

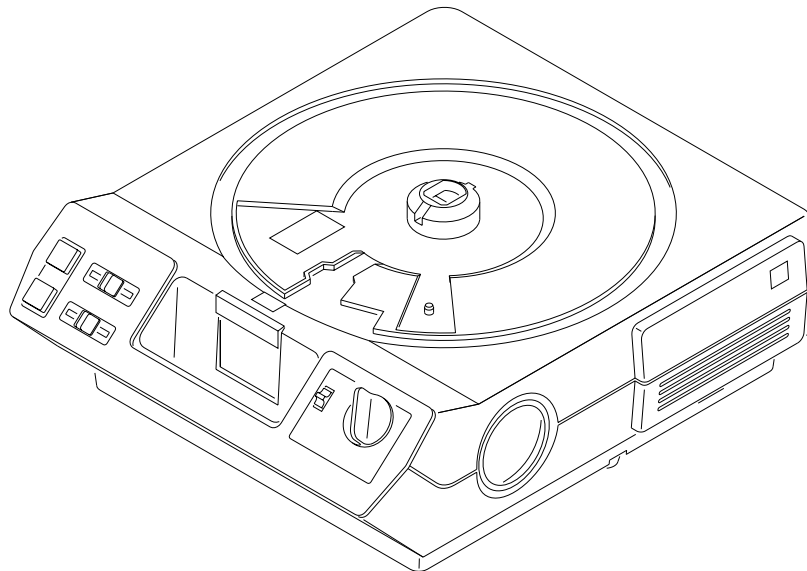


Confidential

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SERVICE MANUAL
for the
Kodak Ektalite 500 PROJECTOR
Kodak Ektalite 1000/1500/2000 SLIDE
PROJECTORS

Service Code: 5766



A091_4000BA

PLEASE NOTE

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This equipment includes parts and assemblies sensitive to damage from electrostatic discharge. Use caution to prevent damage during all service procedures.

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Section 1: Removals and Installations

WIRE ASSEMBLIES



Important

There are only 2 FUSES used in all *Ektalite* PROJECTORS. All FUSES are not available. When installing a new FUSE, install the same type FUSE (amp) that was installed previously. The color might vary among different PROJECTORS.

Table 1 WIRE ASSEMBLIES

Part No.	Description	From	To	Color, Amp, Size
3B1643	LINE CAPACITOR	LINE CAPACITOR	POWER INLET	BROWN or BLUE across POWER INLET
4B0376	FUSE-M7*	MOTOR 7	J105	GRAY, 0.5 A
4B0374	FUSE J1-4	MOTOR 11	J1	RED, 0.5 A
3B1644	DIODE/FUSE	MOTOR 8	GRILL - a1	BLUE, 1.0 A, LONG
4B0390	HARNESS AF/TIMER	MOTOR 8	FOCUS MOTOR	BLUE all wires and FUSES
4B0390	HARNESS AF/TIMER	MOTOR 12	PHOTOCELL	BROWN all wires and FUSES

*Use with BOARD ASSEMBLY 3B1999 only.

Removal for the LOWER HOUSING



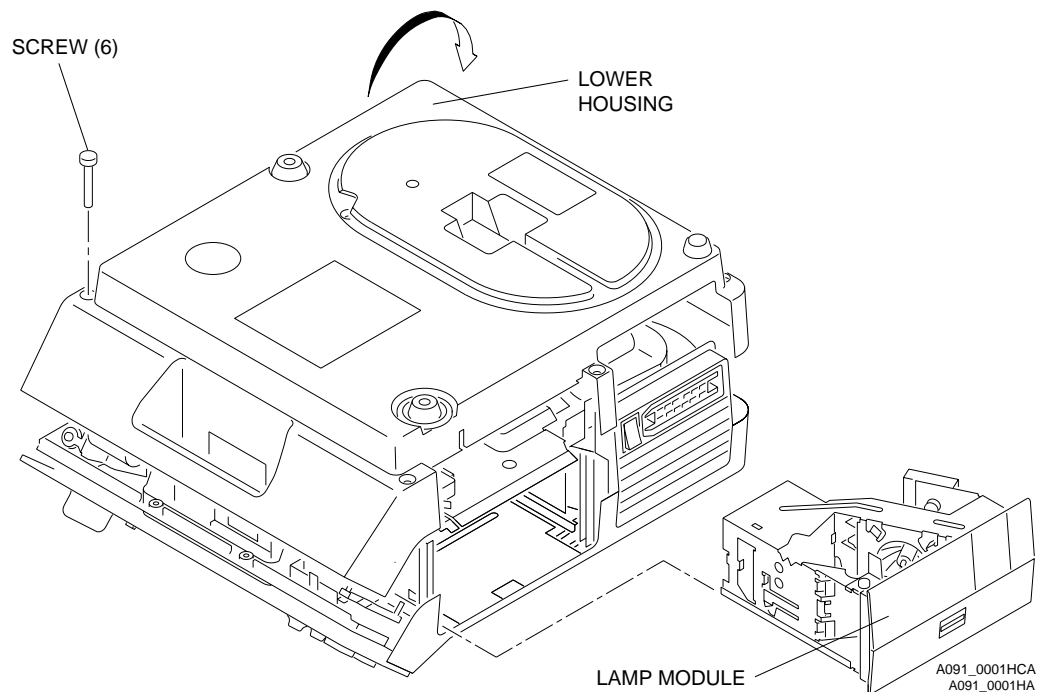
Warning

Dangerous Voltage

- 1 Disconnect the main power.
- 2 Remove the PROJECTION LENS.
- 3 Remove the LAMP MODULE.
- 4 Remove the 6 Torx SCREWS from the LOWER HOUSING.
- 5 Pull the LOWER HOUSING off the TOP HOUSING.

Installation for the LOWER HOUSING

- 1 Do the removal for the LOWER HOUSING in reverse order.



Removal for the FAN SHAFT ASSEMBLY

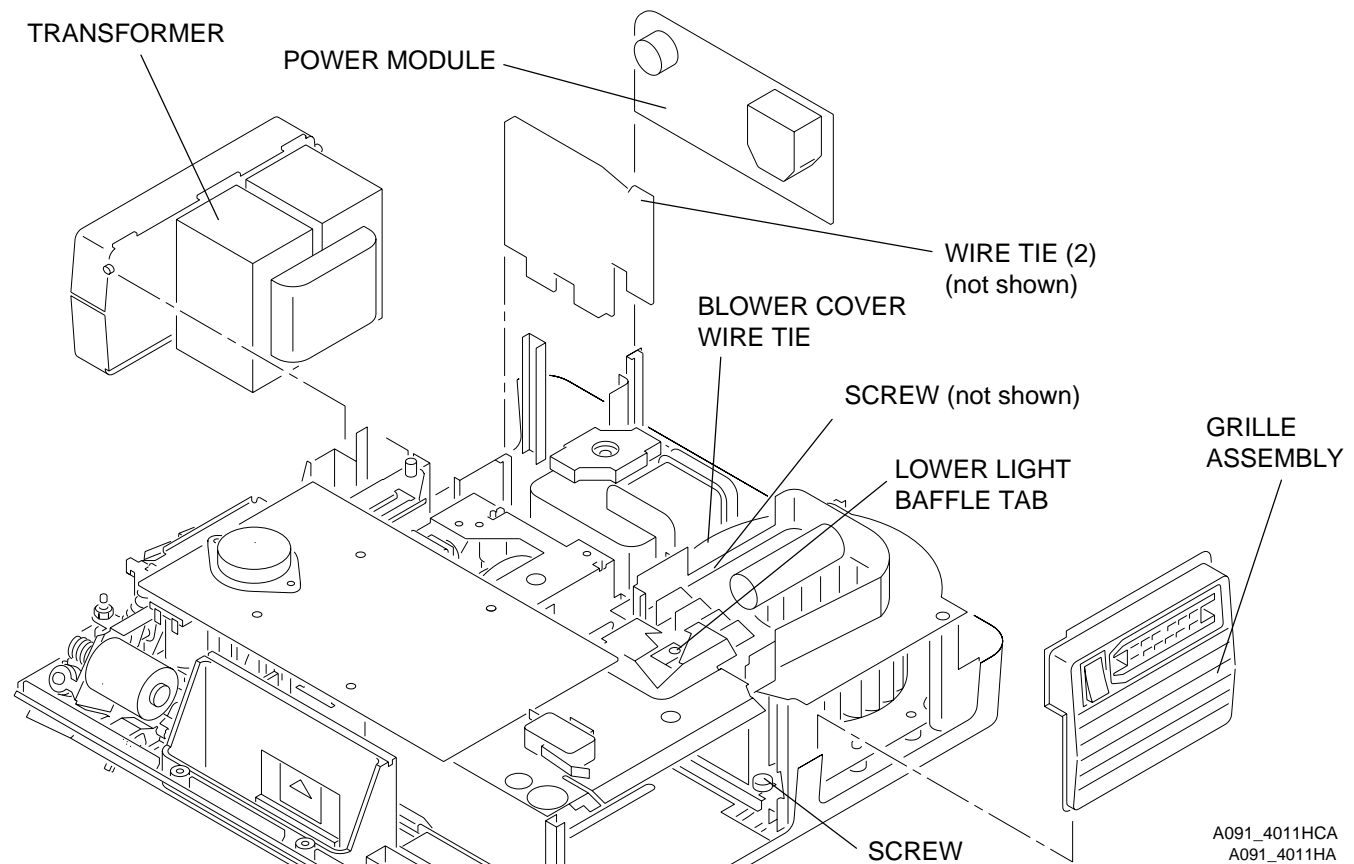


Warning

Dangerous Voltage

- 1** Disconnect the main power.
- 2** Do the removal for the LOWER HOUSING.
- 3** Lift the TRANSFORMER up.
- 4** Lift the POWER MODULE up.
- 5** Cut the 3 WIRE TIES:
 - 1 on BLOWER COVER wires
 - 2 on SMALL BOARD between the MOTOR and MECHANISM ASSEMBLY
- 6** Disconnect the 2 violet wires from the CYCLE SOLENOID on the SMALL BOARD.
- 7** Pull the SMALL BOARD up.
- 8** Remove the *Torx* SCREW from the BLOWER COVER ASSEMBLY.
- 9** Lift the GRILL ASSEMBLY in front of the BLOWER COVER ASSEMBLY up.
- 10** Loosen the *Torx* SCREW on the right track of the LOWER LIGHT BAFFLE ASSEMBLY approximately half way.
- 11** Lift the LOWER LIGHT BAFFLE ASSEMBLY off the TAB on the BLOWER COVER ASSEMBLY.

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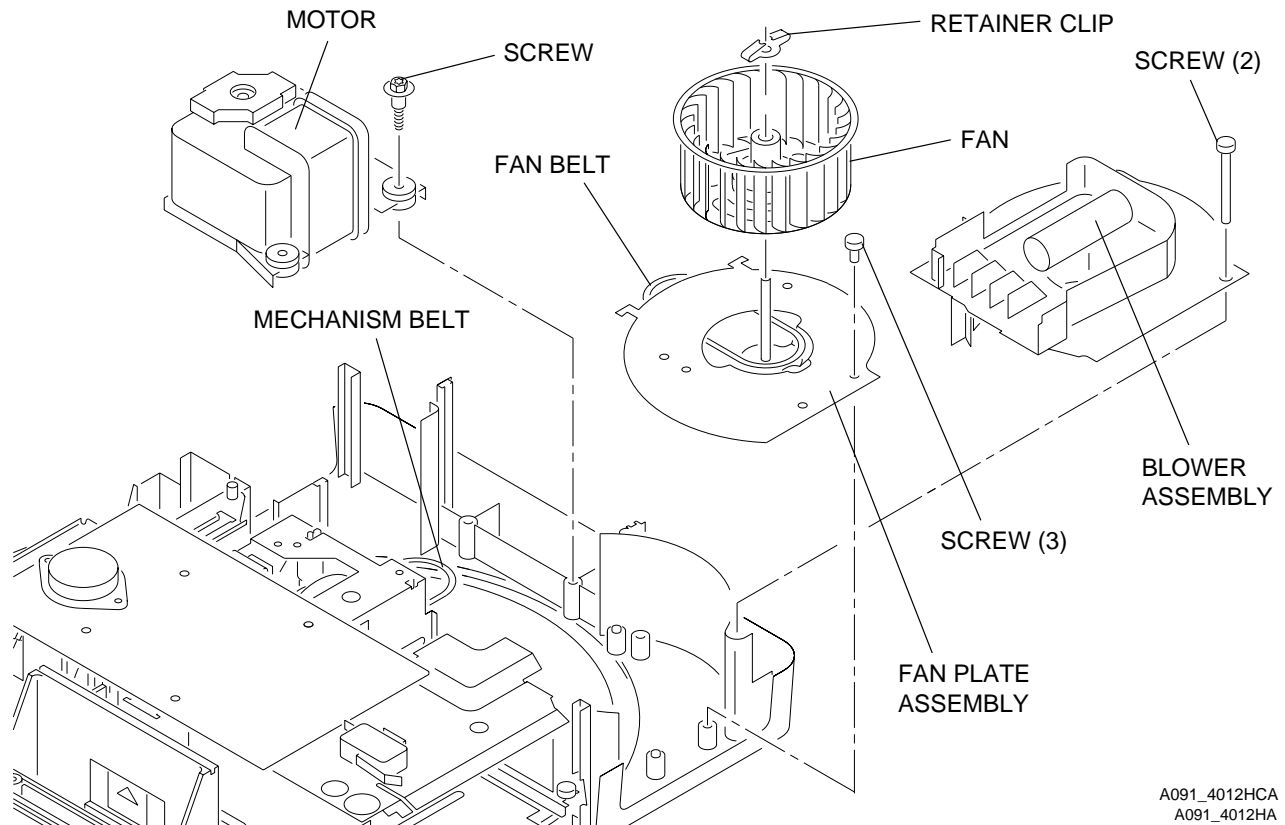


- 12** Remove the 2 long *Torx* SCREWS from the BLOWER COVER ASSEMBLY.
- 13** Lift the BLOWER COVER ASSEMBLY up.
- 14** Remove the 3 *Torx* SCREWS - 1/4 in. from the MOTOR.
- 15** Lift the MOTOR until you observe the FAN BELT and MECHANISM BELT.
- 16** Remove the FAN BELT and MECHANISM BELT off the MOTOR PULLEY. Use SPRING HOOK TL-1165.

**Caution**

Move the MOTOR to allow access to the parts; wires are still connected to the MOTOR. Do not cause damage to the MOTOR wires.

- 17** Remove the RETAINER CLIP from the FAN SHAFT.
- 18** Pull the FAN up and off the FAN SHAFT to allow access to the FAN BELT.
- 19** Remove the FAN BELT.
- 20** Remove the 3 *Torx* SCREWS from the FAN SHAFT ASSEMBLY.
- 21** Lift and remove the FAN SHAFT ASSEMBLY.



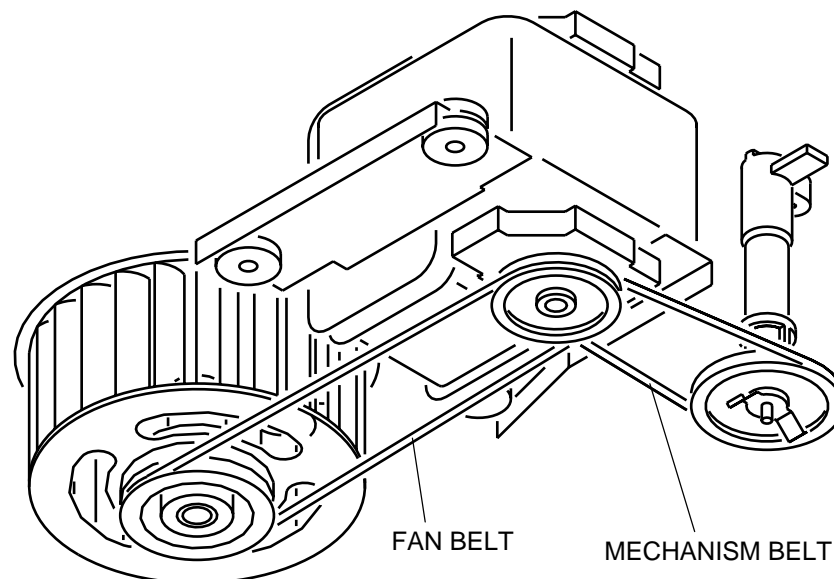
Installation for the FAN SHAFT ASSEMBLY



Important

When installing the FAN and MECHANISM BELTS, install the MECHANISM BELT on the small MOTOR PULLEY, and the FAN BELT on the large MOTOR PULLEY.

- 1 Do the removal procedure for the FAN BELT and SHAFT in reverse order.



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Removal for the MOTOR



Warning

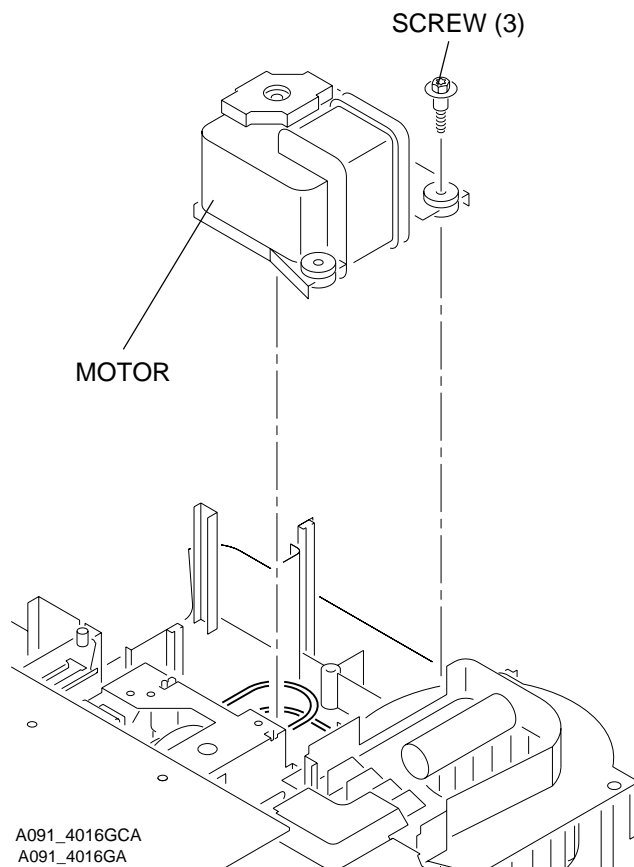
Dangerous Voltage

- 1** Disconnect the main power.
- 2** Do the removal for the LOWER HOUSING ASSEMBLY.
- 3** Lift the TRANSFORMER up.
- 4** Lift and remove the POWER MODULE.
- 5** Cut the 2 WIRE TIES on the SMALL BOARD between the MOTOR and MECHANISM ASSEMBLY.
- 6** Disconnect the 2 violet wires from the CYCLE SOLENOID on the SMALL BOARD.
- 7** Pull the SMALL BOARD up.
- 8** Disconnect all wires on the MOTOR.

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- 9** Remove 3 *Hex* SCREWS - 1/4 in. from the MOTOR.
- 10** Lift the MOTOR up to allow access to the FAN and MECHANISM BELTS.
- 11** Remove the FAN and MECHANISM BELTS from the MOTOR PULLEY.
- 12** Remove the MOTOR.



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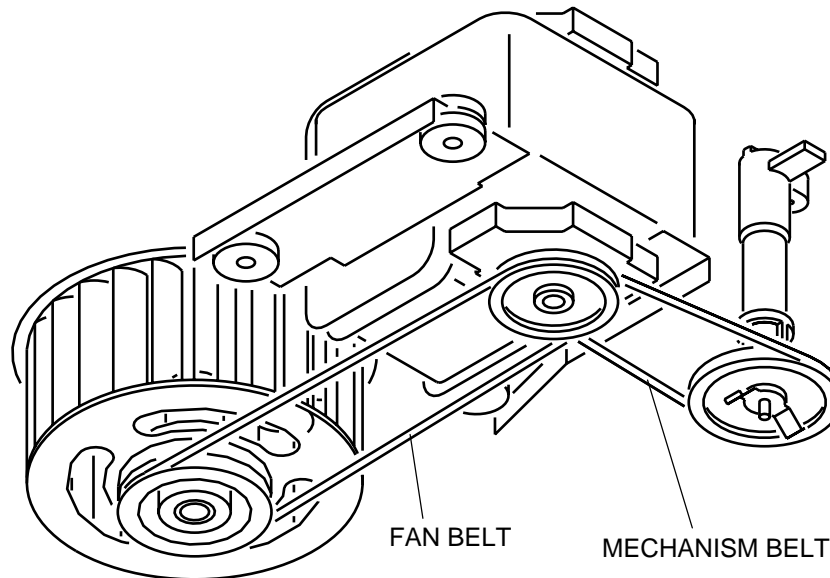
Installation for the MOTOR



Important

When installing the FAN and MECHANISM BELTS, install the MECHANISM BELT on the small MOTOR PULLEY, and the FAN BELT on the large MOTOR PULLEY.

