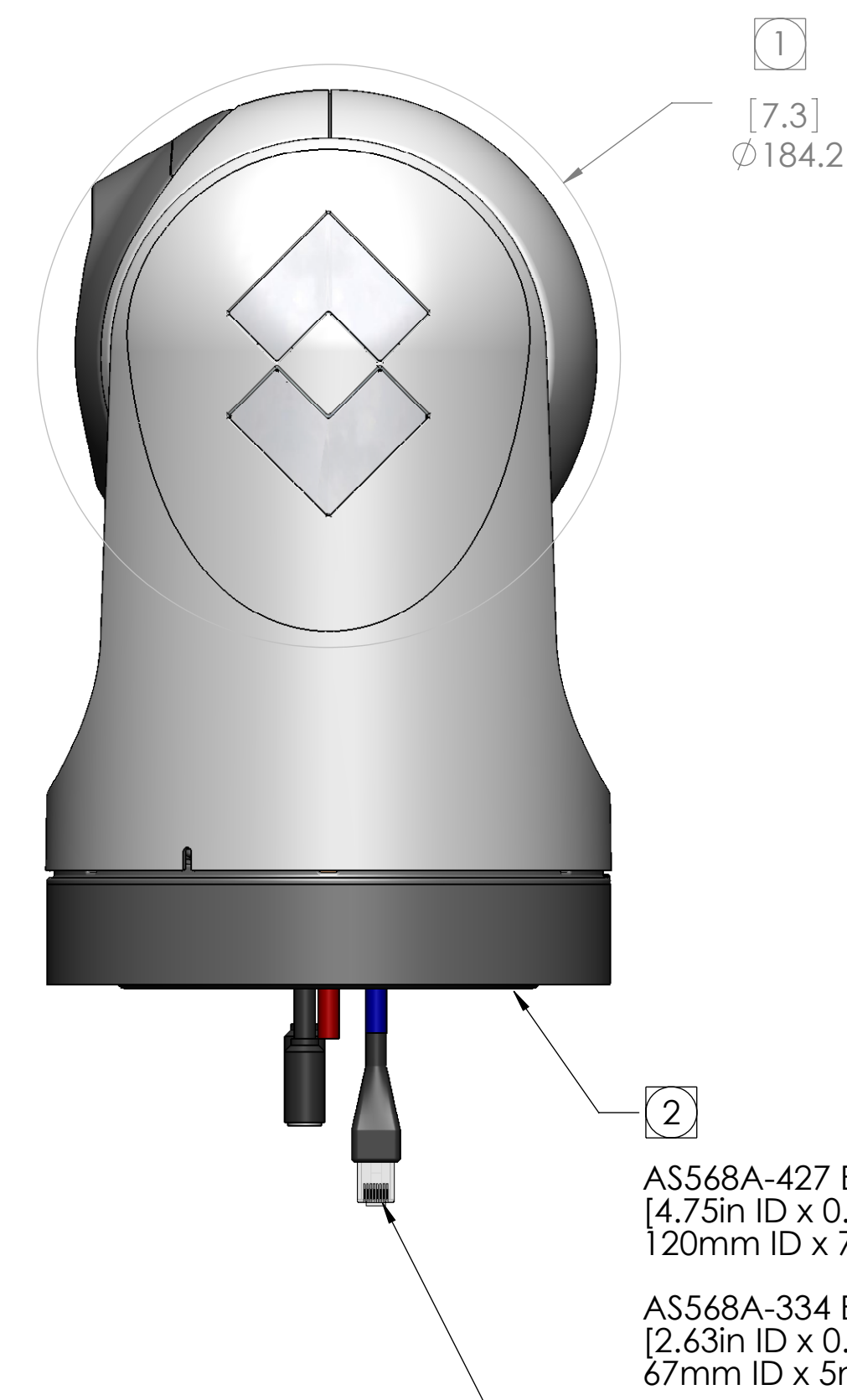
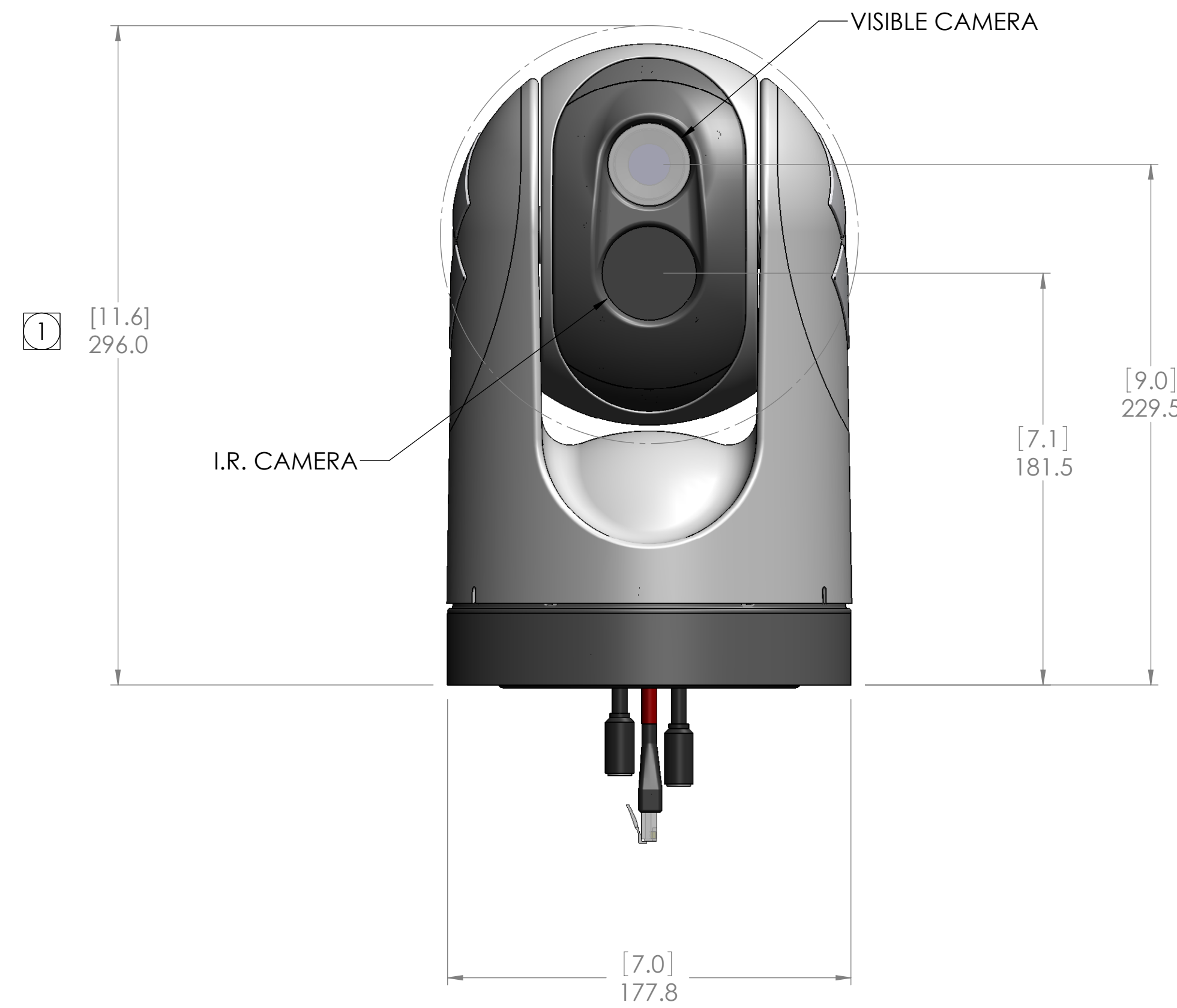


