Used with Deck Pads	6
30259	Washer, 1/2 flat/narrow	2 on each Hub/Plate/Guard bolt (30603, 30612); 8 on Rods	46
30594	Washer, 1/2 split ring	1 on each Hub/Plate/Guard bolt (30603, 30612); 8 on Rods	30
30602	Screw, 1/4-20 x 2-1/4 Socket	CTD mount clamp securing screws	4
30603	Screw, 1/2-13 x 3-1/2 Socket	hub to guard securing bolts	6
30611	Mach screw, 3/8-16 x 2" FH	Side bar securing screws	12
30612	Mach screw, 1/2-13 x 2-1/2	Hub to Plate securing bolts	12
30615	Washer, 3/4" flat, SS	Used on Lifting Bail	6
30616	Washer, 3/4" Split ring lock	Used on Lifting Bail	2
30620	Nut, 3/4-10 NC Hex, SS	Used on Lifting Bail	4

SBE Drawings:

- 40683** CTD Extension Stand Installation
- 40684** Hub/Adapter Plate Assembly Detail
- 40697** Pylon and Lifting Bail Detail
- 40713** Carousel Frame Assembly
- 67117** Deck Pad Assembly

Sea-Bird Electronics Procedure

PROCEDURE NUMBER: **67140**
 TITLE: **SBE32 Large Frame Complete Hardware Kit**
 REVISION:
 EFFECTIVE DATE: **07/14/2003**
 CHECKED BY: _____

APPLICATIONS:*Accessory Parts*

SBE P/N	Part Description	Primary SBE Application	QTY
30044	Zinc Anode, 1"	3 on each adapter plate, 3 on each frame guard, 2 on ext. stand	14
30409	Teflon Tape	Wrap 8" around each position where a U-Bolt will go	4 feet
30666	Blue Moly NeverSeez	Apply liberally to ALL threaded areas that receive nuts	1 can

Pylon Lifting Bale

SBE P/N	Part Description	Primary SBE Application	QTY
23922	SBE 32 Large Bail Insulator	Bale to Lower hub / Adapter Plate	4
23923	SBE 32 Large Bail Insulator	Bale to Upper hub / Adapter Plate	2
30615	Washer, 3/4" flat, SS	Use at each insulator interface	6
30616	Washer, 3/4" Split ring lock	Use between flat washer and stop nut	2
30620	Nut, 3/4-10 NC Hex, SS	Used above adapter plate to provide extra tension	4

Hub to Adapter Plates

SBE P/N	Part Description	Primary SBE Application	QTY
30231	Nut, 1/2-13 Hex	Pylon hub to top & bottom guards	12
30259	Washer, 1/2 flat/narrow	2 on each Hub to Plate bolt	24
30594	Washer, 1/2 split ring	1 on each Hub to Plate bolt	12
30612	Screw, 1/2-13 x 2-1/2 Socket	Adapter plates to hub	12

Deck Pads

SBE P/N	Part Description	Primary SBE Application	QTY
23919	SBE32 Deck Pad, 1.375" Dia.	Installed on Carousel Frame to protect from deck surface	6
30254	Washer, 1/4 th Split ring lock	Used on Cap Screws	6
30377	Cap Screw, 1/4-20 x 1-1/4, SH	Secures Deck Pads together on Carousel Frame	6
30570	Washer, 1/4 th Flat	Used on Cap Screws	6
67117.1	SBE32 Carousel Deck PA	Manual for Deck Pad Kit	1

Frame to Plates, and Side Bars

SBE P/N	Part Description	Primary SBE Application	QTY
231421	Rod, 1/2-13, 18" length	Secure Outer ring on Plates together	4
30259	Washer, 1/2 Flat/narrow	16 used on rods, 12 on bolts	28
30594	Washer, 1/2" split ring lock	8 on rods, 6 on bolts	14
30231	Nut, 1/2-13 Hex	8 on rods, 6 on bolts	14
30603	Bolt, 1/2-13 x 3-1/2 Hex	Secure lower plate to frame, outer ring, alternate with rods	6
30219	Nut, 1/2-13 Nylon Stop	8 on rods	8

