

# **TELEMARK** 294 Multi Pocket E-Beam Source Drawings

The current version of this drawing pdf can be found at

<https://telemark.com/electron-beam-sources/multi-pocket-sources/>

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# Reference Dimensions

## **E-Beam Source**



A

B

C

D

E

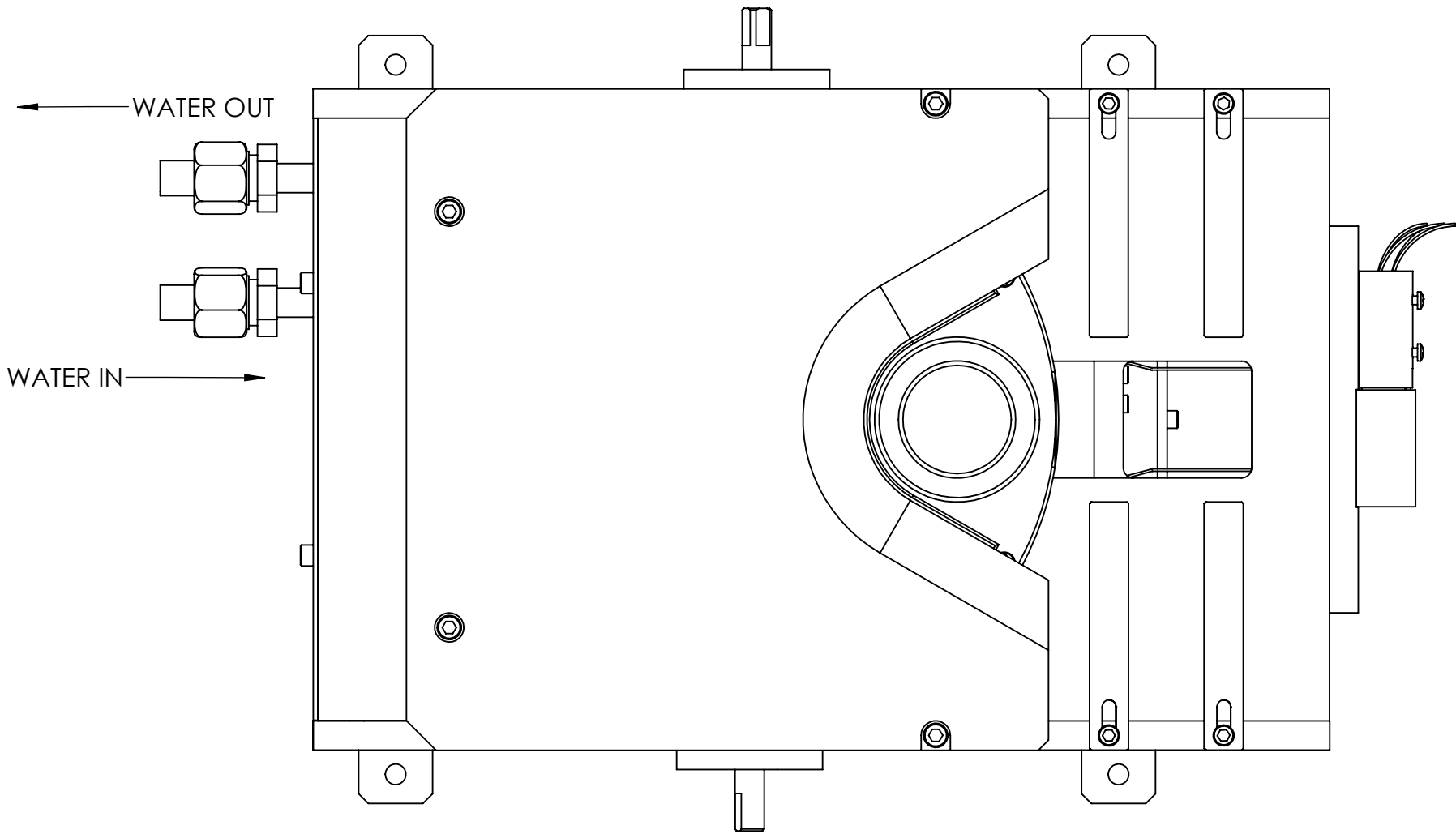
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ECN	ZONE	REV	DESCRIPTION	BY	DATE
			SEE SHEET ONE		

# MODEL 294

## IMPORTANT WATER LINE CONNECTION INFORMATION



UNLESS OTHERWISE SPECIFIED GLOBAL TOLERANCES		DWG BY CHECK BY PROJ ENG MFG ENG	DATE DATE DATE DATE	MATERIAL:	<b>TELEMARK</b> telemark.com
INCHES [mm] .X +/- .03 [0.762] .XX +/- .01 [0.254] .XXX +/- .005 [0.127] ANGLES +/- .5° SURF FINISH 63 RMS		DO NOT SCALE DRAWING		FINISH:	
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<b>C</b>		SCALE 1:4 SHEET 2 of 2		DWG NO. <b>R294-0003</b>	REV <b>C</b>



# Model Assemblies

## **E-Beam Sources**

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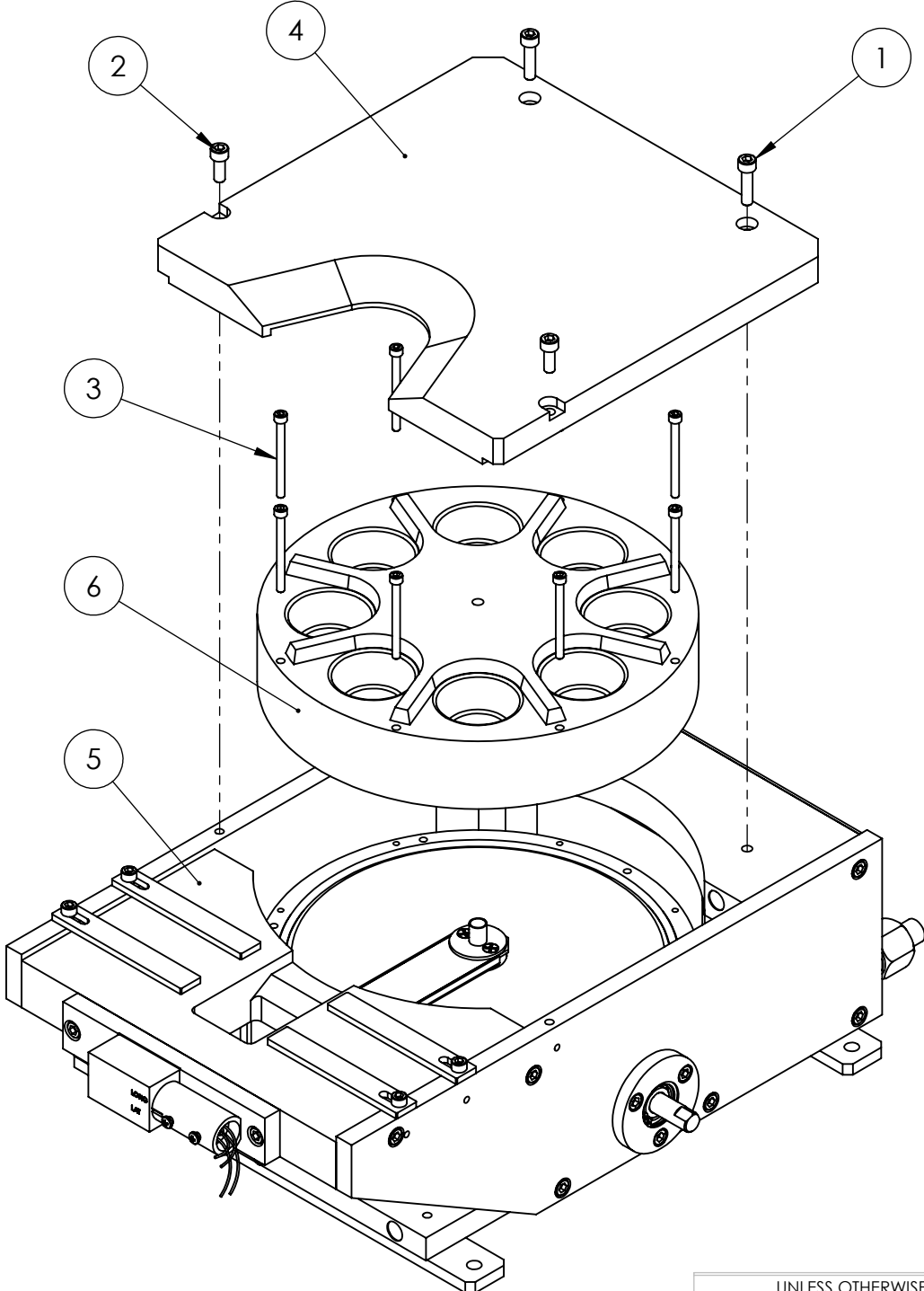
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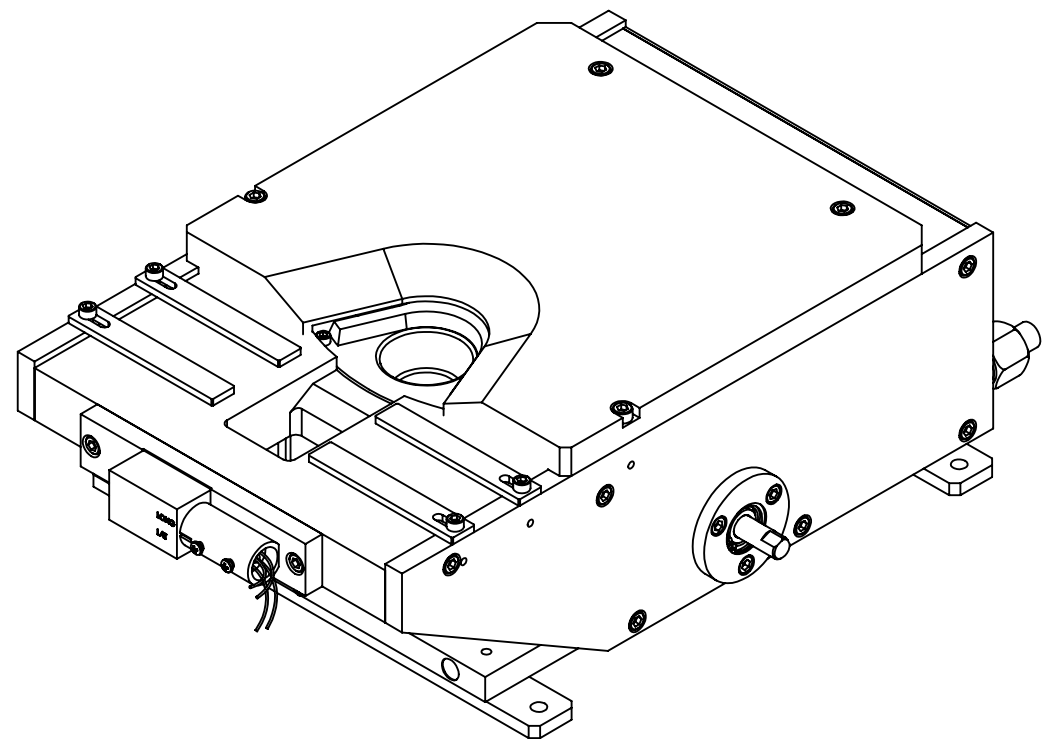
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ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	PWF	8/18/2011

ITEM NO.	PART NUMBER	DESCRIPTION	294-9901-2/QTY.
1	271-6171-1	VENTED SCREW, #10-32 X 3/4" SST. SHCS	2
2	271-6150-1	VENTED SCREW, #10-32 X 1/2" SST. SHCS	2
3	271-6130-1	VENTED SCREW, #8-32 X 1-3/4" SST SHCS, (6 POCKET)	8
4	294-0075-2	COVER, 8 POCKET	1
5	294-0133-2	EB SOURCE SUB ASSEMBLY, SIDE DRIVE	1
6	294-0240-3	CRUCIBLE, 8 X 15cc	1

UNLESS OTHERWISE SPECIFIED  
GLOBAL TOLERANCES

	INCHES	[mm]
.X	+/- .03	[0.762]
.XX	+/- 0.01	[0.254]
.XXX	+/- 0.005	[0.127]

ANGLES +/- .5°  
SURF FINISH 63 RMS

DWG BY  
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PROJ ENG  
MFG ENG

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DATE

DO NOT SCALE DRAWING

FILE NUMBER - 294-9901-2  
INITIAL PROJECT -

MATERIAL:

FINISH:

THIRD ANGLE PROJECTION

TELEMARK

telemark.com

MODEL 294-01 EB SOURCE,  
8 PKT, 15CC, S/D

B

SCALE 1:3  
SHEET 1 of 1

DWG NO. 294-9901-2

REV A

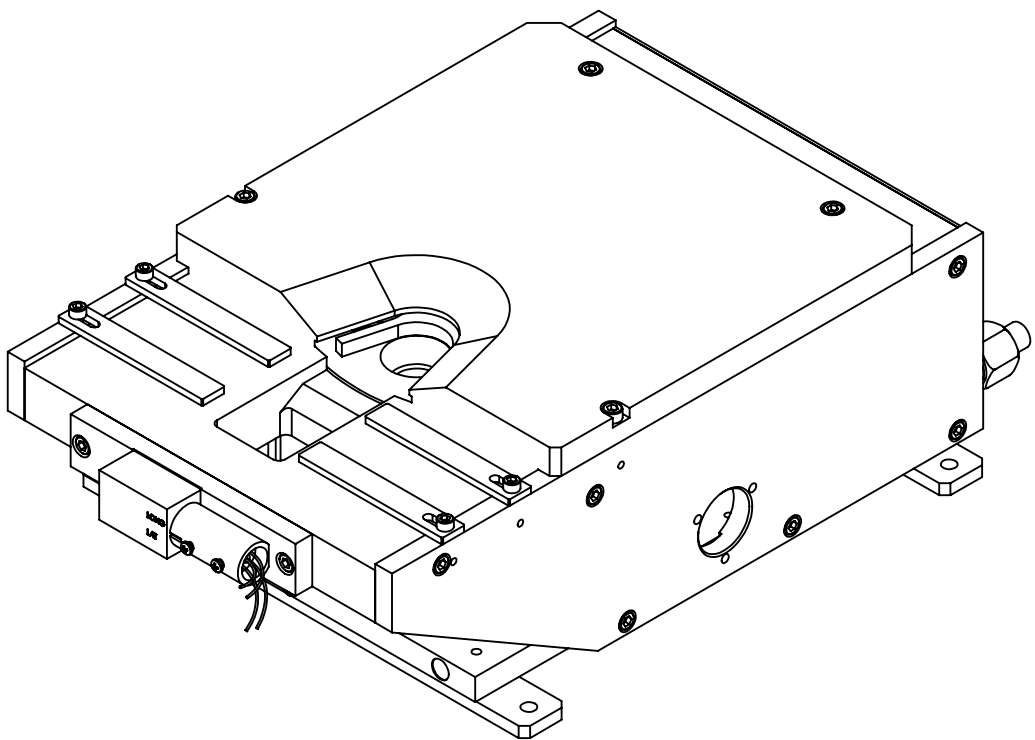
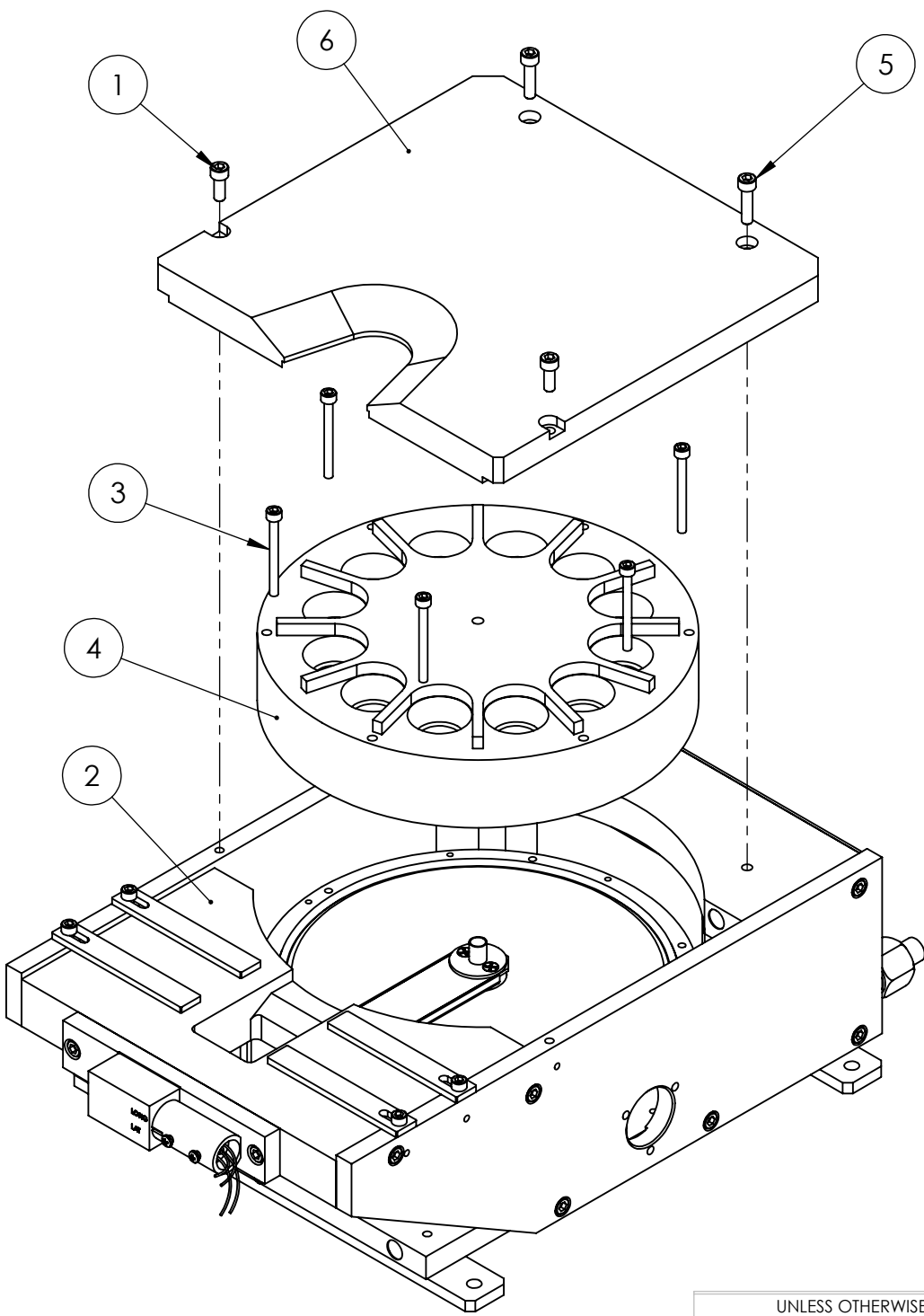
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ITEM NO.	PART NUMBER	DESCRIPTION	294-9906-2/QTY.
1	271-6150-1	VENTED SCREW, #10-32 X 1/2" SST. SHCS	2
2	294-0135-2	EB SOURCE SUB ASSEMBLY, BOTTOM DRIVE	1
3	271-6135-2	VENTED SCREW, #8-32 X 1-5/8" SST SHCS	6
4	294-0260-3	CRUCIBLE, 12 X 7cc	1
5	271-6171-1	VENTED SCREW, #10-32 X 3/4" SST. SHCS	2
6	294-0078-2	COVER, 12 POCKET	1

UNLESS OTHERWISE SPECIFIED  
GLOBAL TOLERANCES

	INCHES	[mm]
.X	+/- .03	[0.762]
.XX	+/- 0.01	[0.254]
.XXX	+/- 0.005	[0.127]

ANGLES +/- .5°  
SURF FINISH 63 RMS

DWG BY  
CHECK BY  
PROJ ENG  
MFG ENG

DATE  
DATE  
DATE  
DATE

DO NOT SCALE DRAWING

FILE NUMBER - 294-9906-2  
INITIAL PROJECT -

MATERIAL:

FINISH:

THIRD ANGLE PROJECTION

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MODEL 294-06 EB SOURCE,  
12 PKT, 7CC, B/D

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SCALE 1:3  
SHEET 1 of 1

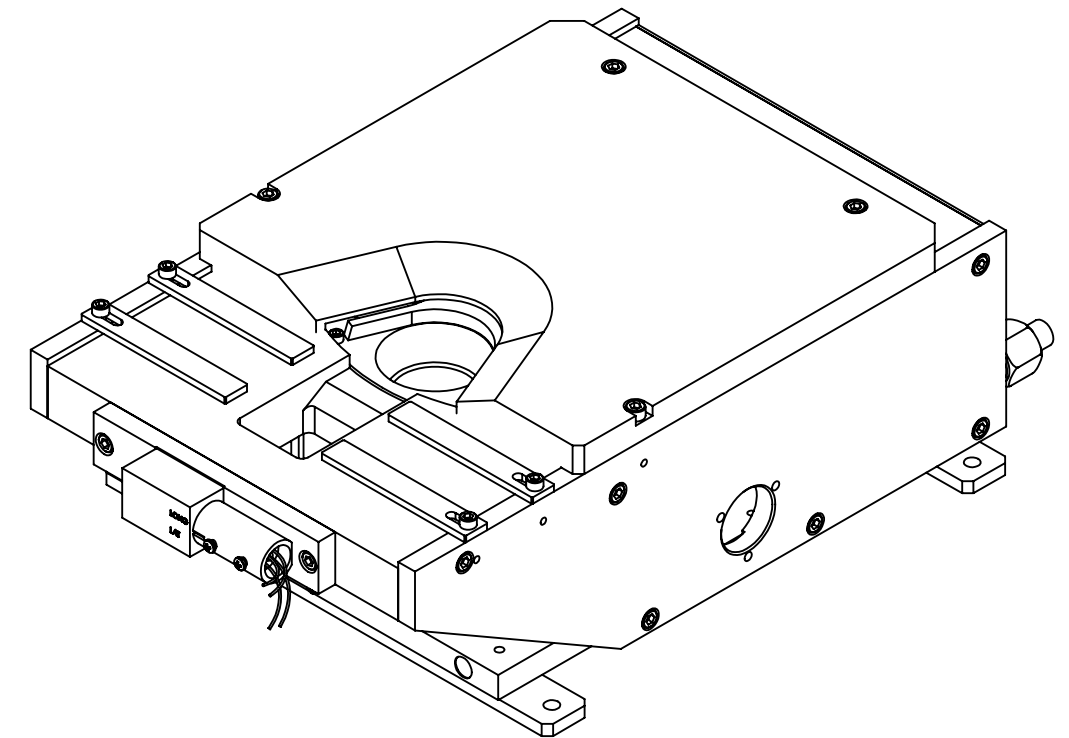
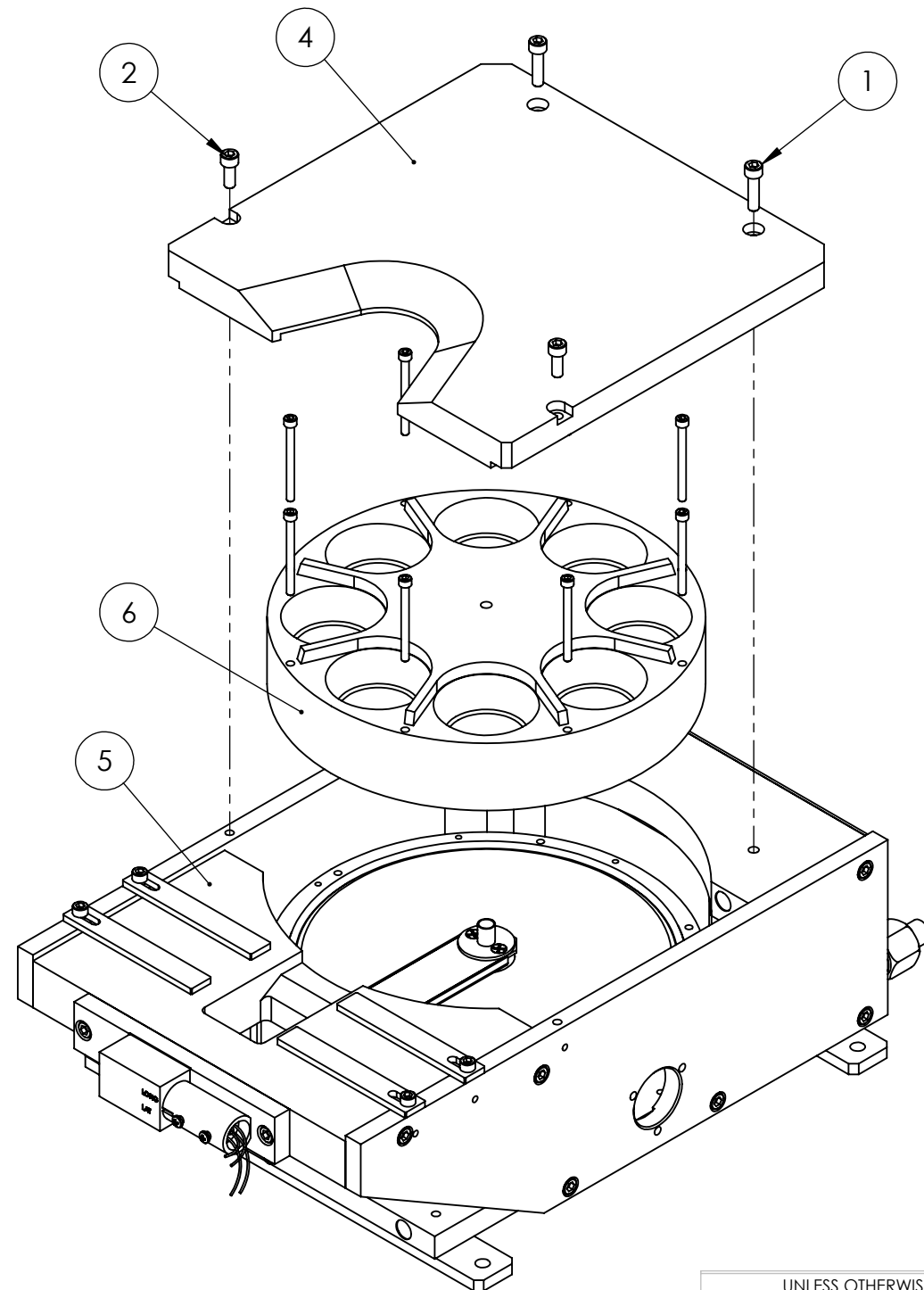
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294-9906-2

