# SECTION MIR $^{A}$ MIRRORS o

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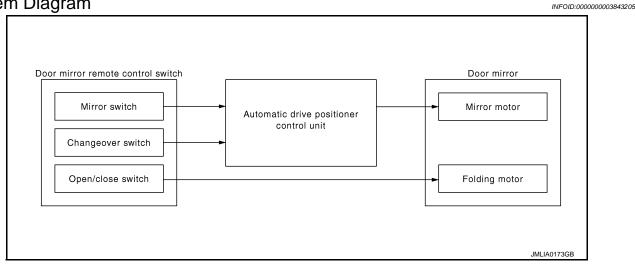
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CONTRACTION STATES AND REPAIR WORKFLOW
BASIC INSPECTION
DIAGNOSIS AND REPAIR WORKFLOW
Work Flow
DETAILED FLOW
<b>1.</b> OBTAIN INFORMATION ABOUT SYMPTOM
Interview the customer to obtain as much malfunction information (conditions and environment when the ma function occurred) as possible when the customer brings the vehicle in.
>> GO TO 2.
2.CHECK DTC
Perform self-diagnosis for automatic drive positioner (ADP) with CONSULT-III.
Is any DTC detected?
YES >> Refer to <u>ADP-140, "DTC Index"</u> NO >> GO TO 3.
<b>3.</b> REPRODUCE THE MALFUNCTION INFORMATION
Check the malfunction on the vehicle that the customer describes. Inspect the relation of the symptoms and the condition when the symptoms occur.
>> GO TO 4.
4. IDENTIFY THE MALFUNCTIONING SYSTEM WITH "SYMPTOM DIAGNOSIS"
Use "Symptom diagnosis" from the symptom inspection result in step 3. Then identify where to start perform ing the diagnosis based on possible causes and symptoms.
>> GO TO 5.
5. IDENTIFY MALFUNCTIONING PARTS WITH "COMPONENT DIAGNOSIS"
Perform the diagnosis with "Component diagnosis" of the applicable system.
>> GO TO 6.
6.REPAIR OR REPLACE THE MALFUNCTIONING PARTS
Repair or replace the specified malfunctioning parts.
>> GO TO 7.
7.FINAL CHECK
Check that malfunctions are not reproduced when obtaining the malfunction information from the custome referring to the symptom inspection result in step 3.
Are all malfunctions corrected?
YES >> INSPECTION END NO >> GO TO 4.

## < SYSTEM DESCRIPTION >

# SYSTEM DESCRIPTION DOOR MIRROR SYSTEM

## System Diagram



## System Description

INFOID:000000003843206

#### MANUAL FUNCTION

#### Description

- Automatic drive positioner control unit controls door mirror.
- Automatic drive positioner control unit inputs changeover switch signal and performs the LH/RH control of door mirror motor supplying electric power when changeover switch is operated.
- Automatic drive positioner control unit inputs mirror switch signal and supplies electric power to door mirror.
- The ignition switch signal (ACC/ON) is transmitted from BCM to the driver seat control unit via CAN communication and from the driver seat control unit to the automatic drive positioner control unit via UART communication.
- Power is supplied to folding motor when operating the open/close switch.

#### **Operation Conditions**

If the following conditions are not satisfied, operation is not performed.

- Ignition switch: ON or ACC
- Changeover switch: Select either left or right

#### REVERSE INTERLOCK DOOR MIRROR SYSTEM

#### Description

- Select one of the door mirror faces using change over switch, and then set the selected mirror face downward/inward.
- When the ignition switch is in the ON position and A/T shift selector is in the R position, the TCM sends the R signal to the driver seat control unit. The R signal is transmitted to the automatic drive positioner control unit from the driver seat control unit via UART communication. When the R signal is detected, the automatic device positioner control unit activates the mirror motor.

#### **Operation Conditions**

If the following conditions are not satisfied, operation is not performed.

- Ignition switch: ON
- Changeover switch: Select either left or right
- A/T shift selector: R position

During the reverse interlock door mirror system, if all of the above conditions are not satisfied, mirror face returns to original angle.

Mirror Angle Memory Function

• During the reverse interlock door mirror operation, the mirror angle can be changed. After adjustment, the mirror face positions can be memorized (2 positions). For memory setting.

## MIR-4

## DOOR MIRROR SYSTEM

#### < SYSTEM DESCRIPTION >

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- Initial setting is downward 7°, inward 1° (both of left and right).
- When the drivers seat, door mirror and steering column are not in the memorized position, the door mirror A moves to the initial tilt-down angle, if the reverse tilt-down position is stored. Linking Intelligent Key to a stored memory position.

Memory Procedure

- 1. Apply the parking brake.
- 2. Push the ignition switch to the ON position. (Do not start the engine)
- 3. Push the memory switch 1 or 2 fully for at least 1 second to operate the automatic drive positioner.
- 4. Turn the door mirror control switch (changeover switch) to L (left).
- 5. Depress the brake pedal.
- 6. Move the A/T shift selector to the R position (reverse).
- 7. Adjust the mirror to the desired viewing position for backing up by operating the door mirror control switch (mirror switch).
- Push the SET switch and, within 5 seconds, push fully the memory switch 1 or 2 selected in step 3 for at least 1 second.
   The indicator light for the pushed memory switch illuminates, and continue pushing the switch. After the
- indicator light tams off, the selected mirror position is stored in the selected memory (1 or 2).
  9. Turn the door mirror control switch (changeover switch) to R (right). Repeat the above procedure to adjust the right mirror position and store in the selected memory.

#### AUTOMATIC DRIVE POSITIONER SYSTEM LINKED OPERATION

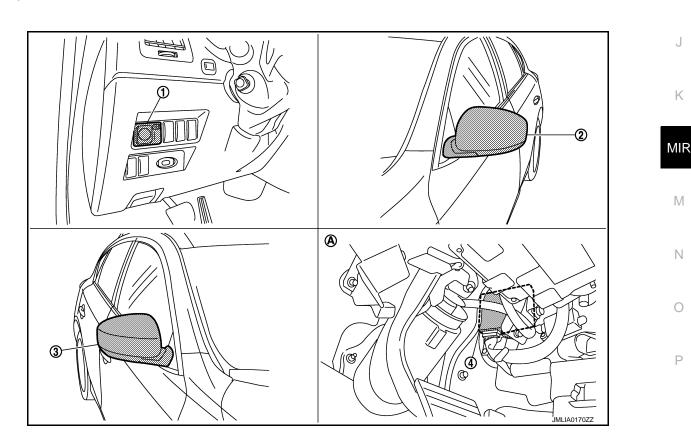
Description

Door mirror control is included in automatic drive positioner system. Refer to automatic drive positioner system H for more details.

Refer to ADP-14, "AUTOMATIC DRIVE POSITIONER SYSTEM : System Description".

## Component Parts Location

INFOID:000000003843207



## DOOR MIRROR SYSTEM

## < SYSTEM DESCRIPTION >

1.

D17

- 2. Door mirror (driver side) D3
- 3. Door mirror (passenger side) D33

4. Automatic drive positioner control unit M51, M52

Door mirror remote control switch

A. View with instrument driver lower panel removed

## **Component Description**

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[WITH ADP]

Component		Function	
Automatic drive positioner control unit		Door mirror is supplied with power after receiving the input of the MIRROR SWITCH and CHANGEOVER SWITCH.	
	Mirror switch	It transmits mirror face adjust operation to AUTOMATIC DRIVE POSI- TIONER CONTROL UNIT.	
Door mirror remote control switch	Changeover switch	It transmits the LH/RH control of door mirror that supplies power to AUTO- MATIC DRIVE POSITIONER CONTROL UNIT.	
	Open/close switch	Power is supplied to folding mirror from door remote control switch when operating switch.	
Door mirror	Door mirror motor	It makes mirror face operate from side to side and up and down via inte- grated motor.	
	Folding motor	The door mirror operates because power is received from power supply when pressing door mirror remote control switch.	

