

International Standard Series Mirror System Manual





If you have any questions, please contact Lang-Mekra Technical Support.
www.lang-mekra.com Tel: 1-888-MEKRA-4-U Email: quality@lang-mekra.com Fax: (803) 337 5265

Product Features

- ❑ Replaceable Components
- ❑ Minimal Diagnosis & Repair Time
- ❑ Spring-Loaded Fold-Away
- ❑ Independent Main and Convex Mirror Adjustment
- ❑ Self-Regulating Heaters

Customer Support

Toll-Free Support Hotline
1-888-MEKRA-4-U

Web-Accessible Service Manuals
& Product Updates
www.lang-mekra.com

E-Mail
quality@lang-mekra.com

Fax: (803) 337-5265

These Products May Be The Subject of Pending U.S. Patent Applications or May Be Covered By One or More of the Following U.S. Patents: 4,991,950 5,110,196 5,137,247 5,196,965 385,243 5,687,035 387,317

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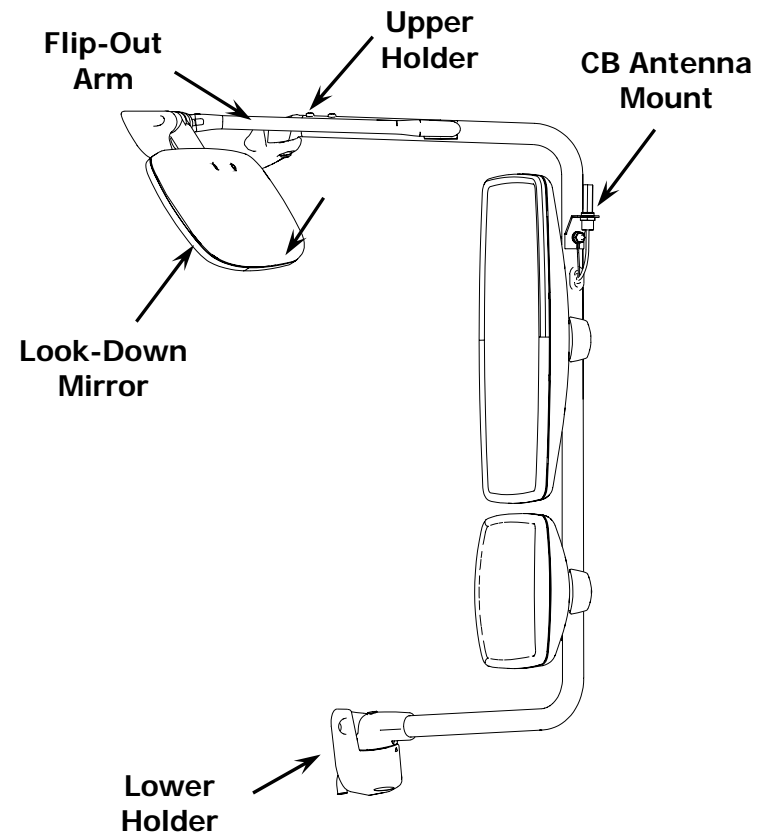
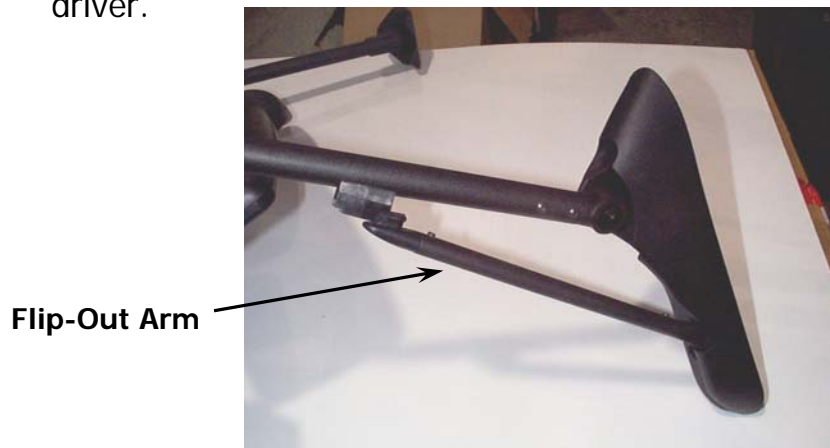


(G.1) Removal of Complete Bracket Assembly

- 1) Remove antenna from antenna base.
- 2) Disconnect control cable and CB cable inside the cab.
- 3) Remove 3 screws from upper holder, using a T-40 driver.
Be sure to hold the mirror steady to prevent damage or personal injury.

Important! DO NOT use the flip-out arm as a handle to hold or carry the mirror!

