

# MIC Series Replacement Wiper

MIC-xxx-RW<sub>Ay</sub>



**BOSCH**

**e** Installation Guide  
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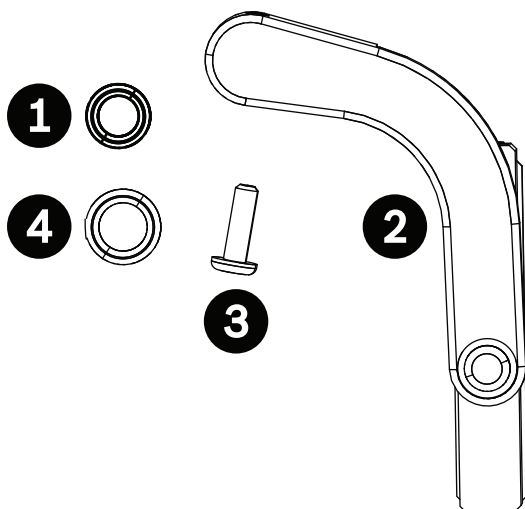
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# 1 MIC Series Cameras - Wiper Replacement

Replacement wiper-arm assemblies are available for MIC series cameras. All replacement wiper-arm assemblies ship with replacement washers, spacers and O-rings as required for the specific unit. These components should always be replaced when replacing the wiper-arm assembly.

**The Replacement Wiper-arm kit (MIC-RWA) is available in the following finishes for the MIC400, MIC412, MIC440, MIC500, MIC550, and MIC612**

MIC-500-RWAB	Replacement wiper-arm assembly for MIC550 and MIC500 – Black anodized
MIC-412 RWAB	Replacement wiper-arm assembly for MIC412 and MIC612 – Black anodized
MIC-412-RWAC	Replacement wiper-arm assembly for MIC412 and MIC612 - Clear anodized
MIC-400-RWAB	Replacement wiper-arm assembly for MIC400 – Black anodized
MIC-400-RWAC	Replacement wiper-arm assembly for MIC400 – Clear anodized
MIC-400 RWAS	Replacement wiper-arm assembly for MIC400 – Stainless Steel
MIC-RWB	Replacement wiper blade for MIC400



**Figure 1.1: Wiper Components**

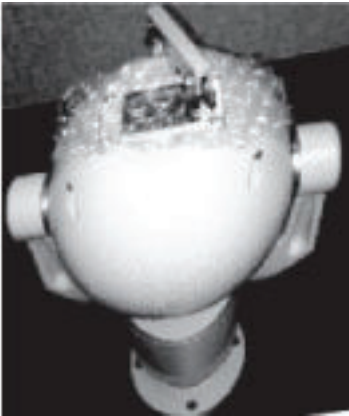
Component	The MIC Replacement Wiper Arm (RWA) may include any or all of the following components:
1	One O-ring (MIC550 and MIC500 only)
2	One replacement wiper-arm with integral blade
3	One wiper-arm retaining screw
4	One or more wiper arm washers (for MIC550, MIC500, and MIC400 only)

## 2 Replacing Wiper Assemblies

### 2.1 Replacing the Wiper-arm assembly (MIC550 and MIC500)

#### Tools Required

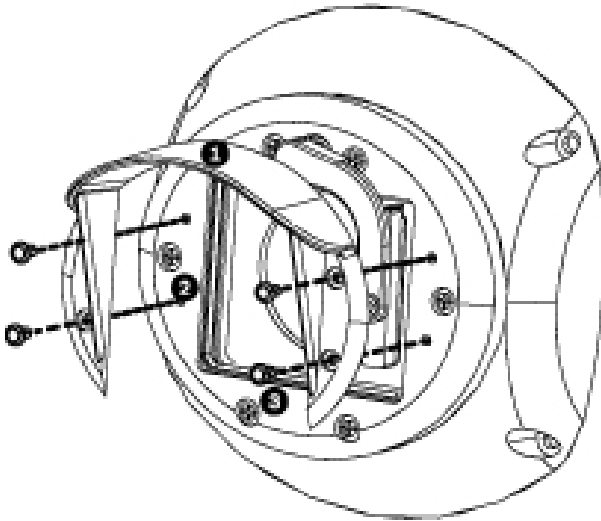
- One T-10 torx
- One 1 mm x 3 mm Phillips screwdriver



**Figure 2.1: Preparing for Installation**

1. Use the control unit to tilt the camera upward to a 45 degree angle (Figure 2.1).
2. Place a piece of protective material over the window glass to prevent accidental damage (Figure 2.1).