NOTES: UNLESS OTHERWISE SPECIFIED

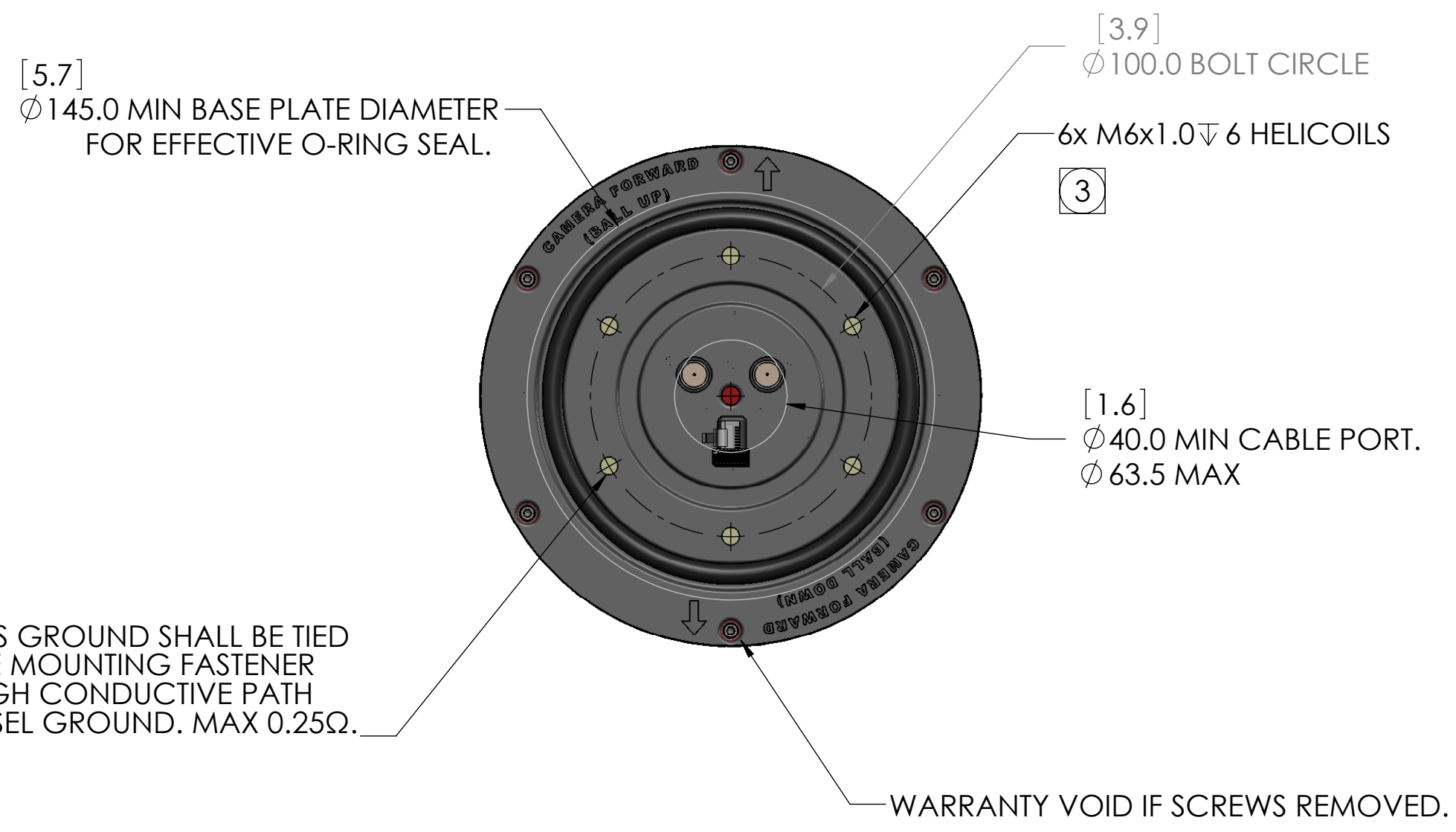
- ① CLEARANCE REQUIRED FOR FREE MOTION OF SYSTEM.
- ② O-RING USED FOR SEALING SYSTEM TO MOUNTING STRUCTURE. STANDALONE UNIT MEETS IPX6 SEALING SPECIFICATION. MINIMUM MOUNTING SURFACE FLATNESS OF 1.5mm [0.60in] OVER SYSTEM DIAMETER REQUIRED FOR O-RING USE. WHEN MOUNTING TO IRREGULAR SURFACES, USE OF BEDDING COMPOUND RECOMMENDED.
- ③ USE WITH FLIR MOUNTING HARDWARE KITS:
4115301 HARDWARE KIT - M-SERIES BASIC MOUNT
500-0396-00 TOP DOWN INSTALLATION KIT
500-0397-00 TOP DOWN INSTALLATION RISER KIT
- 4. USE LOCTITE 242 WITH ALL METAL TO METAL THREADED CONNECTIONS.

| REVISIONS | | | | |
|-----------|-----|-------------------------|------------|----------|
| ZONE | REV | DESCRIPTION | DATE | APPROVED |
| | 100 | RELEASED PER ECN 106520 | 06/11/2009 | MK |
| | 110 | REVISED PER ECN #109004 | 02/19/2010 | MK |

M-SERIES DUAL PAYLOAD



- ② AS568A-427 EP O-RING [4.75in ID x 0.25in DIA. EP] 120mm ID x 7mm DIA. EP
- AS568A-334 EP O-RING [2.63in ID x 0.19in DIA. EP] 67mm ID x 5mm DIA. EP
- CABLES SHOWN FOR REFERENCE ONLY. NOT TO SCALE, NOR CORRECT LENGTH.
- 381 ± 25mm [15 ± 1in] POWER CABLE, UNTERMINATED TINNED 18AWG WIRE.
- 457 ± 25mm [18 ± 1in] NETWORK CABLE, RJ45 T568B, MALE.
- 533 ± 25mm [21 ± 1in] IR VIDEO CABLE, F-TYPE MALE.
- 584 ± 25mm [23 ± 1in] SWITCHED (IR OR VIS) VIDEO CABLE, F-TYPE MALE.

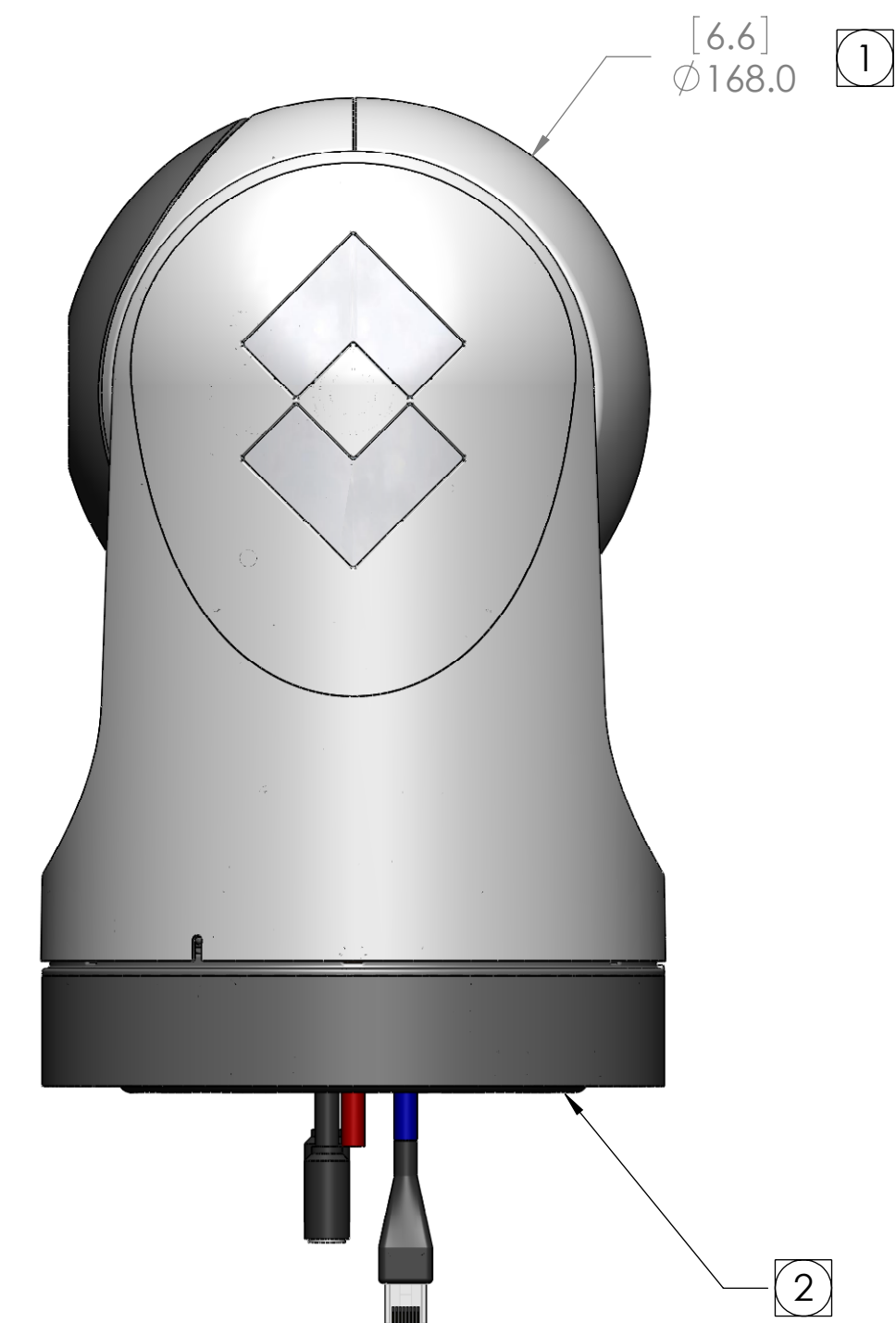


CHASSIS GROUND SHALL BE TIED TO ONE MOUNTING FASTENER FOR HIGH CONDUCTIVE PATH TO VESSEL GROUND. MAX 0.25Ω.