REV  
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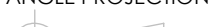
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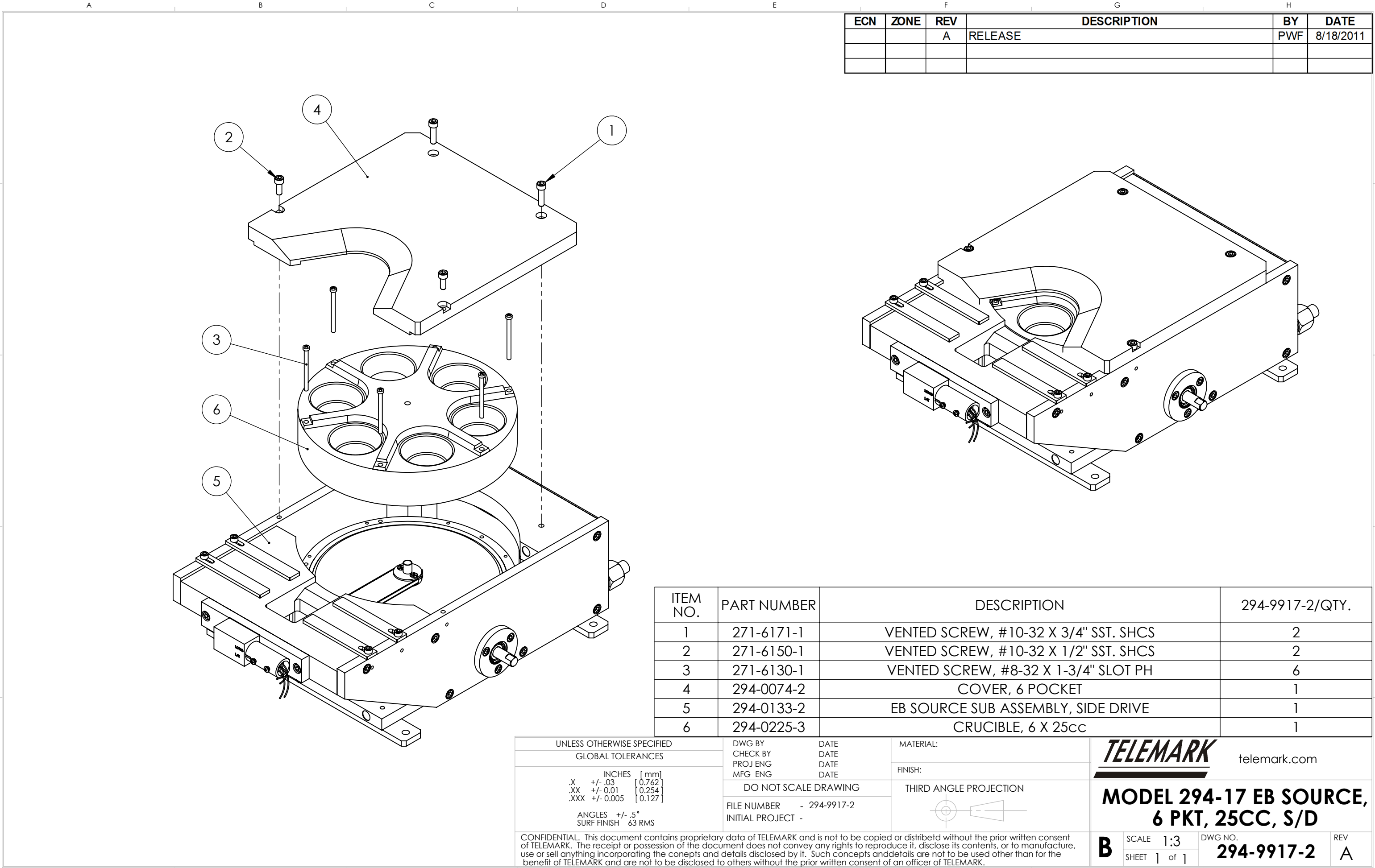


ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	PWF	8/18/2011



ITEM NO.	PART NUMBER	DESCRIPTION	294-9908-2/QTY.
1	271-6171-1	VENTED SCREW, #10-32 X 3/4" SST. SHCS	2
2	271-6150-1	VENTED SCREW, #10-32 X 1/2" SST. SHCS	2
3	271-6130-1	VENTED SCREW, #8-32 X 1-3/4" SST SHCS, (6 POCKET)	8
4	294-0075-2	COVER, 8 POCKET	1
5	294-0135-2	EB SOURCE SUB ASSEMBLY, BOTTOM DRIVE	1
6	294-0245-3	CRUCIBLE, 8 X 25cc	1

UNLESS OTHERWISE SPECIFIED		DWG BY		DATE	MATERIAL:	<div>TELEMARK</div> <div>telemark.com</div>		
GLOBAL TOLERANCES		CHECK BY		DATE				
		PROJ ENG		DATE				
		MFG ENG		DATE	FINISH:			
		DO NOT SCALE DRAWING						
INCHES [mm] .X +/- .03 [0.762] .XX +/- 0.01 [0.254] .XXX +/- 0.005 [0.127]		FILE NUMBER - 294-9908-2			<div>THIRD ANGLE PROJECTION</div> <div></div>	MODEL 294-08 EB SOURCE, 8 PKT, 25CC, B/D		
ANGLES +/- .5° SURF FINISH 63 RMS		INITIAL PROJECT -						
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ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	PWF	8/18/2011

ITEM NO.	PART NUMBER	DESCRIPTION	294-9918-2/QTY.
1	271-6150-1	VENTED SCREW, #10-32 X 1/2" SST. SHCS	2
2	294-0135-2	EB SOURCE SUB ASSEMBLY, BOTTOM DRIVE	1
3	271-6130-1	VENTED SCREW, #8-32 X 1-3/4" SLOT PH	6
4	294-0074-2	COVER, 6 POCKET	1
5	294-0225-3	CRUCIBLE, 6 X 25cc	1
6	271-6171-1	VENTED SCREW, #10-32 X 3/4" SST. SHCS	2

UNLESS OTHERWISE SPECIFIED  
GLOBAL TOLERANCES

	INCHES	[mm]
.X	+/- .03	[0.762]
.XX	+/- 0.01	[0.254]
.XXX	+/- 0.005	[0.127]

ANGLES +/- .5°  
SURF FINISH 63 RMS

DWG BY  
CHECK BY  
PROJ ENG  
MFG ENG

DATE  
DATE  
DATE  
DATE

DO NOT SCALE DRAWING

FILE NUMBER - 294-9918-2  
INITIAL PROJECT -

MATERIAL:

FINISH:

THIRD ANGLE PROJECTION

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**MODEL 294-18 EB SOURCE,  
6 PKT, 25CC, B/D**

**B**

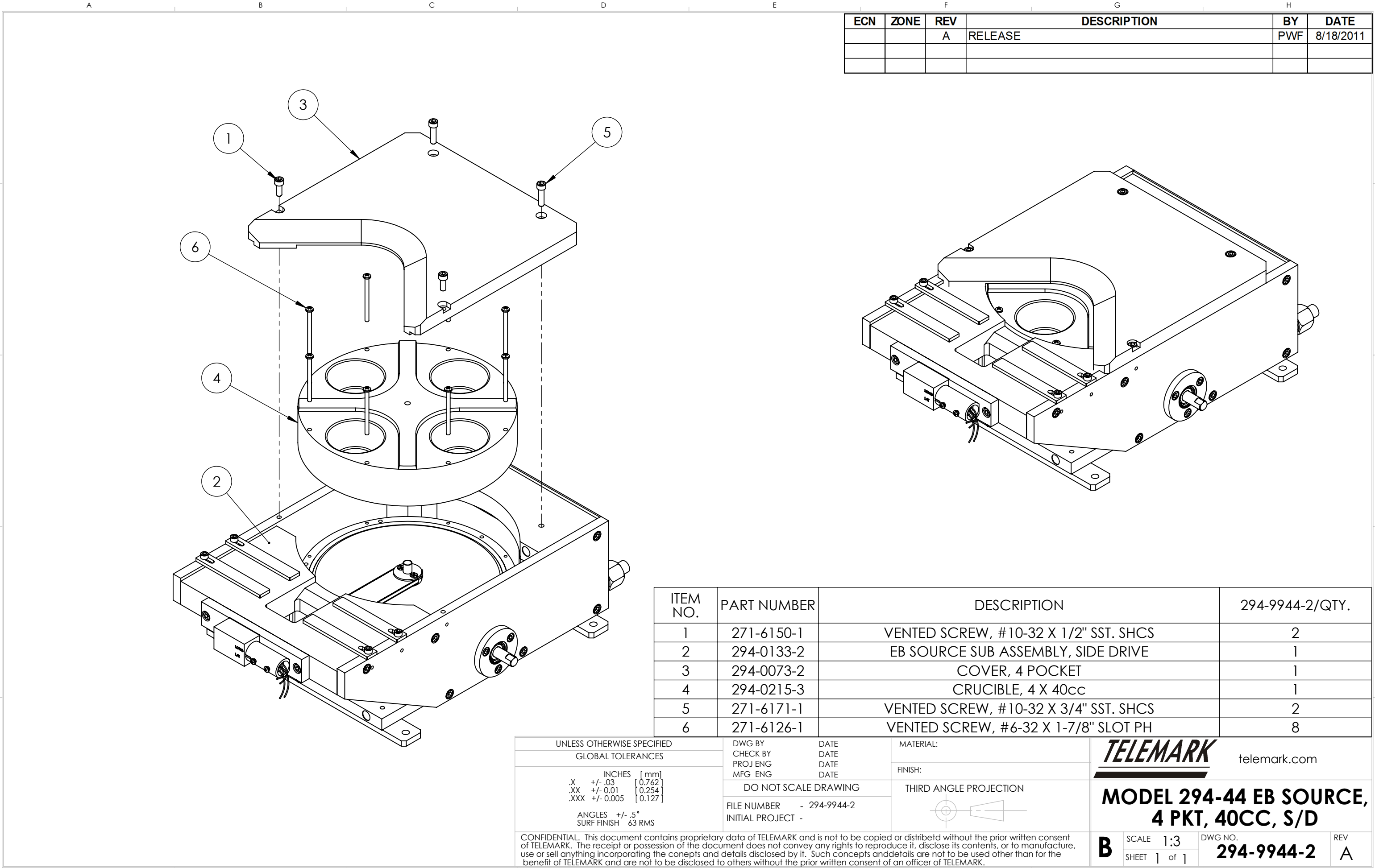
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DWG NO.  
**294-9918-2**

REV  
**A**

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ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	PWF	8/18/2011

ITEM NO.	PART NUMBER	DESCRIPTION	294-9944-2/QTY.
1	271-6150-1	VENTED SCREW, #10-32 X 1/2" SST. SHCS	2
2	294-0133-2	EB SOURCE SUB ASSEMBLY, SIDE DRIVE	1
3	294-0073-2	COVER, 4 POCKET	1
4	294-0215-3	CRUCIBLE, 4 X 40cc	1
5	271-6171-1	VENTED SCREW, #10-32 X 3/4" SST. SHCS	2
6	271-6126-1	VENTED SCREW, #6-32 X 1-7/8" SLOT PH	8

UNLESS OTHERWISE SPECIFIED  
GLOBAL TOLERANCES

	INCHES	[mm]
.X	+/- .03	[0.762]
.XX	+/- 0.01	[0.254]
.XXX	+/- 0.005	[0.127]

ANGLES +/- .5°  
SURF FINISH 63 RMS

DWG BY  
CHECK BY  
PROJ ENG  
MFG ENG

DATE  
DATE  
DATE  
DATE

DO NOT SCALE DRAWING

FILE NUMBER - 294-9944-2  
INITIAL PROJECT -

MATERIAL:

FINISH:

THIRD ANGLE PROJECTION

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**MODEL 294-44 EB SOURCE,  
4 PKT, 40CC, S/D**

**B**

SCALE 1:3  
SHEET 1 of 1

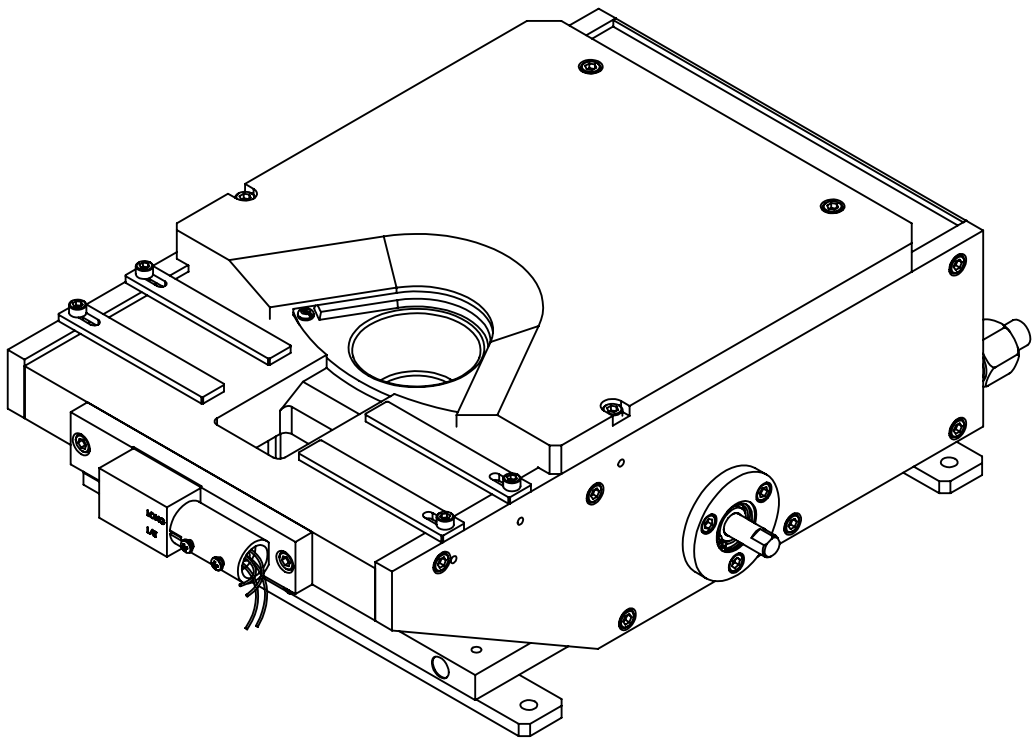
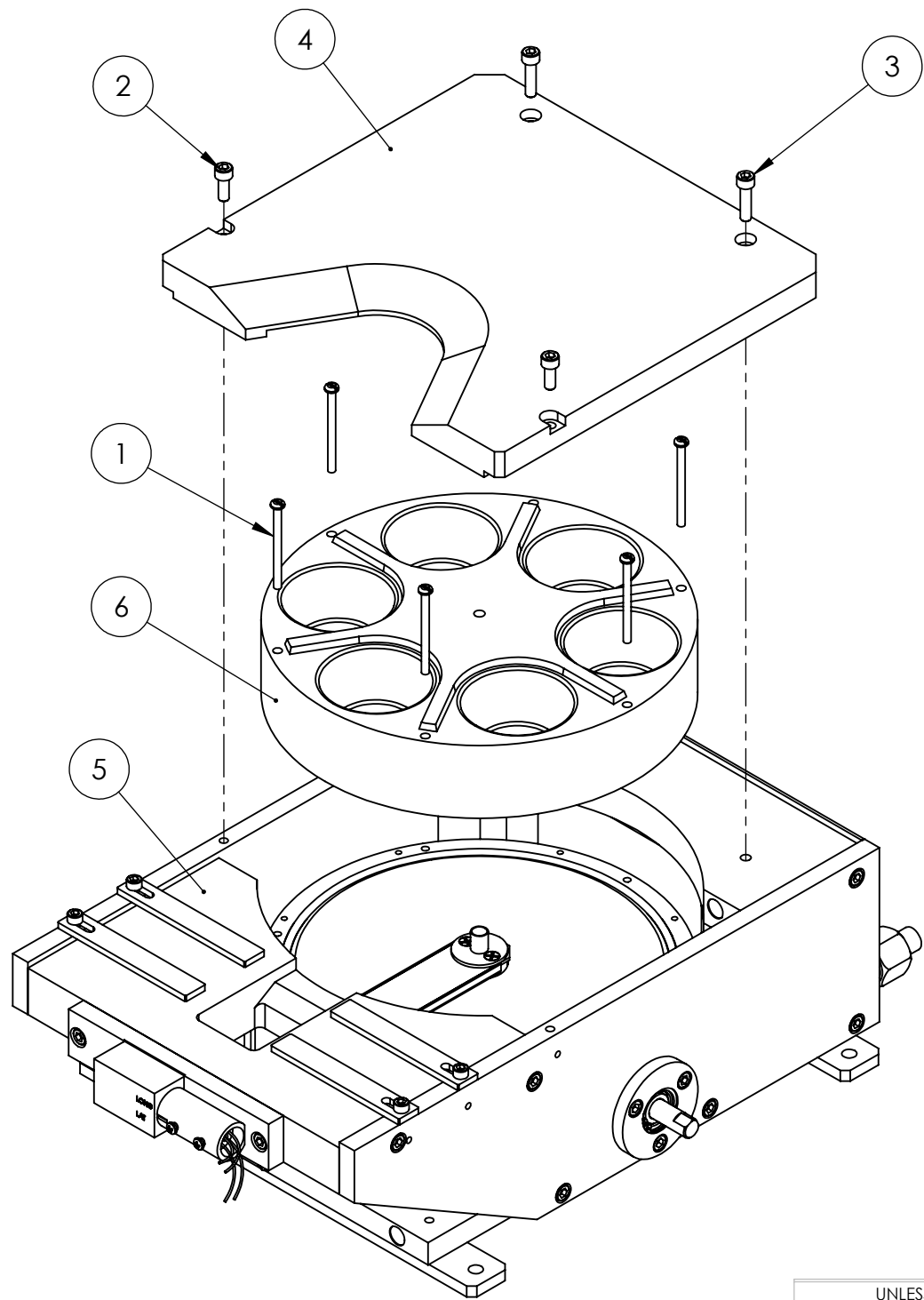
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**294-9944-2**

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ITEM NO.	PART NUMBER	DESCRIPTION	294-9969-2/QTY.
1	271-6130-2	VENTED SCREW, #8-32 UNC X 1-3/4" LONG, SLOT PAN HEAD	6
2	271-6150-1	VENTED SCREW, #10-32 X 1/2" SHCS	2
3	271-6171-1	VENTED SCREW, #10-32 X 3/4" SST. SHCS	2
4	294-0074-2	COVER, 6 POCKET	1
5	294-0133-2	EB SOURCE SUB ASSEMBLY, SIDE DRIVE	1
6	294-0235-3	CRUCIBLE, 6X40cc	1

UNLESS OTHERWISE SPECIFIED  
GLOBAL TOLERANCES

	INCHES	[mm]
.X	+/- .03	[0.762]
.XX	+/- 0.01	[0.254]
.XXX	+/- 0.005	[0.127]

ANGLES +/- .5°  
SURF FINISH 63 RMS

DWG BY  
CHECK BY  
PROJ ENG  
MFG ENG

DATE  
DATE  
DATE  
DATE

DO NOT SCALE DRAWING

FILE NUMBER - 294-9969-2  
INITIAL PROJECT -

MATERIAL:

FINISH:

THIRD ANGLE PROJECTION

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**MODEL 294-69 EB SOURCE,  
6 PKT, 40CC, S/D**

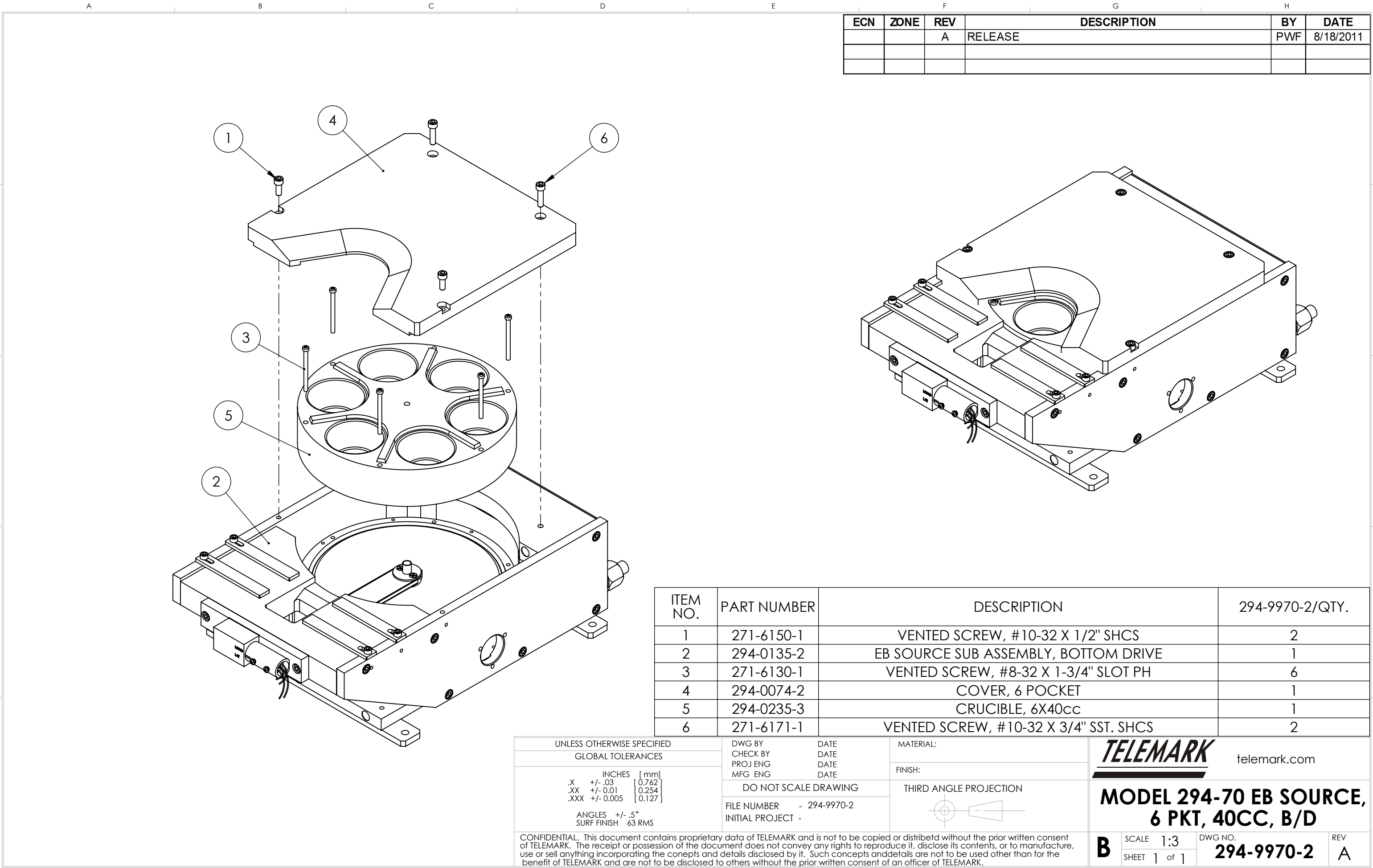
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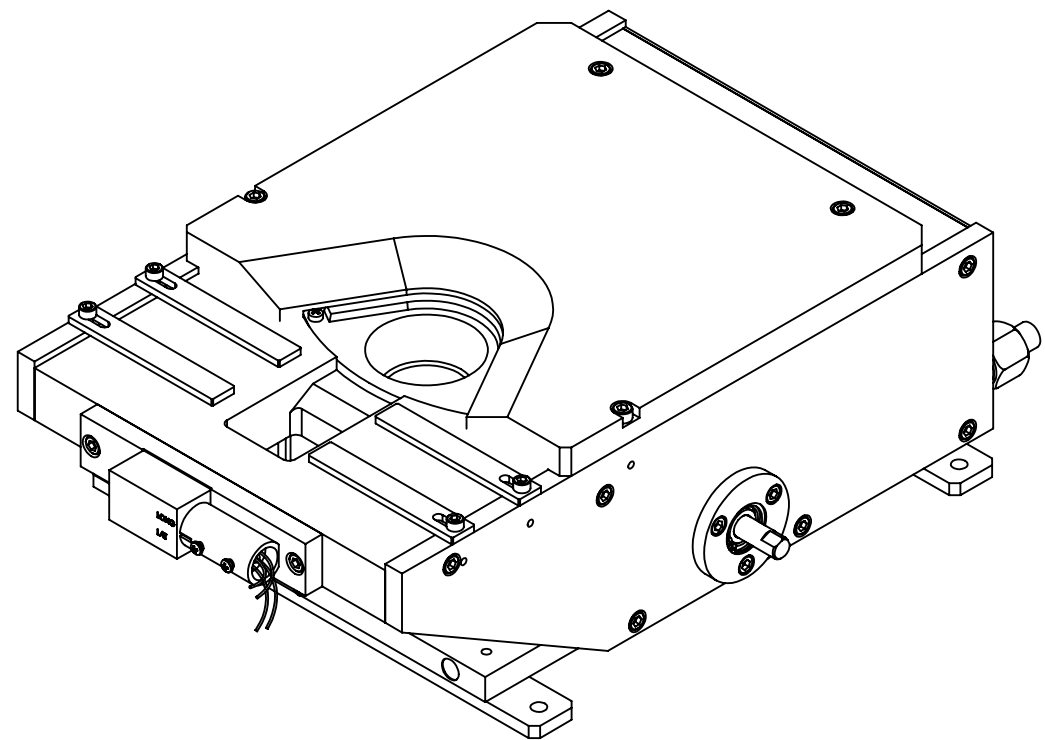
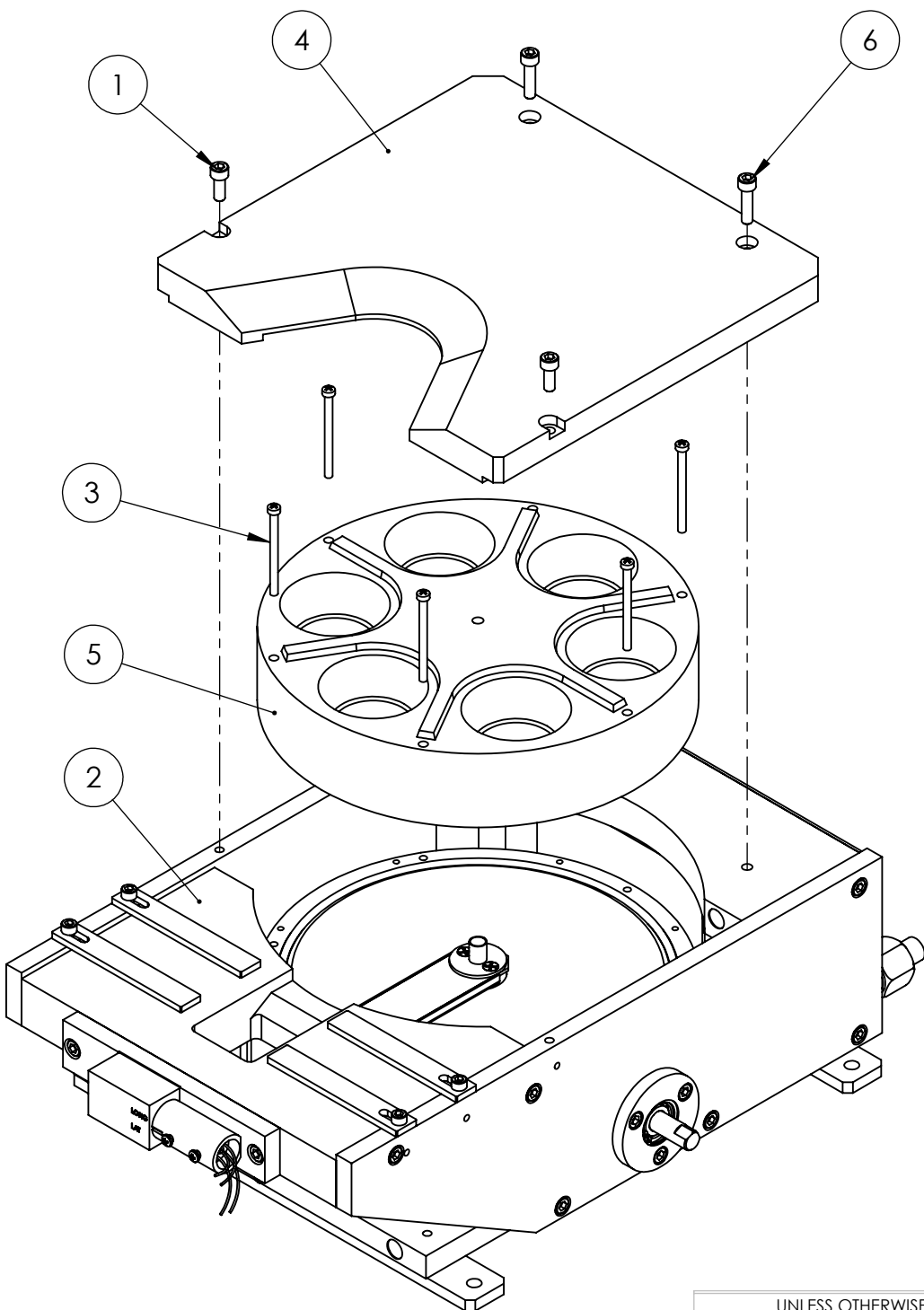
SCALE 1:3  
SHEET 1 of 1

