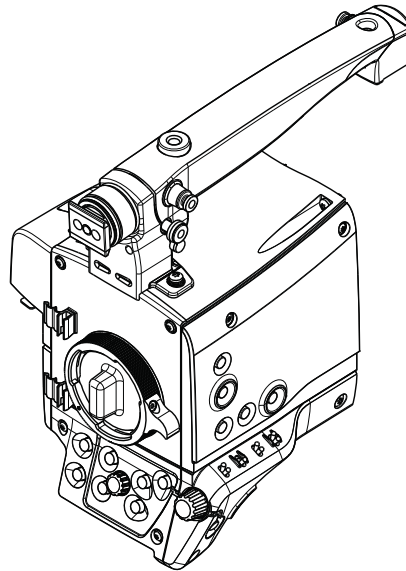


Maintenance Manual

3922 496 32031 May 2017 v3.0



LDX 80 Series

Camera Head

Declaration of Conformity

We, Grass Valley Nederland B.V., Bergschot 69, 4817 PA Breda, The Netherlands, declare under our sole responsibility that this product is in compliance with the following standards:

- EN60065 : Safety
- EN55103-1: EMC (Emission)
- EN55103-2: EMC (Immunity)

following the provisions of:

- a. the Low Voltage directive 2006/95/EC
- b. the EMC directive 2004/108/EC

FCC CLASS A Statement

This product generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause interference to radio communications.

It has been tested and found to comply with the limits for a CLASS A digital device pursuant to part 15 of the FCC rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

Operation of this product in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Copyright

Copyright Grass Valley Nederland B.V. 2016. Copying of this document and giving it to others, and the use or communication of the contents thereof, are forbidden without express authority. Offenders are liable to the payment of damages. All rights are reserved in the event of the grant of a patent or the registration of a utility model or design. Liable to technical alterations in the course of further development.

Trademarks

Grass Valley, LDX Series and derivatives are trademarks of Belden Inc. or Grass Valley. All other tradenames referenced are service marks, trademarks, or registered trademarks of their respective companies.

Website

Visit the Grass Valley public website to download the latest user's guide updates and additional information about your broadcast product:

www.grassvalley.com

Recycling

Visit www.grassvalley.com for recycling information.

Website

Visit the Grass Valley public website to download the latest user's guide updates and additional information about your broadcast product:

www.grassvalley.com

Important information

This information is intended as a guide for trained and qualified personnel who are aware of the dangers involved in handling potentially hazardous electrical / electronic equipment. It is not intended to contain a complete list of all safety precautions which should be observed by personnel in using this or other electronic equipment.

The installation, maintenance and service of this equipment involves risks both to personnel and equipment and must be performed only by qualified personnel exercising due care.

Personnel engaged in the installation, operation, maintenance or servicing of this equipment are urged to become familiar with First Aid theory and practises.

During installation and operation of this equipment, local building safety and fire protection standards must be observed.

Whenever it is likely that safe operation is impaired, the apparatus must be made inoperative and secured against any unintended operation. The appropriate servicing authority must then be informed. For example, safety is likely to be impaired if the apparatus fails to perform intended function or shows visible damage.

Warnings

When performing service, be sure to read and comply with the warning notices appearing in the manuals. Warnings indicate danger that requires correct procedures or practices to prevent death or injury to personnel.

- THE CURRENTS AND VOLTAGES PRESENT IN THIS EQUIPMENT ARE DANGEROUS. ALL PERSONNEL MUST AT ALL TIMES FOLLOW THE SAFETY REGULATIONS.
- ALWAYS DISCONNECT POWER BEFORE REMOVING COVERS OR PANELS.
- NEVER MAKE INTERNAL ADJUSTMENTS, PERFORM MAINTENANCE OR SERVICE WHEN ALONE OR WHEN FATIGUED.
- IN CASE OF AN EMERGENCY ENSURE THAT THE POWER IS DISCONNECTED.



<blank>

8926 902 00001 LDX 80 WorldCam

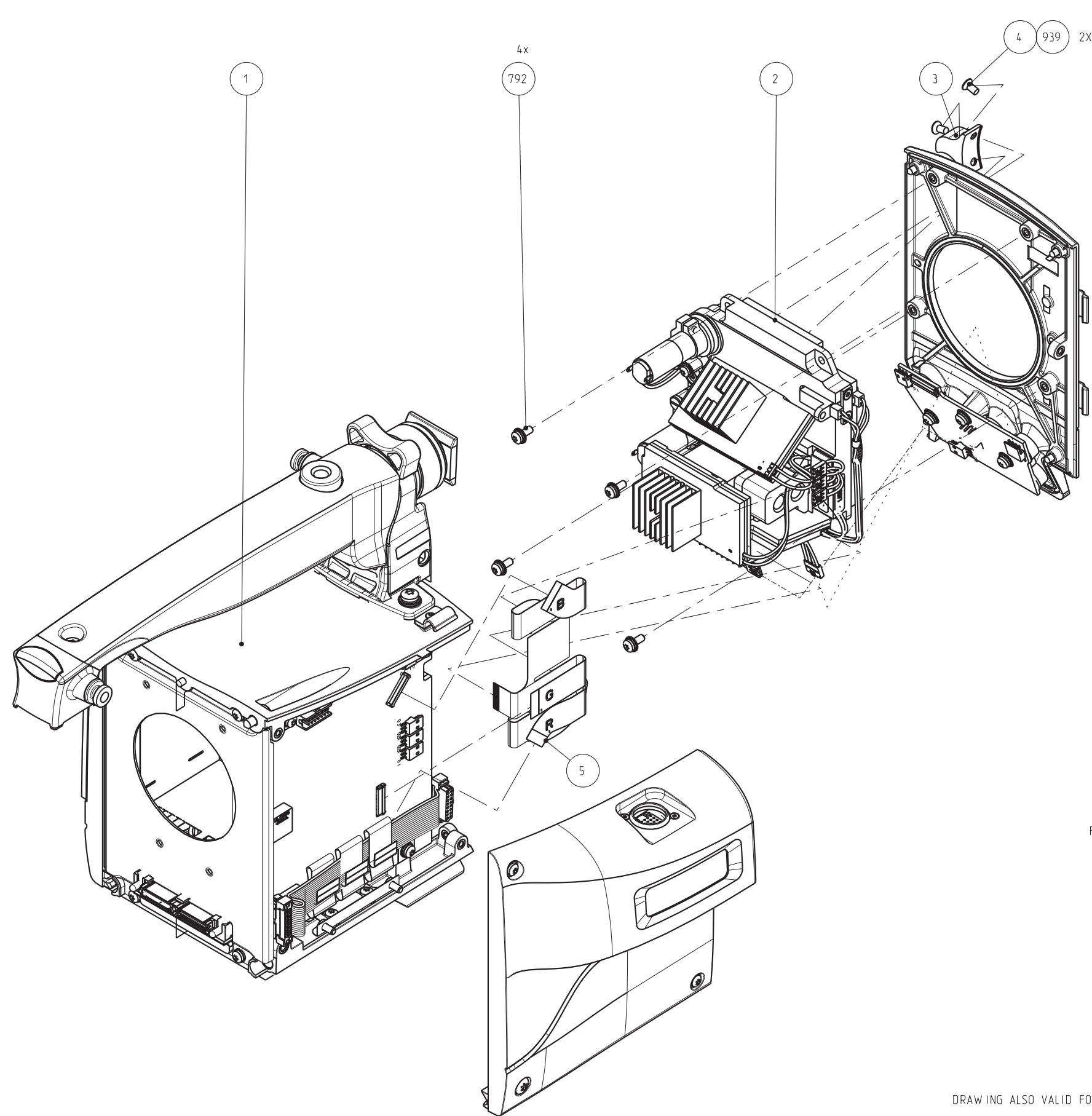
Pos	Part Number	Description
2	510-00006-01	SIDEGRIP ASSY
4	3922 407 57422	V-BLOCK MACHINED
5	510-00009-01	SHOULDERPAD ASSY

3922 407 61242 GNDLS HEAD LDK9010/20

List of Field Replacable Units (FRUs):

