

	Doc or ECO #:	ECO-70044-006	Date:	2/6/2023	Author:	SL
	Rev. #:	A				
Engineering Change Order (ECO)	Engineering Approval:	aeg	Date:	2/6/2023	Quality Approval	aeg

P/N #:	70044	Effective Date:	February 6, 2023
Title:	Improve internal fastener retention		

1.0 Purpose / Summary

There have been multiple occurrences of a screw becoming loose and separating from mounting board, resulting in a loose screw/spacer in the housing. A new metal on plastic thread adhesive compound has been added to the build process.

2.0 Parts Affected

Part Number	Notes	Removed	Added	Modified	REV
70044	Just WI / Process change, no update to drawings	☐	☐	☒	G
74200	Loctite 425	☐	☒	☐	A

3.0 Detail

Loctite 425 use has been added to assembly procedure.

Multiple samples have been tested for retention and pull out.

Additional WI steps for fasteners were reviewed to ensure thread fastener was called out.

4.0 Disposition of Material

All WIP has been reworked.

All new production moving forward should use new process.

All repairs/rework should be remediated to use new thread locker.

5.0 Action Items

Action	Department	Acknowledgement Initials
Place order for 425 for production use	Purchasing	RM
Update WI and production doc directory	ENGR	SL

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6.0 Modified / Referenced Documents:

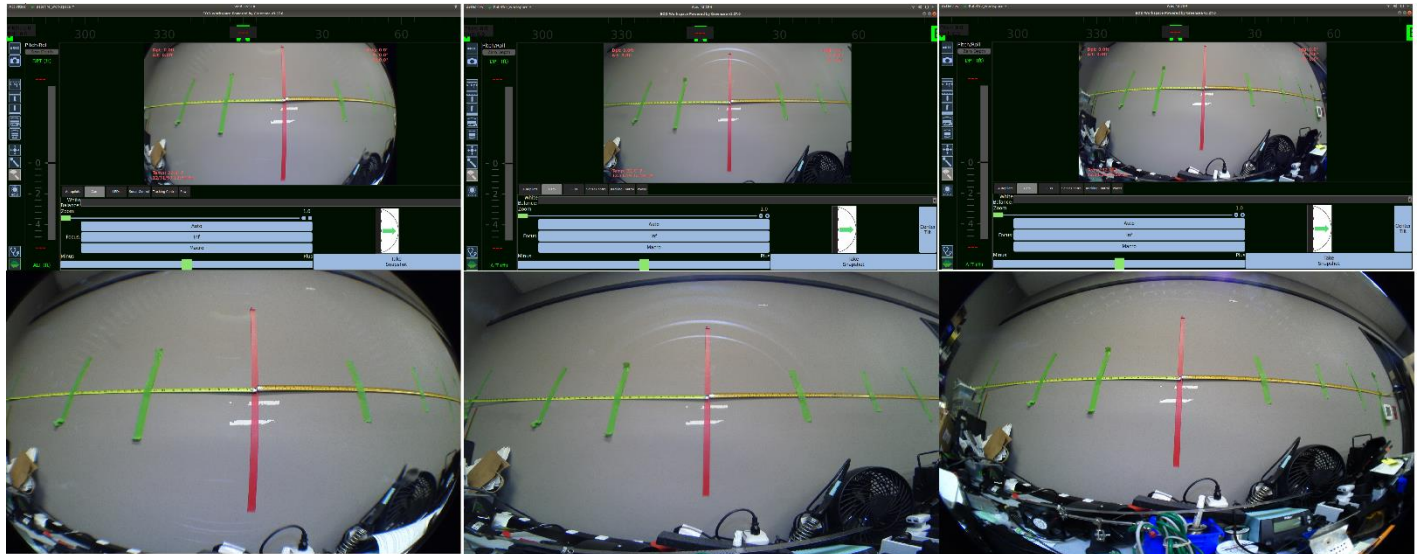
Document	Current Revision
WI-70044-MSS camera assembly instructions	F

7.0 Revision History

Date Revised (mm-dd-yyyy)	Location of Change (section, paragraph no., step no., etc.)	Description of Change Made	Name of Person making the Change
12/18/2021	ALL	Initial creation	JRK

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The Pictures below represent the current, previous and original FOV. In case it is not easy to see, the current lens is actually about 15deg more FOV than the previous lens, although slightly more fisheye. The advantage of the current lens is that it allows for not only more horizontal view than previous, but also allows for the ability to substantially increase the vertical FOV by allowing more motion. A 1 or 2x zoom on the current lens will eliminate any vignetting that may or may not occur, and still give a similar or greater FOV than the previous view.

