KODAK CAROUSEL SLIDE PROJECTORS, MODELS 600, 650, 700, 750, 800, 850 AND AV-900 AND KODAK EKTAGRAPHIC SLIDE PROJECTOR AND KODAK EKTAGRAPHIC SLIDE PROJECTOR, MODEL E

Simplified Replacement Procedure for Thermal Fuse Part No. 183910

All KODAK CAROUSEL and KODAK EKTAGRAPHIC Slide Projectors are now equipped with a thermal fuse. This is a safety device which protects the projector from overheating and fire damage caused by overheating within the projector housing. It also provides protection against abnormal surges in electrical current supplied to the projector.

There is no visible change in the appearance of the fuse when it burns out. The most obvious symptom - projector will stop running or will not turn on if it has been off.

The thermal fuse will open only when the operating temperature is too high or because of abnormal electrical current surges. We therefore urge that the entire projector and the conditions in which projector is operating (such as a poorly ventilated, rear-screen projection cabinet) be checked to determine the cause of burn-out, and the condition corrected before the projector is returned to service.

To replace a burned-out thermal fuse:

1. Unplug projector from power source, turn projector upside down.
2. Remove base cover, 5 Phillips head screws.
3. Remove the screw holding the burned-out fuse.
4. Lift out fuse and cut leads at sleeving. Remove sleeving and strip wire for 1/2".
5. Cut leads on replacement fuse to approximately 3". Strip wire for 1/2". Join old leads to new leads with wire connectors (145161).
6. Install new thermal fuse, secure phenolic mounting board with hex-head screw. Dress wires and connectors into space between lamp house door hinge post and rear nameplate. Be sure everything is clear. Try lamphouse door and other moving parts for clearance.
7. Replace base cover.

Thermal fuses may be added to non-fused KODAK CAROUSELS (except the 550 series) by following the Installation Instructions furnished with each fuse.

Order: Part No. 183910 Thermal Fuse

From: Eastman Kodak Company, Central Parts Services, 800 Lee Road, Rochester, New York 14650.

This Service Bulletin supersedes Service Bulletin #768659.
KODAK CAROUSEL PROJECTORS, MODELS 600, 750, 800 AND 850
KODAK EKTAGRAPHIC SLIDE PROJECTOR
AND
KODAK EKTAGRAPHIC SLIDE PROJECTOR, MODEL E

Front Condenser Lenses

All currently produced slide projectors noted above now have the nonsymmetrical front condenser lens.

In the KODAK CAROUSEL Slide Projectors and the KODAK EKTAGRAPHIC Slide Projector, Model E, lens Part Number is 625182 and in the EKTAGRAPHIC Slide Projector the lens Part Number is 625634. The reason for the difference in the part number is the lens (Part No. 625634) used in the KODAK EKTAGRAPHIC Slide Projector is a coated lens.

The correct placement of the nonsymmetrical front condenser lens is essential for proper screen illumination and is especially important on the KODAK CAROUSEL Projector, Model 850 due to the sensitivity of the automatic focus feature, which also prevents use of the coated condenser lens in this model.

Publication No. 768672
3/69
Kodak Service Bulletin
Eastman Kodak Company... Customer Equipment Services Division... Rochester, New York 14650

KODAK CAROUSEL PROJECTOR,
MODELS 600, 650, 700, 750, 800 AND 850

Jammed Slides

As the projected slide is raised back up into slide tray, the cardboard mount strikes the compartment wall dividers and jams projector. The trouble may be in the location of the inboard (left) gate assembly, Part No. 170753. It misdirects the slides as they move back up into the slide tray. The damage is done as each slide strikes the knife-like divider wall between tray compartments. It splits and peels back a small portion of the top inboard corner of the slide mount.

If this condition is not corrected immediately, all the cardboard mounts will eventually become dog-eared. Even though they do not jam at first, soon they will start jamming.

If you have a customer complaint of jamming slides, adjust the left gate assembly as follows:

1. Determine that it is the inboard (left) gate assembly; it usually is.

2. Insert screwdriver and really bend that gate to the rear. You may go all the way until the gate butts the housing. It will spring out a little when pressure is released.

Publication No. 768681
5/69 (Continued on reverse side)
3. Test with tray of slides, repeat (2) if necessary.

4. Remove base cover and go to the bottom of the left gate assembly. Note that gate is positioned by a pop-rivet and a small lug of the mechanism frame. Now that the left gate assembly has been moved, there is a gap between it and the lug.

5. Tap lug with screwdriver and small lightweight hammer. Tap lug just enough to again butt it against the edge of left gate assembly. This anchors the gate assembly against movement.
KODAK CAROUSEL 850 AND 860 PROJECTORS

Focus Motor

If the focus motor needs to be replaced on the subject projectors, use focus motor Part No. 182740; do not use focus motor assembly, Part No. 184750.