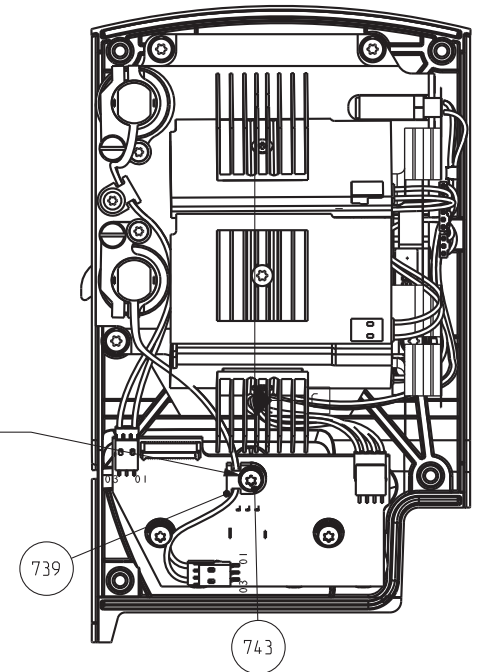
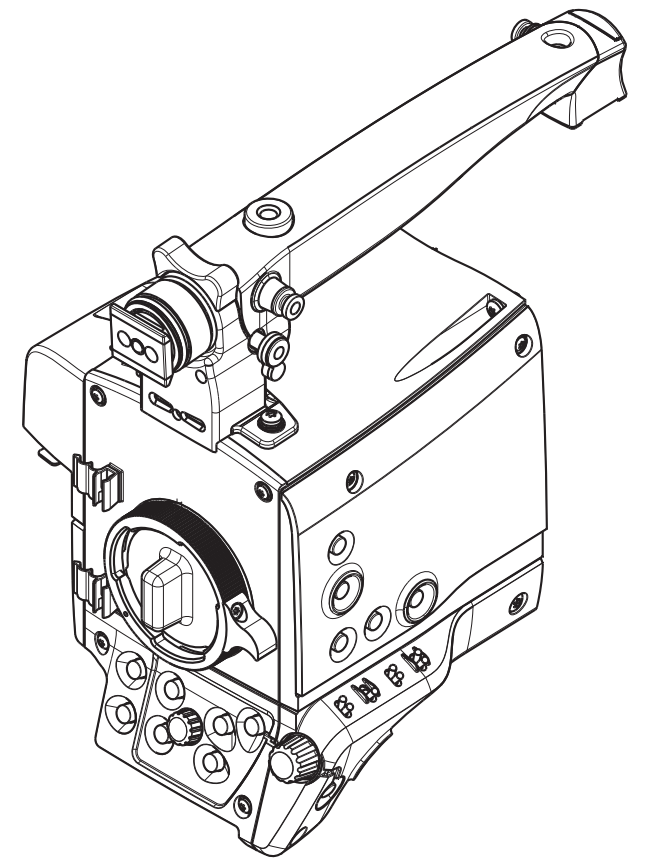
Pos	Part Number	Description
2	500-00014-01	FRONT MODULE FT CMOS
4	8322 299 71887	CSK SCR STL ST M3X6 BLACK
5	524-00022-03	PCB F--- SPIDERFLEX XENSIUM FT Au
3	3922 404 44032	BAJONET RING GRIP
792	326-00006-01	COMBI SCR PAN STL ST M3X8

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REMOVE EXISTING SCREW AND WASHERS.
PLACE THE CLAMP (POS 739) AS INDICATED.
FIX THE CLAMP USING COUNTERSUNK SCREW (POS 743)

MAKE SURE THE CABLE IS NOT CLAMPED,
BUT RUNS FREELY UNDER POS 739





DRAWING ALSO VALID FOR: 500-00034

TORQUE TABLE	
Tolerances unless otherwise stated: $\pm 10\%$ Torque unless otherwise stated:	
Thread size	Torque (Nm)
M2	0.5
M2.5	0.75
M3	1
M4	2

15
09-22
POS 1 CHANGED

- MATERIAL AND FINISHES MUST BE RoHS COMPLIANT
- MATERIAL OR PACKAGING MUST BE MARKED WITH
RoHS COMPLIANCE MARKING OR LABEL

MATERIAL:		....		VIEW		SCALE	
TREATMENT:		....				7:10	
FINISH:		....					
DRAWN BY:		DATE:	GENERAL ROUGHNESS:	TOLERANCES UNLESS OTHERWISE STATED:		UNIT		
E. SCHMIT		2012-04-04	Ra 3.2 μ m	DIMENSION: ± 0.2 ANGLE: $\pm 1^\circ$		mm		
TITLE:		GNDLS HEAD LDK9010/20						
			DOCUMENT NUMBER		FORMAT		SHEET	
			3922 407 6124		A2		1/1	
			RELEASE LEVEL: Draft		110-01		.	

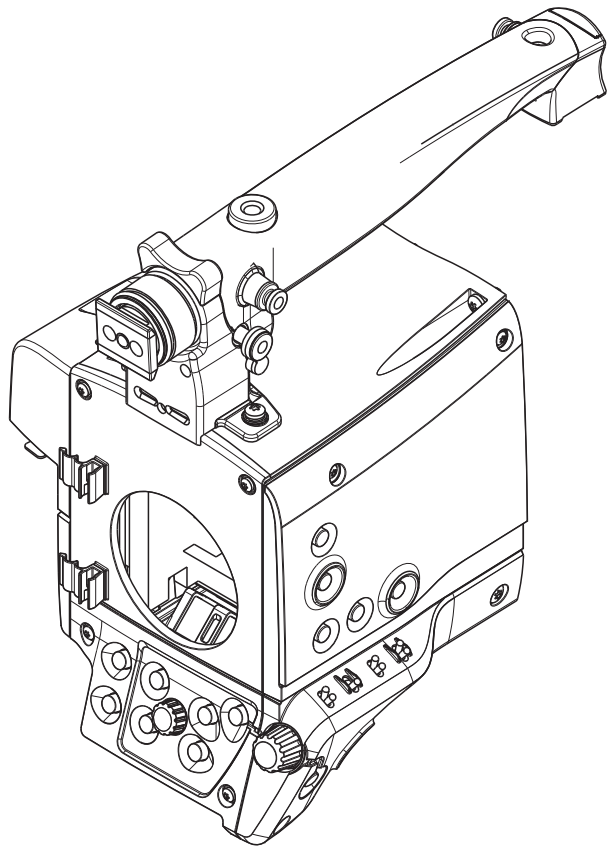
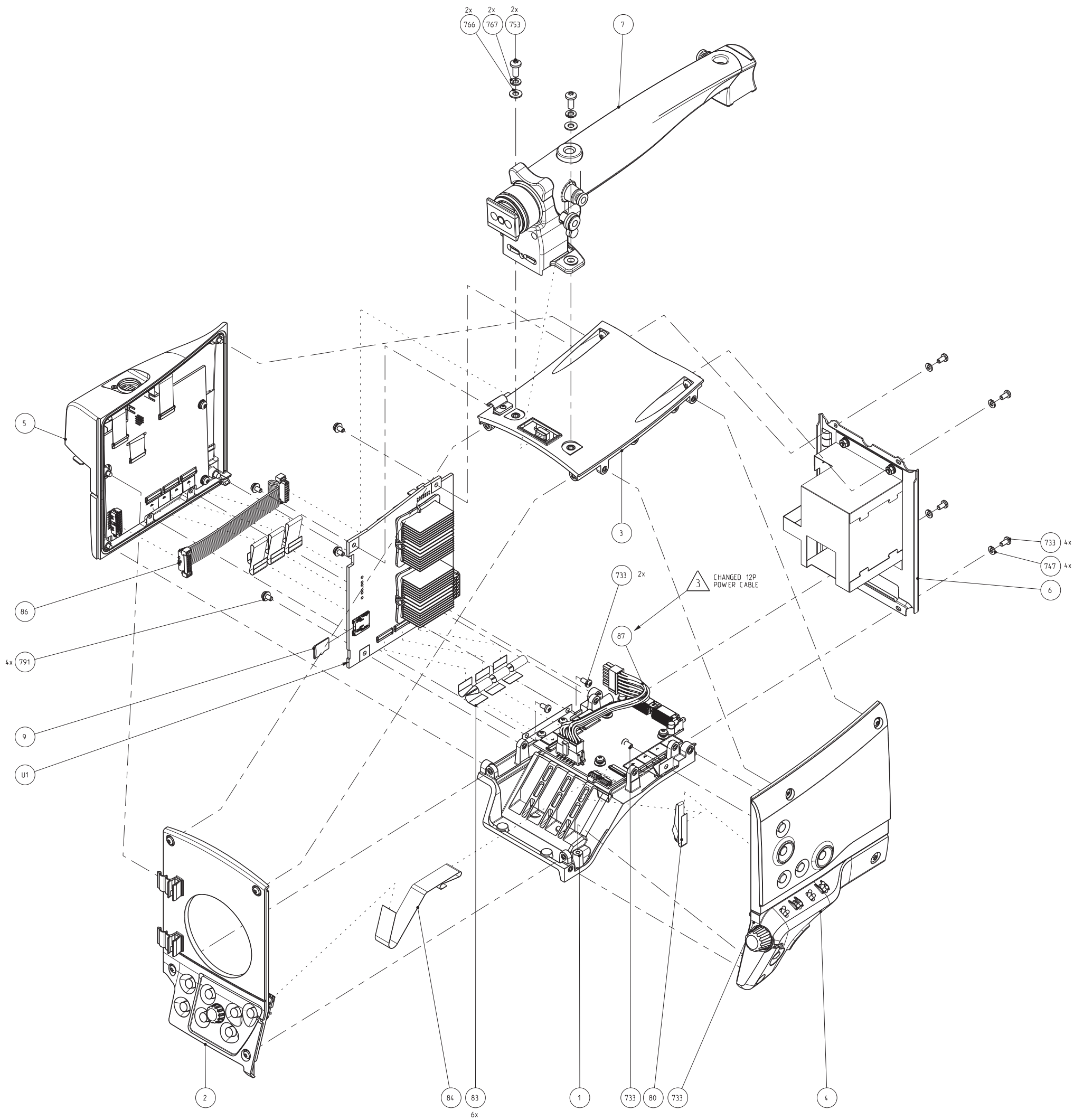
Rev	Name	Date
2	CHP	2015-09-22
2	MdW	2015-06-24
2	MdW	2015-06-05
1	MdW	2014-08-18

