

**WW57 Series
Window Wiper Kit
for EH5700 Series
and EH5700L Legacy®
Series Enclosures**

**Installation/
Operation Manual**

C1432M-E (7/09)

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IMPORTANT SAFEGUARDS AND WARNINGS

Prior to installation and use of this product, the following WARNINGS should be observed.

1. Installation and servicing should only be done by qualified service personnel and conform to all local codes.
2. Unless the unit is specifically marked as a NEMA Type 3, 3R, 3S, 4, 4X, 6, or 6P enclosure, it is designed for indoor use only and it must not be installed where exposed to rain and moisture.
3. Only use replacement parts recommended by Pelco.

The product and/or manual may bear the following marks:



This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.



This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

CAUTION:
RISK OF ELECTRIC SHOCK. DO NOT OPEN.

Please thoroughly familiarize yourself with the information in this manual prior to installation and operation.

DESCRIPTION

Window wiper kits in the WW57 Series are for installation in the EH5700 Series and EH5700L Legacy® Series environmental enclosures.

MODELS

WW5723-1	Window wiper kit for EH5723/EH5723L, 120 VAC, 15 watts
WW5723-2	Window wiper kit for EH5723/EH5723L, 24 VAC, 15 watts (CE)
WW5723-3	Window wiper kit for EH5723/EH5723L, 230 VAC, 15 watts (CE)
WW5729-1	Window wiper kit for EH5729/EH5729L, 120 VAC, 15 watts
WW5729-2	Window wiper kit for EH5729/EH5729L, 24 VAC, 15 watts (CE)
WW5729-3	Window wiper kit for EH5729/EH5729L, 230 VAC, 15 watts (CE)

INSTALLATION

Window wiper kits in the WW57 Series are designed to operate with an AC voltage to turn on the wiper. However, the kits must be modified to use +5 to +10 VDC to turn on the wiper when the kits are used with Pelco's receivers.

If you are going to use a Pelco receiver, proceed to the *Window Wiper Kit Modification* section.

If you are going to use equipment that provides AC power to control the wiper, proceed to the *Window Wiper Kit Installation* section.

WINDOW WIPER KIT MODIFICATION

Modify your wiper kit if it is to be operated from any of the following Pelco receivers:

CX9000 Series
WX8000 Series
LRD41 Series
ERD97P21-U with the ERD97P-AUX option board

This modification only changes the voltage that is required to turn on the wiper. The wiper motor still requires AC voltage (refer to Figure 1).

To modify a kit:

1. Remove the circuit board cover from the wiper motor/control assembly and remove the circuit board (PCB9000275 Rev. E). Refer to Figure 10 for parts locations.

Refer to Figure 2 for steps 2 through 5.