- 1 Do the removal for the MOTOR in reverse order.



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Removal for the WORM PULLEY and MECHANISM BELT



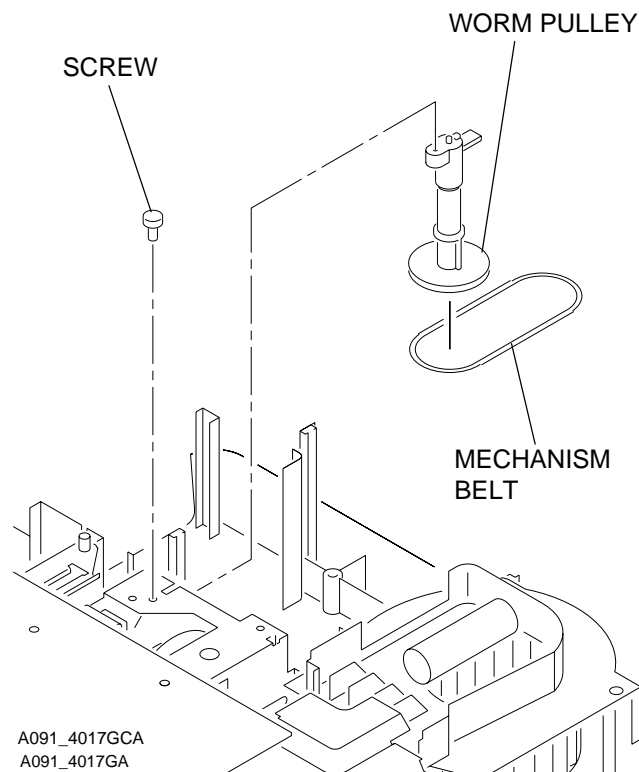
Warning

Dangerous Voltage

- 1 Disconnect the main power.
- 2 Do the removal for the LOWER HOUSING ASSEMBLY.
- 3 Do the removal for the MOTOR except do not disconnect the wires from the MOTOR.
- 4 Remove the *Torx* SCREW from the WORM PULLEY ASSEMBLY.

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- 5 Move the TAB on the WORM PULLEY ASSEMBLY out.
- 6 Remove the WORM PULLEY ASSEMBLY and MECHANISM BELT.



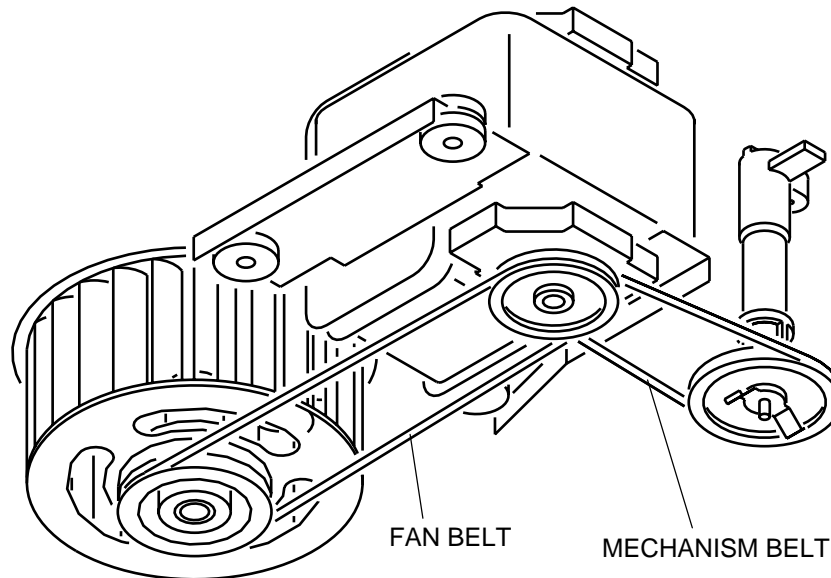
Installation for the WORM PULLEY and MECHANISM BELT



Important

When installing the FAN and MECHANISM BELTS, install the MECHANISM BELT on the small MOTOR PULLEY, and the FAN BELT on the large MOTOR PULLEY.

- 1 Do the removal for the WORM PULLEY and MECHANISM BELT in reverse order.



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Removal for the THERMAL FUSE ASSEMBLY



Warning

Dangerous Voltage

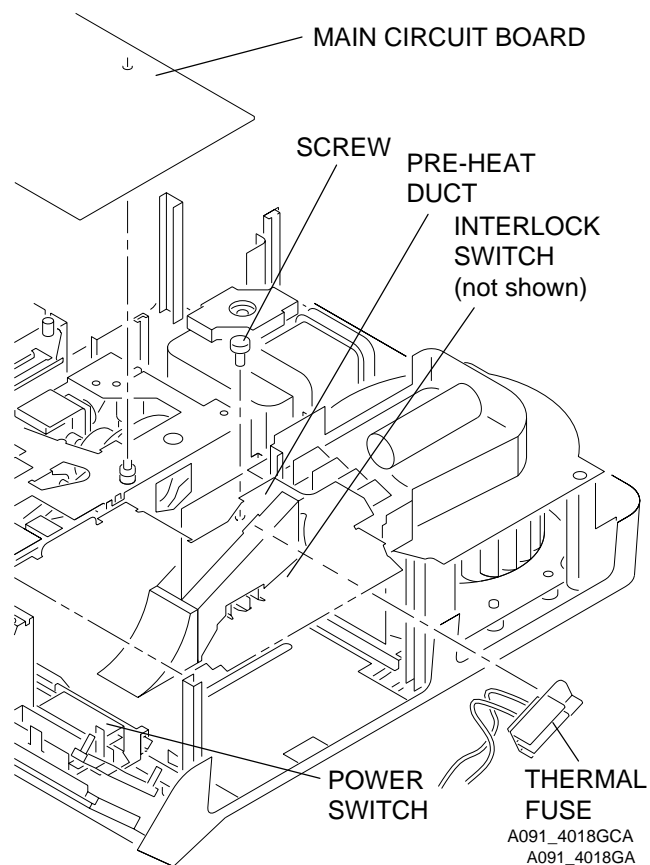
- 1 Disconnect the main power.
- 2 Do the removal for the LOWER HOUSING ASSEMBLY.
- 3 Disconnect the 3 CONNECTORS on the MAIN BOARD. It is not necessary to disconnect the CONNECTOR next to the LOWER LIGHT BAFFLE ASSEMBLY.
- 4 Lift the MAIN BOARD up.
- 5 Cut and remove the necessary WIRE TIES.
- 6 Remove the brown wire from the THERMAL FUSE ASSEMBLY on the POWER SWITCH.
- 7 Remove the brown wire from the INTERLOCK SWITCH on the LOWER LIGHT BAFFLE.
- 8 Loosen the *Torx* SCREW on the PREHEAT DUCT approximately half way.

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- 9 Pull the THERMAL FUSE ASSEMBLY out of hole of the LOWER LIGHT BAFFLE ASSEMBLY.

Installation for the THERMAL FUSE ASSEMBLY

- 1 Do the removal for the THERMAL FUSE ASSEMBLY in reverse order.



Removal for the LAMP MODULE RECEPTACLE

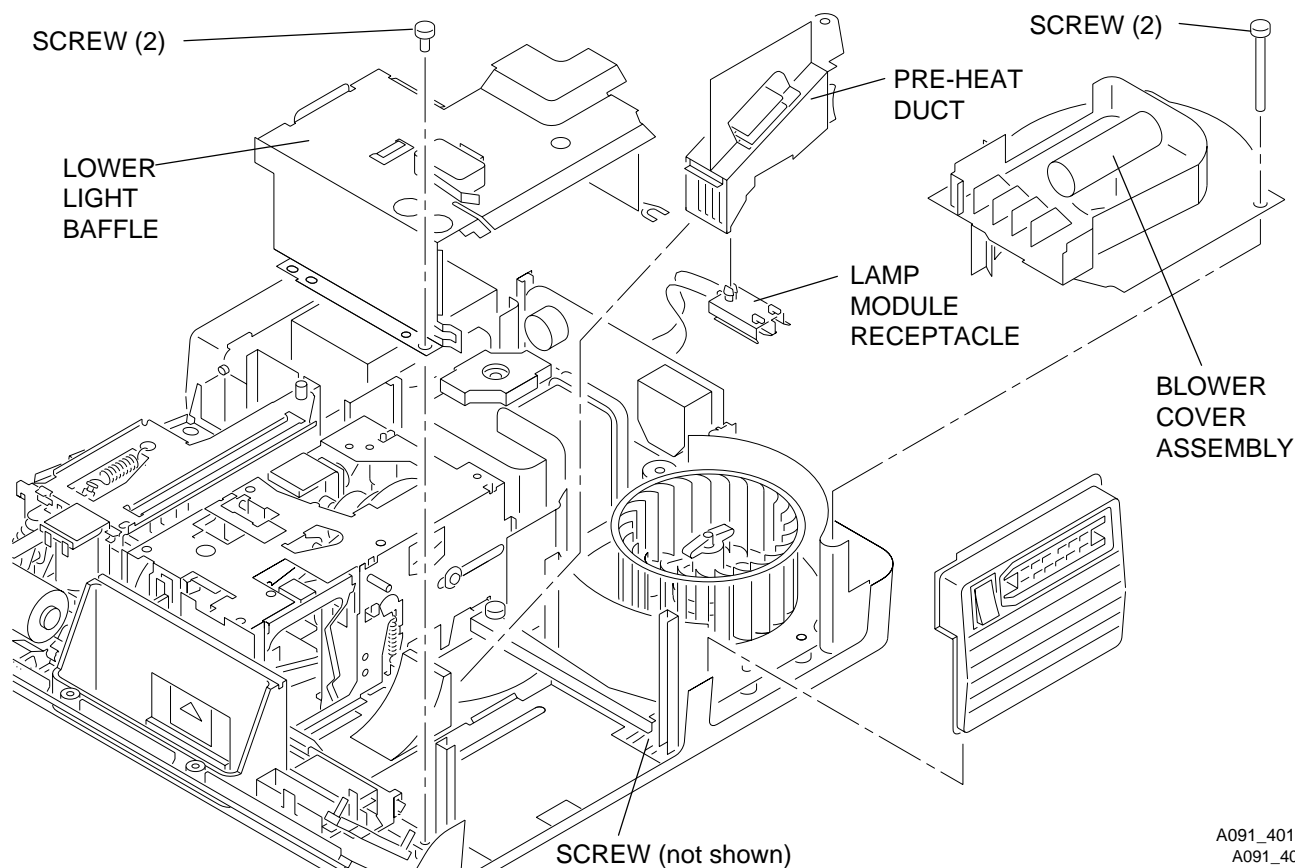


Warning

Dangerous Voltage

- 1** Disconnect the main power.
- 2** Do the removal for the LOWER HOUSING ASSEMBLY.
- 3** Disconnect the 3 CONNECTORS on the MAIN BOARD. It is not necessary to disconnect the CONNECTORS next to the LOWER LIGHT BAFFLE ASSEMBLY.
- 4** Lift the MAIN BOARD up.
- 5** Cut and remove the necessary WIRE TIES.
- 6** Disconnect the blue wire from P102 and the white wire from P10 on the MAIN BOARD.
- 7** Remove the 2 *Torx* SCREWS on the left side of the LOWER LIGHT BAFFLE ASSEMBLY.
- 8** Loosen the *Torx* SCREW on the right side of the LOWER LIGHT BAFFLE ASSEMBLY approximately 1/2 way.
- 9** Lift and remove the LOWER LIGHT BAFFLE ASSEMBLY.
- 10** Lift the GRILL ASSEMBLY up.
- 11** Remove the 2 long *Torx* SCREWS from the BLOWER COVER ASSEMBLY.
- 12** Lift the BLOWER COVER ASSEMBLY up.
- 13** Lift and move the PREHEAT DUCT up.

- 14** To remove the LAMP MODULE RECEPTACLE from the PREHEAT DUCT, compress the 2 TABS on the LAMP MODULE RECEPTACLE.



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Installation for the LAMP MODULE RECEPTACLE

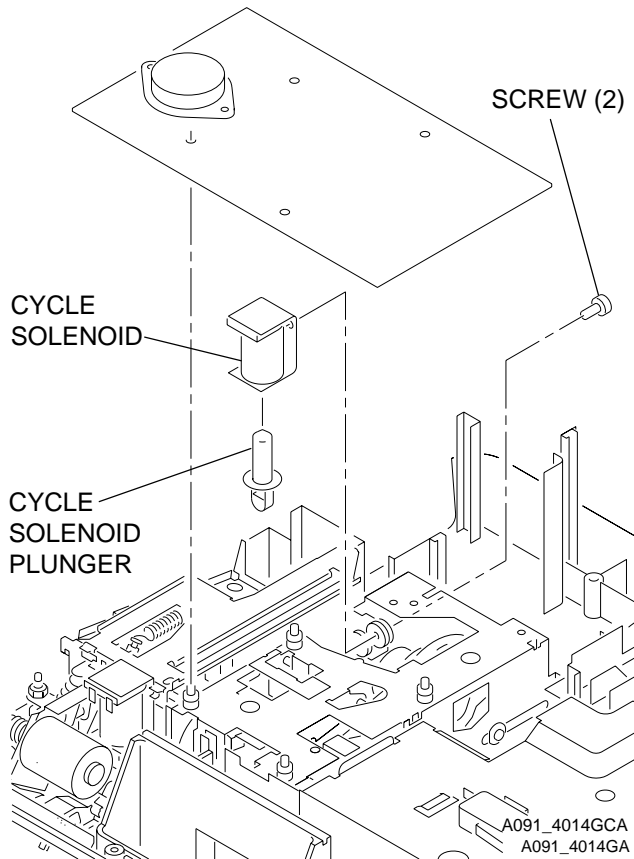


Warning

Dangerous Voltage

- 1 Disconnect the main power.
- 2 Do the removal for the LAMP MODULE RECEPTACLE in reverse order.

Removal for the CYCLE SOLENOID ASSEMBLY



Warning

Dangerous Voltage

- 1 Disconnect the main power.
- 2 Do the removals for the LOWER HOUSING ASSEMBLY and the MOTOR.
- 3 Disconnect the 3 CONNECTORS on the MAIN BOARD. It is not necessary to disconnect the CONNECTORS next to the LOWER LIGHT BAFFLE ASSEMBLY.
- 4 Lift the MAIN BOARD up.
- 5 Cut and remove the necessary WIRE TIES.
- 6 Disconnect the 2 violet wires from the CYCLE SOLENOID on the SMALL BOARD.
- 7 Pull the SMALL BOARD up.
- 8 Remove the *Torx* SCREW from the WORM PULLEY SHAFT.
- 9 Move the TAB on the WORM PULLEY ASSEMBLY out of the MECHANISM ASSEMBLY.
- 10 Lift and remove the WORM PULLEY ASSEMBLY.

- 11** Remove the 2 *Hex* SCREWS -
1/4 in. from the 2 CYCLE SOLENOID GROMMETS.
- 12** Pull the CYCLE SOLENOID ASSEMBLY up and out.
- 13** If necessary, remove the CYCLE SOLENOID PLUNGER ASSEMBLY.

Installation for the CYCLE SOLENOID ASSEMBLY

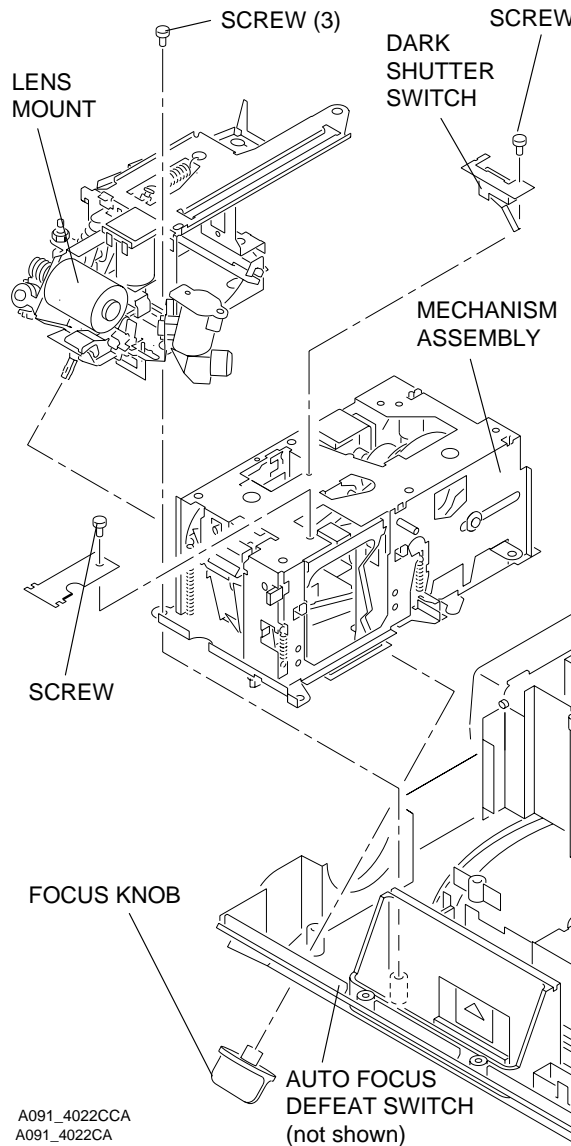


Important

Do the adjustment for the CYCLE SOLENOID ASSEMBLY. See the Adjustments section.

- 1** Do the removal for the CYCLE SOLENOID ASSEMBLY in reverse order.

Removal for the MECHANISM ASSEMBLY



Warning

Dangerous Voltage

- 1 Disconnect the main power.



Important

The Models Style 2 1500 and 2000 have a DARK SHUTTER SWITCH and AUTO FOCUS SHUTTER DEFEAT SWITCH.

- 2 Do the removal for the LOWER HOUSING ASSEMBLY.
- 3 Disconnect the 3 CONNECTORS on the MAIN BOARD. It is not necessary to disconnect the CONNECTORS next to the LOWER LIGHT BAFFLE ASSEMBLY.
- 4 Lift the MAIN BOARD up.
- 5 Cut and remove the necessary WIRE TIES.
- 6 Disconnect the 2 violet wires from the CYCLE SOLENOID on the SMALL BOARD.
- 7 Pull the SMALL BOARD up.

- 8 Disconnect all wires connected to the MECHANISM ASSEMBLY:
 - 1 yellow wire from J105
 - 1 orange wire from J105
 - 1 green wire from POWER CORD
 - 2 green ground wires from the lower MECHANISM ASSEMBLY
- 9 Remove the FOCUS KNOB from the FRONT PANEL.

**Important**

For the Models 1500 and 2000 only, disconnect the short, gray wire connected to the AUTO-FOCUS DEFEAT SWITCH.

- 10 Remove the 3 *Torx* SCREWS from the LENS MOUNT ASSEMBLY.
- 11 Lift and move the LENS MOUNT ASSEMBLY up.
- 12 Do the removal for the MOTOR.
- 13 Remove the 3 *Torx* SCREWS from the MECHANISM ASSEMBLY.
- 14 Loosen the SCREW on the STABILIZER WALL approximately half way.
- 15 Models 1500 and 2000 Only: Remove the SCREW from the DARK SHUTTER SWITCH.
- 16 Remove the DARK SHUTTER SWITCH or DUAL SWITCH.
- 17 Remove the MECHANISM ASSEMBLY.

Installation for the MECHANISM ASSEMBLY**Important**

To insert the SELECT BUTTON into the hole in the SELECT LEVER when installing the MECHANISM ASSEMBLY, hold the SELECT BUTTON completely down.

- 1 Do the removal for the MECHANISM ASSEMBLY in reverse order.

