

Component Procedures: Mirrors

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Component Procedures: Mirrors

Parts and Labor (itype_189)

Parts

Qualifier	Part #	Name	Price	Note
Mirrors	93573F20104X	Mirror Switch	149.13	
Mirrors > Mirror Motor > Kor?	87612F2000	With Memory	234.56	
Mirrors > Mirror Motor > Kor?	87612F1000	Without Memory	155.79	
Mirrors > Mirror Motor > Kor?	87622F2000	With Memory	229.19	
Mirrors > Mirror Motor > Kor?	87622F1000	Without Memory	155.61	
Mirrors > Mirror Motor > Us ?	87612C2100	With Memory	159.98	
Mirrors > Mirror Motor > Us ?	87612C2000	Without Memory	149.96	

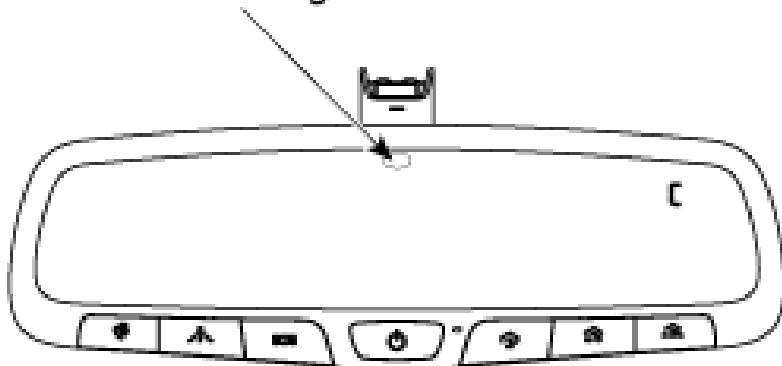
Labor

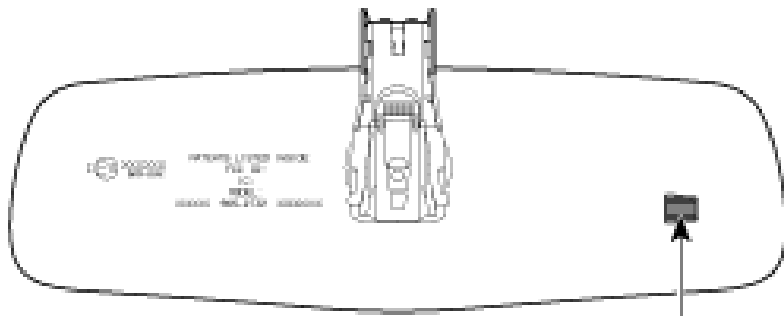
Operation	Qualifier Path	Skill	Std Hrs	Wty Hrs
Remove & Replace	Mirrors > Switch, R&R	B	0.6	0.0

Electro Chromic Inside Rear View Mirror - Description and Operation (Article 44634)

- Description
- The forward facing sensor sees if the brightness of the surroundings is low enough for the mirror to operate its function.
- The rearward looking sensor detects glaring of the reflecting light from a vehicle behind.
- The ECM is darkened to the level as determined by the rearward looking sensor. When the glaring is no longer detected, the mirror stops functioning.

Backward Looking Sensor





Forward Looking Sensor

- Operation

Specification

Item Standard Value

Rate voltage DC 12V

Operating voltage range DC9 - 16V

Operating temperature range -30 to +65°C (-22 -- 149°F)

Direction display 8

Renewal time 2 sec.

Switch Point Accuracy

[Switch points]

Switch Point Heading $\pm 10^\circ$

N - NE 22.5

NE - E 67.5

E - SE 112.5

SE - S 157.5

S - SW 202.5

SW - W 247.5

W - NW 292.5

NW - N 337.5

There should be hysteresis at each switch point. Switch points between the 8 cardinal directions, these switch points are $\pm 10^\circ$

NOTICE

- There should be hysteresis at each switch point.

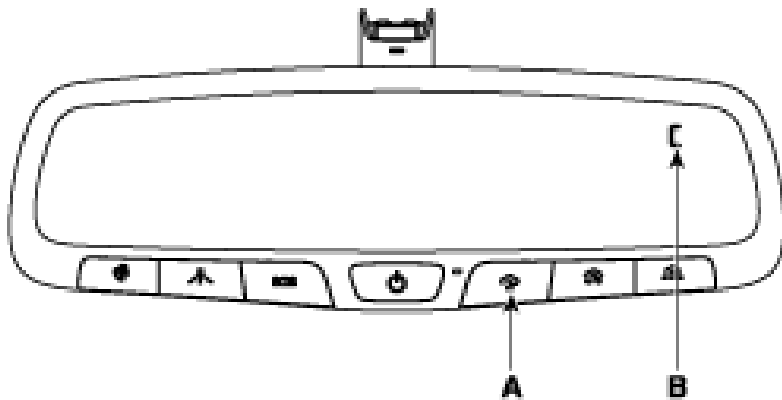
- Switch points between the 8 cardinal directions, these switch points are $\pm 10^\circ$



Compass display interval

- Function

- Press and release the feature control button (A) to turn the display feature OFF.
- Press and release the feature control button (A) again to turn the display back ON. Additional options can be set with press and hold sequences of the feature control button (A) and are detailed below. There is a difference between magnetic north and true north. The compass in the mirror can compensate for this difference when it knows the magnetic zone in which it is operating. This is set either by the dealer or by the user.



Power Outside Mirror System - Service Tips (Article 42535)

Circuit Description

When in an ignition switch ACC position or higher, the angle of the side view mirrors can be adjusted using the mirror switch.

To adjust a mirror, move the lever of the selector switch to R (right) or L (left) and

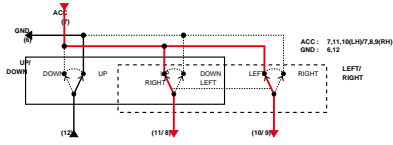
press the Left/Right or Up/Down switch. When the Up/Down switch is pressed, the Left/Right switch is interfaced while the Up/Down switch is interfaced when the Left/Right switch is pressed.