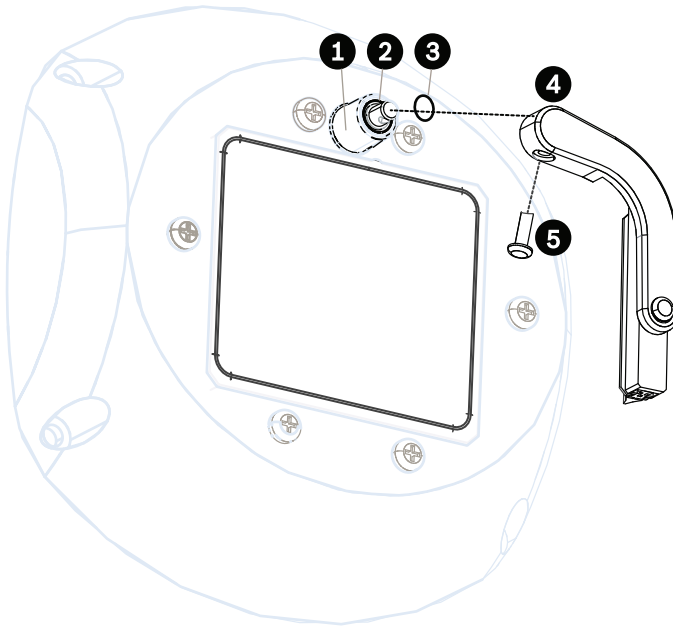
## Remove Sun Shield



**Figure 2.2: Sun Shield**

1. Remove four Phillips screws (Figure 2.2 Item 3) from the sun shield (Figure 2.2, Item 1).
2. Remove sun shield (Figure 2.2, Item 1) from faceplate (Figure 2.2. Item 2) and set aside.

## Replace Wiper-Arm Assembly



**Figure 2.3: Remove and Install Wiper Assembly**



### Notice!

It is important to replace the O-ring and washer when replacing the wiper-arm.

1. Remove the set-screw (Figure 2.3, Item 5) from the wiper-arm (Figure 2.3, Item 4).
2. Remove the wiper-arm (Figure 2.3, Item 4) from the wiper shaft (Figure 2.3, Item 1).
3. Remove the washer (Figure 2.3, Item 3) and O-ring (Figure 2.3, Item 2) from the wiper shaft (Figure 2.3, Item 1) and discard.
4. Install the replacement O-ring (Figure 2.3, Item 2) and replacement washer (Figure 2.3, Item 3) onto the wiper shaft (Figure 2.3, Item 1).



5. Install the replacement wiper-arm (Figure 2.3, Item 4) onto the wiper shaft (Figure 2.3, Item 1).
6. Align the holes on the wiper-arm (Figure 2.3, Item 4) with the holes on the wiper shaft (Figure 2.3, Item 1).
7. Install the set-screw (Figure 2.3, Item 5) into the wiper-arm (Figure 2.3, Item 4) and secure it to the wiper shaft (Figure 2.3, Item 1).
8. Install four Phillips screws (Figure 2.2, Item 3) into the matching holes on the sun shield (Figure 2.2 Item 1) and secure the sun shield to the face plate.

## 2.2 Replacing the Wiper-Arm assembly (MIC612, MIC440, and MIC412)

### Tools Required

- One 1 mm x 3 mm Phillips screwdriver

Use the following procedures to replace the wiper-arm on the MIC612, MIC440, and MIC412.

### Getting Started



**Figure 2.4: Wiper-Arm in Off Position**

1. Place a piece of protective material over the window glass to prevent accidental damage.
2. Ensure that the wiper-arm (Figure 2.3, Item 4) is parked in the “Off” position (Figure 2.4).