WARRANTY VOID IF SCREWS REMOVED.

| | | | | | |
|--|--|--|---|---|---|
| THIRD ANGLE PROJECTION | | THIS DOCUMENT IS CONTROLLED TO FLIR EAR TECHNOLOGY LEVEL 1. | | | |
| | | <p>THE INFORMATION CONTAINED IN THIS DOCUMENT PERTAINS TO A DUAL USE PRODUCT CONTROLLED FOR EXPORT BY THE EXPORT ADMINISTRATION REGULATIONS (EAR). FLIR TRADE SECRETS CONTAINED HEREIN ARE SUBJECT TO DISCLOSURE RESTRICTIONS AS A MATTER OF LAW. DIVERSION CONTRARY TO US LAW IS PROHIBITED. US DEPARTMENT OF COMMERCE AUTHORIZATION IS NOT REQUIRED PRIOR TO EXPORT OR TRANSFER TO FOREIGN PERSONS OR PARTIES UNLESS OTHERWISE PROHIBITED.</p> | | | |
| <p>METRIC</p> <p>INTERPRET DRAWING PER ASME Y14.5M-1994</p> <p>UNLESS OTHERWISE SPECIFIED SURFACE ROUGHNESS 32</p> <p>X = ± .25</p> <p>XX = ± .13</p> <p>ANGULAR = ± .5°</p> <p>FILLET RADII = .13 MAX</p> | | <p>MATERIAL N/A</p> <p>FINISH N/A</p> <p>UNLESS OTHERWISE SPECIFIED ALL MEASUREMENTS ARE IN MM. ALL DIMENSIONS IN () ARE INCHES. DO NOT SCALE DRAWING.</p> <p>CALC WT: 4215.131 GRAMS</p> | <p>PROJECT NO.</p> <p>APPROVALS</p> <p>DATE</p> <p>DWN MKENT 06/10/2009</p> <p>CHK</p> <p>DSGN</p> <p>ENG MKENT 06/10/2009</p> <p>APP</p> | <p>FLIR Systems, Inc.</p> <p>70 Castilian Drive</p> <p>Goleta, CA 93117</p> | <p>TITLE</p> <p>M-SERIES ICD, SINGLE / DUAL PAYLOAD</p> <p>SIZE D</p> <p>CAGE 064Y2</p> <p>DWG NO. 432-0003-00</p> <p>REV 110</p> <p>SCALE 1:2</p> <p>PRINTED: 2/22/2010</p> <p>SHEET 1 OF 11</p> |

M-SERIES SINGLE PAYLOAD

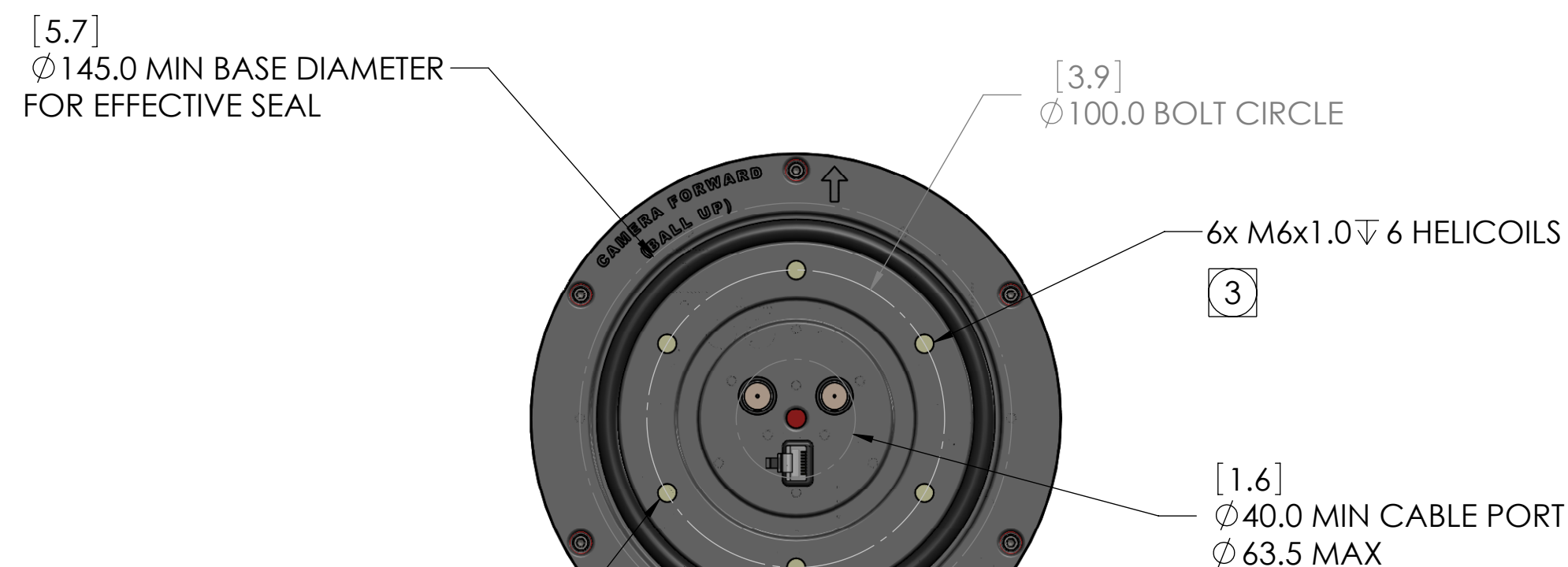


AS568A-427 EP O-RING
[4.75in ID x 0.25in DIA. EP]
120mm ID x 7mm DIA. EP

AS568A-334 EP O-RING
[2.63in ID x 0.19in DIA. EP]
67mm ID x 5mm DIA. EP

CABLES SHOWN FOR REFERENCE ONLY.
NOT TO SCALE, NOR CORRECT LENGTH.

381 ±25mm [15 ±1in] POWER CABLE, UNTERMINATED TINNED 18AWG WIRE.
457 ±25mm [18 ±1in] NETWORK CABLE, RJ45 T568B, MALE.
533 ±25mm [21 ±1in] IR VIDEO CABLE, F-TYPE MALE.



CHASSIS GROUND SHALL BE TIED TO ONE MOUNTING FASTENER FOR HIGH CONDUCTIVE PATH TO VESSEL GROUND. MAX 0.25 Ω .

WARRANTY VOID IF SCREWS REMOVED.

IMPORTANT NOTE:

PAPER SIZE: 11x17in
TEMPLATE SHOULD PRINT 1:1

DUE TO VARIATION IN SOFTWARE AND
PRINTERS, PLEASE VERIFY SCALE BELOW
BEFORE MODIFYING MOUNTING SURFACE.

D

D

C

C

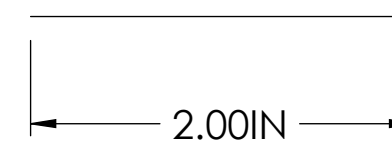
B

B

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[.3]
6x ϕ 6.4 THRU HOLE
EQUALLY SPACED ON
 ϕ 100 [3.94] BOLT CIRCLE