Move the selector switch to the neutral position after the mirror operation so that it will not malfunction.

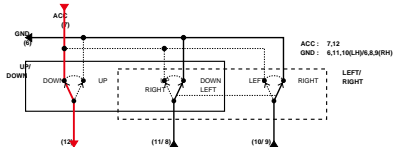
Power Outside Mirror Internal Switch Interface Direction

(Without IMS)

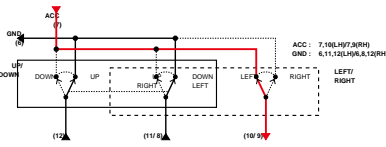
1) Mirror Switch Up.



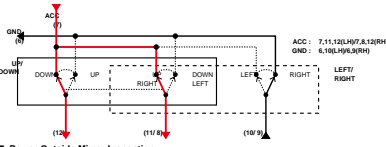
2) Mirror Switch Down.



3) Mirror Switch Left.



4) Mirror Switch Right.



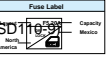
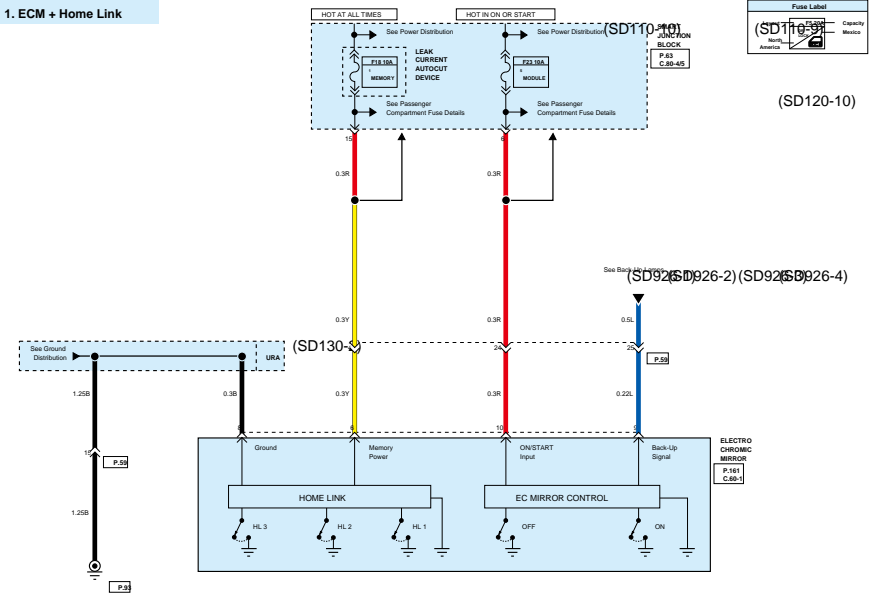
Power Outside Mirror Inspection

Check if the power outside mirror operates normally as shown in the table below.

	Direction	1	2	3	B+	GND
LH	Up	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Down	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Left	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
RH	Up	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Down	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Electro Chromic Mirror System - Schematic Diagrams (Article 42482)

1. ECM + Home Link



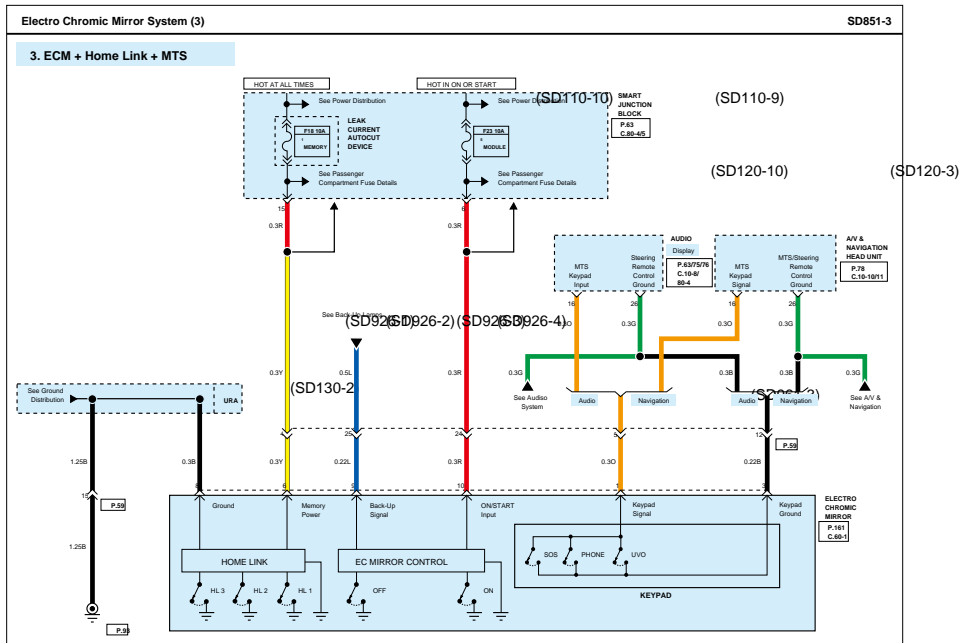
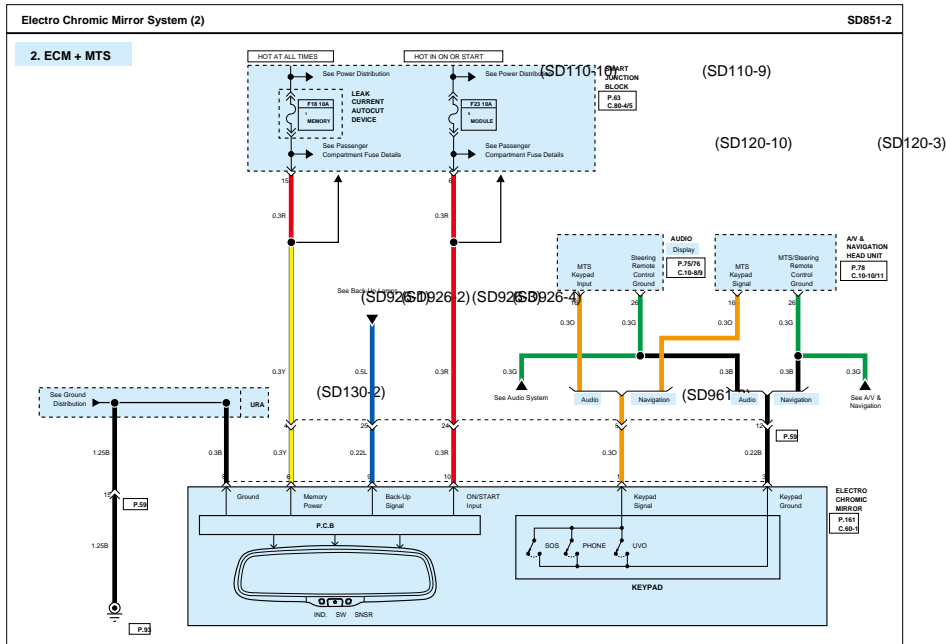
(SD120-10)