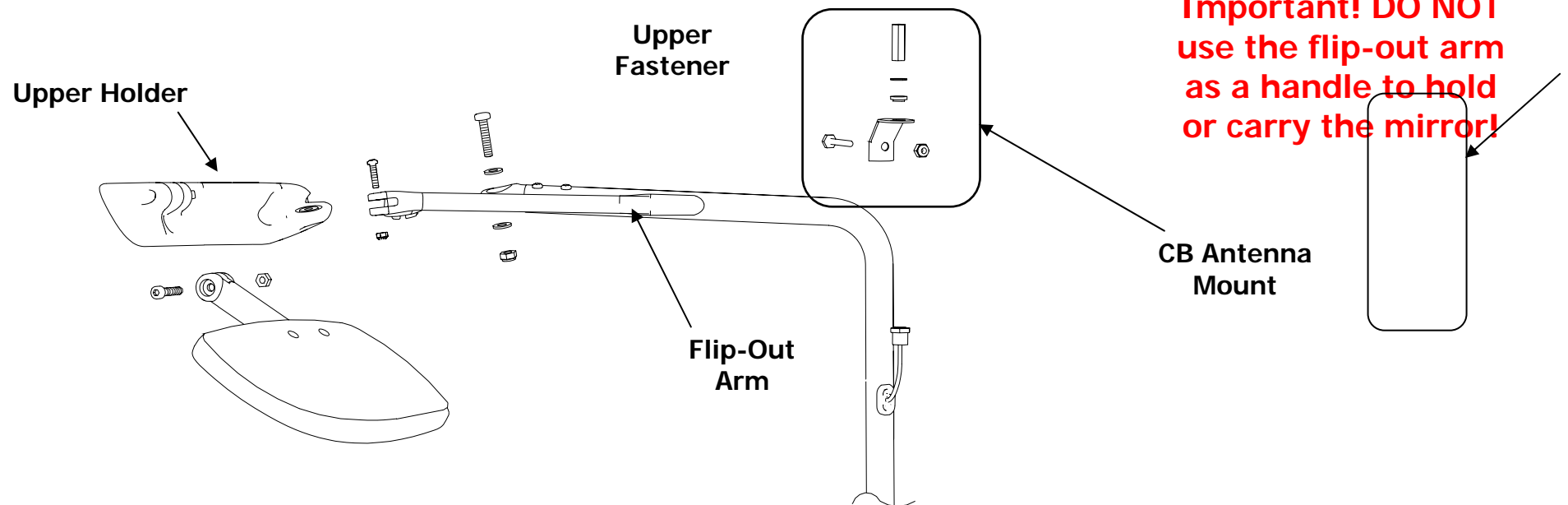
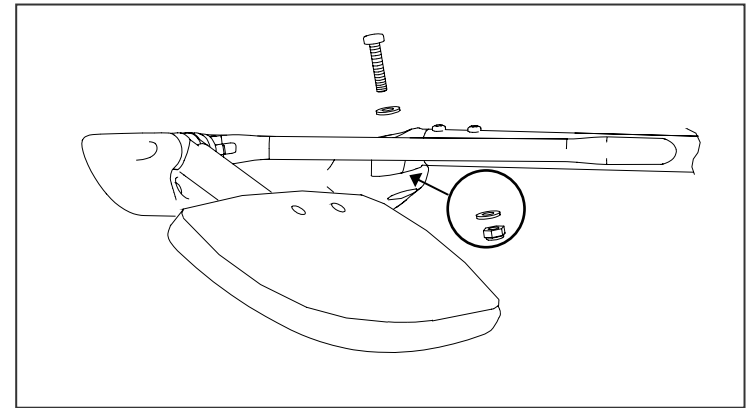
- 4) Remove the 3 screws from the lower holder, using a T-40 driver.



(G.2.1) Changing the Upper Fastener Kit

Important—hold the mirror and bracket system in place firmly throughout this process to avoid damaging the door or the mirror.

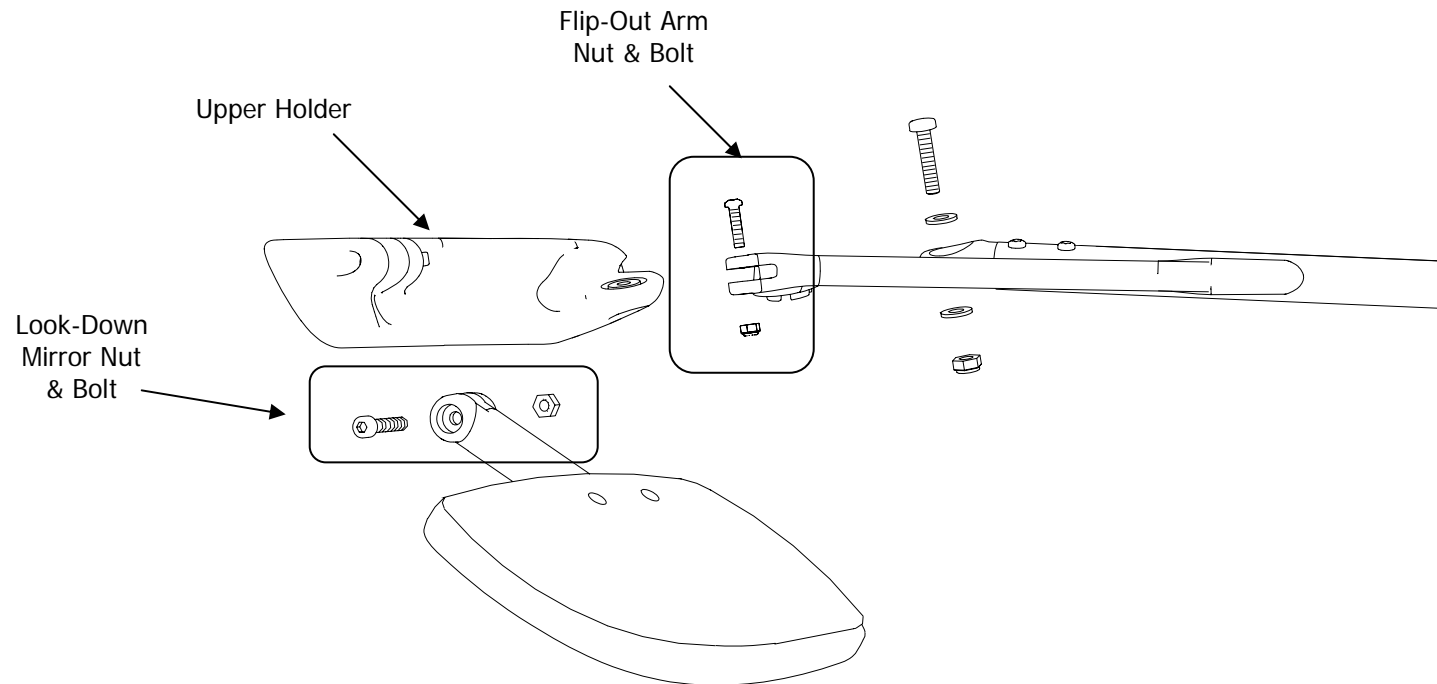
1. Remove fastener kit, using a 13 mm socket and a 6 mm allen wrench. Hold the mirror in place to prevent it from falling.
2. Assemble upper fastener kit as shown.
3. Hand-tighten nut on bolt. Torque nut to 10 N-m (7.3 ft-lbs).



