

## MicroHAWK Optics and Lighting Accessory Kit

### Installation Guide



# MicroHAWK Optics and Lighting Accessory Kit Installation Guide

This guide contains instructions for how to install the optical accessories on a MicroHAWK ID/MV-20, V/F320-F, V/F330-F, V/F420-F and V/F430-F.

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## MicroHAWK Optics and Lighting Accessory List

Type	Description	Kit Part Number
ID/MV-20 Window Kits	Kit, Diffuser, MicroHAWK ID/MV-20	98-9000077-01
	Kit, Polarizer, MicroHAWK ID/MV-20	98-9000062-01
V/F330-F and V/F320-F Window Kits	Kit, Diffuser, MicroHAWK V/F330	V330-AF1
	Kit, Polarizer, MicroHAWK V/F330	V330-AF2
V/F430-F and V/F420-F Window Kits	Kit, Window, V/F4XX	V430-AF0
	Kit, Diffuser, V/F4XX	V430-AF1
	Kit, Polarizer, V/F4XX	V430-AF2
	Kit, YAG Filter, V/F4XX	V430-AF4
	Kit, ESD Window, V/F4XX	V430-AF5
	Kit, Red Filter, V/F4XX	V430-AF6
	Kit, Blue Filter, V/F4XX	V430-AF7
V/F430-F and V/F420-F LED Kits	Kit, Red LED, V/F4XX	V430-ALR
	Kit, White LED, V/F4XX	V430-ALW
	Kit, Blue LED, V/F4XX	V430-ALB
	Kit, IR LED, V/F4XX	V430-ALI
V/F430-F With Ring Light Window Kits	Kit, Window, RING LT, F/V430	V430-AF0R
	Kit, Diffuser, RING LT, F/V430	V430-AF1R
	Kit, Polarizer, RING LT, F/V430	V430-AF2R
V/F430-F With Ring Light LED Kits	Kit, Red LED, RING LT, F/V430	V430-ALRR
	Kit, White LED, RING LT, F/V430	V430-ALWR
	Kit, Blue LED, RING LT, F/V430	V430-ALBR
	Kit, IR LED, RING LT, F/V430	V430-ALIR

## MicroHAWK ID/MV-20 Diffuser and Polarizer Installation

### Diffuser Kit Hardware, MicroHAWK ID/MV-20

Qty	Description	Kit Part Number
1	Kit, Diffuser, MicroHAWK ID/MV-20	98-9000077-01

### Diffuser Kit Installation, MicroHAWK ID-20/MV-20

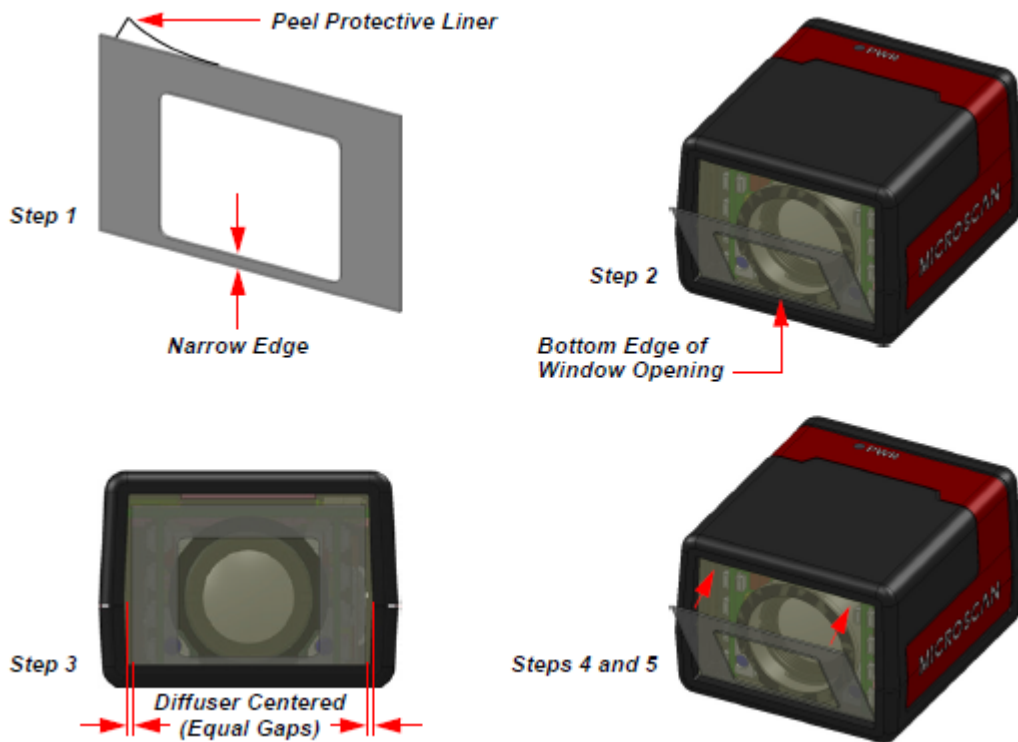
**Step 1:** Peel the protective liner from the adhesive on the diffuser.

