

**INSTRUCTIONS FOR CONTINUED AIRWORTHINESS**

**FOR  
MEEKER AVIATION**

MA100 SERIES ISOLATION COLLAR  
REV --  
JAN 1, 2004



## 1) INTRODUCTION:

The Meeker Aviation MA-100 series isolation collar is a mechanical vibration isolation system. The isolation collar is designed to be used with the Inframetrics / Flir Systems International MK II, MK III, 7000 and 8000 series, SeaFLIR and MicroStar camera turrets. When used with the Flir Systems International SeaFlir, operator will need the optional SeaFlir lid. The isolation collar can be used on both fixed wing aircraft and rotorcraft.

### Precautions:

- All precautions will be in **bold face**

### Referenced publications

- (AC) 43.13-2 and (AC)43.13-1B

### Distribution:

- ICA shall accompany the maintenance manuals of aircraft on which the isolation collar is installed.

### Definitions / Abbreviations:

- FLIR: forward looking infrared
- VNE: velocity never exceed

### Standards of measurement:

- all measurements in 100ths of an inch
- all weights in US pounds
- all torques in inch pounds

## 2) DESCRIPTION

- Complete installed weight standard collar: 9lbs
- Complete installed weight with SeaFLIR lid: 12 lbs
- Height (standard collar): 5.87"
- Height (with SeaFLIR lid): 7.50"
- Isolation collar provides a mounting interface and adjustable vibration isolation system for the FLIR camera.
- FLIR camera is bolted onto the floating ring of the isolation collar
- Collar can be attached to the aircraft either directly or with various adaptors including but not limited to dovetail mounts and 8" quick disconnect mounts.
- Isolation collar can also be tuned for maximum vibration damping by adjusting the number or type of wire rope isolators.
- Isolation collar wire rope isolator settings are determined by aircraft type, see: ISOLATOR GUIDE

### 3) CONTROL, OPERATIONAL INFORMATION

Special procedures / precautions:

- **isolation collar to be installed on aircraft with VNE of 300kts or less**
- **minimum of 6 evenly spaced wire rope isolators must be installed for flight**
- **window of isolation collar will always be positioned towards the tail of the aircraft**
- **lid , floating ring and outer collar are aligned by machined mark “AFT”, found on all three surfaces. This mark shall be centered on the outer collar window.**

### 4) SERVICING INFORMATION

- see maintenance instructions

### 5) MAINTENANCE INSTRUCTIONS

Maintenance shall be conducted IAW manufacturers instructions and (AC) 43.13-2 , (AC) 43.13-1B

A) Daily:

- inspect for loose or missing hardware
- inspect for frayed wire rope isolators

B) Every 100 flight hours

- inspect for loose or missing hardware
- inspect for frayed wire rope isolators
- lubricate wire rope isolators with corrosion protection spray

C) Every 1000 flight hours

- remove isolation collar from aircraft
- inspect for loose or missing hardware
- inspect for frayed hardware
- lubricate wire rope isolators with corrosion protection spray
- protect exposed hardware with corrosion protection spray

D) Tolerances

- no loose or missing hardware allowed
- replace any wire rope isolators with any signs of fraying

- replace any components with visible corrosion
- replace any component with scratches, nicks or wear in excess of .025in in depth
- replace any components with visible cracks

## TROUBLE SHOOTING INSTRUCTIONS

- see removal and replacement information
- to ease installation of hardware, Teflon type protective coating may be applied

## 6) REMOVAL AND REPLACEMENT INFORMATION

### ISOLATION COLLAR INSTALLATION

#### A) Installation of camera system

- place the collar assembly upside down on a work surface
- remove the five 1/4-20 bolts and their washers
- Position the camera so the cannon plug receptacles align with the keyway slot of the floating ring
- lower camera until it rests on the floating ring
- rotate camera until the cannon plug receptacles align with the window
- install 5 ea 1/4-20 cap screws with one AN960C-10L washers per screw through camera into the floating ring

#### B) Installation of collar to aircraft:

- the isolation collar lid has hole patterns designed to accept various mounting adaptors
- adaptors types include but not limited to standard dovetail mounting plates and 8" quick detach plate
- these adaptors are to be installed IAW (AC) 43.13-2 and (AC)43.13-1B

#### C) Isolation collar tuning

- the collar comes from the factory with a standard wire isolator setting for each individual airframe, if no specific airframe is requested, the isolation collar is shipped with a default setting of wire isolators
- see attached isolation collar wire rope installation page, this page is to be used as guideline for standard wire rope installations based on actual flight conditions

#### D) Wire rope isolator removal

Note: It is not necessary to remove the lid of the isolation collar in order to remove, rearrange or replace the wire rope isolators.