Removal for the AUTO-FOCUS BRACKET ASSEMBLY - 1500 and 2000 PROJECTORS Only



Warning

Dangerous Voltage

- 1 Disconnect the main power.

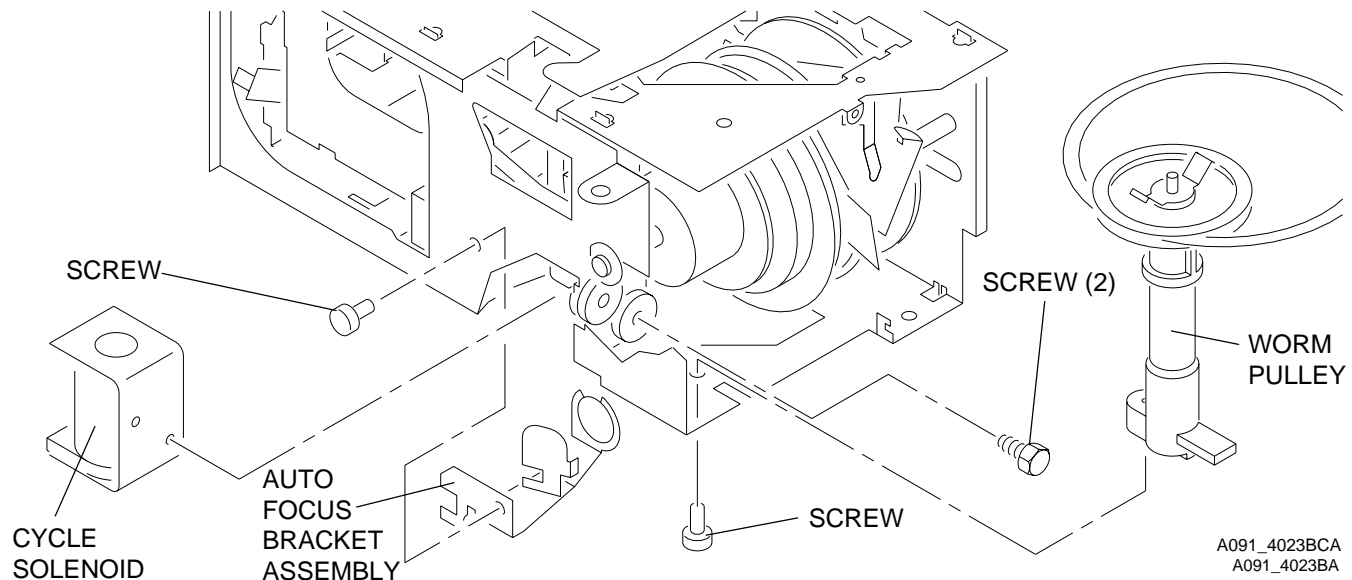


Important

There is no AUTO-FOCUS BRACKET ASSEMBLY for the Model 1000.

- 2 Do the removal for the LOWER HOUSING ASSEMBLY.
- 3 Disconnect the 3 CONNECTORS on the MAIN BOARD. It is not necessary to disconnect the CONNECTORS next to the LOWER LIGHT BAFFLE ASSEMBLY.
- 4 Lift the MAIN BOARD up.
- 5 Cut and remove the necessary WIRE TIES.
- 6 Disconnect the 2 violet wires from the CYCLE SOLENOID on the SMALL BOARD.
- 7 Pull the SMALL BOARD up.
- 8 Do the removal for the MECHANISM ASSEMBLY.
- 9 Remove the *Torx* SCREW from the WORM PULLEY.
- 10 Remove the WORM PULLEY.
- 11 Remove the 2 *Torx* SCREWS from the CYCLE SOLENOID.
- 12 Remove the CYCLE SOLENOID.
- 13 Remove the *Phillips* SCREW from the AUTO-FOCUS BRACKET ASSEMBLY.
- 14 Pull and remove the AUTO-FOCUS BRACKET ASSEMBLY through the hole where the CYCLE SOLENOID was located.

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Installation for the AUTO-FOCUS BRACKET ASSEMBLY - 1500 and 2000 PROJECTORS Only

- 1 Do the removal for the AUTO-FOCUS BRACKET ASSEMBLY in reverse order.

Removal for the CAM STACK ASSEMBLY and CYCLE LEVER ASSEMBLY



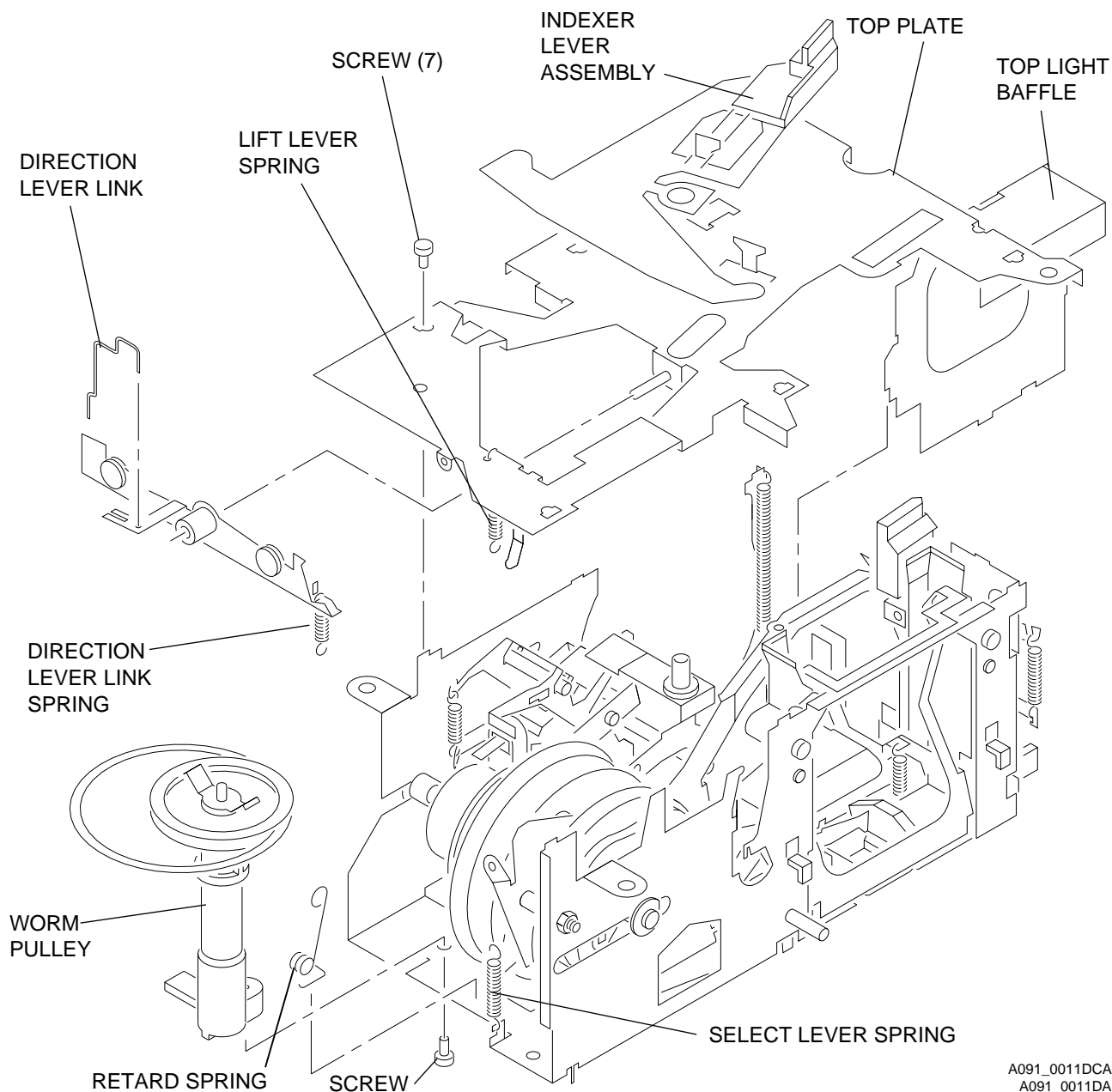
Warning

Dangerous Voltage

- 1 Disconnect the main power.
- 2 Do the removal for the MECHANISM ASSEMBLY.
- 3 Remove the INDEXER LEVER ASSEMBLY from the TOP PLATE of the MECHANISM ASSEMBLY.
- 4 Remove the *Torx* SCREW from the WORM PULLEY ASSEMBLY.
- 5 Remove the WORM PULLEY ASSEMBLY.

- 6** Remove the DIRECTION LEVER LINK from the DIRECTION LEVER.
- 7** Remove the DIRECTION LEVER SPRING from the DIRECTION LEVER.
- 8** Disconnect the LIFT LEVER SPRING from LIFT LEVER on the TOP PLATE of the MECHANISM ASSEMBLY.
- 9** Remove the 7 *Torx* SCREWS from the TOP PLATE of the MECHANISM ASSEMBLY.
- 10** Remove the TOP PLATE.
- 11** Remove the LIGHT BAFFLE.

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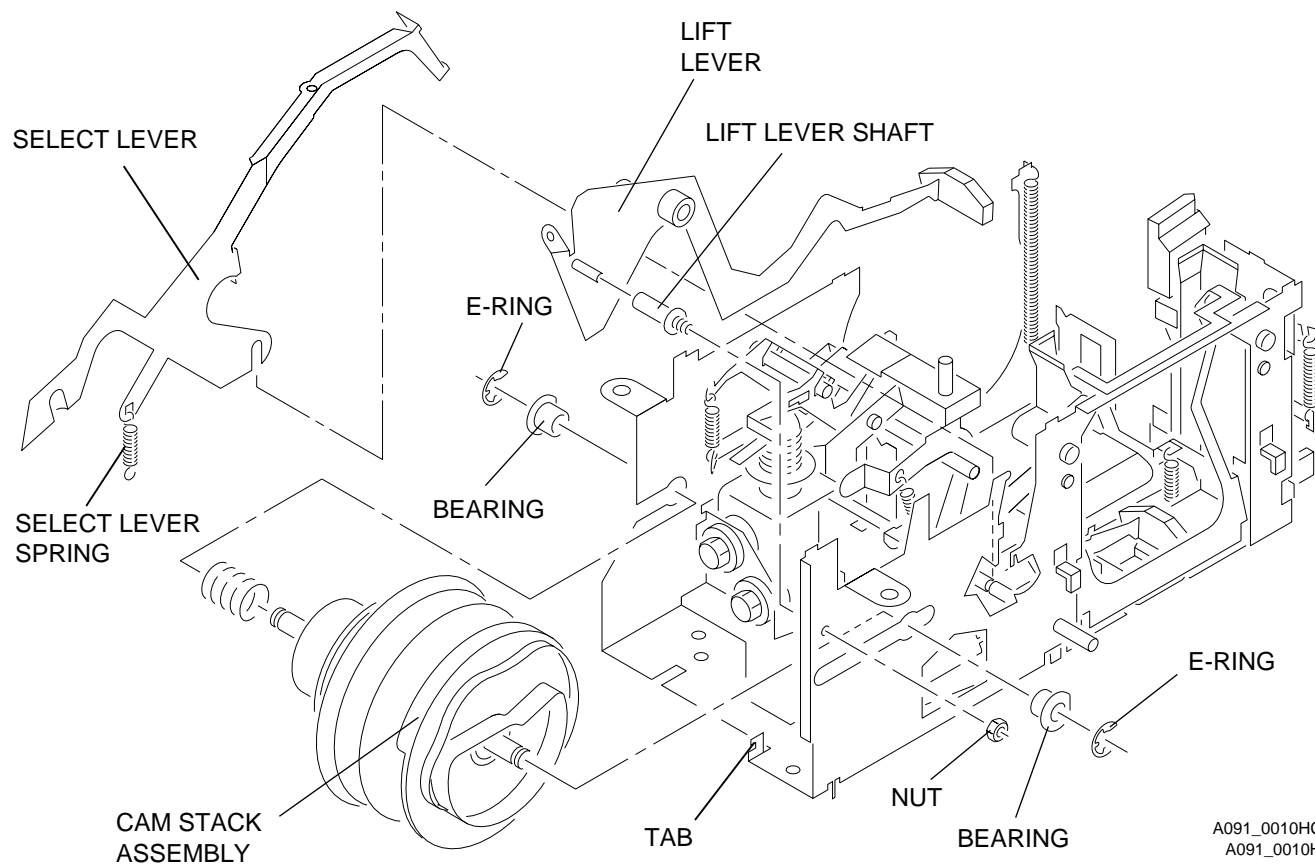
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12 Disconnect the SELECT LEVER SPRING from the SELECT LEVER.

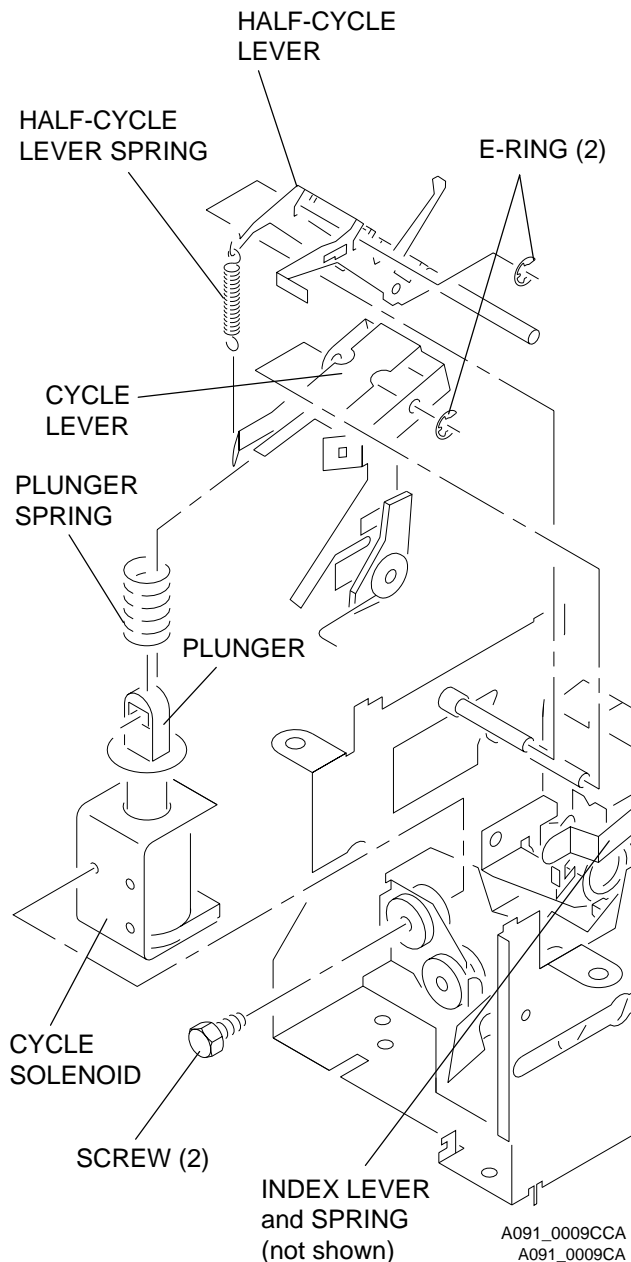
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- 13** Remove the NUT from the LIFT LEVER SHAFT.
- 14** Remove the LIFT LEVER and SHAFT.
- 15** Remove the 2 E-RINGS from the 2 CAM SHAFT BEARINGS.
- 16** Remove the 2 CAM SHAFT BEARINGS.
- 17** Press and hold the SELECT LEVER down.
- 18** Remove the CAM STACK ASSEMBLY.



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- 19** Remove the 2 SCREWS from the CYCLE SOLENOID.
- 20** Remove the CYCLE SOLENOID.
- 21** Slide the PLUNGER and PLUNGER SPRING off the CYCLE LEVER.
- 22** Remove the HALF CYCLE SPRING between the CYCLE LEVER ASSEMBLY and the HALF CYCLE LEVER.
- 23** Disconnect the INDEX LEVER SPRING from the MECHANISM ASSEMBLY.
- 24** Push the INDEX LEVER back.
- 25** Remove the 2 E-RINGS:
 - 1 on the CYCLE LEVER ASSEMBLY
 - 1 on the HALF CYCLE LEVER

**Caution**

Keep both the CYCLE LEVER ASSEMBLY and the HALF CYCLE LEVER together and observe the orientation of both LEVERS.

- 26** Slide both the CYCLE LEVER and HALF CYCLE LEVER off the SHAFT.

Installation for the CAM STACK ASSEMBLY and CYCLE LEVER ASSEMBLY

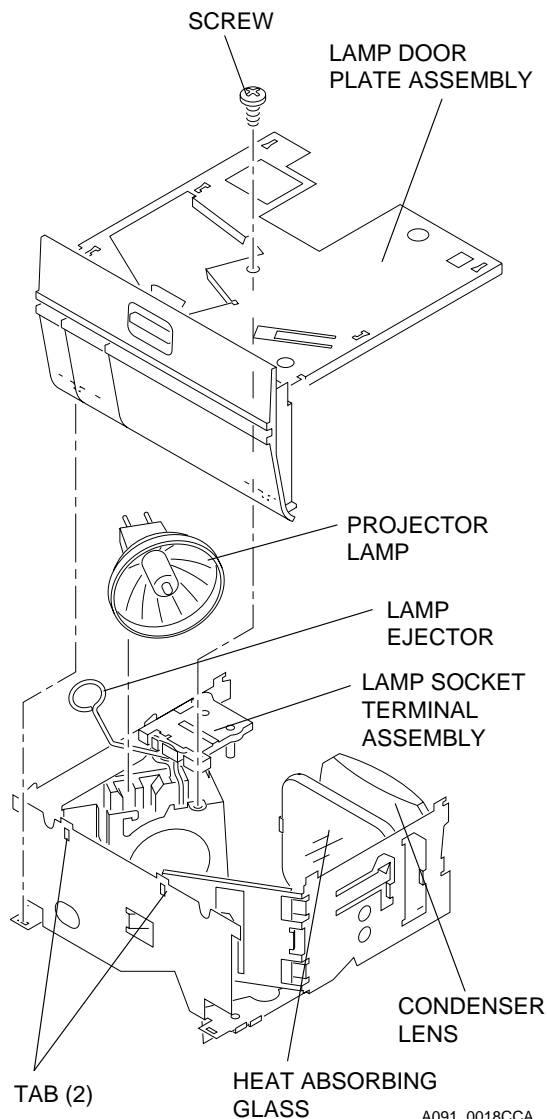


Caution

Keep both the CYCLE LEVER ASSEMBLY and the HALF CYCLE LEVER together and observe the orientation of both LEVERS.

- 1 Do the removal for the CAM STACK ASSEMBLY and CYCLE LEVER ASSEMBLY in reverse order.

Removal for the Style 2 LAMP SOCKET TERMINAL ASSEMBLY



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Warning

Dangerous Voltage

- 1 Disconnect the main power.



Important

The EXTRA BRIGHT LAMP MODULE does not have a HEAT ABSORBING GLASS and has a LABEL on the LAMP DOOR.

- 2 Remove the LAMP MODULE.
- 3 Remove the PROJECTION LAMP from the LAMP MODULE.
- 4 Remove the SCREW from the LAMP DOOR PLATE ASSEMBLY.

- 5 Remove the LAMP DOOR PLATE ASSEMBLY.
- 6 Release the 2 TABS on the bottom side of the LAMP MODULE next to the LAMP MODULE DOOR.

**Caution**

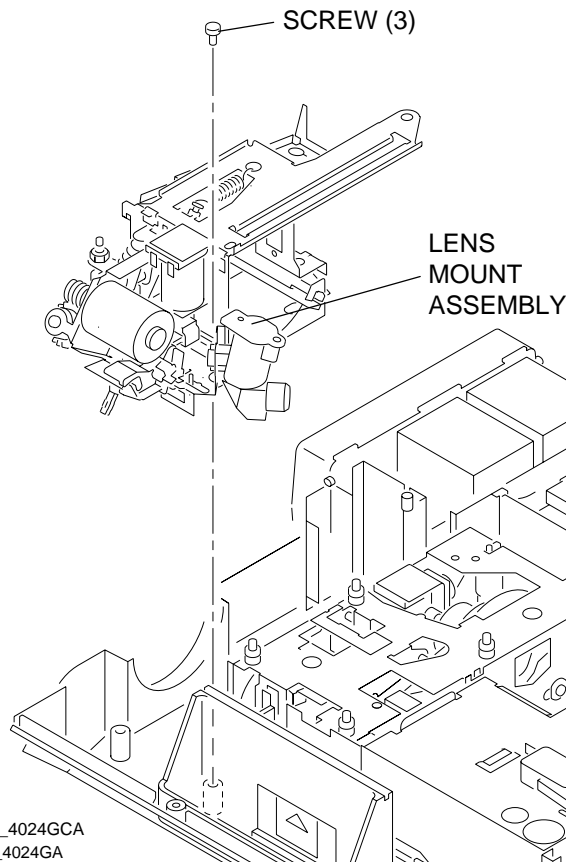
Remove the CONDENSER LENS and HEAT ABSORBING GLASS and set the parts on a clean cloth. Do not set on a cold surface; this will cause damage to the parts.