3922 407 61253 CAMERA HEAD BASIC LUM

List of Field Replacable Units (FRUs):

Pos	Part Number	Description
7	3922 407 40211	DIG.ZOOM HANDGRIP ASSY
80	2422 015 19425	CLB FLEX 10P FFC 0.5 SUMICARD TL=138MM 30V
83	524-00021-03	PCB F--- GENERIC FPC 45P 0.3MM L=68MM Au
84	524-00023-03	PCB F--- FPC 45P 0.3MM TL=160MM Au
86	3922 407 61442	POWER CABLE ASSY
87	3922 407 61435	12P WIRING POWER
791	326-00005-01	COMBI SCR PAN STL ST M3X6
U1	3922 406 55961	PCBA RIGHT PROCESSOR BOARD

TORQUE TABLE	
Tolerances unless otherwise stated: ± 10%	
Torque unless otherwise stated:	
Thread size	Torque (Nm)
M2	0.5
M2.5	0.75
M3	1
M4	2



3 POWER CABLE POS 87 CHANGED

- MATERIAL AND FINISHES MUST BE RoHS COMPLIANT
- MATERIAL OR PACKAGING MUST BE MARKED WITH
RoHS COMPLIANCE MARKING OR LABEL

Rev	Name	Date	SCALE
3	CHP	2015-09-22	7:10
2	ES	2015-04-17	UNIT
1	McW	2014-05-27	mm
TITLE: CAMERA HEAD BASIC CMOS			
DOCUMENT NUMBER		FORMAT	SHEET
3922 407 6125		A1	1/1
RELEASE LEVEL:		110-01	



grass valley

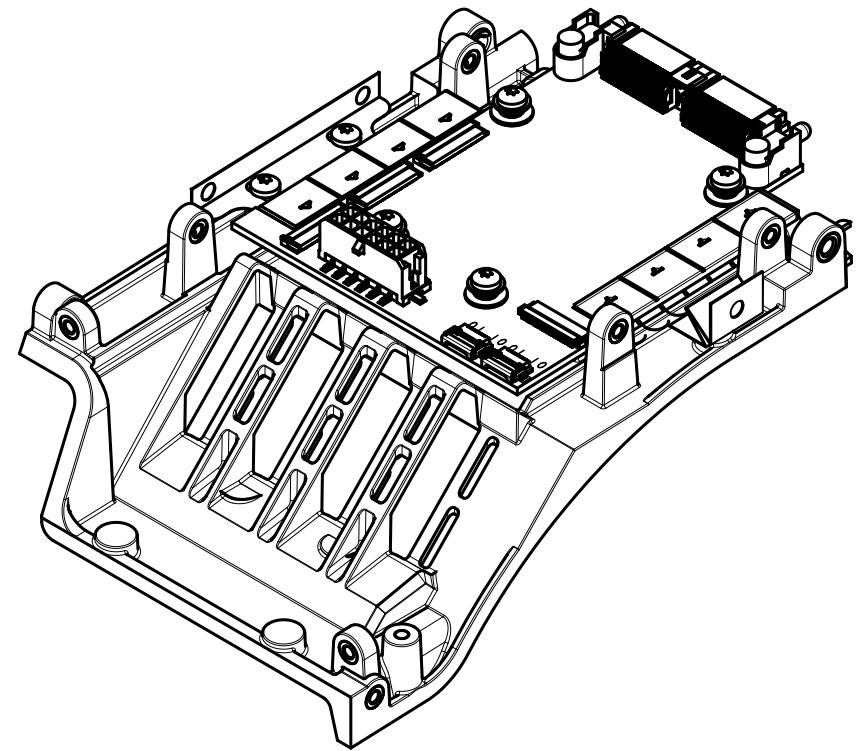
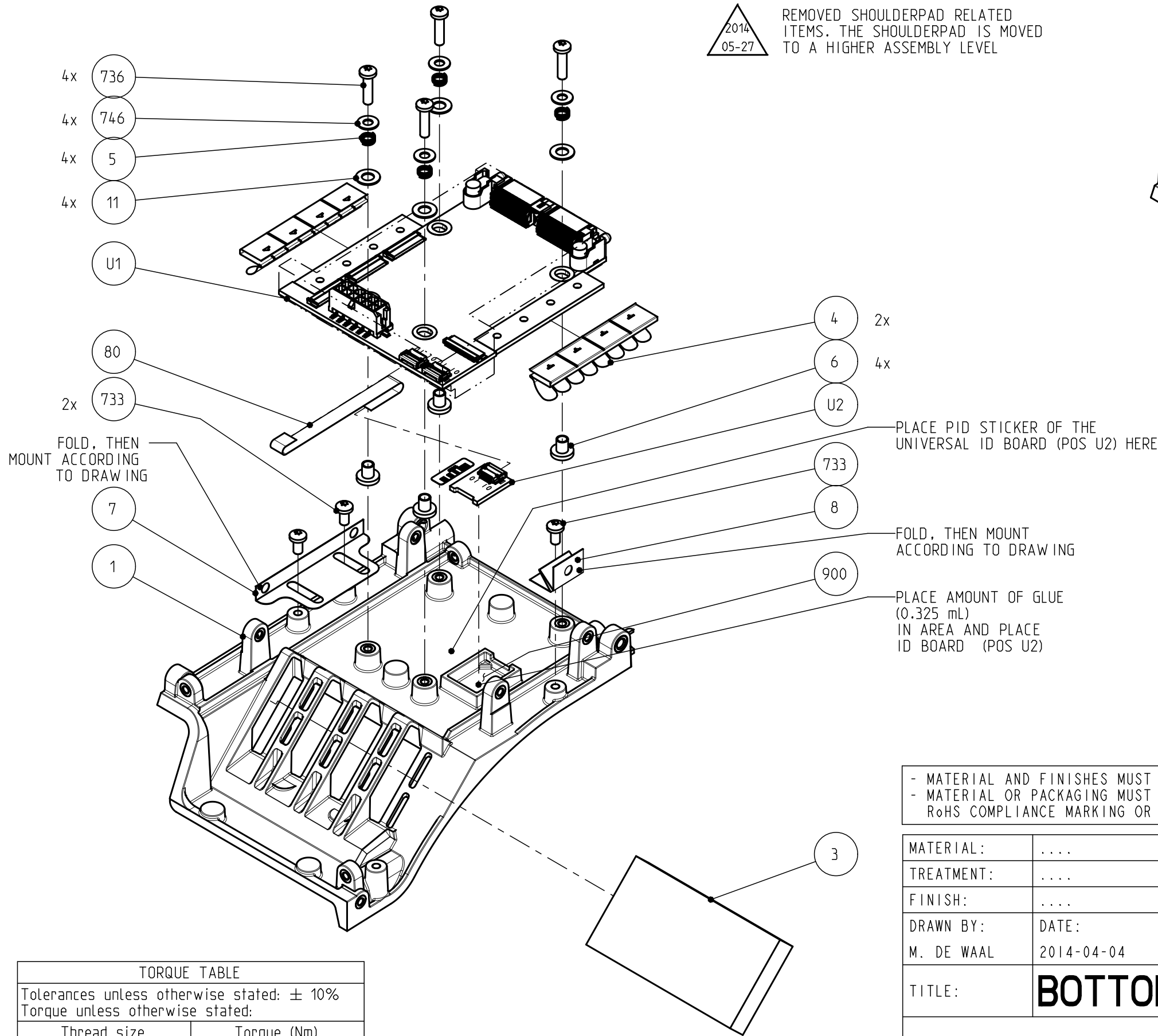
3922 407 55801 BOTTOM PLATE ASSY

List of Field Replacable Units (FRUs):