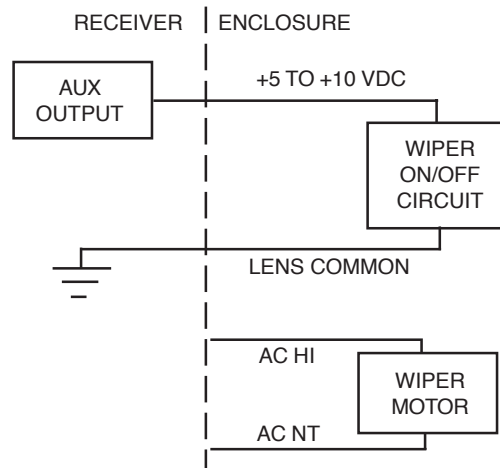


Figure 1. Wiper Modification

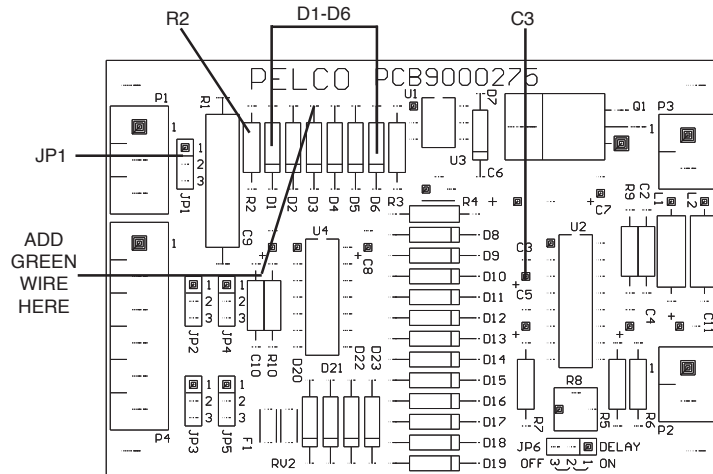


Figure 2. Wiper Circuit Board Component Locations

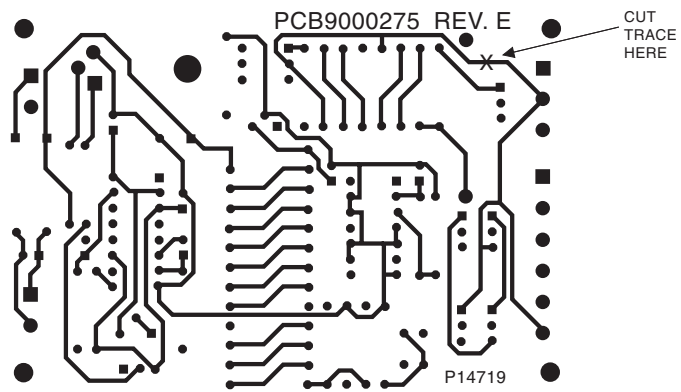


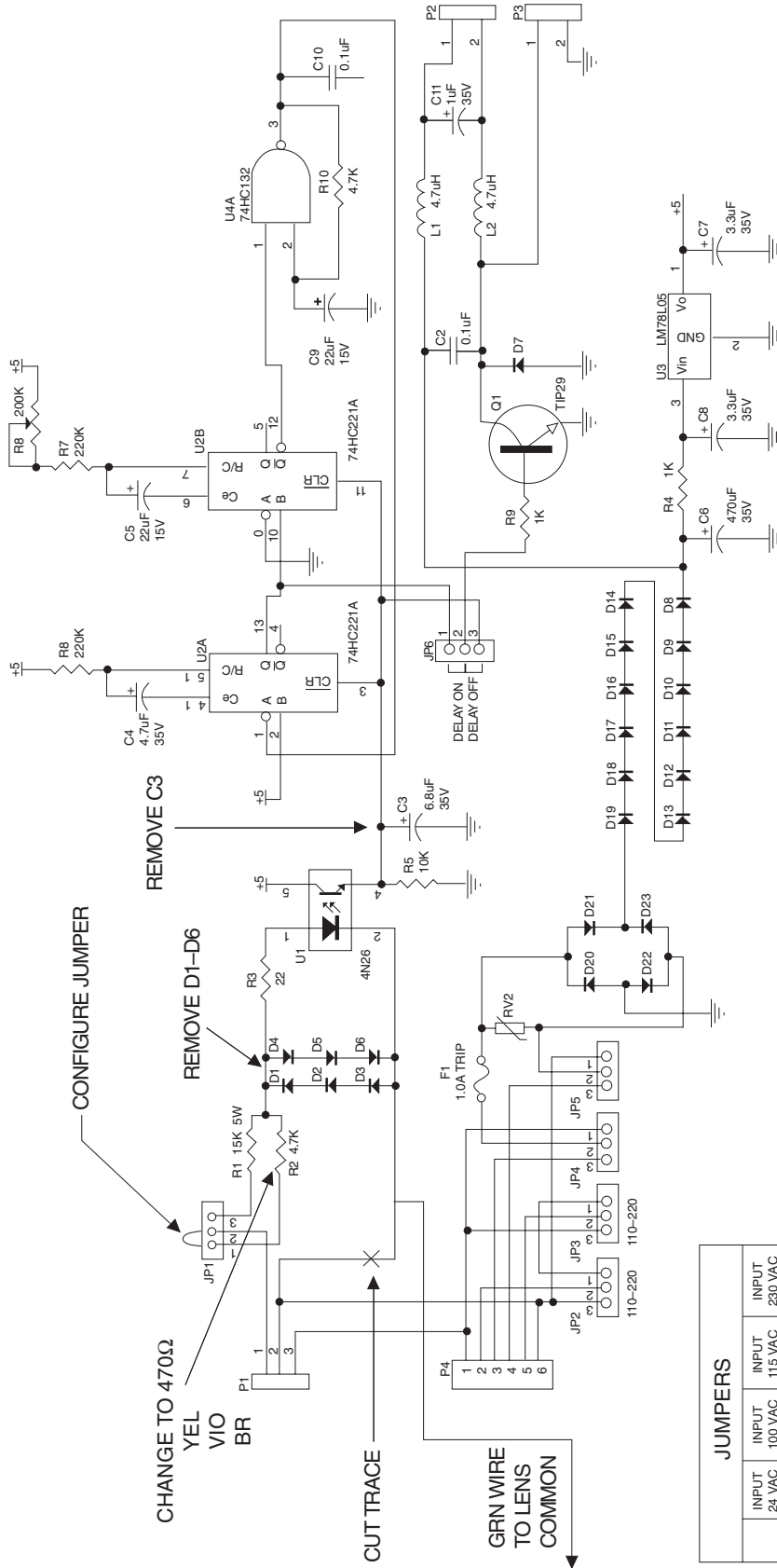
Figure 3. Circuit Side of Wiper Board

2. Remove diodes D1 through D6.
3. Replace resistor R2 with a 1/4-watt 470-ohm resistor.
4. Remove capacitor C3.
5. Connect an 18-inch (45.72 cm) length of 22-gauge green wire to the hole in the circuit board for the anode of D3.
6. Turn the circuit board over and cut the trace as shown in Figure 3.