- 7 Remove the LAMP SOCKET TERMINAL ASSEMBLY.
- 8 Remove the LAMP EJECTOR.

Installation for the LAMP SOCKET TERMINAL ASSEMBLY

- 1 Do the removal for the LAMP SOCKET TERMINAL ASSEMBLY in reverse order.

Removal for the LENS MOUNT ASSEMBLY - 1500 and 2000 PROJECTORS Only



Warning

Dangerous Voltage

- 1 Disconnect the main power.
- 2 Do the removal for the LOWER HOUSING ASSEMBLY.
- 3 Disconnect the 3 CONNECTORS on the MAIN BOARD. It is not necessary to disconnect the CONNECTOR next to the LOWER LIGHT BAFFLE ASSEMBLY.
- 4 Lift the MAIN BOARD up.
- 5 Remove the FOCUS KNOB.
- 6 Remove the short, gray wire connected to the AUTO-FOCUS DEFEAT SWITCH.



Important

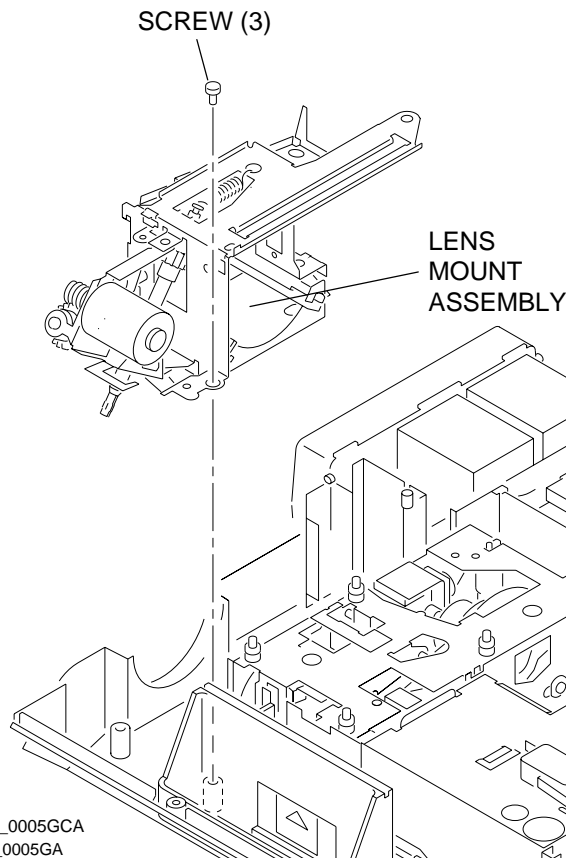
It is necessary to push the AUTO-FOCUS BRACKET backward and forward to allow access to the SCREWS on the LENS MOUNT ASSEMBLY.

- 7 Remove the 3 SCREWS from the LENS MOUNT ASSEMBLY.
- 8 Lift and remove the LENS MOUNT ASSEMBLY.

Installation for the LENS MOUNT ASSEMBLY - 1500 and 2000 PROJECTORS Only

- 1 Do the removal for the LENS MOUNT ASSEMBLY in reverse order.

Removal for the LENS MOUNT ASSEMBLY - 500 and 1000 PROJECTORS Only



Warning

Dangerous Voltage

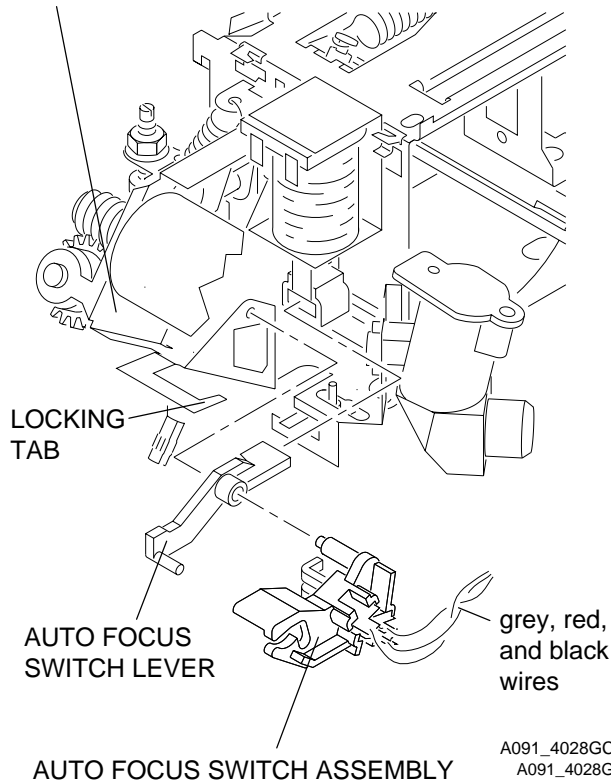
- 1 Disconnect the main power.
- 2 Do the removal for the LOWER HOUSING ASSEMBLY.
- 3 Disconnect the 3 CONNECTORS on the MAIN BOARD. It is not necessary to disconnect the CONNECTOR next to the LOWER LIGHT BAFFLE ASSEMBLY.
- 4 Lift the MAIN BOARD up.
- 5 Remove the FOCUS KNOB.
- 6 Remove the 3 SCREWS from the LENS MOUNT ASSEMBLY.
- 7 Lift and remove the LENS MOUNT ASSEMBLY.

Installation for the LENS MOUNT ASSEMBLY - 500 and 1000 PROJECTORS Only

- 1 Do the removal for the LENS MOUNT ASSEMBLY in reverse order.

Removal for the AUTO-FOCUS SWITCH ASSEMBLY - Models 1500 and 2000 PROJECTORS Only

AUTO FOCUS
MOTOR BRACKET



Warning

Dangerous Voltage

- 1 Disconnect the main power.



Important

There is no AUTO-FOCUS SWITCH ASSEMBLY on the Models 500 and 1000.

- 2 Do the removal for the LOWER HOUSING ASSEMBLY.
- 3 Disconnect the 3 CONNECTORS on the MAIN BOARD. It is not necessary to disconnect the CONNECTOR next to the LOWER LIGHT BAFFLE ASSEMBLY.
- 4 Lift the MAIN BOARD up.
- 5 Remove the FOCUS KNOB.
- 6 Remove the short, gray wire from the AUTO-FOCUS DEFEAT SWITCH.

**Important**

It is necessary to push the AUTO-FOCUS BRACKET backward and forward to allow access to the SCREWS on the LENS MOUNT ASSEMBLY.

- 7** Remove the 3 SCREWS from the LENS MOUNT ASSEMBLY.
- 8** Lift and remove the LENS MOUNT ASSEMBLY.
- 9** Remove the gray, red, and black wires from the AUTO FOCUS SWITCH ASSEMBLY.

**Important**

Keep the AUTO-FOCUS SWITCH LEVER that is connected to the AUTO FOCUS SWITCH so you can install it on the new AUTO FOCUS SWITCH.

- 10** To disconnect and remove the AUTO FOCUS SWITCH, bend the LOCKING TAB on the FOCUS MOTOR BRACKET until it is aligned with the hole in the AUTO FOCUS SWITCH.

Installation for the AUTO-FOCUS SWITCH ASSEMBLY - Models 500 and 2000 PROJECTORS Only

**Important**

Align the 2 TABS on the AUTO-FOCUS SWITCH with the FOCUS MOTOR BRACKET, checking that the end of the AUTO-FOCUS LEVER engages with the CYCLE SOLENOID PLUNGER. After the AUTO-FOCUS SWITCH is in the correct position, bend the LOCKING TAB to hold the AUTO FOCUS SWITCH in place.

- 1** Do the removal for the AUTO-FOCUS SWITCH in reverse order.

Removal for the FOCUS SHAFT ASSEMBLY - 1500 and 2000 PROJECTORS Only



Warning

Dangerous Voltage

- 1 Disconnect the main power.
- 2 Do the removal for the LOWER HOUSING ASSEMBLY.
- 3 Disconnect the 3 CONNECTORS on the MAIN BOARD. It is not necessary to disconnect the CONNECTOR next to the LOWER LIGHT BAFFLE ASSEMBLY.
- 4 Lift the MAIN BOARD up.
- 5 Remove the FOCUS KNOB.
- 6 Remove the short, gray wire from the AUTO-FOCUS DEFEAT SWITCH.

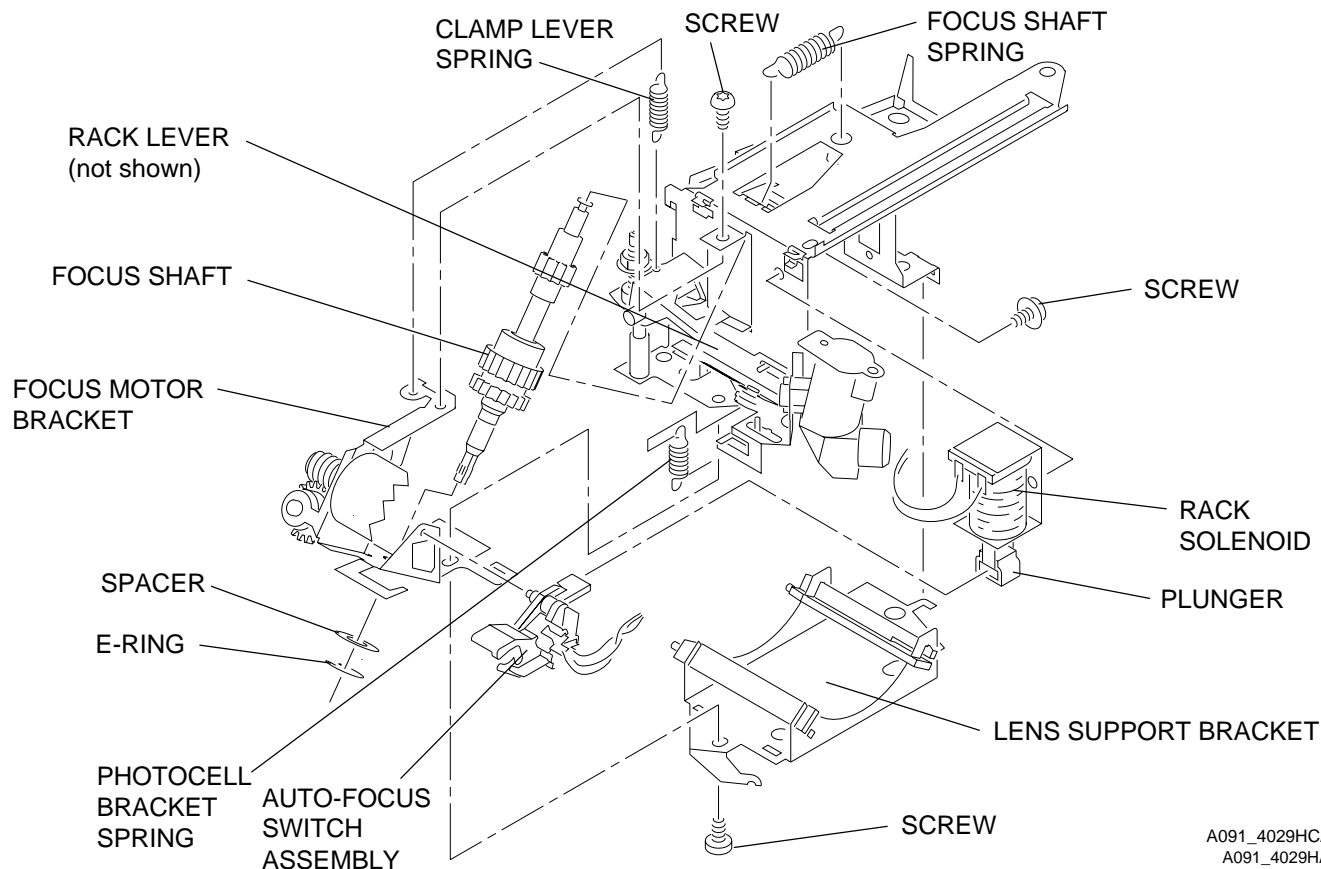


Important

It is necessary to push the AUTO-FOCUS BRACKET backward and forward to allow access to the SCREWS on the LENS MOUNT ASSEMBLY.

- 7 Remove the 3 SCREWS from the LENS MOUNT ASSEMBLY.
- 8 Lift and remove the LENS MOUNT ASSEMBLY.
- 9 Remove the FOCUS SHAFT SPRING from the LENS MOUNT BRACKET.
- 10 Remove the SPRING from the CLAMP LEVER on the LENS MOUNT BRACKET.
- 11 Remove the SPRING from the PHOTOCELL BRACKET.
- 12 Remove the E-RING and SPACER from the FOCUS SHAFT ASSEMBLY.
- 13 Remove the SCREW from the LENS SUPPORT BRACKET.
- 14 Lift and remove the LENS SUPPORT BRACKET.
- 15 Remove the AUTO-FOCUS SWITCH ASSEMBLY.
- 16 Remove the SCREW from the RACK SOLENOID ASSEMBLY.

- 17** Remove the RACK SOLENOID ASSEMBLY and PLUNGER.
- 18** Remove the SCREW from the FOCUS MOTOR BRACKET ASSEMBLY.
- 19** Remove the FOCUS MOTOR BRACKET ASSEMBLY.
- 20** Push the RACK LEVER away from the FOCUS SHAFT ASSEMBLY.
- 21** Remove the FOCUS SHAFT ASSEMBLY.



Installation for the FOCUS SHAFT ASSEMBLY - 1500 and 2000 PROJECTORS Only



Important

Do the adjustments for the PHOTOCCELL NULL and AUTO-FOCUS CLAMP after installation. See the Adjustments section.

Removal for the FOCUS SHAFT ASSEMBLY - 500 and 1000 PROJECTORS Only



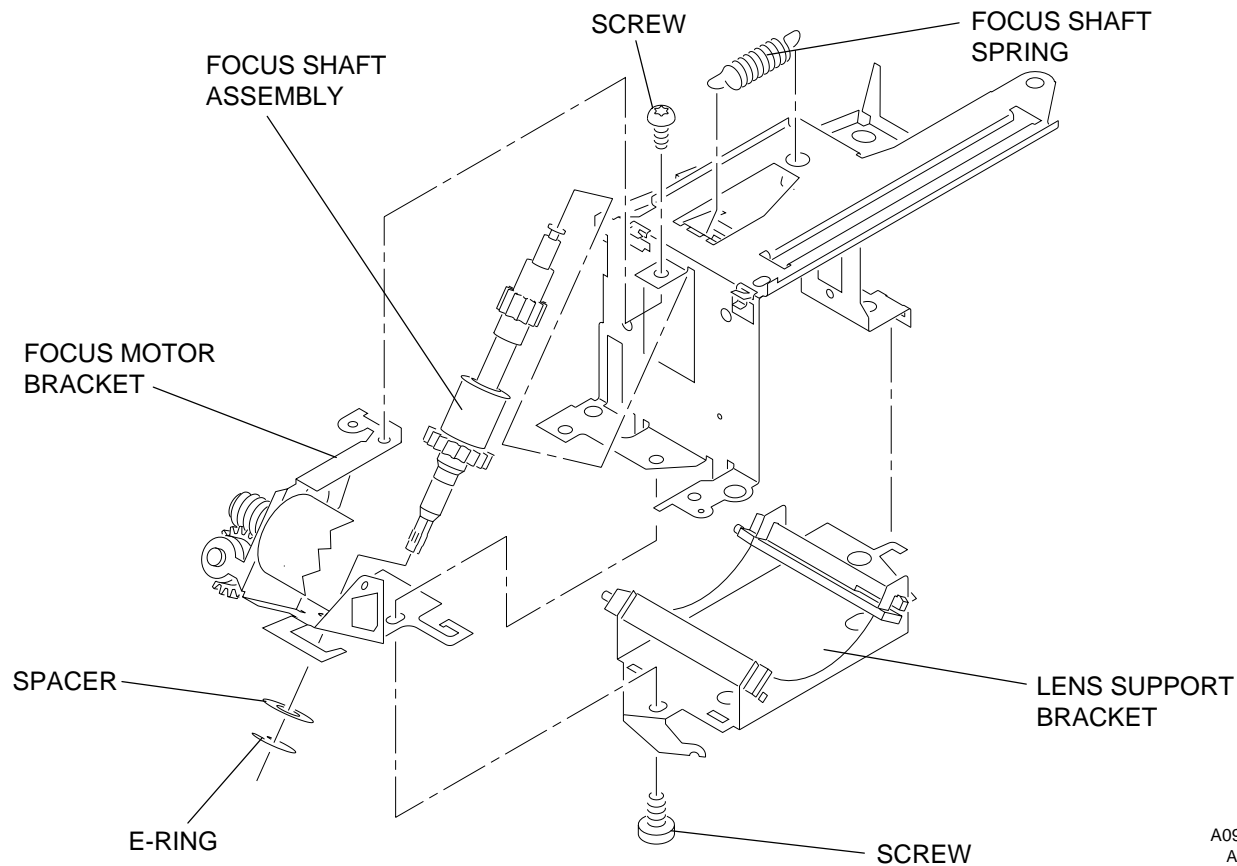
Warning

Dangerous Voltage

- 1 Disconnect the main power.
- 2 Do the removal for the LOWER HOUSING ASSEMBLY.
- 3 Disconnect the 3 CONNECTORS on the MAIN BOARD. It is not necessary to disconnect the CONNECTOR next to the LOWER LIGHT BAFFLE ASSEMBLY.
- 4 Lift the MAIN BOARD up.
- 5 Remove the FOCUS KNOB.
- 6 Remove the 3 SCREWS from the LENS MOUNT ASSEMBLY.
- 7 Lift and remove the LENS MOUNT ASSEMBLY.
- 8 Remove the FOCUS SHAFT SPRING from the LENS MOUNT BRACKET.
- 9 Remove the E-RING and SPACER from the FOCUS SHAFT ASSEMBLY.
- 10 Remove the SCREW from the LENS SUPPORT BRACKET.
- 11 Lift and remove the LENS SUPPORT BRACKET.
- 12 Remove the E-RING and SPACER from the FOCUS SHAFT ASSEMBLY.
- 13 Remove the SCREW from the FOCUS MOTOR BRACKET ASSEMBLY.
- 14 Remove the FOCUS MOTOR BRACKET ASSEMBLY.

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15 Remove the FOCUS SHAFT ASSEMBLY.



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Installation for the FOCUS SHAFT ASSEMBLY - 500 and 1000 PROJECTORS Only

- 1 Do the removal for the FOCUS SHAFT ASSEMBLY in reverse order.