The use of Part No. 184750 will result in erratic action and short focus motor life. It is not made for use on the auto-focus type projectors.

Publication No. 768747
8/69
In an effort to clarify the problem of focus motor replacement, the following chart should be of help.

<table>
<thead>
<tr>
<th>IF YOU HAVE</th>
<th>ORDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>EARLY</td>
<td>187812</td>
</tr>
</tbody>
</table>

(continued on back)
IF YOU HAVE

ORDER

184750

OR

AND

187812

185373

LATE

LATE

187812
KODAK CAROUSEL PROJECTOR, MODELS 850 AND 860

Cell Housing Alignment

When, in the process of setting the null position, there is no response or erratic response the cell housing tab may be malformed.

In order to check the cell housing alignment, remove the cell and cell board as described in Service Manual #768655, "Servicing the KODAK CAROUSEL 850 Projector".

At this point you may use the fan cap (Part No. 172115) as a tool in place of Tool #TL1297. Place the fan cap into the cell opening in the cell housing, adjust the cell housing tab and the cell housing until the image is centered on the center dot in the fan cap. Snug down the screw.

Replace the cell and cell board, then make the fine adjustment for proper null positioning. Tighten and cement screw.
Aligning the Gate Assembly

Misalignment of the LEFT GATE ASSEMBLY (Figures 1 and 2) can cause slides to jam in the projector. The effect of gate misalignment may be to direct the movement of a slide so that it strikes the sharp bottom edge of a tray divider while it is being raised from the gate for return to the tray. In the case of cardboard-mounted slides, the result is that the slides become more and more dog-eared, and the possibility of jamming the projector increases. If the slides being projected are mounted in metal or plastic, the degree of gate misalignment will determine whether or not the slides will jam if they strike the tray divider.

The tray dividers are thinner, and the bottom edge is sharper, in the gray KODAK CAROUSEL Universal Slide Tray than in the black KODAK CAROUSEL Slide Tray. Slide jamming, therefore, is much more likely when using cardboard slides in the gray tray if the projector has a misaligned gate.

To check for gate misalignment, follow these steps:

1. Remove the slide tray and any slide left in the projector gate.

2. Check the gap between the LEFT GATE ASSEMBLY and the edge of the TOP PLATE ASSEMBLY of the mechanism, with gauge (#TL1568), (Figure 1). The diameter of this tool is .115 inches. The tool should just pass through the gap. Clearance should not be excessive.

NOTE: Make certain the measurement is checked between the shiny, plated portion of the GATE ASSEMBLY and the gray sheet-metal TOP PLATE of the internal projector mechanism. Avoid measuring to either the main cast housing of the projector, or the black baffle, which is attached to the GATE ASSEMBLY of autofocus models.
FIGURE 1

If the gap is less than .115 inches, follow steps 3 through 8.

3. Disconnect the power cord.

4. Insert a flat-blade screwdriver between the front edge of the LEFT GATE ASSEMBLY and the top of the main projector housing, as shown in Figure 2. Move the screwdriver handle toward the front of the projector to pry the top of the GATE ASSEMBLY toward the rear of the projector. Pry the assembly until it touches the housing casting at the point indicated in the diagram. The prying action will cause the GATE ASSEMBLY to pivot on the RIVET (Figure 3). When the screwdriver is withdrawn, the GATE ASSEMBLY will spring back slightly.

5. Check to see that the gap between the LEFT GATE ASSEMBLY and the TOP PLATE ASSEMBLY is at least .115 inches. If it is not, repeat step 4 and check again.

FIGURE 2
MECHANISM ASSEMBLY (Shown upside down with the cover assembly removed)

6. Turn the projector upside down, open the lamphouse door, and remove the front condenser lens, the heat-absorbing glass and the lamp. Locate the LUG (indicated by the heavy arrow in Figure 3) immediately to the right of the cover assembly lip as you look toward the front of the projector. Bend the LUG in the direction shown by the arrow, until it just touches the GATE ASSEMBLY. This can be accomplished by placing the end of a screwdriver against the LUG and tapping the handle lightly with a small hammer. It will ensure that the GATE ASSEMBLY will not easily slip out of alignment again.

NOTE: Autofocus projectors have a black shield covering most of the LUG; however, enough of the LUG is exposed to permit bending as described.

7. Replace the heat-absorbing glass, the front condenser lens, and lamp in the lamphouse compartment.

CAUTION: IF the condenser lens is not symmetrical, place the flatter side toward the front of the projector.

8. Close and lock the lamphouse cover.

The projector is now ready for normal operation.