(SD120-3)

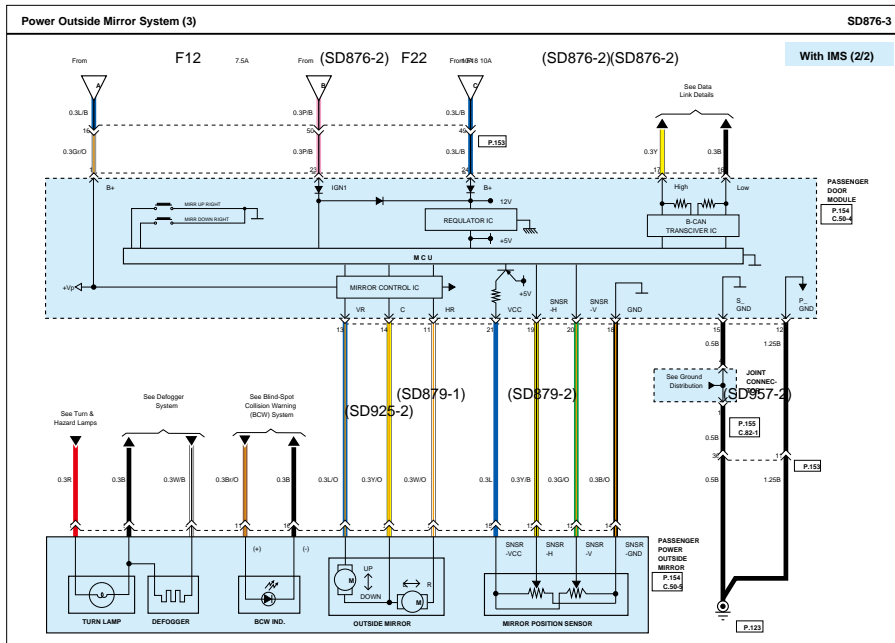
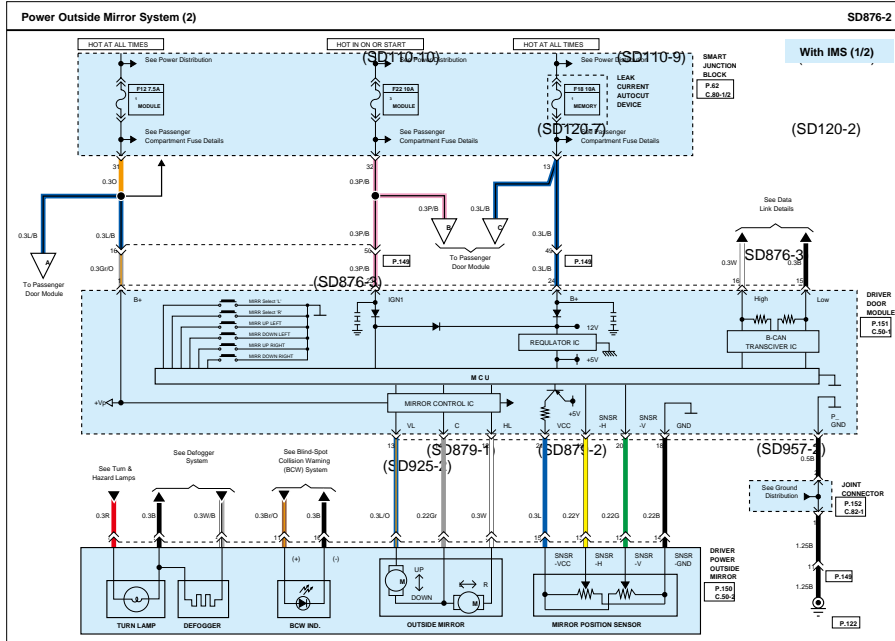
(SD926-2) (SD926-4)



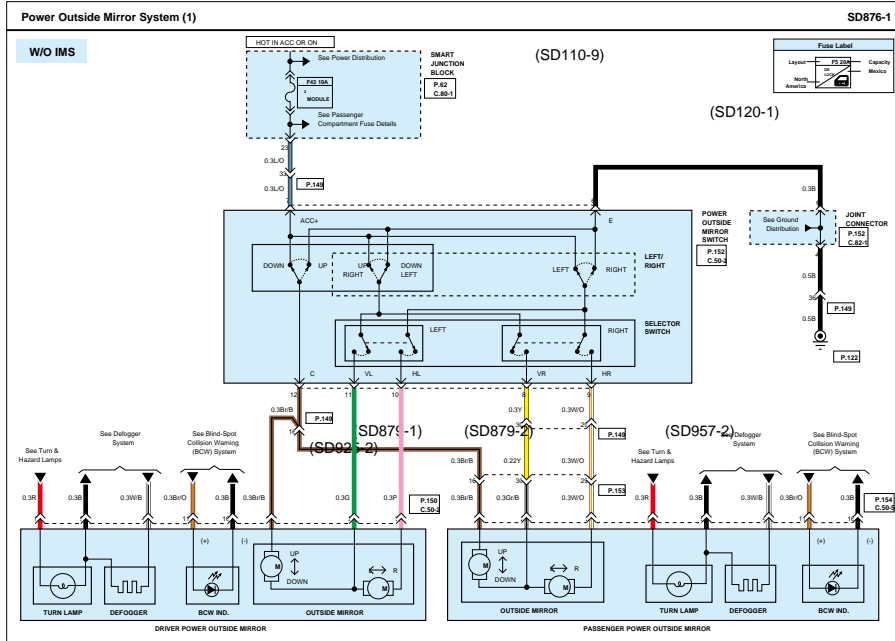
(P.161) (C.64)