## **INSIDE MIRROR SYSTEM**

## < SYSTEM DESCRIPTION >

## **INSIDE MIRROR SYSTEM**

## System Description

The sensor built in inside mirror detects the brightness of headlight of the vehicle behind and automatically changes the light transmission to decrease the brightness.

## **Component Description**

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-	Component	Function	
	Auto anti-dazzling inside mirror	It automatically changes the light transmittance according to the brightness of the light from the headlight of the vehicle behind.	D

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## DIAGNOSIS SYSTEM (DRIVER SEAT CONTROL UNIT)

#### < SYSTEM DESCRIPTION >

## DIAGNOSIS SYSTEM (DRIVER SEAT CONTROL UNIT)

## **Diagnosis Description**

The auto drive positioner system can be checked and diagnosed for component operation with CONSULT-III. DIAGNOSTIC MODE

Diagnostic mode [AUTO DRIVE POS.]	Description
WORK SUPPORT	Changes the setting of each function.
SELF-DIAG RESULTS	Performs self-diagnosis for the auto drive positioner system and displays the results.
DATA MONITOR	Displays input signals transmitted from various switches and sensors to driver seat con- trol unit in real time.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
ACTIVE TEST	Drives each output device.
ECU PART NUMBER	Displays part numbers of driver seat control unit parts.

## **CONSULT-III** Function

#### SELF-DIAGNOSIS RESULTS Refer to <u>ADP-140, "DTC Index"</u>.

#### DATA MONITOR

Monitor Item	Unit	Main Signals	Selection From Menu	Contents
SET SW	"ON/OFF"	×	×	ON/OFF status judged from the setting switch signal.
MEMORY SW 1	"ON/OFF"	×	×	ON/OFF status judged from the seat memory switch 1 signal.
MEMORY SW 2	"ON/OFF"	×	×	ON/OFF status judged from the seat memory switch 2 signal.
SLIDE SW-FR	"ON/OFF"	×	×	ON/OFF status judged from the sliding switch (forward) signal.
SLIDE SW-RR	"ON/OFF"	×	×	ON/OFF status judged from the sliding switch (backward) signal.
RECLN SW-FR	"ON/OFF"	×	×	ON/OFF status judged from the reclining switch (forward) signal.
RECLN SW-RR	"ON/OFF"	×	×	ON/OFF status judged from the reclining switch (backward) signal.
LIFT FR SW-UP	"ON/OFF"	×	×	ON/OFF status judged from the lifting switch front (up) signal.
LIFT FR SW-DN	"ON/OFF"	×	×	ON/OFF status judged from the lifting switch front (down) signal.
LIFT RR SW-UP	"ON/OFF"	×	×	ON/OFF status judged from the lifting switch rear (up) signal.
LIFT RR SW-DN	"ON/OFF"	×	×	ON/OFF status judged from the lifting switch rear (down) signal.
MIR CON SW-UP	"ON/OFF"	×	×	ON/OFF status judged from the mirror switch (up) signal.
MIR CON SW-DN	"ON/OFF"	×	×	ON/OFF status judged from the mirror switch (down) signal.
MIR CON SW-RH	"ON/OFF"	×	×	ON/OFF status judged from the door mirror remote control switch (passenger side) signal.
MIR CON SW-LH	"ON/OFF"	×	×	ON/OFF status judged from the door mirror remote control switch (driver side) signal.

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## **DIAGNOSIS SYSTEM (DRIVER SEAT CONTROL UNIT)**

#### < SYSTEM DESCRIPTION >

[WITH ADP]

Monitor Item	Unit	Main Signals	Selection From Menu	Contents
MIR CHNG SW-R	"ON/OFF"	×	×	ON/OFF status judged from the door mirror remote control switch (switching to right) signal.
MIR CHNG SW-L	"ON/OFF"	×	×	ON/OFF status judged from the door mirror remote control switch (switching to left) signal.
TILT SW-UP	"ON/OFF"	×	×	ON/OFF status judged from the tilt switch (up) signal.
TILT SW-DOWN	"ON/OFF"	×	×	ON/OFF status judged from the tilt switch (down) signal.
TELESCO SW-FR	"ON/OFF"	×	×	ON/OFF status judged from the telescoping switch (for- ward) signal.
TELESCO SW-RR	"ON/OFF"	×	×	ON/OFF status judged from the telescoping switch (back-ward) signal.
DETENT SW	"ON/OFF"	×	×	The selector lever position "OFF (P position) / ON (other than P position)" judged from the detention switch signal.
STARTER SW	"ON/OFF"	×	×	Ignition key switch ON (START, ON) /OFF (ACC, OFF) sta- tus judged from the ignition switch signal.
SLIDE PULSE	_	_	×	Value (32768) when battery connections are standard. If it moves backward, the value increases. If it moves forward, the value decreases.
RECLN PULSE	_	-	×	Value (32768) when battery connections are standard. If it moves backward, the value increases. If it moves forward, the value decreases.
LIFT FR PULSE	_	_	×	Value (32768) when battery connections are standard. If it moves DOWN, the value increases. If it moves UP, the value decreases.
LIFT RR PULSE	_	_	×	Value (32768) when battery connections are standard. If it moves DOWN, the value increases. If it moves UP, the value decreases.
MIR/SEN RH U-D	"V"	_	×	Voltage input from door mirror sensor (passenger side) up/ down is displayed.
MIR/SEN RH R-L	"V"	-	×	Voltage input from door mirror sensor (passenger side) left/ right is displayed.
MIR/SEN LH U-D	"V"	_	×	Voltage input from door mirror sensor (driver side) up/down is displayed.
MIR/SEN LH R-L	"V"	_	×	Voltage input from door mirror sensor (driver side) left/right is displayed.
TILT SEN	"V"	-	×	Voltage input from tilt sensor is displayed.
TELESCO SEN	"V"	-	×	Voltage input from telescopic sensor is displayed.

## ACTIVE TEST

CAUTION:

When driving vehicle, never perform active test.

Test item	Description	
SEAT SLIDE	Activates/deactivates the sliding motor.	
SEAT RECLINING	Activates/deactivates the reclining motor.	
SEAT LIFTER FR	Activates/deactivates the lifting motor (front).	F
SEAT LIFTER RR	Activates/deactivates the lifting motor (rear).	
TILT MOTOR	Activates/deactivates the tilt motor.	
TELESCO MOTOR	Activates/deactivates the telescopic motor.	
MIRROR MOTOR RH	Activates/deactivates the mirror motor (passenger side).	

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## DIAGNOSIS SYSTEM (DRIVER SEAT CONTROL UNIT)

#### < SYSTEM DESCRIPTION >

[WITH ADP]

Test item	Description
MIRROR MOTOR LH	Activates/deactivates the mirror motor (driver side).
MEMORY SW INDCTR	Turns ON/OFF the memory indicator.