- remove isolation collar from aircraft if installed
- remove flir camera if installed ( reverse of step 6A)
- with collar upside down use a 9/64 T hex handle (allen style) wrench to remove the 8/32 cap screw that secures the isolators to the collar ( see attached drawing)
- push the wire rope isolator to one side and insert the hex wrench into the 8/32 cap screw that holds the isolator to the floating ring ( see attached drawing)
- remove and retain wire rope isolator and hardware
- **isolation collar must have a minimum of 6 evenly spaced wire rope isolators installed for flight.**

#### E) Wire rope isolator installation

- remove isolation collar from aircraft if installed
- remove flir camera if installed ( reverse of step 6A)
- with collar upside down use a 9/64 T hex handle (allen style) wrench to remove *all* 8/32 cap screws that hold the isolators to the collar( see attached drawing), when *all* screws are removed from wire rope isolators carefully lower the floating ring and the attached isolators onto the flared section of the collar
- position each wire rope isolator under a corresponding hole in the outer collar such that the 9/64 T handle can be guided through a hole in the collar (see attached drawing), push a wire rope isolator to one side and insert the T wrench in the cap screw holding the isolator to the floating ring, remove 8/32 cap screw from floating ring
- install wire rope isolators by first installing 8/32 cap screw into non-tapped wire isolator hole
- guide 9/64 T handle through outer collar hole, then pressing the wire rope isolator to one side insert T handle into screw
- align screw with tapped hole in the floating ring and tighten screw
- always turn wire rope isolator pig tail towards floating wall of the outside collar. Do not turn inboard, as scratching of camera surface can occur on installation and removal of camera.
- install remaining wire rope isolators as per desired setting if less than 12 isolators are to be used the evenly space them around the floating ring
- once all wire rope isolators are installed onto floating ring, carefully lift floating ring up such that the wire rope isolators are directly below holes in outer collar

(cont)

- for proper alignment of the floating ring to the window, locate machined mark "AFT" on floating ring, this mark will always face the center of the window
- install remaining 8/32 cap screws through outer collar into tapped holes of wire rope isolators.

#### 8) DIAGRAMS

- see ICA PICTORIAL, attached

#### 9) SPECIAL INSPECTIONS

- non required

#### 10) APPLICATION OF PROTECTIVE TREATMENTS

- see maintenance instructions

#### 11) DATA

- fastener torques
 

Isolator to Floating ring (8-32 screws)	25 inch lbs
Isolator to collar (8-32 screws)	25 inch lbs
Lid to collar (10-32 screws)	50-55inch lbs
Camera to floating ring	30-35inch lbs
- fastener types, see ICA PICTORIAL

#### 12) LIST OF SPECIAL TOOLS

- non required

#### 13 FOR COMMUTER AIRCRAFT

- non applicable

#### 14) RECOMMENDED OVERHAUL PERIODS

- no additional overhaul time limitations

#### 15) AIRWORTHINESS LIMITATIONS

- **isolation collar to be installed on aircraft with VNE of 300kts or less**
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- **window of isolation collar will always be positioned towards the tail of the aircraft**

#### 16) REVISIONS

- manufacturer will inform all known recipients of this ICA to any and all revisions
- manufacturer will provide copy of revised ICA to all known recipients
- operator must submit a copy of the revised FAA Form 337 and revised ICA to local FSDO
- upon receipt of accepted revision, a maintenance record entry will be made, identifying the revision, its location and date of the Form 337.