DWG NO.  
**294-9969-2**

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**B**

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ITEM NO.	PART NUMBER	DESCRIPTION	294-9975-2/QTY.
1	271-6150-1	VENTED SCREW, #10-32 X 1/2" SST. SHCS	2
2	294-0133-2	EB SOURCE SUB ASSEMBLY, SIDE DRIVE	1
3	271-6130-1	VENTED SCREW, #8-32 X 1-3/4" SLOT PH	6
4	294-0074-2	COVER, 6 POCKET	1
5	294-0230-3	CRUCIBLE, 6X30cc	1
6	271-6171-1	VENTED SCREW, #10-32 X 3/4" SST. SHCS	2

UNLESS OTHERWISE SPECIFIED  
GLOBAL TOLERANCES

	INCHES	[mm]
.X	+/- .03	[0.762]
.XX	+/- 0.01	[0.254]
.XXX	+/- 0.005	[0.127]

ANGLES +/- .5°  
SURF FINISH 63 RMS

DWG BY  
CHECK BY  
PROJ ENG  
MFG ENG

DATE  
DATE  
DATE  
DATE

DO NOT SCALE DRAWING

FILE NUMBER - 294-9975-2  
INITIAL PROJECT -

MATERIAL:

FINISH:

THIRD ANGLE PROJECTION

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**MODEL 294-75 EB SOURCE,  
6 PKT, 30CC, S/D**

**B**

SCALE 1:3  
SHEET 1 of 1

DWG NO.  
**294-9975-2**

REV  
**A**

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ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	PWF	8/18/2011
		B	CHANGE CRUCIBLE TO 294-0270-4	PWF	8/20/2013

ITEM NO.	PART NUMBER	DESCRIPTION	294-9979-2/QTY.
1	271-6126-1	VENTED SCREW, #6-32 X 1-7/8" SLOT PH	8
2	294-0133-2	EB SOURCE SUB ASSEMBLY, SIDE DRIVE	1
3	294-0270-4	TROUGH, 440cc	1

UNLESS OTHERWISE SPECIFIED GLOBAL TOLERANCES	DWG BY	DATE	MATERIAL:
	CHECK BY	DATE	
	PROJ ENG	DATE	THIRD ANGLE PROJECTION
	MFG ENG	DATE	
INCHES [mm] .X +/- .03 [0.762] .XX +/- 0.01 [0.254] .XXX +/- 0.005 [0.127]  ANGLES +/- .5° SURF FINISH 63 RMS	DO NOT SCALE DRAWING		
FILE NUMBER - 294-9979-2			
INITIAL PROJECT -			

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MODEL 294-79 EB SOURCE, 440CC TROUGH, S/D

B

SCALE 1:3  
SHEET 1 of 1

DWG NO. 294-9979-2

REV B

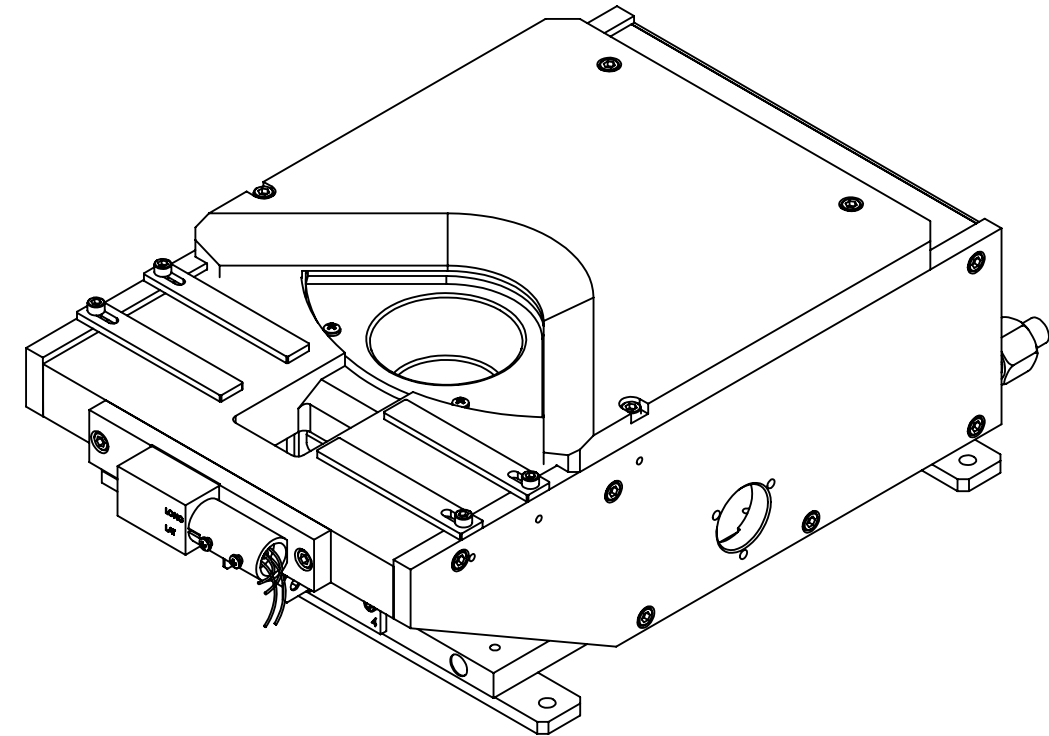
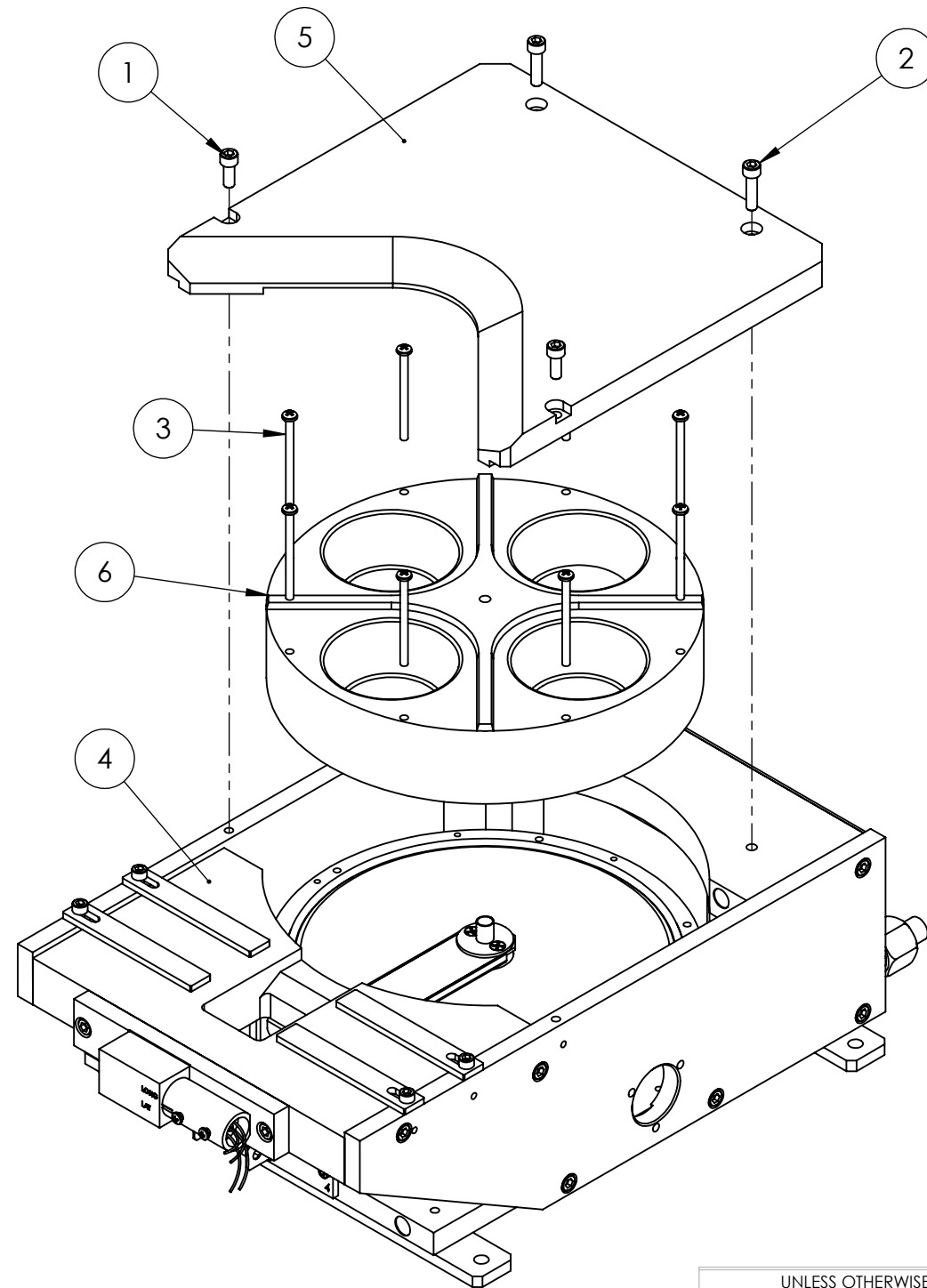








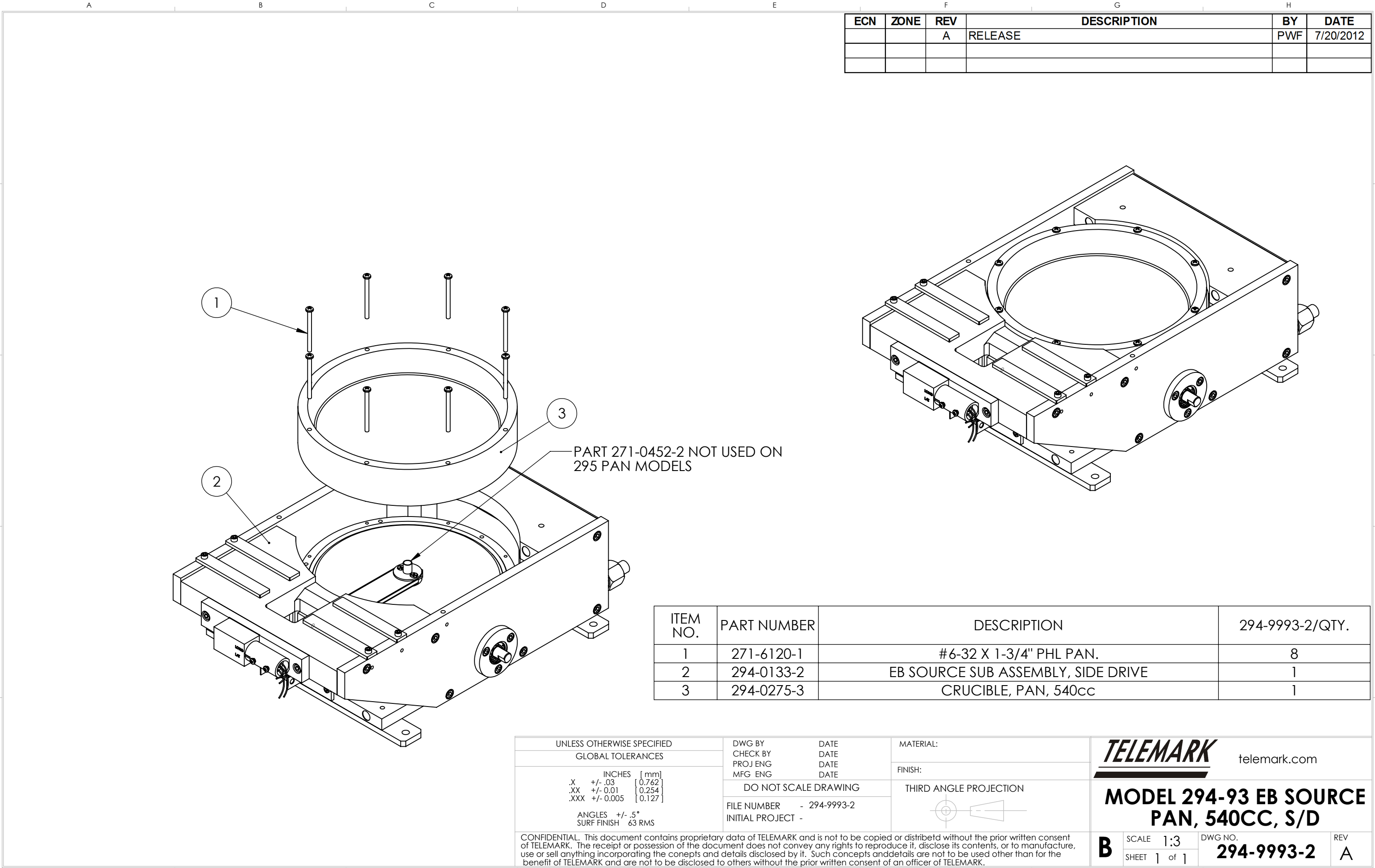


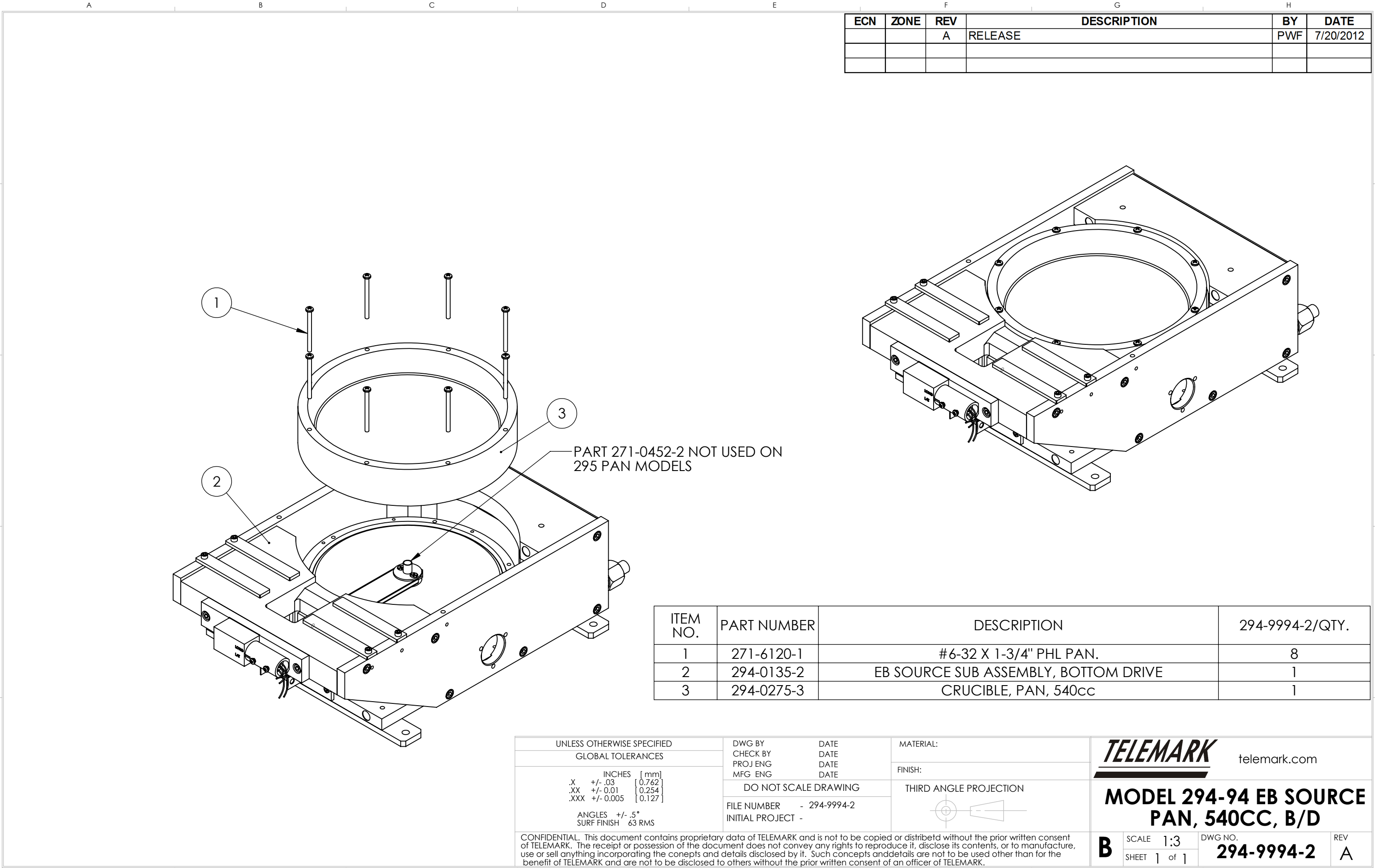
ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	GPD	3/20/2020



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	271-6150-1	VENTED SCREW, #10-32 X 1/2" SHCS	2
2	271-6171-1	VENTED SCREW, #10-32 X 3/4" SST. SHCS	2
3	271-6126-1	VENTED SCREW, #6-32 X 1-7/8" SLOT PH	8
4	294-0135-2	EB SOURCE SUB ASSEMBLY, BOTTOM DRIVE	1
5	294-0073-2	COVER, 4 POCKET	1
6	294-0217-3	CRUCIBLE, 4 X 60cc	1

UNLESS OTHERWISE SPECIFIED		DWG BY G. DION		DATE 3-20-2020	MATERIAL:		 <a href="http://telemark.com">telemark.com</a>	
GLOBAL TOLERANCES		CHECK BY		DATE	FINISH:		<b>MODEL 294-82 EB SOURCE</b> <b>4 pkt, 60cc, B/D</b>	
INCHES [mm]		PROJ ENG		DATE	 THIRD ANGLE PROJECTION			
.X +/- .03 [0.762]		MFG ENG		DATE				
.XX +/- 0.01 [0.254]		DO NOT SCALE DRAWING						
.XXX +/- 0.005 [0.127]		FILE NUMBER - 294-9945-2						
ANGLES +/- .5°		INITIAL PROJECT -						
SURF FINISH 63 RMS								
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<b>B</b>	SCALE	1:3	DWG NO.		REV			
	SHEET	1 of 1	<b>294-9982-2</b>		<b>A</b>			



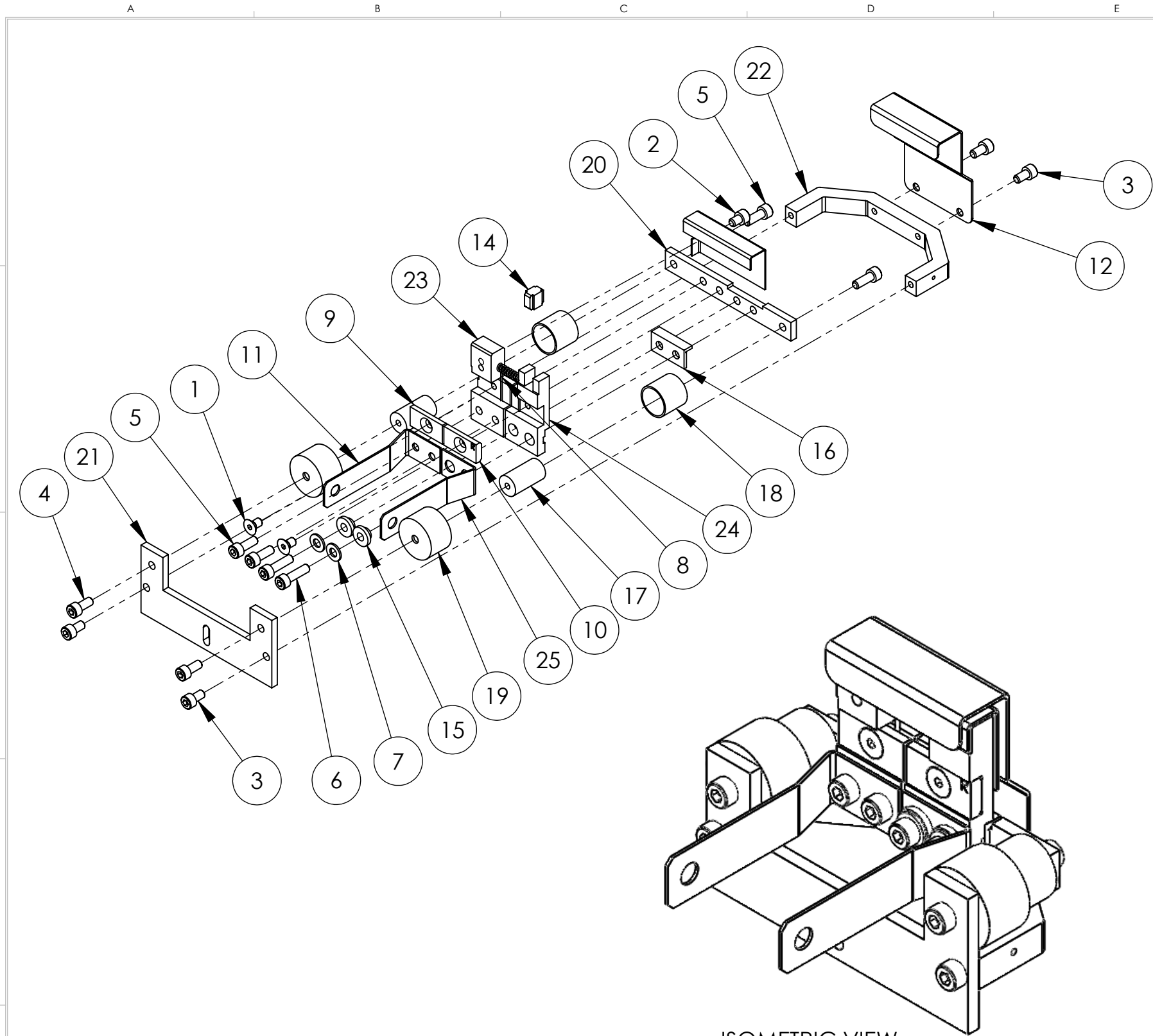


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# Common Assemblies

## **E-Beam Source**



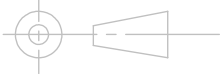
ISOMETRIC VIEW

UNLESS OTHERWISE SPECIFIED			
GLOBAL TOLERANCES			
	INCHES	[mm]	
.X	+/- .03	[0.762]	
.XX	+/- 0.01	[0.254]	
.XXX	+/- 0.005	[0.127]	
ANGLES +/- .5°			
SURF FINISH 63 RMS			

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DWG BY <b>G. DION</b>	DATE <b>7-21-2015</b>
CHECK BY	DATE
PROJ ENG	DATE
MFG ENG	DATE
DO NOT SCALE DRAWING	
FILE NUMBER	- 274-0150-1
INITIAL PROJECT	-

MATERIAL:	SEE PARTS LIST
FINISH:	SEE NOTES
THIRD ANGLE PROJECTION	



ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	GPD	7/21/2015
		B	ADDING LARGER INSULATOR SHIELD	GPD	7/21/2016
		C	ITEM 17 FROM 273-0018-7 TO 273-0018-8	GPD	8/2/2016
		D	P/N FROM 273-0017-1 TO 273-0017-2 & 273-0018-8 TO 273-0018-2	GPD	2/21/2017
		E	REVISED PARTS	GPD	10/2/2017
990811		F	P/N FROM 271-6050-1 TO 271-6040-1, 2 PLACES	GPD	2/1/2018