#### WORK SUPPORT

Work item	Content	Item
		40 mm
SEAT SLIDE VOLUME SET	The amount of seat sliding for entry/exit assist can be selected from 3 items.	80 mm
		150 mm
EXIT TILT SETTING	Entry/exit assist (steering column) can be selected:	ON
EXIT HEL SETTING	ON (operated) – OFF (not operated)	OFF
EXIT SEAT SLIDE SETTING	Entry/exit assist (seat) can be selected:	ON
EXIT SEAT SLIDE SETTING	ON (operated) – OFF (not operated)	OFF

DOC < DTC/CIRCUIT DIAGNOSI		TE CONTROL SWITC	H [WITH ADP]	
DTC/CIRCUIT D				
DOOR MIRROR REI				
MIRROR SWITCH		. 300100		
MIRROR SWITCH : De	escription		INFOID:00000003843213	
It operates angle of the door n It transmits mirror face adjust MIRROR SWITCH : Co	operation to AUTOMATIC		TROL UNIT.	
1.CHECK MIRROR SWITCH	-			
Check the operation on "MIF using CONSULT-III.	CON SW-UP/DN" and	"MIR CON SW-RH/LH" IN	"DATA MONITOR" mode	
Monitor item		Condition		
MIR CON SW-UP/DN		switch toward the up or down side.	: ON	
Other than the above. : OFF				
MIR CON SW-RH/LH	When operating the mirror s Other than the above.	switch toward the right or left side.	: ON : OFF	
Is the inspection result norma			OFF	
YES >> Mirror switch fund	ction is OK. "MIRROR SWITCH : Diag	<u>gnosis Procedure"</u> .	INF0/D:00000003843215	
1.CHECK MIRROR SWITCH	HINPUT SIGNAL			
<ol> <li>Turn ignition switch OFF.</li> <li>Disconnect door mirror re</li> <li>Turn ignition switch ON.</li> <li>Check voltage between d</li> </ol>		ector. switch harness connector an	nd ground.	
(+	)			
Door mirror remo	te control switch	()	Voltage (V) (Approx.)	
Connector	Terminal			
-	4			
M26	5 6	Ground	5	
-	14			
Is the inspection result norma				
YES >> GO TO 3. NO >> GO TO 2.				
2.CHECK MIRROR SWITCH	I CIRCUIT			
1. Turn ignition switch OFF.				
2. Disconnect automatic driv	en automatic drive position	connector. oner control unit harness co	onnector and door mirror	

#### < DTC/CIRCUIT DIAGNOSIS >

Automatic drive po	ositioner control unit Door mirror remote control switch		Door mirror remote control switch	
Connector	Terminal	Connector	Terminal	Continuity
	3	M26	6	
M51	4		5	Existed
NI O I	19		14	Existed
	20		4	*

4. Check continuity between automatic drive positioner control unit harness connector and ground.

Automatic drive po	ositioner control unit		Continuity
Connector	Terminal		Continuity
	3	Ground	
M51	4	Ground	Not existed
	19		NOT EXISTED
	20		

#### Is the inspection result normal?

YES >> Replace automatic drive positioner control unit. Refer to <u>ADP-208, "Removal and Installation"</u>.

NO >> Repair or replace harness.

## $\mathbf{3}.$ Check door mirror remote control switch ground circuit

- 1. Turn ignition switch OFF.
- 2. Check continuity between door mirror remote control switch harness connector and ground.

Door mirror remote control switch			Continuity
Connector	Terminal	Ground	Continuity
M26	13		Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

**4.**CHECK MIRROR SWITCH

Check door mirror remote control switch (mirror switch). Refer toMIR-12, "MIRROR SWITCH : Component Inspection".

#### Is the inspection result normal?

- YES >> GO TO 5.
- NO >> Replace door mirror remote control switch (mirror switch). Refer to <u>MIR-73, "Removal and Instal-</u><u>lation"</u>.

## 5. CHECK INTERMITTENT INCIDENT

Check intermittent incident. Refer to <u>GI-35, "Intermittent Incident"</u>.

#### >> INSPECTION END

#### MIRROR SWITCH : Component Inspection

## **1.**CHECK MIRROR SWITCH

1. Turn ignition switch OFF.

2. Disconnect door mirror remote control switch connector.

3. Check continuity between door mirror remote control switch terminals.

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#### < DTC/CIRCUIT DIAGNOSIS >

Door mirror remote control switch			ondition	Continuity	
Connector	Tern	ninal	Condition		Continuity
				RIGHT	Existed
	4			Other than the above	Not existed
-				LEFT	Existed
Mag	5	13	13	Other than the above	Not existed
M26 —			Mirror switch	UP	Existed
	6			Other than the above	Not existed
-				DOWN	Existed
	14			Other than the above	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace door mirror remote control switch. Refer to <u>MIR-73, "Removal and Installation"</u>. CHANGEOVER SWITCH

## **CHANGEOVER SWITCH : Description**

Changeover switch is integrated into door mirror remote control switch. Changeover switch has three positions (L, N and R).

It changes door mirror motor operation by transmitting control signal to automatic drive positioner control unit.

**CHANGEOVER SWITCH : Component Function Check** 

## 1. CHECK CHANGEOVER SWITCH FUNCTION

Check the operation on "MIR CHNG SW-R" or "MIR CHNG SW-L" in "DATA MONITOR" mode using CON-SULT-III.

MIR CHNG SW-R/L         When operating the changeover toward the right or left side.         : ON           Other than the above.         : OFF           Is the inspection result normal?         : OFF           YES         >> Changeover switch function is OK.           NO         >> Refer to MIR-13. "CHANGEOVER SWITCH : Diagnosis Procedure".           CHANGEOVER SWITCH : Diagnosis Procedure	Monitor item		Condition				
Other than the above.       : OFF         Is the inspection result normal?         YES       >> Changeover switch function is OK.         NO       >> Refer to MIR-13. "CHANGEOVER SWITCH : Diagnosis Procedure".         CHANGEOVER SWITCH : Diagnosis Procedure       INFOLX000000394321         1.CHECK CHANGEOVER SWITCH INPUT SIGNAL       Intern ignition switch OFF.         2. Disconnect door mirror remote control switch connector.       Intern ignition switch ON.         4. Check voltage between door mirror remote control switch harness connector and ground.         (+)       Voltage (V) (Approx.)		When operating the changeov	er toward the right or left side.	: ON			
YES       >> Changeover switch function is OK.         NO       >> Refer to MIR-13. "CHANGEOVER SWITCH : Diagnosis Procedure".         CHANGEOVER SWITCH : Diagnosis Procedure       INFOLD:000000384321         1. CHECK CHANGEOVER SWITCH INPUT SIGNAL       INFOLD:000000384321         1. Turn ignition switch OFF.       Disconnect door mirror remote control switch connector.         3. Turn ignition switch ON.       Information switch ON.         4. Check voltage between door mirror remote control switch harness connector and ground.         Image: Check voltage between door mirror remote control switch harness connector and ground.	MIR CHNG SW-R/L	Other than the above.	Other than the above. : OFF				
NO       >> Refer to MIR-13, "CHANGEOVER SWITCH : Diagnosis Procedure".         CHANGEOVER SWITCH : Diagnosis Procedure       INFORMATION SUBJECT         1. CHECK CHANGEOVER SWITCH INPUT SIGNAL       Information switch OFF.         2. Disconnect door mirror remote control switch connector.       Information switch ON.         4. Check voltage between door mirror remote control switch harness connector and ground.       Information switch ON.         Image: Control switch of the switch information switch on the switch harness connector and ground.       Information switch on the switch information switch info	Is the inspection result nor	mal?					
1.CHECK CHANGEOVER SWITCH INPUT SIGNAL         1. Turn ignition switch OFF.         2. Disconnect door mirror remote control switch connector.         3. Turn ignition switch ON.         4. Check voltage between door mirror remote control switch harness connector and ground.         (+)         (-)       Voltage (V) (Approx.)			<u>H : Diagnosis Procedure"</u> .		M		
1. Turn ignition switch OFF.         2. Disconnect door mirror remote control switch connector.         3. Turn ignition switch ON.         4. Check voltage between door mirror remote control switch harness connector and ground.         (+)         Door mirror remote control switch         (-)         Voltage (V) (Approx.)	CHANGEOVER SW	TCH : Diagnosis Proc	edure	INFOID:00000003843219	,		
<ul> <li>2. Disconnect door mirror remote control switch connector.</li> <li>3. Turn ignition switch ON.</li> <li>4. Check voltage between door mirror remote control switch harness connector and ground.</li> <li>(+)</li> <li>(-)</li> <li>Voltage (V) (Approx.)</li> </ul>	1. CHECK CHANGEOVE	R SWITCH INPUT SIGNAL			Ν		
Door mirror remote control switch     (-)     Voltage (V) (Approx.)	<ol> <li>Disconnect door mirro</li> <li>Turn ignition switch Ol</li> </ol>	r remote control switch conn N.		and ground.	0		
(Approx.)		(+)			Ρ		
	Door mirror remote control switch		()				
	Connector	Terminal		( TF - 200)			

Is the inspection result normal?