Power Outside Mirror System - w/ IMS - Schematic Diagrams (Article 42534)



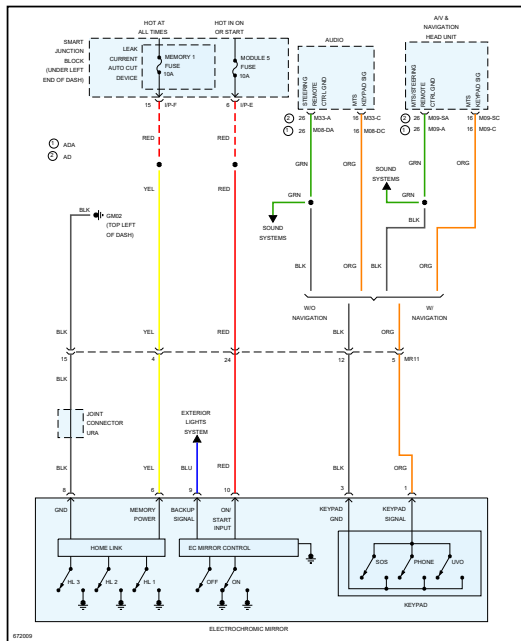
Power Outside Mirror System - w/o IMS - Schematic Diagrams (Article 42532)



Mirrors - Electrochromic Mirror Circuit (W/ Home Link & MTS) (Article 10749)

Mirrors - Electrochromic Mirror Circuit (W/ Home Link & MTS)

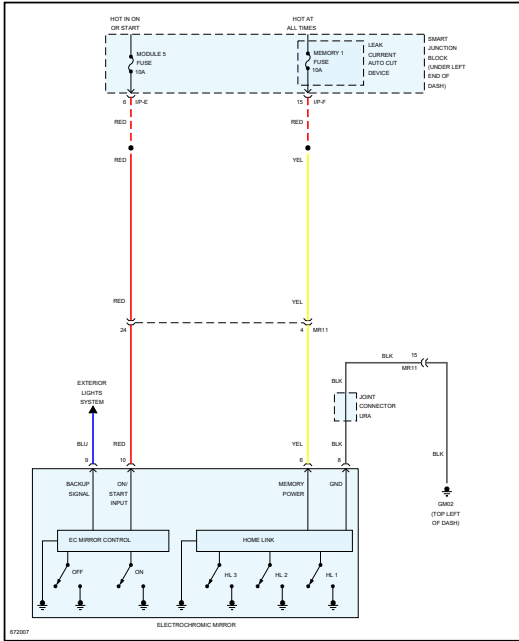
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Mirrors - Electrochromic Mirror Circuit (W/ Home Link W/O MTS) (Article 10683)

Mirrors - Electrochromic Mirror Circuit (W/ Home Link W/O MTS)

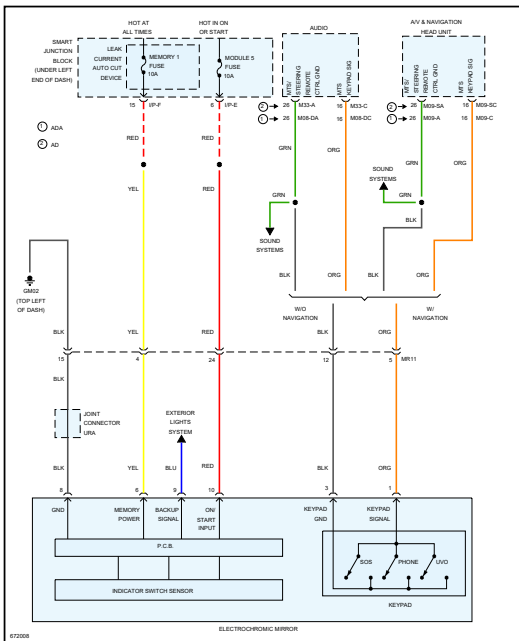
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Mirrors - Electrochromic Mirror Circuit (W/O Home Link) (Article 10664)

Mirrors - Electrochromic Mirror Circuit (W/O Home Link)

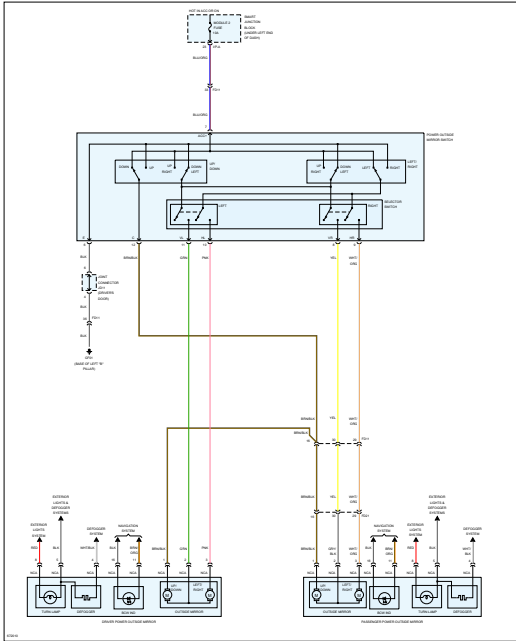
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Mirrors - Power Mirrors Circuit (Article 10718)