Figure 4 shows schematically the changes that were made in steps 2 through 7.

7. Reinstall the circuit board in the wiper motor/control assembly and reconnect the wiring (refer to Figure 7).

Proceed to the *Window Wiper Kit Installation* section.



JUMPERS				
	INPUT	INPUT	INPUT	INPUT
	24 VAC	100 VAC	115 VAC	230 VAC
JP2	1-2	2-3	2-3	1-2
JP3	1-2	2-3	2-3	1-2
JP4	1-2	2-3	2-3	2-3
JP5	1-2	2-3	2-3	2-3

DELAY ON DELAY OFF	
JP6	1-2 2-3

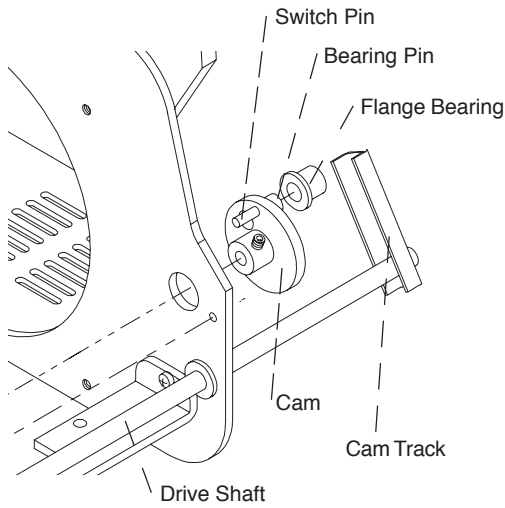
Figure 4. Wiper Driver Schematic

WINDOW WIPER KIT INSTALLATION

For the following instructions, refer to Figure 10, if necessary. Table B lists the parts shown in Figure 10.

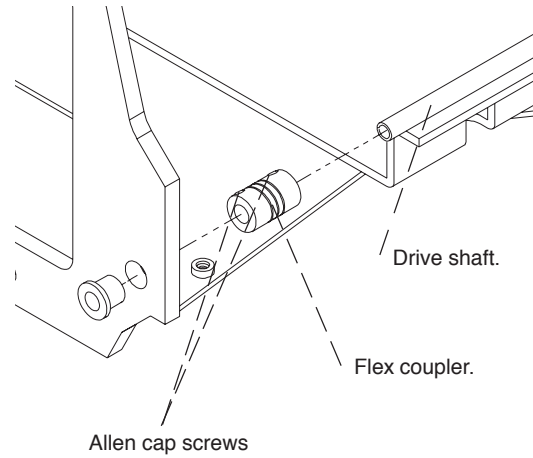
1. Turn off power to the enclosure.
2. Unlatch and raise the enclosure lid. The gas spring will hold the lid in place when it is fully opened.
3. Remove the camera and sled.
4. **EH5723/EH5723L and EH5729/EH5729L Models Only:** Remove the vent grill inside the enclosure at the rear of the unit.
5. **EH5723-1, -2, -3, EH5723L-1, -2, -3, EH5729-1, -2, -3, and EH5729L-1, -2, -3 Models Only:**
 - a. Unplug the electrical connector on the fan.
 - b. Remove the three screws that secure the fan plate and fan to the enclosure.
 - c. Remove the fan plate and fan.
 - d. Remove the fan from the fan plate.
 - e. Attach the fan to the fan plate of the window wiper assembly in the same orientation that it was attached to the original fan plate.
6. Refer to Figure 5 and insert the wiper shaft into the green bushing on the fan plate of the wiper motor/control assembly.
7. Insert the motor/control assembly into the enclosure and attach the assembly to the enclosure with the hardware that is supplied:
 - a. Slip the blue, white, and black wiper wires into the slot at the bottom of the fan plate so that the white plug is on the opposite side of the fan plate from the wiper circuit board housing.
 - b. On all models except the EH5723 and EH5729, remove the screws on the sides of the circuit board in the enclosure so that the circuit board can be moved out of the way to install the wiper motor/control assembly.
 - c. Place the assembly into the enclosure with the wiper circuit board housing facing toward the rear of the enclosure and the fan plate against the camera sled track.
 - d. Hook the rear of the circuit board mounting over the screw installed at the top of the enclosure's rear panel. Secure the circuit board mounting to the enclosure with the acorn nut.
 - e. Attach the bottom right and bottom left sides of the fan plate to the camera sled track with screws and lock washers.
 - f. On all models except the EH5723 and EH5729, reinstall the circuit board.
8. Reconnect the electrical connector to the fan.
9. Remove the latch on the side of the enclosure where the wiper shaft is located.
10. Slide the support bracket onto the wiper shaft. Using the longer screws supplied in the wiper kit, attach the latch and support bracket to the enclosure.
11. Slide the flange bearing over the bearing pin as shown in Figure 5, and slide the cam track over the flange bearing. Only the tautness of the drive shaft holds the flange bearing in place.
12. Refer to Figure 6 and slip the flex coupler over the drive shaft.
13. Remove the hole plug from the wiper shaft hole in the front of the enclosure.
14. From the outside of the enclosure, install the green bushing into the wiper shaft hole.