Extension Stand

SBE P/N	Part Description	Primary SBE Application	QTY
<i>Sea-Bird Installed</i>			
30196	Bolt, 3/8-16 x 1-3/4 Hex SS	CTD cage top bar to extension stand	1
30210	Nut, 3/8-16 nylon stop	CTD bolt (30196)	1
30253	Washer, 1/4 fender	Used with CTD mounting clamp screws (30602)	4
30254	Washer, 1/4" Split Ring Lock	Used with CTD mounting clamp screws (30602)	4
30257	Washer, 3/8 flat	CTD mount bolt (30196)	2
23686	SBE 32 CTD Mount Clamp	CTD Cage to Extension Stand	4
23687	SBE 32 CTD Insulator Bushing	Placed in extension stand CTD eyelet mounting hole	1
23688	SBE 32 CTD Insulator Washer	Used with CTD eyelet mounting nut, bolt, and bushing	1
<i>Customer Installed</i>			
23714	SBE 32 Cage U-Bolt	Interface Extension Stand to Lower Guard	4
23715	SBE 32 Cage Flange	Interface Extension Stand to Lower Guard	4
30210	Nut, 3/8-16 nylon stop	Extension stand U-Bolts	8
30257	Washer, 3/8 flat	Extension stand U-Bolts	8

Carousel Frame Final Assembly

Refer to SBE Assembly drawing number 40713 for details

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

A. Install CTD into extension stand per drawing 40683.

1. CTD and cage installs into frame per drawing with pre-installed hardware.
2. Any external sensors may be mounted later for safety, or now for convenience.
3. Place extension stand on floor. Wrap Teflon tape around center of each space between crossbars.

B. Install lower guard onto extension stand per assembly drawing 40713.

1. Place lower guard on top of extension stand.
2. Secure with U-bolts, Teflon Tape, and flanges per drawing.

C. Install and secure lower plate onto lower guard per assembly drawing 40684.

1. Install lower plate such that all pins are facing up. Align such that the 2 largest holes on the plate are lined up with the same holes on guard.
2. Secure with 6 bolts (30603), nuts (30231), and lock washers (30254), and 12 flat washers (30259).
3. On the plate, there are 2 larger holes, and 10 smaller ones. Place bolts such that they fill the 1, 3, and 5 positions between the large holes.

D. Install and secure Hub (*with pylon removed*) per Assembly drawing 40697.

1. Hub installs with the side with 6 small screw holes to the top.
2. Secure top bottom plate with 6 bolts (30612), lock washers (30594), and nuts (30231), and 12 flat washers (30259).

E. Install and secure upper Plate per drawing 40697.

1. Install upper plate such that curved side of outer ring is on top.
2. Secure to Hub with 6 bolts (30612), lock washers (30594), and nuts (30231), and 12 flat washers (30259).