**Step 2:** Rest the narrow edge of the diffuser on the bottom edge of the window opening at an angle as shown below.

**Step 3:** Center the diffuser left-to-right in the window opening.

**Step 4:** Affix the diffuser to the window.

**Step 5:** Run your finger over the surface of the diffuser using light pressure to complete the bond.



## Polarizer Kit Hardware, MicroHAWK ID-20/MV-20

Qty	Description	Kit Part Number
1	Kit, Polarizer, MicroHAWK ID/MV-20	98-9000062-01

### Polarizer Kit Installation, MicroHAWK ID-20/MV-20

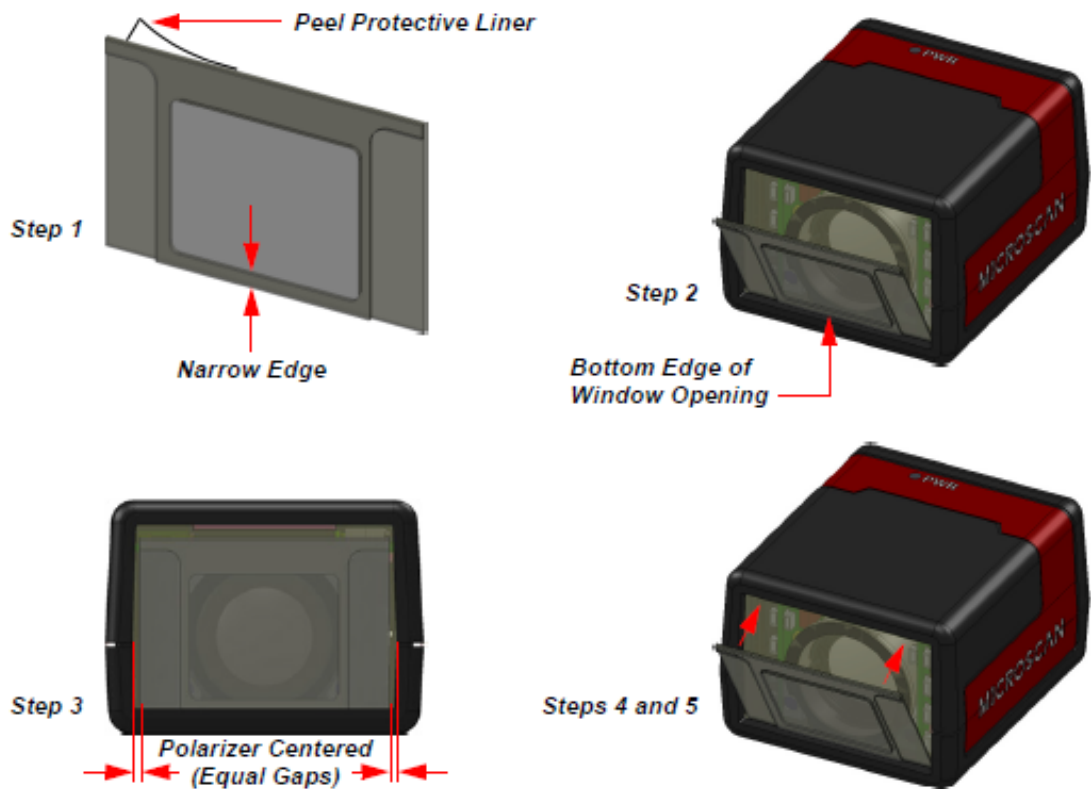
**Step 1:** Peel the protective liner from adhesive on the polarizer.

**Step 2:** Rest the narrow edge of the polarizer on the bottom edge of the window opening at an angle as shown below.

**Step 3:** Center the polarizer left-to-right in the window opening.

**Step 4:** Affix the polarizer to the window.

**Step 5:** Run your finger over the surface of the polarizer using light pressure to complete the bond.



## MicroHAWK V/F320 and V/F330 Diffuser and Polarizer Installation

### Diffuser Kit Hardware, MicroHAWK V/F330 and V/F320

Qty	Description	Kit Part Number
1	Kit, Diffuser, MicroHAWK V/F330	V330-AF1

### Diffuser Kit Installation, MicroHAWK V/F330 and V/F320

**Step 1:** Follow same steps as above for the ID/MV-20

**Note:** Take care to align the Diffuser so that the narrow edge is at bottom, that there is an equal gap laterally, and that the bottom edge is aligned with bottom edge of window.