(G.2.2) Removing or Adjusting Look-Down Mirror

To remove or adjust the look-down mirror, use a 6 mm allen driver and 13 mm socket at the look-down mirror nut and bolt. Nominal setting for the look-down mirror nut and bolt is 12 N-m (9 ft-lbs).

The flip-out arm is attached by a bolt with a 4 mm allen head, torqued to 3 N-m (2 ft-lbs).



(G.3) Removing, Attaching, or Adjusting the Mirror Heads (From the Bracket)

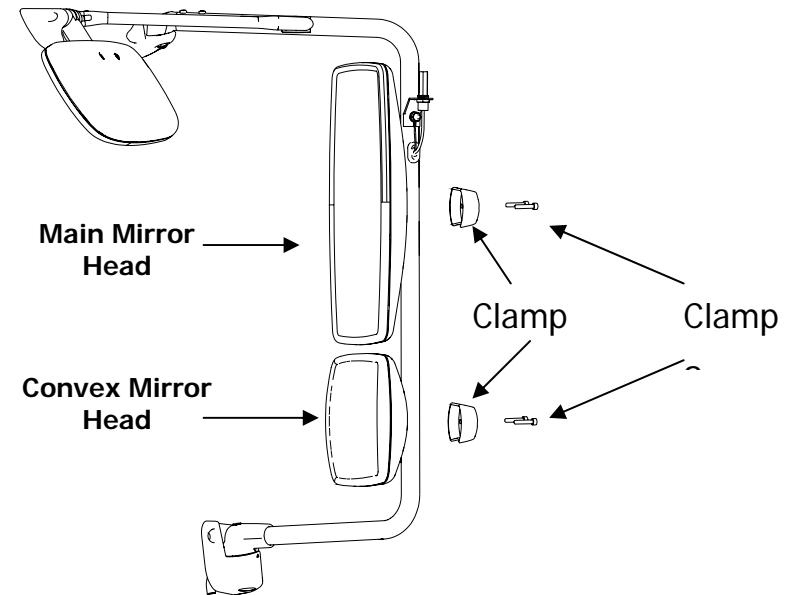
To Adjust Mirror Head Angle (On the Tube)

1. Loosen the two clamp screws using a T-30 driver. To prevent the mirror from sliding down, hold it in place while removing the screws.
2. Adjust mirror head to desired position. Tighten clamp screws to 10 N-m.

MAKE SURE THE OPTIMUM VIEWING ANGLE IS ASSURED FOR THE DRIVER OF THE VEHICLE AT ALL TIMES!

To Remove Mirror Head

Loosen the two clamp bolts using a T-30 driver. To prevent the mirror from sliding down, hold it in place from the bottom.