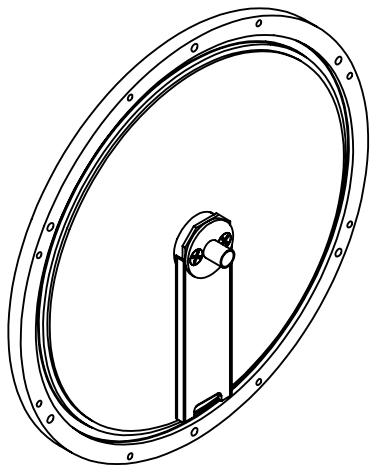
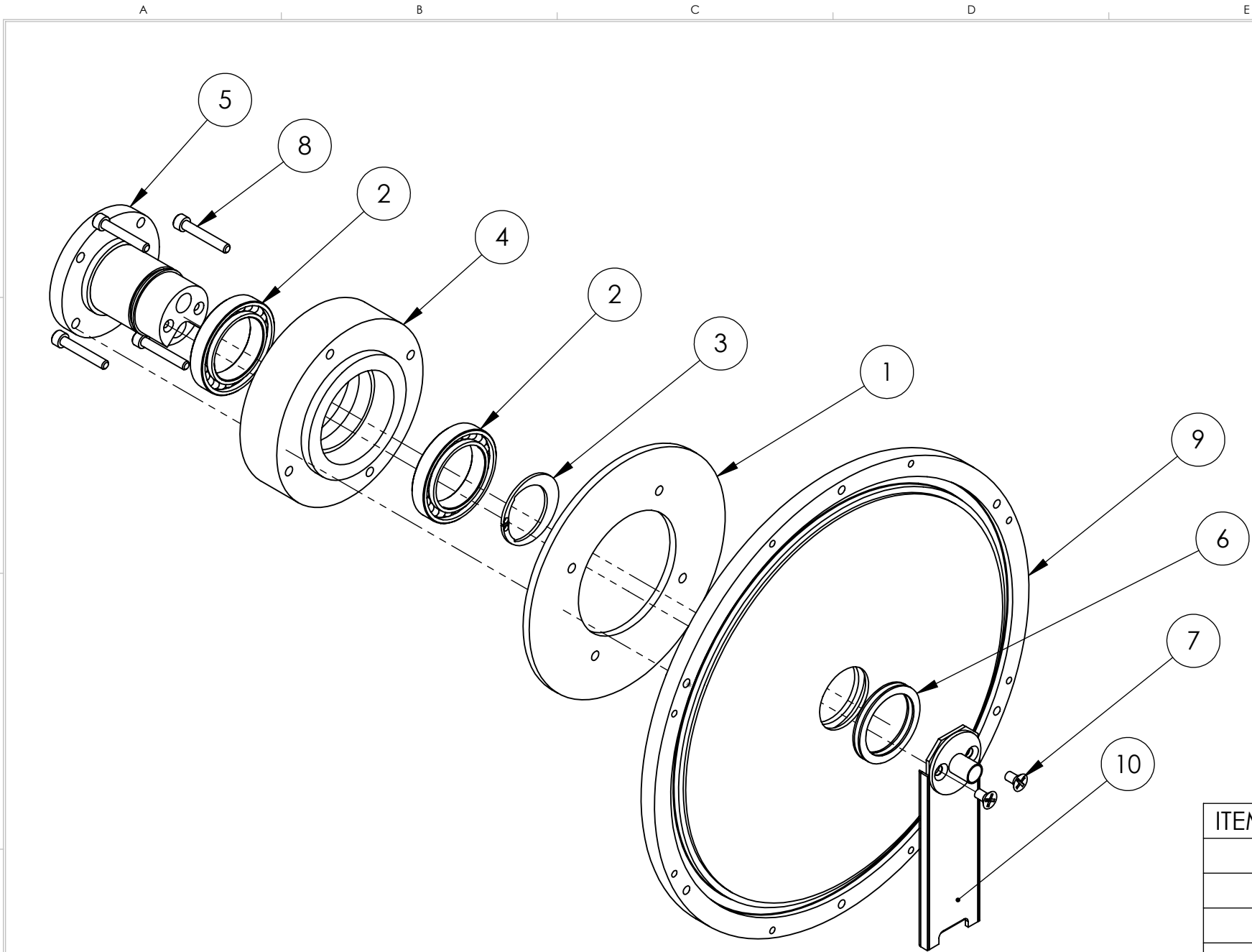
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	271-6010-5	SCREW, #6-32 X 1/4" SLOT FLAT HEAD, Ti	2
2	271-6020-5	SCREW, #6-32 X 3/16" TI SHCS	1
3	271-6030-1	VENTED SCREW, #6-32 UNC X 1/4" SST SHCS	4
4	271-6040-1	VENTED SCREW, #6-32 X 5/16 SST SHCS	2
5	271-6050-1	VENTED SCREW, #6-32 UNC X 3/8" SHCS	4
6	271-6060-1	VENTED SCREW, #6-32 X 1/2" SST SHCS	2
7	271-6242-1	FLAT WASHER, #6 SST	2
8	273-0001-1	FILAMENT, 7-1/2 TURN	1
9	273-0033-3	FILAMENT CLAMP, LEFT	1
10	273-0033-4	FILAMENT CLAMP, RIGHT	1
11	273-0035-1	EMITTER BUS BAR, LEFT	1
12	274-0003-7	ANODE	1
13	274-0004-7	BEAM FORMER	1
14	274-0005-1	INSULATOR, CROSS	1
15	274-0006-1	INSULATOR, COLLAR	2
16	274-0008-1	INSULATOR, L	1
17	274-0010-1	INSULATOR, HV	2
18	274-0011-1	HV SHIELD	2
19	274-0011-2	HV SHIELD	2
20	274-0017-2	MOUNTING BRACKET	1
21	274-0018-2	EMITTER SUPPORT BRACKET	1
22	274-0019-7	U-BRACKET	1
23	274-0031-1	CATHODE BLOCK, LEFT	1
24	274-0032-1	CATHODE BLOCK, RIGHT	1
25	274-0036-1	EMITTER BUSS BAR, RIGHT	1

**TELEMAR** Battle Ground, WA

**EMITTER ASSEMBLY**

<b>B</b>	SCALE	1:1	DWG NO. <b>274-0150-1</b>	REV <b>F</b>
	SHEET	1 of 1		





ISOMETRIC VIEW  
COMPLETE ASSEMBLY

ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE FOR PRODUCTION	PWF	6/23/2011
		B	UPDATE	PWF	9/26/2011

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	271-0013-1	BEVEL GEAR, 14 DEG	1
2	271-0035-1	BEARING SS	2
3	271-0036-1	CLIP RING, 1	1
4	271-0038-1	BEARING, HOUSING	1
5	271-0042-2	PIVOT SHAFT, HF	1
6	271-4214-1	QUAD RING, VITON, ID 1", W 1/8"	1
7	271-6010-1	VENTED SCREW, #6-32 X 1/4" SST FLAT HEAD	2
8	271-6073-1	VENTED SCREW, #6-32 X 7/8" SST. SHCS.	4
9	294-0442-1	CRUCIBLE BASE	1
10	294-0452-3	WATER DUCT, 294 CRUCIBLE	1

UNLESS OTHERWISE SPECIFIED  
GLOBAL TOLERANCES

	INCHES	[mm]
.X	+/- .03	[0.762]
.XX	+/- 0.01	[0.254]
.XXX	+/- 0.005	[0.127]

ANGLES +/- .5°  
SURF FINISH 63 RMS

DWG BY  
CHECK BY  
PROJ ENG  
MFG ENG

DATE  
DATE  
DATE  
DATE

DO NOT SCALE DRAWING

FILE NUMBER - 294-0113-1  
INITIAL PROJECT -

MATERIAL: B.O.M

FINISH:

THIRD ANGLE PROJECTION

**TELEMARK**  
telemark.com

**CRUCIBLE ROT. ASSY., S/D**

**B**

SCALE 1:2  
SHEET 1 of 1

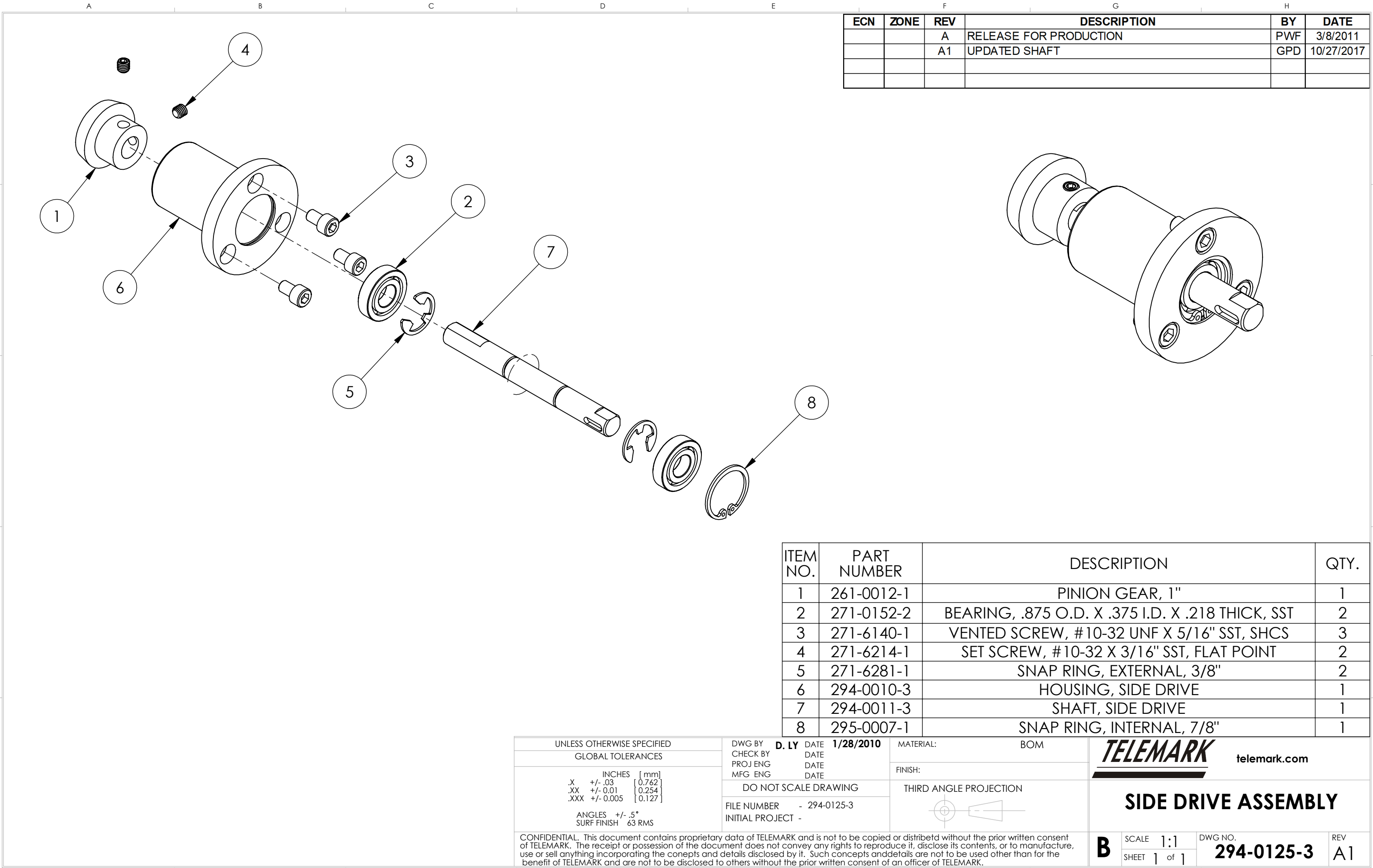
DWG NO. 294-0113-1

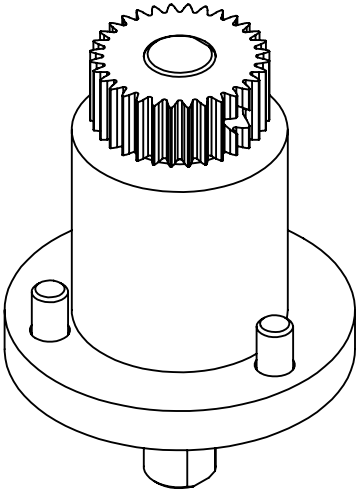
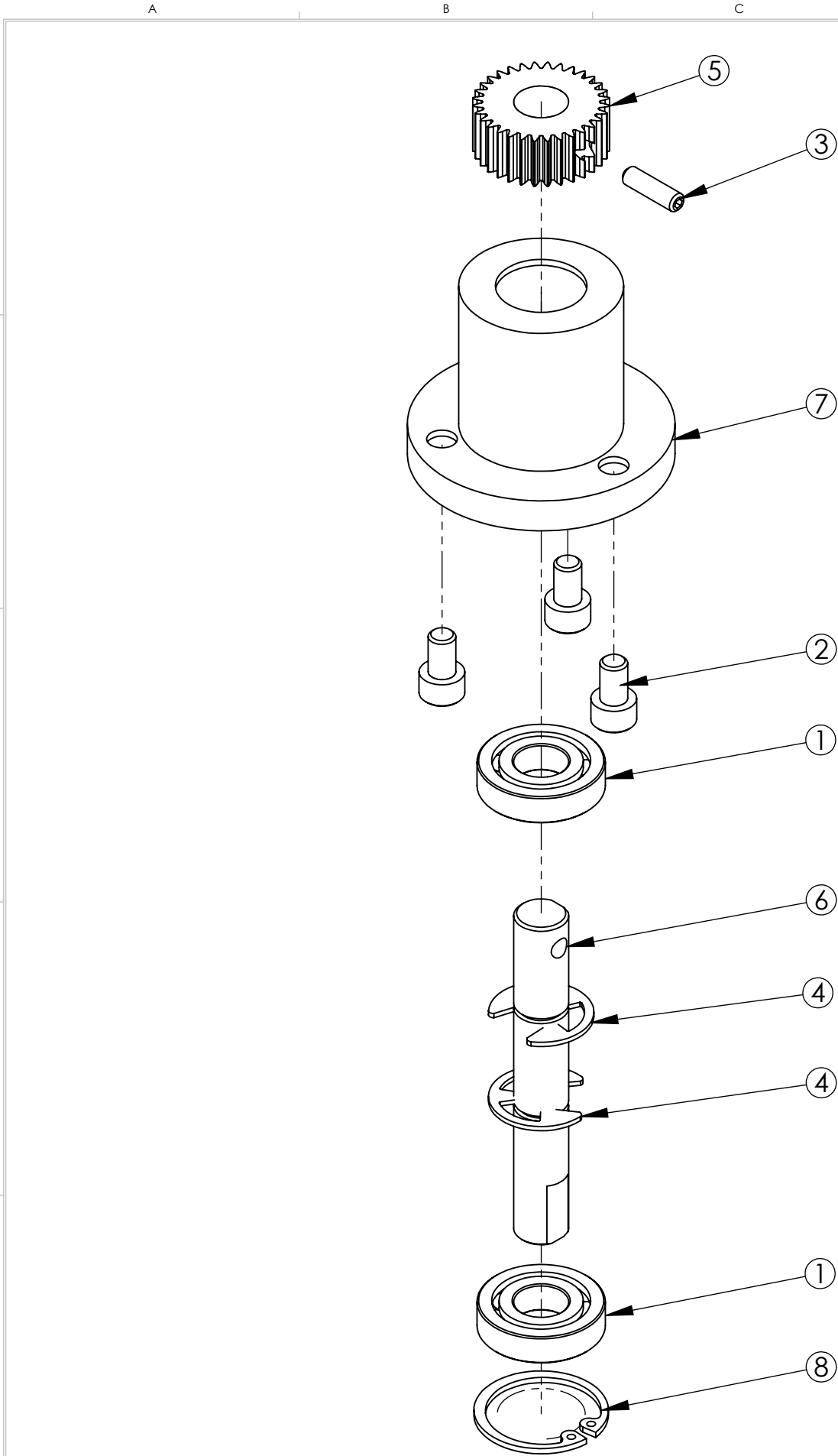
REV B

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ISOMETRIC VIEW

ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE FOR PRODUCTION	PWF	6/23/2011
990680		B	SET SCREW P/N FROM 271-6199-3 TO 271-6199-2	GPD	1/29/2016

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	271-0152-2	BEARING, .875 O.D. X .375 I.D. X .218 THICK, SST	2
2	271-6140-1	VENTED SCREW, #10-32 UNF X 5/16" SST, SHCS	3
3	271-6199-2	SET SCREW, #6-32 X 1/2" SST.	1
4	271-6281-1	SNAP RING, EXTERNAL, 3/8"	2
5	291-0150-2	SPUR GEAR DRIVE, BOTTOM DRIVE	1
6	294-0012-1	SHAFT, BOTTOM DRIVE	1
7	294-0039-1	HOUSING, BOTTOM DRIVE	1
8	295-0007-1	SNAP RING, INTERNAL, 7/8"	1

UNLESS OTHERWISE SPECIFIED  
GLOBAL TOLERANCES

	INCHES	[mm]
.X	+/- .03	[0.762]
.XX	+/- 0.01	[0.254]
.XXX	+/- 0.005	[0.127]

ANGLES +/- .5°  
SURF FINISH 63 RMS

DWG BY  
CHECK BY  
PROJ ENG  
MFG ENG

DATE  
DATE  
DATE  
DATE

DO NOT SCALE DRAWING

FILE NUMBER - 294-0127-1  
INITIAL PROJECT -

MATERIAL: B.O.M

FINISH: SEE NOTES

THIRD ANGLE PROJECTION

**TELEMARK**  
telemark.com

**BOTTOM DRIVE, ASSEMBLY**

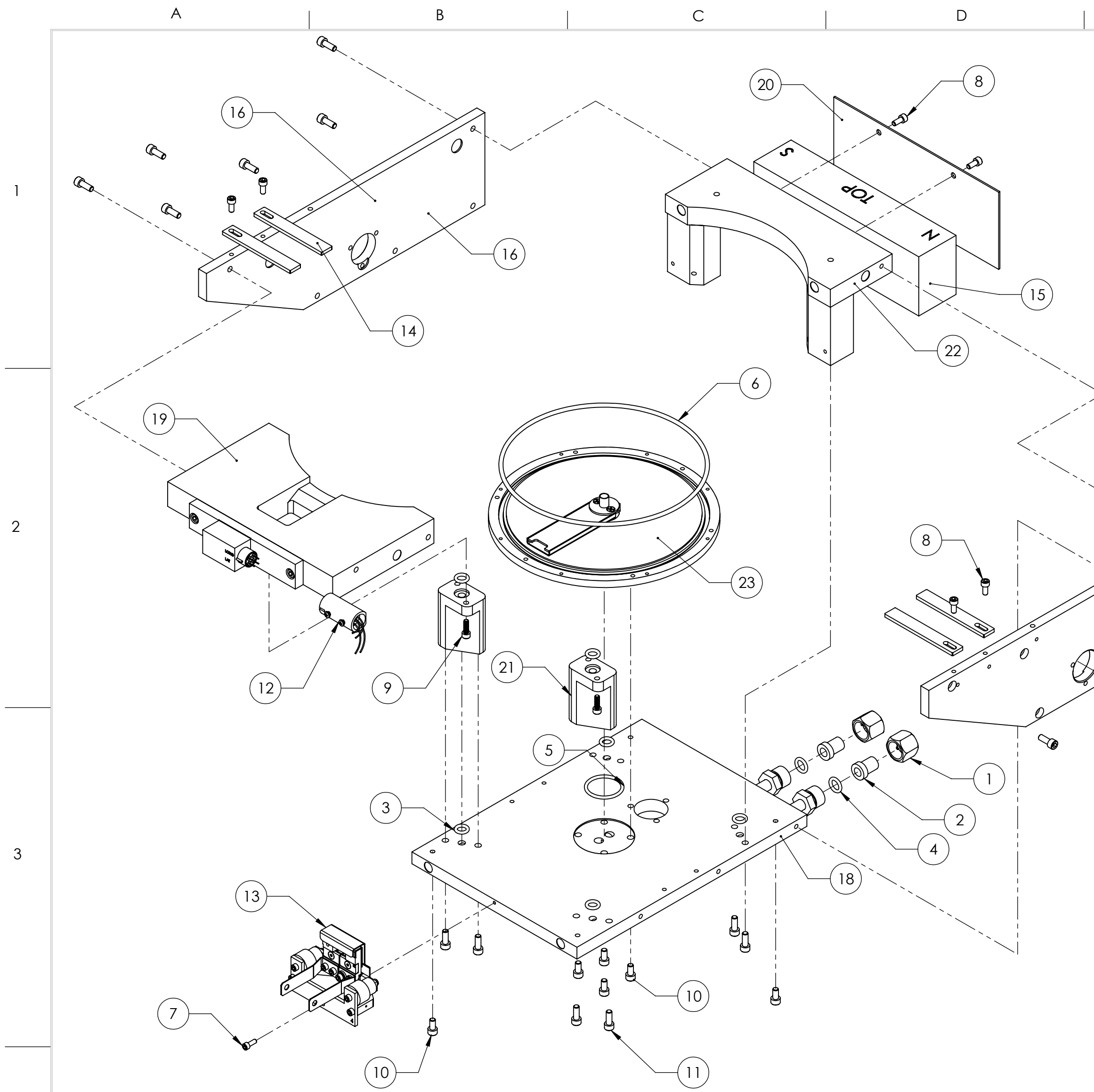
**B**

SCALE 1:1  
SHEET 1 of 1

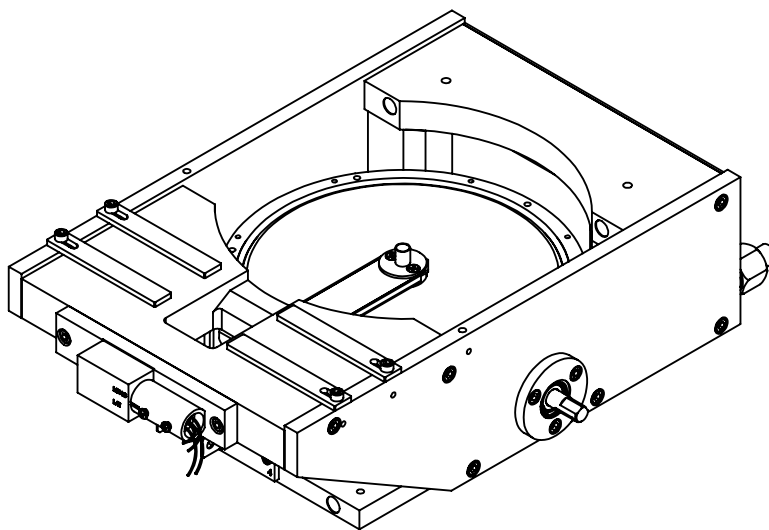
DWG NO. 294-0127-1

REV B

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ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	PWF	3/8/2011
		B	CHANGE EMITTER TO 273-0150-8	PWF	8/20/2013
		C	CHANGED EMITTER FROM 273-0150-8 TO 274-0150-1	GPD	2/13/2019



ITEM NO.	PART NUMBER	DESCRIPTION	294-0133-2/QTY.
1	271-0650-2	WATER FITTING NUT	2
2	271-0651-2	WATER FITTING GLAND	2
3	271-2109-1	O-RING, VITON, ID 5/16", W 3/32"	6
4	271-2110-1	O-RING, VITON, ID 3/8", W 3/32"	2
5	271-2122-1	O-RING, VITON, ID 1-1/8", W 3/32"	1
6	271-2261-1	O-RING, VITON, ID 6-3/4", W 1/8"	1
7	271-6050-1	VENTED SCREW, #6-32 UNC X 3/8" SHCS	1
8	271-6125-1	VENTED SCREW, #8-32 UNC X 3/8" LG, SST, SHCS	6
9	271-6128-1	VENTED SCREW, #8-32 X 1/2" SST SHCS	4
10	271-6145-1	VENTED SCREW, #10-32 X 3/8" SST SHCS	8
11	271-6150-1	VENTED SCREW, #10-32 UNF X 1/2" LG, SST, SHCS	20
12	272-0125-2	COIL CONNECTOR ASSEMBLY	1
13	274-0150-1	EMITTER ASSEMBLY	1
14	294-0053-2	POLE PIECE	4
15	294-0055-1	PERMANENT MAGNET	1
16	294-0058-2	MAGNET ARM, LEFT	1
17	294-0059-2	MAGNET ARM, RIGHT	1
18	294-0060-1	BASE PLATE (294)	1
19	294-0080-1	FRONT SHIELD ASSEMBLY	1
20	294-0083-1	REAR SHIELD	1
21	294-0085-1	WATER BLOCK	2
22	294-0086-1	SHIELD, REAR HALF	1
23	294-0113-1	CRUCIBLE ROT. ASSY., S/D	1
24	294-0125-3	SIDE DRIVE ASSEMBLY (SEE SHEET 8)	1

**NOTE:**  
THIS MODEL SOURCE IS BEING SUPPLIED WITH TELEMAR'S NEW ARC SUPPRESSION EMITTER.

THIS NEW EMITTER IS IDENTIFIED BY:  
A "4" ON THE FRONT SURFACE OF THE MOUNTING BRACKET  
STANDARD EMITTER PART NUMBER 274-0150-1 USES STAINLESS STEEL SCREWS.  
UHV EMITTER PART NUMBER 274-0150-3 USES SILVER-PLATED SCREWS.

THE PRIMARY COMPONENTS IN THIS EMITTER ARE DIFFERENT FROM THOSE IN OUR LEGACY EMITTER AND ARE NOT INTERCHANGEABLE WITH THOSE OF THE LEGACY EMITTER.

UNLESS OTHERWISE SPECIFIED  
GLOBAL TOLERANCES

	INCHES	[mm]
X	+/- .03	[0.762]
.XX	+/- 0.01	[0.254]
.XXX	+/- 0.005	[0.127]

ANGLES +/- .5°  
SURF FINISH 63 RMS

DWG BY  
CHECK BY  
PROJ ENG  
MFG ENG

DATE  
DATE  
DATE  
DATE

DO NOT SCALE DRAWING

FILE NUMBER - 294-013x-1  
INITIAL PROJECT - 294

MATERIAL: B.O.M.