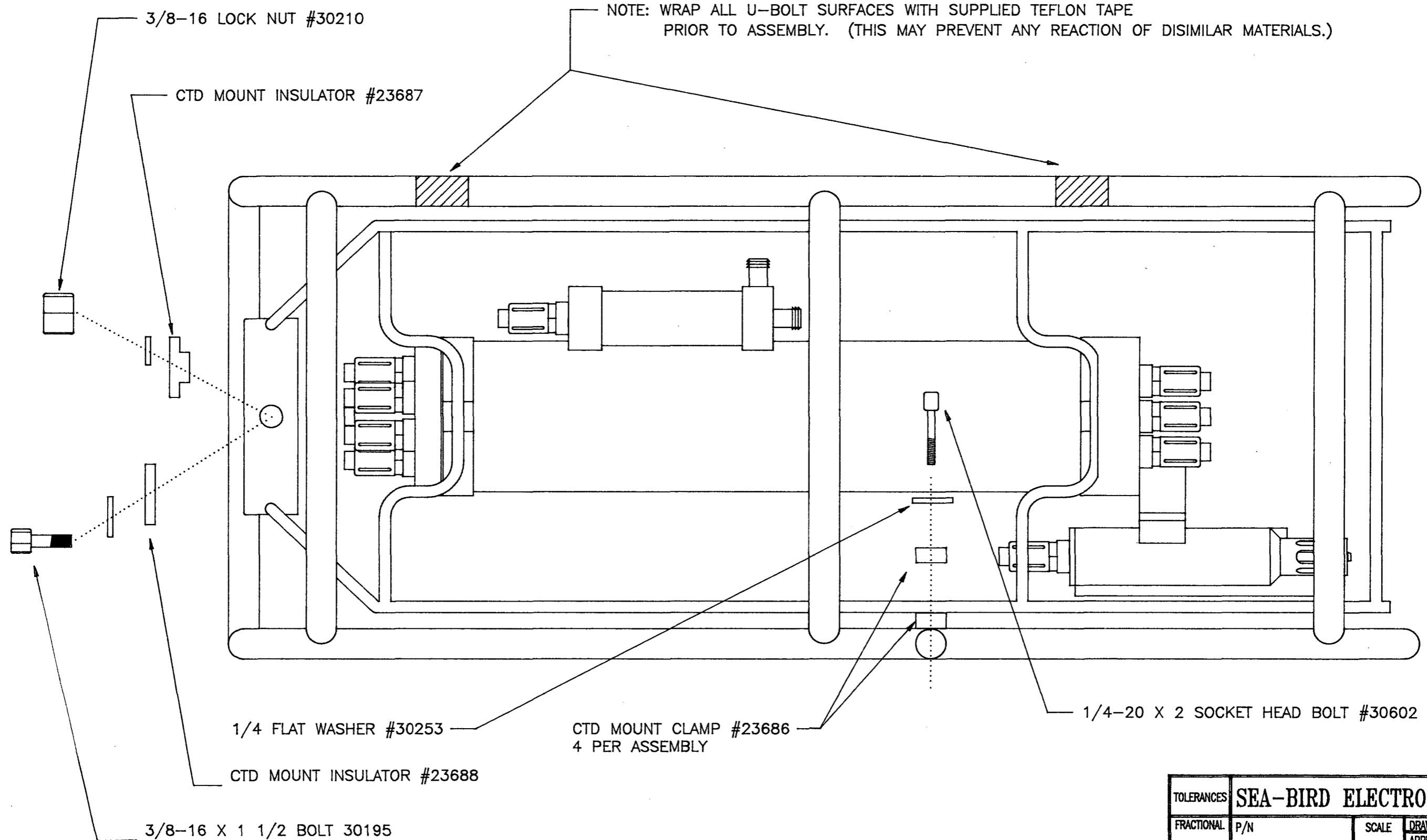
F. Install and secure upper guard and Lifting bail per assembly drawing 40697.

1. Install guard over upper plate.
2. Secure to lower guard directly with the threaded rods.
 - a. Install lock nut (30219) and flat washer (30259) on top of each rod and slide through holes on outer ring of plate.
 - b. Use flat washer, lock washer, and hex nut (30231) on inside of rod to plate interfaces.
 - c. Lock bottom of rod with flat washer and lock nut.