Pos	Part Number	Description
3	3922 405 08022	AIR FILTER FOAM
4	3922 407 62301	EMC MATERIAL CLIP-ON
5	3922 203 00273	SPR CMP 4.57 X 6.35 0.53 NMM STL ST
6	3922 203 00130	SLV REG PA 7.5 x 3.1 312 0838 599 35
7	3922 405 08092	RIGHT COVER STRAIN RELIEF
8	3922 405 08103	LEFT COVER STRAIN RELIEF
11	3922 203 00303	WSH PLN 8x4.1x0.5 PA
80	2422 015 18547	CLB FLEX 10P FFC 0.5 SUMICARD TL=78MM 30V
U1	3922 406 56001	INTERCON. POWER BRD

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TORQUE TABLE	
Tolerances unless otherwise stated: $\pm 10\%$	
Torque unless otherwise stated:	
Thread size	Torque (Nm)
M2	0.5
M2.5	0.75
M3	1
M4	2

- MATERIAL AND FINISHES MUST BE RoHS COMPLIANT
- MATERIAL OR PACKAGING MUST BE MARKED WITH RoHS COMPLIANCE MARKING OR LABEL

MATERIAL:	....			SCALE	
TREATMENT:	....			7:10	
FINISH:	....	GENERAL ROUGHNESS: Ra 3.2 n um		UNIT	
DRAWN BY:	DATE:			mm	
M. DE WAAL	2014-04-04	TOLERANCES UNLESS OTHERWISE STATED:		DIMENSION: \pm	
TITLE:		ANGLE: \pm°		UNIT	
		DOCUMENT NUMBER		FORMAT	SHEET
		3922 407 5580		A3	1/1
RELEASE LEVEL:		110-01		120	

3922 407 55811 FRONT PLATE ASSY

List of Field Replacable Units (FRUs):

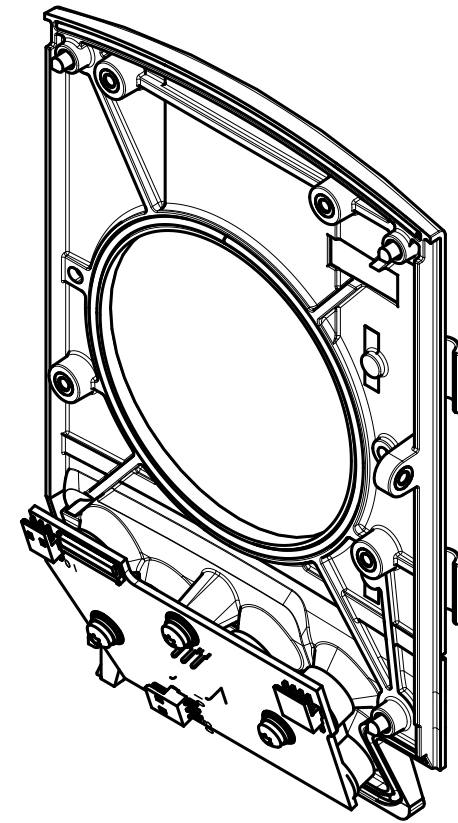
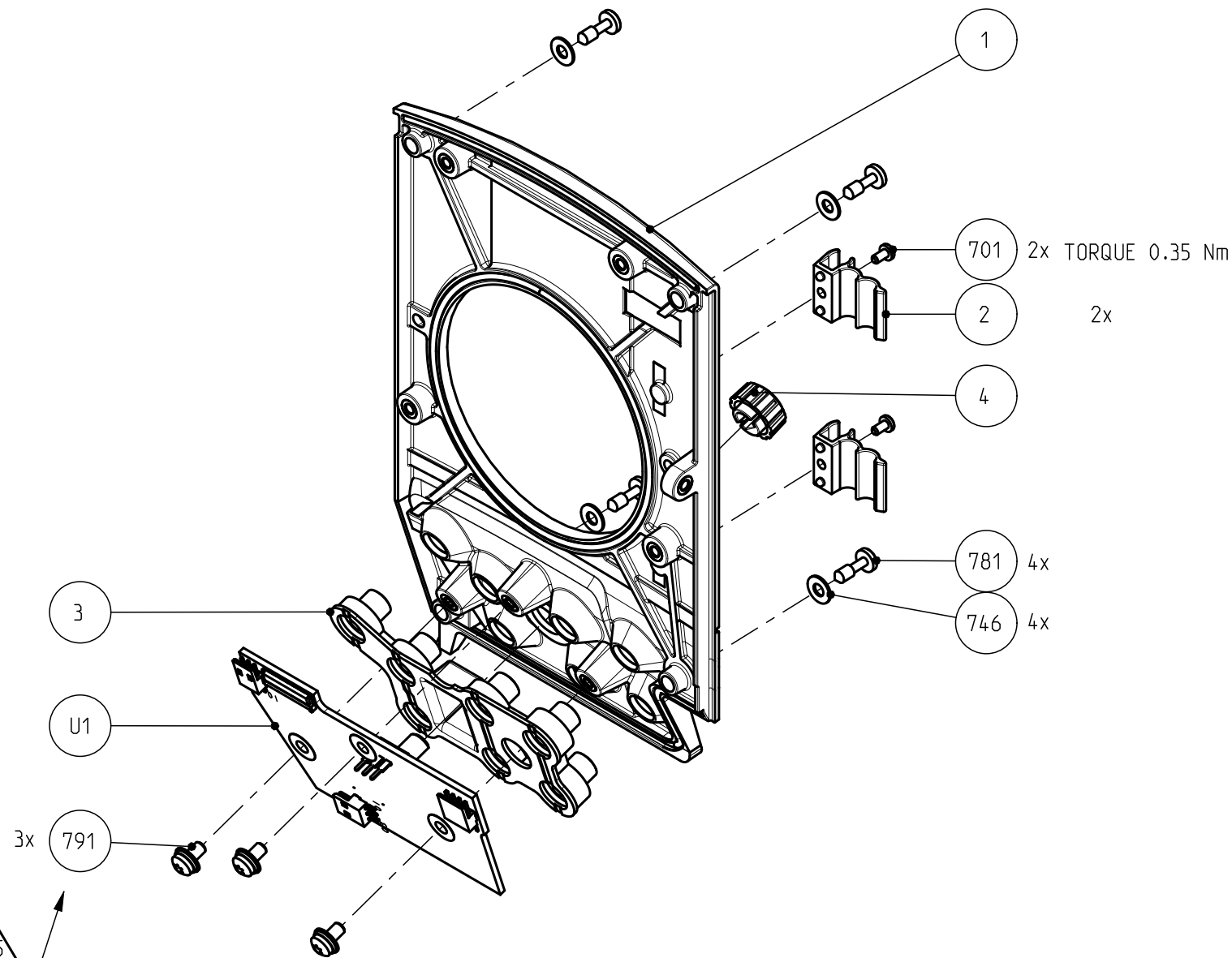
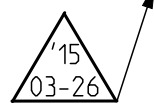
Pos	Part Number	Description
2	3922 400 10041	CABLECLAMP
3	3922 400 11603	RUBBER PAD FSP
4	3922 400 11642	VOLUME KNOB
781	2522 200 03024	PAN CAP SCR STL.ST M3x10
791	326-00005-01	COMBI SCR PAN STL ST M3X6
U1	3922 406 55981	FRONT SWITCH PANEL

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TORQUE TABLE	
Tolerances unless otherwise stated: $\pm 10\%$	
Torque unless otherwise stated:	
Thread size	Torque (Nm)
M2	0.5
M2.5	0.75
M3	1
M4	2

ADDED
COMBI SCREW



- MATERIAL AND FINISHES MUST BE RoHS COMPLIANT
- MATERIAL OR PACKAGING MUST BE MARKED WITH RoHS COMPLIANCE MARKING OR LABEL

MATERIAL:					SCALE
TREATMENT:					7:10
FINISH:	....				
DRAWN BY:	DATE:	GENERAL ROUGHNESS:	TOLERANCES UNLESS OTHERWISE STATED:		UNIT	
E. SCHMIT	2012-11-18	Ra 3.2 n um	DIMENSION:±0,2	ANGLE: ±1°		
TITLE:		FRONT PLATE ASSY				
		DOCUMENT NUMBER		FORMAT	SHEET	
		3922 407 5581		A3	1/1	
		RELEASE LEVEL:		110-01	120	