Slide the flange bearing over the bearing pin.



Slide the drive arm forward until the bearing pin sets inside the cam track of the drive shaft. Only the tautness of the drive shaft assembly holds the flange bearing in place.

Figure 5. Wiper Drive Shaft Installation



After joining the drive shaft and the drive arm on the wiper assembly with the use of the flex coupler, secure the drive assembly by tightening the Allen cap screws in the coupler.

Figure 6. Wiper Shaft/Wiper Assembly Connector

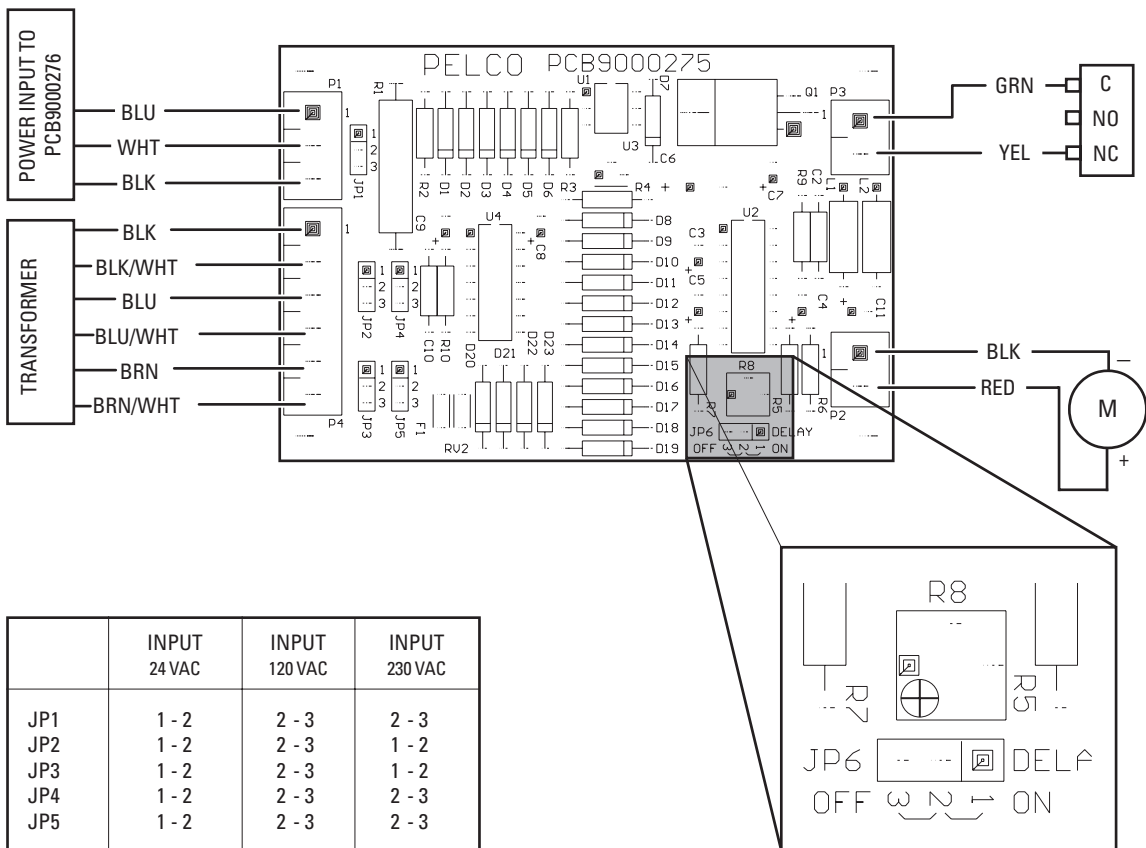


Figure 7. Wiper Circuit Board Component Locations

15. Remove the two screws on the bottom of the enclosure under the window and install the wiper assembly with two Allen cap screws that are supplied in the parts bag. Make sure the shaft of the wiper arm goes through the green bushing on the front of the enclosure.
16. Looking at the front of the enclosure from the outside, position the wiper blade so that it is on the right side of the window as you look at it.
17. Slide the flex coupler over the wiper arm shaft and tighten the two screws in the coupler to secure it to the drive shaft and the wiper arm shaft.
18. Remove the cover over the circuit board on the wiper motor/control assembly.
19. Refer to Figure 7 and set either of the following two options:
 - The time between wiper strokes can be adjusted between 3 and 10 seconds by rotating the potentiometer R8. Turn the adjustment clockwise to increase the time. The potentiometer only makes one revolution.
 - The wiper can be set to operate continuously by placing the delay jumper at JP6 in the OFF position.
20. Verify that jumpers JP1 through JP5 are set for the correct input voltage.