G. Install Side Bars and Pylon last, per assembly drawings 40697 and 40713.

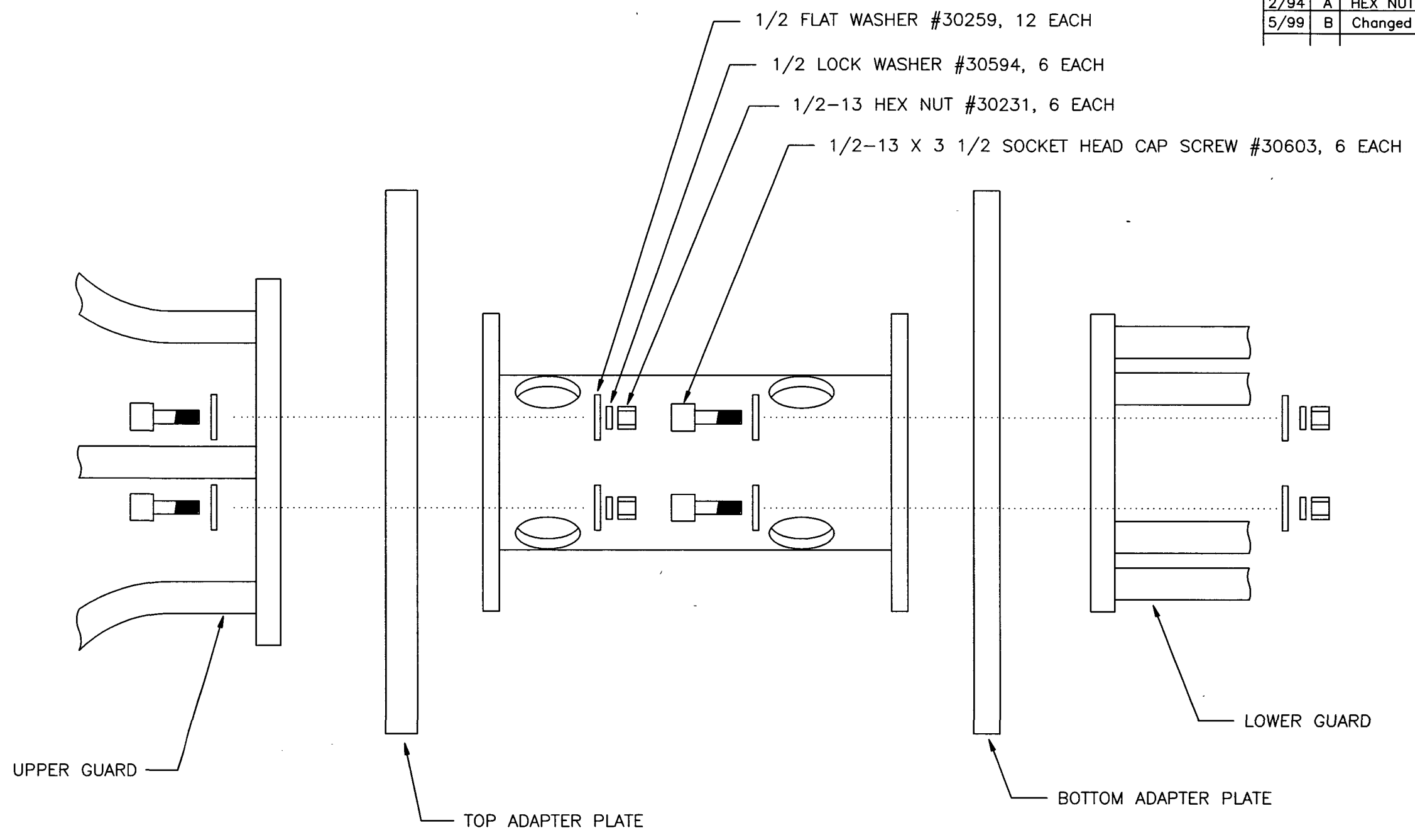
1. Side bars are secured to frame parts with 1 bolt (30611) on each end.
2. Pylon is installed into hub after entire frame is assembled.
3. Secure pylon from underneath with 6 screws (30602), lock washers (30254), flat washers (30570), and insulators (30294).