Publication No. 768952
3-70
Power Switch Replacement

Service Bulletin No. 768911 stipulated that main power switches for the above projectors would be sold only as a part of the grille assembly. Recent changes in switch manufacturers and the resulting wire changes make it feasible for the main power switch to be replaced. There are two switches. One switch, (part No. 187000) is used on KODAK CAROUSEL Projector, Models 600 and 650. The other switch, (part No. 186979) is used on KODAK CAROUSEL Projector, Models 700, 750, 800, 850 and 860.

NOTE: Complete grille assemblies (with switch) are also available. Refer to the Parts List indicated below when ordering.

Disconnect the old switch by unsoldering all the leads to it. Remove the grille from the projector and drill out or otherwise remove, the rivets holding the old switch. Replace with appropriate part number switch. There are two methods of fastening the switch to the grille. The preferred method is to use "POP" rivet (part No. 171298) with a pair of "POP" rivet pliers. The second method is to use machine screw (part No. 167109) and Tinnerman speed nut (part No. 116213). Insert a screw through the grille and switch plate and fasten with the nut. (Be sure the long dimension of the nut is parallel to the long dimension of the grille)

To wire the new switch see the appropriate wiring diagram for the particular model projector showing the late style switch. The wiring diagrams are at the back of Parts List No. 768938 for the KODAK CAROUSEL Projector, Models 600, 650, 700, 750 and 800 or Parts List No. 768909 for the KODAK CAROUSEL Projector, Models 850 and 860.

NOTE: When replacing the switch on the KODAK CAROUSEL 700 Projector, use the wiring diagram for the KODAK CAROUSEL 750 Projector.

KODAK and CAROUSEL are trademarks.
It is suggested that when any of the above projectors are received for any repair, you attach a piece of glass tape or electrical tape to the mechanism frame immediately behind the 6-volt lamp socket (see sketch) to prevent a possible short to ground of the 6-volt circuit when the focus rack is at its full back position.

KODAK and CAROUSEL are trademarks.
KODAK CAROUSEL PROJECTORS

With Automatic Focus Feature

Auto-Focus Gauge (Tool #TL1744)

Some projectors fail to function properly with warped slides even though the automatic focus null position appears to be aligned properly. The focus motor continues to drive the lens either in or out, depending on the warpage.

The Auto-Focus Gauge (Tool #TL1744) provides the check for maximum warped slides. When the gauge is placed in the slide projector gate with the raised central section toward the projection lens, it represents a slide bowed to the maximum of .076-inch forward (see illustration). When the gauge is reversed, so that the raised central section is toward the lamp, the recessed portion on the opposite side now represents a slide bowed .076-inch backward.

Each projector, with automatic focus, should be checked with this gauge. The gauge should be placed in the gate in both directions and in each case sufficient time should be allowed for the focus motor to drive the lens rack to a null position. If the focus motor continues to drive the rack, in either direction, and does not come to a stop, the null adjustment in the projector should be realigned. In these instances, the null adjustment position will require a slight movement, from its current position, in the opposite direction that the rack movement failed to come to a stop. (e.g. if the lens drives forward move the null position backward.)

The Auto-Focus Gauge (#TL1744) is available from Eastman Kodak Company, Central Parts Service, 800 Lee Road, Rochester, New York 14650.
KODAK CAROUSEL SLIDE PROJECTORS, MODEL 750H AND 800H

Focus Motor

Problem: Noisy Focus Motor

Possible Cause: Focus Motor Speed Excessive

Solution: Disconnect the blue focus motor lead from its connectors, and rewire it to the group of orange leads from the solenoid, clutch contact, contact assembly, and grille assembly.

A recent internal design change in the focus motor for the KODAK CAROUSEL Slide Projectors, Models 750H and 800H, resulted in an increase of rpm and noise (gear flutter). The motor part number was not changed. It remains part No. 184750, Motor and Bracket Assembly. This part also serves as a replacement in the KODAK CAROUSEL Slide Projectors, Models 750 and 800.

This change in wiring has been incorporated in projectors currently being produced. The lead from the motor has been changed from blue to orange.

*NOTE: Be sure to check forward and reverse operation after making the change. If the cycling solenoid adjustment is marginal, remote focus actuation could cause forward or reverse cycling also. If this happens, readjust solenoid.

KODAK and CAROUSEL are trademarks.
 Capacitor Installation

Engineering has found that placing the capacitor between the orange and yellow leads, instead of between orange and ground, reduces the spark at the clutch contact (this should prolong clutch contact life,) and also reduces radio interference noise.

Therefore, if you are installing a new capacitor because the old one is defective or because a late-style grille (without capacitor) has been installed and there is no capacitor in the projector, proceed as follows:

First, remove any defective capacitor from the projector. It will be found in one of the following locations: (1) between the orange leads and ground in the wiring trough, (2) between the orange terminal and brown lead terminal at the remote cord receptacle on the grille, or (3) between the orange and yellow leads on the cycle switch terminals.

Then, install a new capacitor (Part No. 204331) between orange and yellow leads.