END

DATE		REV		DESCRIPTION		DATE		APPROVED	

LID BOLTS  
MFG: UNBRAKO  
MTL: STAINLESS STEEL  
SIZE: 10-32 (7 X 1 INCH, 2 X 5/8 INCH)

LID

FLOATING RING

FLOATING RING BOLTS  
MFG: UNBRAKO  
MTL: STAINLESS STEEL  
SIZE: 8-32 (12 X 1/2 INCH)

WIRE ISOLATORS

OUTER COLLAR

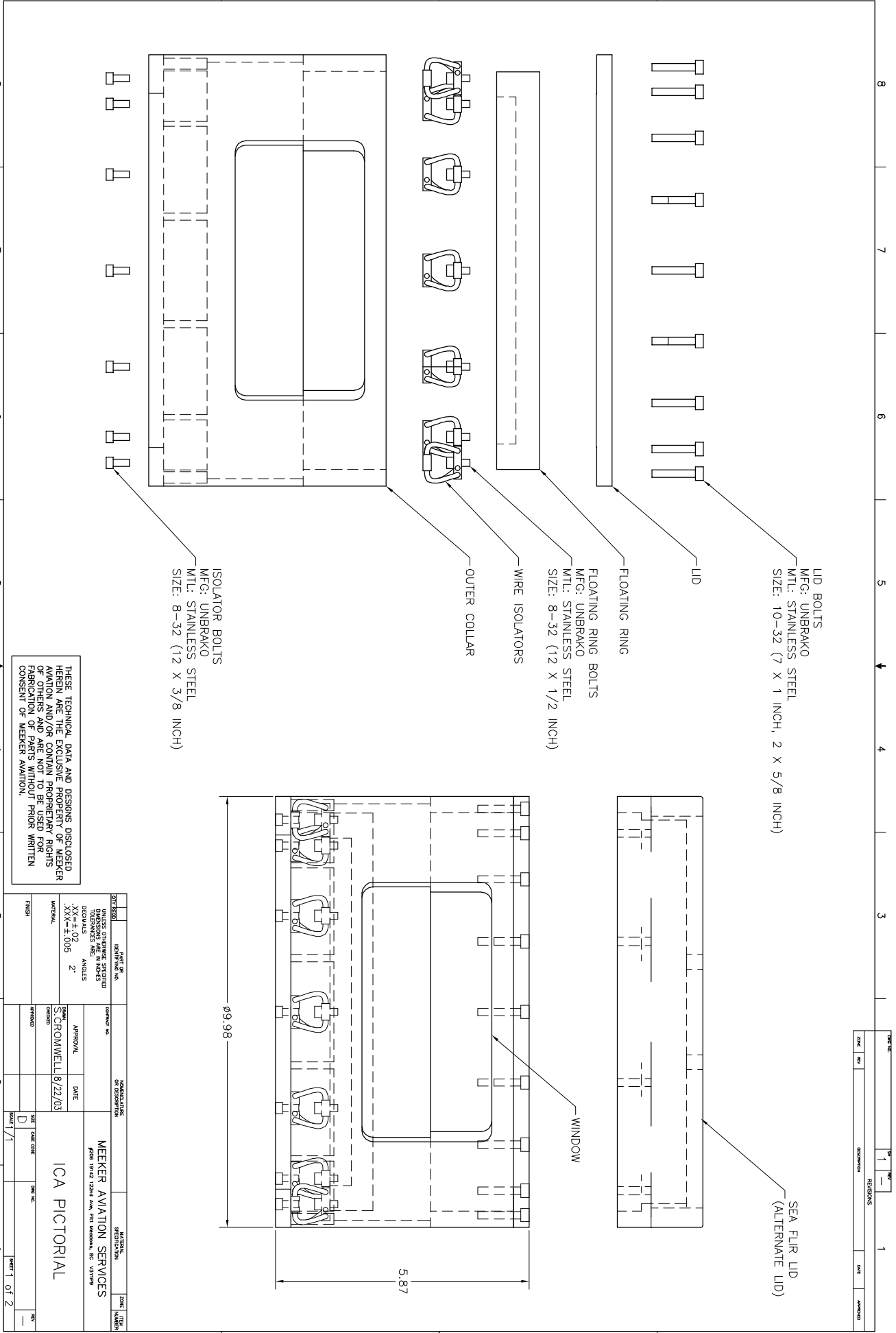
ISOLATOR BOLTS  
MFG: UNBRAKO  
MTL: STAINLESS STEEL  
SIZE: 8-32 (12 X 3/8 INCH)

SEA FLUR LID  
(ALTERNATE LID)