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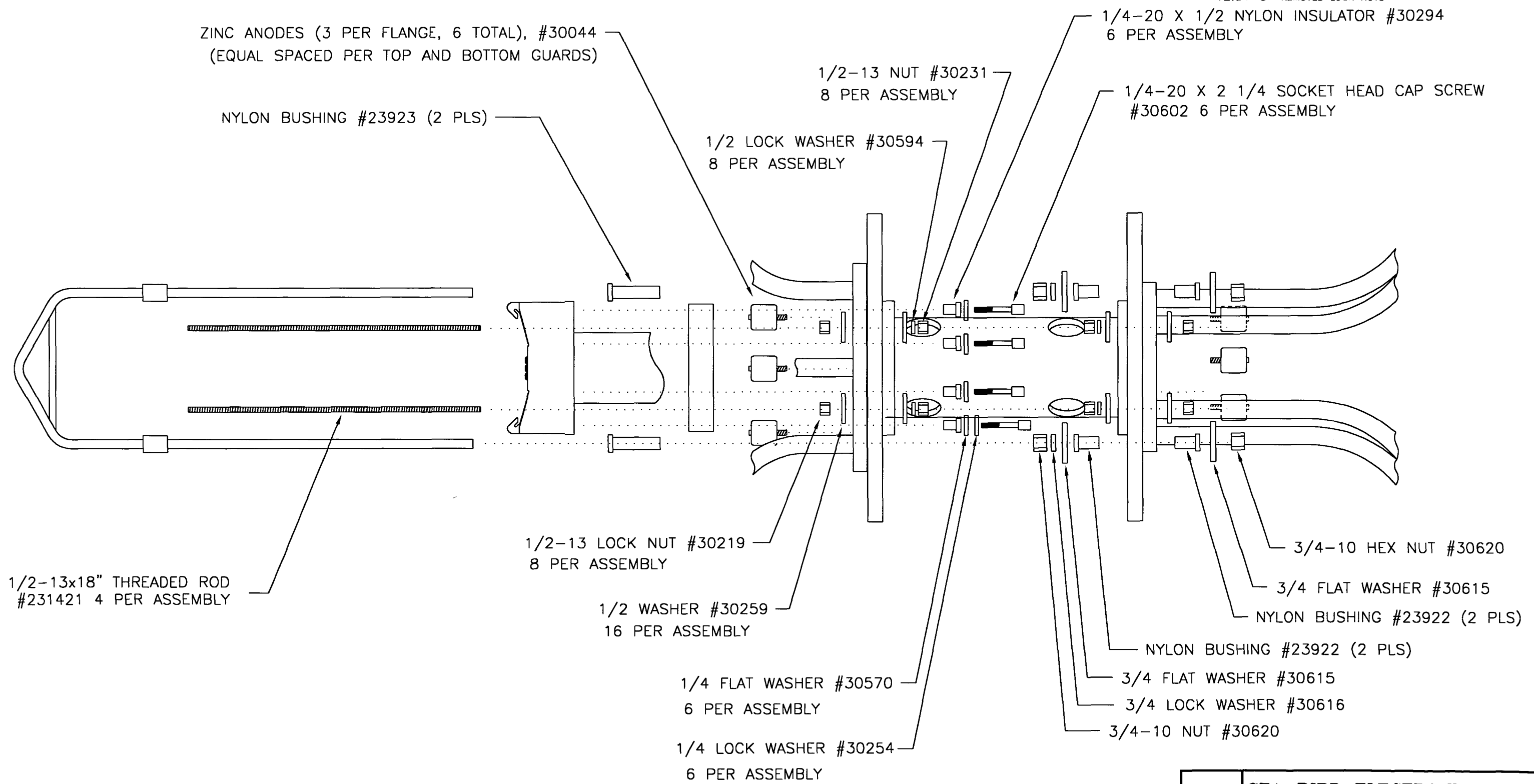
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FRACTIONAL	P/N	SCALE	DRAWN BY DJM APPROVED BY		
DECIMAL	TITLE SBE 32 CTD EXTENSION STAND CTD INSTALLATION				
ANGULAR	DATE 10/22/93	DRAWING NUMBER 40683	REV		

DATE	SYM	REVISION RECORD	AUTH.	DR.	CK.
2/94	A	HEX NUT & LABELING	PG	DG	
5/99	B	Changed Bolt Quantity	MJ		



TOLERANCES	SEA-BIRD ELECTRONICS, INC			
FRACTIONAL	P/N	SCALE	DRAWN BY DJM	
DECIMAL	TITLE SBE 32 HUB/ADAPTER/FRAME ASSEMBLY DETAIL			
ANGULAR	DATE	DRAWING NUMBER	REV	
	10/22/93	40684	B	

DATE	SYM	REVISION RECORD	AUTH.	DR.	CK.
2/95	A	NYLON BAIL INSULATORS	PG	DG	
1/98	B	CHANGED THREADED ROD SPEC	RMB		
5/99	C	ADDED LOCK WASHERS TO HUB	MJ		
12.01	D	REMOVED LOCK NUTS	MJ		



NOTE: APPLY THREAD ANTI-SEIZE TO ALL THREADED HARDWARE PRIOR TO ASSEMBLY.