ϕ 40.0 [1.57] MIN CABLE PORT.
 ϕ 63.5 [2.50] MAX

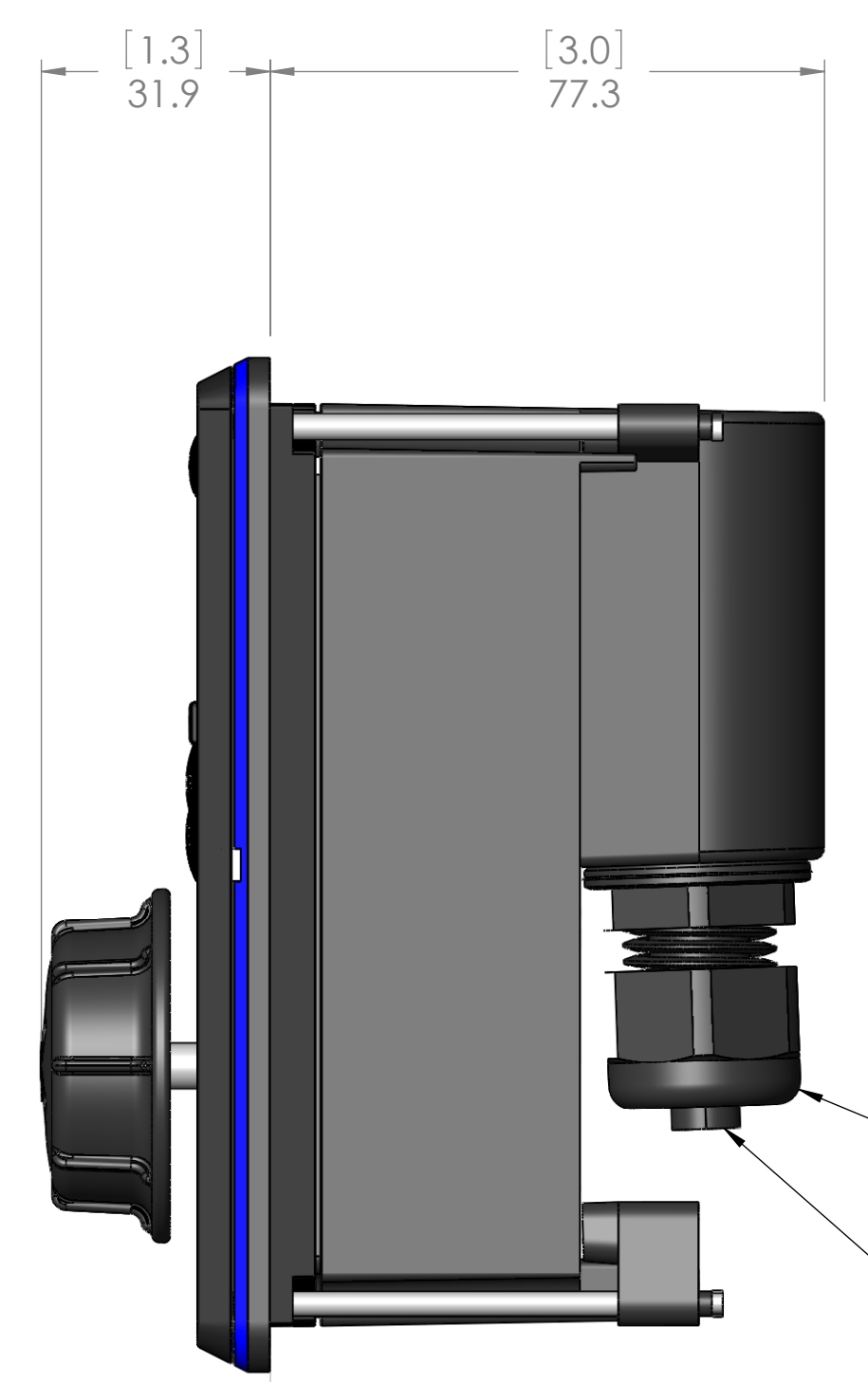
[7.1]
 ϕ 179.4 M-SERIES O.D.

**MOUNTING TEMPLATE
M-SERIES GIMBAL**

| | | | |
|-----------|---------------|------------------------|---------------|
| SIZE B | CAGE 064Y2 | DWG NO. 432-0003-00 | REV 110 |
| SCALE 1:1 | | PRINTED: 2/22/2010 | SHEET 3 OF 11 |

D

D



WITH CABLE INSTALLED, TURN NUT
1/4 TURN BEYOND HAND TIGHT.

GLAND SEAL DESIGNED FOR USE WITH DOUBLE SHIELDED
CAT 5 ETHERNET CABLE. USE OF SINGLE SHIELDED CABLE
MAY REQUIRE THE USE OF ADDITIONAL SEALANT SUCH
AS SILICON OR RTV TO ENSURE SEALING OF ENCLOSURE.

INSERT NETWORK CABLE RJ45 THROUGH GLAND NUT AND
SEAL BEFORE INSTALLING.

IP66 RATED ABOVE GASKET.

IP64 RATED BEHIND GASKET.

C

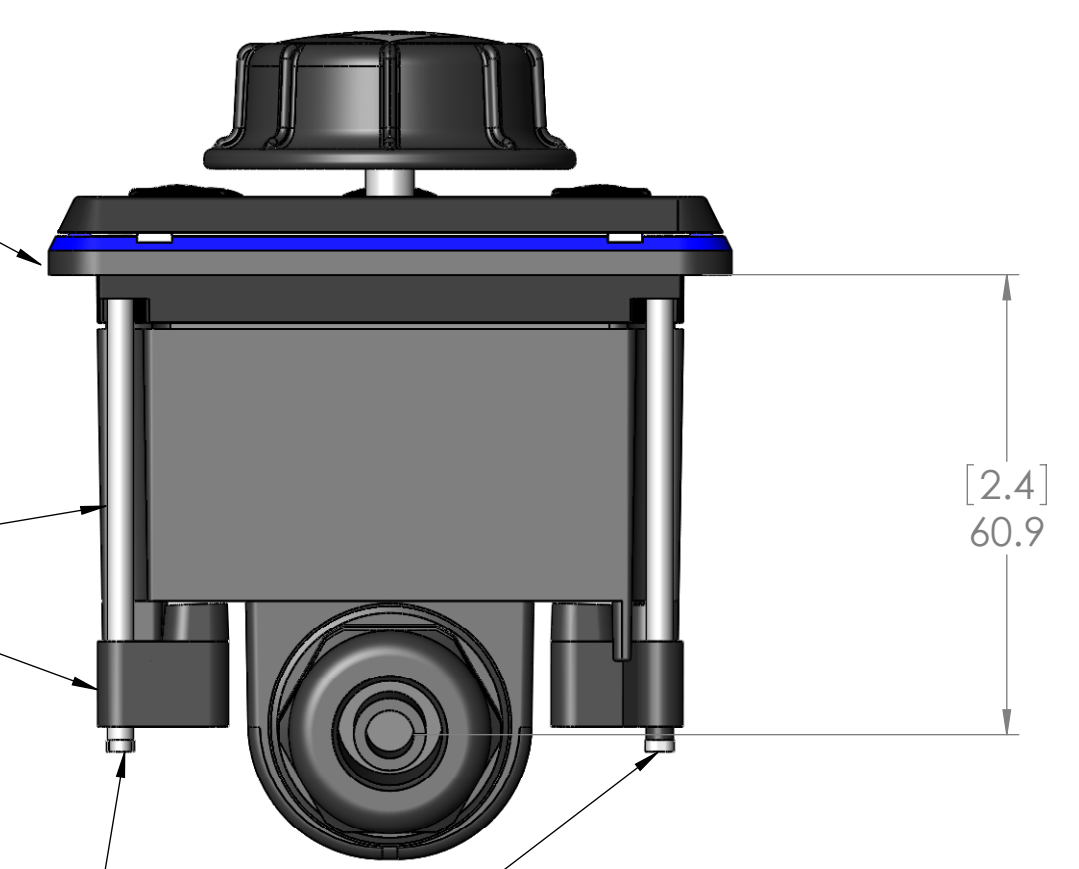
C

B

B

APPLY ADHESIVE SIDE OF GASKET TO JCU BODY.

MOUNTING PANEL THICKNESS RANGE 1.6-45 [0.063-1.750].
WHEN MOUNTING TO PANELS LESS THAN 6.3 [0.25] REVERSE
PADDLES AS ILLUSTRATED.



DURING INITIAL TIGHTENING, ENSURE MOUNTING TABS
ON SCREWS SWING FREE OF REAR HOUSING. WITH TABS
RUN UP AGAINST REAR OF INSTRUMENT PANEL, TIGHTEN
1/4-1/2 TURN BEYOND HAND TIGHT.

A

A

METRIC

THIRD ANGLE PROJECTION

INTERPRET DRAWING
PER ASME Y14.5M-1994

UNLESS OTHERWISE SPECIFIED
SURFACE ROUGHNESS 32
.X = ±.25
.XX = ±.13
ANGULAR = ±.5°
FILLET RADIUS = .13 MAX

| | | | |
|-------|-------|--------------------|---------------|
| SIZE | CAGE | PIECE PART | REV |
| D | 064Y2 | 432-0003-00 | 110 |
| SCALE | 1:1 | PRINTED: 2/22/2010 | SHEET 4 OF 11 |

IMPORTANT NOTE:

PAPER SIZE: 11x17in
TEMPLATE SHOULD PRINT 1:1

DUE TO VARIATION IN SOFTWARE AND
PRINTERS, PLEASE VERIFY SCALE BELOW
BEFORE MODIFYING MOUNTING SURFACE.

D

D

CORNERS SHALL
BE SHARP.