### Polarizer Kit Hardware, MicroHAWK V/F330-F and V/F320-F

Qty	Description	Kit Part Number
1	Kit, Polarizer, MicroHAWK V/F330	V330-AF2

### Polarizer Kit Installation, MicroHAWK V/F330 and V/F320

**Step 1:** Follow same steps as above for the ID/MV-20

**Note:** Take care to align the Polarizer so that the narrow edge is at bottom, that there is an equal gap laterally, and that the bottom edge is aligned with bottom edge of window.



## MicroHAWK V/F4XX-F Window and LED Kit Installation

### Window Kit Hardware, MicroHAWK V/F430-F and V/F420-F

Qty	Description	Kit Part Number
1	Window, Diffuser, Polarizer or Filter Kits (included)	V430-AF0 (Window) V430-AF1 (Diffuser) V430-AF2 (Polarizer) V430-AF4 (YAG Filter) V430-AF5 (ESD Window) V430-AF6 (Red Filter) V430-AF7 (Blue Filter)
4	0-80 Phillips-Head Screws (included)	
1	Gasket (included)	
1	Phillips Torque Wrench (not included)	N/A

### LED Kit Hardware, MicroHAWK V/F430-F and V/F420-F

Qty	Description	Kit Part Number
1	LED Board Kits (included)	V430-ALR (Red LEDs) V430-ALW (White LEDs) V430-ALB (Blue LEDs) V430-ALI (IR LEDs)
4	0-80 Phillips-Head Screws (included)	
1	Gasket (included)	
1	Phillips Torque Wrench (not included)	N/A
1	Fine-Tip Tweezers (not included)	N/A