NOTE: One convenient place to install the new capacitor is between the orange and yellow terminals at the remote cord receptacle.

KODAK and CAROUSEL are registered trademarks.
KODAK CAROUSEL Custom 850H, 850H-K, and 860H Projectors

Make the following corrections and additions in Parts List Publication No. 775166:

FIGURE 6 CHANGE: BASE COVER ASSEMBLY - 197084
TO: BASE COVER ASSEMBLY COMPLETE - 196960
ADD: BASE AND INSERT ASSEMBLY - 197084

FIGURE 13 ADD: BAFFLE, LAMP MOUNT - 202755

WIRING DIAGRAMS: The attached wiring diagrams replace the wiring diagrams in Parts List Publication No. 775166.
ELECTRICAL DIAGRAMS

KODAK CAROUSEL Custom 850HK Projector

WIRE COLOR CODE
K - BLACK  G - GREEN
N - BROWN  B - BLUE
R - RED V - VIOLET
O - ORANGE A - GRAY
Y - YELLOW W - WHITE

REMOTE CORD

REMOTE SWITCH PLATE

LAMP CIRCUIT RECEPTACLE

Solenoid

Cycle Switch

Motor

6V Lamp

60Hz

50Hz

Component Board Assy

Thermal Fuse

Thermal Fuse

Early model projectors may vary from diagrams shown.
ELECTRICAL DIAGRAMS

KODAK CAROUSEL Custom 860N Projector

EARLY MODEL PROJECTORS MAY VARY FROM DIAGRAMS SHOWN.
KODAK CAROUSEL PROJECTORS,
MODELS 760, 760H, 850, 850H, 860, AND 860H

Main Drive Motors

Currently, the KODAK CAROUSEL Projector, Model 760H is the only model being manufactured with a Kodak motor. All other models including some 760H models have the Bomax-manufactured motor. All models will accept either a Bomax or a Kodak motor as a replacement. Every effort should be made to replace motors with those produced by the same manufacturer. Part numbers are as follows:

<table>
<thead>
<tr>
<th>Model</th>
<th>Motor</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>760, 850, and 860</td>
<td>Bomax</td>
<td>198608</td>
</tr>
<tr>
<td>760, 850, and 860</td>
<td>Kodak</td>
<td>206023</td>
</tr>
<tr>
<td>760H, 850H, and 860H</td>
<td>Bomax</td>
<td>199125</td>
</tr>
<tr>
<td>760H, 850H, and 860H</td>
<td>Kodak</td>
<td>199325</td>
</tr>
</tbody>
</table>

If you are replacing a Bomax motor with a Bomax motor or a Kodak motor with a Bomax motor, use the wiring diagrams in the service manuals. If, however, you are replacing a Kodak motor with a Kodak motor or a Bomax motor with a Kodak motor, connect the wires as shown in the attached illustration.* When replacing a Bomax motor with a Kodak motor, clip the leads from the old Bomax motor as close to the motor as possible. Strip the ends and insert them in the Kodak motor as shown.

*NOTE: When replacing a Bomax motor with a Kodak motor, use base cover, Part No. 203764 for "H" models or No. 203762 for non-"H" models.

Special Note: Some quantity of Models 760H and 850H have been manufactured with Kodak motors wired differently than the illustration. Replacement Kodak motors will be wired as shown in the illustration.

KODAK and CAROUSEL are trademarks.
KODAK CAROUSEL Projector, Models 760, 760H, 850, 850H, 860 and 860H

K OR N
W

WHITE FROM COMPT BOARD
ORANGE FROM COMPT BOARD
GREY FROM COMPT BOARD
BLUE FROM SOLENOID
GREEN FROM LAMP SOCKET [6V]
YELLOW JUMPER TO WIRE NUT
KODAK CAROUSEL PROJECTORS,
MODELS 600 AND 600H

Currently, both model projectors are being produced with motors manufactured at KODAK. Previously, the motors were manufactured by Bomax. Both models will accept either a Bomax or a KODAK motor as a replacement. Every effort should be made to replace motors with those produced by the same manufacturer. Part numbers are as follows:

<table>
<thead>
<tr>
<th>Model</th>
<th>Motor</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>600</td>
<td>Bomax</td>
<td>199907</td>
</tr>
<tr>
<td>600</td>
<td>KODAK</td>
<td>202292</td>
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<tr>
<td>600H</td>
<td>Bomax</td>
<td>199910</td>
</tr>
<tr>
<td>600H</td>
<td>KODAK</td>
<td>202289</td>
</tr>
</tbody>
</table>

If you are replacing a Bomax motor with a Bomax motor or a KODAK motor with a Bomax motor, use the wiring diagrams in the service manuals. If, however, you are replacing a KODAK motor with a KODAK motor or a Bomax motor with a KODAK motor, connect the wires as shown in the attached illustration. When replacing a Bomax motor with a KODAK motor, clip the leads from the old Bomax motor as close to the motor as possible. Strip the ends and insert them in the KODAK motor as shown.