[2.9]
72.4
OPTIONAL
DRILL GUIDE

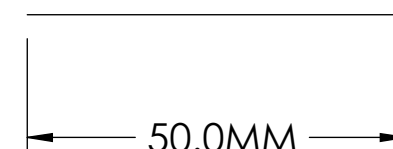
C

C

[4.9]
123.2
OPTIONAL
DRILL GUIDE

[5.100±.049]
129.54±1.25
CUTOUT

[5.6]
141.4
OUTSIDE
OF JCU



B

B

[.25]
Ø6.4

[3.100±.049]
78.74±1.25
CUTOUT

[3.6]
90.4
OUTSIDE
OF JCU

A

A

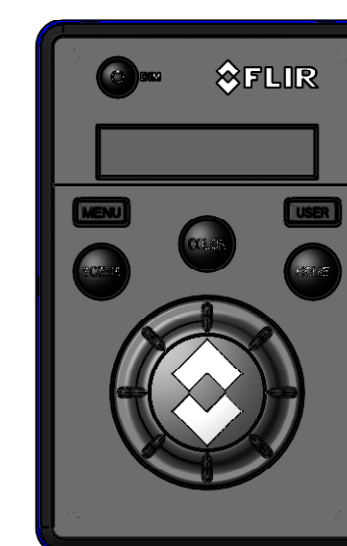
MOUNTING TEMPLATE
M-SERIES JCU

| | | | |
|-----------|---------------|------------------------|---------------|
| SIZE B | CAGE 064Y2 | DWG NO. 432-0003-00 | REV 110 |
| SCALE 1:1 | | PRINTED: 2/22/2010 | SHEET 5 OF 11 |

M-SERIES SINGLE /DUAL PAYLOAD



JCU



DISPLAY



POWER CABLE
18AWG TINNED STRANDED WIRE
RED WIRE: +12-24 VDC (3.8-1.9 AMP MAX)
BLK WIRE: DC RETURN
GRN WIRE: EARTH GROUND

BUTT SPLICE OR INSTALLER
SUPPLIED CONNECTOR

INSTALLER SUPPLIED POWER CABLE
GAUGE OF WIRE TO BE APPROPRIATE
FOR SUPPLY VOLTAGE AND LENGTH OF
CABLE RUN TO ENSURE ADEQUATE
CURRENT CARRYING CAPABILITY.

CONNECTOR
RJ45 WATERPROOF ENCLOSURE
FLIR PN 4115028

NETWORK CABLE FOR PoE DEVICES (IEEE802.3af)
8 CONDUCTOR T568B, ETHERNET, DOUBLE SHIELDED
FLIR PN 308-0163-25 OR EQUIVALENT
NOTE: TO MAINTAIN IEC 60945 EMI COMPLIANCE,
USE OF DOUBLE SHIELDED CABLE REQUIRED.

RG59U VIDEO CABLE
F-TYPE MALE TERMINATION

SWITCHED (IR OR VIS) VIDEO CABLE
(DUAL ONLY)

IR VIDEO CABLE

CONNECTOR
F-TYPE FEMALE TO FEMALE
FLIR PN 4115330

INSTALLER SUPPLIED VIDEO CABLE
SHALL BE RATED RG59U OR BETTER

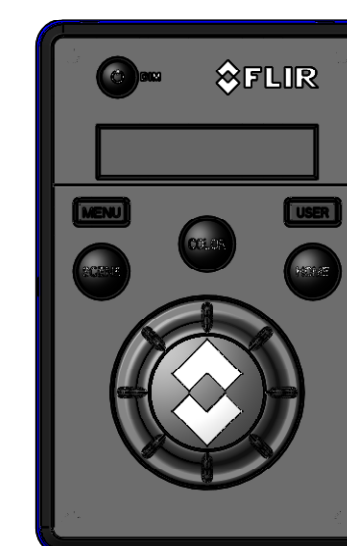
INTERCONNECT DIAGRAM SINGLE JCU

| | | | |
|-----------|---------------|------------------------|---------------|
| SIZE D | CAGE 064Y2 | DWG NO. 432-0003-00 | REV 110 |
| SCALE 1:2 | | PRINTED: 2/22/2010 | SHEET 6 OF 11 |

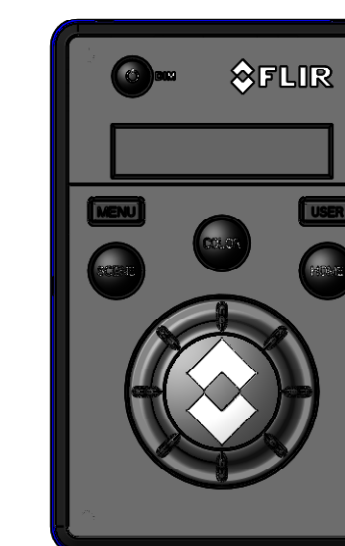
M-SERIES SINGLE / DUAL PAYLOAD



JCU 1



JCU 2



DISPLAY



POWER CABLE
18AWG TINNED STRANDED WIRE
RED WIRE: +12-24 VDC (3.8-1.9 AMP MAX)
BLK WIRE: DC RETURN
GRN WIRE: EARTH GROUND

BUTT SPLICE OR INSTALLER
SUPPLIED CONNECTOR

INSTALLER SUPPLIED POWER CABLE
GAUGE OF WIRE TO BE APPROPRIATE FOR
SUPPLY VOLTAGE AND LENGTH OF CABLE
RUN TO ENSURE ADEQUATE CURRENT
CARRYING CAPABILITY.

RG59U VIDEO CABLE
F-TYPE MALE TERMINATION

CONNECTOR
F-TYPE FEMALE TO FEMALE
FLIR PN 4115330

INSTALLER SUPPLIED VIDEO CABLE
SHALL BE RATED RG59U OR BETTER

CONNECTOR
RJ45 WATERPROOF ENCLOSURE
FLIR PN 4115028

MANUFACTURER SPECIFIC ENVIRONMENTAL
EXPOSURE RATINGS APPLY

POE NETWORK SWITCH
IEEE802.3af, T568B COMPLIANT
INSTALLER SUPPLIED

SWITCHED (IR OR VIS)
VIDEO CABLE
(DUAL ONLY)

IR VIDEO CABLE

NETWORK CABLE FOR PoE DEVICES (IEEE802.3af)
8 CONDUCTOR T568B, ETHERNET, DOUBLE SHIELDED
FLIR PN 308-0163-25 OR EQUIVALENT
NOTE: TO MAINTAIN IEC 60945 EMI COMPLIANCE,
USE OF DOUBLE SHIELDED CABLE REQUIRED.

INTERCONNECT DIAGRAM MULTIPLE JCU - POE SWITCH

| | | | |
|-----------|---------------|------------------------|---------------|
| SIZE D | CAGE 064Y2 | DWG NO. 432-0003-00 | REV 110 |
| SCALE 1:2 | | PRINTED: 2/22/2010 | SHEET 7 OF 11 |

M-SERIES SINGLE / DUAL PAYLOAD



POWER CABLE
18AWG TINNED STRANDED WIRE
RED WIRE: +12-24 VDC (3.8-1.9 AMP MAX)
BLK WIRE: DC RETURN
GRN WIRE: EARTH GROUND

BUTT SPLICE OR INSTALLER
SUPPLIED CONNECTOR

INSTALLER SUPPLIED POWER CABLE
GAUGE OF WIRE TO BE APPROPRIATE
FOR SUPPLY VOLTAGE AND LENGTH
OF CABLE RUN TO ENSURE ADEQUATE
CURRENT CARRYING CAPABILITY.

RG59U VIDEO CABLE
F-TYPE MALE TERMINATION

CONNECTOR
F-TYPE FEMALE TO FEMALE
FLIR PN 4115330

INSTALLER SUPPLIED VIDEO CABLE
SHALL BE RATED RG59U OR BETTER

CONNECTOR
RJ45 WATERPROOF ENCLOSURE
FLIR PN 4115028

MANUFACTURER SPECIFIC ENVIRONMENTAL
EXPOSURE RATINGS APPLY

NETWORK SWITCH, NON PoE
INSTALLER SUPPLIED

POE INJECTOR
IP20, RJ45 FEMALE
FLIR PN 4113746

POE INJECTOR POWER REQUIREMENT
+9-36VDC (12V/1.85A - 24V/0.90A)

JCU 1



JCU 2



NETWORK CABLE FOR PoE DEVICES (IEEE802.3af)
8 CONDUCTOR T568B, ETHERNET, DOUBLE SHIELDED
FLIR PN 308-0163-25 OR EQUIVALENT
NOTE: TO MAINTAIN IEC 60945 EMI COMPLIANCE,
USE OF DOUBLE SHIELDED CABLE REQUIRED.