Section 2: Adjustments

CYCLE SOLENOID



Warning

Dangerous Voltage

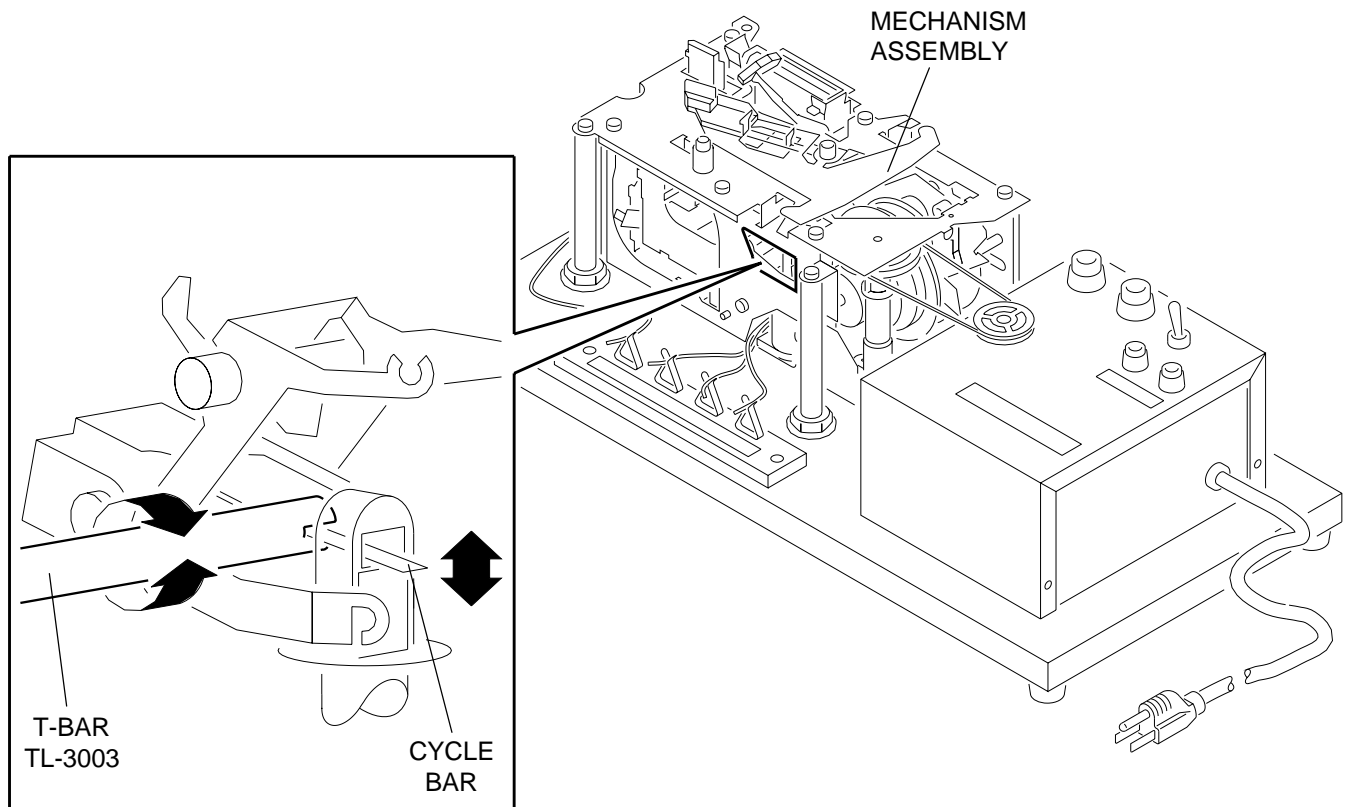
- 1 Connect the main power.



Important

- The CYCLE SOLENOID must operate correctly to do this adjustment.
 - The MECHANISM ASSEMBLY does not have to be removed to do this adjustment.
-
- 2 Do the removal for the LOWER HOUSING ASSEMBLY.
 - 3 Bend the CYCLE LEVER up or down. Use T-BAR TL-3003.
 - 4 Rotate the projector up.
 - 5 Press the “FORWARD” BUTTON to check for correct operation.
 - 6 Press the “REVERSE” BUTTON to check for correct operation.
 - 7 Do the steps above until the FORWARD and REVERSE functions operates correctly.

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INDEXER LEVER ASSEMBLY



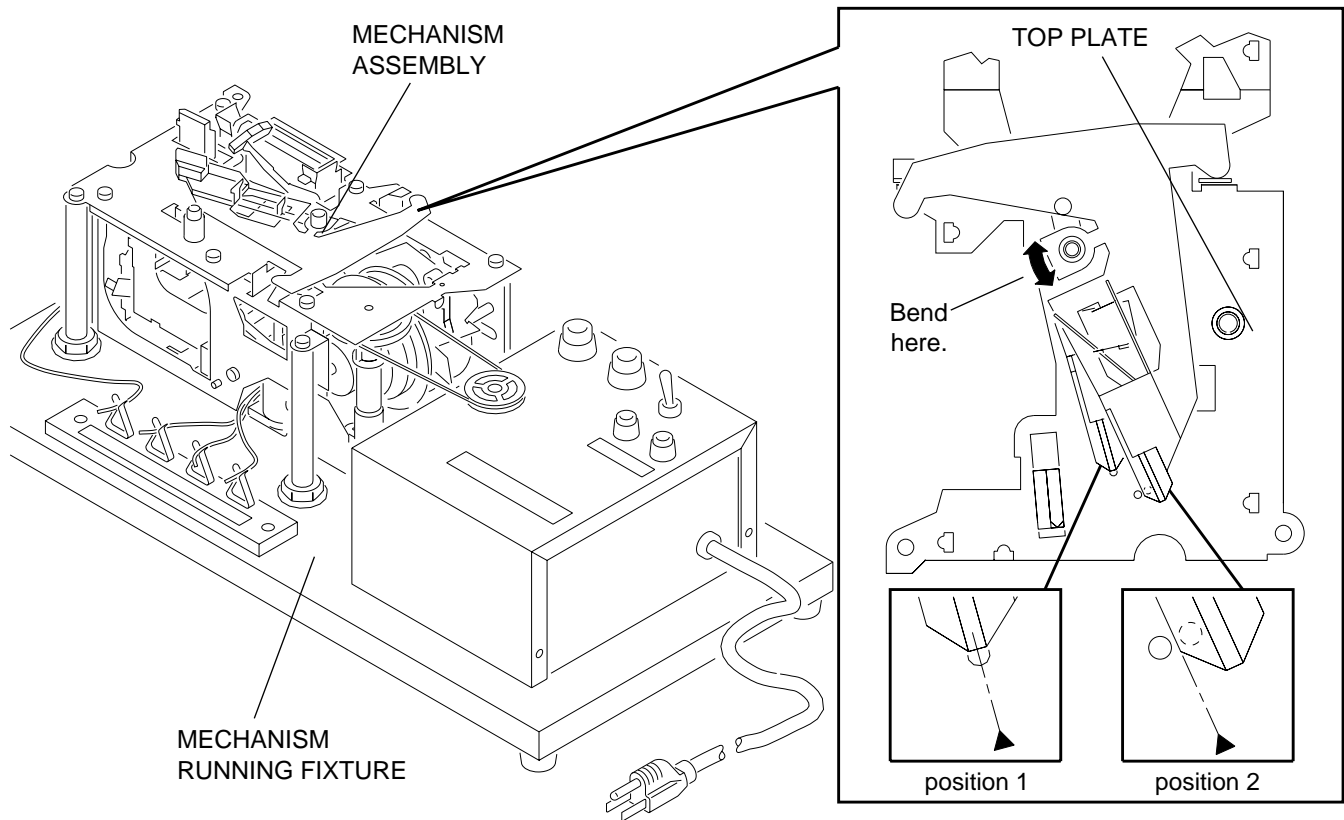
Warning

Dangerous Voltage

- 1 Disconnect the main power.
- 2 Do the removal for the MECHANISM ASSEMBLY.
- 3 Place the MECHANISM ASSEMBLY on the MECHANISM RUNNING FIXTURE.

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- 4 Check the alignment of the INDEXER LEVER with the hole in the TOP PLATE ASSEMBLY at Position 1.
- 5 Bend the INDEXER LEVER to the correct position.
- 6 Check the travel of the INDEXER LEVER in the FORWARD position. When the INDEXER LEVER moves in the FORWARD position, the gate edge of the black plastic should be between the 2 holes at Position 2.
- 7 Bend the INDEXER LEVER until you reach the correct position.



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SLIDE LIFT LEVER MANUAL

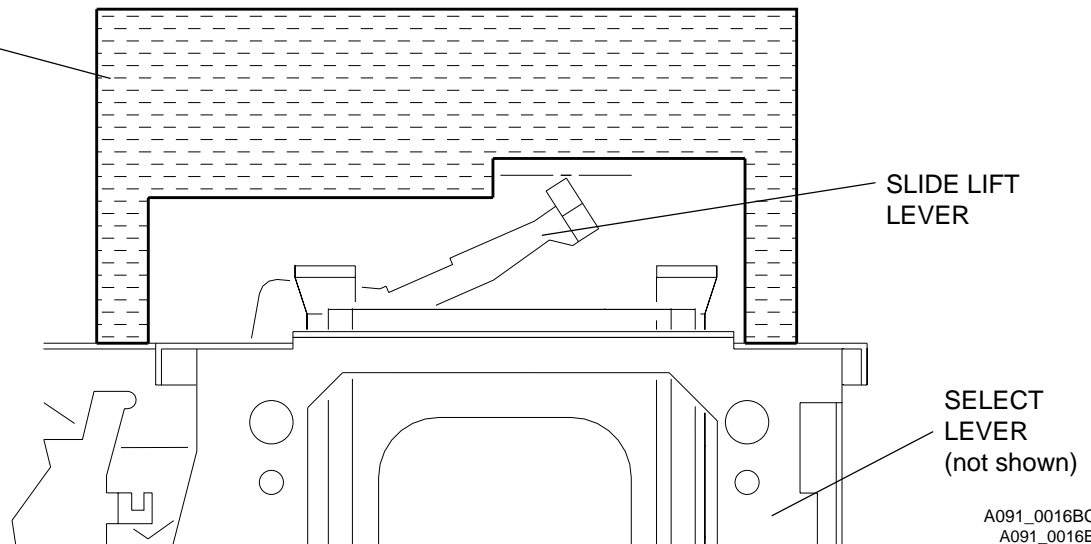


Warning

Dangerous Voltage

- 1 Disconnect the main power.
- 2 Do the removal for the MECHANISM ASSEMBLY.
- 3 Place the MECHANISM ASSEMBLY on the MECHANISM RUNNING FIXTURE.
- 4 Press and hold the SELECT LEVER down to move the SLIDE LIFT LEVER to the highest position.
- 5 Measure the height of the SLIDE LIFT LEVER. Use SLIDE LIFT LEVER GAUGE TL-3001. The SLIDE LIFT LEVER should make contact with the low surface of the SLIDE LIFT LEVER GAUGE TL-3001; the SLIDE LIFT LEVER should not make contact with the high surface of the SLIDE LIFT LEVER GAUGE TL-3001.
- 6 Bend the SLIDE LIFT LEVER until the adjustment is correct.

SLIDE LIFT
LEVER GAUGE
TL-3001



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A091_0016BA

SLIDE LIFT LEVER POWER

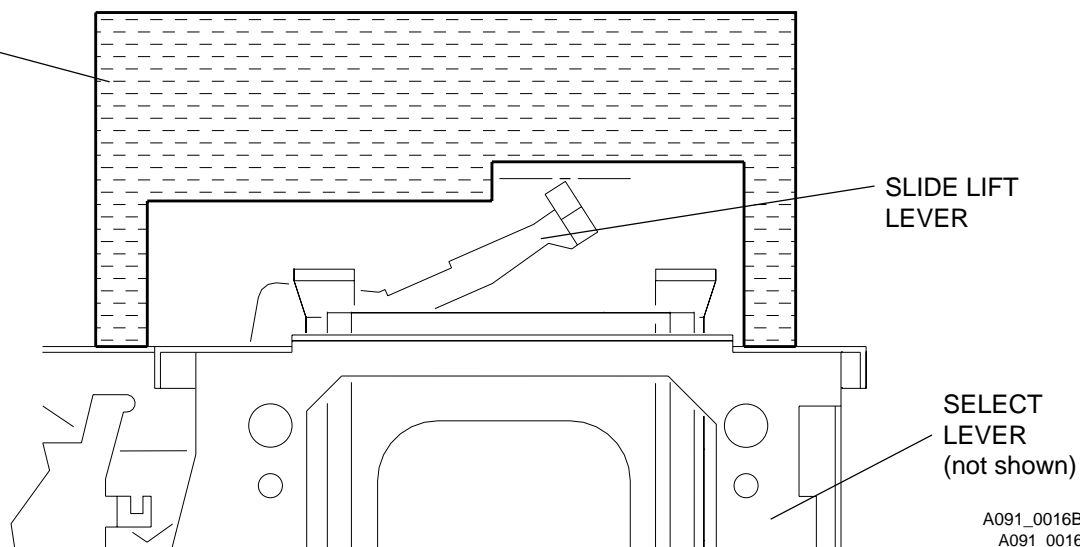


Warning

Dangerous Voltage

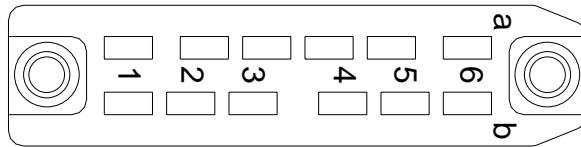
- 1 Disconnect the main power.
- 2 Do the removal for the MECHANISM ASSEMBLY.
- 3 Place the MECHANISM ASSEMBLY on the MECHANISM RUNNING FIXTURE TL-3000.
- 4 Energize the MECHANISM FIXTURE.
- 5 Press and hold the SELECT LEVER down to move the SLIDE LIFT LEVER to the highest position.
- 6 Measure the height of the SLIDE LIFT LEVER. Use SLIDE LIFT LEVER GAUGE TL-3001. The SLIDE LIFT LEVER should make contact with the low surface of the SLIDE LIFT LEVER GAUGE TL-3001; the SLIDE LIFT LEVER should not make contact with the high surface of the SLIDE LIFT LEVER GAUGE TL-3001.
- 7 Bend the SLIDE LIFT LEVER until the adjustment is correct.

SLIDE LIFT
LEVER GAUGE
TL-3001



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A091_0016BA

ZERO POSITION SWITCH - 2000 PROJECTOR Only



12-PIN APPLICATION PLUG

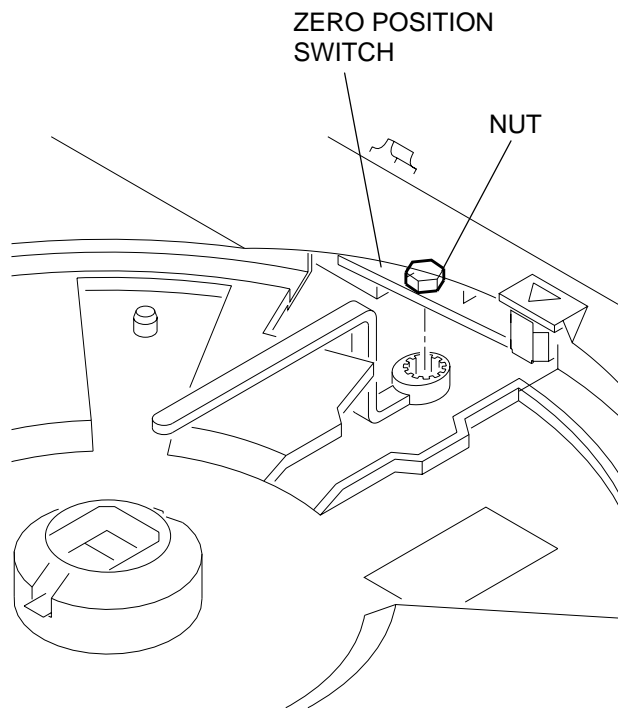
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Important

It is necessary use make a 5/16 in. WRENCH to do this adjustment.

- 1** Energize the projector.
- 2** Connect the DIGITAL VOLT METER (DVM) between PINS B5 and B6 of the 12 PIN APPLICATIONS PLUG.
- 3** With no TRAY installed, the DVM should measure •.
- 4** Install a TRAY.
- 5** To move the TRAY out of the zero position, press the “FORWARD” or “REVERSE” BUTTONS; the DVM should measure 0 W.



- 6** If the measurements are not within specification, adjust the ZERO POSITION SWITCH ECCENTRIC to specification.

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A091_0017GA

Focus Light Path - 1500 and 2000 PROJECTORS Only



Warning

Dangerous Voltage

- 1** Disconnect the main power.
- 2** Remove the PROJECTION LENS.
- 3** Do the removal for the LOWER HOUSING ASSEMBLY.

- 4 Disconnect the MAIN BOARD from the 4 POSTS to allow access to the FOCUS LIGHT PATH.

**Important**

It is necessary to make a FAN COVER TOOL. See the Tools section.

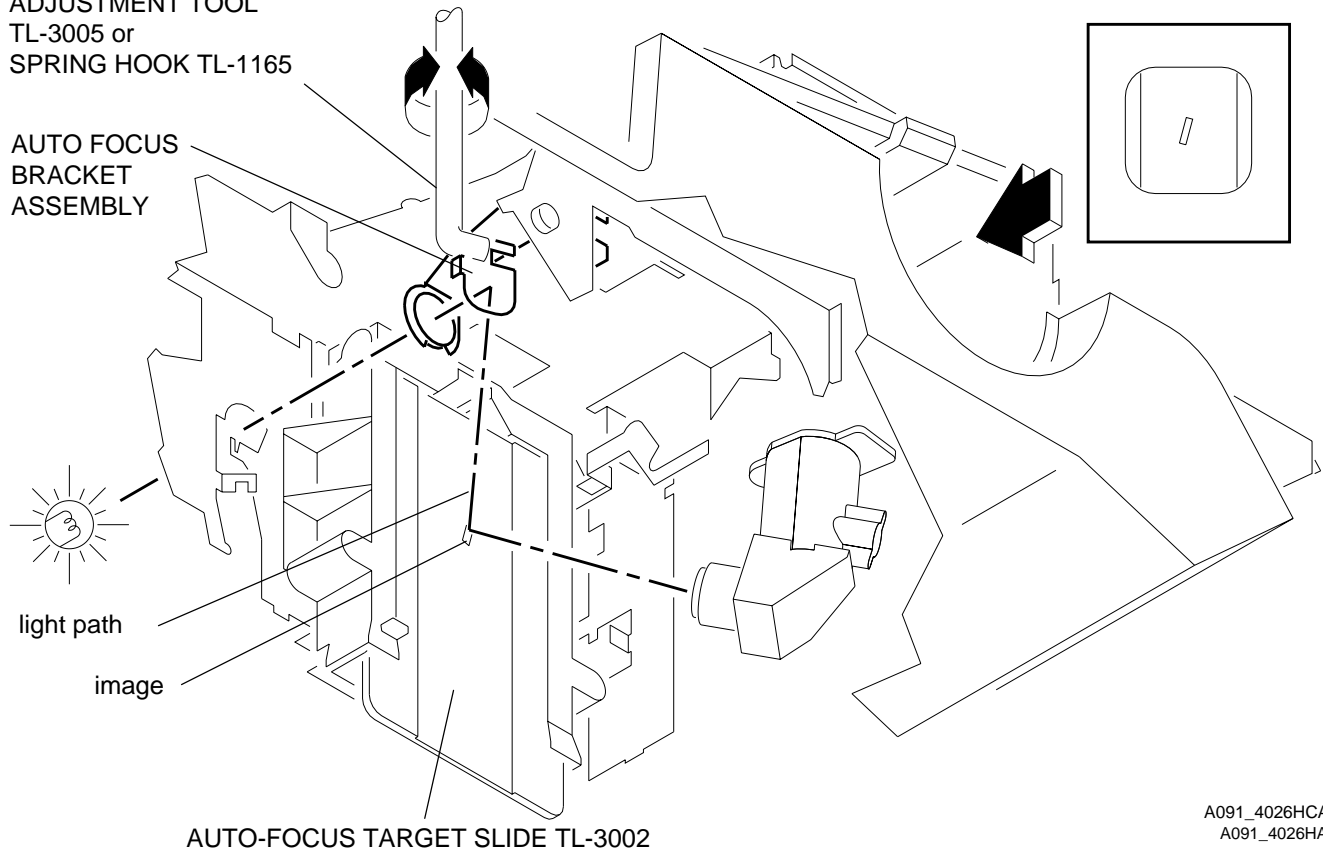
- 5 Install the FAN COVER TOOL over the FAN area and the LAMP MODULE.
- 6 Energize the projector.
- 7 Set the projector to the LOW LAMP position.
- 8 Install the AUTO-FOCUS TARGET SLIDE TL-3002 until it is fully seated in the GATE MECHANISM.

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- 9 Look through the PROJECTION LENS hole and observe the focus light path on the AUTO-FOCUS TARGET SLIDE TL-3002.
- 10 Check the position of the image on the AUTO-FOCUS TARGET SLIDE TL-3002.
- 11 Bend the AUTO-FOCUS BRACKET ASSEMBLY MIRROR until the image is within the target on the TARGET SLIDE. Use ADJUSTMENT TOOL TL-3005 or the SPRING HOOK TL-1165.