*NOTE: When replacing a Bomax motor with a KODAK motor, use base cover, Part No. 203760, for "H" models or No. 203755 for non-"H" models.

KODAK and CAROUSEL are trademarks.
Main Drive Motors

Currently, the KODAK CAROUSEL Projector, Model 650H is the only model being manufactured with a KODAK motor. All other models, including some 650H models, have the Bomax manufactured motor. All models will accept either a Bomax or a KODAK motor as a replacement. Every effort should be made to replace motors with those produced by the same manufacturer. Part numbers are as follows:

<table>
<thead>
<tr>
<th>Model</th>
<th>Motor</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>650 and 700</td>
<td>Bomax</td>
<td>203908</td>
</tr>
<tr>
<td>650 and 700</td>
<td>KODAK</td>
<td>206024</td>
</tr>
<tr>
<td>650H</td>
<td>Bomax</td>
<td>198609</td>
</tr>
<tr>
<td>650H</td>
<td>KODAK</td>
<td>199824</td>
</tr>
</tbody>
</table>

If you are replacing a Bomax motor with a Bomax motor or a KODAK motor with a Bomax motor, use the wiring diagrams in the service manuals. If, however, you are replacing a KODAK motor with a KODAK motor or a Bomax motor with a KODAK motor, connect the wires as shown in the attached illustration.* When replacing a Bomax motor with a KODAK motor, clip the leads from the old Bomax motor as close to the motor as possible. Strip the ends and insert them in the KODAK motor as shown.

*NOTE: When replacing a Bomax motor with a KODAK motor, use base cover, Part No. 203760 for "H" models, No. 203755 for non-"H" 650 models, and No. 203762 for model 700 projectors.

KODAK and CAROUSEL are trademarks.
KODAK CAROUSEL PROJECTORS,
MODELS 800, 800H AND RA-950

Main Drive Motors

None of the above models are currently manufactured. All models will however, accept either a Bomax or a KODAK motor as a replacement. Every effort should be made to replace motors with those produced by the same manufacturer. Part numbers are as follows:

<table>
<thead>
<tr>
<th>Model</th>
<th>Motor</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>800 and RA-950</td>
<td>Bomax</td>
<td>203908</td>
</tr>
<tr>
<td>800 and RA-950</td>
<td>KODAK</td>
<td>206024</td>
</tr>
<tr>
<td>800H</td>
<td>Bomax</td>
<td>198609</td>
</tr>
<tr>
<td>800H</td>
<td>KODAK</td>
<td>204610</td>
</tr>
</tbody>
</table>

If you are replacing a Bomax motor with a Bomax motor or a KODAK motor with a Bomax motor, use the wiring diagrams in the service manuals. If, however, you are replacing a KODAK motor with a KODAK motor or a Bomax motor with a KODAK motor, connect the wires as shown in the attached illustration.* When replacing a Bomax motor with a KODAK motor, clip the leads from the old Bomax motor as close to the motor as possible. Strip the ends and insert them in the KODAK motor as shown.

*NOTE: When replacing a Bomax motor with a KODAK motor, use base cover,
Part No. 203764 for "H" models or No. 203762 for non-"H" models.

KODAK and CAROUSEL are trademarks.
KODAK CAROUSEL Projector, Models 800, 800H AND RA-950

K OR N

W

YELLOW FROM TIMER

YELLOW FROM GRILLE

YELLOW FROM CYCLE SWITCH

BLUE FROM FOCUS MOTOR

BLANK

BLUE FROM SOLENOID
KODAK CAROUSEL PROJECTORS, MODELS 750, 750H, 800 AND 800H

Noisy Solenoid

Since January 1972, the subject projectors have had the focus motor wired in series with the cycle solenoid. Occasionally, a high current drain-focus motor may cause the cycle solenoid to vibrate and/or actually cause the projector to cycle.

The best method to eliminate the problem is to revert to the original wiring of the focus motor. Remove the blue lead of the focus motor from the connection where it joins the orange wires and connect it to the blue lead from the main motor that joins with the blue lead from the solenoid.

KODAK and CAROUSEL are trademarks.
KODAK CAROUSEL 760, 850, 850K, and 860 Projectors
KODAK CAROUSEL 760H, 850H, and 860H Projectors
KODAK CAROUSEL Custom 850H, 850H-K, and 860H Projectors

Auto-Focus Circuit Board

Component Test Procedure

This procedure is for testing the auto-focus circuit board (1 Transistor, 1SCR) in the above model projectors. Replace any defective component on the circuit board. Refer to the wiring diagrams, Pages 3 and 4.