TOLERANCES	SEA-BIRD ELECTRONICS, INC				
FRACTIONAL	P/N	SCALE	DRAWN BY DJM		
DECIMAL	TITLE SBE 32 PYLON AND LIFTING BAIL DETAIL 24 PLACE				
ANGULAR	DATE 1/27/94	DRAWING NUMBER 40697			REV D

DATE	SYM	REVISION RECORD	AUTH.	DR.	CK.
3.14.95	A	CHANGED MISC. TEXT			
5.99	B	Added 24PI Hardware	MJ		

12 PER ASSEMBLY
 12PI: 1/4-20 1 1/2 FLAT HEAD
 SOCKET CAP SCREW #30596
 24PI: 3/8-16 x 2 FLAT HEAD
 SOCKET CAP SCREW #30611

GUARD SIDE BAR 2
 (3 PER ASSEMBLY)

CAGE U-BOLT FLANGE
 (4-6 PER ASSEMBLY)

3/8 FLAT WASHER #30257

CAGE U-BOLT
 (4-6 PER ASSEMBLY)

3/8 LOCK NUT #30210

HUB BODY

LIFTING BAIL

WRAP U-BOLT
 CONTACT AREA W/
 1" TEFLON TAPE
 4 PL., PT#30409

PYLON ASSEMBLY
 SEE DWGS# 40685B- 12 PLACE
 40697A- 24 PLACE

PLASTIC END CAP SPACER #23685

BOTTOM ADAPTER PLATE

UPPER GUARD

LOWER GUARD

TOP ADAPTER PLATE

GUARD SIDE BAR 1
 (3 PER ASSEMBLY)

CTD EXTENSION STAND

NOTES:

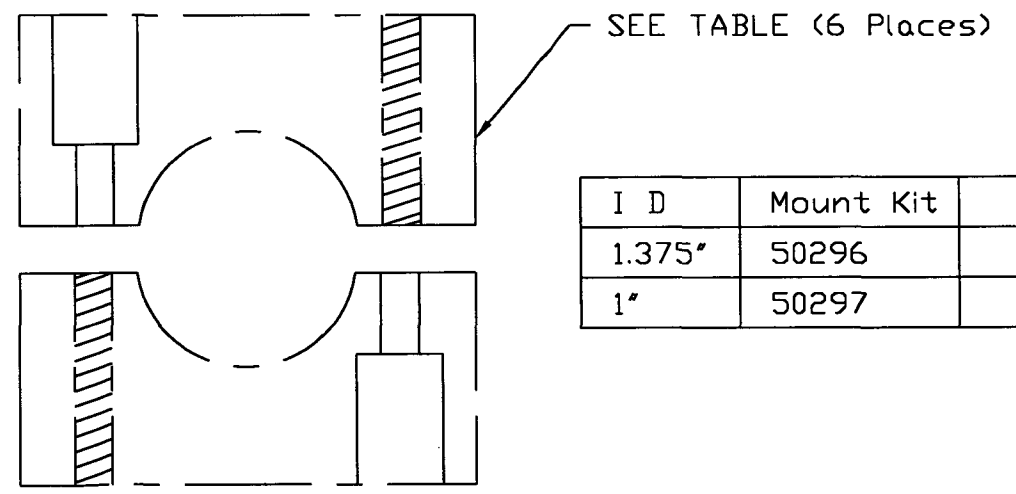
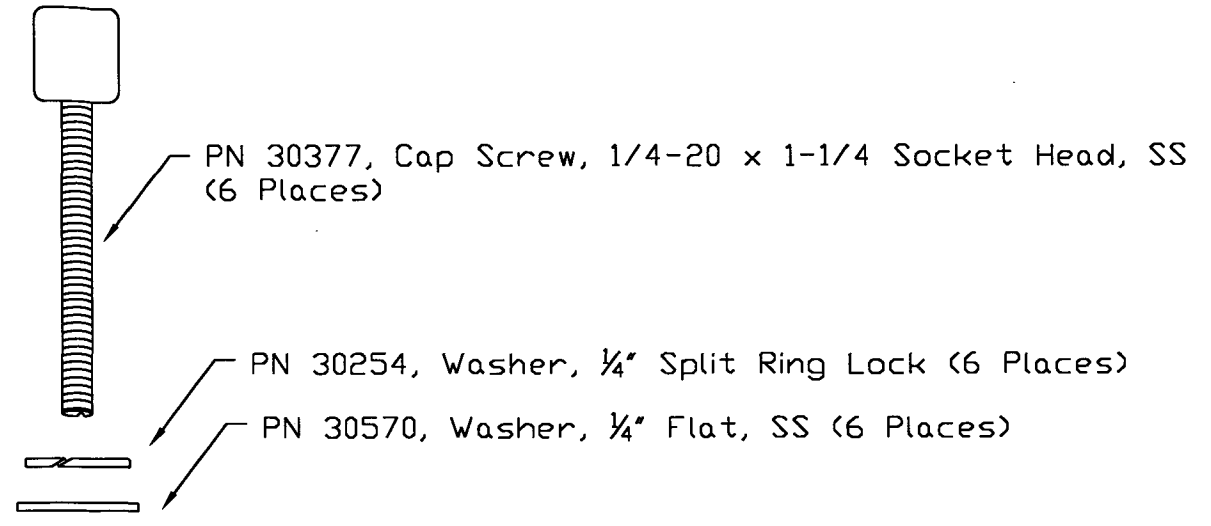
- REFER TO DRAWING 40714 FOR SPECIFIC PART NUMBERS FOR EACH FRAME TYPE