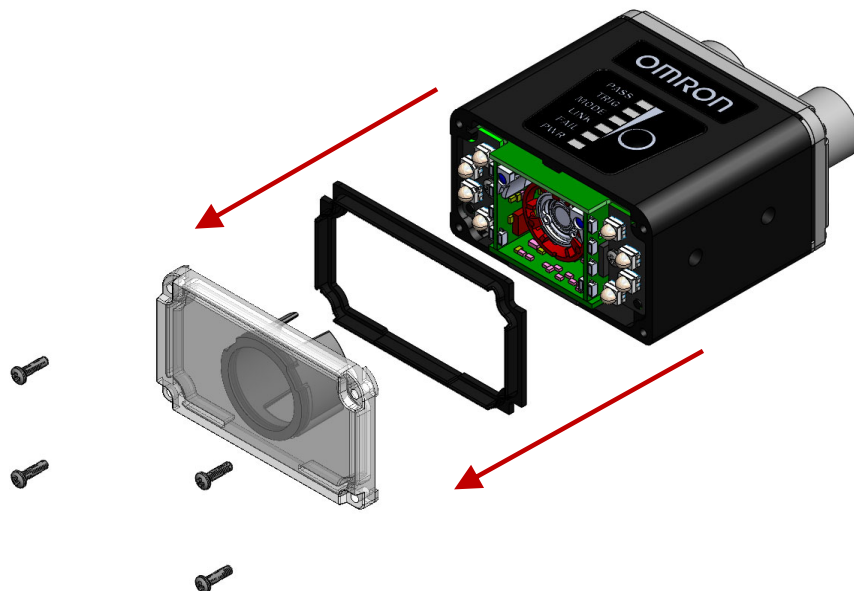
### Window Removal, MicroHAWK V/F4XX-F

**Step 1:** Disconnect power from the camera.

**Step 2:** Remove the four screws from the front window of the camera.

**Step 3:** Remove the front window and gasket.

**Note:** If installing a window accessory only, skip to **Step 8**.



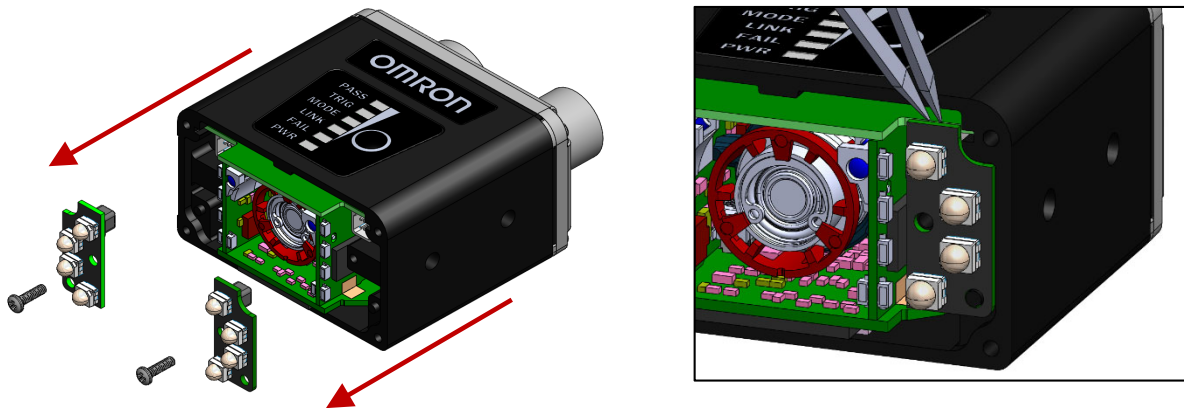
## Outer LED Removal, MicroHAWK V/F4XX-F

**Note:** If installing an LED accessory only, skip to **Step 6**.

**Step 4:** Remove the two screws from the LED boards.

**Step 5:** Unplug the LED boards from the camera.

**Note:** The LED boards have a connector interface. Gently pry the top of each LED board from the main board using fine-tipped tweezers or an equivalent tool. Use caution not to contact the LEDs as they may become damaged.

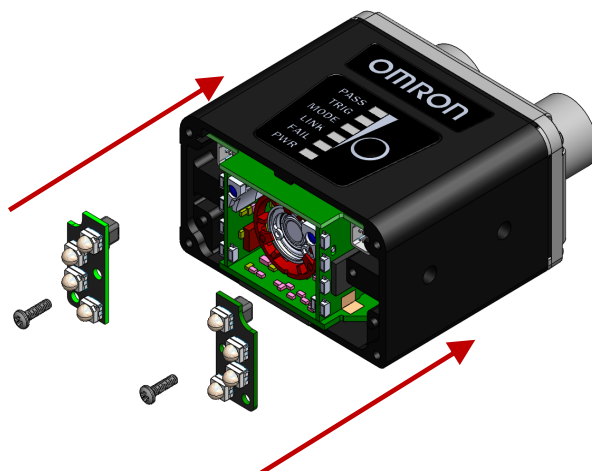


## Outer LED Installation, MicroHAWK V/F4XX-F

**Step 6:** Plug the LED boards into the main board. Use caution not to touch the LEDs, as they may be damaged by contact.

**Step 7:** Secure the LED boards in place using the screws provided. Do not over-tighten the screws.

(1.0 in./lbs. (0.11 nm max.))



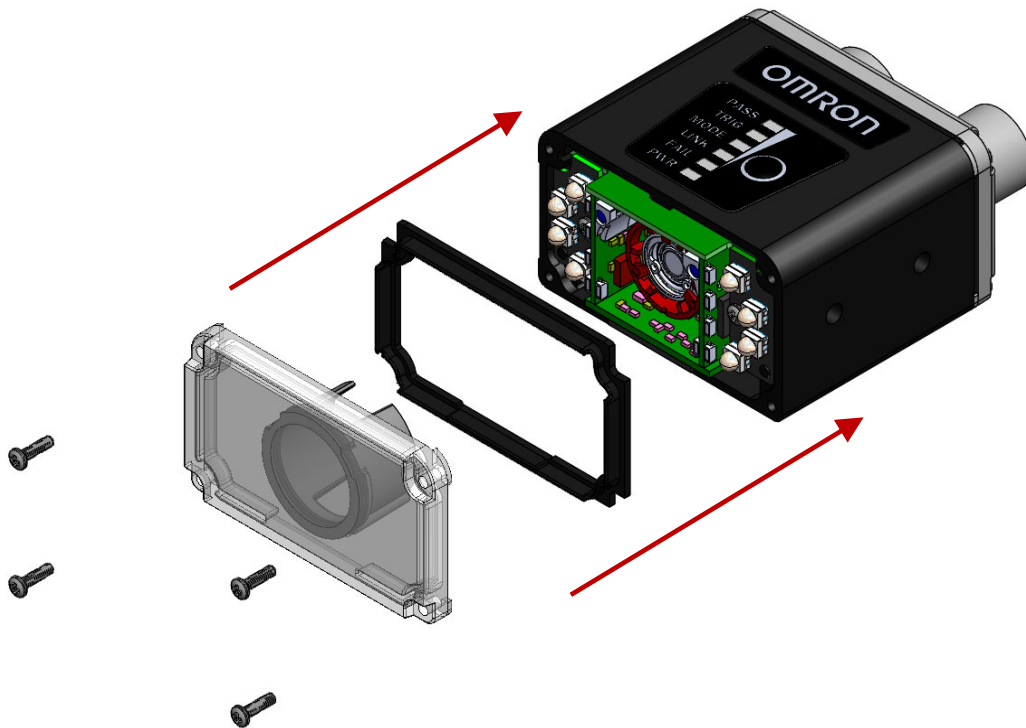
## Window Installation, MicroHAWK V/F4XX-F