3922 407 55831 TOP PLATE ASSY

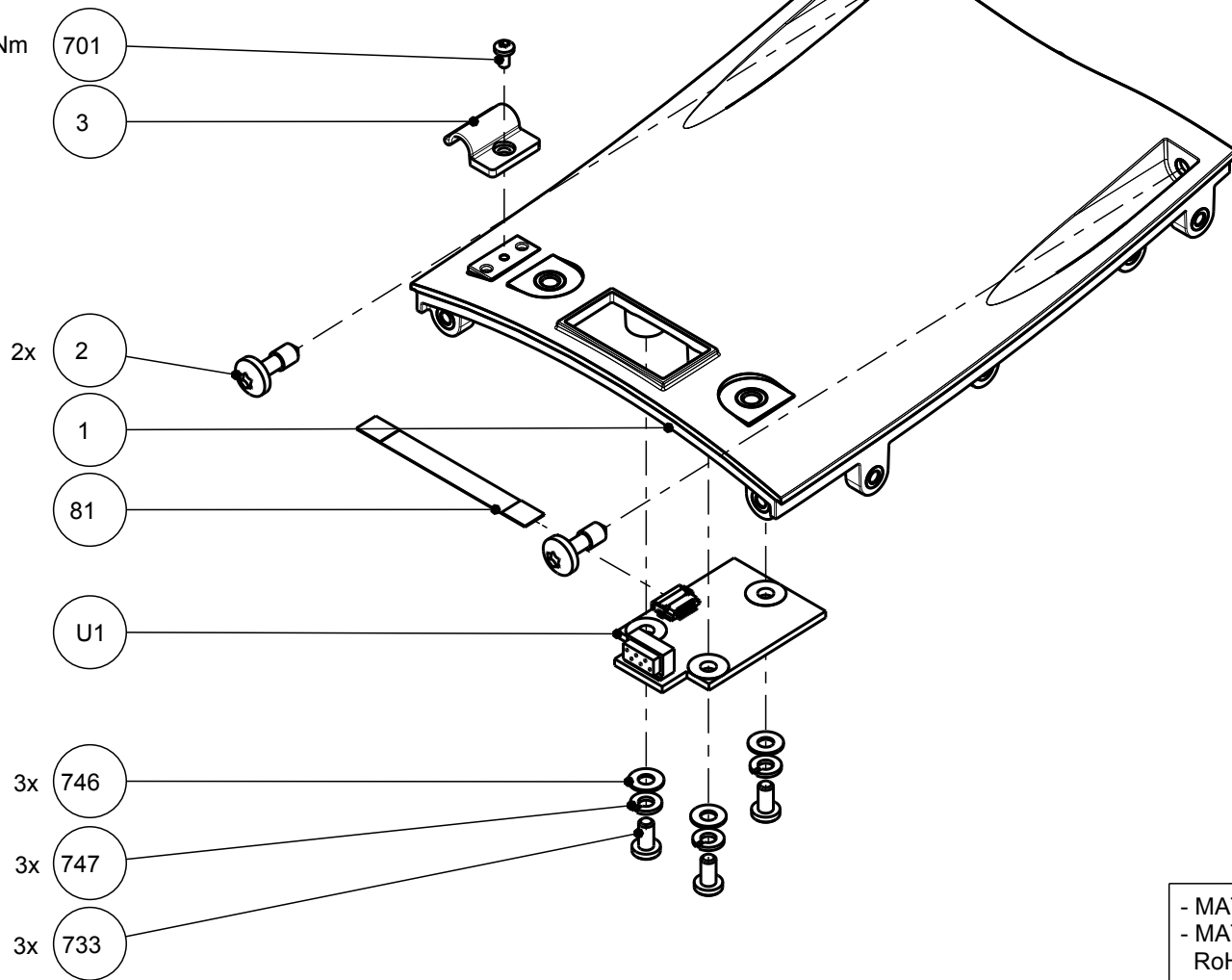
List of Field Replacable Units (FRUs):

Pos	Part Number	Description
2	2522 200 03032	PAN CAP SCR STL.ST M4x12
81	3922 205 00005	CLB FLEX 10P FFC 0.5 SUMICARD TL=46MM 30V
791	326-00005-01	COMBI SCR PAN STL ST M3X6
U1	3922 406 56021	PCBA Handgrip IF Board

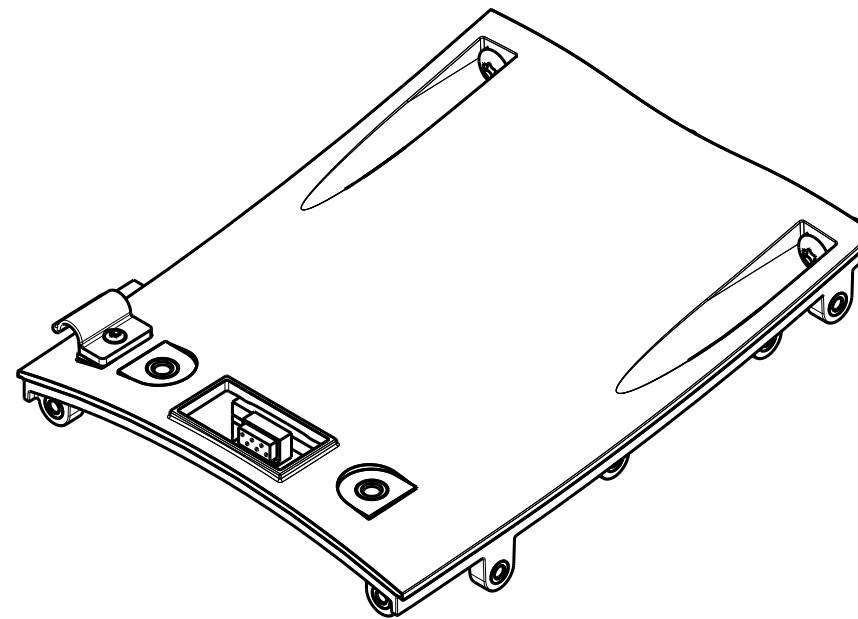
Maintenance Manual

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TORQUE: 0.35 Nm



TORQUE TABLE	
Tolerances unless otherwise stated: $\pm 10\%$	
Torque unless otherwise stated:	
Thread size	Torque (Nm)
M2	0.5
M2.5	0.75
M3	1
M4	2



- MATERIAL AND FINISHES MUST BE RoHS COMPLIANT
- MATERIAL OR PACKAGING MUST BE MARKED WITH
RoHS COMPLIANCE MARKING OR LABEL

MATERIAL:	....			SCALE
TREATMENT:	....			7:10
FINISH:	....		
DRAWN BY:	DATE:	GENERAL ROUGHNESS	TOLERANCES UNLESS OTHERWISE STATED:	UNIT
E. SCHMIT	2011-11-18	Ra 3.2 n um	DIMENSION: ± 0.2 ANGLE: $\pm 1^\circ$	mm
TITLE:	TOP PLATE ASSY			
		DOCUMENT NUMBER	FORMAT	SHEET
		3922 407 5583	A3	1/1
		RELEASE LEVEL: Draft	110-01	120

3922 407 55841 COVER LEFT ASSY

List of Field Replacable Units (FRUs):

Pos	Part Number	Description
	3 3922 400 11612	RUBBER PAD LSP
	4 3922 400 11622	RUBBER KNOB
	9 3922 400 11651	ROTARY KNOB
	10 2522 200 03032	PAN CAP SCR STL.ST M4x12
	13 3922 405 08103	LEFT COVER STRAIN RELIEF
U1	3922 406 55991	PCBA LSP BOARD
U2	3922 406 56141	PCBA LSP Rotary Board
	81 3922 205 00005	CLB FLEX 10P FFC 0.5 SUMICARD TL=46MM 30V
	82 3922 407 26063	POWER SWITCH ASSY
	781 2522 200 03024	PAN CAP SCR STL.ST M3x10
	791 326-00005-01	COMBI SCR PAN STL ST M3X6

Maintenance Manual

THE FOAM SHOULD BE AROUND THE BUSHES OF THE SWITCHES
THEY SHOULD NOT BE ON TOP OF THE BUSHES.

TORQUE 1Nm (4x)

NUT SUPPLIED WITH
'LSP ROTARY BOARD' (POS: U2)

SEE DETAIL A

FOLD, THEN
MOUNT ACCORDING
TO DRAWING


REPLACED FASTNERS BY COMBI SCREW

TORQUE TABLE	
Tolerances unless otherwise stated: $\pm 10\%$	
Torque unless otherwise stated:	
Thread size	Torque (Nm)
M2	0.5
M2.5	0.75
M3	1
M4	2

DETAIL A
SCALE 3:2

1. REMOVE ALL FASTNERS, EXCEPT ONE NUT. TAKE CARE THIS NUT IS FULLY SCREWED ONTO THE POWER SWITCH ASSY (POS 82).
2. PLACE WASHER (POS 12), THEN SCREW POWER SWITCH ASSY (POS 82) IN THE COVER LEFT PAINTED (POS 1). WHEN THE LIP OF THE WASHER TOUCHES THE ASSY, UNSCREW UNTIL THE LIP ALIGNS WITH THE SMALL HOLE IN ASSY.
3. THIGHTEN NUT FIXATING THE LIP IN THE HOLE.