TOLERANCES	SEA-BIRD ELECTRONICS, INC				
FRACTIONAL	P/N	SCALE	DRAWN BY	DG	
DECIMAL	TITLE	SBE 32 CAROUSEL FRAME ASSEMBLY			
ANGULAR	DATE	DRAWING NUMBER	40713	REV	B
	4/11/94				

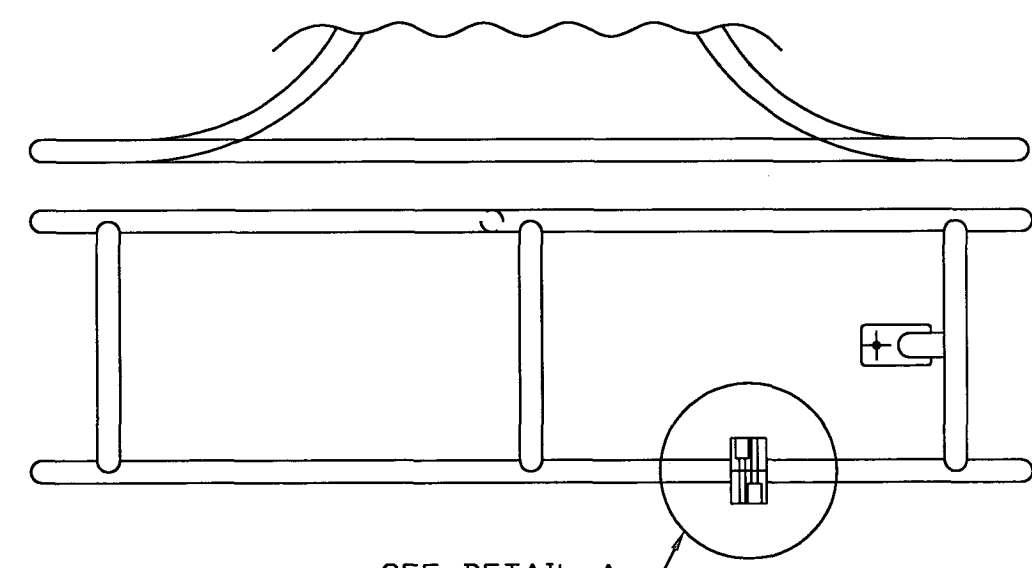
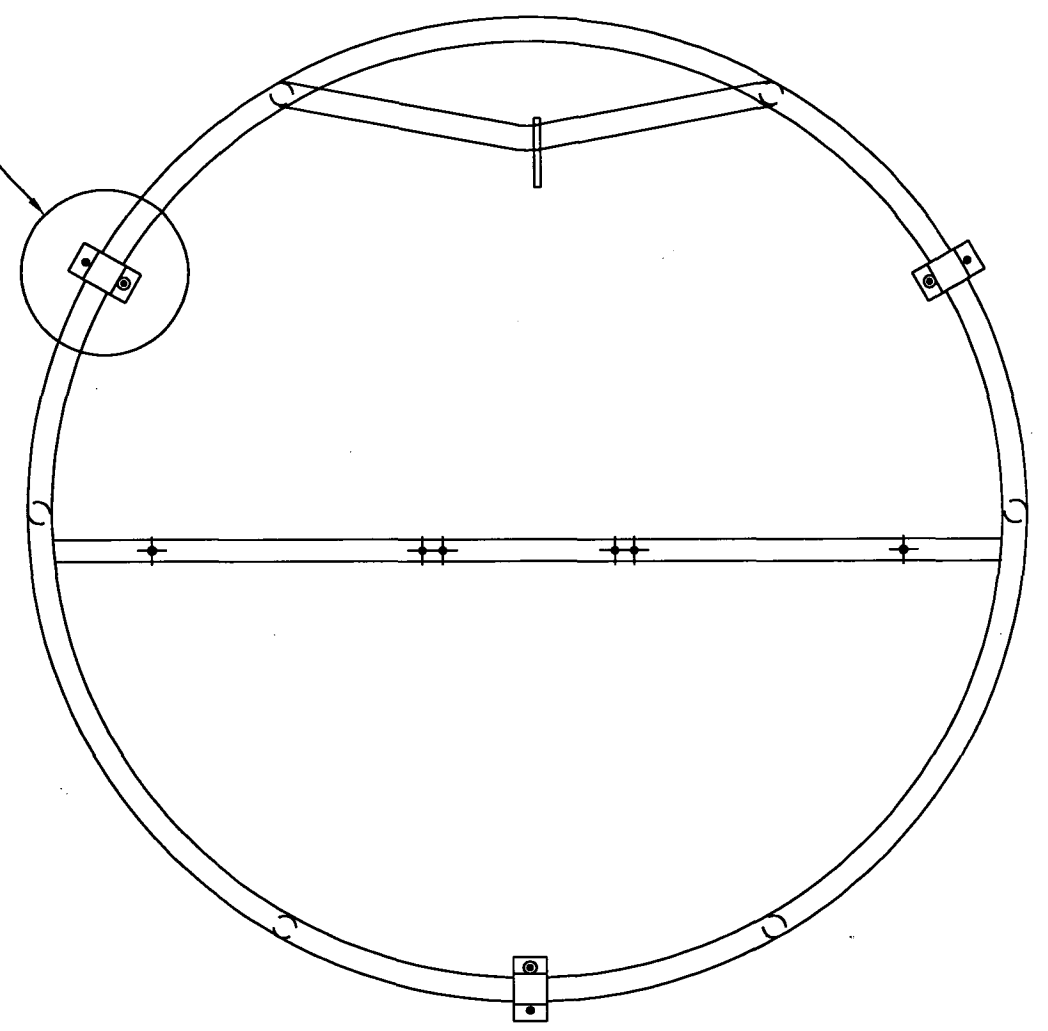
DATE	SYM	REVISION RECORD	AUTH.	DR.	CK.

DETAIL A:

SEE DETAIL A:



I D	Mount Kit	Mount Block
1.375"	50296	PN 23919, SBE32 Deck Pad, 1.375" Dia
1"	50297	PN 23918, SBE32 Deck Pad, 1" Dia



TOLERANCES	SEA-BIRD ELECTRONICS, INC				
FRACTIONAL	P/N	Varies	SCALE	DRAWN BY MJ	
DECIMAL	TITLE		NTS	APPROVED BY	
ANGULAR	DATE	DRAWING NUMBER		REV	
	11.12.01	67117			

01/12/01