FINISH: SEE NOTES

THIRD ANGLE PROJECTION

**TELEMAR**  
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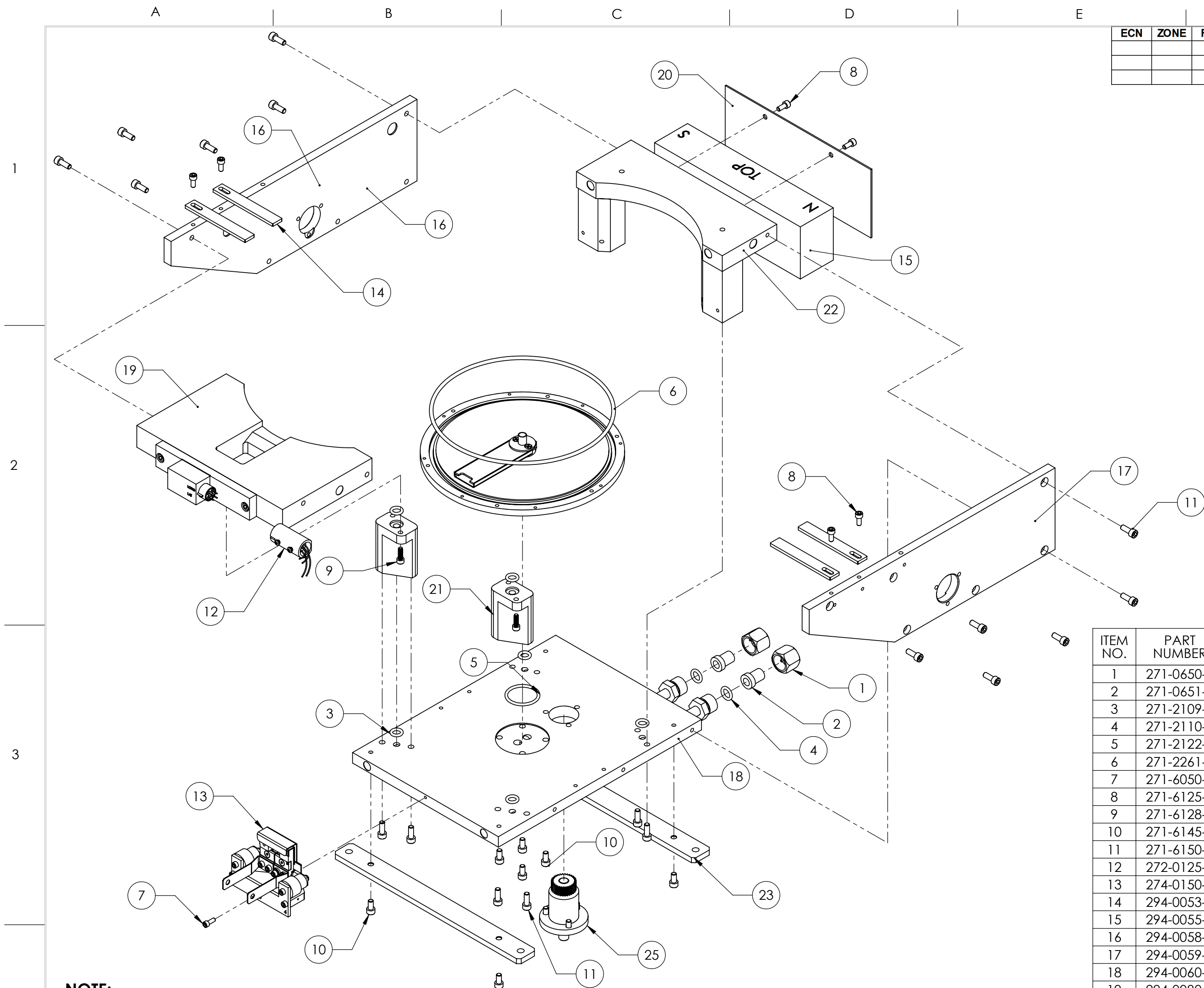
**EB SOURCE SUB ASSEMBLY,  
SIDE DRIVE**

SCALE 1:2  
SHEET 1 of 1

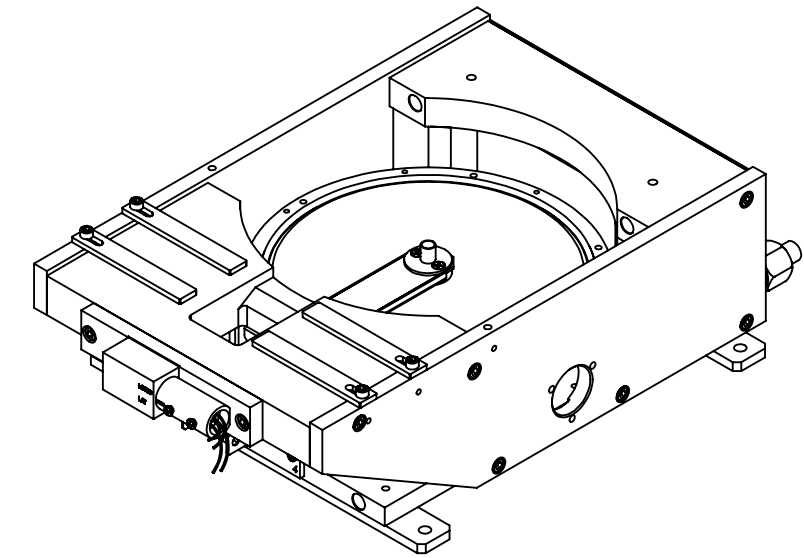
DWG NO. 294-0133-2  
REV C

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ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	PWF	3/8/2011
		B	CHANGE EMITTER TO 273-0150-8	PWF	8/20/2013
		C	CHANGED EMITTER FROM 273-0150-8 TO 274-0150-1	GPD	2/13/2019




ITEM NO.	PART NUMBER	DESCRIPTION	294-0135-2/QTY.
1	271-0650-2	WATER FITTING NUT	2
2	271-0651-2	WATER FITTING GLAND	2
3	271-2109-1	O-RING, VITON, ID 5/16", W 3/32"	6
4	271-2110-1	O-RING, VITON, ID 3/8", W 3/32"	2
5	271-2122-1	O-RING, VITON, ID 1-1/8", W 3/32"	1
6	271-2261-1	O-RING, VITON, ID 6-3/4", W 1/8"	1
7	271-6050-1	VENTED SCREW, #6-32 UNC X 3/8" SHCS	1
8	271-6125-1	VENTED SCREW, #8-32 UNC X 3/8" LG, SST, SHCS	6
9	271-6128-1	VENTED SCREW, #8-32 X 1/2" SST SHCS	4
10	271-6145-1	VENTED SCREW, #10-32 X 3/8" SST SHCS	8
11	271-6150-1	VENTED SCREW, #10-32 X 1/2" SHCS	20
12	272-0125-2	COIL CONNECTOR ASSEMBLY	1
13	274-0150-1	EMITTER ASSEMBLY	1
14	294-0053-2	POLE PIECE	4
15	294-0055-1	PERMANENT MAGNET	1
16	294-0058-2	MAGNET ARM, LEFT	1
17	294-0059-2	MAGNET ARM, RIGHT	1
18	294-0060-1	BASE PLATE (294)	1
19	294-0080-1	FRONT SHIELD ASSEMBLY	1
20	294-0083-1	REAR SHIELD	1
21	294-0085-1	WATER BLOCK	2
22	294-0086-1	SHIELD, REAR HALF	1
23	294-0088-2	MOUNTING STRAP	2
24	294-0115-1	CRUCIBLE ROTATION ASSY., BOTTOM DRIVE	1
25	294-0127-1	BOTTOM DRIVE, ASSEMBLY	1

**NOTE:**  
THIS MODEL SOURCE IS BEING SUPPLIED WITH TELEMAR'S NEW ARC SUPPRESSION EMITTER.

THIS NEW EMITTER IS IDENTIFIED BY:  
A "4" ON THE FRONT SURFACE OF THE MOUNTING BRACKET  
STANDARD EMITTER PART NUMBER 274-0150-1 USES STAINLESS STEEL SCREWS.  
UHV EMITTER PART NUMBER 274-0150-3 USES SILVER-PLATED SCREWS.

THE PRIMARY COMPONENTS IN THIS EMITTER ARE DIFFERENT FROM THOSE IN OUR LEGACY EMITTER AND ARE NOT INTERCHANGEABLE WITH THOSE OF THE LEGACY EMITTER.

UNLESS OTHERWISE SPECIFIED GLOBAL TOLERANCES		DWG BY CHECK BY PROJ ENG MFG ENG	DATE mo/day/yr DATE DATE DATE	MATERIAL: B.O.M	<div>TELEMARK</div> telemark.com									
INCHES [mm] .X +/- .03 [0.762] .XX +/- 0.01 [0.254] .XXX +/- 0.005 [0.127]  ANGLES +/- .5° SURF FINISH 63 RMS		DO NOT SCALE DRAWING		FINISH: SEE NOTES										
FILE NUMBER - 294-013x-1 INITIAL PROJECT - 294		THIRD ANGLE PROJECTION		<div>EB SOURCE SUB ASSEMBLY, BOTTOM DRIVE</div>										
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SCALE	1:2	DWG NO.	REV											
SHEET	1 of 1	294-0135-2	C											



# Optional Assemblies

## **Self Sealing Cover**

A

B

C

D

E

F

G

NOTE:  
1. CRUCIBLE AND COVER IN THE STANDARD 294-0133-2  
ASSEMBLY ARE REPLACED WITH PARTS BELOW

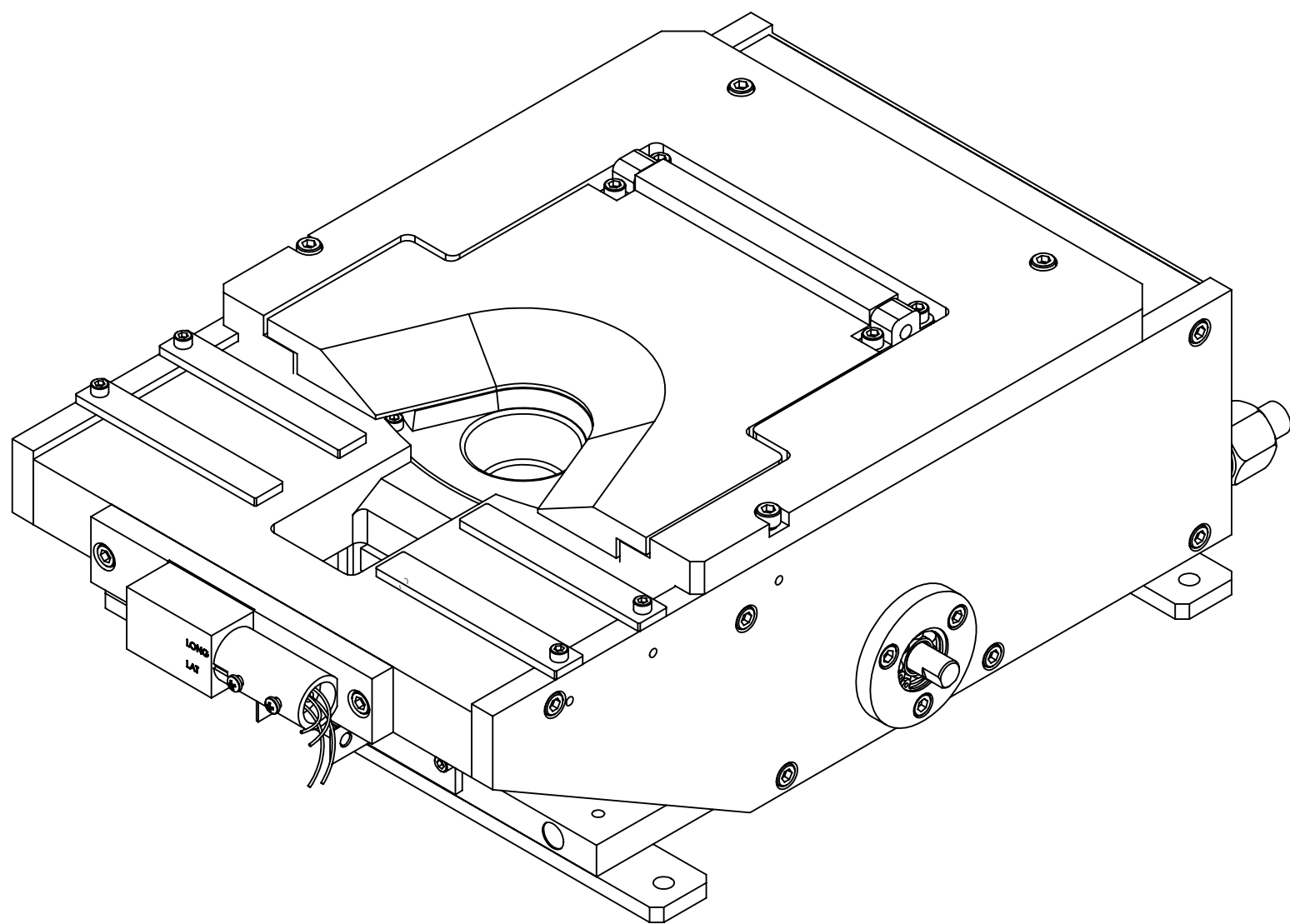
ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	PWF	10/26/2011
		A1	UPDATE	PWF	8/20/2012

1

2

3

4



ITEM NO.	PART NUMBER	DESCRIPTION	294-9901-2SSC/QTY.
1	271-0037-1	BEARING HOUSING (SSC)	2
2	271-0039-1	BEARING HOLDER	1
3	271-0040-3	8 POCKET, CAM	1
4	271-5999-1	VENTED SCREW, #4-40 X 1/4" SST SHCS	2
5	271-6125-1	VENTED SCREW, #8-32 X 3/8" SST SHCS.	4
6	271-6150-1	VENTED SCREW, #10-32 X 1/2" SST. SHCS	4
7	271-6124-2	VENTED SCREW, #6-32 X 1-5/8" SST SHCS	8
8	271-6145-1	VENTED SCREW, #10-32 X 3/8" SST SHCS	1
9	294-0071-8	MAIN COVER, SSC	1
10	294-0075-6	COVER, 8 POCKET (SSC)	1
11	294-0133-2	EB SOURCE SUB ASSEMBLY, SIDE DRIVE	1
12	294-0240-6	CRUCIBLE, 8 X 15cc (SSC)	1
13	528-0068-1	SPACER .063	1
14	528-0069-1	BEARING	3
15	568-0158-1	BEARING SHAFT	1

UNLESS OTHERWISE SPECIFIED  
GLOBAL TOLERANCES

INCHES [mm]  
X +/- .03 [0.762]  
XX +/- .01 [0.254]  
XXX +/- .005 [0.127]

ANGLES +/- .5°  
SURF FINISH .63 RMS

DWG BY  
CHECK BY  
PROJ ENG  
MFG ENG

DATE  
DATE  
DATE  
DATE

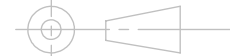
MATERIAL:

FINISH:

DO NOT SCALE DRAWING

FILE NUMBER - 294-99xx-2  
INITIAL PROJECT -

THIRD ANGLE PROJECTION



**TELEMARK**

telemark.com

**MODEL 294-01 EB SOURCE (SSC)  
8X15CC, SD, SSC**

SCALE 1:2  
SHEET 1 of 1

DWG NO.  
**294-9901-2SSC**

REV  
**A1**

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A

B

C

D

E

F

G

NOTE:  
1. CRUCIBLE AND COVER IN THE STANDARD 294-0133-2  
ASSEMBLY ARE REPLACED WITH PARTS BELOW

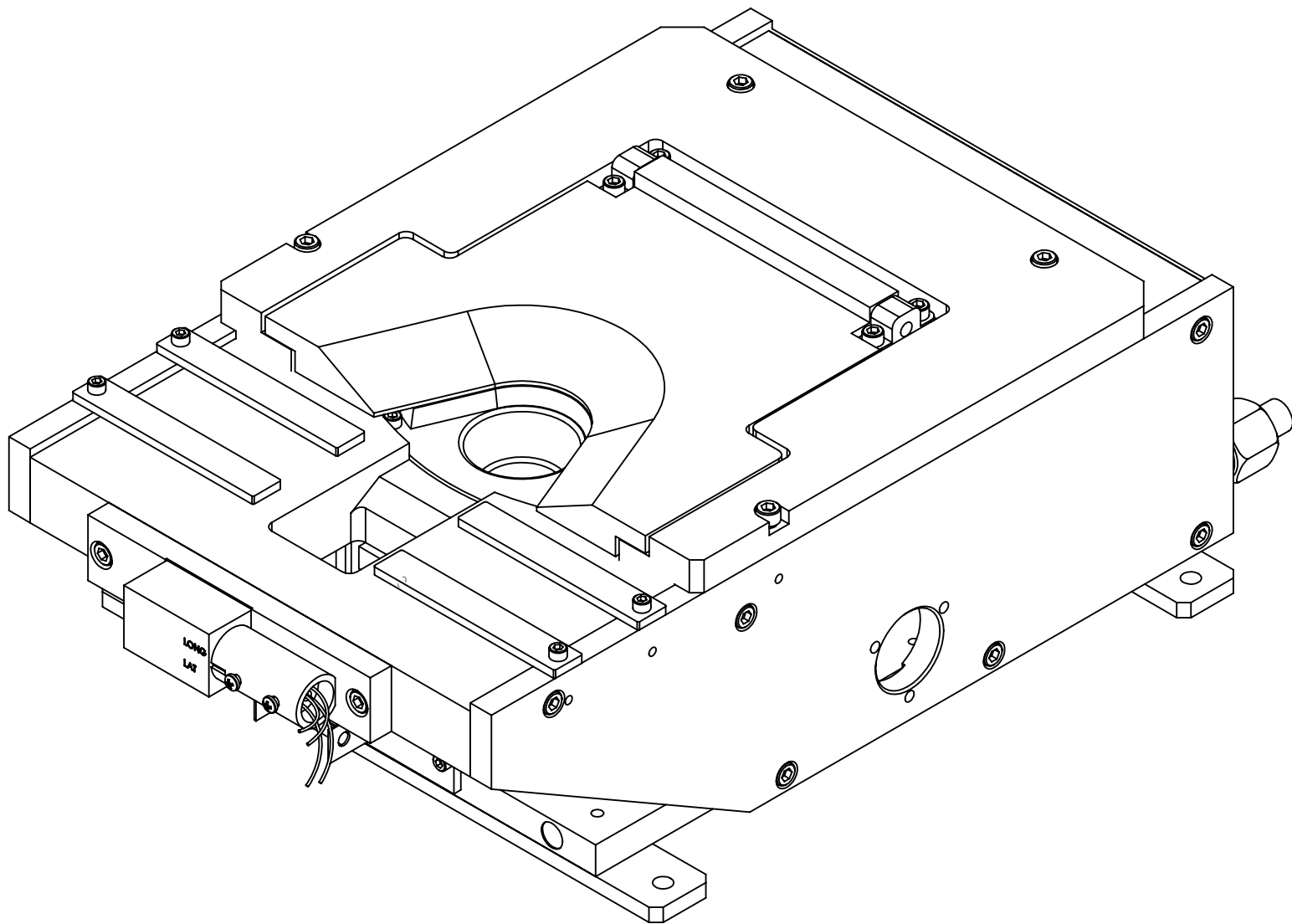
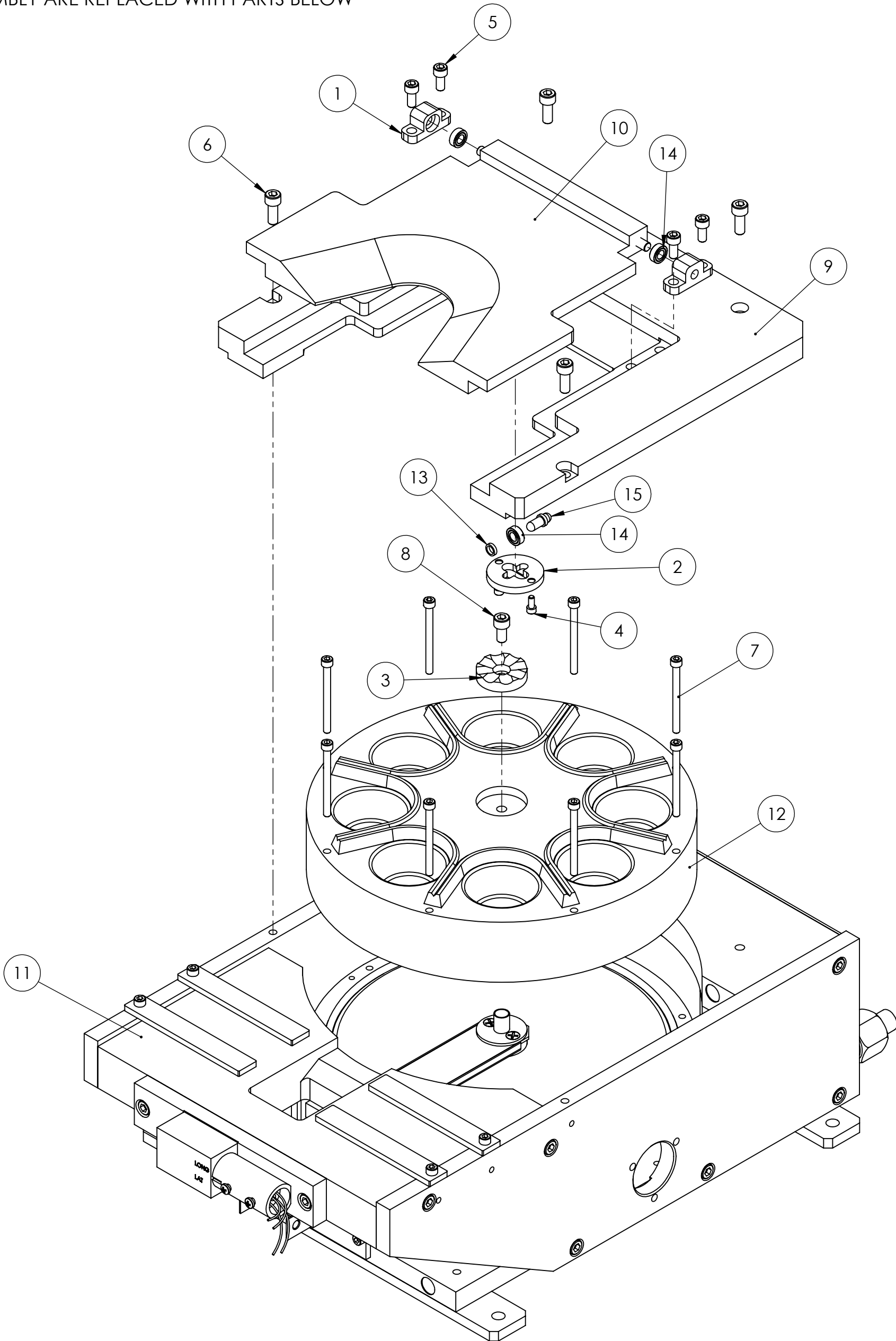
ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	PWF	10/26/2011
		A1	UPDATE	PWF	8/20/2012

1

2

3

4



ITEM NO.	PART NUMBER	DESCRIPTION	294-9902-2SSC/QTY.
1	271-0037-1	BEARING HOUSING (SSC)	2
2	271-0039-1	BEARING HOLDER	1
3	271-0040-3	8 POCKET, CAM	1
4	271-5999-1	VENTED SCREW, #4-40 X 1/4" SST SHCS	2
5	271-6125-1	VENTED SCREW, #8-32 X 3/8" SST SHCS.	4
6	271-6150-1	VENTED SCREW, #10-32 X 1/2" SST. SHCS	4
7	271-6124-2	VENTED SCREW, #6-32 X 1-5/8" SST SHCS	8
8	271-6145-1	VENTED SCREW, #10-32 X 3/8" SST SHCS	1
9	294-0071-8	MAIN COVER, SSC	1
10	294-0075-6	COVER, 8 POCKET (SSC)	1
11	294-0135-2	EB SOURCE SUB ASSEMBLY, BOTTOM DRIVE	1
12	294-0240-6	CRUCIBLE, 8 X 15cc (SSC)	1
13	528-0068-1	SPACER .063	1
14	528-0069-1	BEARING	3
15	568-0158-1	BEARING SHAFT	1

UNLESS OTHERWISE SPECIFIED GLOBAL TOLERANCES		DWG BY CHECK BY PROJ ENG MFG ENG	DATE DATE DATE DATE	MATERIAL:	<b>TELEMARK</b> telemark.com
INCHES [mm] .X +/- .03 [0.762] .XX +/- .01 [0.254] .XXX +/- .005 [0.127] ANGLES +/- .5° SURF FINISH .63 RMS		DO NOT SCALE DRAWING		FINISH:	
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C		SCALE 1:2 SHEET 1 of 1		DWG NO. <b>294-9902-2SSC</b>	REV <b>A1</b>



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NOTE:  
1. CRUCIBLE AND COVER IN THE STANDARD 294-0133-2  
ASSEMBLY ARE REPLACED WITH PARTS BELOW

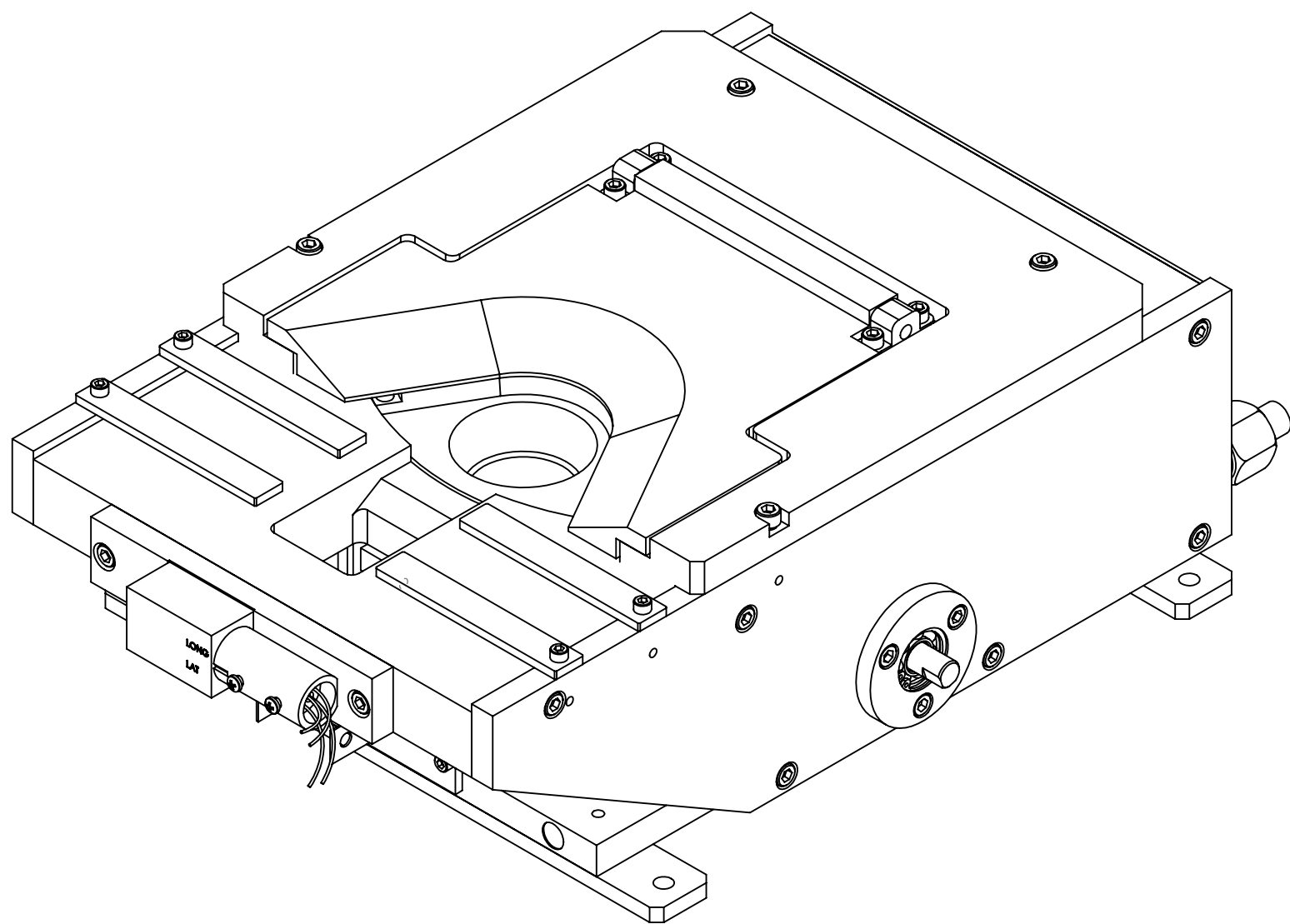
ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	PWF	10/26/2011
		A1	UPDATE	PWF	8/20/2012