**Step 8:** Install the gasket onto the camera. Ensure that the gasket is properly seated in place and is covering all sealing surfaces.

**Step 9:** Install the window (or window accessory) onto the camera.

**Step 10:** Secure the window in place using the screws provided. Do not over-tighten the screws.

(1.0 in./lbs. (0.11 nm max.))





## MicroHAWK V/F430-F with Ring Light Window and LED Installation

### Window Kit Hardware, MicroHAWK V/F430-F with Ring Light

Qty	Description	Part Number
1	Window Assembly (included)	V430-AF0R (Window)
1	Window Gasket (included)	V430-AF1R (Diffuser)
2	#2-56 X 3/8" Phillips Flat Head Screw (included)	
4	#4-40 X 1/4" Phillips Pan Head Screw w/ Lock Washers (included)	
1	Phillips Torque Wrench (not included)	N/A

### LED Kit Hardware, MicroHAWK V/F430-F with Ring Light

Qty	Description	Part Number
1	LED Board Kits (included)	V430-ALR (Red LEDs)
1	Window Gasket (included)	V430-ALW (White LEDs)
2	#2-56 X 3/8" Phillips Flat Head Screw (included)	V430-ALB (Blue LEDs)
4	#4-40 X 1/4" Phillips Pan Head Screw w/ Lock Washers (included)	V430-ALI (IR LEDs)
1	Phillips Torque Wrench (not included)	N/A

### Window Removal, MicroHAWK V/F430-F with Ring Light

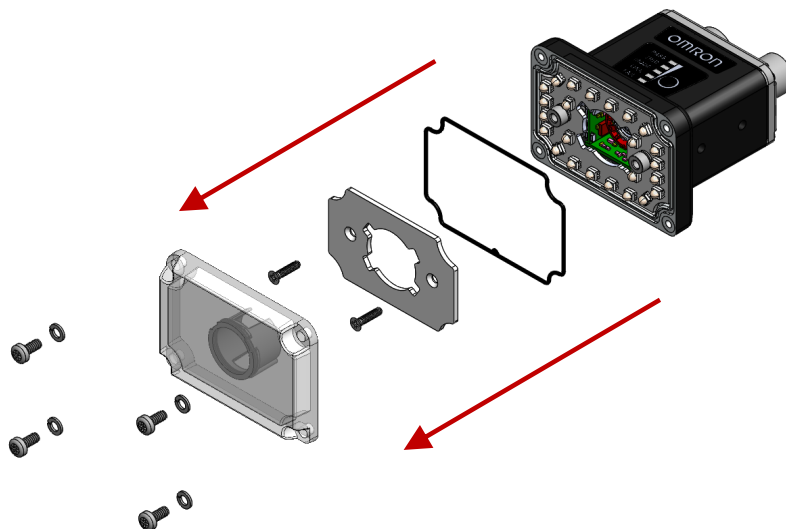
**Step 1:** Disconnect power from the camera.

**Step 2:** Unscrew the four #4-40 pan head screws that secure the window.

**Step 3:** Remove the gasket from around the window frame.

**Step 4:** If not replacing the LED Board, go to step 8. If replacing the LED Board, unscrew the two #2-56 flat head screws that secure the diffuser.