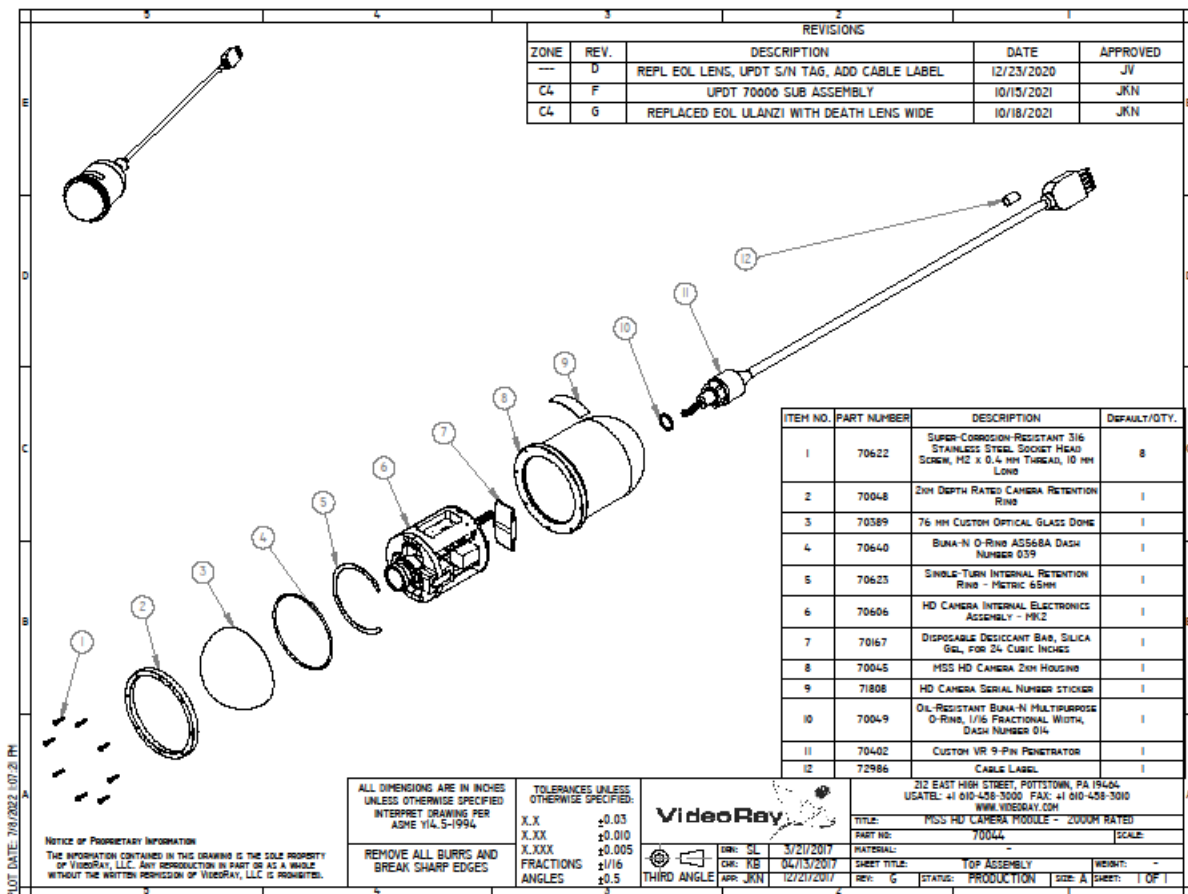


DEATH WIDE
Current Lens

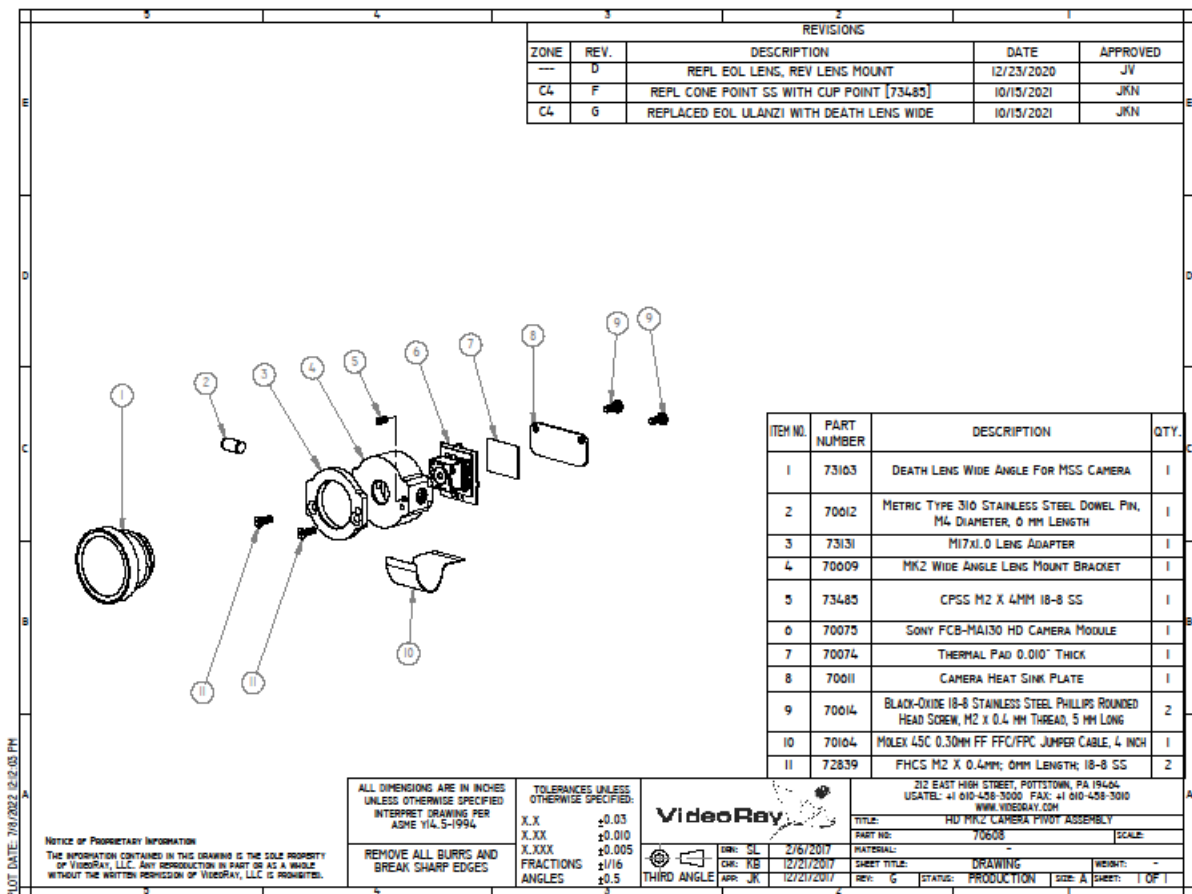
ULANZI
Previous

CENTURY
Original Lens
From 2020

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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	70010	HD SPAM MOUNTING PLATE	1
2	70008	NYLON FLAT WASHER NUMBER 4 SCREW SIZE, 0.112" ID, 0.206" OD, BLACK	1
3	70254	MOSCAP720IPT SPAM BREAKOUT BOARD	1
4	70072	METRIC NYLON UNFRAISED SPACER, 4.5mm OD, 8mm LENGTH	2
5	70001	PROGRAMMED SPAM BOARD	1
6	70035	18-8 STAINLESS STEEL PHILLIPS ROUNDED HEAD SCREWS, M2 X 0.4 MM THREAD, 16 MM LONG	2
7	70051	SENGORAY 3010D BOARDSET	1
8	72252	RJ45 CONNECTOR J45-102 CONDUCTING	1
9	70017	INTERNAL ASSEMBLY BACK PLATE	1
10	70990	3/16 OD 1/16 IN LENGTH NYLON SPACER, FOR #2 SCREW SIZE	1
11	70018	18-8 STAINLESS STEEL SOCKET HEAD SCREW, M2 X 0.4 MM THREAD, 30 MM LONG	1
12	70989	.25 OD X 1in LONG COIL SPRING CLIPED END ZINC PLATED	1
13	71810	MKS D575K ANALOG SERVO MOTOR	1
14	70020	INTERNAL ASSEMBLY FRONT PLATE - DRIVE	1
15	70980	NO 2 NYLON SHOULDER WASHER	1
16	70987	M2X4 X 10MM ALLOY STEEL BUTTON HEAD SCREW	2
17	70007	CAMERA ENCODER BOARD HEAT SINK	1
18	70985	SENGORAY BOARD MOUNT BRACKET	1