To Attach Mirror Head

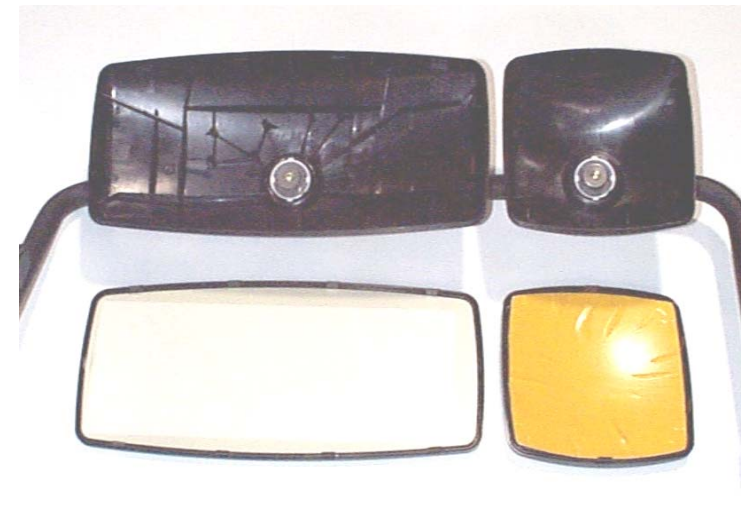
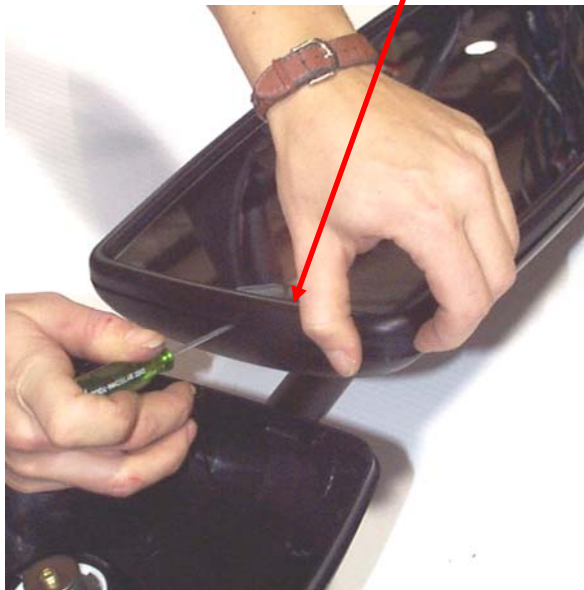
1. Place the mirror head on the bracket, and hand-tighten the bolts at the mounting clamp.
2. Adjust the mirror to the optimum position for the driver.
3. Tighten the two bolts at the mounting clamp to 10 N-m.

(G.4.1) Mirror Plate Exchange - Removing Mirror Plate

Your Lang-Mekra mirror system is equipped with a durable mirror plate. The mirror glass is reinforced with anti-shatter adhesive to minimize splintering in the event of breakage. We strongly recommend the prompt replacement of damaged mirror plates.

If you have a heated mirror, be careful not to damage the wiring or the heater connections when changing the mirror plate, especially when detaching heater wires from the mirror plate.

Access slots for
locking tabs



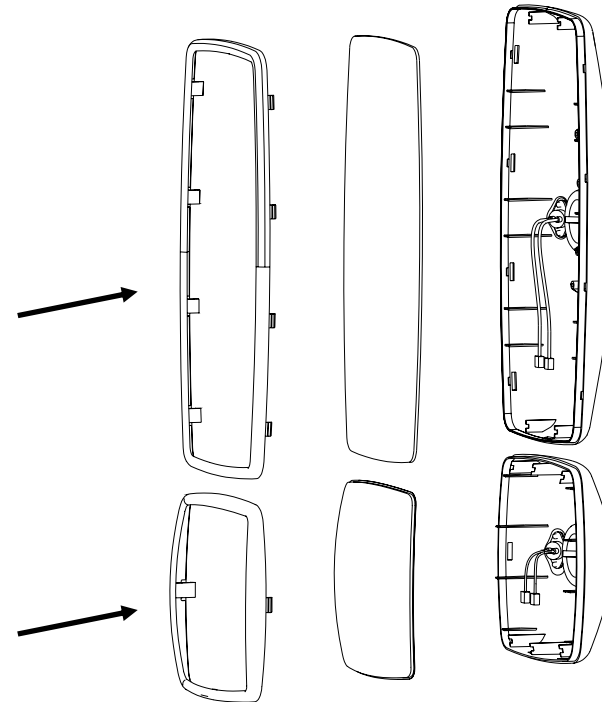
To Remove the Mirror Plate

1. Use a small flat-head screwdriver to push in the locking tabs thru the access slots along the mirror housing. **Do not use the screwdriver to pry the mirror plate!**
2. Start pushing in the tabs near the corner of the mirror, then continue around the mirror while pulling lightly on the mirror bezel.
3. Pull the mirror bezel away from the housing. If the mirror is heated, detach the heater wires. **Do not cut the wires.**

Exchange - Installing Mirror Plate

To Install the Mirror Plate

1. Attach wire terminals to back of new mirror plate.
2. Place glass between mirror housing and bezel. Align locking clips on bezel with mirror housing. **Make sure all the clips are inside the housing.**
3. Press mirror plate into housing firmly, ensuring that all clips lock into place.

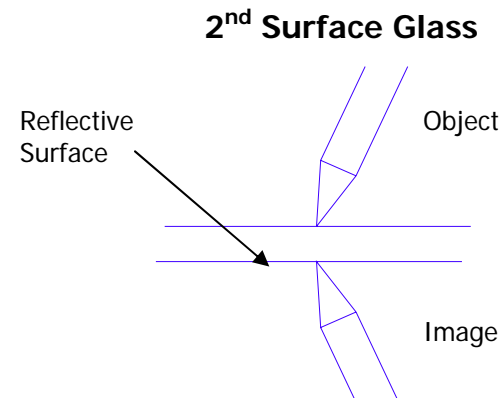
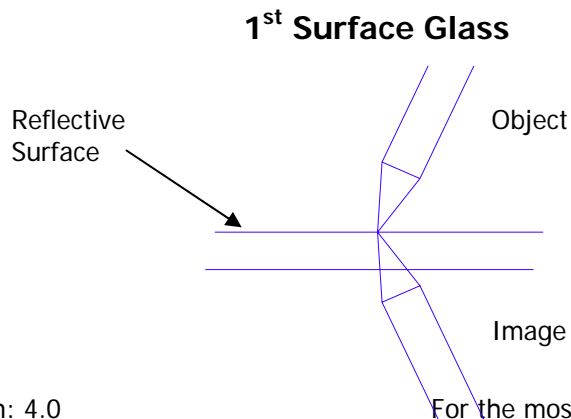