I. Circuit Board Preparations:

a. Remove the circuit board from the projector. Refer to the service manual publications listed on page 2.

b. Connect the following circuit board wires, figure 1:

White, orange, gray, and yellow wires to the MAIN MOTOR.

Blue (negative), and red (positive) to the D.C. VOLTMETER, and FOCUS MOTOR WITH LOCKED ROTOR.

Brown, black, and violet wires to the PHOTOCELL SIMILATOR.

II. Testing the Circuit Board:

a. Place switches S1 and S2 in "OPEN" position. Voltmeter must read zero.

b. Place switch S1 in "CLOSED" position, and switch S2 in "OPEN" position. Voltmeter must read \(-12.5 \pm 2.5\) volts.

c. Place switches S1 and S2 in "CLOSED" position. Voltmeter must read zero.

d. Place switch S1 in "OPEN" position, and switch S2 in "CLOSED" position. Voltmeter must read \(+12.5 \pm 2.5\) volts.

e. Measure the resistance between the violet and brown wires. Resistance must be \(2K \angle \pm 20\%\).

f. Measure the resistance between the blue and gray wires. Resistance must be 1 Meg ohm.

Publication No. 775414
1/74  B

(A) Addition
(R) Revised
(D) Delete

Remove and destroy page dated

KODAK and CAROUSEL are trademarks.

Printed in USA
### III. Circuit Board - Trouble/Remedy Chart:

<table>
<thead>
<tr>
<th>Switch S1 Position</th>
<th>Switch S2 Position</th>
<th>D.C. Volt Meter Reading</th>
<th>Check Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>Open</td>
<td>Negative</td>
<td>CR2, CR5</td>
</tr>
<tr>
<td>Open</td>
<td>Open</td>
<td>Positive</td>
<td>CR3, CR4</td>
</tr>
<tr>
<td>Open</td>
<td>Closed</td>
<td>0</td>
<td>CR2, CR5, Q1, Q2</td>
</tr>
<tr>
<td>Open</td>
<td>Closed</td>
<td>Negative</td>
<td>Q1, Q2</td>
</tr>
<tr>
<td>Closed</td>
<td>Closed</td>
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<td>CR2, CR5</td>
</tr>
<tr>
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<td>Closed</td>
<td>Positive</td>
<td>CR3, CR4</td>
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<tr>
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<td>Open</td>
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<td>CR3, CR4, Q1, Q2</td>
</tr>
<tr>
<td>Closed</td>
<td>Open</td>
<td>Positive</td>
<td>Q1, Q2</td>
</tr>
</tbody>
</table>

**FIGURE 1**

**WIRE COLOR CODE**
- K - BLACK
- N - BROWN
- R - RED
- O - ORANGE
- Y - YELLOW
- W - WHITE

**Photocell Simulator**

**Motor for an 860 Series Projector**

**References:**

**KODAK CAROUSEL 760, 850, 850K, and 860 Projectors**
Service Manual Publication No. 775051

**KODAK CAROUSEL 760H, 850H, and 860H Projectors**
Service Manual Publication No. 775051

**KODAK CAROUSEL Custom 850H, 850H-K, and 860H Projectors**
Service Manual Publication No. 775165
COMPONENT BOARD FOR

KODAK CAROUSEL
760 and 850 PROJECTORS

1 TRANSISTOR, SCR TYPE (CURRENT)
KODAK CAROUSEL SLIDE PROJECTORS, MODELS 650H, 750H, AND 760H
KODAK CAROUSEL CUSTOM SLIDE PROJECTORS, MODELS 800HC, 850HC, 850HC-K, AND 860HC

Electrical Fuses in Secondary Circuits

Electrical fuses have been added to the secondary circuits in the above model projectors, which have a BOMAX main motor. These fuses have been added to protect the main motor secondary from a current overload.

When the motor operates and there is no current in a secondary circuit, check the electrical fuse in the circuit. If the fuse is open, replace it.

Check the mechanical and electrical functions to prevent a repeat of the fuse failure.

Install the replacement electrical fuses as shown in the attached wiring diagrams.

Fuse part numbers and values are listed below:

**ALL MODELS**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Value</th>
<th>Secondary Circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>207129</td>
<td>1.5 amp.</td>
<td>Joining main motor to yellow leads</td>
</tr>
</tbody>
</table>

**NON CUSTOM AUTO FOCUS MODELS**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Value</th>
<th>Secondary Circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>207128</td>
<td>0.4 amp.</td>
<td>Red lead from motor to white from component board</td>
</tr>
<tr>
<td>207132</td>
<td>1.5 amp.</td>
<td>Green lead from motor to green from six-volt lamp</td>
</tr>
</tbody>
</table>