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Ground

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3

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< DTC/CIRCUIT DIAGNOSIS >

YES >> GO TO 3. NO >> GO TO 2.

2. CHECK CHANGEOVER SWITCH CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect automatic drive positioner control unit connector.
- 3. Check continuity between automatic drive positioner control unit harness connector and door mirror remote control switch harness connector.

Automatic drive p	ositioner control unit	Door mirror remote control switch		Continuity
Connector	Terminal	Connector	Terminal	Continuity
N/51	2	Mag	3	Eviated
M51	18	M26	2	Existed

4. Check continuity between automatic drive positioner control unit harness connector and ground.

Automatic drive p	Automatic drive positioner control unit		Continuity
Connector	Terminal	Ground	Continuity
M51	2	Giouna	Not existed
ICIVI	18	-	NOI EXISIED

Is the inspection result normal?

YES >> Replace automatic drive positioner control unit. Refer to <u>ADP-208, "Removal and Installation"</u>.

NO >> Repair or replace harness.

## 3. Check door mirror remote control switch ground circuit

- 1. Turn ignition switch OFF.
- 2. Check continuity between door mirror remote control switch harness connector and ground.

	Door mirror remote control switch			Continuity
	Connector	Terminal	Ground	Continuity
_	M26	13		Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

**4.**CHECK CHANGEOVER SWITCH

Check door mirror remote control switch (changeover switch).

Refer to MIR-14, "CHANGEOVER SWITCH : Component Inspection".

#### Is the inspection result normal?

- YES >> GO TO 5.
- NO >> Replace door mirror remote control switch (changeover switch). Refer to <u>MIR-73, "Removal and</u> <u>Installation"</u>.

**5.**CHECK INTERMITTENT INCIDENT

Check intermittent incident. Refer to <u>GI-35, "Intermittent Incident"</u>.

#### >> INSPECTION END

### CHANGEOVER SWITCH : Component Inspection

**1.**CHECK CHANGEOVER SWITCH

1. Turn ignition switch OFF.

- 2. Disconnect door mirror remote control switch connector.
- 3. Check continuity between door mirror remote control switch terminals.

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## **MIR-14**

2009 FX35/FX50

INFOID:000000003843220

#### < DTC/CIRCUIT DIAGNOSIS >

[WITH ADP]

Door mirror remote control switch           Connector         Terminal			Con	Continuity	
CONNECTOR				LEFT	Existed
	2			Other than above	Not existed
M26		13	Changeover switch	RIGHT	Existed
	3			Other than above	Not existed
spection res	sult normal?				
>> INSPE	CTION END				
>> Replace	e door mirror remo	ote control switch	n. Refer to <u>MIR-73,</u>	"Removal and Ins	tallation".

## AUTO ANTI-DAZZLING INSIDE MIRROR SYSTEM

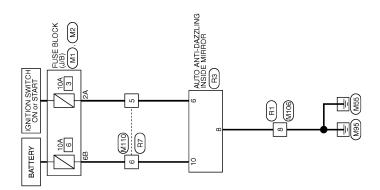
< DTC/CIRCUIT DIAGNOSIS >

AUTO ANTI-DAZZLING INSIDE MIRROR SYSTEM

Wiring Diagram - INSIDE MIRROR SYSTEM -

INFOID:000000003843221

[WITH ADP]



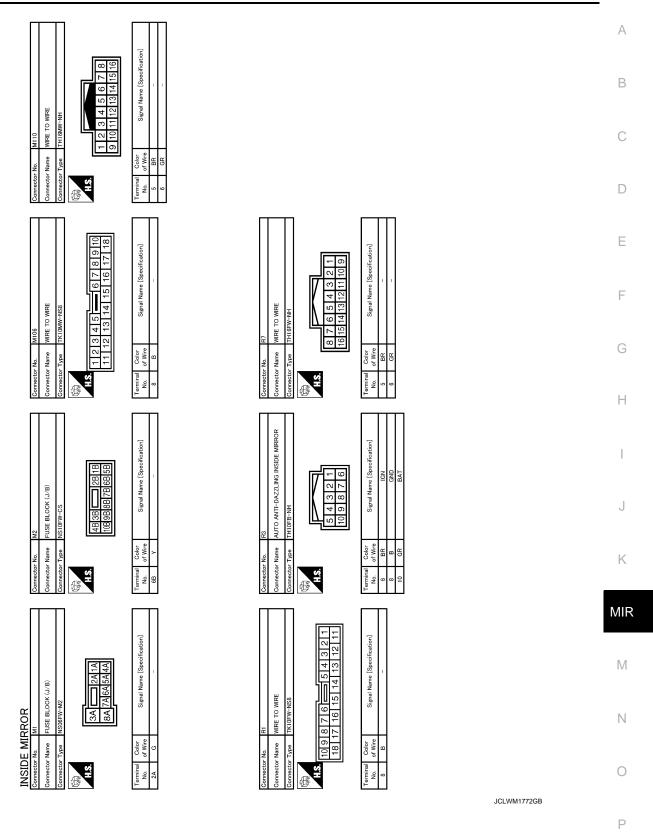
INSIDE MIRROR

40/E0/8002 JCLWM1771GB

## AUTO ANTI-DAZZLING INSIDE MIRROR SYSTEM

#### < DTC/CIRCUIT DIAGNOSIS >

[WITH ADP]