(G.5) General Maintenance and Cleaning Tips

There are two main types of mirror glass: 1st surface and 2nd surface. Each type has different properties. 1st surface glass has an exposed reflective surface. 2nd surface glass has a shielded reflective surface. When cleaning 1st surface mirror glass, abrasive cleaners or brushes should be avoided. Excessive abrasion may damage the reflective surface. 2nd surface glass can be scratched, but the reflective surface will not be damaged.

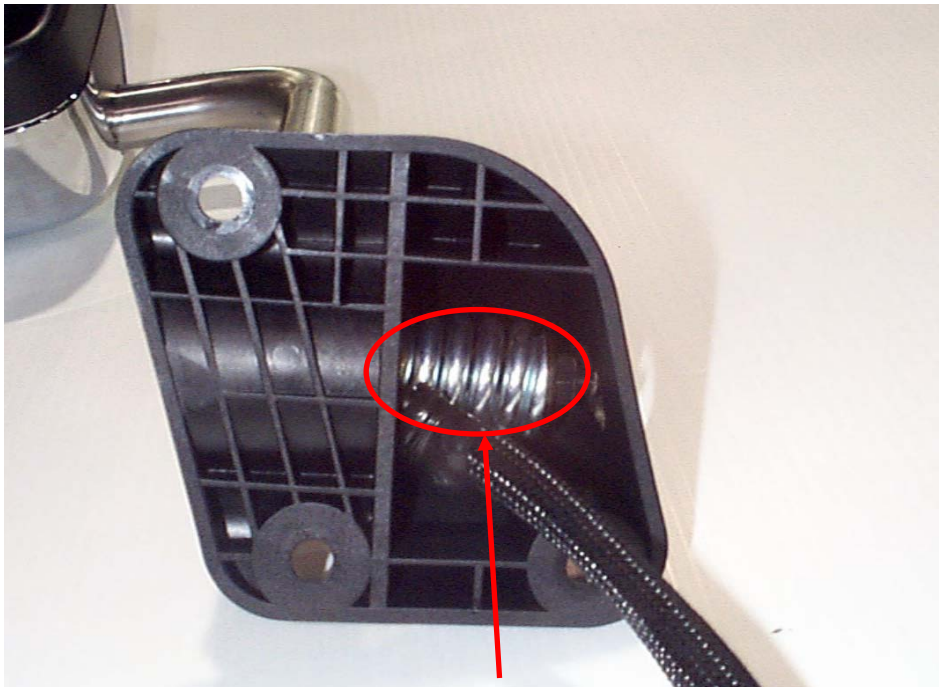
A standard glass cleaner and a soft, clean cloth should be used to clean the mirror surface.

To verify whether you have 1st or 2nd surface glass, place an object such as a pen on the glass surface. Angle the pen to one side, so that you can see the tip. If there is a gap between the tip of the object and the tip of the image, your glass is 2nd surface. If there is no gap between the tip of the object and the tip of the image, your glass is 1st surface.



T.1.1 Bracket Does Not Fold Back, or is Difficult to Fold Back

The mirror brackets are equipped with a fold-away feature, sometimes referred to as a break-away system. The mirrors will fold forward or backward manually, or upon impact. This feature minimizes damage to the mirror system and the door. The upper holder is designed to give the bracket stability. However, the upper fastener kit may sometimes require adjustment. See G.2 to service the upper fastener. If the break-away force is too high (difficult to fold back), you may loosen the nut in the lower holder. The entire system foldaway force should be between 190 & 320 N. When the detent is in the nominal position, the detent spring should be almost fully compressed.



Detent spring should be almost fully compressed in the nominal detent position.

T.1.2 Bracket Folds Back Too Easily

If the bracket folds back too easily, check the following:

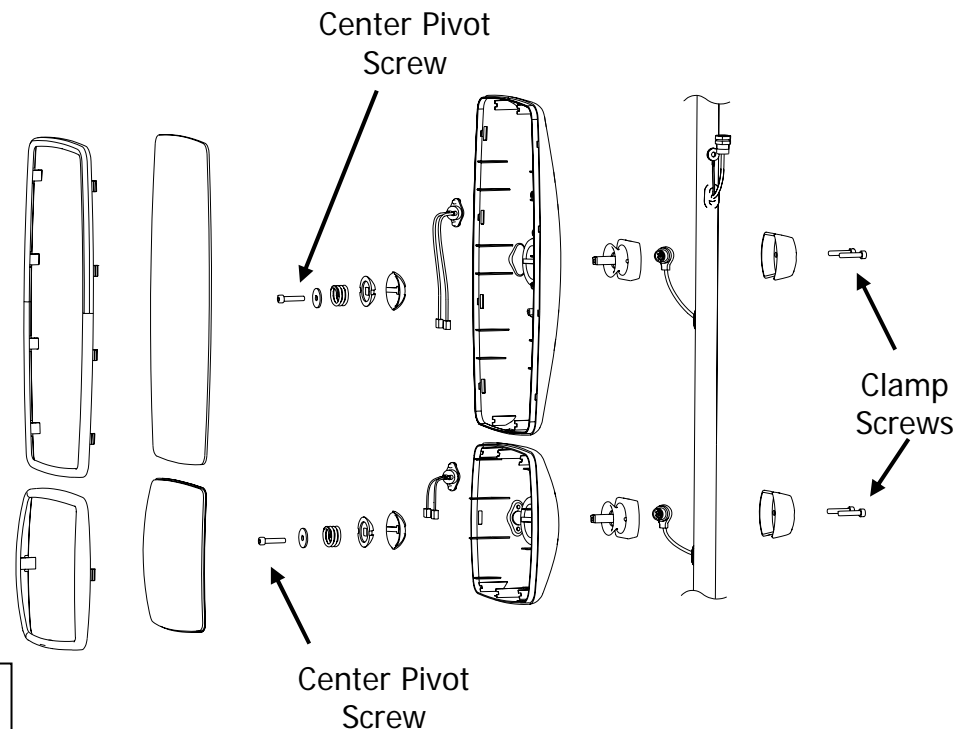
1. Upper fastener kit (**G.2**) should be torqued to 10 N-m (7.3 ft-lbs). If the upper fastener kit is too loose, tighten it to the specified torque.
2. Ensure the lower pivot is in the correct detent position. The arrow on the front (outer) surface of the holder should align with the arrow on the tube connector.

The system foldaway force should be between 190 & 320 N. In the nominal detent position, the detent spring should be almost fully compressed. The torque on the nut at the detent spring may be adjusted to correct the system foldaway force.

T.2 Mirror Movement Analysis

Currently, International Standard Series mirrors are not offered with a remote control option. The mirrors are manually adjusted. If any difficulty is found when attempting to adjust the mirror, or if the mirror will not hold its position, check the following:

1. Remove the mirror plate according to **G.4.1**.
2. Ensure there are no obstructions or foreign objects blocking movement of the mirror head.
3. Ensure all components are present and in proper working order (see illustration).
4. Check the torque setting of the fasteners. The center pivot screw should be set at 6 N-m. The clamp screws should be torqued to 10 N-m, using a T-30 driver.



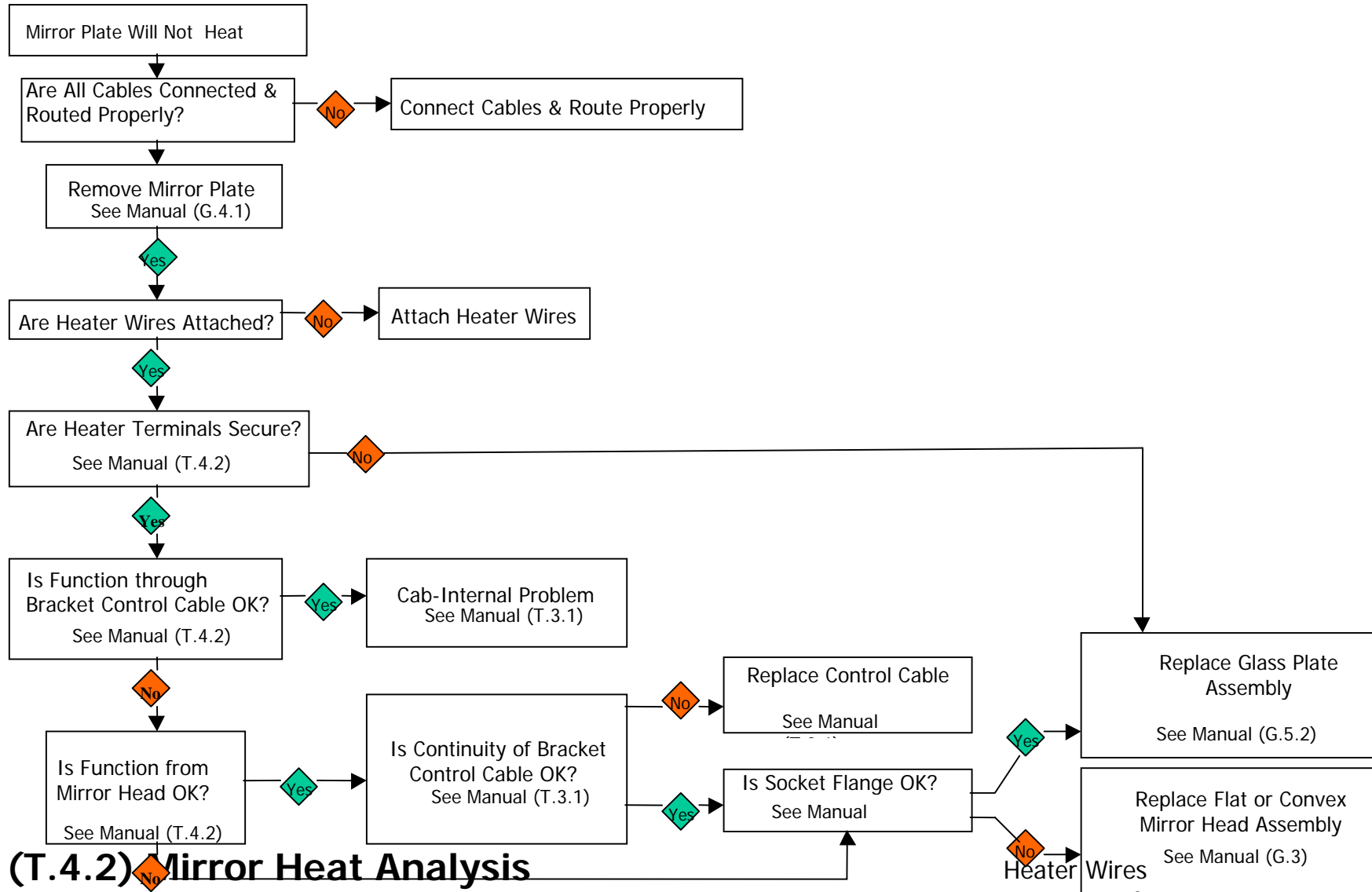
If you still encounter difficulties, contact the Lang-Mekra Technical Support center at 1-888-MEKRA-4-U.