**CUSTOM AUTO FOCUS MODELS**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Value</th>
<th>Secondary Circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>207130</td>
<td>0.4 amp.</td>
<td>Red lead from motor to its connection on component board</td>
</tr>
<tr>
<td>207131</td>
<td>1.5 amp.</td>
<td>Green lead from motor to its connection on component board</td>
</tr>
</tbody>
</table>

Publication No. 775436

3/74 B
ELECTRICAL DIAGRAMS

KODAK CAROUSEL MODELS 650 and 650H PROJECTORS

REMOTE SWITCH PLATE

REMOTE CORD

LAMP CIRCUIT RECEPTACLE

LAMP THERMAL FUSE

MOTOR THERMAL FUSE

SOLENOID

CYCLE SWITCH

REVERSE

FORWARD

MOTOR

1.5 AMP FUSE

WIRE COLOR CODE

ELECTRICAL DIAGRAMS

EARLY MODEL PROJECTORS MAY VARY FROM DIAGRAMS SHOWN

(A) Addition
(R) Revised
(D) Delete

Remove and destroy page dated

Printed in USA
ELECTRICAL DIAGRAMS
KODAK CAROUSEL MODELS 800 and 800H PROJECTORS

EARLY MODEL PROJECTORS MAY VARY FROM DIAGRAMS SHOWN

WIRE COLOR CODE
X - BLACK  G - GREEN
N - BROWN  B - BLUE
R - RED     V - VIOLET
O - ORANGE  A - GRAY
Y - YELLOW  W - WHITE

REMOTE CORD

LAMP CIRCUIT RECEPTACLE
W - LAMP
K - THERMAL FUSE

FOCUS MOTOR
1.5 AMP FUSE

REVERSE
RECTIFIER

REVERSE
RECTIFIER

ASYM. CONTACT CLUTCH

TO LAMP SOCKET

RESISTOR DROPPING

ASSEMBLY CONTACT

SLEEVEING

PHOTO-CONDUCTIVE MATERIAL

CONTROLLER TIMER

ASSEMBLY CAPACITOR

THERMAL FUSE ASSEMBLY

RESISTOR DROPPING
ELECTRICAL DIAGRAMS

KODAK CAROUSEL Custom 850HK Projector

WIRE COLOR CODE
K - BLACK  G - GREEN
H - BROWN  B - BLUE
R - RED     V - VIOLET
O - ORANGE  A - GRAY
Y - YELLOW  W - WHITE

REMOTE CORD
REMOTE SWITCH PLATE
1.5 AMP FUSE
Solenoid
Cycle Switch
Motor
Focus Motor
Timer
Photo Cell
Component Board Assy
Common
Reverse
Forward

Lamp Circuit Receptacle
Lamp
Thermal Fuse
Motor Thermal Fuse
60 Hz
0.4 Amp Fuse
50 Hz

Motor-Focus
Component Board Assembly
Housing-Cell
Sleeving
Sleeving
Resistor
Resistor Dropping
Power Switch
Power Cord
Terminal-Lamp
Socket-Bulb

TA: Addition
(R) Revised
(D) Delete

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SERVICE ENGINEERING BULLETIN

KODAK CAROUSEL PROJECTORS,
MODELS 600, 600H, 650H, 750H, AND 760H
KODAK CAROUSEL CUSTOM PROJECTORS
MODELS 800HC, 850HC, 850HCK, AND 860HC

KODAK MANUFACTURED MOTORS

Many of the currently produced CAROUSEL Projectors have a main motor manufactured by KODAK. If a motor failure should occur in a projector with a KODAK motor it should be replaced with a KODAK motor.

When replacing a KODAK motor with a KODAK motor the motor cover (Part No. 199348) and two drive screws (Part No. 123602) are required. You may use the parts from the motor just removed or you may use new parts.

Wire connections for the KODAK motor are shown in the attached diagrams.

The motor part numbers are:

<table>
<thead>
<tr>
<th>PROJECTOR MODEL</th>
<th>KODAK MOTOR PART NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>600</td>
<td>202292</td>
</tr>
<tr>
<td>600H</td>
<td>202289</td>
</tr>
<tr>
<td>650H</td>
<td>199824</td>
</tr>
<tr>
<td>750H</td>
<td>204610</td>
</tr>
<tr>
<td>760H</td>
<td>199325</td>
</tr>
<tr>
<td>Custom 800H</td>
<td>202293</td>
</tr>
<tr>
<td>Custom 850H</td>
<td>202280</td>
</tr>
<tr>
<td>Custom 850H-K</td>
<td>202420</td>
</tr>
<tr>
<td>Custom 860H</td>
<td>202280</td>
</tr>
</tbody>
</table>

Do not use these numbers if you are replacing a BOMAX motor. Use the motor assembly part number in the appropriate Parts List.