## Replacement Procedures



**Figure 2.5: Remove Set Screw**

1. Remove the wiper-arm set screw from the rear of the wiper-arm (Figure 2.5).
2. Remove the wiper-arm from the wiper shaft (Figure 2.6).



**Figure 2.6: Remove Wiper Arm from wiper shaft**

3. Align the hole in the replacement wiper-arm with the hole in the wiper shaft (Figure 2.6).
4. Install the replacement wiper arm (Figure 2.6) onto the wiper shaft (Figure 2.6).
5. Insert the wiper retaining screw through the holes in the wiper arm assembly and wiper shaft and secure (Figure 2.5).

## 2.3 Replacing the Wiper-Arm assembly (MIC400)

### Tools required:

- One 1 mm x 3 mm hex key
- One 1 mm x 3 mm Phillips screwdriver
- One pair of long tweezers
- One 1 x 100g tube of Dow Corning DC4 electrical compound



### Notice!

Because the MIC400 wiper shaft has no internal restraint, it is possible for the wiper shaft to fall into the MIC lid/housing. Use a small hex key, screwdriver, or other tool to hold the shaft in place as illustrated in the following procedures. If the shaft falls into the MIC lid/housing, the upper shell must be removed to retrieve the shaft. Care must be taken when removing and replacing the upper shell to prevent moisture from entering the unit. Use the following procedures to replace the wiper-arm assembly on the MIC400.

### Getting Started



**Figure 2.7: Preparing for Installation**

1. Place a piece of protective material over the window glass to prevent accidental damage (Figure 2.7).

2. Ensure that the wiper-arm is parked in the “Off” position (Figure 2.7).

### Replacement Procedures



**Figure 2.8: Remove Retaining Screw**

1. Remove the wiper-arm retaining screw at the back of the wiper-arm (Figure 2.8).



**Figure 2.9: Remove wiper-arm from wiper shaft**

2. Remove the wiper- from the wiper shaft (Figure 2.9).



**Figure 2.10: Replace 3 washers on shaft**

3. Remove the three washers (Figure 2.10) from the wiper shaft (Figure 2.10) and discard.
4. Install the three replacement washers (Figure 2.10) onto the wiper shaft (Figure 2.10) using a small hex key or screwdriver (Figure 2.10) to prevent the wiper shaft from sliding inside the lid/housing.
5. Apply a small amount of electrical compound onto the end of the wiper shaft.



**Figure 2.11: Replace Wiper Arm**

6. Install the replacement wiper arm (Figure 2.11) onto the wiper shaft (Figure 2.11) while keeping the wiper shaft fully extended (Figure 2.11), using tweezers (Figure 2.11) as necessary for this step.
7. Ensure proper alignment between the holes in the wiper-arm (Figure 2.11) and the wiper shaft (Figure 2.11) by using the hex key (Figure 2.10) and/or tweezers (Figure 2.11).
8. Install the wiper-arm retaining screw (Figure 2.8) through the holes in the wiper-arm and the wiper shaft (Figure 2.10). Tighten securely.
9. Test the wiper-arm assembly operation to ensure that the wiper cleans correctly.

### 3 Replacing wiper blade (MIC400 Only)

It is possible to replace only the wiper blade on the MIC400.

#### Tools required:

- One 5 mm nut driver
- One 1 mm x 3 mm Phillips screwdriver

#### Getting Started

Follow the steps below to replace the wiper blade:



**Figure 3.1: Getting Started**

1. Place a piece of protective material (Figure 3.1) over the window glass to prevent accidental damage.
2. Ensure that the wiper-arm is parked in the “Off” position (Figure 3.1).

#### Replacing Wiper Blade



**Figure 3.2: Replace Wiper Blade**

1. Use the nut driver and Phillips screwdriver to remove the retaining nut (Figure 3.2) from the retaining screw (Figure 3.2).
2. Remove and discard old wiper blade (Figure 3.2)

3. Line up the hole in the replacement wiper blade with the holes in the wiper arm.
4. Reinsert the long screw, fit the nut, and then tighten the screw until it is fully secure.
5. Test the wiper-arm assembly operation to ensure that the wiper cleans correctly.









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