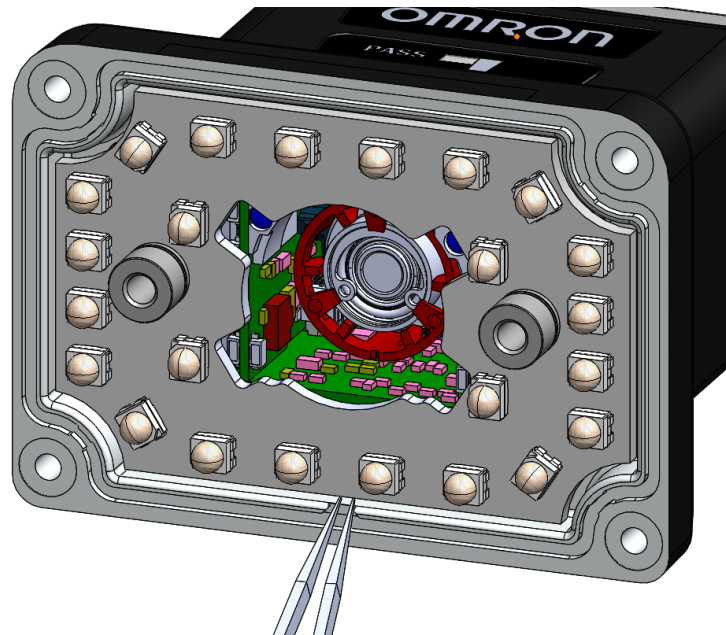
**Note:** Do not touch the electronics or lens, as this may cause damage.



## Outer LED Removal, MicroHAWK V/F430-F Ring Light

**Step 5:** Unplug the LED board from the camera.

**Note:** The LED board has two connectors on the left and right of the camera front face. Gently pry the LED board from the camera using fine-tipped tweezers or an equivalent tool. Use caution not to contact the LEDs as they may become damaged.



## Outer LED Installation, MicroHAWK V/F430-F with Ring Light

**Step 6:** Plug the new LED board into the camera connectors. Use caution not to touch the LEDs, as they may be damaged by contact.

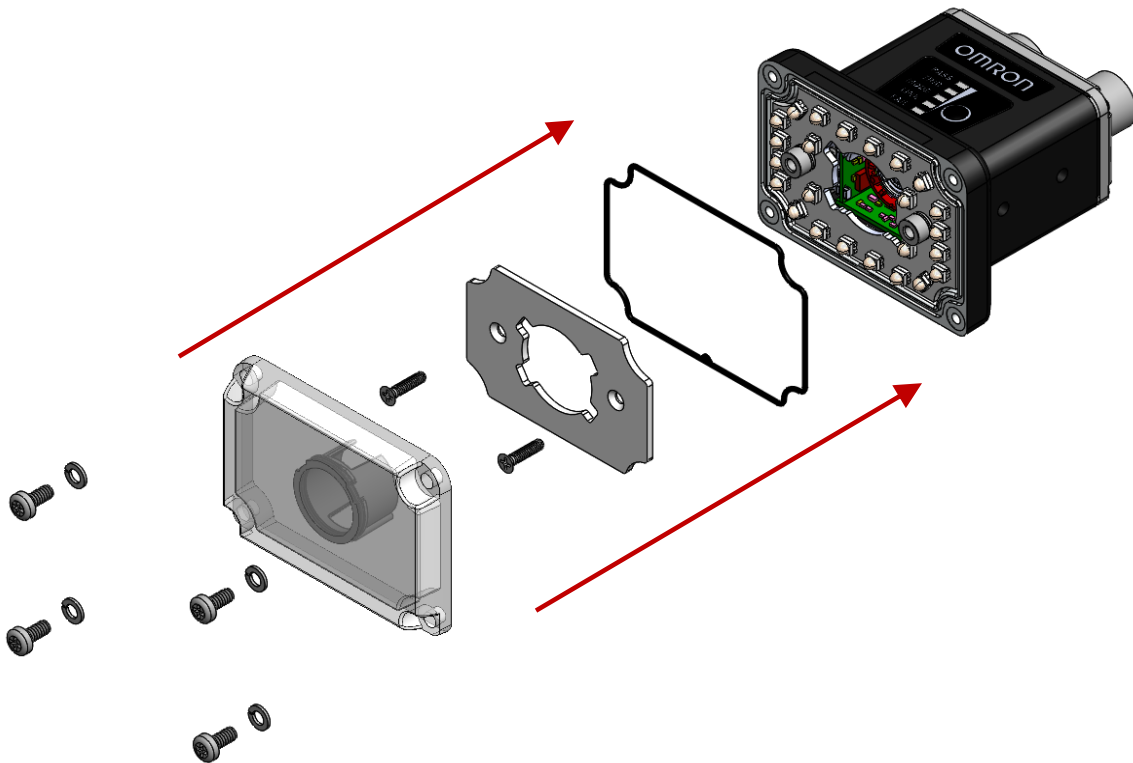
## Window Installation, MicroHAWK V/F430-F with Ring Light

**Step 7:** Reinstall the new #2-56 flat head screws through the diffuser into the camera PEM nuts. Do not overtighten the screws (1.9 in-lbs. (0.21 Nm) max)

**Step 8:** Install the new gasket, ensuring that it is fully constrained within the gasket groove.

**Step 9:** Place the window on the front of the unit and secure with the new #4-40 pan head screws and lock washers. Do not overtighten the screws (2.9 in-lbs. (0.33 Nm) max).