19	70988	M2X4 X 3mm 316 STAINLESS STEEL FLAT HEAD CAP SCREW	2
20	70100	THERMAL PAD 0.010" THICK	1
21	70021	BLACK-OXIDE ALLOY STEEL SOCKET HEAD SCREW, M1.6 X 0.35 MM THREAD, 8 MM LONG	2
22	73484	BMS M2.5 X 4MM 18-8 SS	1
23	70014	BLACK-OXIDE 18-8 STAINLESS STEEL PHILLIPS ROUNDED HEAD SCREW, M2 X 0.4 MM THREAD, 5 MM LONG	8
24	70008	HD MK2 CAMERA PIVOT ASSEMBLY	1
25	70015	STAINLESS STEEL BALL BEARING, PREMIUM DOUBLE SHIELDS, FOR 4 MM SHAFT DIAMETER, 10 MM OD	1
26	70019	INTERNAL ASSEMBLY FRONT PLATE - BEARING	1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
---	F	REPL EOL LENS, UPDT TO ITEM 23	12/23/2020	JV
C2,C3	H	ADD SERVO RETENTION SCREW, UPDT 70008, 70019	10/15/2021	JKN
C4	J	REPLACED EOL ULANZI WITH DEATH LENS WIDE	10/15/2021	JKN

LOT DATE: 7/8/2022 2:39:34 PM

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REMOVE ALL BURRS AND BREAK SHARP EDGES	

DRN: SL	2/7/2017
CHG: KB	12/21/2017
APP: JKN	12/21/2017
THIRD ANGLE	

212 EAST HIGH STREET, POTTSTOWN, PA 19404 USATEL: 41 810-458-3000 FAX: 41 810-458-3010 WWW.VIDEORAY.COM			
TITLE: HD CAMERA INTERNAL ELECTRONICS ASSEMBLY - MK2		SCALE:	
PART NO: 70006			
SHEET TITLE: DRAWING		WEIGHT:	
REV: J	STATUS: PRODUCTION	SIZE: A	SHEET: 1 OF 1