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ITEM NO.	PART NUMBER	DESCRIPTION	294-9917-2SSC/QTY.
1	271-0037-1	BEARING HOUSING (SSC)	2
2	271-0039-1	BEARING HOLDER	1
3	271-0040-2	6 POCKET, CAM	1
4	271-5999-1	VENTED SCREW, #4-40 X 1/4" SST SHCS	2
5	271-6125-1	VENTED SCREW, #8-32 X 3/8 SST SHCS.	4
6	271-6150-1	VENTED SCREW, #10-32 X 1/2" SST. SHCS	4
7	271-6145-1	VENTED SCREW, #10-32 X 3/8" SST SHCS	1
8	271-6130-1	VENTED SCREW, #8-32 X 1-3/4" SLOT PH	6
9	294-0071-8	MAIN COVER, SSC	1
10	294-0074-6	COVER, 6 POCKET (SSC)	1
11	294-0133-2	EB SOURCE SUB ASSEMBLY, SIDE DRIVE	1
12	294-0225-6	CRUCIBLE, 6 X 25cc (SSC)	1
13	528-0068-1	SPACER .063	1
14	528-0069-1	BEARING	3
15	568-0158-1	BEARING SHAFT	1

UNLESS OTHERWISE SPECIFIED  
GLOBAL TOLERANCES

INCHES [mm]  
X +/- .03 [0.762]  
XX +/- 0.01 [0.254]  
XXX +/- 0.005 [0.127]

ANGLES +/- .5°  
SURF FINISH .63 RMS

DWG BY  
CHECK BY  
PROJ ENG  
MFG ENG

DATE  
DATE  
DATE  
DATE

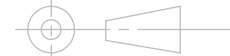
MATERIAL:

FINISH:

DO NOT SCALE DRAWING

FILE NUMBER - 294-99xx-2  
INITIAL PROJECT -

THIRD ANGLE PROJECTION



**TELEMARK**

telemark.com

**MODEL 294-17 EB SOURCE (SSC)  
6X25CC, SD, SSC**

SCALE 1:2  
SHEET 1 of 1

DWG NO. 294-9917-2SSC

REV A1

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NOTE:  
1. CRUCIBLE AND COVER IN THE STANDARD 294-0135-2  
ASSEMBLY ARE REPLACED WITH PARTS BELOW

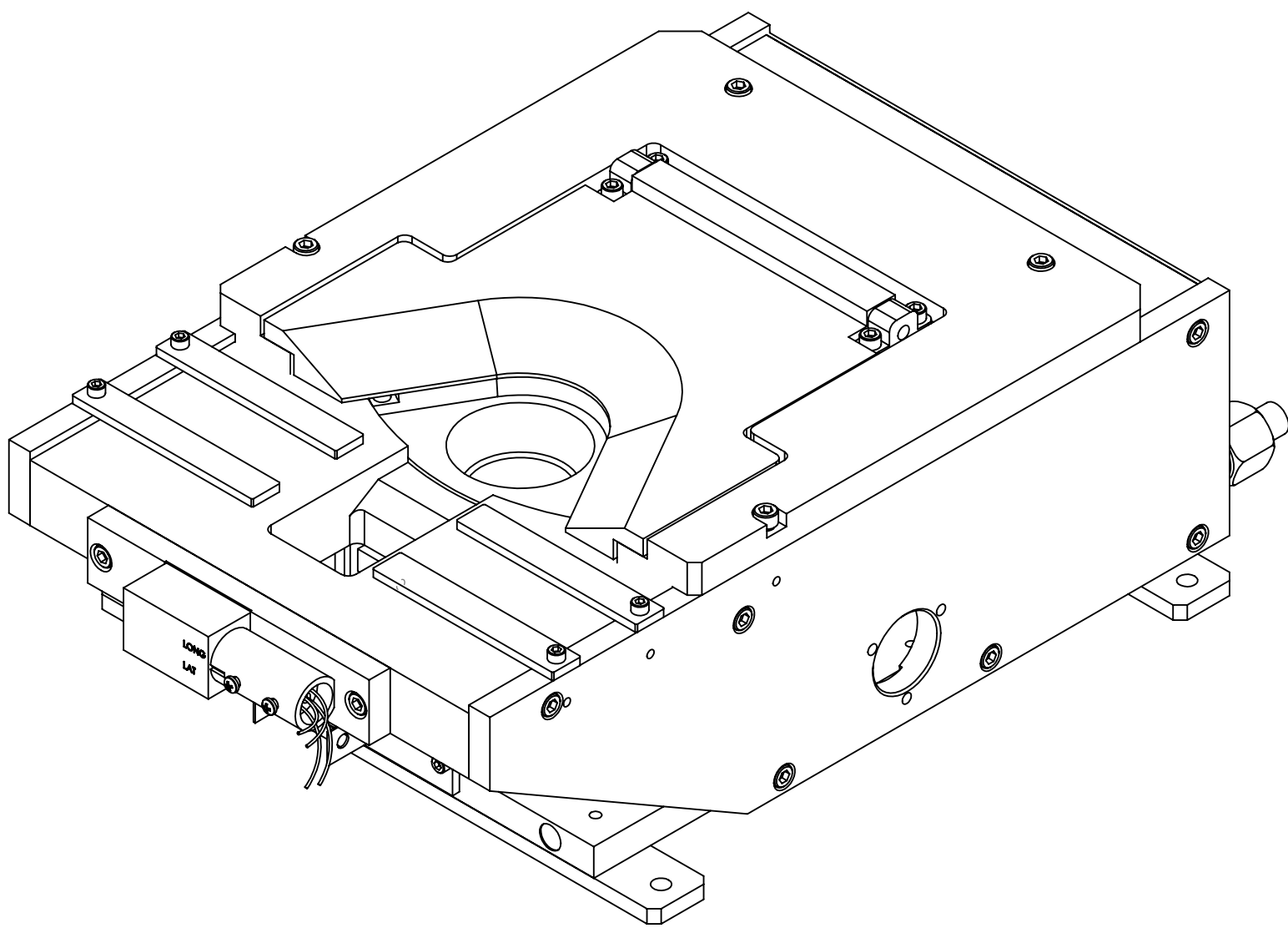
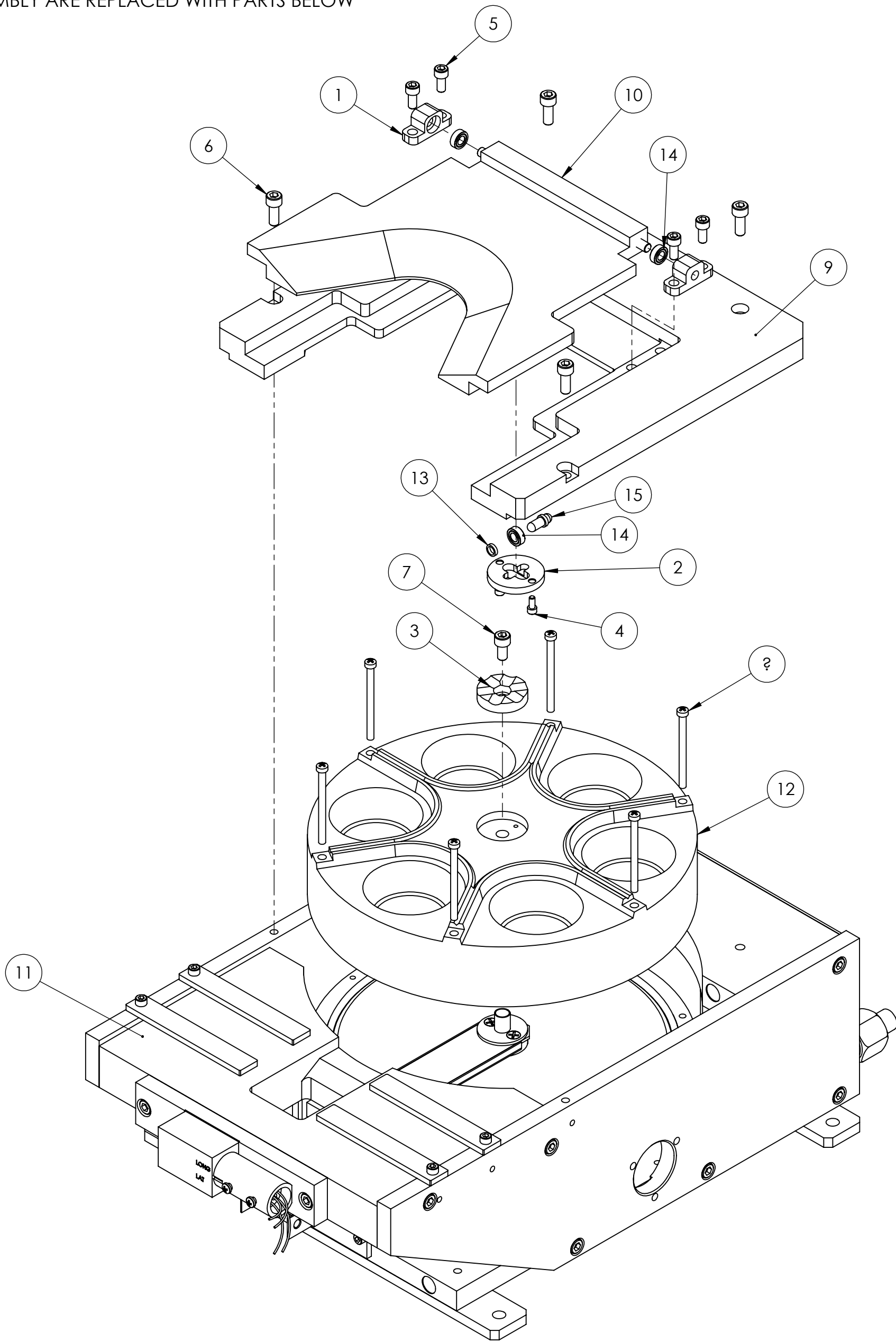
ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	PWF	10/26/2011
		A1	UPDATE	PWF	8/20/2012

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ITEM NO.	PART NUMBER	DESCRIPTION	294-9918-2SSC/QTY.
1	271-0037-1	BEARING HOUSING (SSC)	2
2	271-0039-1	BEARING HOLDER	1
3	271-0040-2	6 POCKET, CAM	1
4	271-5999-1	VENTED SCREW, #4-40 X 1/4" SST SHCS	2
5	271-6125-1	VENTED SCREW, #8-32 X 3/8 SST SHCS.	4
6	271-6150-1	VENTED SCREW, #10-32 X 1/2" SST. SHCS	4
7	271-6145-1	VENTED SCREW, #10-32 X 3/8" SST SHCS	1
8	271-6130-1	VENTED SCREW, #8-32 X 1-3/4" SLOT PH	6
9	294-0071-8	MAIN COVER, SSC	1
10	294-0074-6	COVER, 6 POCKET (SSC)	1
11	294-0135-2	EB SOURCE SUB ASSEMBLY, BOTTOM DRIVE	1
12	294-0225-6	CRUCIBLE, 6 X 25cc (SSC)	1
13	528-0068-1	SPACER .063	1
14	528-0069-1	BEARING	3
15	568-0158-1	BEARING SHAFT	1

UNLESS OTHERWISE SPECIFIED		DWG BY	DATE	MATERIAL:	<div>TELEMARK</div>	telemark.com	
GLOBAL TOLERANCES		CHECK BY	DATE				FINISH:
		PROJ ENG	DATE				
		MFG ENG	DATE				
INCHES [mm]		DO NOT SCALE DRAWING		THIRD ANGLE PROJECTION			
X +/- .03	[0.762]	FILE NUMBER - 294-99xx-2					
.XX +/- .01	[0.254]	INITIAL PROJECT -					
.XXX +/- .005	[0.127]						
ANGLES +/- .5°					MODEL 294-18 EB SOURCE (SSC)		
SURF FINISH .63 RMS					6X25CC, BD, SSC		
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C	SCALE	1:2	DWG NO.	REV			
	SHEET	1 of 1	294-9918-2SSC	A1			



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NOTE:  
1. CRUCIBLE AND COVER IN THE STANDARD 294-0135-2  
ASSEMBLY ARE REPLACED WITH PARTS BELOW

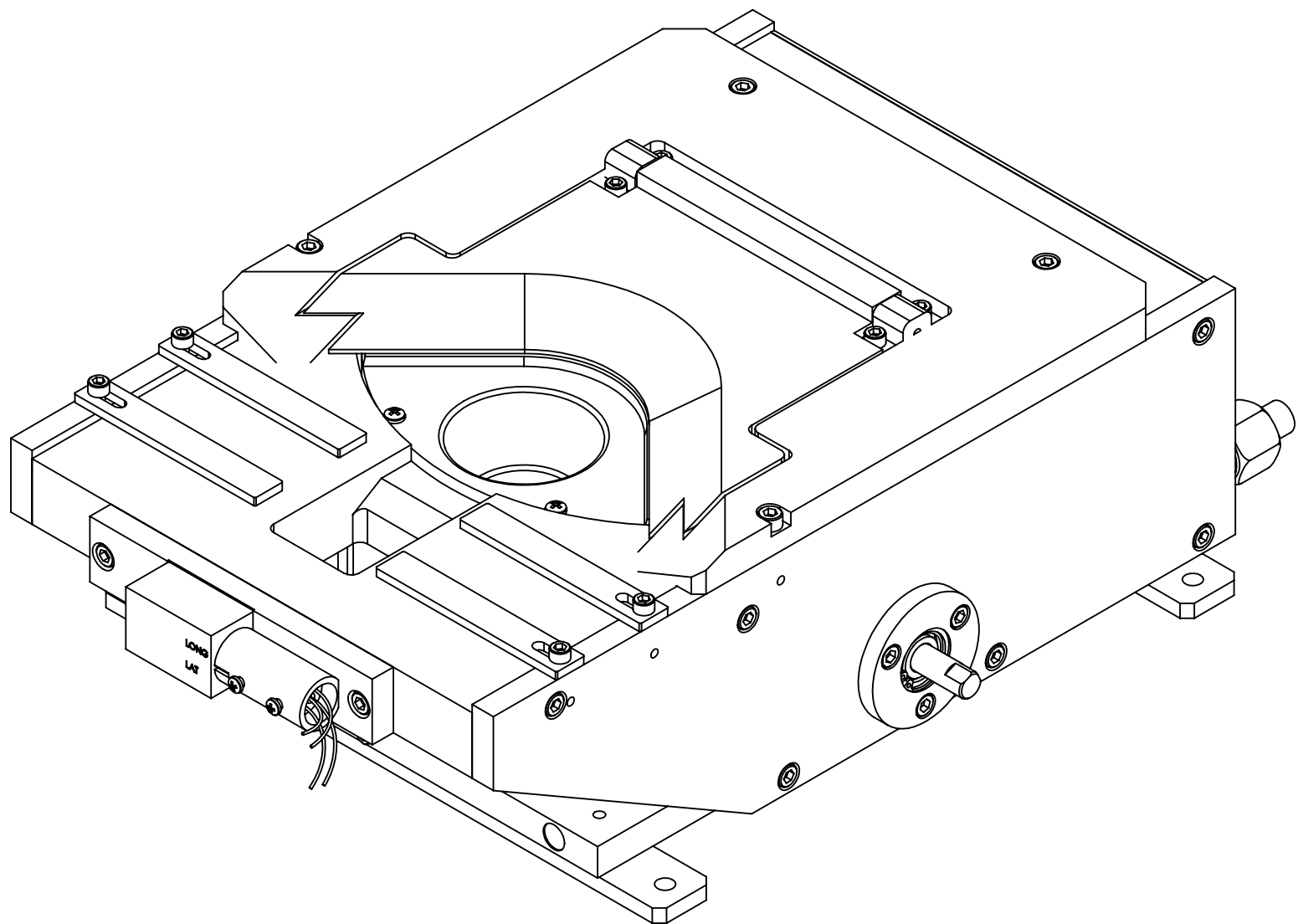
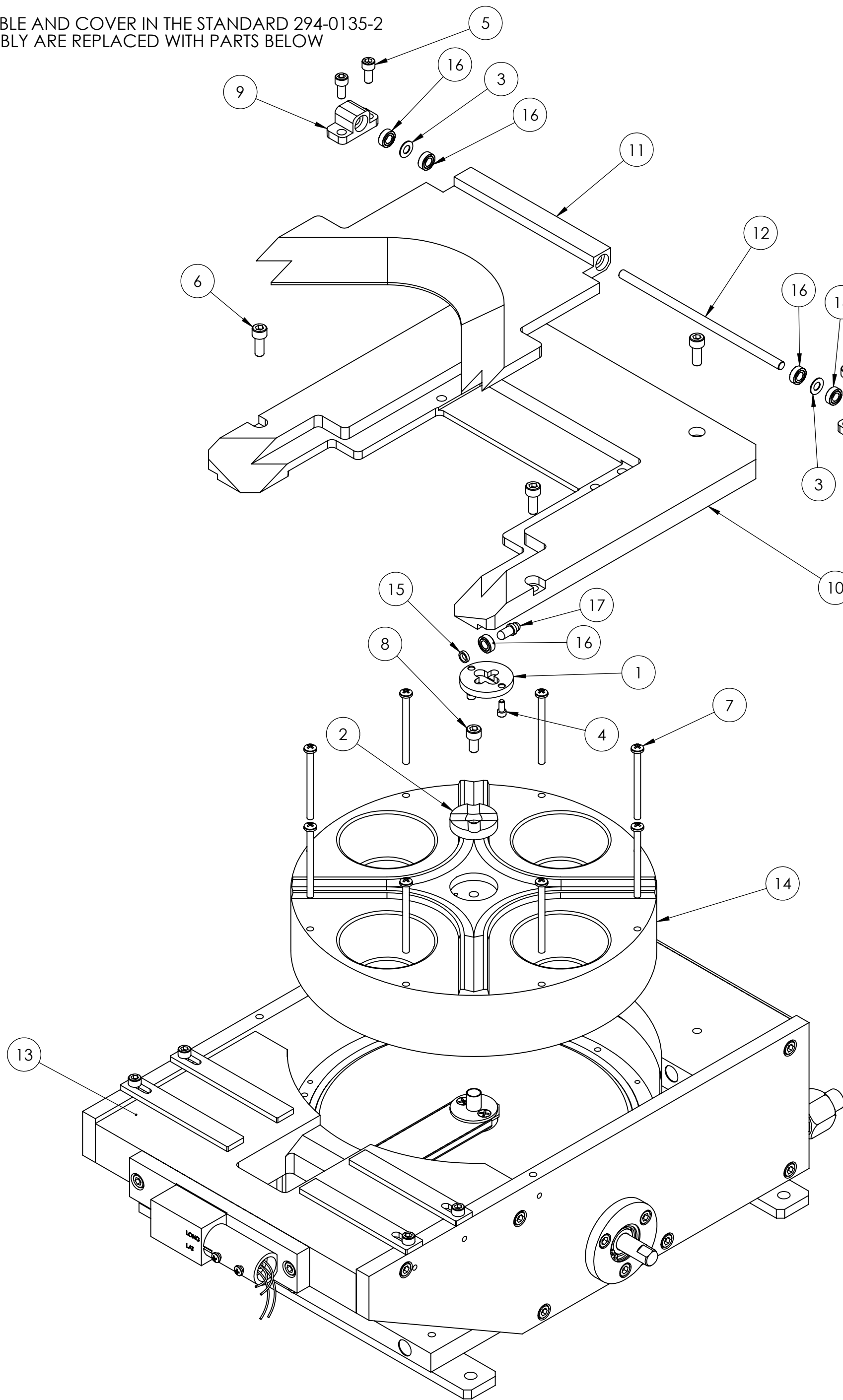
ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	PWF	10/26/2011
		A1	UPDATE	PWF	8/20/2012
		B	REVISED SSC ASSEMBLY	GPD	4/22/2015

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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	271-0039-1	BEARING HOLDER	1
2	271-0040-1	4 POCKET, CAM	1
3	271-0601-2	BELLEVILLE WASHER, 3/16", SST	2
4	271-5999-1	VENTED SCREW, #4-40 UNC X 1/4" SST SHCS	2
5	271-6125-1	VENTED SCREW, #8-32 UNC X 3/8" LG, SST, SHCS	4
6	271-6150-1	VENTED SCREW, #10-32 X 1/2" SHCS	4
7	271-6120-1	#6-32 X 1-3/4" PHL PAN.	8
8	271-6145-1	VENTED SCREW, #10-32 X 3/8" SST SHCS	1
9	294-0037-1	BEARING HOUSING (SSC)	2
10	294-0071-7	MAIN COVER, SSC, -2, 4 pkt	1
11	294-0073-8	COVER, 4 POCKET (SSC)	1
12	294-0097-1	SHAFT, (SSC)	1
13	294-0133-2	EB SOURCE SUB ASSEMBLY, SIDE DRIVE	1
14	294-0215-6	CRUCIBLE, 4 X 40cc (SSC NEW)	1
15	528-0068-1	SPACER .063	1
16	528-0069-1	BEARING, 3/8" O.D. X 3/16" I.D. X 1/8" THICK, SHIELDED, SST	5
17	568-0158-1	BEARING SHAFT	1

UNLESS OTHERWISE SPECIFIED  
GLOBAL TOLERANCES

INCHES [mm]  
X +/- .03 [0.762]  
.XX +/- .01 [0.254]  
.XXX +/- .005 [0.127]

ANGLES +/- .5°  
SURF FINISH .63 RMS

DWG BY  
CHECK BY  
PROJ ENG  
MFG ENG

DATE  
DATE  
DATE  
DATE

DO NOT SCALE DRAWING

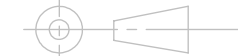
FILE NUMBER - 294-99xx-2  
INITIAL PROJECT -

MATERIAL:

SEE PARTS LIST

FINISH:

THIRD ANGLE PROJECTION



**TELEMARK**

Battle Ground, WA

**MODEL 294-44 EB SOURCE (SSC)  
4X40CC, SD, SSC**

SCALE 1:2  
SHEET 1 of 1

DWG NO. 294-9944-2SSC

REV B

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NOTE:  
1. CRUCIBLE AND COVER IN THE STANDARD 294-0135-2  
ASSEMBLY ARE REPLACED WITH PARTS BELOW

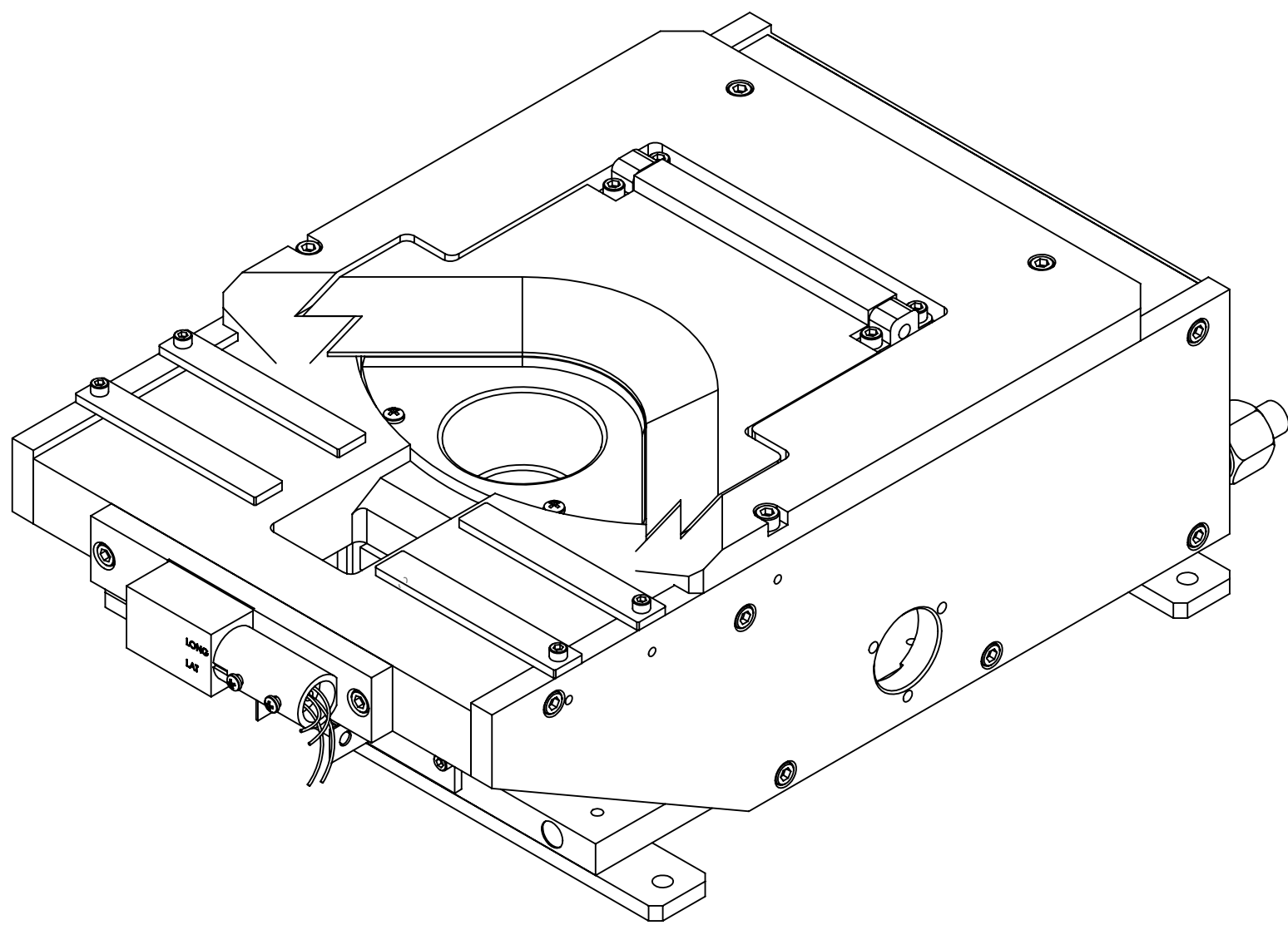
ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	PWF	10/26/2011
		A1	UPDATE	PWF	8/20/2012