ADJUSTMENT TOOL
TL-3005 or
SPRING HOOK TL-1165

AUTO FOCUS
BRACKET
ASSEMBLY



NULL



Warning

Dangerous Voltage

- 1 Disconnect the main power.
- 2 Do the removal for the LOWER HOUSING ASSEMBLY.



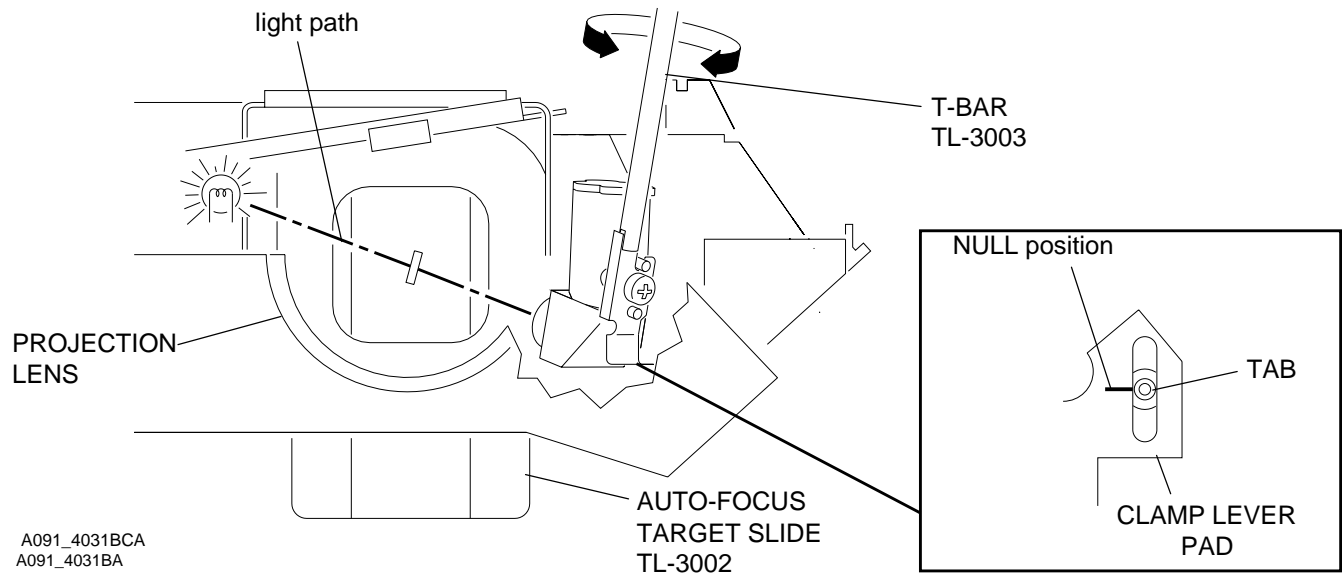
Important

It is necessary to use a FAN COVER TOOL.

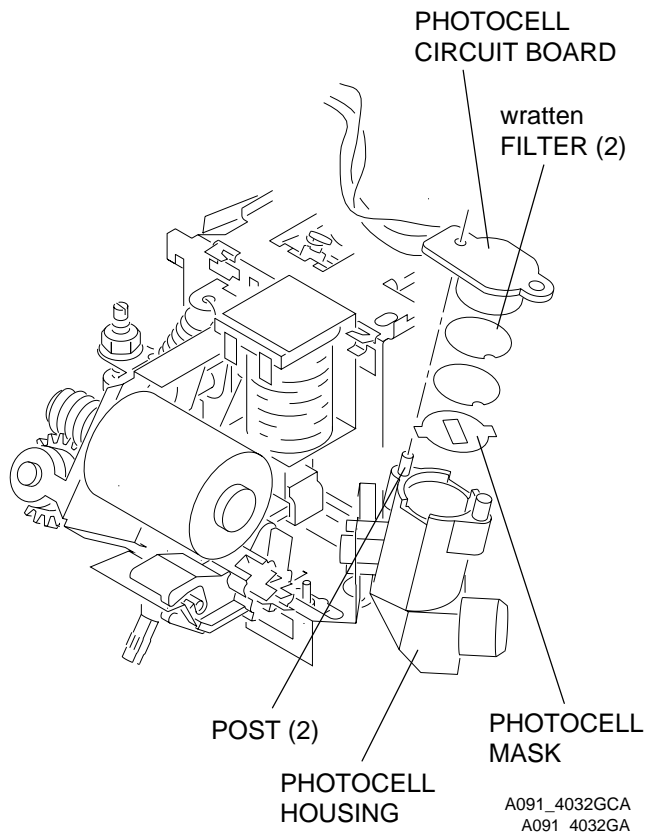
- 3 Install the FAN COVER TOOL over the FAN area and the LAMP MODULE.
- 4 Energize the projector.
- 5 Set the projector to the LO-LAMP position.
- 6 Install and hold the AUTO FOCUS TARGET SLIDE TL-3002 until it is fully seated in the GATE MECHANISM.
- 7 Look through the PROJECTION LENS hole and observe the focus light path on the AUTO-FOCUS TARGET SLIDE TL-3002. Check that the light image is correct. If not, do the adjustment for the FOCUS LIGHT PATH.
- 8 Check that the TAB on the CLAMP PAD ASSEMBLY is in the NULL position. If the TAB is not in the correct position, do the adjustment for the NULL.
- 9 Bend the PHOTOCELL BRACKET to move the NULL in the center; use T-BAR TL-3003.

**Important**

If you cannot obtain the NULL position after doing the adjustment approximately 3 times, go to the adjustment for the PHOTOCELL.



PHOTOCELL



Warning

Dangerous Voltage

- 1 Disconnect the main power.
- 2 Do the removal for the LOWER HOUSING ASSEMBLY.



Important

It is necessary to use a FAN COVER TOOL.

- 3 Install the FAN COVER TOOL over the FAN area and the LAMP MODULE.
- 4 Energize the projector.
- 5 Set the projector to the LO-LAMP position.
- 6 Install and hold the AUTO FOCUS TARGET SLIDE TL-3002 until it is fully seated in the GATE MECHANISM.
- 7 Look through the PROJECTION LENS hole and observe the focus light path on the AUTO-FOCUS TARGET SLIDE TL-3002. Check that the light path is correct. If not, do the adjustment for the FOCUS LIGHT PATH.



Warning

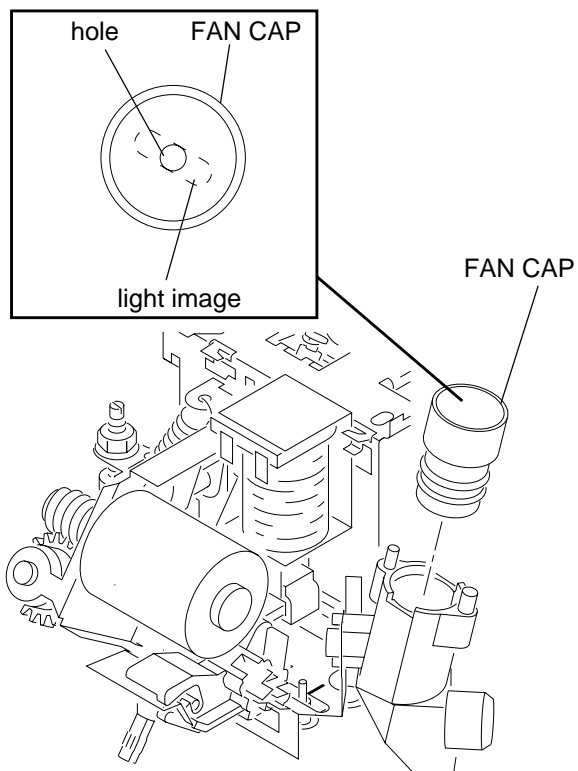
Dangerous Voltage

- 8 Disconnect the main power.

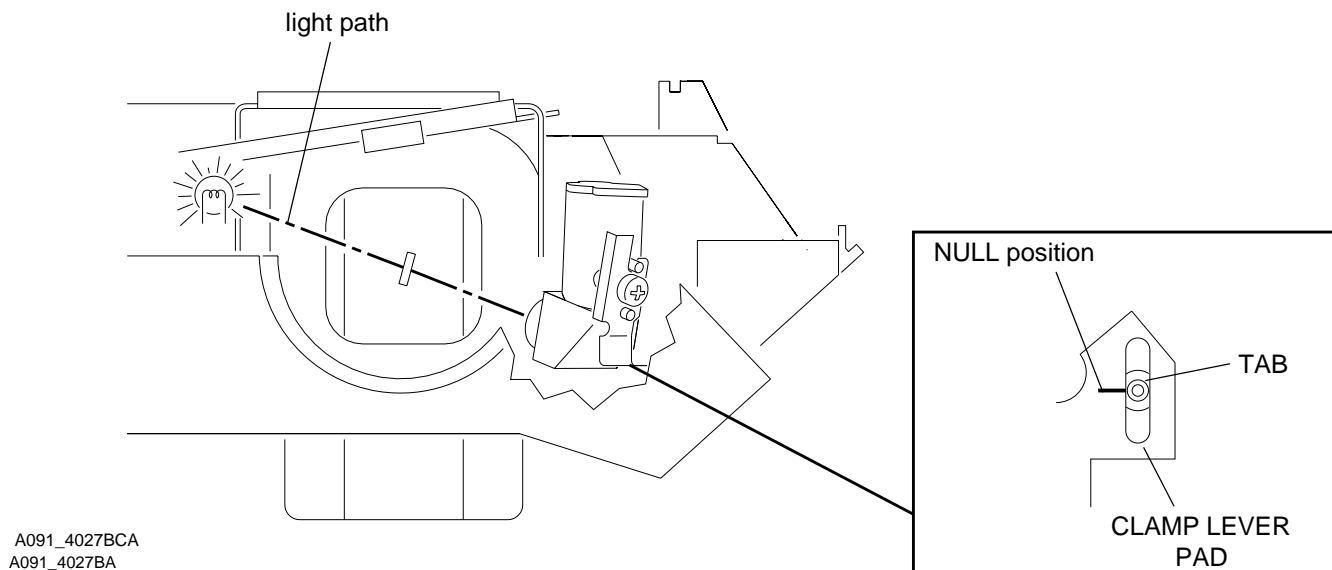
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- 9 Heat the 2 POSTS on the PHOTOCELL HOUSING to allow the POSTS to bend enough to pull the PHOTOCELL BOARD up and off the PHOTOCELL HOUSING. Use a SOLDERING IRON.
- 10 Remove the 2 *Wratten* FILTERS and the PHOTOCELL MASK.

- 11 Install the FAN CAP 232729 in the PHOTOCELL HOUSING.



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- 12** Manually move the CLAMP PAD ASSEMBLY until the TAB is in the NULL position.



Warning

Dangerous Voltage

- 13** Connect the main power.

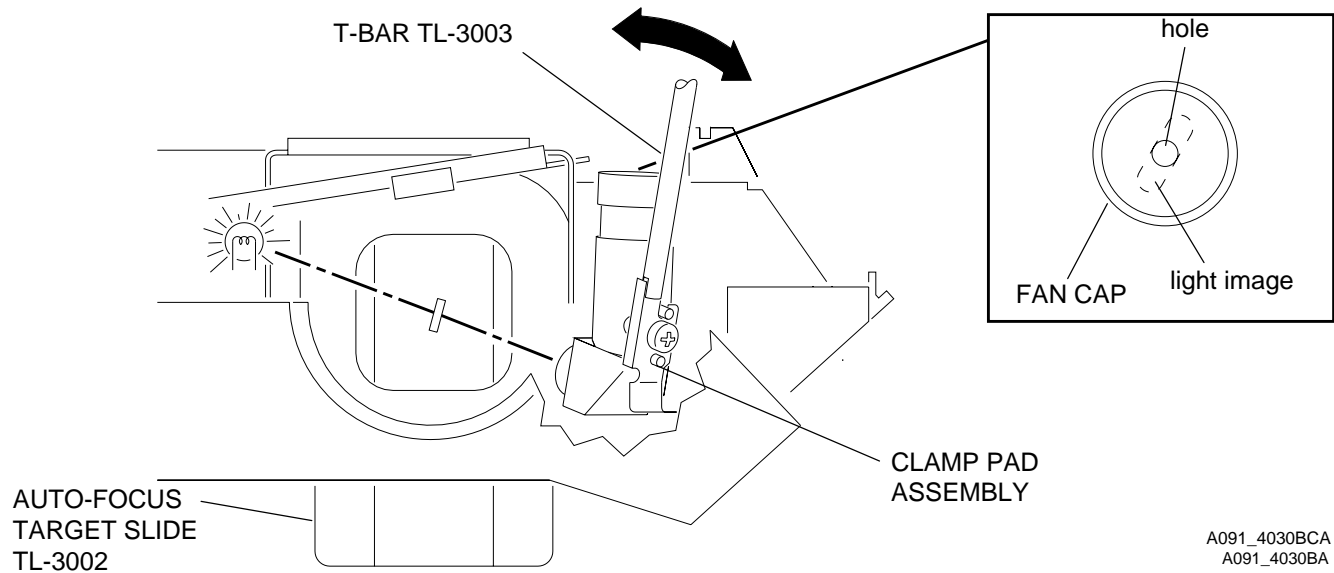


Important

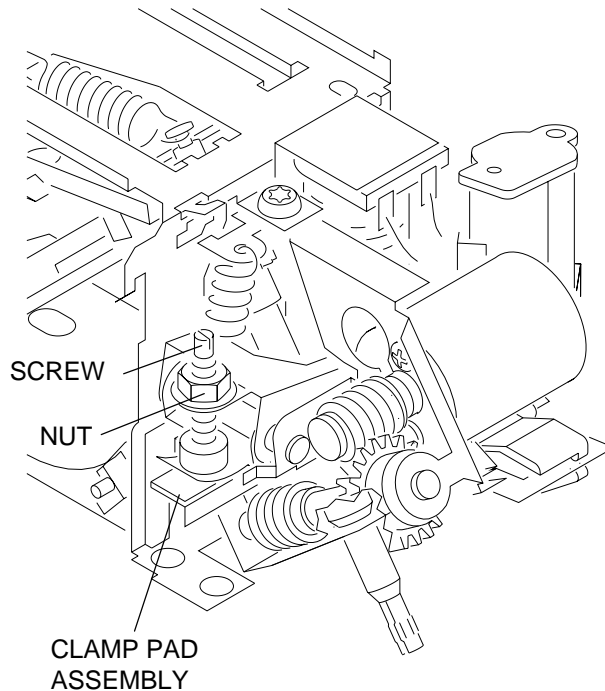
It is necessary to use a FAN COVER TOOL.

- 14** Install the FAN COVER TOOL over the FAN area and the LAMP MODULE.
- 15** Install and hold the AUTO FOCUS TARGET SLIDE TL-3002 until it is fully seated in the GATE MECHANISM.
- 16** Set the projector to the LO-LAMP position.
- 17** Observe the image of the focus light path on the bottom of the FAN CAP; the light path should be in the center of the hole in the FAN CAP.

- 18** Bend the CLAMP PAD ASSEMBLY until the image is in the center of the hole in the FAN CAP.
- 19** Assemble the PHOTOCELL MASK, FILTERS and PHOTOCELL BOARD.



CLAMP PAD ASSEMBLY - 1500 and 2000 PROJECTORS Only



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A091_4041GA



Warning

Dangerous Voltage

- 1 Disconnect the main power.
- 2 Do the removal for the LOWER HOUSING ASSEMBLY.



Important

It is necessary to use a FAN COVER TOOL.

- 3 Install the FAN COVER TOOL over the FAN area and the LAMP MODULE.
- 4 Connect the REMOTE CONTROL ASSEMBLY to the REMOTE RECEPTACLE.

**Warning****Dangerous Voltage**

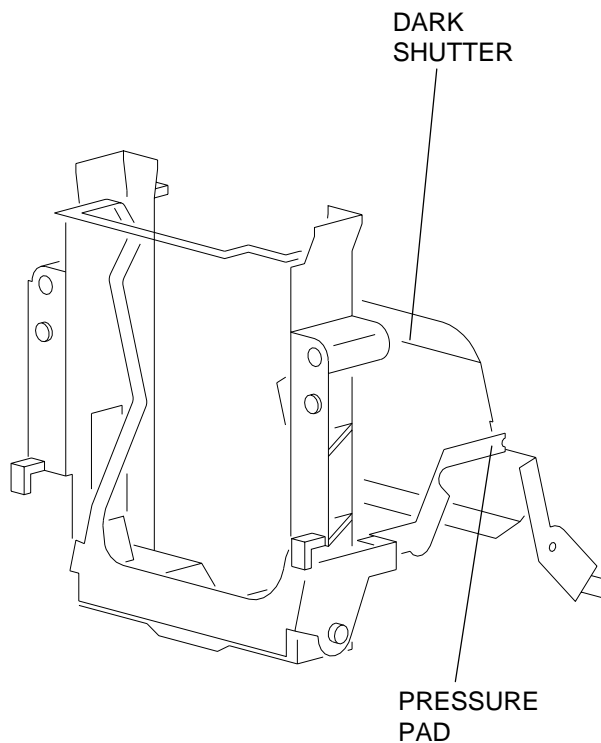
- 5** Connect the main power.
- 6** Loosen the NUT on the CLAMP PAD ASSEMBLY.
- 7** Energize the REMOTE FOCUS in either direction.
- 8** Rotate the SCREW on the CLAMP PAD ASSEMBLY to adjust the pressure of the REMOTE FOCUS CLAMP on the CLAMP PAD ASSEMBLY until the CLAMP PAD ASSEMBLY does not move.
- 9** Release the REMOTE FOCUS.
- 10** Tighten the NUT on the CLAMP PAD ASSEMBLY.
- 11** Install the AUTO-FOCUS GAUGE TL-1744 in the MECHANISM GATE. The CLAMP PAD ASSEMBLY should move forward and backward using TL-1744. If not, adjust the SCREW on the CLAMP PAD ASSEMBLY again; the CLAMP PAD ASSEMBLY adjustment is too tight and not correct.

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DARK SHUTTER

- 1 Do the removal for the LOWER HOUSING.
- 2 Insert a thin SLIDE into the GATE MECHANISM; the DARK SHUTTER should open.
- 3 Check the PRESSURE PAD is correctly aligned with the DARK SHUTTER.
- 4 Bend the PRESSURE PAD to adjust the alignment.