If you modified the circuit board, place JPI in the 1–2 position. This will route the DC voltage from the receiver to the on/off circuit of the wiper. Never place the jumper in the 2–3 position or the wiper will not work.

21. Replace the cover over the circuit board on the wiper motor/control assembly.
22. If you modified the circuit board, connect the green wire from the anode of D3 to one of the following options:
 - If your enclosure has the O/I-PCB circuit board, connect the wire to the LENS COM connector (refer to Figure 8).
 - If your enclosure does not have the circuit board, connect the wire to the LENS COM connector on your pan/tilt unit or receiver.
23. **EH5723 and EH5729 Models Only:** Wire the wiper assembly to power as follows:

Black wire	AC HI
White wire	AC NT
Blue wire	Wiper on/off control

If you modified the circuit board, wire the wiper on/off control to an auxiliary output on the receiver.

All window wiper assemblies use 15 watts of power. If you are using 24 VAC, refer to Table A to determine the size of wire to use.

24. **All Models Except the EH5723 and EH5729:** Wire the wiper assembly to power as follows:
 - a. Remove the plastic cover from the power supply section of the circuit board in front of the fan plate.
 - b. Connect the plug from the wiper assembly into the W/W socket on the circuit board.
 - c. Wire the wiper on/off control.

If you modified the circuit board, wire the wiper on/off control to an auxiliary output on the receiver.



WARNING: If you use an AC control, AC high to turn on the wiper must come from the same circuit that provides power to the wiper. The wiper and the on/off control share the same AC neutral (refer to Figure 9). This will prevent damage to the wiper.

If you are installing the wiper kit in a Legacy enclosure, power for the wiper is supplied through the 37-pin connector on the pan/tilt unit as follows:

AC High	Pin 15
AC Neutral	Pin 16
Wiper On/Off Control	Pin 25

If you are installing the wiper kit in a non-Legacy unit, power for the wiper is supplied as follows (refer to Figure 8 on page 11):

AC High	Pin 1 of TB2 on the O/I-PCB circuit board
AC Neutral	Pin 2 of TB2 on the O/I-PCB circuit board
Wiper On/Off Control	Pin 1 of TB3 on the O/I-PCB circuit board

Pins 15 and 16 on Legacy enclosures and pins 1 and 2 of TB2 on non-Legacy enclosures also provide power for other enclosure accessories, such as the fan and heaters. Make sure that this wiring can handle the additional power for the wiper. All window wiper assemblies use 15 watts of power.

- d. Replace the plastic cover over the power supply on the circuit board.
25. Reinstall the camera and sled.
26. Close the enclosure lid.
27. Turn on power to the enclosure.

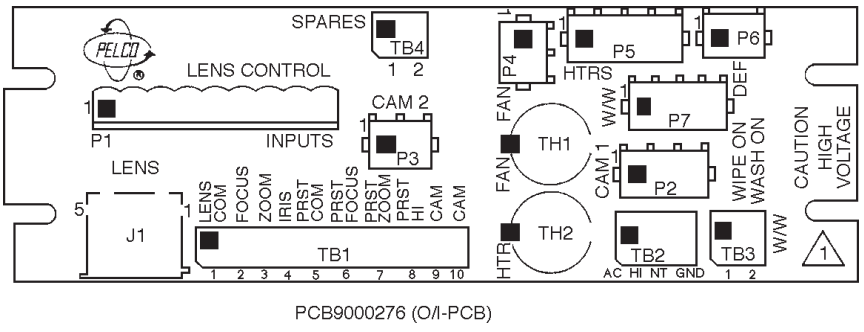


Figure 8. Component Locations for Optional Circuit Board (O/I-PCB)