(T.3.1) Wiring & Connections

Mirror Head Internal Wiring		
Circuit Color	Function	Pin Out
Red	Heater	1
Black	Common	2

Control Cable Schematic		
Circuit Color	Function	Pin Out
Black	Heater Ground	H
Red	Heater	D
Blue	CB Ground	G

(T.4.1) Mirror Heat Analysis Flowchart



(T.4.2) Mirror Heat Analysis

Version: 4.0

For the most recent version of this manual, visit www.lang-mekra.com

&
Socket Flange



1. Follow the flowchart in **T.4.1** to diagnose mirror heat problems.
2. Remove the mirror glass according to **G.5.1**. Check to ensure the mirror is heated. (Heater terminals are present on the back of the glass.)
3. Make sure all cables and connections are tight.
4. Check to see if the heater terminals are secure. (See Illustration). If not, replace the glass plate assembly.
5. Using a tester unit, or supplying power to the bracket cable according to **T.3.1**, test the function of the heat by applying power to connector inside the cab. If the mirror functions properly, the fault is cab-internal.
6. Using a tester unit, or supplying power to the mirror head socket flange according to **T.3.1**, test the function of the heat on the mirror head. If the heat functions at this point, but not from the control cable, the problem is in the control cable (inside the bracket). Check the connections, and if necessary replace the control cable as indicated in the flowchart. Always perform a continuity check (see **T.3.1**) on the control cable and confirm the fault before attempting to replace the control cable.
7. If there is no continuity from the socket flange according to **T.3.1**, the mirror head assembly (flat or convex) must be replaced. See **G.3** for details.



Heater Wires
&
Socket Flange

(T.5) Surface Finishes

For the black version, the paint on the bracket and other metal parts is a flexible, weather-resistant powder-coating. This coating requires no topcoat. If the paint is chipped or otherwise damaged, a matching wet paint may be used if the surface is properly prepared.

(W.1) Warranty Coverage

Lang-Mekra provides a warranty for production parts covering materials and workmanship. Warranty reimbursement includes part replacement, repair time at accepted labor rates and reasonable administrative costs. The time period of the warranty coverage and specific terms are determined by International.

The warranty will cover:

- Functional Quality of Components
- Lang-Mekra Workmanship
- Confirmed Field Failures
- Labor Costs for Replacement
- Reasonable Administrative Costs

The warranty will not cover:

- Glass Breakage and Other Impact, Abuse, Mistreatment
- Minor Re-assembly
- Unnecessary and/or Improper Service
- Unauthorized Product Alterations and/or Additions
- Unreasonable Costs

Please Do Not Submit Warranty Claims for Items That Have Suffered Impact!

Parts Returned Exhibiting Impact Damage Will Be Denied Coverage, and May Be Returned Freight-Collect

Lang-Mekra reserves the right to inspect submitted warranty claims. Upon satisfactory performance and history, dealers, fleets and other end users may be granted coverage based on description alone. Evaluation points will include:

- Complete and Accurate Claim Descriptions
- Use of Appropriate Replacement Parts
- Absence of Rejected Claims



(W.2) Available Service Parts

All warranty replacements should utilize the appropriate service part or parts. **Unnecessary replacements are not covered by warranty.**

The list below represents all parts currently available for service and after-market use relating to the International Standard Series mirror system. The reference number given corresponds to the illustrations following in W.3. Please note that the illustrations and parts information are periodically updated.

Be sure to check the after-market part listings available through International for the latest revisions to this list.

Item Number	International Part Number	LM Aftermarket Part Number	Part Description
22	2509979C1	144061100-PDC	Bezel, BLACK Spot Cvx R450
21	2509980C1	144051000-PDC	Bezel, Flat Main, BLACK
3	2505285C3	584004013-PDC	BRACKET ASSEMBLY ,BLACK ,STANDARD, HEATED, CB, LH
4	2505286C3	584004014-PDC	BRACKET ASSEMBLY, BLACK, STANDARD, HEATED, CB, RH
5	2505287C2	584004012-PDC	BRACKET ASSEMBLY, BLACK, STANDARD, HEATED, RH, W/Lookdown Mirror
5	2505278C2	584004004-PDC	BRACKET ASSEMBLY, BLACK, STANDARD, RH, W/Lookdown Mirror
3	2505276C3	584004005-PDC	BRACKET ASSEMBLY,BLACK,STANDARD, CB,LH
4	2505277C3	584004006-PDC	BRACKET ASSEMBLY,BLACK,STANDARD, CB,RH
5	2505291C3	584004008-PDC	BRACKET ASSEMBLY,BLACK,STANDARD,CB,RH,W/Lookdown Mirror
5	2505292C3	584004016-PDC	BRACKET ASSEMBLY,BLACK,STANDARD,HEATED,CB,RH,W/Lookdown Mirror
3	2505279C2	584004009-PDC	BRACKET ASSEMBLY,BLACK,STANDARD,HEATED,LH
4	2505284C2	584004010-PDC	BRACKET ASSEMBLY,BLACK,STANDARD,HEATED,RH