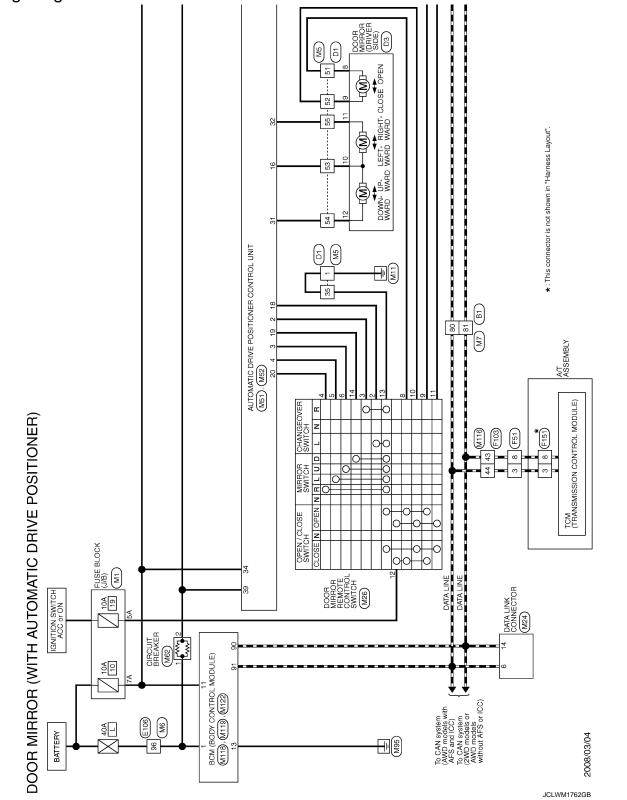


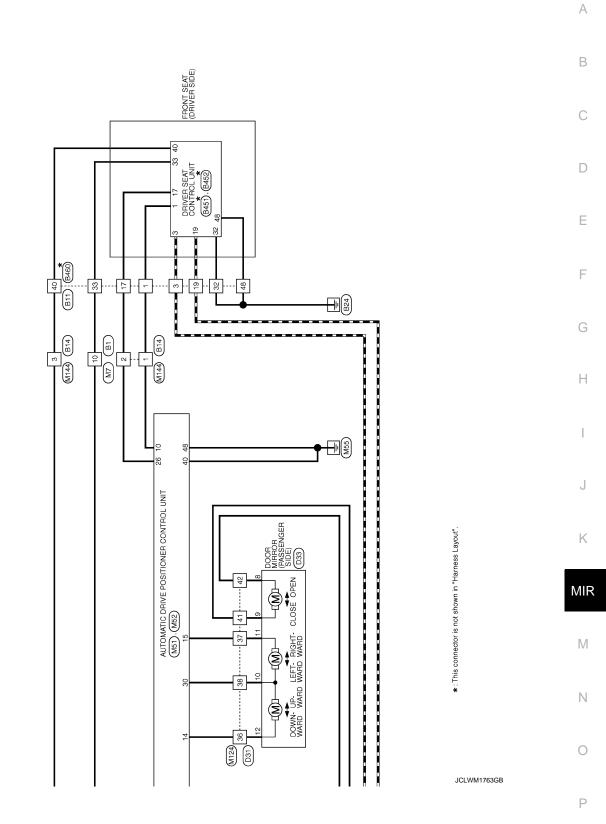


INFOID:000000004097429

## MIRROR SYSTEM

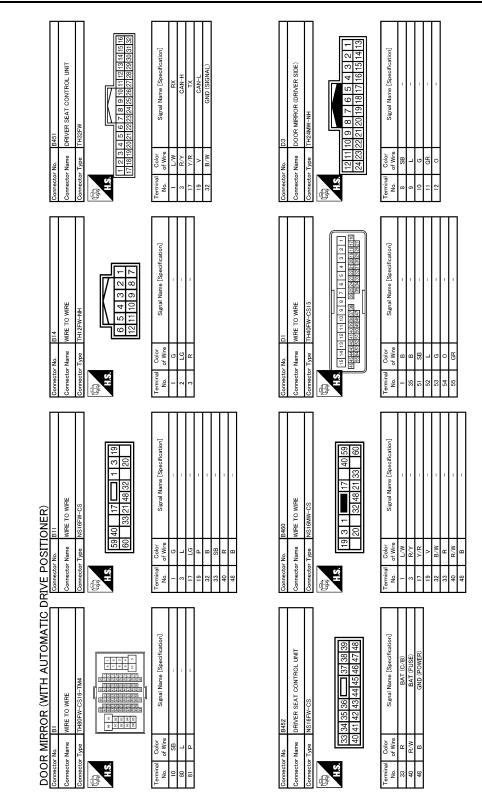
Wiring Diagram - MIRROR SYSTEM -





## < DTC/CIRCUIT DIAGNOSIS >

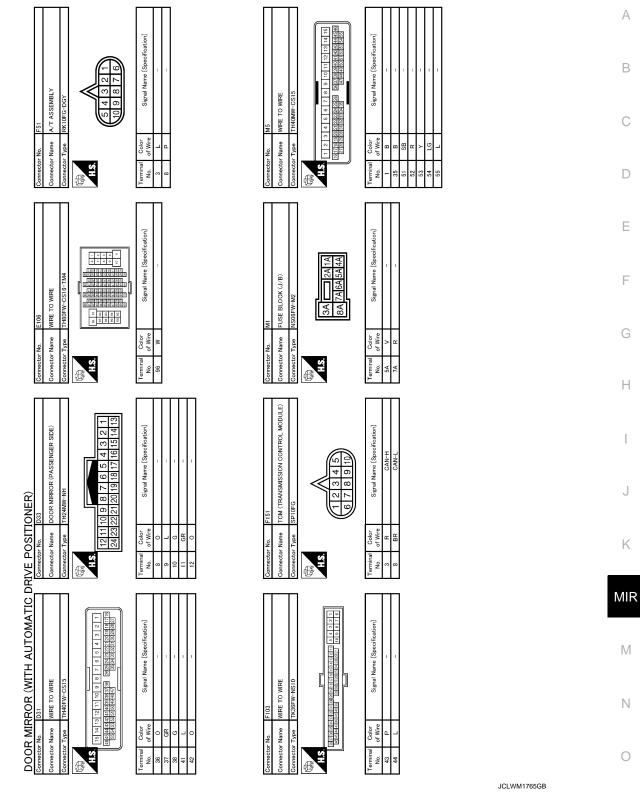
[WITH ADP]



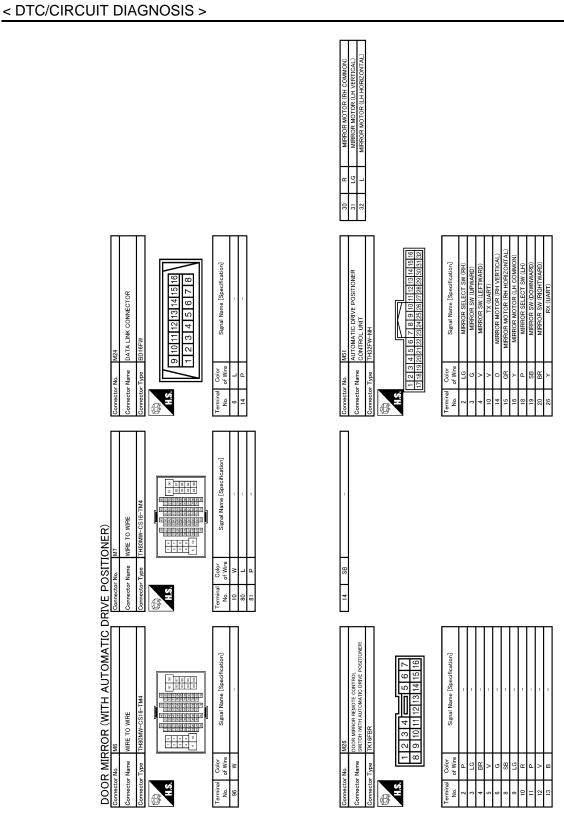
JCLWM1764GB

#### < DTC/CIRCUIT DIAGNOSIS >

[WITH ADP]