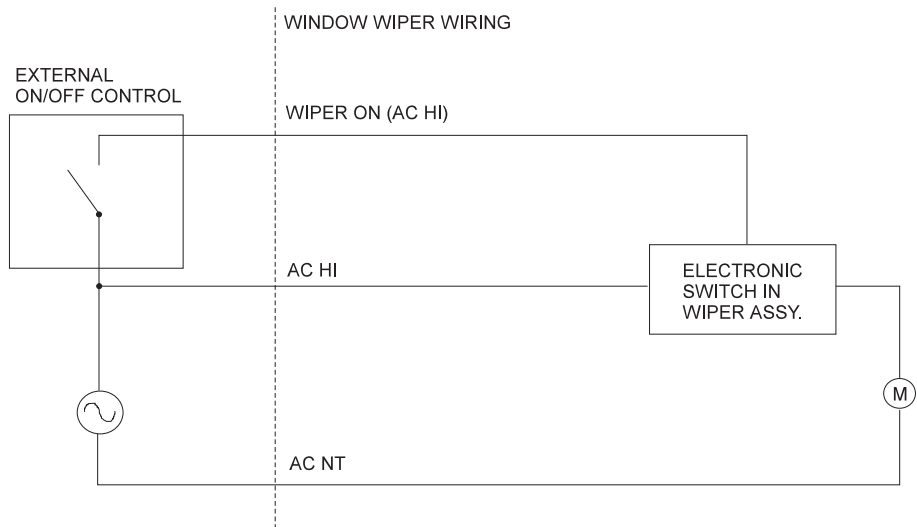


Figure 9. Wiper On/Off Connection

Refer to Table A for the recommended maximum distances for 24 VAC applications, which are calculated with a 10-percent voltage drop. (Ten percent is generally the maximum allowable voltage drop for AC-powered devices.)

EXAMPLE: An enclosure that requires 80 vA and is installed 35 feet (10 m) from the transformer would require a minimum wire gauge of 20 AWG.

NOTE: Distances are calculated in feet; values in parentheses are meters.

Table A. 24 VAC Wiring Distances

		Wire Gauge					
		20	18	16	14	12	10
Total vA consumed	10	283 (86)	451 (137)	716 (218)	1142 (348)	1811 (551)	2880 (877)
	20	141 (42)	225 (68)	358 (109)	571 (174)	905 (275)	1440 (438)
	30	94 (28)	150 (45)	238 (72)	380 (115)	603 (183)	960 (292)
	40	70 (21)	112 (34)	179 (54)	285 (86)	452 (137)	720 (219)
	50	56 (17)	90 (27)	143 (43)	228 (69)	362 (110)	576 (175)
	60	47 (14)	75 (22)	119 (36)	190 (57)	301 (91)	480 (146)
	70	40 (12)	64 (19)	102 (31)	163 (49)	258 (78)	411 (125)
	80	35 (10)	56 (17)	89 (27)	142 (43)	226 (68)	360 (109)
	90	31 (9)	50 (15)	79 (24)	126 (38)	201 (61)	320 (97)
	100	28 (8)	45 (13)	71 (21)	114 (34)	181 (55)	288 (87)
	110	25 (7)	41 (12)	65 (19)	103 (31)	164 (49)	261 (79)
	120	23 (7)	37 (11)	59 (17)	95 (28)	150 (45)	240 (73)
	130	21 (6)	34 (10)	55 (16)	87 (26)	139 (42)	221 (67)
	140	20 (6)	32 (9)	51 (15)	81 (24)	129 (39)	205 (62)
	150	18 (5)	30 (9)	47 (14)	76 (23)	120 (36)	192 (58)
	160	17 (5)	28 (8)	44 (13)	71 (21)	113 (34)	180 (54)
	170	16 (4)	26 (7)	42 (12)	67 (20)	106 (32)	169 (51)
	180	15 (4)	25 (7)	39 (11)	63 (19)	100 (30)	160 (48)
	190	14 (4)	23 (7)	37 (11)	60 (18)	95 (28)	151 (46)
	200	14 (4)	22 (6)	35 (10)	57 (17)	90 (27)	144 (43)