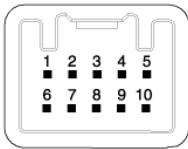
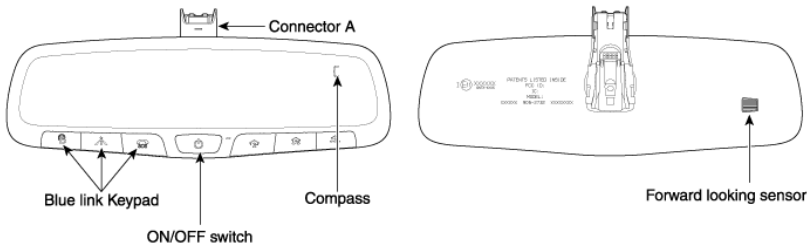
Mirrors - Power Mirrors Circuit

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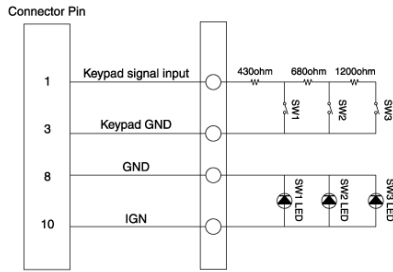
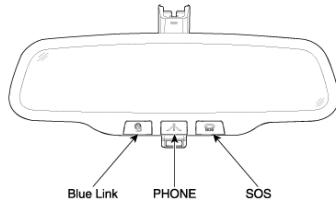
Electro Chromic Inside Rear View Mirror - Components and Components Location (Article 44633)

- Components (1)



Pin	Description
1	Key power
2	OEC(+)
3	Key out
4	-
5	-
6	Battery
7	OEC(-)
8	GND
9	Reverse signal
10	IGN (+)

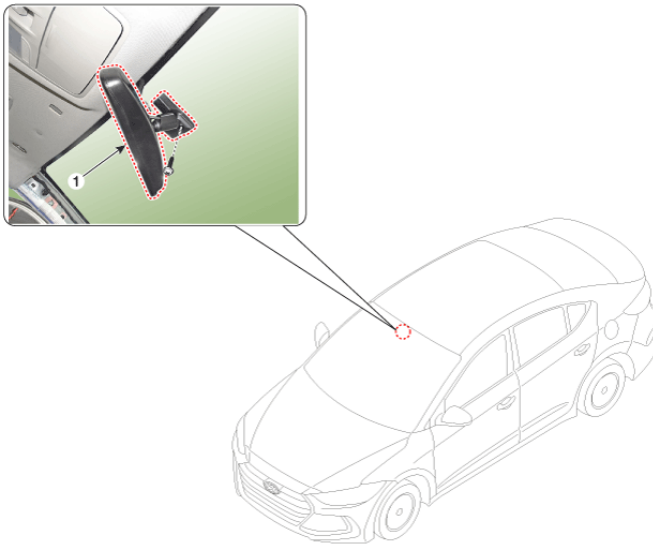
- Components (2)



Description	No	Description
	1	Keypad Signal
	3	Keypad GND
	8	GND
	10	Ignition

Inside Rear View Mirror - Components and Components Location (Article 44995)

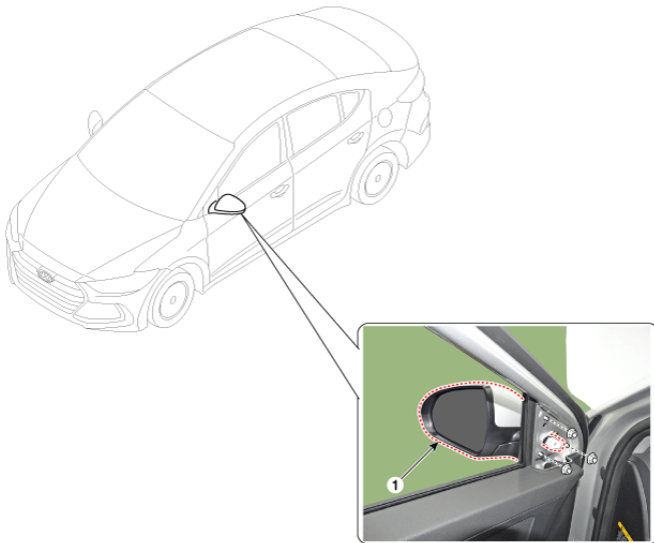
- Component Location



1. Inside rear view mirror

Outside Rear View Mirror - Components and Components Location (Article 44993)

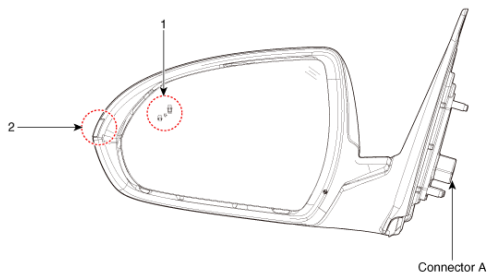
- Component Location



1. Outside rear view mirror

Power Door Mirror Assembly - Components and Components Location (Article 44602)

- Components

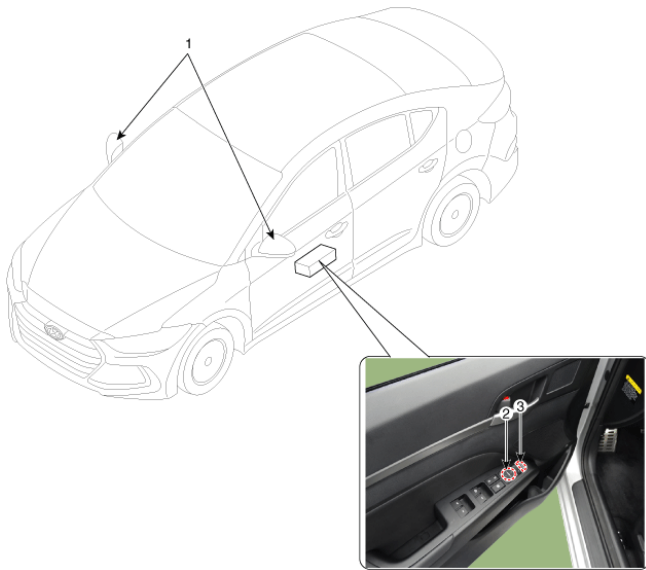


Connector A			
No	Description	No	Description
1	Mirror vertical motor	9	-
2	Mirror vertical COM	10	-
3	Mirror horizontal motor	11	BSD (+)
4	Mirror heater (+)	12	Mirror vertical sensor
5	Side repeater lamp (-)	13	Mirror horizontal sensor
6	Mirror folding	14	Mirror sensor ground
7	Mirror unfolding	15	Mirror sensor power
8	Side repeater lamp (+)	16	BSD Ground