- MATERIAL AND FINISHES MUST BE RoHS COMPLIANT
- MATERIAL OR PACKAGING MUST BE MARKED WITH
RoHS COMPLIANCE MARKING OR LABEL

MATERIAL:	....	SCALE 7:10	
TREATMENT:	....	
FINISH:	....	UNIT mm	
DRAWN BY:	DATE:		
M. DE WAAL	2012-04-04	GENERAL ROUGHNESS: Ra 3.2 μ m	TOLERANCES UNLESS OTHERWISE STATED: DIMENSION: ± 0.2 ANGLE: $\pm 1^\circ$
TITLE:		COVER LEFT ASSY	
 grass valley		DOCUMENT NUMBER	FORMAT
		3922 407 5584	A2
RELEASE LEVEL:		110-01	120

Rev	Name	Date
1	MdW	2015-04-17

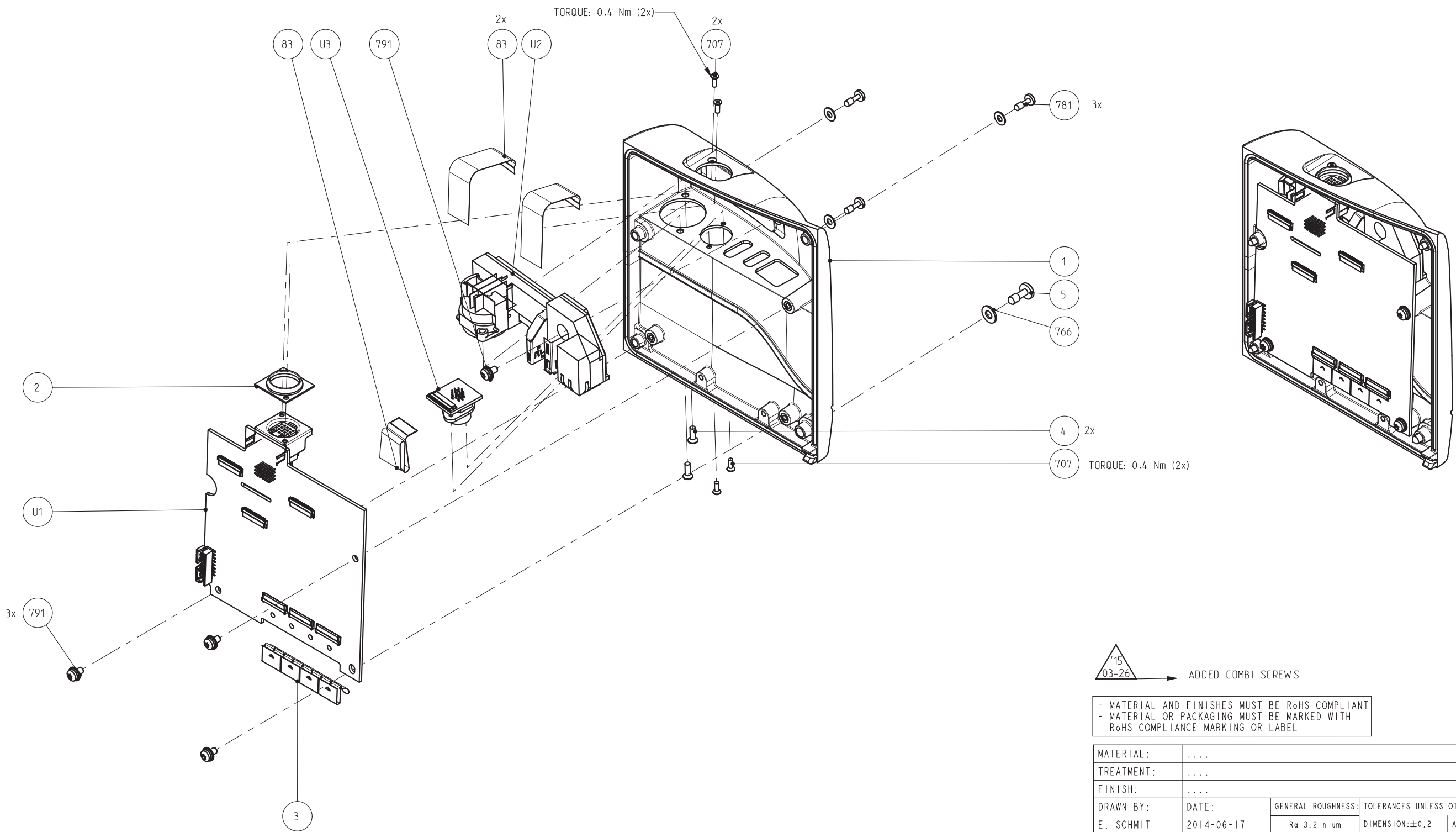
3922 407 55851 COVER RIGHT ASSY

List of Field Replacable Units (FRUs):

Pos	Part Number	Description
2	3922 400 08501	SEALING VF-CONNECTOR
3	3922 407 62301	EMC MATERIAL CLIP-ON
5	2522 200 03032	PAN CAP SCR STL.ST M4x12
83	524-00021-03	PCB F--- GENERIC FPC 45P 0.3MM L=68MM Au
781	2522 200 03024	PAN CAP SCR STL.ST M3x10
791	326-00005-01	COMBI SCR PAN STL ST M3X6
U1	3922 406 55971	RIGHT COVER PANEL
U2	3922 406 57401	PCBA HS HDMI AND MIC BOARD
U3	3922 406 56331	PCBA Lens and RS232 Board

Maintenance Manual

TORQUE TABLE	
Tolerances unless otherwise stated: ± 10%	
Torque unless otherwise stated:	
Thread size	Torque (Nm)
M2	0.5
M2.5	0.75
M3	1
M4	2



ADDED COMBI SCREWS

- MATERIAL AND FINISHES MUST BE RoHS COMPLIANT
- MATERIAL OR PACKAGING MUST BE MARKED WITH
RoHS COMPLIANCE MARKING OR LABEL

Rev	Name	Date
1	ES	2015-03-26

MATERIAL:	....			SCALE
TREATMENT:	....			7:10
FINISH:	....			UNIT
DRAWN BY:	DATE:	GENERAL ROUGHNESS:	TOLERANCES UNLESS OTHERWISE STATED:	mm
E. SCHMIT	2014-06-17	Ra 3.2 n um	DIMENSION:±0,2 ANGLE: ±1°	

TITLE:		COVER RIGHT ASSY			
 grass valley		DOCUMENT NUMBER		FORMAT	SHEET
		3922 407 5585		A2	1/1
		RELEASE LEVEL:		110-01	120

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3922 407 62191 DOCKINGPLATE ASSY