DISPLAY



SWITCHED (IR OR VIS)
VIDEO CABLE
(DUAL ONLY)

IR VIDEO CABLE

INTERCONNECT DIAGRAM MULTIPLE JCU - POE INJECTOR

| | | | |
|-----------|---------------|------------------------|---------------|
| SIZE D | CAGE 064Y2 | DWG NO. 432-0003-00 | REV 110 |
| SCALE 1:2 | | PRINTED: 2/22/2010 | SHEET 8 OF 11 |

DWG NO. 432-0003-00
SH 8
REV 110

D

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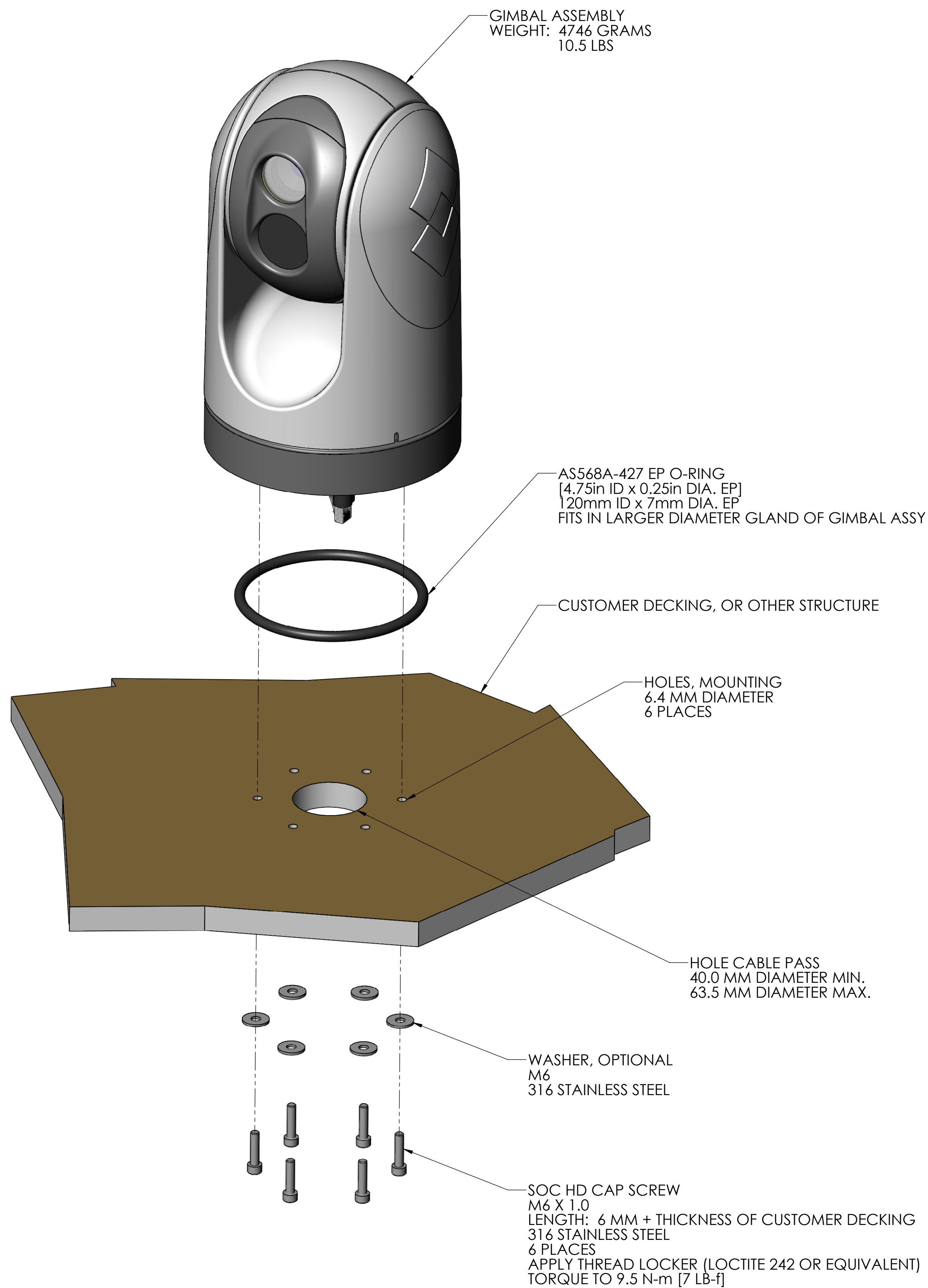
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DWG NO. 432-0003-00 SH 9 REV 110

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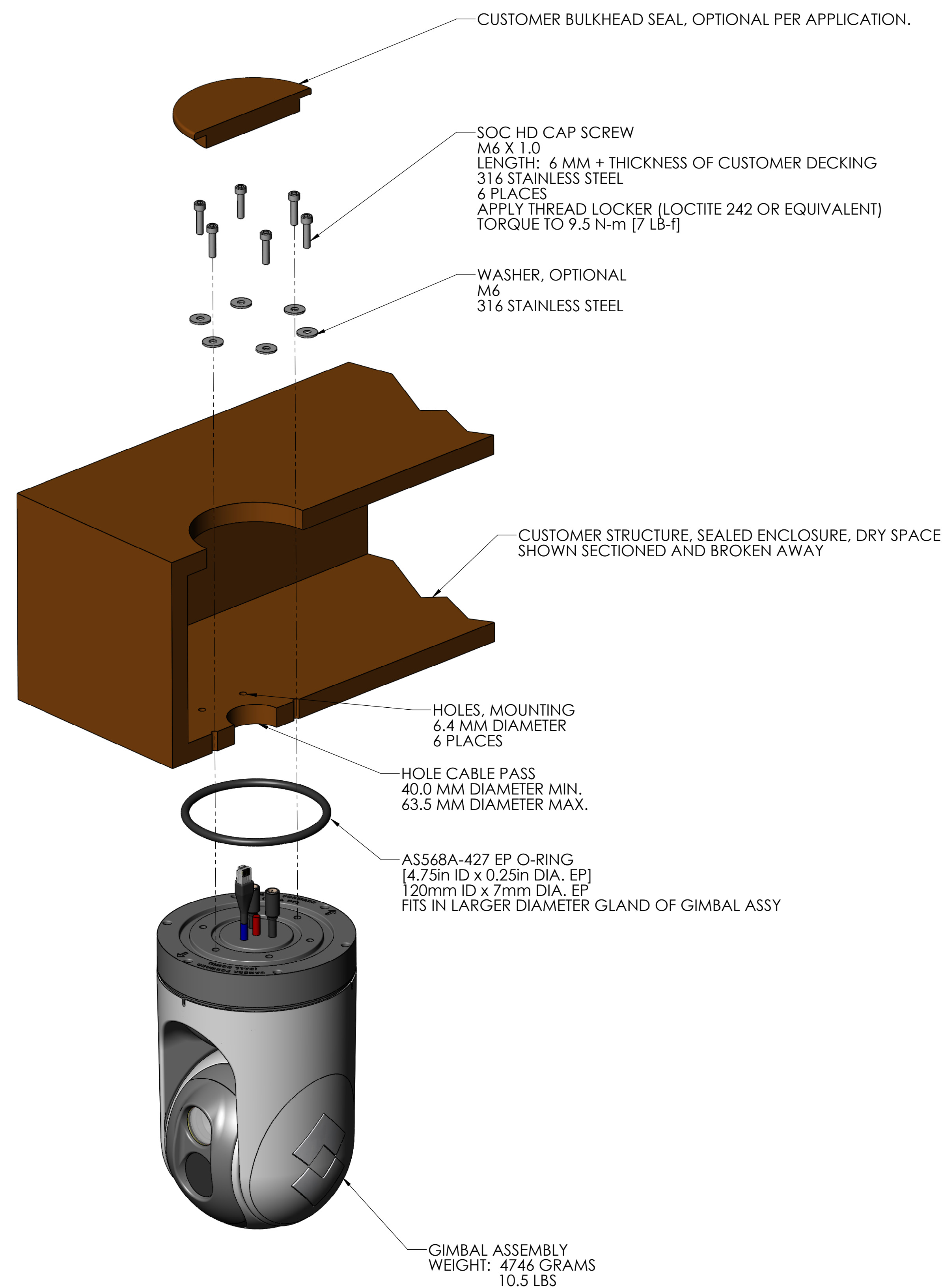


HIDDEN CABLING MOUNTING SCHEME:

MOUNTING DIRECTLY THRU CUSTOMER DECKING, OR OTHER SURFACES.
STRUCTURE OPPOSITE GIMBAL TO BE SEALED ENCLOSURE AND A DRY SPACE.
CAMERA BALL UP CONFIGURATION

ENTIRE ASSEMBLY VIEW CAN BE ROTATED 180°
FOR BALL DOWN INSTALLATION.

NOTE HOME DIRECTION FOR BALL UP/ DOWN, INSTALL AS INDICATED ON BASE OF UNIT.