**Step 10:** Inspect the gasket to ensure it did not come out of the groove in the window frame.



## MicroHAWK V/F430-F with Ring Light Polarizer Installation

### Polarizer Kit Hardware, MicroHAWK V/F430-F with Ring Light

Qty	Description	Kit Part Number
1	Window Assembly (included)	V430-AF2R (Polarizer)
1	Window Gasket (included)	
2	#2-56 X 3/8" Phillips Flat Head Screw (included)	
4	#4-40 X 1/4" Phillips Pan Head Screw w/ Lock Washers (included)	
1	Phillips Torque Wrench (not included)	N/A

### Window Removal, MicroHAWK V/F430-F with Ring Light

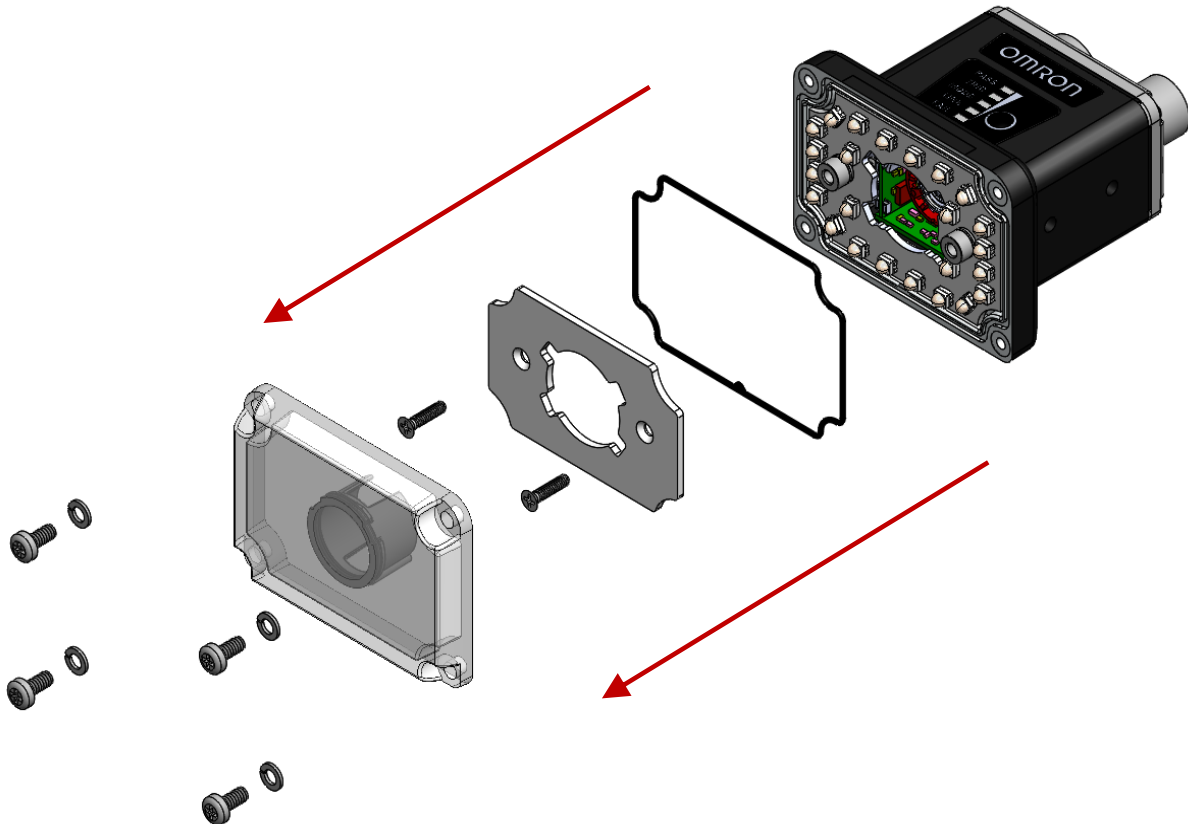
**Step 1:** Disconnect power from the camera.