1. BSD Indicator 2. Side repeater lamp

Power Door Mirrors - Components and Components Location (Article 44597)

- Component Location



1. Power door mirror 2. Power door mirror switch 3. Power folding mirror switch

Electro Chromic Inside Rear View Mirror - Repair Procedures (Article 44635)

- Inspection
- Turn the ignition key to the "ON" position.
- Cover the forward facing sensor.
- Head a light to the rearward looking sensor.
- The ECM should be darkened as soon as the rearward looking sensor detects the light. If this test is performed in daytime, the ECM may be darkened as soon as the forward facing sensor is covered.
- If this test is performed in daytime, the ECM may be darkened as soon as the forward facing sensor is covered.

NOTICE

- If this test is performed in daytime, the ECM may be darkened as soon as the forward facing sensor is covered.
- When the reverse gear is engaged, the ECM should not be darkened. When heading lights to both the forward facing and rearward looking sensors, the ECM should not be darkened.
- Removal
- Remove the mirror wiring cover (A).



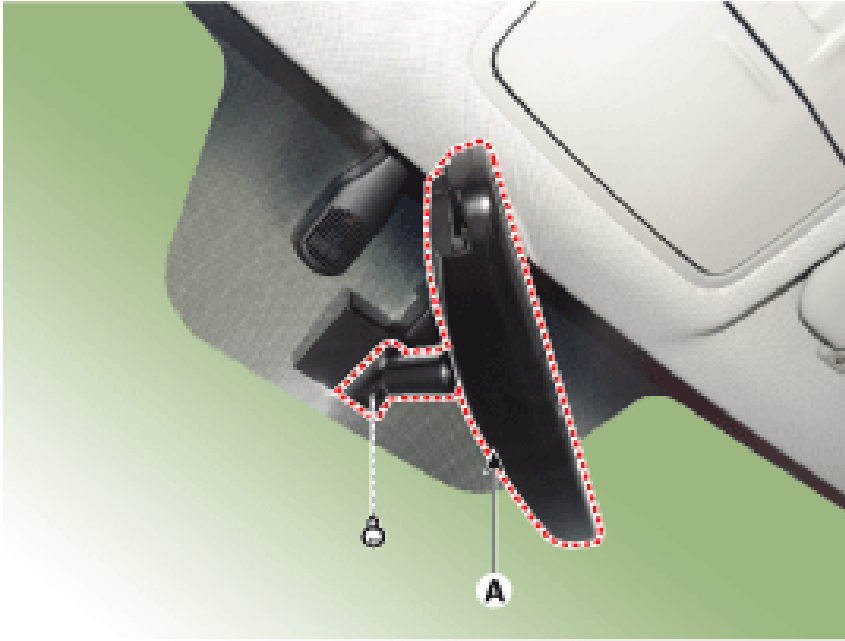
- Remove the mirror connector (A).



- Remove the mirror (A) pulling up in the arrow direction. Make sure not to damage the mounting bracket when removing the mirror.

Make sure not to damage the mounting bracket when removing the mirror.

- Make sure not to damage the mounting bracket when removing the mirror.



- Installation
- Install the mirror making sure the mounting bracket not to be damaged.
- Install the mirror wiring cover and rain sensor cover after reconnecting the connector and tightening the screw.

Inside Rear View Mirror - Repair Procedures (Article 44996)

- Replacement
- Put on gloves to prevent hand injuries.



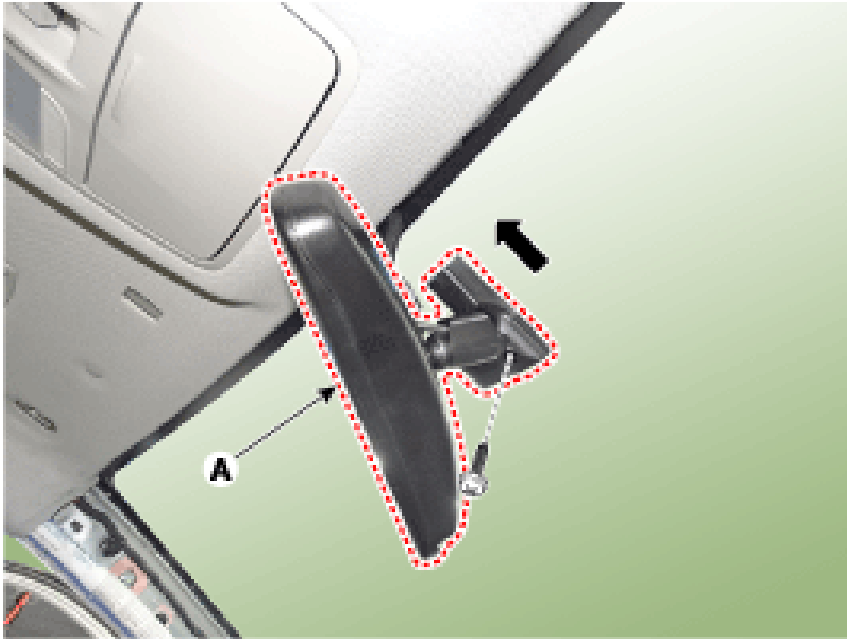
- Remove the inside rear view mirror cover (A).



- Disconnect the ECM mirror connector (A).

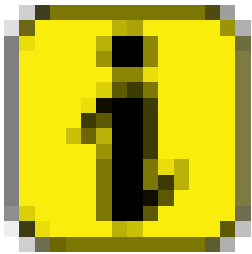


- Loosen the mounted screws and push the ECM mirror base upward to remove the ECM mirror assembly (A).