HIDDEN CABLING MOUNTING SCHEME:

MOUNTING DIRECTLY TO CUSTOMER STRUCTURE, ACTUAL STRUCTURES MAY VARY.
CAMERA BALL DOWN CONFIGURATION

ENTIRE ASSEMBLY VIEW CAN BE ROTATED 180°
FOR BALL UP INSTALLATION.

NOTE HOME DIRECTION FOR BALL UP/ DOWN, INSTALL AS INDICATED ON BASE OF UNIT.

SCALE: 3/8

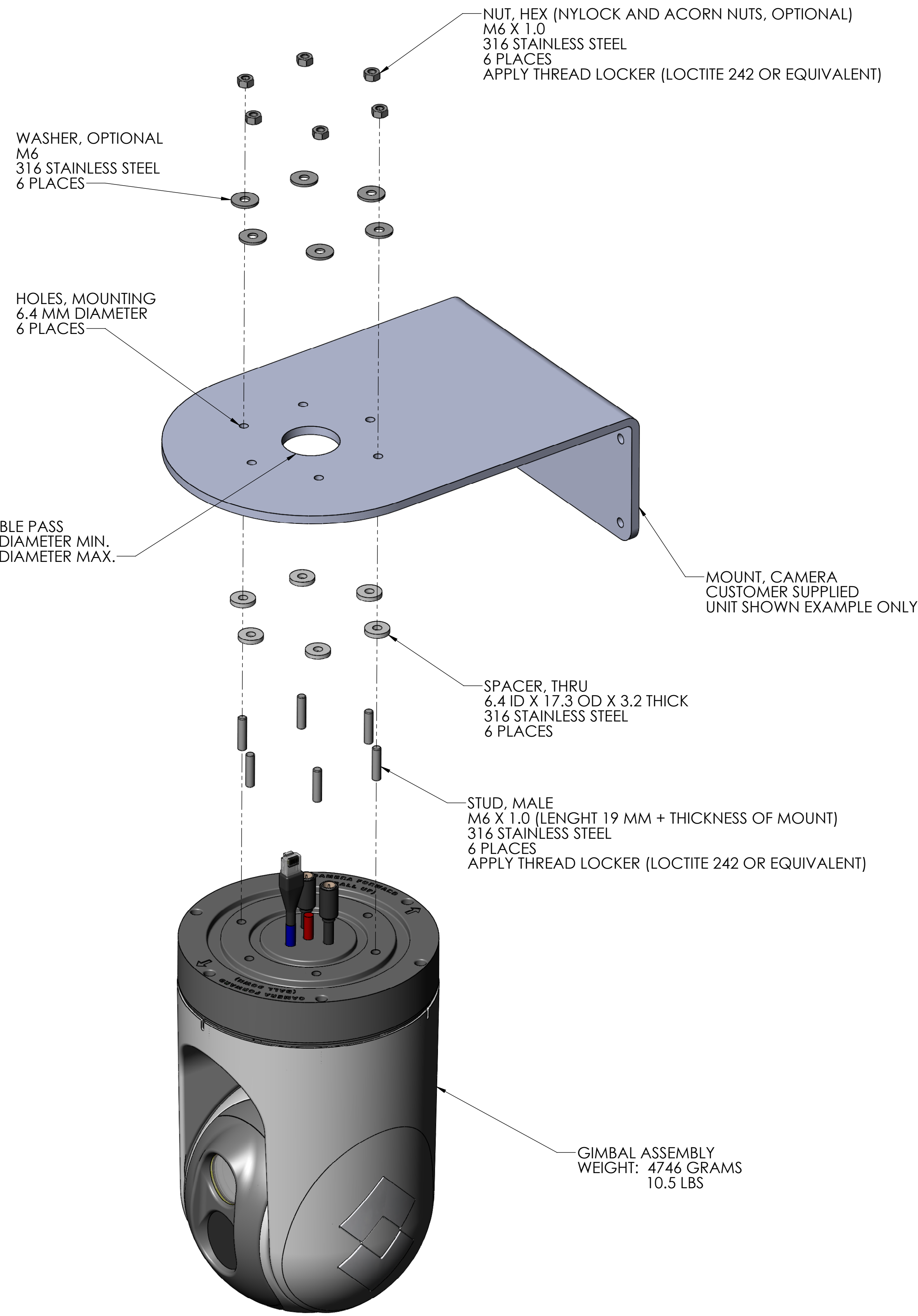
| | | | |
|-------|-------|--------------------|---------------|
| SIZE | CAGE | DWG NO. | REV |
| D | 064Y2 | 432-0003-00 | 110 |
| SCALE | 1:2 | PRINTED: 2/22/2010 | SHEET 9 OF 11 |

D

C

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EXPOSED CABLING MOUNTING SCHEME:

CUSTOMER PROVIDED MOUNTING BRACKET / SURFACE
CAMERA BALL DOWN CONFIGURATION

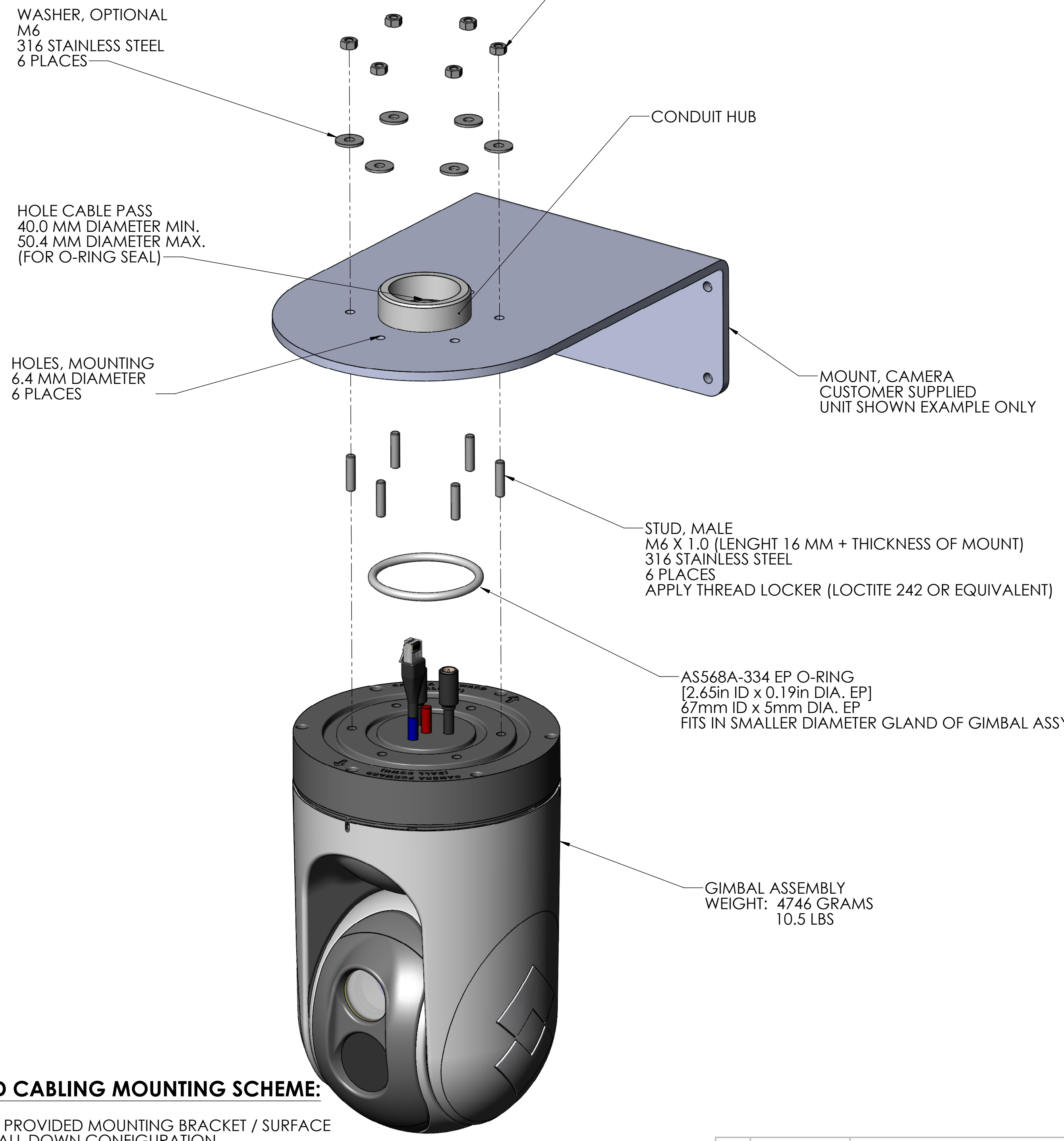
NOTE HOME DIRECTION FOR BALL UP/ DOWN, INSTALL AS INDICATED ON BASE OF UNIT.