Maximum distance from transformer to load

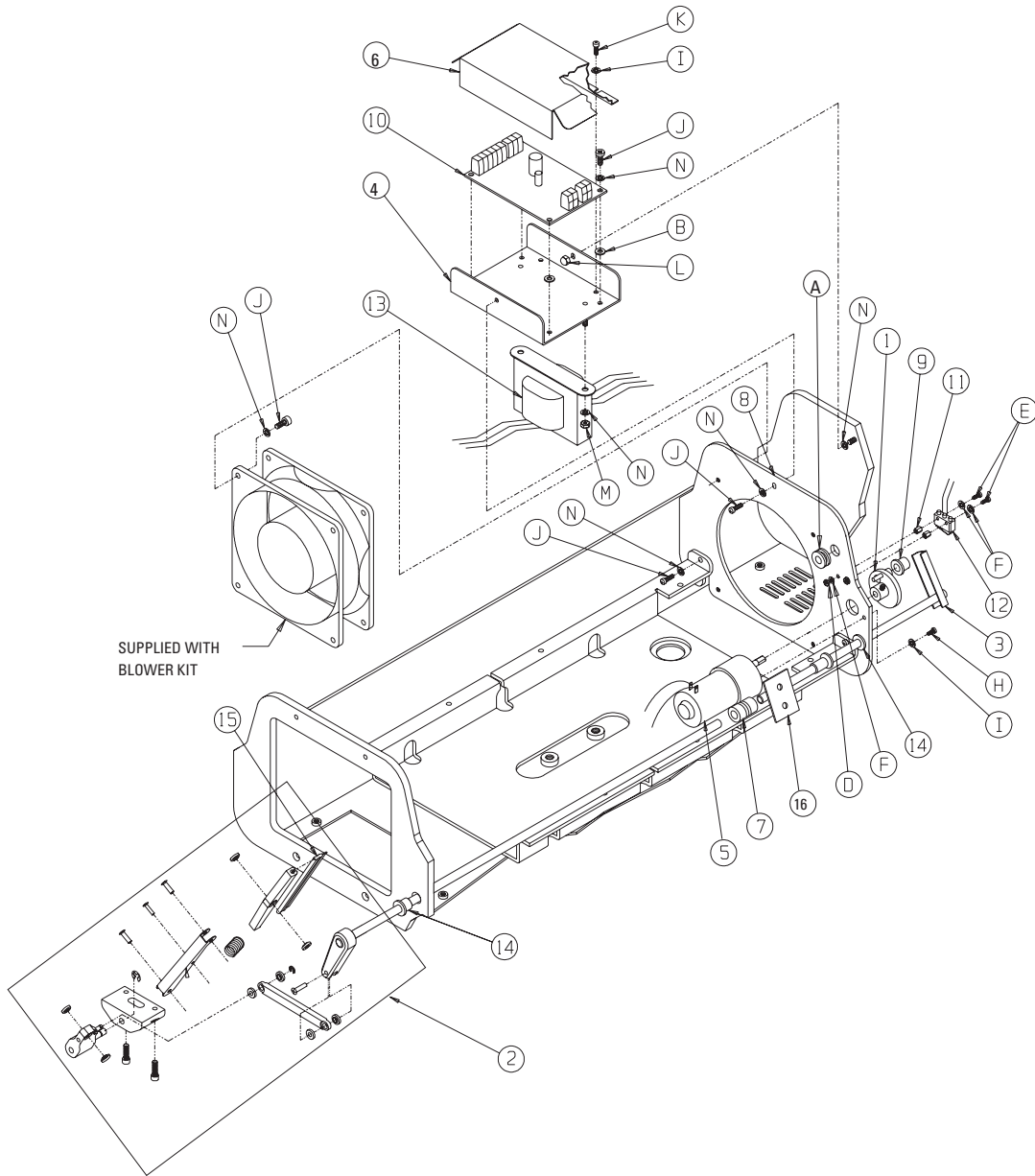


Figure 10. Exploded Assembly Diagram for Window Wiper

Table B. Exploded Assembly Parts List for Window Wiper

Item	Qty	Description	Part Number
1	1	Cam Assembly	WW57001000ASSY
2	1	Wiper Arm Assembly	MF00-5701-016
3	1	Wiper Shaft (EH5729 Series)	MF00-5701-015
	1	Wiper Shaft (EH5723 Series)	MF00-5701-029
4	1	Wiper Driver Circuit Board Mount	WW57004013COMP
5	1	Wiper Motor	570010012
6	1	Wiper Driver Circuit Board Cover	WW57004014COMP
7	1	Flex Coupling	570010014
8	1	Fan Plate	MF00-5701-010
9	1	Bronze Bearing Flange	776003
10	1	Wiper Driver Circuit Board	PCB9000275ASSY
11	2	5/32 Hex 3/16 x 2-56 Standoff	SPA8300
12	1	Switch Actuator	SWIJS221
	1	Switch	SWI1SM1
13	1	Transformer (-1, -3 models)	TRF21240.70.7CM
14	2	Teflon Bearing Flange	WW550010001
15	3	Wiper Blade (by the inch)	WW570010050
16	1	Support Bracket	MF01-5700-028
17	1	Switch Shield (not shown)	MF01-5700-033
A	1	Grommet	GRO2170
B	8	Nylon Washer #6	ZH131X361X62N
D	2	Hex Nut, 2-56	ZH2-56NUTSH
E	2	Screw, 2-56 x 3/4-inch, Pan Head, Phillips	ZH2-56X.750SPS
F	4	Internal Tooth Lock Washer, #2	ZH2LWSIS
H	3	Screw, 4-40 x 1/4-inch, Pan Head, Phillips	ZH4-40X.250SPP
I	5	Internal Tooth Lock Washer, #4	ZH4LWSIS
J	11	Cap Screw, 6-32 x 3/8-inch, Allen Socket Head	ZH6-32X.375CS
K	2	Cap Screw, 4-40 x 3/8-inch, Allen Socket Head	ZH4-40X.375CS
L	1	Nut, 6-32, Acorn	ZH6-32NUTCA
M	2	Hex Nut, 6-32 (-1, -3 models)	ZH6-32NUTSH
N	12	Internal Tooth Lock Washer, #6	ZH6LWSIS

MAINTENANCE

As necessary, clean the window with a mild non-abrasive detergent in water and a soft cloth to maintain picture clarity.

To order replacement wiper blades, use the part number WW570010050 (3 inches).