- To install, reverse the removal procedure. Make sure the connector is connected properly. Be careful not to damage the windshield glass.

Make sure the connector is connected properly. Be careful not to damage the windshield glass.



Information

- Make sure the connector is connected properly.
- Be careful not to damage the windshield glass.

Outside Rear View Mirror - Repair Procedures (Article 44994)

- Replacement

Put on gloves to prevent hand injuries.



- Put on gloves to prevent hand injuries.

When removing with a flat-tip screwdriver or remover, wrap protective tape around the tools to prevent damage to components. Take care not to scratch the body surface.

NOTICE

- When removing with a flat-tip screwdriver or remover, wrap protective tape around the tools to prevent damage to components.
- Take care not to scratch the body surface.
- Using a screwdriver or remover, remove the front door quadrant inner cover (A).



- Disconnect the outside rear view mirror connector (A).

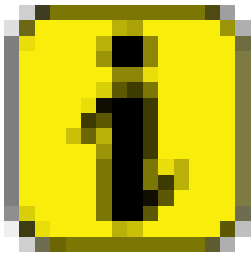


- After loosening the mounting nuts, remove the outside rear view mirror (A). Tightening torque : 6.9 - 10.8 N.m (0.7 - 1.1 kgf.m, 5.1 - 8.0 lb-ft)



- To install, reverse the removal procedure. Make sure the connector is connected properly. Replace any damaged clips (or pin-type retainers).

Make sure the connector is connected properly. Replace any damaged clips (or pin-type retainers).

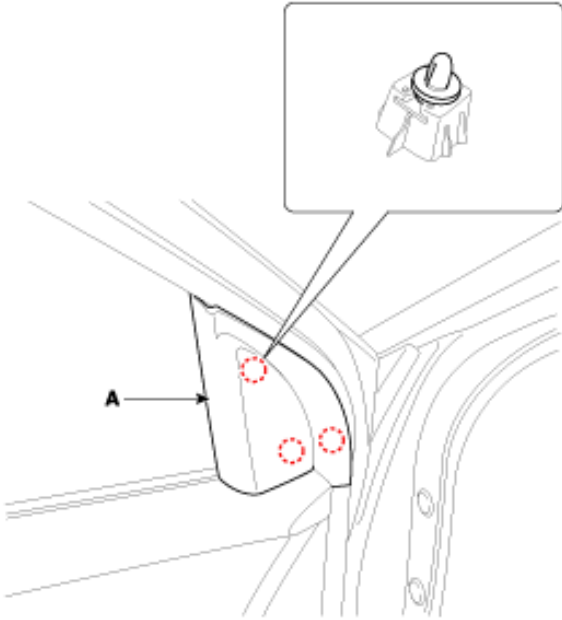


Information

- Make sure the connector is connected properly.
- Replace any damaged clips (or pin-type retainers).

Power Door Mirror Assembly - Repair Procedures (Article 44603)

- Inspection
- Disconnect the negative (-) battery terminal.
- Remove the front door quadrant inner cover (A).



- Disconnect the power door mirror connector from the harness.



- Apply battery voltage to each terminal as shown in the table and verify that the mirror operates properly. [Mirror Control (LH/RT)] [BSD Indicator] [Mirror Heater] [Side Repeater Lamp] [Mirror Folding Motor] [Mirror Control (LH/RT)]

Terminal Position	1	2	3
Up	⊖	⊕	⊕
Down	⊕	⊖	⊖
Left	⊖	⊖	⊕
Right	⊕	⊕	⊖

[BSD Indicator]

Terminal Position	11	16
ON	⊕	⊖

[Mirror Heater]

Terminal Position	4	5
ON	⊕	⊖

[Side Repeater Lamp]