WINDOW

Ø9.98

5.87



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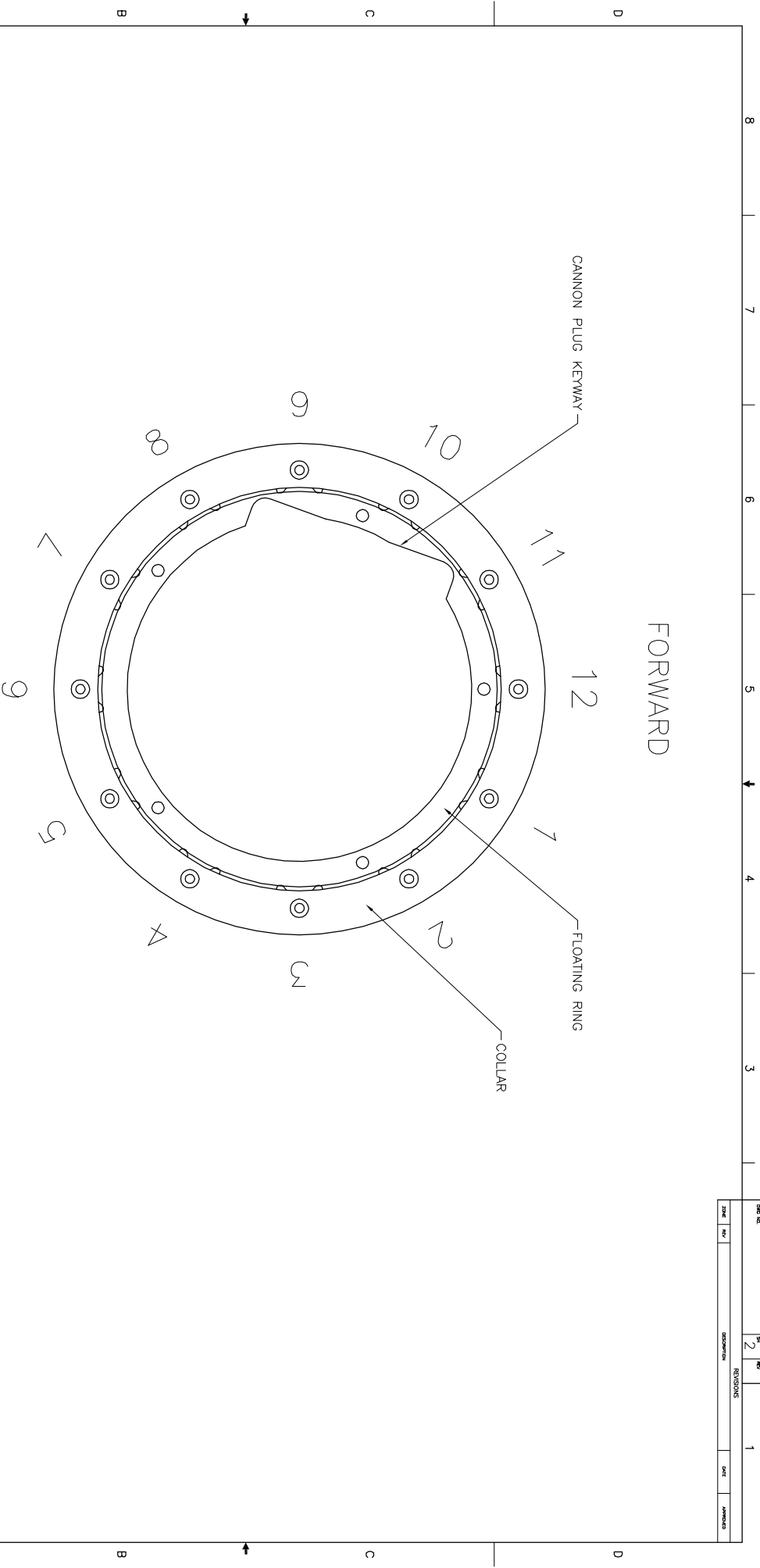
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PART OF IDENTIFYING NO. UNLESS OTHERWISE SPECIFIED TOLERANCES ARE: DECIMALS .005 ANGLES 2° FINISH MATERIAL APPROVAL DATE SIGNATURE REVISION	MANUFACTURE OR DESCRIPTION CONTRACT NO. APPROVAL DATE SIGNATURE REVISION	MATERIAL SPECIFICATION MEEKER AVIATION SERVICES 4001 1942 125th Ave, Pitt Meadows, BC V3Y1P9 ICA PICTORIAL DATE OF THIS DRAWING SHEET NO. SHEET 1 OF 2
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VIEW FROM BOTTOM  
 WINDOW FACES AFT

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 ICA PICTORIAL

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