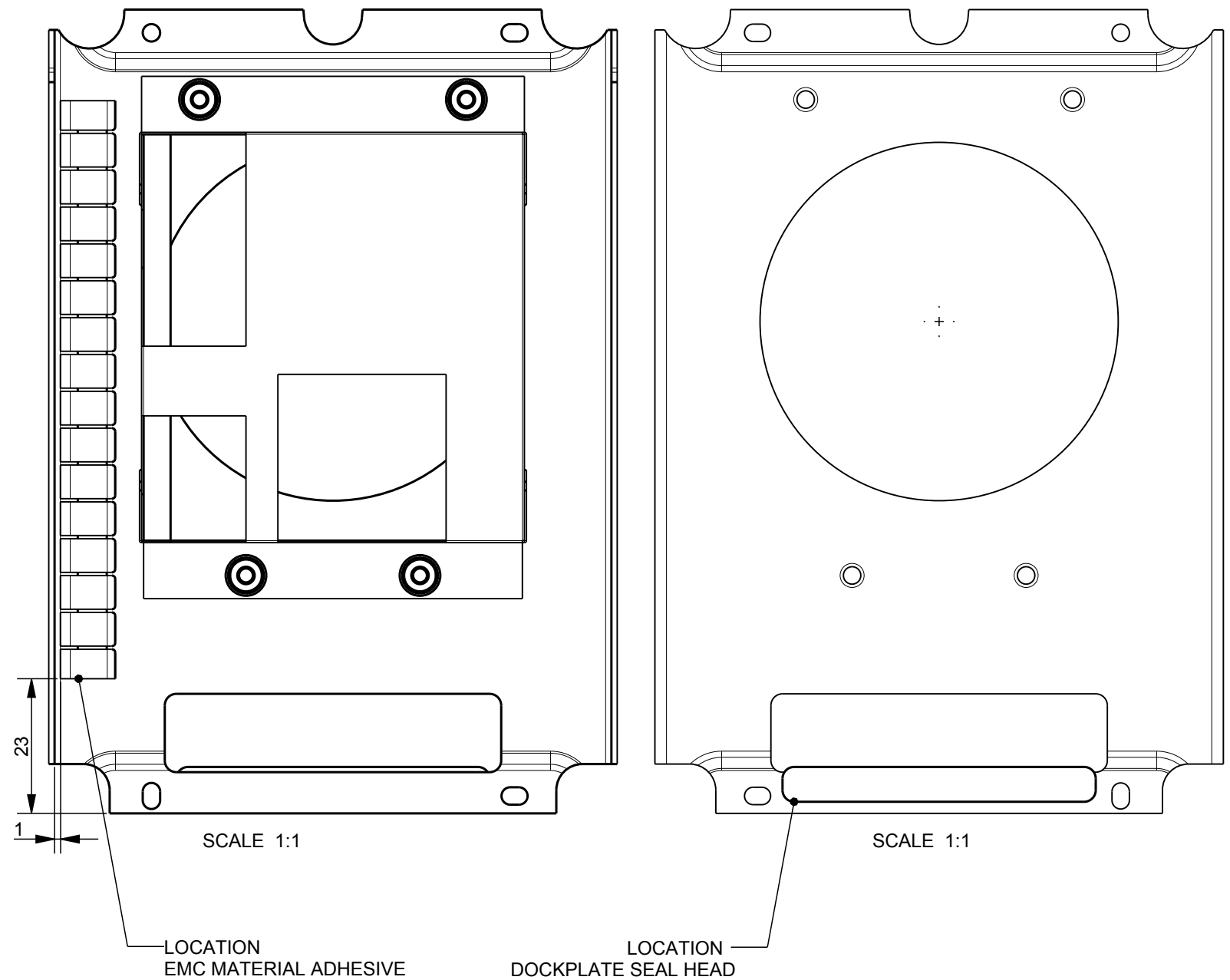
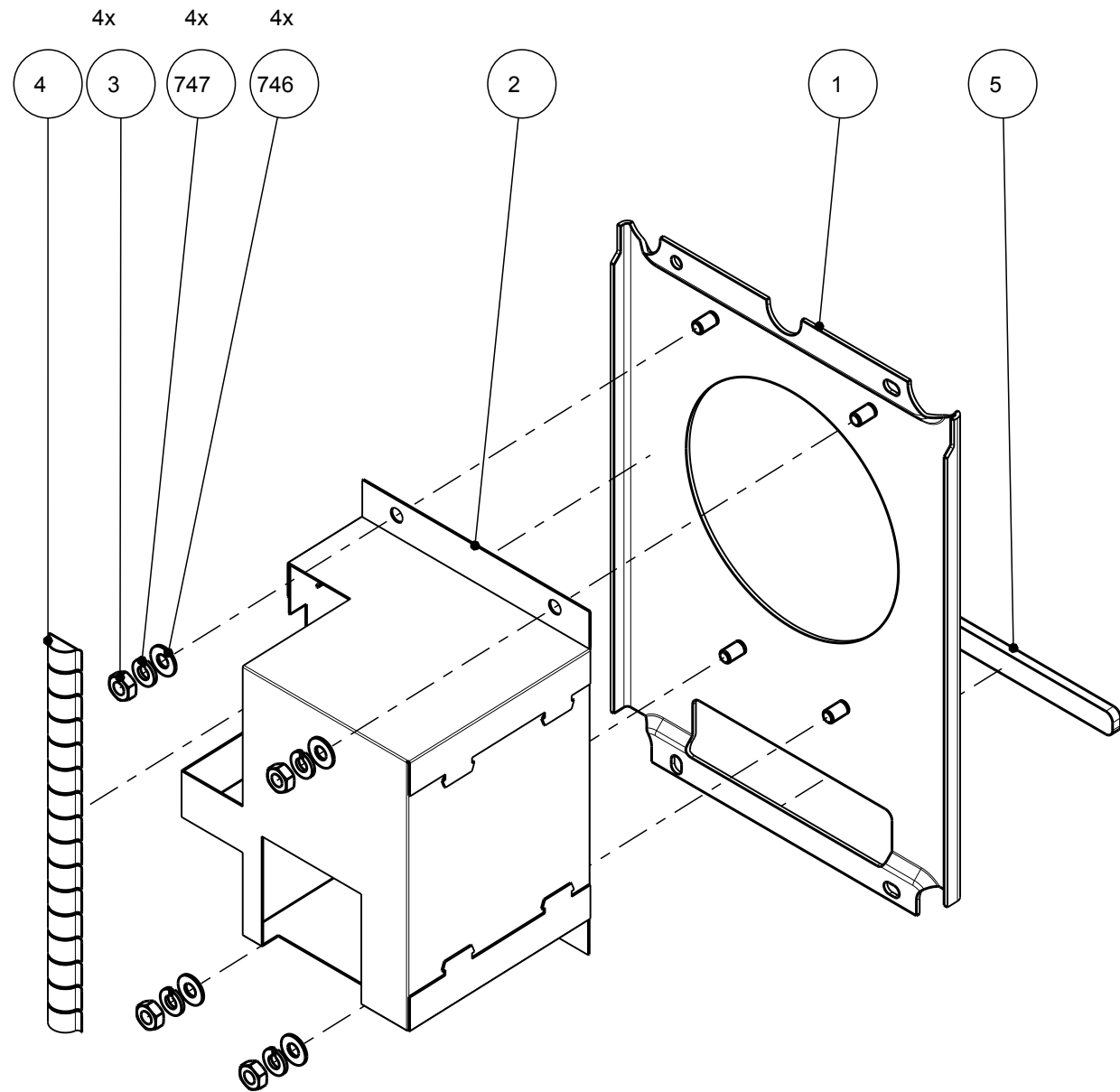
List of Field Replacable Units (FRUs):

Pos	Part Number	Description
—		

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TORQUE TABLE	
Tolerances unless otherwise stated: $\pm 10\%$	
Torque unless otherwise stated:	
Thread size	Torque (Nm)
M2	0.5
M2.5	0.75
M3	1
M4	2



- MATERIAL AND FINISHES MUST BE RoHS COMPLIANT
- MATERIAL OR PACKAGING MUST BE MARKED WITH
RoHS COMPLIANCE MARKING OR LABEL

MATERIAL:	....			Rev	Name	Date
TREATMENT:	....			1	....	....
FINISH:	....			Rev	Name	Date
DRAWN BY:	DATE:	GENERAL ROUGHNESS	TOLERANCES UNLESS OTHERWISE STATED:	SCALE		
E. SCHMIT	2012-04-04	Ra 3.2 n um	DIMENSION: ± 0.2	7:10		
TITLE:		DOCUMENT NUMBER		FORMAT	SHEET	
		3922 407 6219		A3	1/1	
		RELEASE LEVEL:		110-01	120	



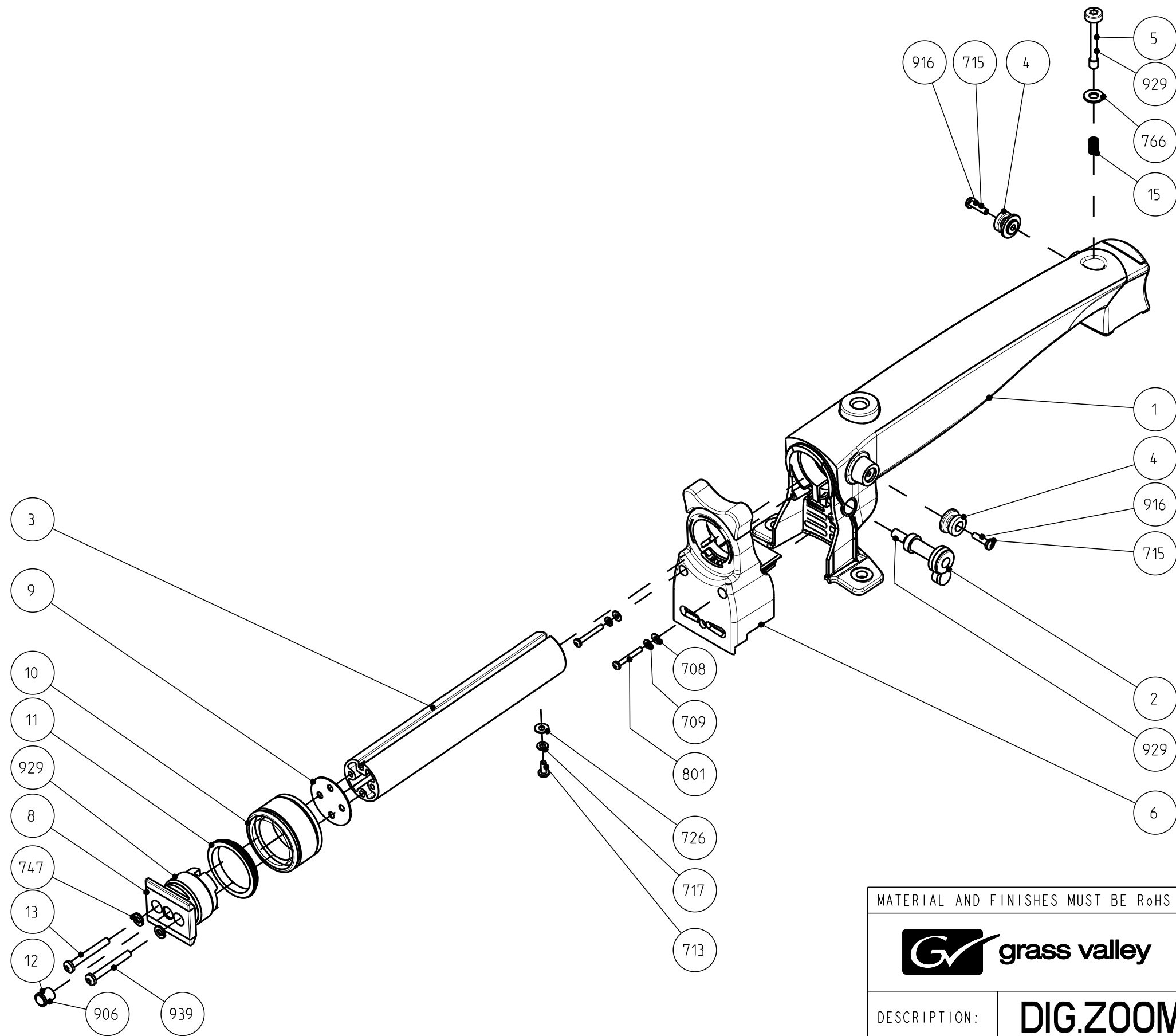
3922 407 40211 DIG.ZOOM HANDGRIP ASSY

List of Field Replacable Units (FRUs):