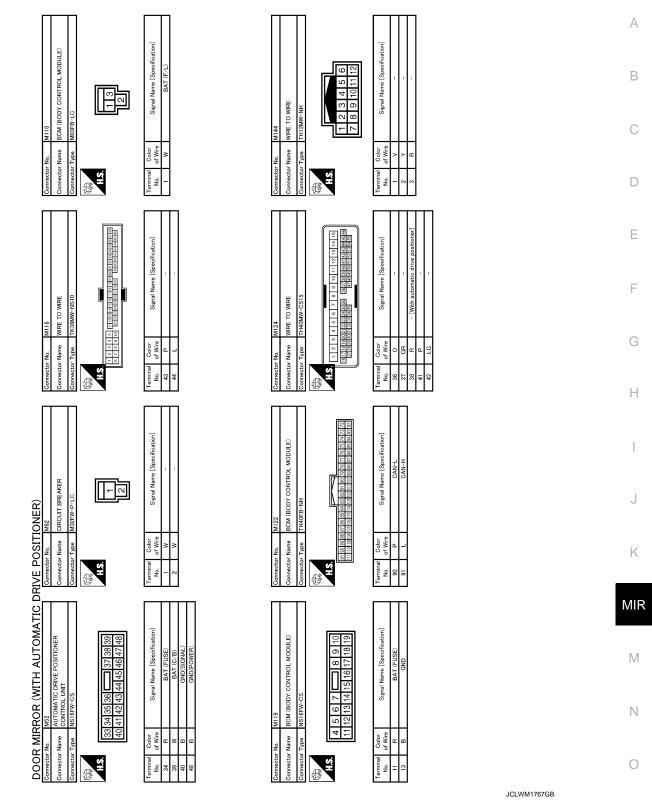
Ρ



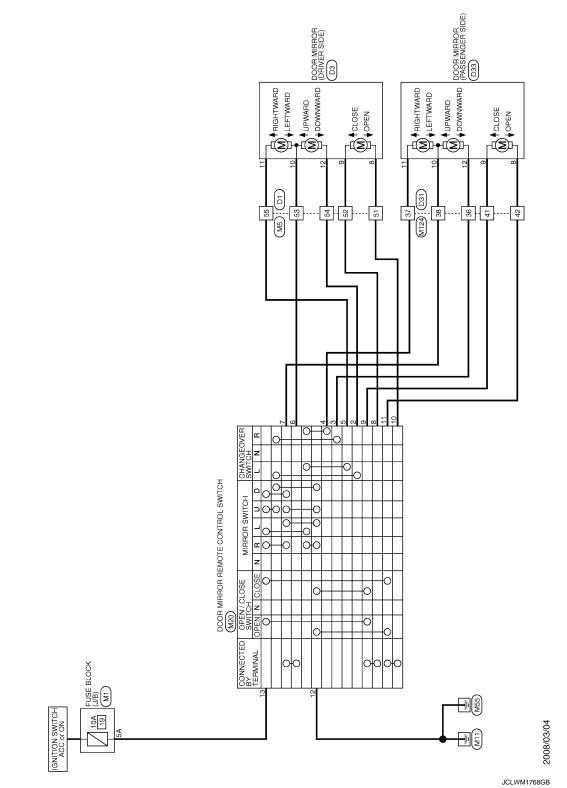
JCLWM1766GB

## < DTC/CIRCUIT DIAGNOSIS >

[WITH ADP]



Ρ



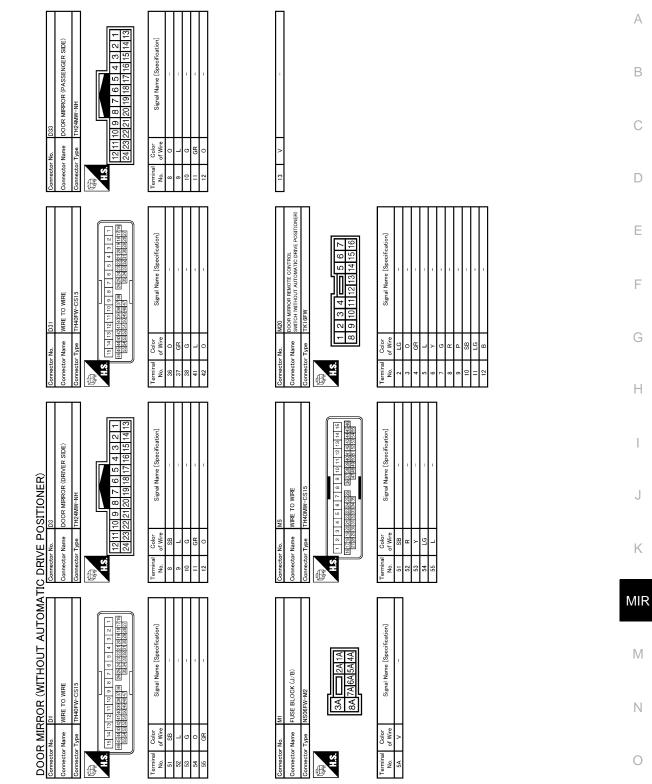


< DTC/CIRCUIT DIAGNOSIS >

#### 2009 FX35/FX50

#### < DTC/CIRCUIT DIAGNOSIS >

## [WITH ADP]



JCLWM1769GB

Ρ

[WITH ADP]

DOOR MIRROR (WITHOUT AUTOMATIC DRIVE POSITIONER)

WIRE TO WIRE

ctor Name

H.S.

Signal Name [Specification]

Color of Wire

'minal

< DTC/CIRCUIT DIAGNOSIS >

**MIRROR SYSTEM** 

# ECU DIAGNOSIS INFORMATION DRIVER SEAT CONTROL UNIT

## **Reference Value**

## VALUES ON THE DIAGNOSIS TOOL

#### CONSULT-III MONITOR ITEM

Monitor Item	Condit	ion	Value/Status		
SET SW	Sot owitch	Push	ON		
SET SVV	Set switch	Release	OFF		
	Mamany awitch 4	Push	ON		
MEMORY SW1	Memory switch 1	Release	OFF		
MEMORY SW2	Mamany quitab 2	Push	ON		
VIEIVIORT SVV2	Memory switch 2	Release	OFF		
	Cliding owitch (front)	Operate	ON		
SLIDE SW-FR	Sliding switch (front)	Release	OFF		
SLIDE SW-RR	Cliding owitch (rear)	Operate	ON		
DLIDE SW-RR	Sliding switch (rear)	Release	OFF		
	Declining exitat (frage)	Operate	ON		
RECLN SW-FR	Reclining switch (front)	Release	OFF		
		Operate	ON		
RECLN SW-RR	Reclining switch (rear)	Release	OFF		
		Operate	ON		
IFT FR SW-UP	Lifting switch front (up)	Release	OFF		
		Operate	ON		
LIFT FR SW-DN	Lifting switch front (down)	Release	OFF		
		Operate	ON		
IFT RR SW-UP	Lifting switch rear (up)	Release	OFF		
		Operate	ON		
IFT RR SW-DN	Lifting switch rear (down)	Release	OFF		
		Up	ON		
MIR CON SW-UP	Mirror switch	Other than above	OFF		
	•••	Down	ON		
MIR CON SW-DN	Mirror switch	Other than above	OFF		
	•••	Right	ON		
MIR CON SW-RH	Mirror switch	Other than above	OFF		
		Left	ON		
MIR CON SW-LH	Mirror switch	Other than above	OFF		
		Right	ON		
MIR CHNG SW-R	Changeover switch	Other than above	OFF		
		Left	ON		
MIR CHNG SW-L	Changeover switch	Other than above	OFF		
		Up	ON		
TILT SW-UP	Tilt switch	Other than above	OFF		
		Down	ON		
TILT SW-DOWN	Tilt switch	Other than above	OFF		

А

INFOID:000000004172889 В

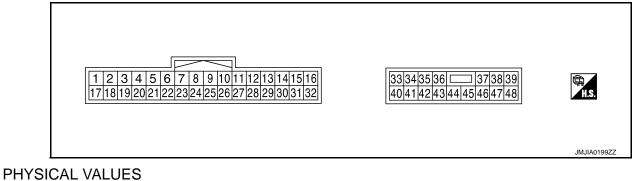
#### < ECU DIAGNOSIS INFORMATION >

[WITH ADP]