**Step 2:** Unscrew the four #4-40 pan head screws that secure the window.

**Step 3:** Remove the gasket from around the window frame.

**Step 4:** Remove the two #2-56 flat head screws. Remove and dispose of the diffuser.

**Note:** Do not touch the electronics or lens, as this may cause damage.



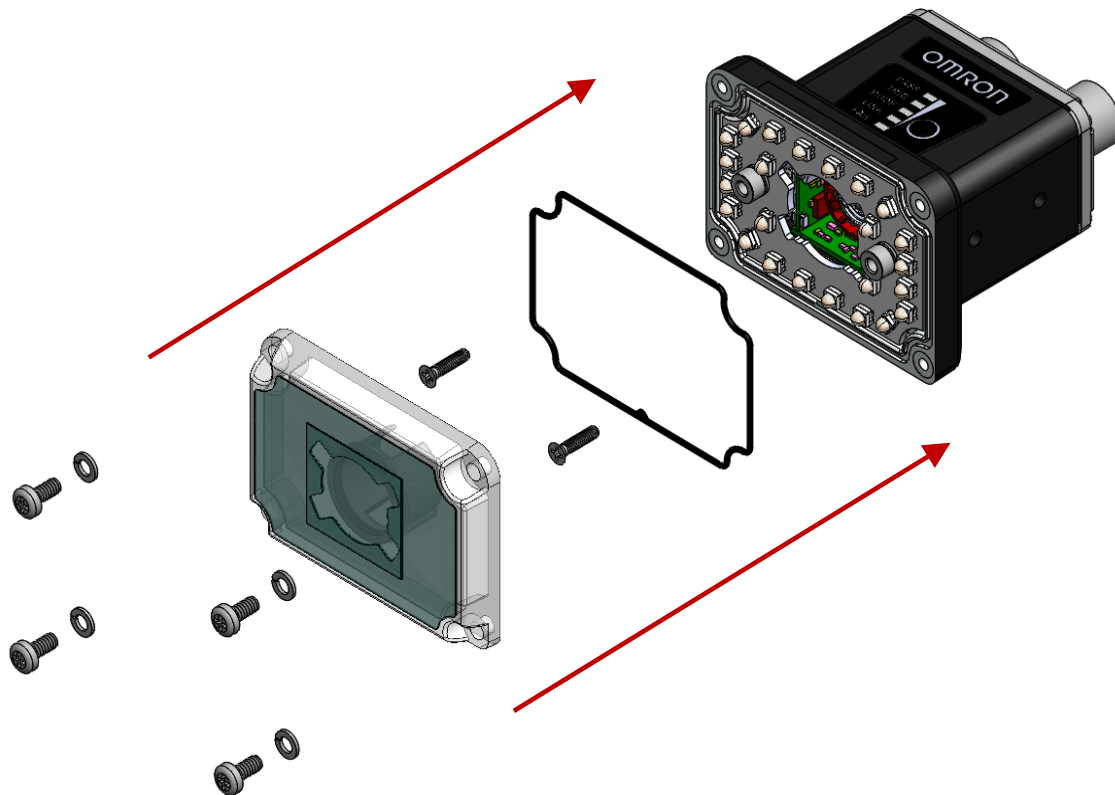
## Polarizer Window Installation, MicroHAWK V/F430-F with Ring Light

**Step 5:** Reinstall the new #2-56 flat head screws in the LED board PEM nuts without replacing the diffuser. Do not overtighten the screws (1.9 in-lbs. (0.21 Nm) max)

**Step 6:** Install the new gasket, ensuring that it is fully constrained within the gasket groove.

**Step 7:** Place the polarizer window on the front of the unit and secure with the new #4-40 pan head screws and lock washers. Do not overtighten the screws (2.9 in-lbs. (0.33 Nm) max).

**Step 8:** Inspect the gasket to ensure it did not come out of the groove in the window frame.



**OMRON AUTOMATION AMERICAS HEADQUARTERS** • Chicago, IL USA • 847.843.7900 • 800.556.6766 • automation.omron.com

**OMRON CANADA, INC. • HEAD OFFICE**

Toronto, ON, Canada • 416.286.6465 • 866.986.6766 • automation.omron.com

**OMRON ELECTRONICS DE MEXICO • HEAD OFFICE**

Ciudad de México • 52.55.5901.4300 • 01.800.386.6766 • mela@omron.com

**OMRON ELECTRONICS DE MEXICO • SALES OFFICE**

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**OMRON ELETRÔNICA DO BRASIL LTDA • HEAD OFFICE**

São Paulo, SP, Brasil • 55.11.2101.6300 • www.omron.com.br

**OMRON ARGENTINA • SALES OFFICE**

Buenos Aires, Argentina • +54.11.4521.8630 • +54.11.4523.8483  
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