Supersedes Service Bulletin #775340, 775349, 775351, 775352, and 775357

Publication No. 775433
3/74B
KODAK CAROUSEL PROJECTORS, MODELS 760H AND 800H
KODAK CAROUSEL CUSTOM 800H PROJECTOR

Cycling Problems

If a projector cycles either when actuating the remote focus button, or cycles only in reverse, or the projector will not cycle; check the focus motor wiring.

Most projectors have the minus (-) wire from the focus motor connected to the orange wires. Rewire the minus wire from the focus motor to join the yellow wires.

If the cycle problem is not eliminated, replace the focus motor and rewire the minus wire (as above).
Capacitor

Replace the gray capacitor on the above late-model projectors with the following conditions:

1. Failure of the clutch contact or the clutch spring.
2. Visible wear on the point of contact with clutch spring and clutch contact.
3. Customer complaints of excessive noise in the tape recorder used with the projector.

Replace the gray capacitor 204345, Figure 1, on the cycle switch, located behind the forward and reverse buttons, with either a brown or orange capacitor 204331, Figure 2. Connect the new capacitor to the orange wires, and the yellow wires at the wire connector in the wire trough.

NOTE: There are no visible indications that an open capacitor is not functioning properly.
KODAK CAROUSEL 760, 850, 850K, and 860 Projectors
KODAK CAROUSEL 760H, 850H, and 860H Projectors
KODAK CAROUSEL Custom 850H, 850H-K, and 860H Projectors

Auto-Focus Circuit Board

Component Test Procedure

This procedure is for testing the auto-focus circuit board (1 Transistor, 1SCR) in the above model projectors. Replace any defective component on the circuit board. Refer to the wiring diagrams, Pages 3 and 4.

I. Circuit Board Preparations:

   a. Remove the circuit board from the projector. Refer to the service manual publications listed on page 2.

   b. Connect the following circuit board wires, figure 1:

      White, orange, gray, and yellow wires to the MAIN MOTOR.

      Blue (negative), and red (positive) to the D.C. VOLTMETER, and FOCUS MOTOR WITH LOCKED ROTOR.

      Brown, black, and violet wires to the PHOTOCELL SIMULATOR.

II. Testing the Circuit Board:

   a. Place switches S1 and S2 in "OPEN" position. Voltmeter must read zero.

   b. Place switch S1 in "CLOSED" position, and switch S2 in "OPEN" position. Voltmeter must read + 12.5 ± 2.5 volts.

   c. Place switches S1 and S2 in "CLOSED" position. Voltmeter must read zero.

   d. Place switch S1 in "OPEN" position, and switch S2 in "CLOSED" position. Voltmeter must read + 12.5 ± 2.5 volts.

   e. Measure the resistance between the violet and brown wires. Resistance must be 2KΩ ± 20%.

   f. Measure the resistance between the blue and gray wires. Resistance must be 1 Meg ohm.

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8/74B

(A) Additon
(R) Revised
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KODAK and CAROUSEL are trademarks.

1
III. Circuit Board - Trouble/Remedy Chart:

<table>
<thead>
<tr>
<th>Switch S1 Position</th>
<th>Switch S2 Position</th>
<th>D.C. Volt Meter Reading</th>
<th>Check Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>Open</td>
<td>Negative</td>
<td>CR2, CR5</td>
</tr>
<tr>
<td>Open</td>
<td>Open</td>
<td>Positive</td>
<td>CR3, CR4</td>
</tr>
<tr>
<td>Open</td>
<td>Closed</td>
<td>0</td>
<td>CR2, CR5, Q1, Q2</td>
</tr>
<tr>
<td>Open</td>
<td>Closed</td>
<td>Negative</td>
<td>Q1, Q2</td>
</tr>
<tr>
<td>Closed</td>
<td>Closed</td>
<td>Negative</td>
<td>CR2, CR5</td>
</tr>
<tr>
<td>Closed</td>
<td>Closed</td>
<td>Positive</td>
<td>CR3, CR4</td>
</tr>
<tr>
<td>Closed</td>
<td>Open</td>
<td>0</td>
<td>CR3, CR4, Q1, Q2</td>
</tr>
<tr>
<td>Closed</td>
<td>Open</td>
<td>Positive</td>
<td>Q1, Q2</td>
</tr>
</tbody>
</table>

**FIGURE 1**

**WIRE COLOR CODE**
- K: BLACK
- G: GREEN
- M: BROWN
- R: BLUE
- R: RED
- V: VIOLET
- O: ORANGE
- A: GRAY
- Y: YELLOW
- W: WHITE

References:

**KODAK CAROUSEL 760, 850, 850K, and 860 Projectors**
Service Manual Publication No. 775051

**KODAK CAROUSEL 760H, 850H, and 860H Projectors**
Service Manual Publication No. 775051

**KODAK CAROUSEL Custom 850H, 850H-K, and 860H Projectors**
Service Manual Publication No. 775165