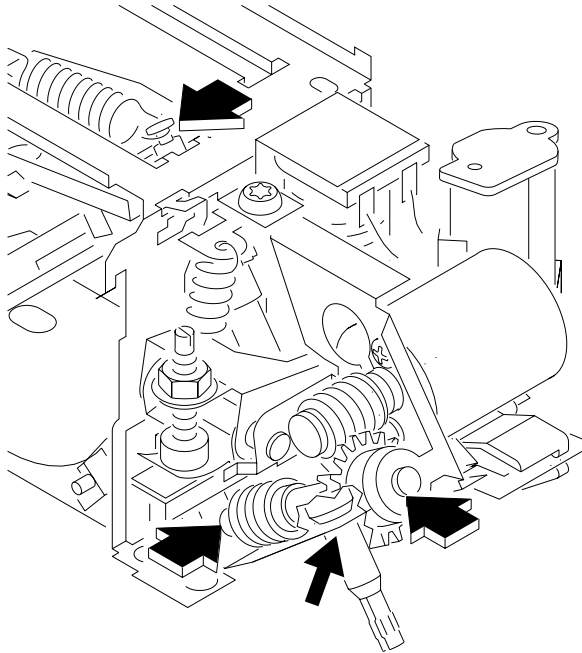
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A091_0013GA

Section 3: Preventive Maintenance

- 1 Apply SUPER LUBE TL-4276 to the following parts and areas of the PROJECTOR; see the illustrations.
 - FAN
 - INDEXER LEVER and TOP PLATE
 - WORM PULLEY ASSEMBLY
 - CAM STACK ASSEMBLY
 - CYCLE LEVERS
 - PIVOT SHAFT and LEVERS
 - LENS MOUNT ASSEMBLY

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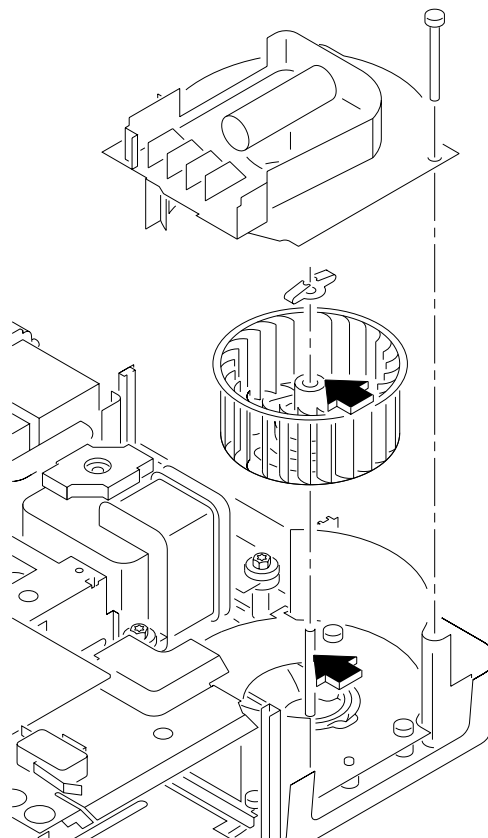
Figure 1 **LENS MOUNT AY**



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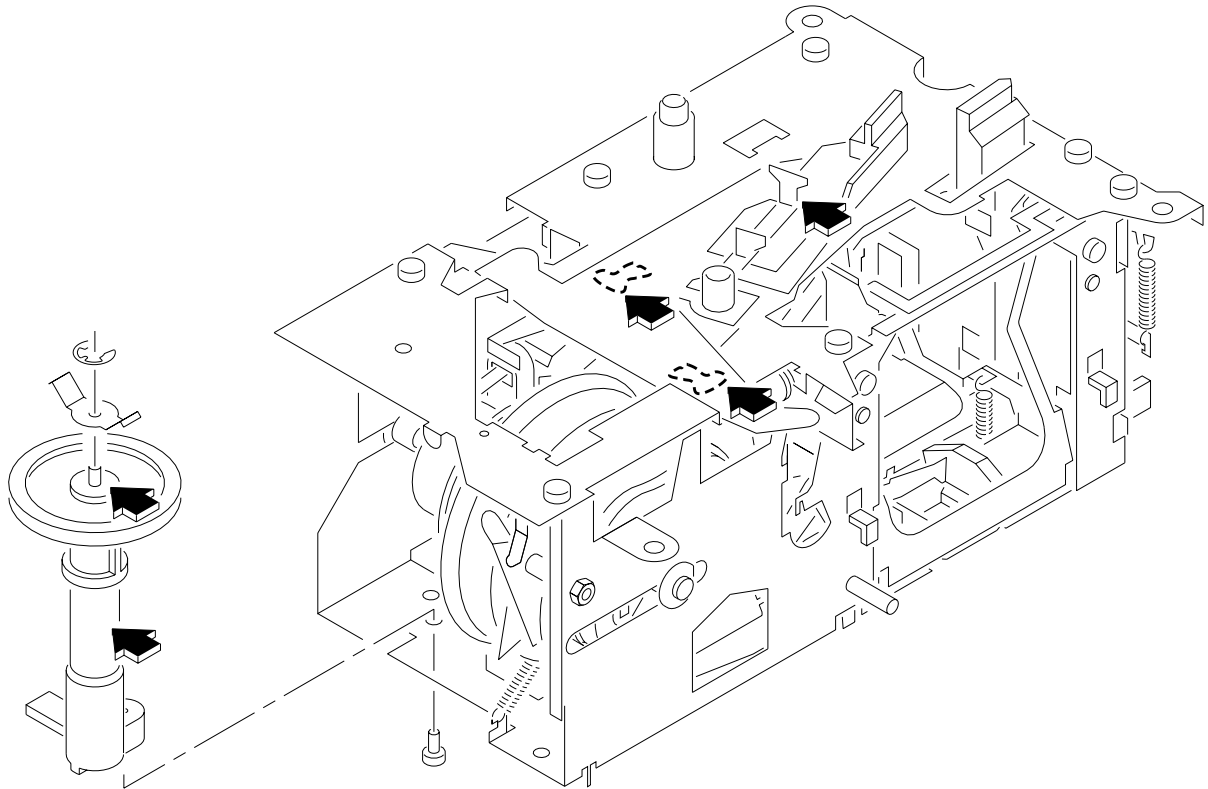
Figure 2 **FAN AY**



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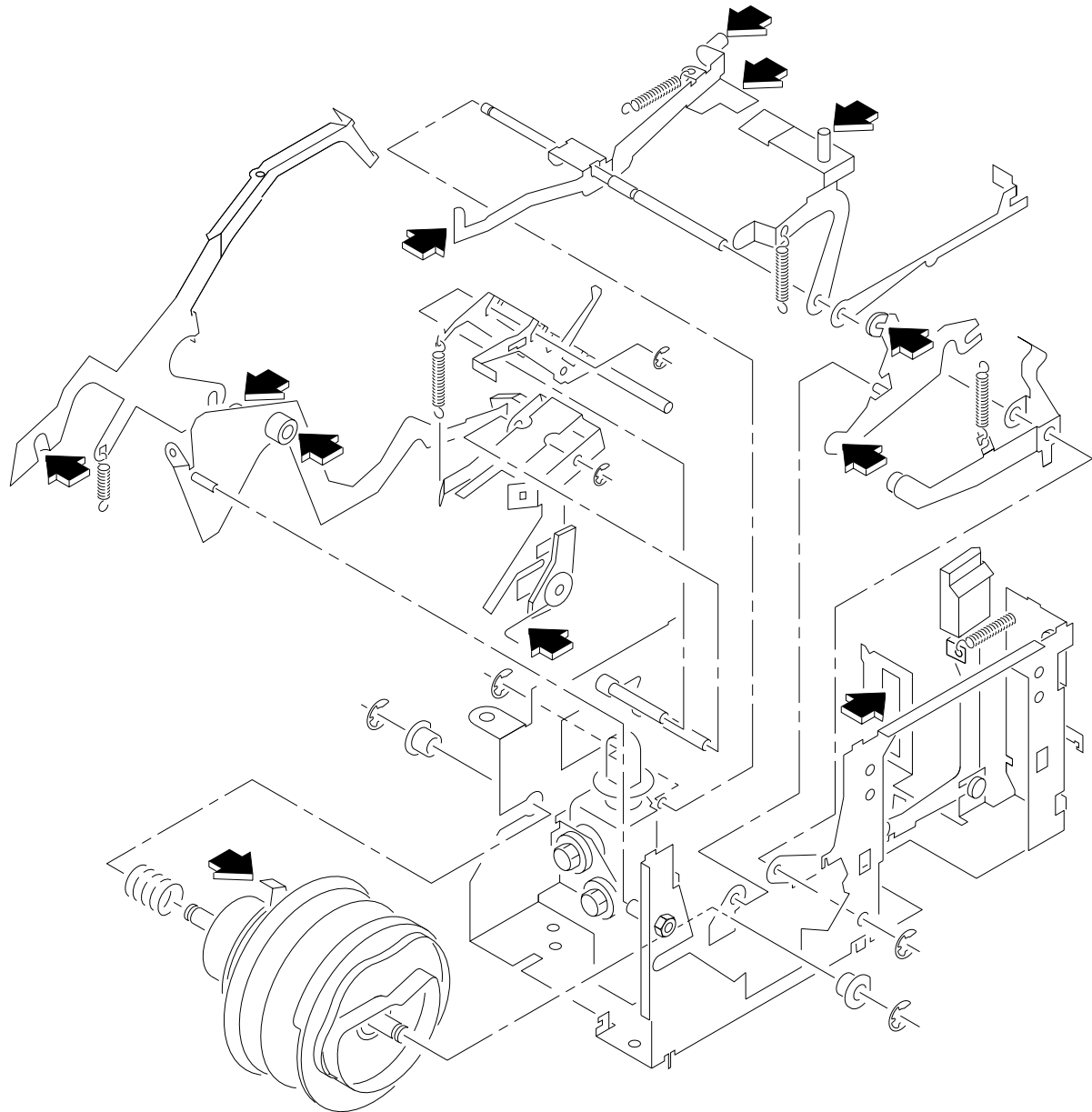
Figure 3 INDEXER LEVER and TOP PLATE



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Figure 4 **CYCLE LEVER and CAM STACK**



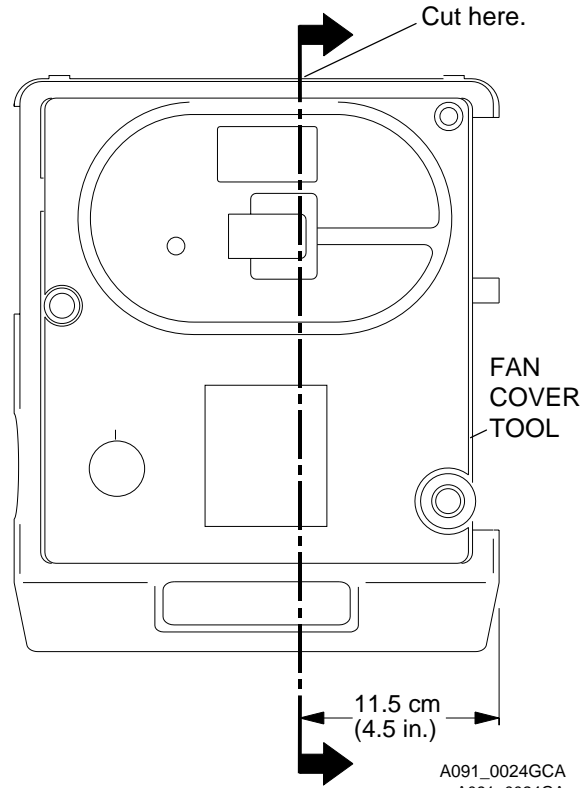
Section 4: Special Tools

Tool No.	Description
TL-1744	AUTO-FOCUS GAUGE
TL-2264	FOCUS TEST (flat field)
TL-2265	DIELECTRIC TESTER (optional)
TL-3002	AUTO-FOCUS TARGET SLIDE
TL-3003	ADJUSTMENT T-BAR
TL-3005	ADJUSTMENT TOOL
TL-3255	<i>Torx</i> DRIVER SET
TL-4276	SUPER LUBE
	DIGITAL MULTIMETER

**Important**

The LOWER HOUSING ASSEMBLY is a part of the cooling function.

- 1 To operate the projector with the LOWER HOUSING removed, make a FAN COVER TOOL.



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Section 5: Specifications

Electrical Supply, Modes 1000, 1500, and 2000	100, 115, 130, 220, 240 V, 50/60 HZ
Electrical Supply, Model 500	230 V, 50 HZ
Power Consumption, All Models	400 W
Dimensions	<ul style="list-style-type: none">• Height: 119 mm (4.69 in.) without TRAY• Width: 238 mm (12.93 in.)• Length: 295 mm (11.6 in.)
Slide size	35 mm, 50 x 50 mm (2 x 2 in.)
Slide change time	1 second
Lamp (in LO position, 70% of rated brilliance)	<ul style="list-style-type: none">• The EXTRA BRIGHT MODULE has a 30% increase in lumen output.• EXR 82 V, 300 W, 35 hours average life• EXW 82 V, 300 W, 15 hours average lamp life• FHS 82 V, 300 W, 70 hours average life• EXY 82 V, 300 W, 200 hours average life

Lumen Output	<ul style="list-style-type: none">• 900 minimum with EXR lamp• Lowest corner to center ratio is 55% minimum• Test method• <i>Ektagraphic</i>• 102 mm, F/2.8 LENS aperture (24 x 36 mm), compatible with European specification DIN 19027
Operating temperature	<ul style="list-style-type: none">• 4.5 × C (40 × F), 15% humidity in low• 49 × C (120 × F), 15% humidity in high• 21 - 27 × C (70 - 80 × F), 20 - 60% humidity optimum
Cooling	Fan speed is 3000 RPMs, emits 1360 BTUs of heat per hour
Approvals	TUV, UL, VDE, and CSA
Environmental storage	Complies with storage test specifications (TS 172)
Environmental operation	Complies with climactic test specifications (TS 218)

Safety	<ul style="list-style-type: none">• 3 GROUNDED POWER CORDS, detachable• Heat sensitive interrupt fuses• 117 C ° LAMP THERMAL FUSE• 169 C ° MOTOR THERMAL FUSE• 150 C ° TRANSFORMER• SAFETY INTERLOCK SWITCH, deenergizes projector when the LAMP MODULE is removed.
Dielectric strength	Apply 1200 V, 50 Hz for 1 second; maximum leakage current is 2.5 mA.
Automatic Timer	Models 1500 and 2000 Only: <ul style="list-style-type: none">• Operates between the following times:<ul style="list-style-type: none">– Fast = 3 ± 1 second– Slow = 22 ± 6 seconds
Elevation	16 ° maximum front elevation assembly.

Auto Focus System	<ul style="list-style-type: none"> • After the initial focus adjustment, the auto-focus system will adjust for the difference in the slide position from slide to slide. This focus adjustment will occur within 1 second after the slide is inserted into the GATE. • The focus adjustment variation should not change from the focus and reverse specifications by more than 3 times the focus and reverse specifications.
Reliability	The projector can operate for 2000 hours or 2,000,000 cycles. The projector has a MTBF (mean time between failures) of 7500 operation hours.
Maintenance	Preventive maintenance by a qualified service person is recommended every 1500 hours of operation, or after 1 year.
Warranty	The projector has a warranty by Eastman Kodak Company to operate correctly for one year from the date of purchase.
INT/EXT SWITCH Model 2000 Only	Used for internal and external LAMP control. The LAMP POWER SWITCH must be set on either the LO/HI position in the "INT" position.
Gate Temperature	95 - 100° average
Noise Development	Approximately 50 dB

6-PIN REMOTE CONTROL

All Models

- PIN 1 - Connected to PIN 3 = Reverse
- PIN 2 - Connected to PIN 3 - Forward
- PIN 3 - 25.5 V AC when used with PIN 6
- PIN 4 - FOCUS MOTOR
- PIN 5 - FOCUS MOTOR
- PIN 6 - Used with PIN 3 for 25.5 V AC

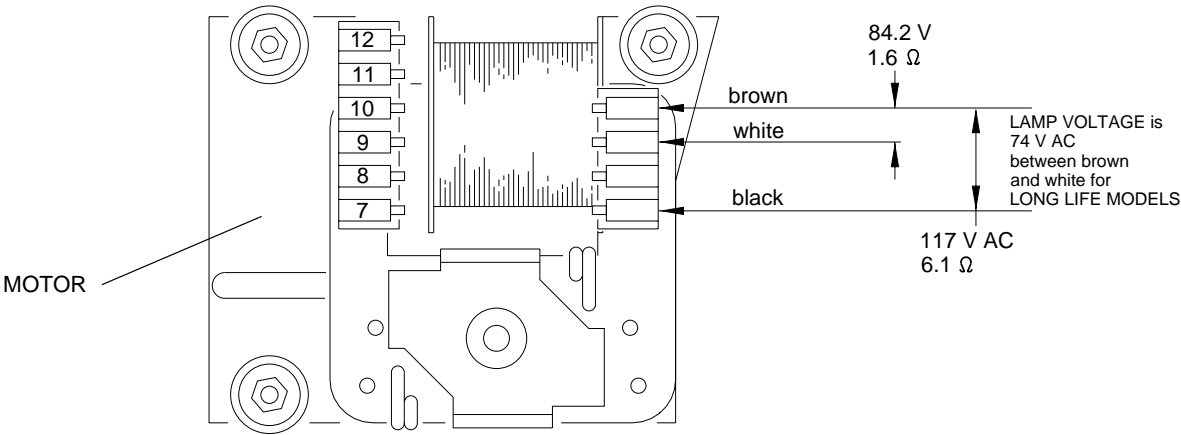
12-PIN DISSOLVE

Model 2000 Only

- A1 - 25.5 V ac when connected to B4
- A2 - No connection
- A3 - 25.5 V AC with a 2.7 K W impedance load when used with A4 (DISSOLVE CONTROL)
- A4 - Used with A3
- A5 - 24 V dc when connected to B4
- A6 - SHUTTER SWITCH
- B1 - SHUTTER SWITCH
- B2 - When connected to B4 for Reverse SLIDE TRAY
- B3 - When connected to B4 for Forward SLIDE TRAY
- B5 - ZERO POSITION SWITCH
- B6 - ZERO POSITION SWITCH

Section 6: Diagnostics

MAIN MOTOR - Voltages



A091_0006BCA
A091_0006BA

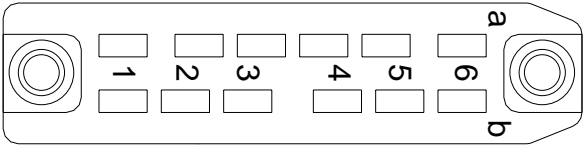
MAIN MOTOR PIN - Colors

PIN	Color
12	blue
11	red
10	black
9	yellow
8	blue
7	green

MAIN MOTOR PIN - Voltages

PIN	Voltage
7-9	50 V ac
8-9	25.5 V ac
10-11	14.5 V ac
11-12	14.5 V ac
10-12	29 V ac

12-PIN APPLICATIONS PLUG - Voltages, 2000 PROJECTORS Only



12-PIN APPLICATION PLUG

A091_4021ACA
A091_4021AA

Connections

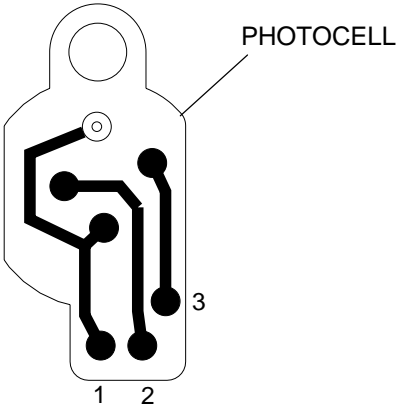
PIN	Color	From
A1	blue	PIN 8 - MOTOR
A2	----	----
A3	white	J105
A4	yellow	J104
A5	green	J105
A6	gray	SHUTTER SWITCH
B1	gray	SHUTTER SWITCH

PIN	Color	From
B2	orange	J104
B3	yellow	J105
B4	yellow	J104
B5	violet	ZERO POSITION SWITCH
B6	violet	ZERO POSITION SWITCH

Voltages

PINS	Description	Voltage
A1 to B4	AC POWER SUPPLY	25.5 V ac, 500 mA
A3 to A4	DISSOLVE CONTROL	25.5 V ac
A5 to B4	DC POWER SUPPLY	20.0 V dc, 500 mA
A6 to B1	SHUTTER SWITCH	
B5 to B6	ZERO POSITION SWITCH	
B4 to B2	Reverse	25.5 V ac
B4 to B3	Forward	25.5 V ac

PHOTOCELL - Voltages



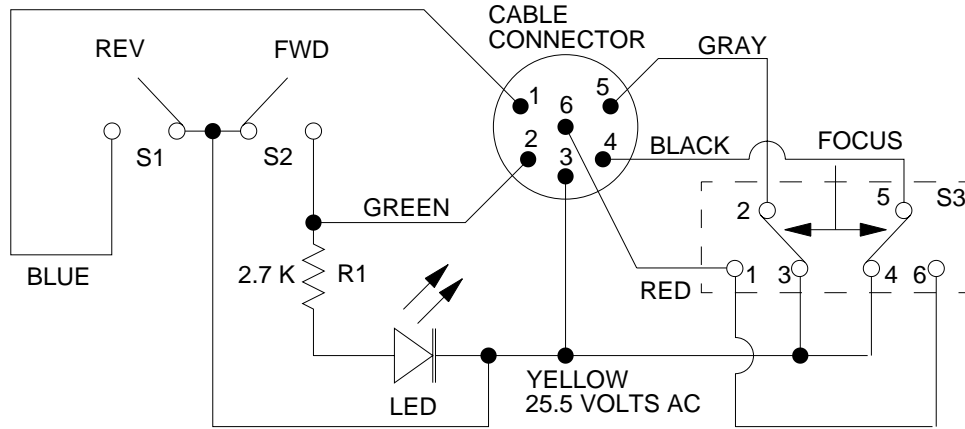
A091_4036ACA
A091_4036AA

Voltages

PINS	Voltage
1-2	14.5 V ac
2-3	14.5 V ac
1-3	29 V ac

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6-PIN REMOTE PLUG - Voltages