Monitor Item	Cor	ndition	Value/Status
	Talagoania quitab	Forward	ON
TELESCO SW-FR	Telescopic switch	Other than above	OFF
TELESCO SW-RR	Tilt switch	Backward	ON
TELESCO SW-RR		Other than above	OFF
DETENT SW	AT selector lever	P position	OFF
DETENT SW	AT Selector level	Other than above	ON
STARTER SW	Ignition position	Cranking	ON
OWNEROW	Ignition position	Other than above	OFF
		Forward	The numeral value decreases *1
SLIDE PULSE	Seat sliding	Backward	The numeral value increases *1
		Other than above	No change to numeral value <sup>*1</sup>
		Forward	The numeral value decreases *1
RECLN PULSE	Seat reclining	Backward	The numeral value increases <sup>*1</sup>
		Other than above	No change to numeral value <sup>*1</sup>
		Up	The numeral value decreases *1
LIFT FR PULSE	Seat lifter (front)	Down	The numeral value increases *1
		Other than above	No change to numeral value <sup>*1</sup>
		Up	The numeral value decreases *1
LIFT RR PULSE	Seat lifter (rear)	Down	The numeral value increases <sup>*1</sup>
		Other than above	No change to numeral value <sup>*1</sup>
MIR/SEN RH U-D	Door mirror (passenger	side)	Change between 3.4 (close to peak) 0.6 (close to valley)
MIR/SEN RH R-L	Door mirror (passenger	side)	Change between 3.4 (close to left edge) 0.6 (close to right edge)
MIR/SEN LH U-D	Door mirror (driver side)		Change between 3.4 (close to peak) 0.6 (close to valley)
MIR/SEN LH R-L	Door mirror (driver side)		Change between 0.6 (close to left edge) 3.4 (close to right edge)
TILT SEN	Tilt position		Change between 1.2 (close to top) 3.4 (close to bottom)
TELESCO SEN	Telescopic position		Change between 3.4 (close to top) 0.8 (close to bottom)

 $^{\ast 1}$ : The value at the position attained when the battery is connected is regarded as 32768.

#### TERMINAL LAYOUT



#### Revision: 2009 March

#### < ECU DIAGNOSIS INFORMATION >

[WITH ADP]

Tern	ninal No.	14/: ===	Description				
+	-	Wire color	Signal name	Input/ Output	Condition		Voltage (V) (Approx)
1	Ground	L/W	UART communication (RX)	Input	Ignition switch ON		2mSec/div
3		R/Y	CAN-H	—	—		_
9	Ground	W/G	Reclining sensor sig- nal	Input	Seat reclining	Operate	10mSec/div
						Stop	0 or 5
10	Ground	P/B	Lifting sensor (rear) signal	Input	Seat lifting (rear)	Operate	10mSec/div
						Stop	0 or 5
11	Ground	BR	Sliding switch back- ward signal	Input	Sliding switch	Operate (back- ward)	0
						Release	Battery voltage
12	Ground	SB	Reclining switch back- ward signal	Input	Reclining switch	Operate (back- ward)	0
						Release	Battery voltage
13	Ground	LG/R	Lifting switch (front)	Input	Lifting switch	Operate (down)	0
10	Cround	20/11	down signal	input	(front)	Release	Battery voltage
14	Ground	G/B	Lifting switch (rear) down signal	Input	Lifting switch (rear)	Operate (down)	0
40	Ground	~		Output		Release	Battery voltage 5
16	Ground	0	Sensor power supply	Output			G
17	Ground	Y/R	UART communication (TX)	Output	Ignition switch ON		10mSec/div

#### < ECU DIAGNOSIS INFORMATION >

[WITH ADP]

Term	ninal No.	Wire	Description				Voltage (V)
+	-	color	Signal name	Input/ Output	Condition	ו	(Approx)
						P position	0
21	Ground	L/Y	Detention switch	Input	A/T selector lever	Except P position	20mSec/div
24	Ground	R	Sliding sensor signal	Input	Seat sliding	Operate	10mSec/div 10mSec/div 2V/div JMJIA0119ZZ
						Stop	0 or 5
25	Ground	Y/B	Lifting sensor (front) signal	Input	Seat lifting (front)	Operate	10mSec/div
						Stop	0 or 5
26	Ground	Y	Sliding switch forward signal	Input	Sliding switch	Operate (forward)	0
						Release	Battery voltage
27	Ground	R/G	Reclining switch for- ward signal	Input	Reclining switch	Operate (forward)	0
						Release	Battery voltage
28	Ground	W/B	Lifting switch (front) up signal	Input	Seat lifting switch (front)	Operate (up)	0
					()	Release	Battery voltage
29	Ground	P/L	Lifting switch (rear) up signal	Input	Seat lifting switch (rear)	Operate (up)	0
					· · ·	Release	Battery voltage
31	Ground	GR	Sensor ground				0
32	Ground	B/W	Ground (signal)				0
33 35	Ground Ground	R W/R	Power source (C/B) Sliding motor forward output signal	Input Output	Seat sliding	Operate (forward)	Battery voltage Battery voltage
_						Release	0
36	Ground	G/Y	Reclining motor for- ward output signal	Output	Seat reclining	Operate (forward)	Battery voltage
						Release	0

#### < ECU DIAGNOSIS INFORMATION >

[WITH ADP]

Tern	ninal No.	Wire	Description		Condition		Voltage (V)
+	-	color	Signal name	Input/ Output			(Approx)
37	Ground	G/W	Lifting motor (front) down output signal	Output	Seat lifting (front)	Operate (down)	Battery voltage
			down output signal			Stop	0
38	Ground	L/Y	Lifting motor (rear) up output signal	Output	Seat lifting (rear)	Operate (up)	Battery voltage
			ouiput signal			Stop	0
39	Ground	R/B	Lifting motor (rear) down output signal	Output	Seat lifting (rear)	Operate (down)	Battery voltage
	down output signal			Stop	0		
40	Ground	R/W	Power source (Fuse)	Input	_		Battery voltage
42	Ground	W/B	Sliding motor back- ward output signal	Output	Seat sliding	Operate (back- ward)	Battery voltage
						Stop	0
44	Ground	Ρ	Reclining motor back- ward output signal	Output	Seat reclining	Operate (back- ward)	Battery voltage
						Stop	0
45	Ground	L/R	Lifting motor (front) up output signal	Output	Seat lifting (front)	Operate (up)	Battery voltage
						Stop	0
48	Ground	В	Ground (power)	_	_		0