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Item Number	International Part Number	LM Aftermarket Part Number	Part Description
3	2505274C2	584004001-PDC	BRACKET ASSEMBLY,BLACK,STANDARD,LH
4	2505275C2	584004002-PDC	BRACKET ASSEMBLY,BLACK,STANDARD,RH
13	2506242C92	084002002-PDC	CB ANTENNA HOLDER ASSEMBLY
14	2506241C91	084000100-PDC	CB WIRE HARNESS
15	2507274C1	624059999-PDC	CLAMP KIT BLACK
9	2505816C1	404066304-PDC	CONVEX GLASS PLATE ASSEMBLY FOR STANDARD MIRROR HEAD, HEATED
9	2505815C1	404066204-PDC	CONVEX GLASS PLATE ASSEMBLY FOR STANDARD MIRROR HEAD, NON-HEATED
7	2505281C1	564061210-PDC	CONVEX MIRR HEAD, STANDARD, MANUAL, NON-HEATED
7	2505283C1	564061220-PDC	CONVEX MIRROR HEAD, STANDARD, MANUAL, HEATED
12	2506235C91	204001611-PDC	FASTENER KIT
8	2505813C1	404056700-PDC	FLAT GLASS PLATE, STANDARD ASSEMBLY, NON-HEATED
8	2505814C1	404056800-PDC	FLAT GLASS PLATE, STANDARD, ASSEMBLY, HEATED
19	2507655C91	614003501-PDC	FLIP OUT ARM KIT LEFT
19	2507656C91	614003502-PDC	FLIP OUT ARM KIT RIGHT
20	2509146C91	614000007-PDC	Flipout Receiver Kit, LH with Rivet
20	2509147C91	614000008-PDC	Flipout Receiver Kit, RH with Rivet
11	2506219C91	563600120-PDC	LOOK-DOWN MIRROR,BLACK
11	2506220C91	563600260-PDC	LOOK-DOWN MIRROR,CHROME
6	2505280C1	514051210-PDC	MIRROR HEAD, STANDARD, MANUAL, NON-HEATED
6	2505282C1	514051220-PDC	MIRROR HEAD,STANDARD, MANUAL, HEATED
1	3580610C92	594052001-PDC	MIRROR SYSTEM STANDARD, LH, BLACK, NO CONVEX
1	3561589C95	594052007-PDC	MIRROR SYSTEM STANDARD, LH,CB,BLACK
1	3561591C94	594052011-PDC	MIRROR SYSTEM STANDARD, LH,HEATED,BLACK
2	3561590C95	594052008-PDC	MIRROR SYSTEM STANDARD, RH,CB,BLACK



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Item Number	International Part Number	LM Aftermarket Part Number	Part Description
2	3561592C94	594052012-PDC	MIRROR SYSTEM STANDARD, RH,HEATED,BLACK
1	3561587C94	594052003-PDC	MIRROR SYSTEM STANDARD,LH,BLACK
1	3561593C95	594052015-PDC	MIRROR SYSTEM STANDARD,LH,HEATED,CB,BLACK
2	3561588C94	594052004-PDC	MIRROR SYSTEM STANDARD,RH,BLACK
2	3561595C94	594052006-PDC	MIRROR SYSTEM STANDARD,RH,BLACK, W/Lookdown Mirror
2	3561596C95	594052010-PDC	MIRROR SYSTEM STANDARD,RH,CB,BLACK,W/Lookdown Mirror
2	3561597C94	594052014-PDC	MIRROR SYSTEM STANDARD,RH,HEATED,BLACK,W/Lookdown Mirror
2	3561594C95	594052016-PDC	MIRROR SYSTEM STANDARD,RH,HEATED,CB,BLACK
2	3561598C95	594052018-PDC	MIRROR SYSTEM STANDARD,RH,HEATED,CB,BLACK,W/Lookdown Mirror
n/a	2506243C91	904000100-PDC	TESTER UNIT BOX
18	2509068C91	614000004-PDC	Upper Holder Kit, LH No CB Ground
18	2509065C91	614000001-PDC	Upper Holder Kit, LH w/CB
18	2509069C91	614000005-PDC	Upper Holder Kit, RH No CB Ground
18	2509066C91	614000002-PDC	Upper Holder Kit, RH w/CB
18	2509067C91	614000003-PDC	Upper Holder Kit, RH with Lookdown Attachment w/CB
18	2509070C91	614000006-PDC	Upper Holder Kit, with Lookdown Attachment, No CB Ground
16	2506240C91	904000030-PDC	WIRE HARNESS KIT

(W.3) Illustrations