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ITEM NO.	PART NUMBER	DESCRIPTION	294-9945-2SSC/QTY.
1	271-0037-1	BEARING HOUSING (SSC)	2
2	271-0039-1	BEARING HOLDER	1
3	271-0040-1	4 POCKET, CAM	1
4	271-5999-1	VENTED SCREW, #4-40 X 1/4" SST SHCS	2
5	271-6125-1	VENTED SCREW, #8-32 X 3/8" SST SHCS.	4
6	271-6150-1	VENTED SCREW, #10-32 X 1/2" SST. SHCS	4
7	271-6120-1	#6-32 X 1-3/4" PHL PAN.	8
8	271-6145-1	VENTED SCREW, #10-32 X 3/8" SST SHCS	1
9	294-0071-7	MAIN COVER, SSC, -2, 4 pkt	1
10	294-0073-6	COVER, 4 POCKET (SSC)	1
11	294-0135-2	EB SOURCE SUB ASSEMBLY, BOTTOM DRIVE	1
12	294-0215-6	CRUCIBLE, 4 X 40cc (SSC NEW)	1
13	528-0068-1	SPACER .063	1
14	528-0069-1	BEARING	3
15	568-0158-1	BEARING SHAFT	1

UNLESS OTHERWISE SPECIFIED  
GLOBAL TOLERANCES

INCHES [mm]  
X +/- .03 [0.762]  
.XX +/- 0.01 [0.254]  
.XXX +/- 0.005 [0.127]

ANGLES +/- .5°  
SURF FINISH .63 RMS

DWG BY  
CHECK BY  
PROJ ENG  
MFG ENG

DATE  
DATE  
DATE  
DATE

MATERIAL:

FINISH:

DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION

FILE NUMBER - 294-99xx-2  
INITIAL PROJECT -

**TELEMARK**

telemark.com

**MODEL 294-45 EB SOURCE (SSC)  
4X40CC, BD, SSC**

SCALE 1:2  
SHEET 1 of 1

DWG NO.  
**294-9945-2SSC**

REV  
**A1**

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NOTE:  
1. CRUCIBLE AND COVER IN THE STANDARD 294-0133-2  
ASSEMBLY ARE REPLACED WITH PARTS BELOW

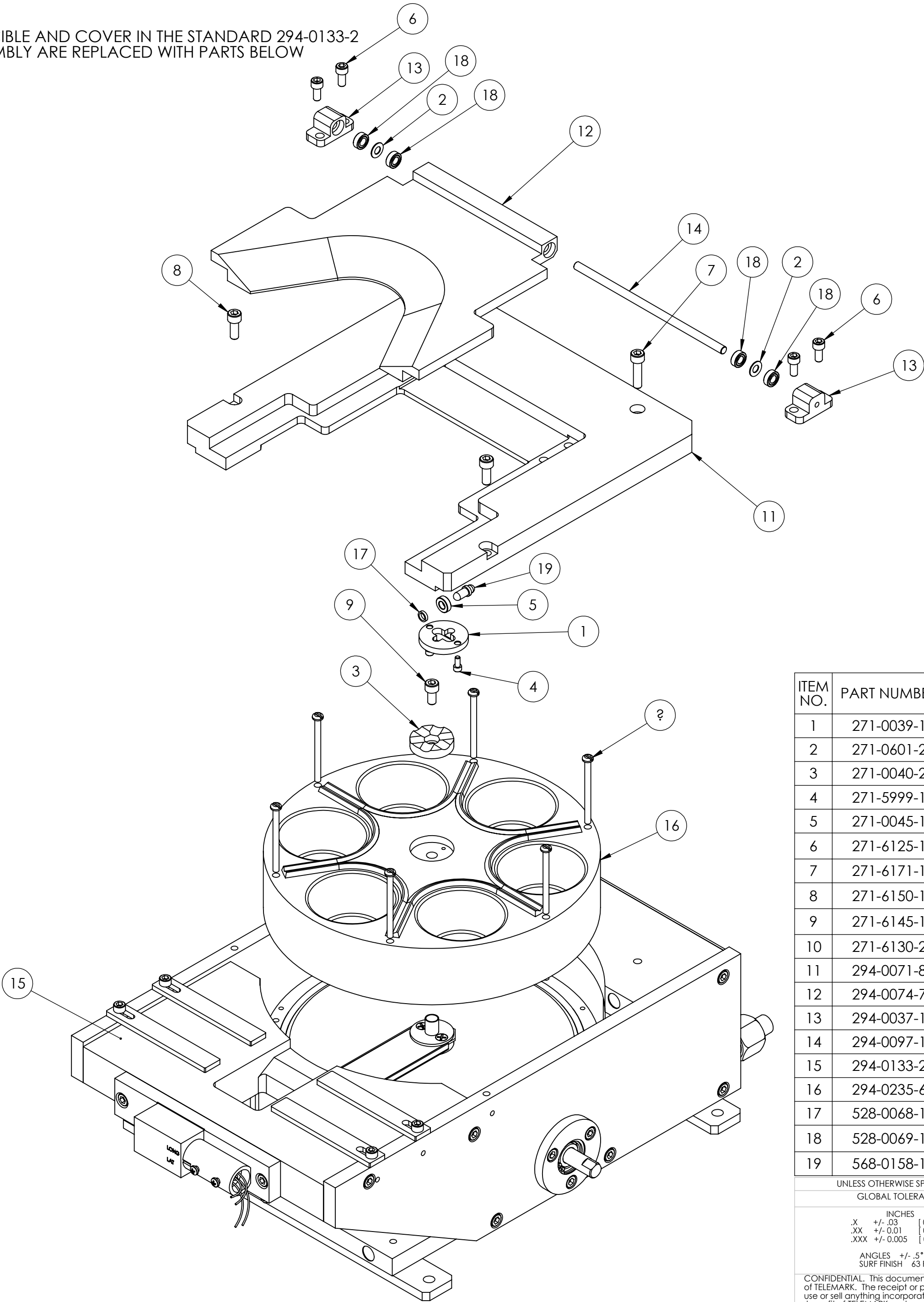
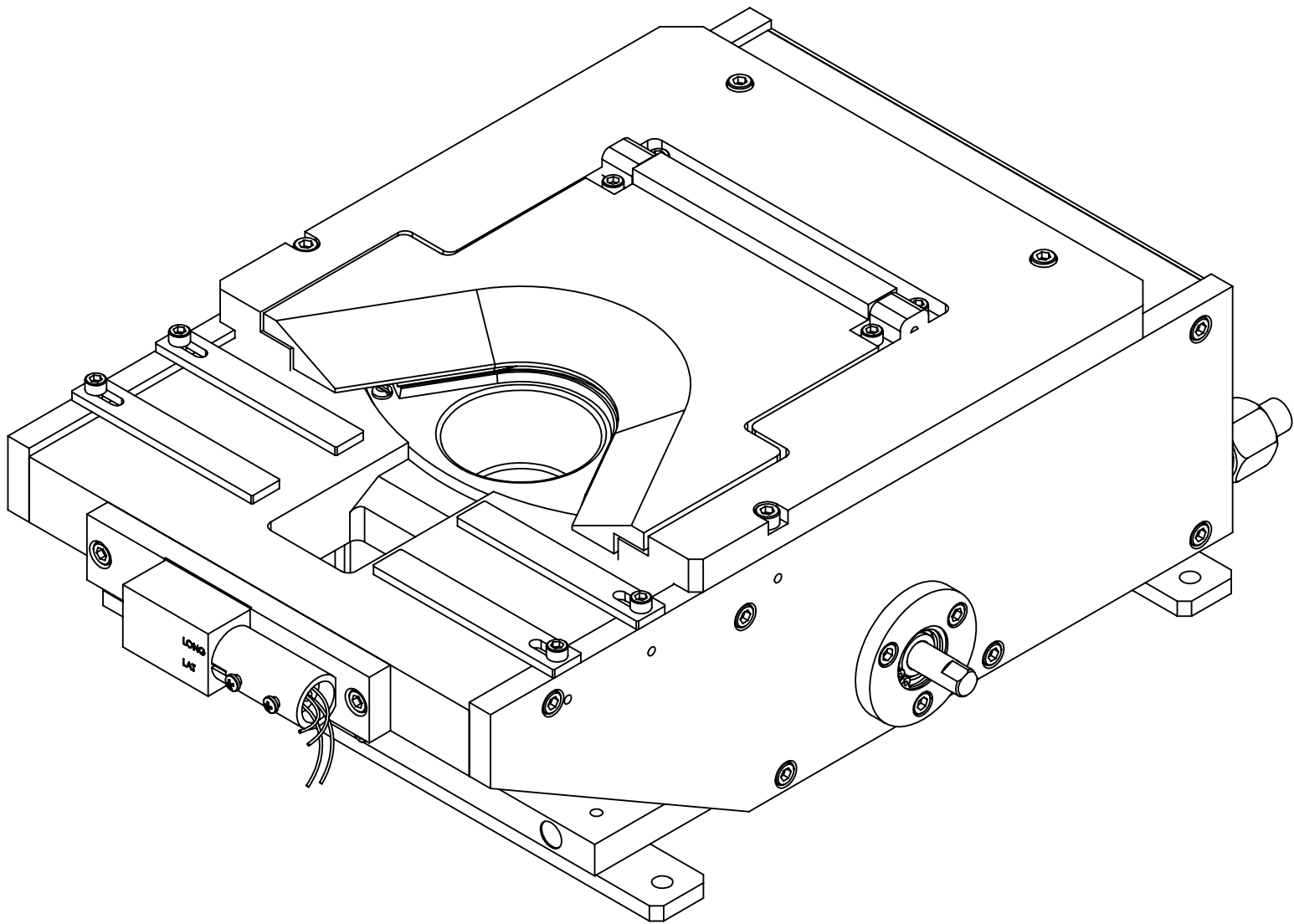
ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	PWF	10/26/2011
		A1	UPDATE	PWF	8/20/2012
		B	REVISED SSC ASSEMBLY	GPD	4/21/2015

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ITEM NO.	PART NUMBER	DESCRIPTION	294-9969-2SSC/QTY.
1	271-0039-1	BEARING HOLDER	1
2	271-0601-2	BELLEVILLE WASHER, 3/16", SST	2
3	271-0040-2	6 POCKET, CAM	1
4	271-5999-1	VENTED SCREW, #4-40 UNC X 1/4" SST SHCS	2
5	271-0045-1	WHEEL, SSC	1
6	271-6125-1	VENTED SCREW, #8-32 UNC X 3/8" LG, SST, SHCS	4
7	271-6171-1	VENTED SCREW, #10-32 X 3/4" SST. SHCS	2
8	271-6150-1	VENTED SCREW, #10-32 X 1/2" SHCS	2
9	271-6145-1	VENTED SCREW, #10-32 X 3/8" SST SHCS	1
10	271-6130-2	VENTED SCREW, #8-32 UNC X 1-3/4" LONG, SLOT PAN HEAD	6
11	294-0071-8	MAIN COVER, SSC, 6 POCKET	1
12	294-0074-7	COVER, 6 POCKET (SSC)	1
13	294-0037-1	BEARING HOUSING (SSC)	2
14	294-0097-1	SHAFT, (SSC)	1
15	294-0133-2	EB SOURCE SUB ASSEMBLY, SIDE DRIVE	1
16	294-0235-6	CRUCIBLE, 6 X 40cc (SSC)	1
17	528-0068-1	SPACER .063	1
18	528-0069-1	BEARING, 3/8" O.D. X 3/16" I.D. X 1/8" THICK, SHIELDED, SST	4
19	568-0158-1	BEARING SHAFT	1

UNLESS OTHERWISE SPECIFIED		DWG BY	DATE	MATERIAL:		<b>TELEMARK</b>		Battle Ground, WA	
GLOBAL TOLERANCES		CHECK BY	DATE	FINISH:		<b>MODEL 294-69 EB SOURCE (SSC)</b> <b>6X40CC, SD, SSC</b>			
		PROJ ENG	DATE						
		MFG ENG	DATE						
INCHES [mm]		DO NOT SCALE DRAWING		THIRD ANGLE PROJECTION					
.XX +/- .03 [0.762]		FILE NUMBER - 294-99xx-2							
.XXX +/- .01 [0.254]		INITIAL PROJECT -							
.XXX +/- .005 [0.127]									
ANGLES +/- .5°									
SURF FINISH .63 RMS									
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<b>C</b>	SCALE	1:2	DWG NO.		REV				
	SHEET	1 of 1	<b>294-9969-2SSC</b>		<b>B</b>				

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NOTE:  
1. CRUCIBLE AND COVER IN THE STANDARD 294-0135-2  
ASSEMBLY ARE REPLACED WITH PARTS BELOW

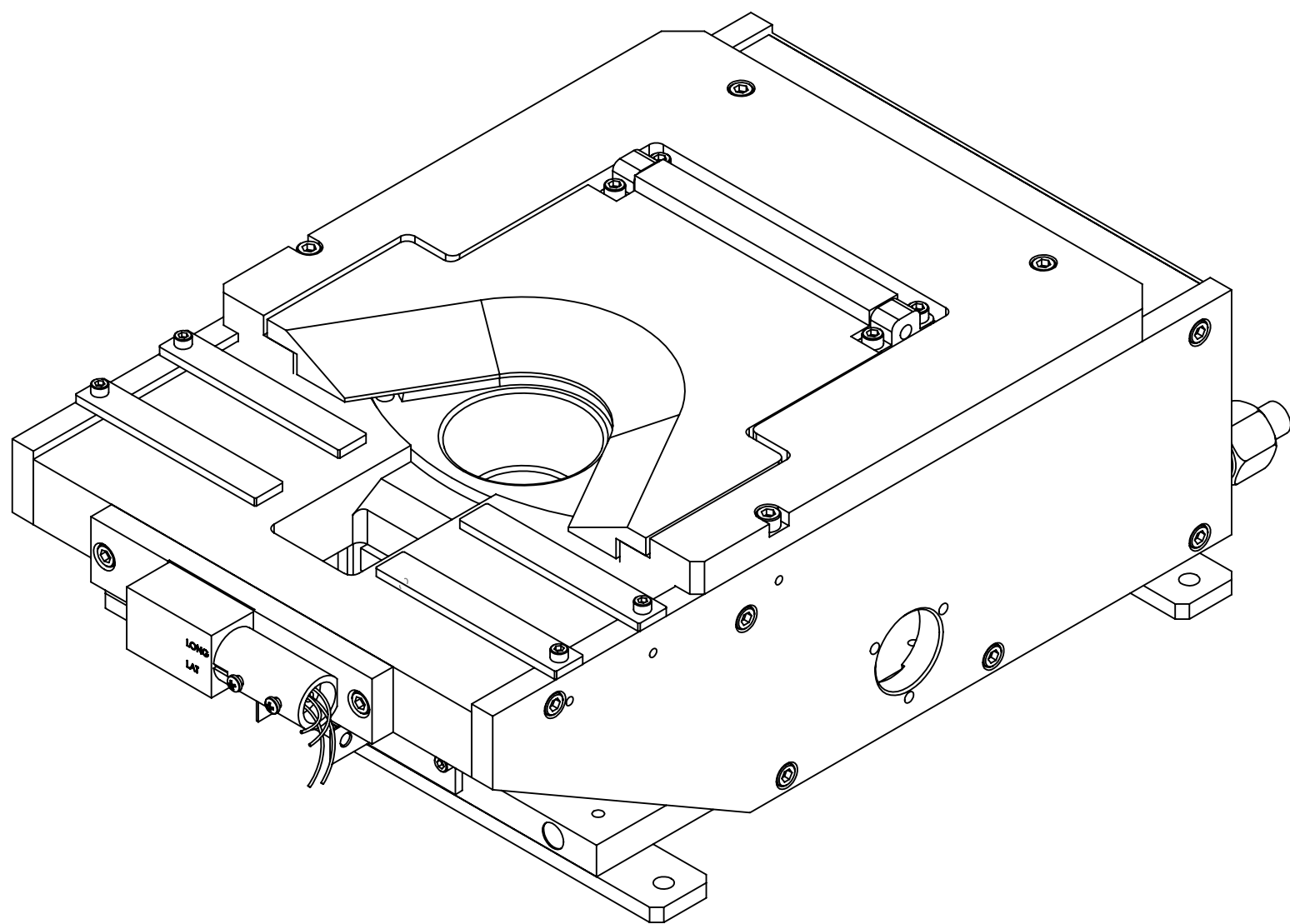
ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	PWF	10/26/2011
		A1	UPDATE	PWF	8/20/2012

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ITEM NO.	PART NUMBER	DESCRIPTION	294-9970-2SSC/QTY.
1	271-0037-1	BEARING HOUSING (SSC)	2
2	271-0039-1	BEARING HOLDER	1
3	271-0040-2	6 POCKET, CAM	1
4	271-5999-1	VENTED SCREW, #4-40 X 1/4" SST SHCS	2
5	271-6125-1	VENTED SCREW, #8-32 X 3/8" SST SHCS.	4
6	271-6150-1	VENTED SCREW, #10-32 X 1/2" SST. SHCS	4
7	271-6145-1	VENTED SCREW, #10-32 X 3/8" SST SHCS	1
8	271-6130-1	VENTED SCREW, #8-32 X 1-3/4" SLOT PH	6
9	294-0071-8	MAIN COVER, SSC	1
10	294-0074-6	COVER, 6 POCKET (SSC)	1
11	294-0135-2	EB SOURCE SUB ASSEMBLY, BOTTOM DRIVE	1
12	294-0235-6	CRUCIBLE, 6 X 40cc (SSC)	1
13	528-0068-1	SPACER .063	1
14	528-0069-1	BEARING	3
15	568-0158-1	BEARING SHAFT	1

UNLESS OTHERWISE SPECIFIED  
GLOBAL TOLERANCES

INCHES [mm]  
X +/- .03 [0.762]  
.XX +/- .01 [0.254]  
.XXX +/- .005 [0.127]

ANGLES +/- .5°  
SURF FINISH .63 RMS

DWG BY  
CHECK BY  
PROJ ENG  
MFG ENG

DATE  
DATE  
DATE  
DATE

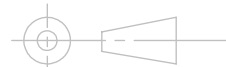
MATERIAL:

FINISH:

DO NOT SCALE DRAWING

FILE NUMBER - 294-99xx-2  
INITIAL PROJECT -

THIRD ANGLE PROJECTION



**TELEMARK**

telemark.com

**MODEL 294-70 EB SOURCE (SSC)  
6X40CC, BD, SSC**

SCALE 1:2  
SHEET 1 of 1

DWG NO.  
**294-9970-2SSC**

REV  
**A1**

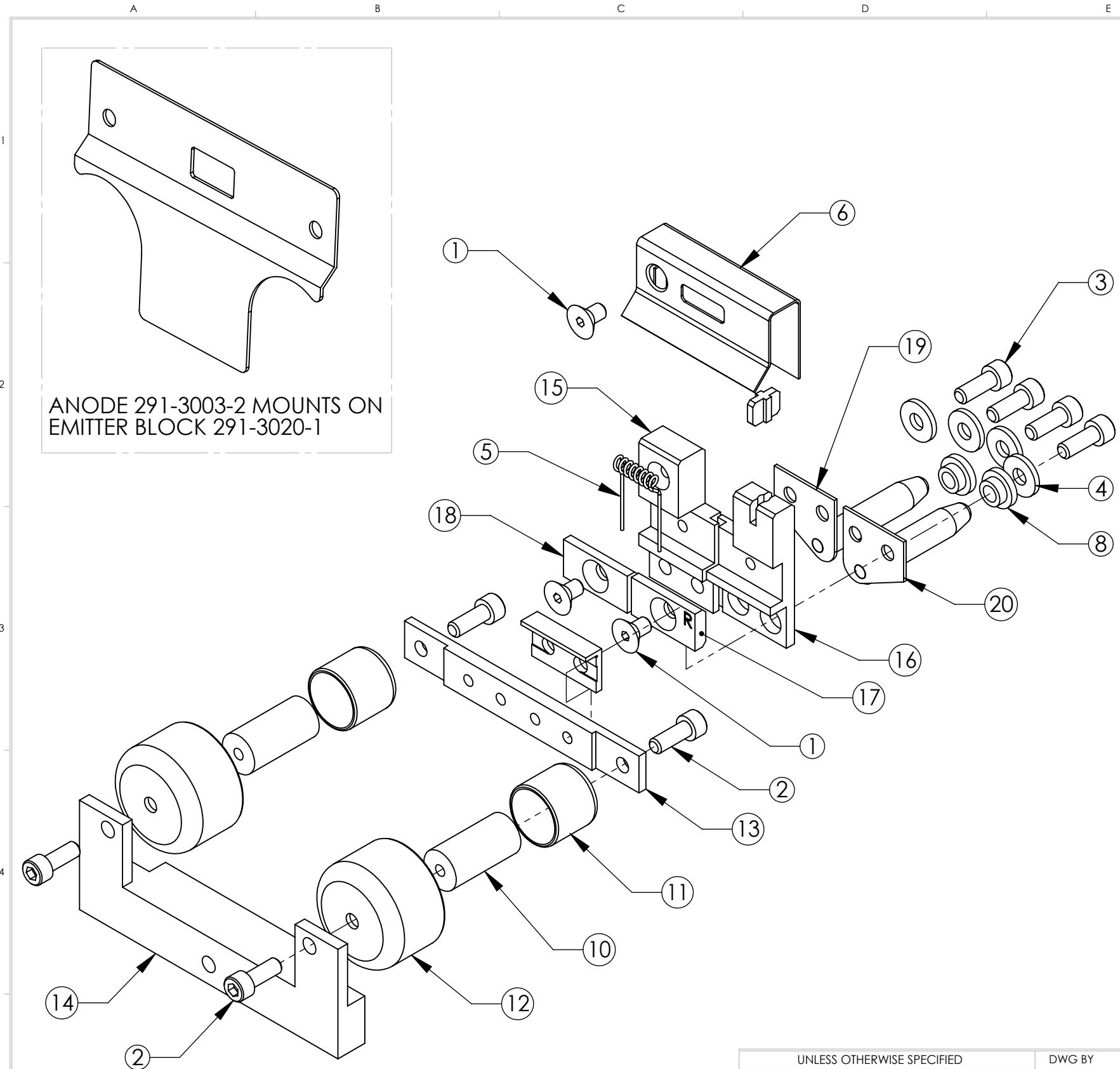
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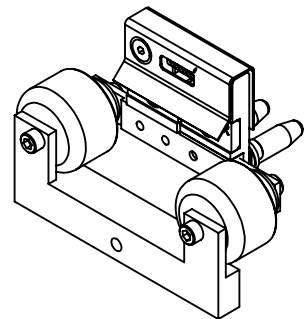


# Optional Assemblies

## Arc Suppression



ANODE 291-3003-2 MOUNTS ON  
EMITTER BLOCK 291-3020-1



ISOMETRIC VIEW

ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE		12/16/2004
		A1	UPDATE	PWF	8/17/2010

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	3	271-6010-5	SCREW, #6-32 X 1/4" SLOT FLAT HEAD,TI
2	4	271-6050-1	VENTED SCREW, #6-32 X 3/8" SST SHCS.
3	4	271-6050-5	SCREW, #6-32 X 3/8" SHCS, TI
4	4	271-6242-1	FLAT WASHER, #6.SST.
5	1	273-0001-1	FILAMENT, 7 1/2 TURN
6	1	291-3004-1	BEAM FORMER
7	1	291-3005-1	INSULATOR, CROSS
8	2	291-3006-1	INSULATOR, COLLAR
9	1	291-3008-1	L INSULATOR
10	2	291-3010-1	HV INSULATOR
11	2	291-3011-1	HV SHIELD, ARC FREE
12	2	291-3013-1	HV SHIELD
13	1	291-3017-2	MOUNTING BRACKET
14	1	291-3018-1	EMITTER SUPPORT BRACKET
15	1	291-3031-1	CATHODE BLOCK, LEFT
16	1	291-3032-1	CATHODE BLOCK, RIGHT
17	1	291-3033-4	FILAMENT CLAMP, RIGHT
18	1	291-3033-3	FILAMENT CLAMP, LEFT
19	1	291-3035-1	EMITTER BUS BAR ASSY., LEFT
20	1	291-3036-1	EMITTER BUS BAR ASSY., RIGHT

UNLESS OTHERWISE SPECIFIED  
GLOBAL TOLERANCES

	INCHES	[mm]
.X	+/- .03	[0.762]
.XX	+/- 0.01	[0.254]
.XXX	+/- 0.005	[0.127]

ANGLES +/- .5°  
SURF FINISH 63 RMS

DWG BY  
CHECK BY  
PROJ ENG  
MFG ENG

DATE  
DATE  
DATE  
DATE

DO NOT SCALE DRAWING

FILE NUMBER - 291-3150-2  
INITIAL PROJECT -

MATERIAL: BOM

FINISH: SEE NOTES

THIRD ANGLE PROJECTION

**TELEMARK**  
telemark.com

**EMITTER ASSEMBLY,  
270, 271, 274**

**B**

SCALE 1:1  
SHEET 1 of 1

DWG NO.  
**291-3150-2**

REV  
**A**

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- NOTE:
- ITEM 7 IS 294-0133-2 OR 294-0135-2 WHICH IS THE SAME AS THE STANDARD 294 ASSEMBLY EXCEPT THE BASE PLATE IS PART NUMBER 294-0060-2 AND ONLY ONE MOUNTING STRAP PART NUMBER 271-0088-1 IS USED.
  - ITEM 9 IS PART OF THE EMITTER ASSEMBLY PART NUMBER 291-3150-2.
  - ITEM 15 IS THE STANDARD FEEDTHRU, MANY OTHER OPTIONS ARE AVAILABLE.

ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	PWF	8/7/2012

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OPTIONAL  
FEEDTHRU ASSEMBLIES

ITEM NO.	PART NUMBER	DESCRIPTION	straigh feedthru/QTY.
1	271-6030-1	VENTED SCREW, #6-32 X 1/4" SST SHCS	2
2	271-6060-1	VENTED SCREW, #6-32 X 1/2" SST SHCS	1
3	271-6134-1	VENTED SCREW, #8-32 X 1/2" SST FHS	2
4	271-6145-1	VENTED SCREW, #10-32 X 3/8" SST SHCS	2
5	271-6150-6	VENTED SCREW, #10-32 X 1/2" SST SHCS, SILVER	2
6	271-6180-1	VENTED SCREW, 1/4-20 X 3/8" SST. SHCS	2
7	271-6190-1	VENTED SCREW, 1/4-20 X 1/2" SST SHCS.	2
8	291-0465-1	STANDOFF, SOURCE	2
9	291-3003-2	ANODE	1
10	291-3020-1	EMITTER BLOCK	1
11	291-3150-2	EMITTER	1
12	291-5040-1	POWER BLOCK, L.H.	1
13	291-5041-1	POWER BLOCK, R.H.	1
14	291-5042-1	POWER CLAMP	2
15	291-5190-1	DUAL HV F/T WELD ASSY.	1
16	294-0089-1	MOUNTING STRAP	1
17	294-013x-2	294 EB SOURCE SUB ASSEMBLY	1

UNLESS OTHERWISE SPECIFIED	
GLOBAL TOLERANCES	
X	INCHES [mm]
XX	+/- .03 [0.762]
XXX	+/- 0.01 [0.254]
XXXX	+/- 0.005 [0.127]
ANGLES +/- .5°	
SURF FINISH .63 RMS	

DWG BY	DATE	mo/day/yr
CHECK BY	DATE	
PROJ ENG	DATE	
MFG ENG	DATE	
DO NOT SCALE DRAWING		
FILE NUMBER - 294-5175-1		
INITIAL PROJECT -		

MATERIAL:	BOM
FINISH:	
THIRD ANGLE PROJECTION	

<b>TELEMARK</b>		telemark.com
<b>294 ARC SUPPRESSION OPTION</b>		
SCALE 1:2	DWG NO. 294-5175-1	REV A
SHEET 1 of 1		

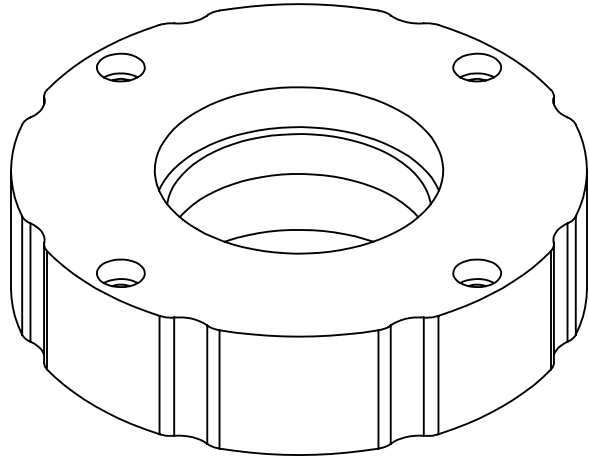
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# Optional Assemblies

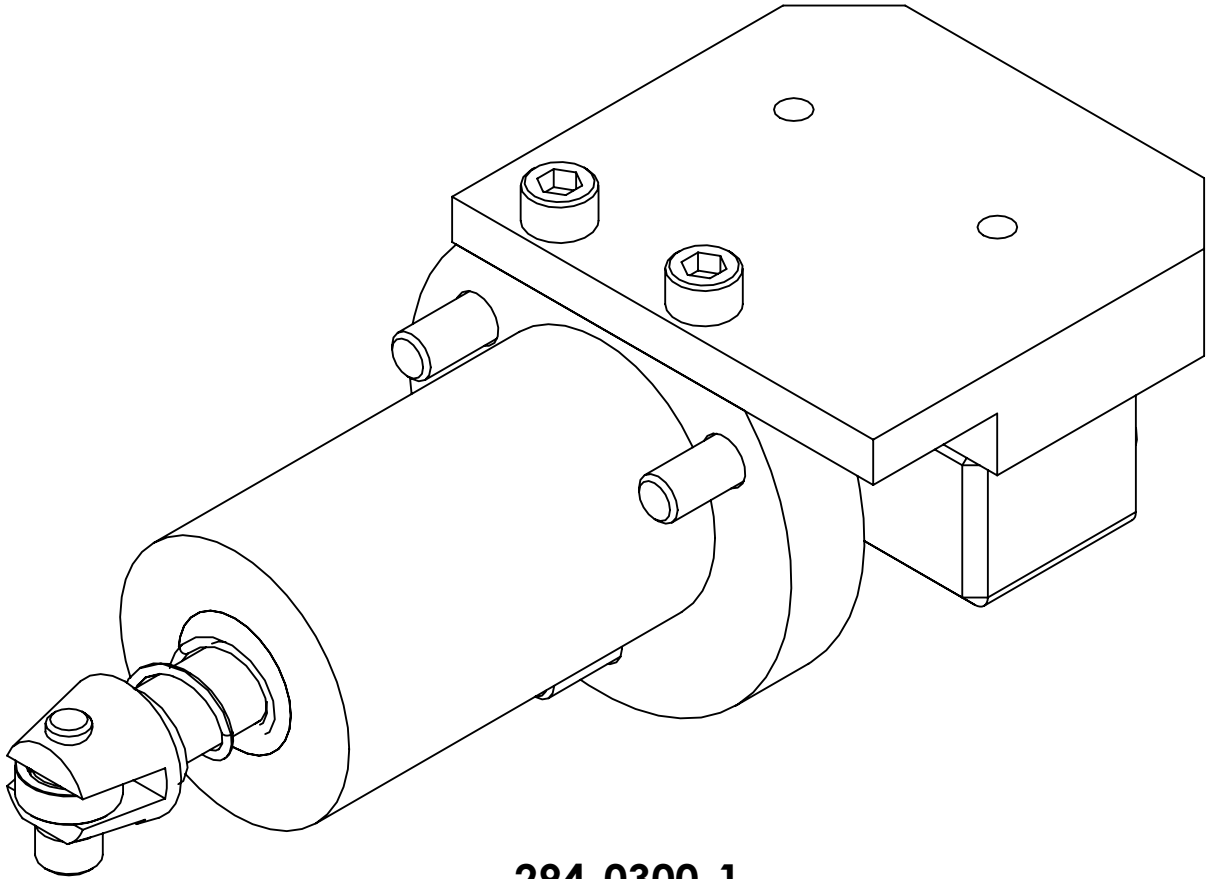
**Indexer In-Vacuum In-Pocket Switch**

ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	GPD	9/4/2014
		B	REVISED HUB REQUIRED PART NUMBERS	GPD	10/14/2014
		C	P/N FROM 271-6018-9 TO 271-6004-9	GPD	10/27/2014
		D	NEW DRAWING	PWF	3/19/2018
990824		D1	REVISED 274-0301-1	GPD	4/16/2018
990858		E	ADDED 294-0300-7	GPD	4/2/2019



ROTATION HUB  
SEE TABLE AND NOTE BELOW  
FOR CORRECT HUB FOR ASSEMBLY

NEW SOURCE OPTION P/N	UPGRADE KIT P/N	NUMBER OF POCKETS	HUB REQUIRED *
294-0300-4	294-0300-4-HP	4	294-0038-4
294-0300-6	294-0300-6-HP	6	274-0038-6
294-0300-7	294-0300-7-HP	TROUGH/PAN	271-0038-7
294-0300-8	294-0300-8-HP	8	294-0038-8



294-0300-1

**\*NOTE: FOR ROTATION ASSEMBLY REFER TO DRAWING  
294-0113-1. CHANGE STANDARD HUB P/N  
271-0038-1 WITH HUB REQUIRED ABOVE  
DEPENDING ON NUMBER OF POCKETS.**

UNLESS OTHERWISE SPECIFIED		DWG BY		DATE	MATERIAL:		SEE PARTS LIST		<div><div>TELEMARK</div><div>telemark.com</div></div>		
GLOBAL TOLERANCES		CHECK BY		DATE	FINISH:		SEE NOTES				
<div><div>INCHES</div><div>[ mm]</div><div>.X +/- .03 [0.762]</div><div>.XX +/- 0.01 [0.254]</div><div>.XXX +/- 0.005 [0.127]</div><div>ANGLES +/- .5°</div><div>SURF FINISH 63 RMS</div></div>		MFG ENG		DATE	THIRD ANGLE PROJECTION						
		DO NOT SCALE DRAWING									
		FILE NUMBER		- 294-0300-1							
		INITIAL PROJECT		-							
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<div>B</div>		SCALE		1:5		DWG NO.		<div>294-0300-X</div>		REV E	
		SHEET		1 of 1							



- NOTES: (UNLESS OTHERWISE SPECIFIED)
1. REMOVE BURRS & BREAK ALL SHARP EDGES  
.005-.015 RADIUS OR CHAMFER.
  2. ALL SURFACES  $\sqrt{63}$
  3. BAG WITH PART NUMBER AND REVISION.

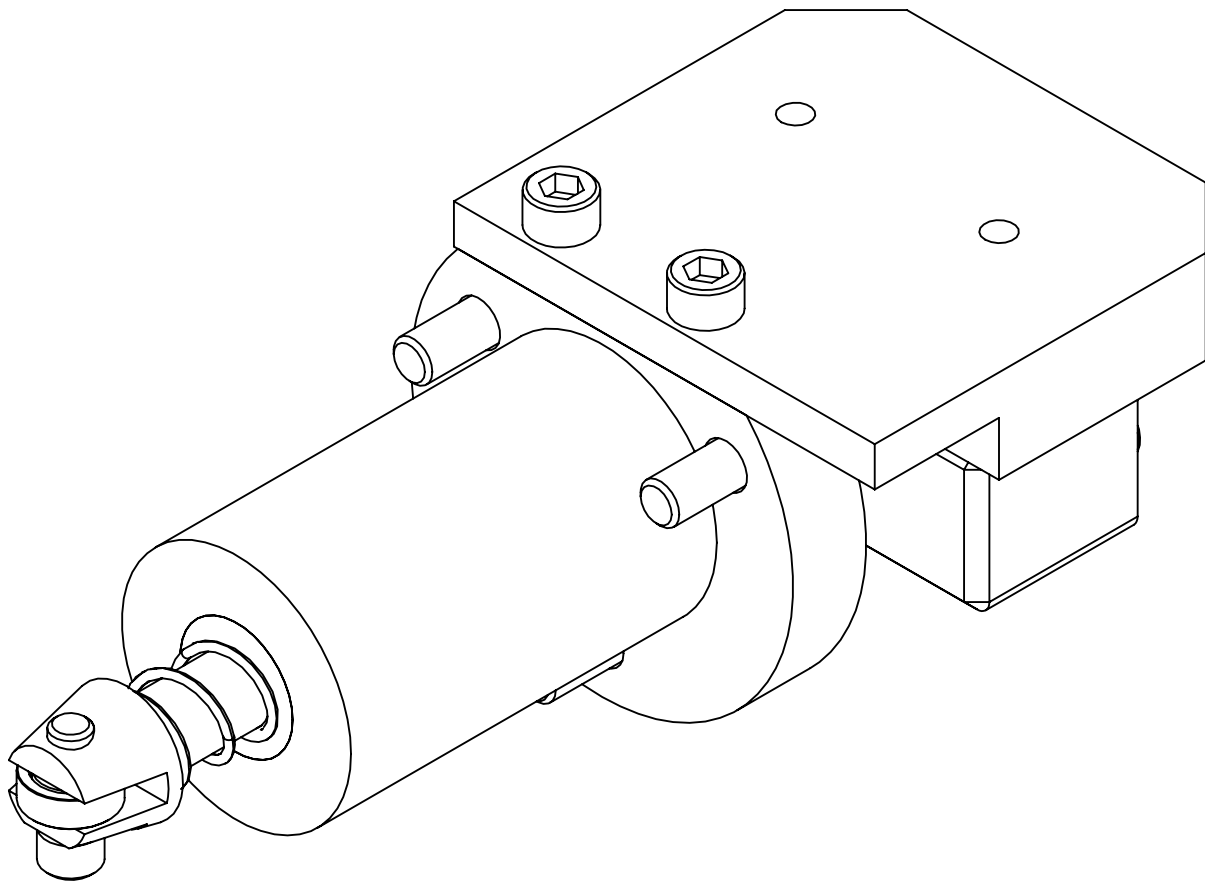
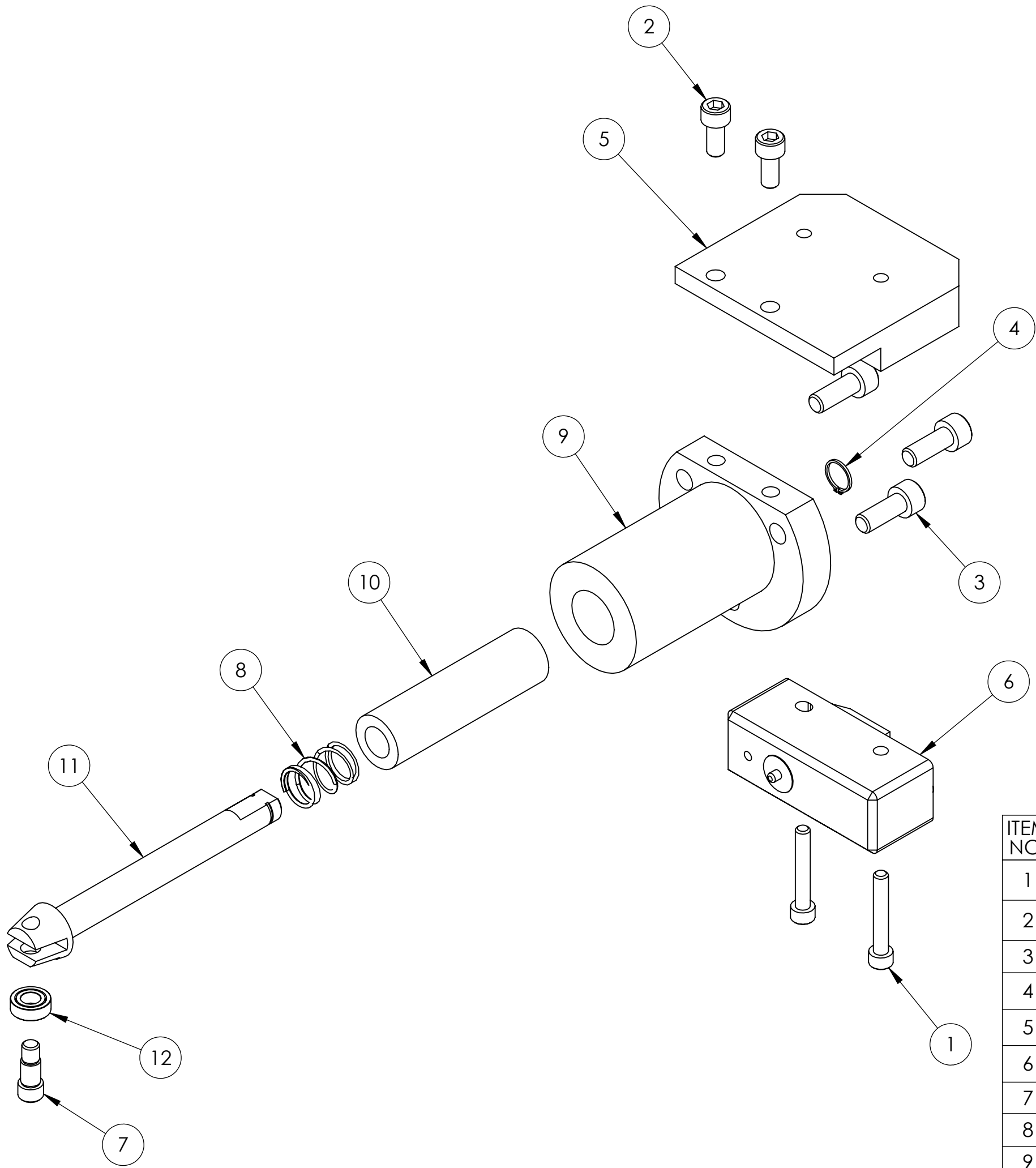
ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	GPD	3/13/2017
990824		A1	REVISED 274-0301-1	GPD	4/16/2018
990880		B	P/N FROM 271-6004-9 TO 271-6073-9	GPD	3/20/2020

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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	271-6073-9	SCREW, 6-32 UNC X 7/8" SST, SHCS	2
2	271-6125-1	VENTED SCREW, #8-32 UNC X 3/8" LG, SST, SHCS	2
3	271-6150-1	VENTED SCREW, #10-32 X 1/2" SHCS	3
4	271-6281-3	RETAINING RING, EXTERNAL, 5/16", SST	1
5	274-0301-1	MOUNTING BLOCK, CRUCIBLE SENSOR	1
6	274-0305-2	MICRO SWITCH, SPDT, PIN PLUNGER, MODIFIED	1
7	274-0306-1	SHOULDER SCREW, MODIFIED	1
8	274-0307-1	SPRING, COMPRESSION, .42 O.D. X .62 LONG X .038 WIRE DIAMETER	1
9	294-0302-1	HOUSING, CRUCIBLE SENSOR	1
10	294-0303-1	INSULATOR, CRUCIBLE SENSOR	1
11	294-0304-1	SHAFT, CRUCIBLE SENSOR	1
12	528-0069-1	BEARING, 3/8" O.D. X 3/16" I.D. X 1/8" THICK, SHIELDED, SST	1

UNLESS OTHERWISE SPECIFIED		DWG BY: <b>G. DION</b> DATE: <b>3-13-2017</b>		MATERIAL: SEE PARTS LIST		<b>TELEMARK</b>		Battle Ground, WA	
GLOBAL TOLERANCES		CHECK BY: DATE		FINISH: SEE NOTES		<b>ASSEMBLY, CRUCIBLE SENSOR, MODEL 294</b>			
		PROJ ENG DATE							
		MFG ENG DATE							
INCHES [mm]		DO NOT SCALE DRAWING		THIRD ANGLE PROJECTION					
.X +/- .03 [0.762]		FILE NUMBER - 294-0300-1							
.XX +/- 0.01 [0.254]		INITIAL PROJECT -							
.XXX +/- 0.005 [0.127]									
ANGLES +/- .5°									
SURF FINISH 63 RMS									
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<b>C</b>		SCALE 1:1		DWG NO. <b>294-0300-1</b>		REV <b>B</b>			
		SHEET 1 of 1							



NOTES: (UNLESS OTHERWISE SPECIFIED)  
1. REMOVE BURRS & BREAK ALL SHARP EDGES  
.005-.015 RADIUS OR CHAMFER.  
2. ALL SURFACES  $\sqrt{63}$   
3. BAG WITH PART NUMBER AND REVISION.

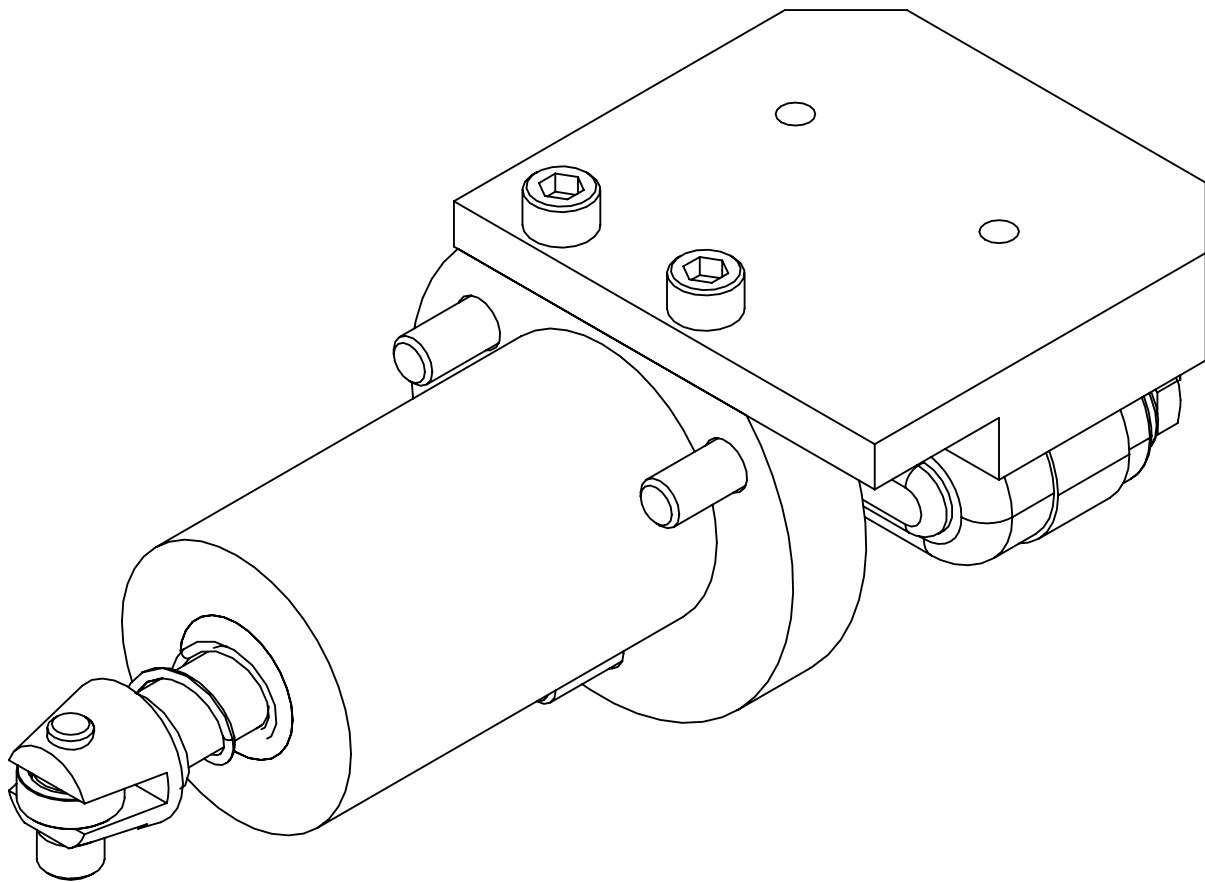
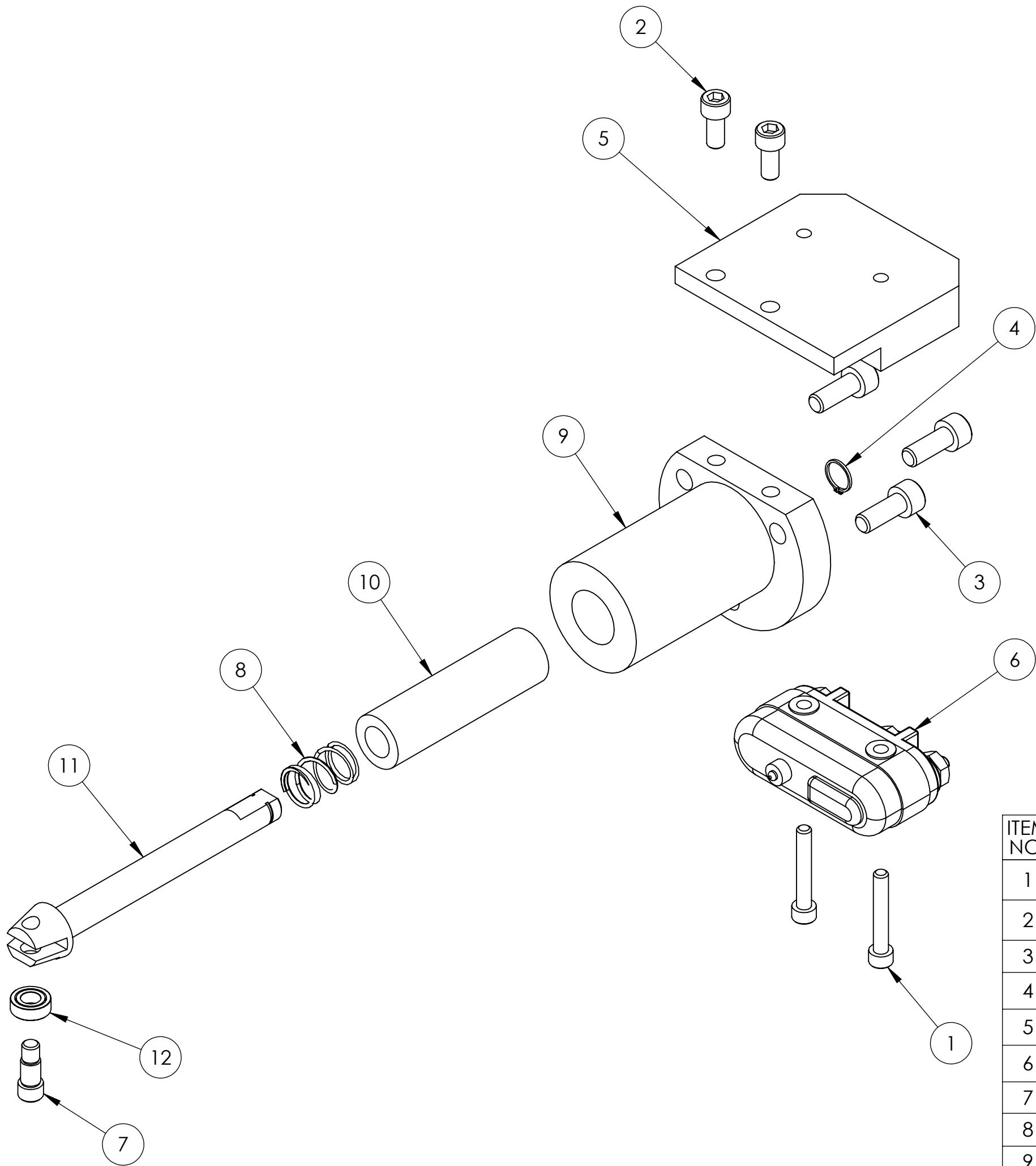
ECN	ZONE	REV	DESCRIPTION	BY	DATE
		A	RELEASE	GPD	3/13/2017
		B	PART NUMBER FROM 274-0305-2 TO 274-0305-9	GPD	3/29/2018
990824		B1	REVISED 274-0301-1	GPD	4/16/2018
990880		C	P/N FROM 271-6004-9 TO 271-6073-9	GPD	3/20/2020

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4	271-6281-3	RETAINING RING, EXTERNAL, 5/16", SST	1
5	274-0301-1	MOUNTING BLOCK, CRUCIBLE SENSOR	1
6	274-0305-9	MICRO SWITCH, SPDT, PIN PLUNGER, CERAMIC	1
7	274-0306-1	SHOULDER SCREW, MODIFIED	1
8	274-0307-1	SPRING, COMPRESSION, .42 O.D. X .62 LONG X .038 WIRE DIAMETER	1
9	294-0302-1	HOUSING, CRUCIBLE SENSOR	1
10	294-0303-1	INSULATOR, CRUCIBLE SENSOR	1
11	294-0304-1	SHAFT, CRUCIBLE SENSOR	1
12	528-0069-1	BEARING, 3/8" O.D. X 3/16" I.D. X 1/8" THICK, SHIELDED, SST	1

UNLESS OTHERWISE SPECIFIED		DWG BY <b>G. DION</b> DATE <b>3-13-2017</b>	MATERIAL: SEE PARTS LIST	<b>TELEMARK</b> Battle Ground, WA
GLOBAL TOLERANCES		CHECK BY DATE PROJ ENG DATE MFG ENG DATE	FINISH: SEE NOTES	
INCHES [mm] X +/- .03 [0.762] .XX +/- 0.01 [0.254] .XXX +/- 0.005 [0.127]  ANGLES +/- .5° SURF FINISH 63 RMS		DO NOT SCALE DRAWING	THIRD ANGLE PROJECTION	<b>ASSEMBLY, CRUCIBLE SENSOR, CERAMIC, MODEL 294</b>
		FILE NUMBER - 294-0300-2 INITIAL PROJECT -		
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<b>C</b>	SCALE	1:1	DWG NO.	REV
	SHEET	1 of 1	<b>294-0300-2</b>	<b>C</b>