Pos	Part Number	Description
1	3922 407 25346	HANDGRIP ASSY
2	3922 407 25553	CLAMPBOLT
3	3922 407 32581	VF PIPE LDK100
4	3922 404 20073	BUSH
5	3922 080 02961	PANHEAD CAPTIVE SCREW M4X30
6	3922 407 39502	ZOOMCONTROL ASSY
8	3922 407 24012	VF SCREW LONG ASSY
9	3922 404 21211	DISC
10	3922 404 22991	VF-NUT-LONG
11	3922 401 47881	VF-RING
12	2622 890 12077	SPRING LOADED BALL BUSH
13	2522 201 08042	PAN SCR STL ST M3X25
15	2622 115 02227	COMPRESSION SPRING

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MATERIAL AND FINISHES MUST BE RoHS COMPLIANT



DOCUMENT NUMBER: SHEET: 043-01

3922 407 4021

Rev:	Name:	Date:
1	MdW	2015-03-17
1	AvdP	2013-01-21
1	AvdP	2008-06-24
1	AvdP	2005-08-29
1	AvdP	2004-01-20
A. v.d. Pas		

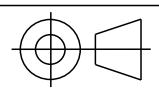
DESCRIPTION:

DIG.ZOOM HANDGRIP ASSY

GENERAL ROUGHNESS:
Ra 3.2 um

IF TOLERANCE AND TOLERANCE
TABLE ARE ABSENT THEN APPLY
DIM ± 0.2 ANGLE $\pm 1^\circ$

UNIT:
mm



SCALE:
1:2

FORMAT:
A3

SHEET:
1/1

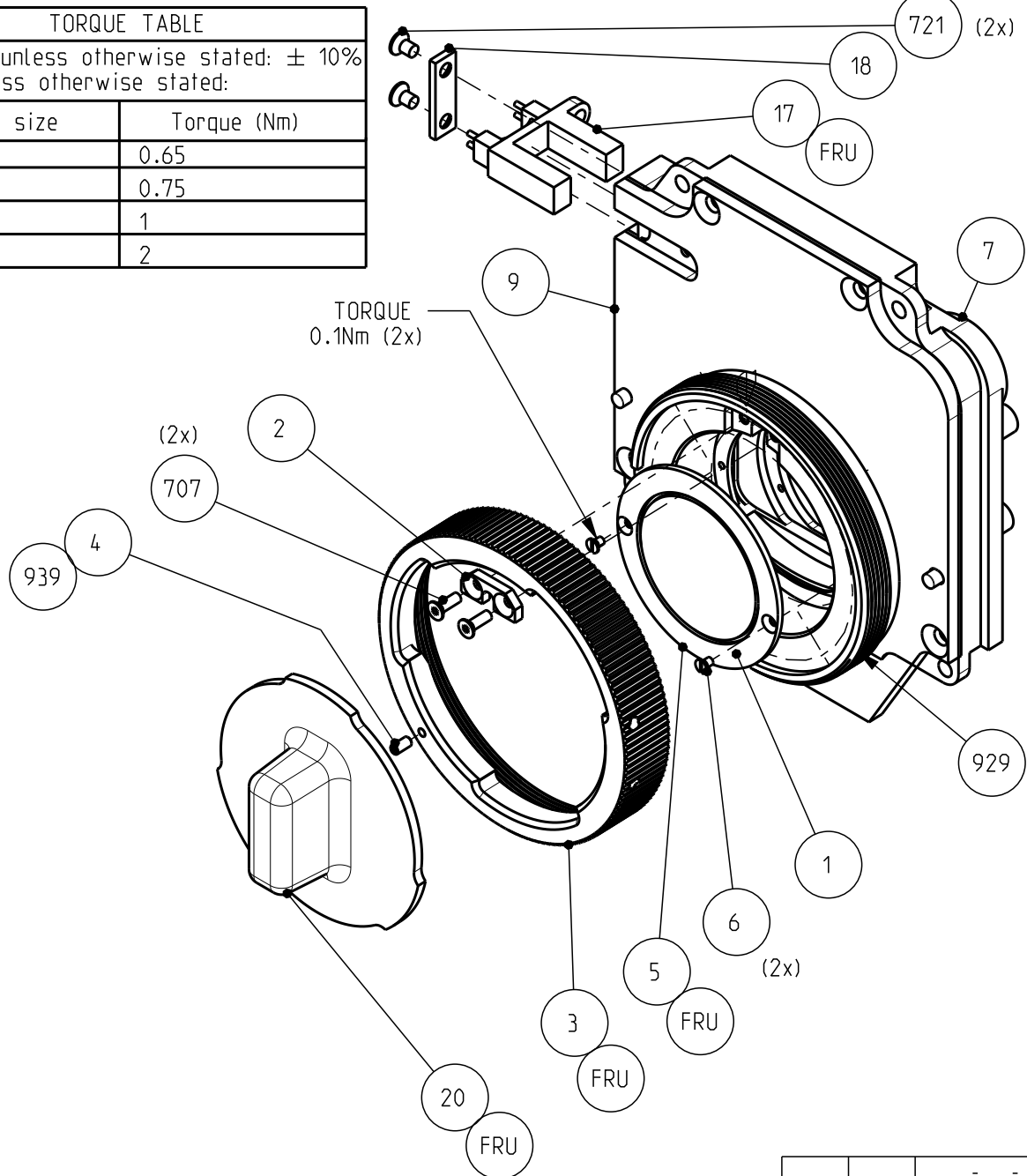
3922 407 55421 FILTER WHEEL BOX ASSY

List of Field Replacable Units (FRUs):

Pos	Part Number	Description
4	2522 043 02017	SET SCREW HEX ST BLK M2X4
5	3922 407 51581	FILTER ASSY
6	2522 187 21002	CSK SCHR STLST M 1,6X2,5
7	3922 407 55442	MOUNTING PLATE ASSY
17	3922 407 61232	OPTICAL SWITCH ASSY
18	3922 404 43531	OPT SWITCH MOUNT STRIP
20	3922 400 07891	DUSTCAP
23	2522 187 21003	CSK SCR STL ST M1,6X3
721	2522 203 04011	CSK SCR STL ST M2,5x4
3	3922 404 23633	BAJONET RING
726	2522 600 27137	WASH STL ST 2,7X6,5
727	2522 613 12063	SPR WASH STL ST 2,6X5,1

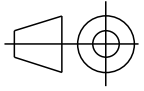
Maintenance Manual

TORQUE TABLE	
Tolerances unless otherwise stated: $\pm 10\%$	
Torque unless otherwise stated:	
Thread size	Torque (Nm)
M2	0.65
M2.5	0.75
M3	1
M4	2




- MATERIAL AND FINISHES MUST BE RoHS COMPLIANT
- MATERIAL OR PACKAGING MUST BE MARKED WITH RoHS COMPLIANCE MARKING OR LABEL

1	VH	2013-01-14
1	VH	2012-07-12
Rev	Name	Date

MATERIAL:	.....			SCALE
TREATMENT:	....			4:5
FINISH:	....			UNIT
DRAWN BY:	DATE:	GENERAL ROUGHNESS:	TOLERANCES UNLESS OTHERWISE STATED:	mm
V.Heijman	2011-08-08	Ra 3.2 n um	DIMENSION: $\pm 0,2$ ANGLE: $\pm 1^\circ$	

TITLE:	FILTER WHEEL BOX ASSY			
--------	------------------------------	--	--	--

	DOCUMENT NUMBER		FORMAT	SHEET
	3922 407 5542		A4	1/1
	RELEASE LEVEL: ...		110-01	sh120