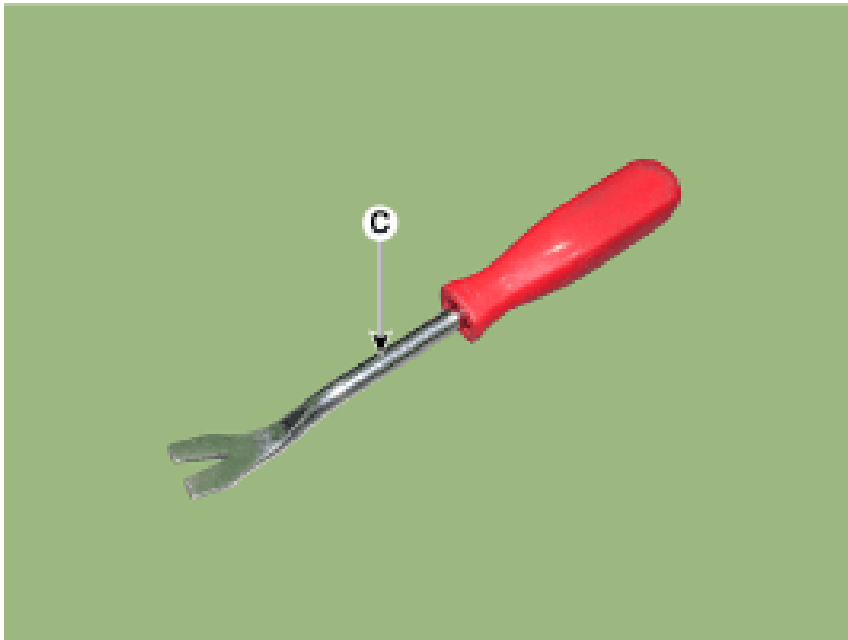
Terminal Position	8	5
ON	⊕	⊖

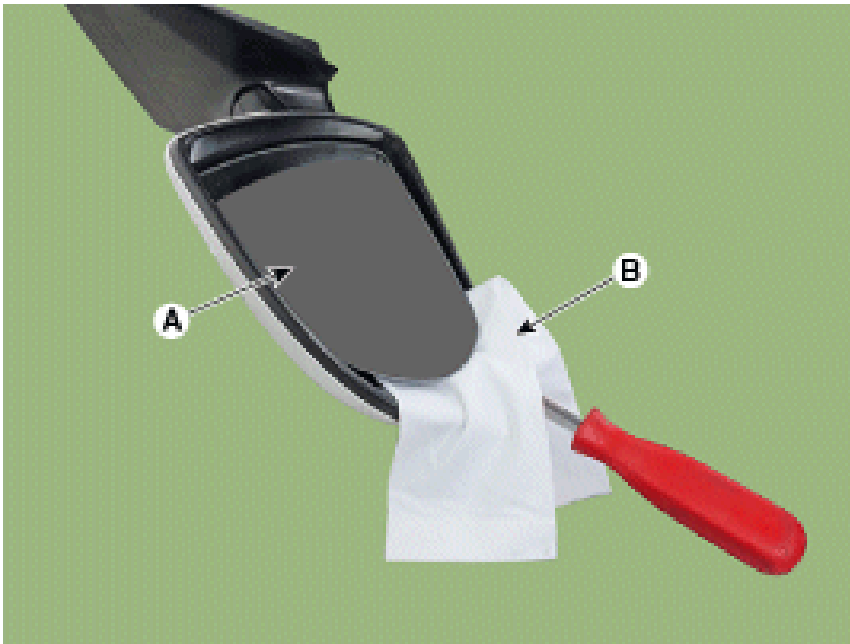
[Mirror Fording Motor]

Terminal	6	7
Position		
Folding	⊕	⊖
Unfolding	⊖	⊕

- Removal

- Using a fastener remover (C), remove the mirror (A) as illustration below. Protect mirror from removing tool with cloth (B) wrapped. Be careful not to damage mirror and mirror housing during removing process. Apply force around the center of mirror because to apply force the end of mirror will break it.

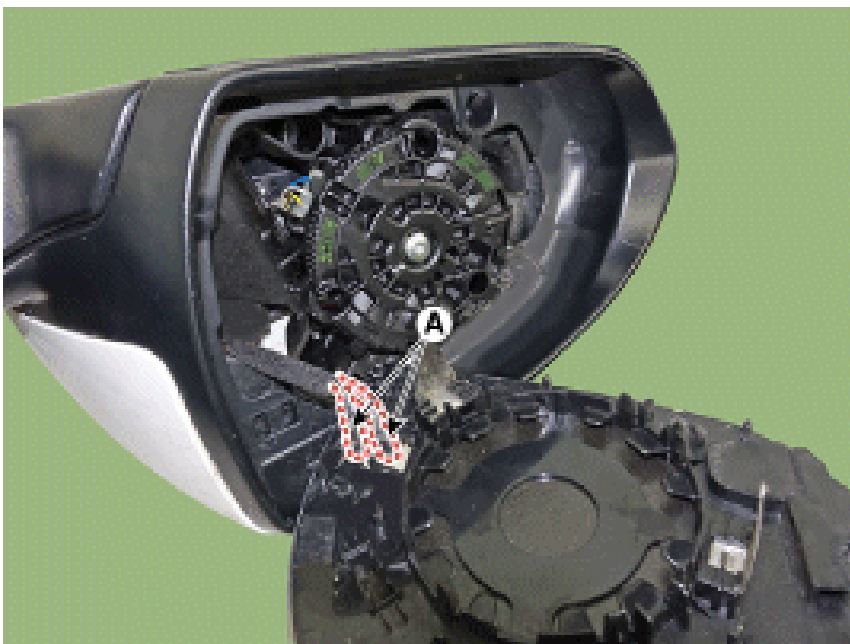




Protect mirror from removing tool with cloth (B) wrapped. Be careful not to damage mirror and mirror housing during removing process. Apply force around the center of mirror because to apply force the end of mirror will break it.



- Protect mirror from removing tool with cloth (B) wrapped.
- Be careful not to damage mirror and mirror housing during removing process.
- Apply force around the center of mirror because to apply force the end of mirror will break it.
- Disconnect heat wire connectors (A) and then remove the mirror.



- Installation

- Connect mirror heat wire connector and then install the mirror.
- Connect (-) battery terminal then check if mirror works normally.

All Technical Service Bulletins (itype_100)

Tsbs

- OUTSIDE MIRROR ASSEMBLY SERVICEABLE PARTS (19-BE-004H-1, 2019/08/22)

Power Outside Mirror System - Service Tips (Article 42536)

Power Outside Mirror System
Service Tips (1)

Circuit Description

When in an ignition switch ACC position or higher, the angle of the side view mirrors can be adjusted using the mirror switch.

To adjust a mirror, move the lever of the selector switch to R (right) or L (left) and press the Left/Right or Up/Down switch. When the Up/Down switch is pressed, the Left/Right switch is interfaced while the Up/Down switch is interfaced when the Left/Right switch is pressed.

Move the selector switch to the neutral position after the mirror operation so that it will not malfunction.

Power Outside Mirror Internal Switch Interface Direction (Without IMS)

1) Mirror Switch Up:

ACC: 7,11,10L,H(7,A,3/RH)
GND: 4,12

2) Mirror Switch Down:

ACC: 7,12
GND: 6,11,10L,H(9,A,3/RH)

3) Mirror Switch Left:

ACC: 7,10L,H(7,3/RH)
GND: 4,11,12L,H(9,A,12/RH)

4) Mirror Switch Right:

ACC: 7,11,12L,H(7,A,12/RH)
GND: 6,10L,H(9,3/RH)

Power Outside Mirror Inspection

Check if the power outside mirror operates normally as shown in the table below.

	Direction	1	2	3	B+	GND
LH	Up	○	○	○	○	○
	Down	○	○	○	○	○
	Left	○	○	○	○	○
RH	Up	○	○	○	○	○
	Down	○	○	○	○	○
	Left	○	○	○	○	○
	Right	○	○	○	○	○

OEM Policies and Procedures (itype_120)

Tsbs

- OUTSIDE MIRROR ASSEMBLY SERVICEABLE PARTS (19-BE-004H-1, 2019/08/22)