D

C

B

A



EXPOSED CABLING MOUNTING SCHEME:

CUSTOMER PROVIDED MOUNTING BRACKET / SURFACE
CAMERA BALL DOWN CONFIGURATION

NOTE HOME DIRECTION FOR BALL UP/ DOWN, INSTALL AS INDICATED ON BASE OF UNIT.

D

D

C

C

B

B

A

A



CHASSIS GROUND SHALL BE TIED TO MOUNTING FASTENER FOR HIGH CONDUCTIVE PATH TO VESSEL GROUND. MAX 0.25Ω. (CUSTOMER SUPPLIED)

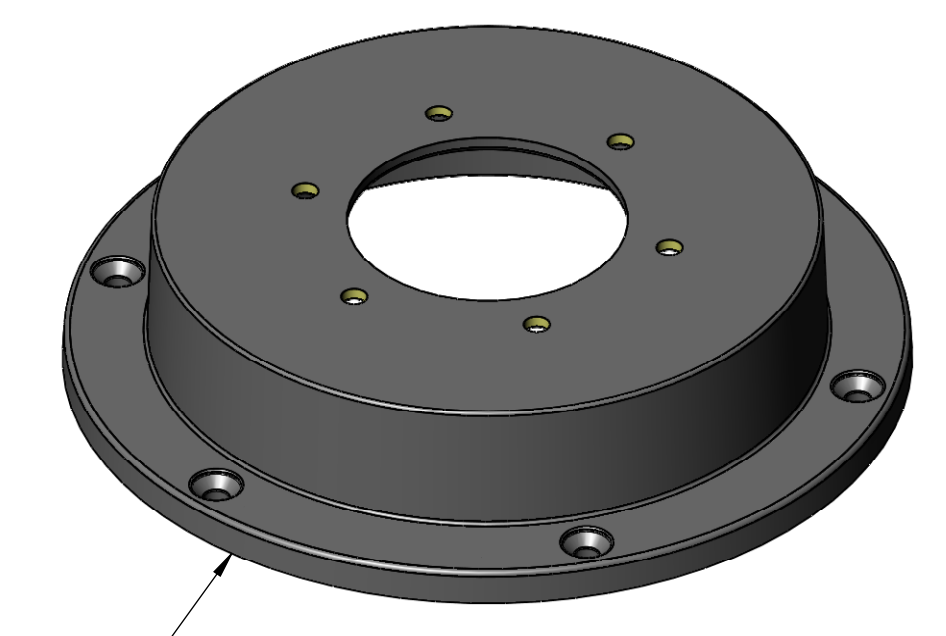
DETAIL A
SCALE 1 : 1

GROUNDING SCHEME

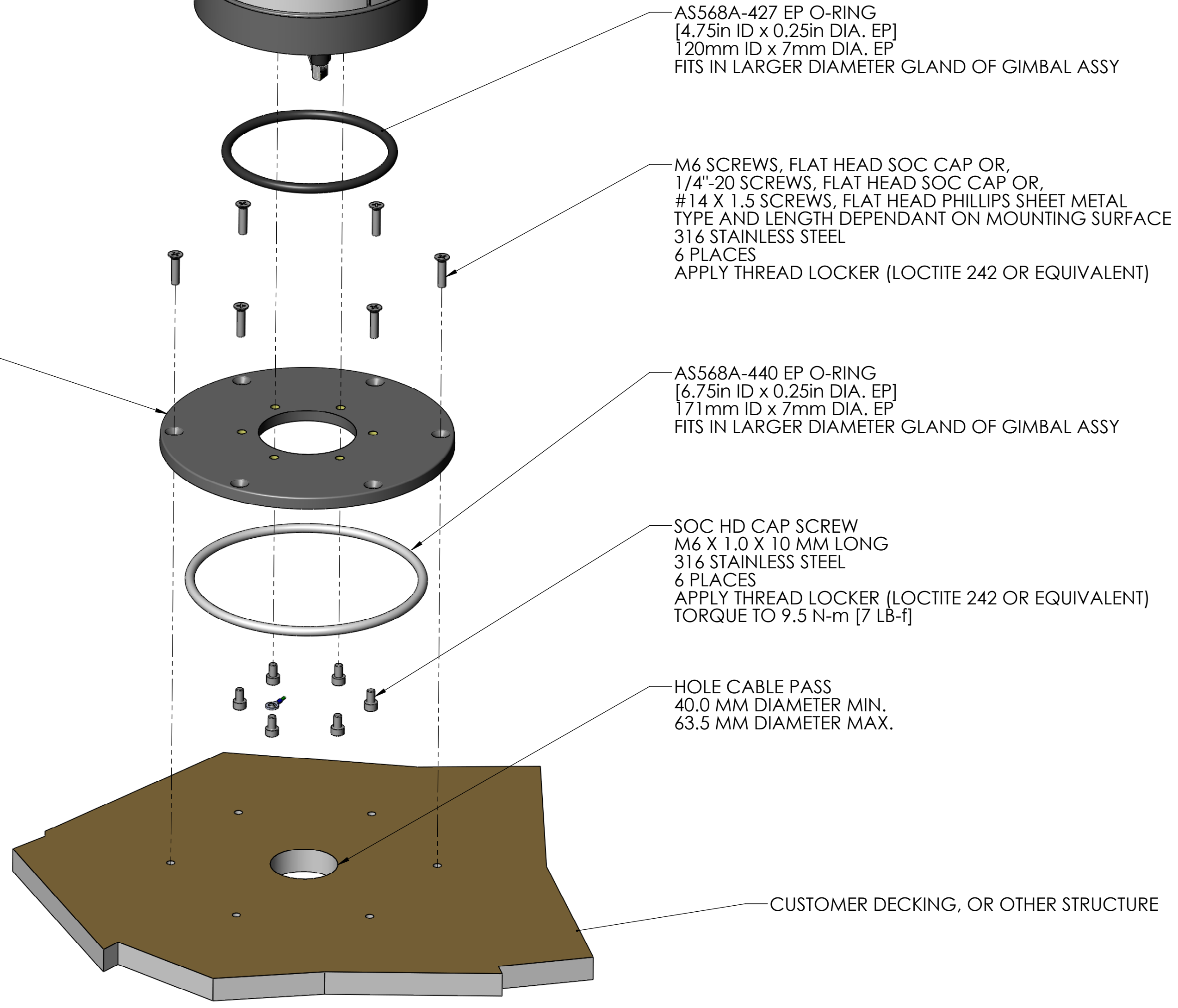
TOP DOWN BASE
FLIR P/N 500-0396-00
SEE FLIR P/N 500-0397-00 (ALTERNATE)



GIMBAL ASSEMBLY
WEIGHT: 4746 GRAMS
10.5 LBS



ALTERNATE TO MOUNT SHOWN IN ASSEMBLY
PELAGIC BASE CONNECTOR COMPARTMENT
FLIR P/N 500-0397-00



AS568A-427 EP O-RING
[4.75in ID x 0.25in DIA. EP]
120mm ID x 7mm DIA. EP
FITS IN LARGER DIAMETER GLAND OF GIMBAL ASSY

M6 SCREWS, FLAT HEAD SOC CAP OR,
1/4"-20 SCREWS, FLAT HEAD SOC CAP OR,
#14 X 1.5 SCREWS, FLAT HEAD PHILLIPS SHEET METAL
TYPE AND LENGTH DEPENDANT ON MOUNTING SURFACE
316 STAINLESS STEEL
6 PLACES
APPLY THREAD LOCKER (LOCTITE 242 OR EQUIVALENT)

AS568A-440 EP O-RING
[6.75in ID x 0.25in DIA. EP]
171mm ID x 7mm DIA. EP
FITS IN LARGER DIAMETER GLAND OF GIMBAL ASSY

SOC HD CAP SCREW
M6 X 1.0 X 10 MM LONG
316 STAINLESS STEEL
6 PLACES
APPLY THREAD LOCKER (LOCTITE 242 OR EQUIVALENT)
TORQUE TO 9.5 N-m [7 LB-f]

HOLE CABLE PASS
40.0 MM DIAMETER MIN.
63.5 MM DIAMETER MAX.

CUSTOMER DECKING, OR OTHER STRUCTURE

HIDDEN CABLING MOUNTING SCHEME

FLIR PROVIDED MOUNTING BRACKET(S)
CAMERA BALL UP CONFIGURATION

ENTIRE ASSEMBLY VIEW CAN BE ROTATED 180°
FOR BALL DOWN INSTALLATION

NOTE HOME DIRECTION FOR BALL UP/ DOWN, INSTALL AS INDICATED ON BASE OF UNIT.

SCALE: 3/8