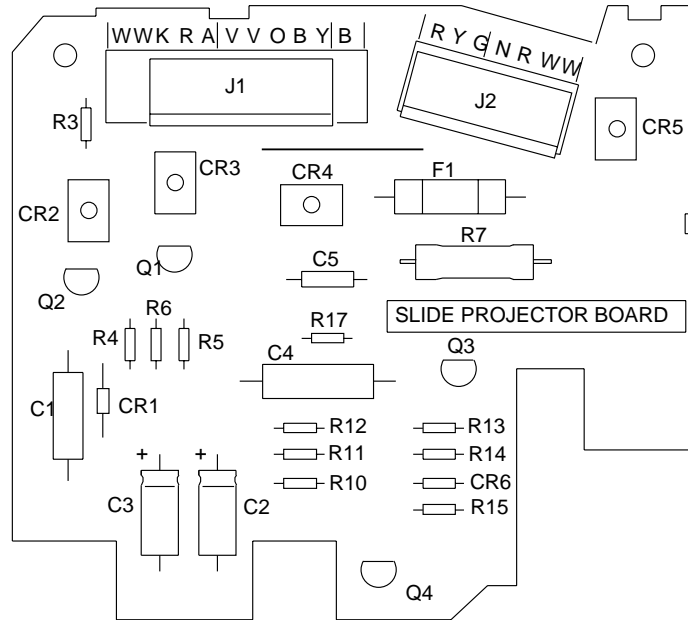
A091_0001BA_

Voltages

PIN	Description
1	Reverse
2	Forward
3	Common - 25.5 V ac
4	Focus - Forward
5	Focus - Reverse
6	RACK SOLENOID

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SMALL COMPONENT BOARD ASSEMBLY - Voltages, 1500 and 2000 PROJECTORS



A091_4034DC

Table 2 SMALL COMPONENT BOARD ASSEMBLY - Voltages, 1500 and 2000 PROJECTORS

Description	Component	Color - \pm	
TIMER Circuit	CR3	Red (+) and Black (-)	33.0 V dc
TIMER Circuit	Q3	Black, G (-)	33.0 V dc
TIMER Circuit	Q3	Red, A (+)	33.0 V dc
TIMER Circuit	Q4	Black, G (-)	19 V dc
TIMER Circuit	Q4	Red, K (+)	19 V dc
CYCLE HOLD DOWN LEVERS	CR4	Red (+)	18.7 V dc
CYCLE HOLD DOWN LEVERS	CR4	Black (-)	18.7 V dc
FOCUS	CR2	Red (+)	26.0 V dc
FOCUS	CR2	Black (-)	26.0 V dc
FOCUS	CR5	Red (+)	18 V dc
FOCUS	CR5	Black (-)	18 V dc

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MAIN COMPONENT BOARD ASSEMBLY - Voltages, 1500 and 2000 PROJECTORS

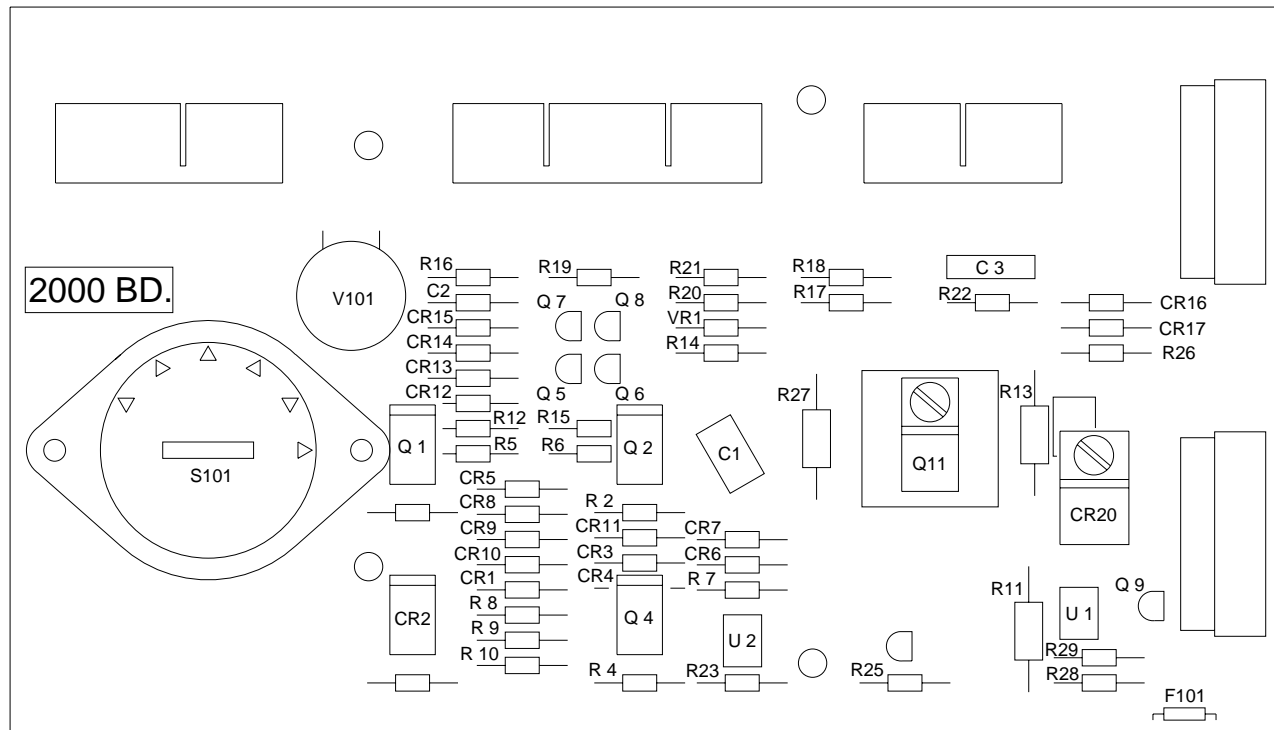


Table 3 MAIN COMPONENT BOARD ASSEMBLY - Voltages, 1500 and 2000 PROJECTORS

Component	Color	Voltage
J101	yellow	220 V ac
J101	green	100 V ac
J101	violet	117 V ac
J101	red	130 V ac
J101	white	240 V ac
J101	orange	230 V ac
J102	N	117 V ac, MAIN MOTOR
J102	B-B	82 V ac, LAMP
J103	WWR	82 V ac, LAMP, INTERNAL setting
J103	WVO	EXT - LAMP DISSOLVE
J103	Q11	82 V ac LAMP (if there is a short•circuit at Q11, the LAMP will stay on in the EXT setting)

Table 4 MAIN COMPONENT BOARD ASSEMBLY - Voltages, 1500 and 2000 PROJECTORS

FOCUS TRANSISTOR (EBC - EMITTER, BASE, COLLECTOR)			
TRANSISTOR	E	B	Voltage
Q1	E (+)	B (-)	11.0 V dc (projector ON)
Q1	E (+)	B (-)	0.20 V dc (reverse focus)
Q2	E (+)	B (-)	0.80 V dc (projector ON)
Q2	E (+)	B (-)	20.0 V dc (reverse focus)
Q3	E (-)	B (+)	11.0 V dc (projector ON)
Q3	E (-)	B (+)	0.15 V dc (forward focus)
Q4	E (-)	B (+)	0.50 V dc (projector ON)
Q4	E (-)	B (+)	20.0 V dc (forward focus)

Voltage Specifications - General Parts

Part	Procedure	Voltage
FOCUS MOTOR	-----	8.5 V ac
CYCLE SOLENOID	Press the REVERSE BUTTON.	39 Ω , 18.7 V dc
RACK SOLENOID	-----	10 V ac

Part	Procedure	Voltage
LAMP RECEPTACLE	-----	82 V ac, approximately 85-86 V ac without a LAMP MODULE installed
DROPPING RESISTOR	Move to the LO LAMP position.	3.0 Ω , 10.6 V ac drop across

Power, Illumination, and Cooling Malfunctions

Malfunction	Solution
The MOTOR does not operate.	<ol style="list-style-type: none">1. Check the continuity across the POWER FUSE, THERMAL FUSE ASSEMBLY, and MOTOR FUSE.2. Check VARISTOR V101 on the MAIN BOARD for damage. VARISTOR V101 is damaged if the voltage is not in the correct position, for example, if the voltage is set at 130 V when it is necessary to operate at 240 V.3. Check that the primary voltage on the MAIN MOTOR is correct.4. Check that the voltage on POWER SWITCH is correct.
The FAN does not operate, MOTOR operates.	<ol style="list-style-type: none">1. Check that the FAN BELT is not broken.2. Check and remove obstructions in the FAN area.

Malfunction	Solution
There is excessive noise in the FAN.	<ol style="list-style-type: none">1. Check and remove obstructions in the FAN area.2. Check that the tension is correct on the FAN BELT.3. Check that the FAN BELT is clean.4. Check the condition of the BEARING in the FAN ASSEMBLY.

Malfunction	Solution
The LAMP ASSEMBLY does not operate.	<ol style="list-style-type: none">1. Check the LAMP ASSEMBLY for damage.2. Check the LAMP RECEPTACLE ASSEMBLY for damage.3. Manually actuate the INTERLOCK SWITCH, then check that the voltage is correct across the LAMP RECEPTACLE ASSEMBLY. If you do not manually actuate the INTERLOCK SWITCH, there will be no voltage across the LAMP RECEPTACLE ASSEMBLY.4. Check that the voltage is correct across the TRIAC on the MAIN BOARD.5. Check the LAMP TERMINAL ASSEMBLY in the LAMP MODULE ASSEMBLY for damage.6. Check the “EXT/INT” SWITCH; it should be in the “INT” position.<ul style="list-style-type: none">• For 2000 PROJECTORS Only: All THERMAL FUSES and the LAMP MODULE operate correctly.

Malfunction	Solution
The LO LAMP does not operate.	<ol style="list-style-type: none">1. Check that the W of the DROPPING RESISTOR is 3 W.2. Check that the wire connections on the POWER SWITCH are correct.3. Check the POWER SWITCH for correct operation.
There is an obstruction in the light path.	<ol style="list-style-type: none">1. Check the DARK SHUTTER for correct operation. See the adjustment for the DARK SHUTTER.2. Check the LIGHT BAFFLE in the MECHANISM for damage; it should not cause a jam in the SHUTTER.

Slide Transport Malfunctions

Malfunction	Solution
Forward and reverse do not operate using the FRONT PANEL BUTTONS or REMOTE CONTROL.	<ol style="list-style-type: none"> 1. Check that the secondary voltage on the MAIN MOTOR is correct. 2. Check that the voltage across the CYCLE SOLENOID is correct. 3. Check that the W across the CYCLE SOLENOID COIL are correct.
Forward does not operate, reverse operates, voltages are correct.	<ol style="list-style-type: none"> 1. Check that the CYCLE LEVER and RATCHET PLATE are clean. Clean and lubricate the parts as necessary. Use SUPER LUBE TL-4276. 2. Install a new CAM STACK ASSEMBLY; the malfunction is within the CAM.
Reverse does not operate, forward operates, voltages are correct.	<ol style="list-style-type: none"> 1. Do the adjustment for the CYCLE SOLENOID. 2. Check that the DIRECTION LEVER SPRING is on the DIRECTION LEVER. 3. Check the DIRECTION LEVER for binds. Excessive lubrication and dirt can cause binds.

Malfunction	Solution
Projector does not complete a cycle; FAN operates.	<ol style="list-style-type: none">1. Check for a broken MECHANISM DRIVE BELT.2. Check the CYCLE LEVER and RATCHET LEVER on the CAM SHAFT ASSEMBLY for the following:<ul style="list-style-type: none">• correct alignment of the CYCLE LEVER• damage to parts• lubrication of the CYCLE LEVER (use SUPER LUBE TL-4276)3. Check the CYCLE SOLENOID for correct operation. See the Voltage chart.

Malfunction	Solution
Projector has continual cycle.	<ol style="list-style-type: none">1. Check the CYCLE LEVER for correct alignment. See the adjustment for the CYCLE LEVER.2. Check for damage to parts.3. Check for a short•circuit in the wires:<ul style="list-style-type: none">• Use a tool to hold the CYCLE LEVER down on the RATCHET LEVER. If there is a short•circuit causing the malfunction, the SOLENOID will be energized. If there is a bind, the CAM will not rotate.4. Check that the CAM SHAFT ASSEMBLY RATCHET SPRING is installed correctly.
The projector does not change cycles when using a DISSOLVE CONTROL; the REMOTE CONTROL and CONTROL PANEL BUTTONS operate correctly. (Model 2000 Only)	The CYCLE LEVER and the RATCHET PLATE are dirty. Clean and apply lubricant SUPER LUBE TL-4276 to the CYCLE LEVER and RATCHET PLATE. If this does not correct the malfunction, install a new CAM SHAFT ASSEMBLY.

Malfunction	Solution
SLIDE TRAY does not advance smoothly.	<ol style="list-style-type: none">1. Check the SLIDE TRAY LATCH for correct alignment.2. Operate the projector in the forward direction.<ul style="list-style-type: none">• Check that the INDEXER LEVER ASSEMBLY is in the correct alignment with the holes at positions A and B.• Do the adjustment for the INDEXER LEVER ASSEMBLY.• Check the condition of the LOCATOR LEVER, it should not be bent.• Check the height of the SLIDE LIFT LEVER; the lower corner of the LIFT LEVER LAMP is parallel with the TOP HOUSING. If the height is not correct, do the adjustment for the MANUAL and POWER SLIDE LIFT LEVER ECCENTRICS.
SLIDE TRAY advances when "REVERSE" is pressed.	<ol style="list-style-type: none">1. Do the adjustment for the CYCLE SOLENOID.2. Check for a bind in the DIRECTION LEVER ASSEMBLY.3. Check that the DIRECTION LEVER LINK is in the correct position.

Malfunction	Solution
SLIDE TRAY does not rotate freely when the SELECT BUTTON is pressed down. The projector has power.	<ol style="list-style-type: none">1. Press and release the SELECT BUTTON.<ul style="list-style-type: none">• Check that the LOCATOR LEVER moves correctly and is not bent.2. Press and hold the SELECT BUTTON down.<ul style="list-style-type: none">• Check the SLIDE LIFT LEVER RAMP for damage.3. Check the height of the SLIDE LIFT LEVER; the lower corner of the LIFT LEVER LAMP is parallel with the TOP HOUSING. If the height is not correct, do the adjustment for the MANUAL and POWER SLIDE LIFT LEVER ECCENTRICS.
TIMER (Models 1500 and 2000 Only) does not operate	<ol style="list-style-type: none">1. Check the VARIABLE RESISTOR for correct operation and install a new part if necessary.2. Move the TIMER BUTTON forward and backward; use a DVM to check for changes in W.3. Energize the projector and move the TIMER to "S".<ul style="list-style-type: none">• Check the voltages on CR3, Q3, and Q4, see the voltage table.

Malfunction	Solution
DARK SHUTTER SWITCH (Model 2000 Only) does not operate	<ol style="list-style-type: none">1. Energize the projector and release the DARK SHUTTER to allow projection.2. Check for continuity between PINS A6 and B1 on the 12-PIN DISSOLVE PLUG.3. Press the "FORWARD" or "REVERSE" BUTTONS to close the DARK SHUTTER.4. In the closed position, the DVM should measure 0 W.5. If this procedure does not correct the malfunction, install a new DARK SHUTTER SWITCH.

Malfunction	Solution
ZERO POSITION SWITCH (Model 2000 only) does not operate	<ol style="list-style-type: none">1. De-energize the projector.2. Check for continuity between PIN B5 and B6 on the 12-PIN DISSOLVE PLUG.3. Install a SLIDE TRAY.4. Rotate the SLIDE TRAY to engage the ZERO POSITION SWITCH, the DVM should measure 0 W.5. If the W measurement is not correct, see the adjustment for the ZERO POSITION SWITCH. Install a new ZERO POSITION SWITCH if necessary.
After the FOCUS MOTOR energizes and moves, the FOCUS MOTOR oscillates.	<ol style="list-style-type: none">1. Remove R3 and install a new 68K W 1/4 W RESISTOR (part 220040).2. If there is still a malfunction, install a new PHOTOCELL.

Focus Malfunctions

Malfunction	Solution
No manual focus	<ol style="list-style-type: none">1. Check the FOCUS SHAFT SPRING for the correct tension.2. Check the LENS SUPPORT SPRING for correct tension.3. Check the LENS DRIVE GEAR on the FOCUS SHAFT ASSEMBLY for damage and install a new part if necessary.
No remote focus (Models 500 and 1000)	<ol style="list-style-type: none">1. Check the REMOTE CORD for damage; use a REMOTE CORD that has no damage.2. Actuate and hold the REMOTE CONTROL.3. Check that the voltage across the FOCUS MOTOR is correct.4. Check that the secondary voltage on the MAIN MOTOR is correct.
FOCUS MOTOR is energized and operating for a short time when the REMOTE CONTROL CORD is connected when the MAIN MOTOR is on (Models 500 and 1000 Only)	This condition will occur only when the MAIN MOTOR is operating at the same time you connect the REMOTE CONTROL. It will not occur if the MAIN MOTOR is not operating. This is a normal condition; there is no procedure to correct this condition.

Malfunction	Solution
No remote focus (Modes 1500 and 2000, RACK SOLENOID ASSEMBLY operates)	<ol style="list-style-type: none">1. Check that the REMOTE CORD operates correctly; use a REMOTE CORD you know is good.2. Actuate and hold the REMOTE CONTROL.3. Check that the voltage across the FOCUS MOTOR is correct.4. Check the AUTO FOCUS SWITCH ASSEMBLY for correct operation.5. Check the secondary voltages on the MAIN MOTOR.

Malfunction	Solution
No auto-focus (Models 1500 and 2000 Only)	<ol style="list-style-type: none">1. Check that the AUTO-FOCUS DEFEAT SWITCH is in the "ON" position.2. Check that the MAIN PROJECTION LAMP operates correctly.3. Insert the TARGET SLIDE TL-3002 in the GATE MECHANISM.<ul style="list-style-type: none">• Check that the TARGET is correctly aligned. If not, see the Adjustment section.4. Check that the voltages across the PHOTOCELL are correct. The voltage from 1 to 2 is 14.5 V ac. The voltage from 2 to 3 is 14.5 V ac. The voltage from 1 to 3 is 29 V ac.5. Make a short• between 1 and 2; the FOCUS MOTOR should rotate.6. Make a short•circuit between 2 and 3; the FOCUS MOTOR should rotate in the reverse direction.7. If the FOCUS MOTOR operates correctly, install a new PHOTOCELL. If the FOCUS MOTOR does not operate correctly, measure the voltages on the BOARD.

Malfunction	Solution
Slow auto-focus movement (Models 1500 and 2000 only)	<ol style="list-style-type: none">1. Check that the alignment of the FOCUS LIGHT PATH and NULL is correct.2. Check the resolution of the FOCUS LIGHT PATH. Clean the AUTO FOCUS MIRROR and BRACKET ASSEMBLY.3. Install a new PROJECTION LAMP if necessary.4. Install a new PHOTOCELL.5. Check the components on the BOARD for damage.

Malfunction	Solution
AUTO FOCUS MOTOR operates continually (Models 1500 and 2000 Only)	<ol style="list-style-type: none"> 1. Install the TARGET SLIDE TL-3002 in the GATE MECHANISM. 2. Check that the alignment of the TARGET and NULL is correct. If not, see the Adjustments section. 3. Check for a light leak: <ul style="list-style-type: none"> • Install a different LAMP MODULE ASSEMBLY. If the FOCUS MOTOR stops operating continually, install a new LAMP MODULE ASSEMBLY. 4. Check that the voltages across the PHOTOCELL are correct. The voltage from 1 to 2 is 14.5 V ac. The voltage from 2 to 3 is 14.5 V ac. The voltage from 1 to 3 is 29 V ac. 5. Check that the PHOTOCELL HOUSING has 2 FILTERS. 6. Install a new PHOTOCELL. 7. Check the components on the BOARD for damage.
AUTO FOCUS MOTOR operates continually in forward only or reverse only and does not operate (stops) in the null position.	Check that the wires of the AUTO FOCUS MOTOR are in the correct position; the blue wire goes to the mark on the AUTO FOCUS MOTOR.
AUTO FOCUS adjusts after REMOTE use	Do the adjustment for the CLAMP LEVER ASSEMBLY.

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