SERVICE MANUAL

If you need to service the wiper assembly, obtain a service manual in one of the following ways:

- Go to Pelco's web site at <ftp://www.pelco.com> and find service manual C1431SM.PDF.
- Contact Pelco's Literature Department and request service manual C1431SM.

PRODUCT WARRANTY AND RETURN INFORMATION

WARRANTY

Pelco will repair or replace, without charge, any merchandise proved defective in material or workmanship **for a period of one year** after the date of shipment.

Exceptions to this warranty are as noted below:

- Five years:
 - Fiber optic products
 - TW3000 Series unshielded twisted pair (UTP) transmission products
 - CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models
- Three years:
 - Pelco-branded fixed camera models (CCC1390H Series, C10DN Series, C10CH Series, IP3701H Series, and IX Series)
 - EH1500 Series enclosures
 - Spectra® IV products (including Spectra IV IP)
 - Camclosure® Series (IS, ICS, IP) integrated camera systems
 - DX Series digital video recorders, DVR5100 Series digital video recorders, Digital Sentry® Series hardware products, DVX Series digital video recorders, and NVR300 Series network video recorders
 - Endura® Series distributed network-based video products
 - Genex® Series products (multiplexers, server, and keyboard)
 - PMCL200/300/400 Series LCD monitors
- Two years:
 - Standard varifocal, fixed focal, and motorized zoom lenses
 - DF5/DF8 Series fixed dome products
 - Legacy® Series integrated positioning systems
 - Spectra III™, Spectra Mini, Spectra Mini IP, Esprit®, ExSite®, and PS20 scanners, including when used in continuous motion applications.
 - Esprit Ti and TI2500 Series thermal imaging products
 - Esprit and WW5700 Series window wiper (excluding wiper blades).
 - CM6700/CM6800/CM9700 Series matrix
 - Digital Light Processing (DLP®) displays (except lamp and color wheel). The lamp and color wheel will be covered for a period of 90 days. The air filter is not covered under warranty.
 - Intelli-M® eIDC controllers
- One year:
 - Video cassette recorders (VCRs), except video heads. Video heads will be covered for a period of six months.
- Six months:
 - All pan and tilts, scanners, or preset lenses used in continuous motion applications (preset scan, tour, and auto scan modes).

Pelco will warrant all replacement parts and repairs for 90 days from the date of Pelco shipment. All goods requiring warranty repair shall be sent freight prepaid to a Pelco designated location. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Pelco assumes no risk and shall be subject to no liability for damages or loss resulting from the specific use or application made of the Products. Pelco's liability for any claim, whether based on breach of contract, negligence, infringement of any rights of any party or product liability, relating to the Products shall not exceed the price paid by the Dealer to Pelco for such Products. In no event will Pelco be liable for any special, incidental, or consequential damages (including loss of use, loss of profit, and claims of third parties) however caused, whether by the negligence of Pelco or otherwise.

The above warranty provides the Dealer with specific legal rights. The Dealer may also have additional rights, which are subject to variation from state to state.

If a warranty repair is required, the Dealer must contact Pelco at (800) 289-9100 or (559) 292-1981 to obtain a Repair Authorization number (RA), and provide the following information:

1. Model and serial number
2. Date of shipment, P.O. number, sales order number, or Pelco invoice number
3. Details of the defect or problem

If there is a dispute regarding the warranty of a product that does not fall under the warranty conditions stated above, please include a written explanation with the product when returned.

Method of return shipment shall be the same or equal to the method by which the item was received by Pelco.


RETURNS

To expedite parts returned for repair or credit, please call Pelco at (800) 289-9100 or (559) 292-1981 to obtain an authorization number (CA number if returned for credit, and RA number if returned for repair) and designated return location.

All merchandise returned for credit may be subject to a 20 percent restocking and refurbishing charge.

Goods returned for repair or credit should be clearly identified with the assigned CA or RA number and freight should be prepaid.

12-23-08

 The materials used in the manufacture of this document and its components are compliant to the requirements of Directive 2002/95/EC.



This equipment contains electrical or electronic components that must be recycled properly to comply with Directive 2002/96/EC of the European Union regarding the disposal of waste electrical and electronic equipment (WEEE). Contact your local dealer for procedures for recycling this equipment.

REVISION HISTORY

Manual #	Date	Comments
C1432M	10/95	Original manual.
C1432M-A	4/96	Revision A. Revised installation instructions.
C1432M-B	3/98	Added Section 3.1. Moved service information to manual C1431SM.
C1432M-C	11/99	Revised Figure 10 to show new support bracket and modified wiper shafts. Revised installation instructions to add support bracket.
C1432M-D	5/08	Revised installation instructions to specify positioning the wiper blade on the right side of the window rather than the left.
C1432M-E	7/09	Revised Figure 7 to show correct wiring from motor to wiper circuit board.

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