J

Κ

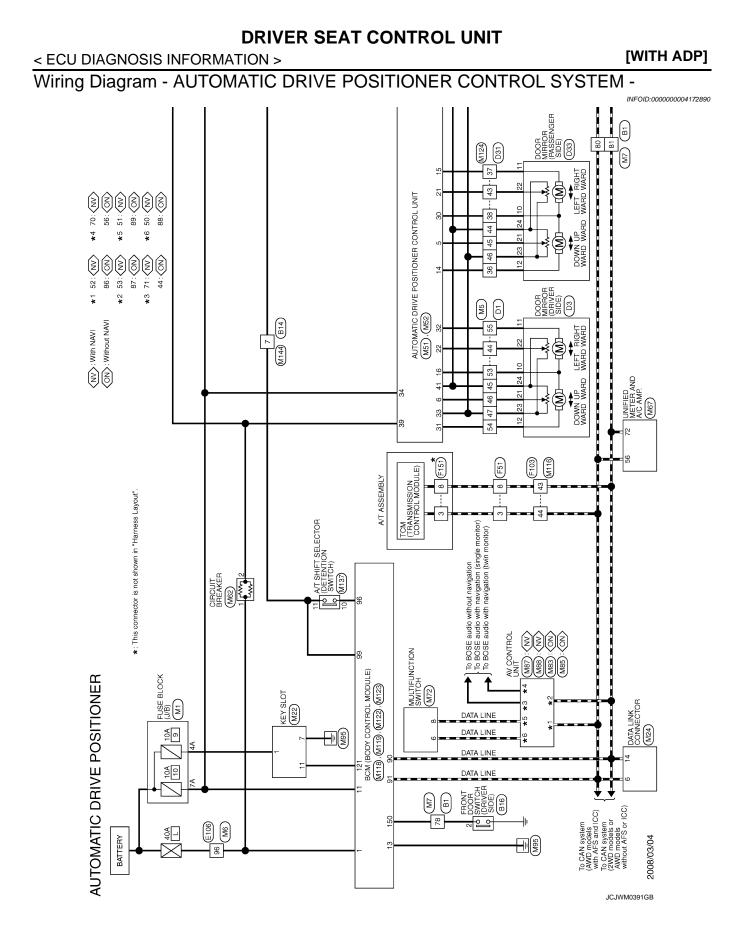
MIR

Μ

Ν

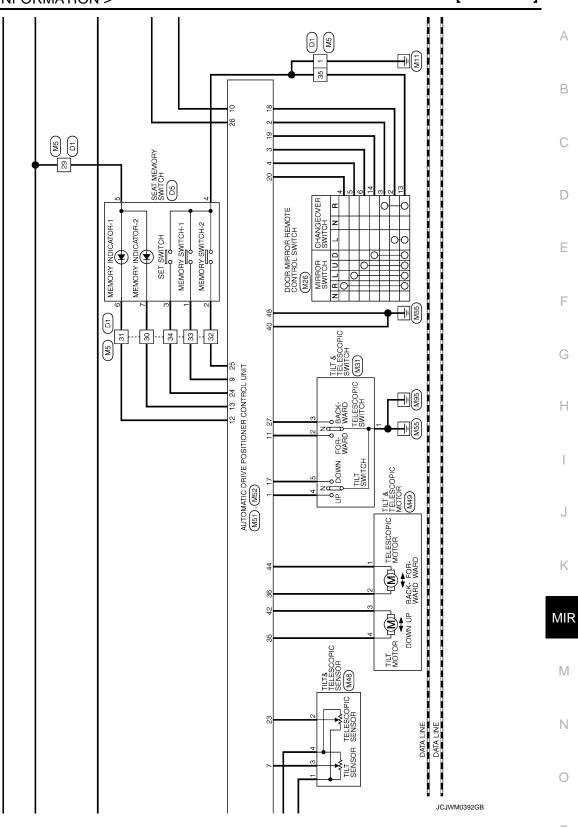
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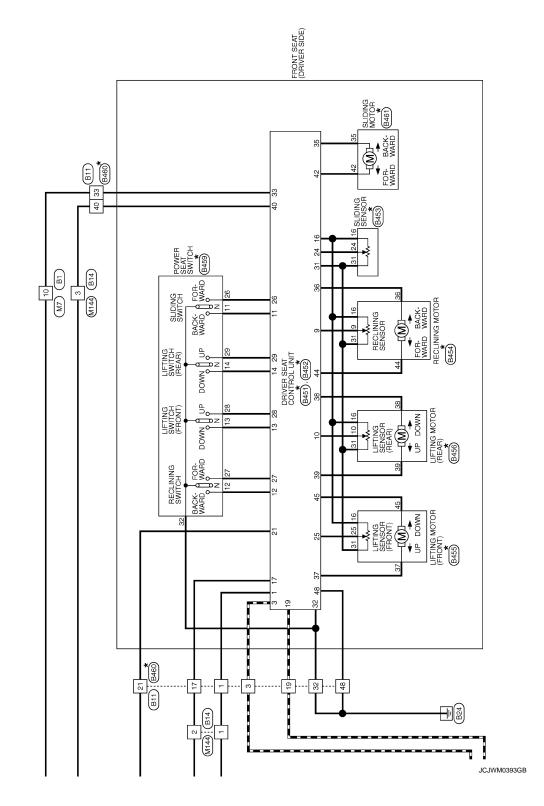
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## < ECU DIAGNOSIS INFORMATION >

[WITH ADP]

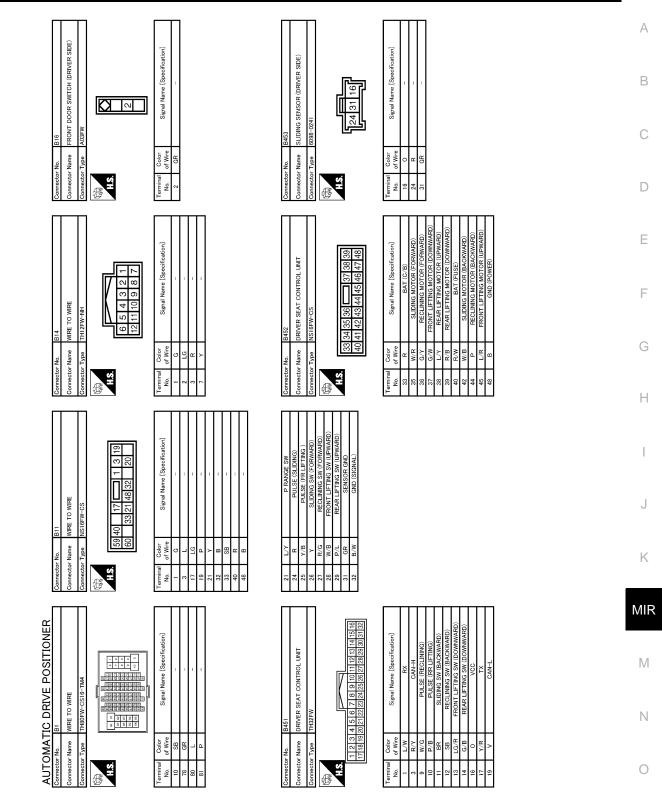




★ : This connector is not shown in "Harness Layout".

#### < ECU DIAGNOSIS INFORMATION >

[WITH ADP]

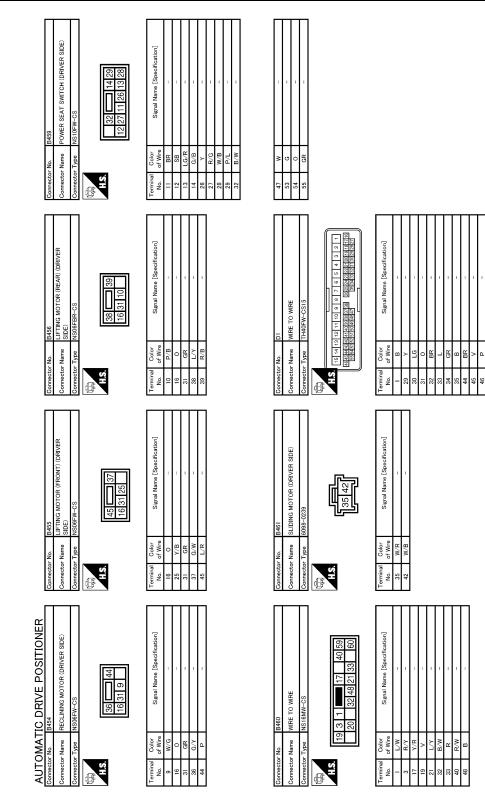


JCJWM0394GB

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## < ECU DIAGNOSIS INFORMATION >

[WITH ADP]

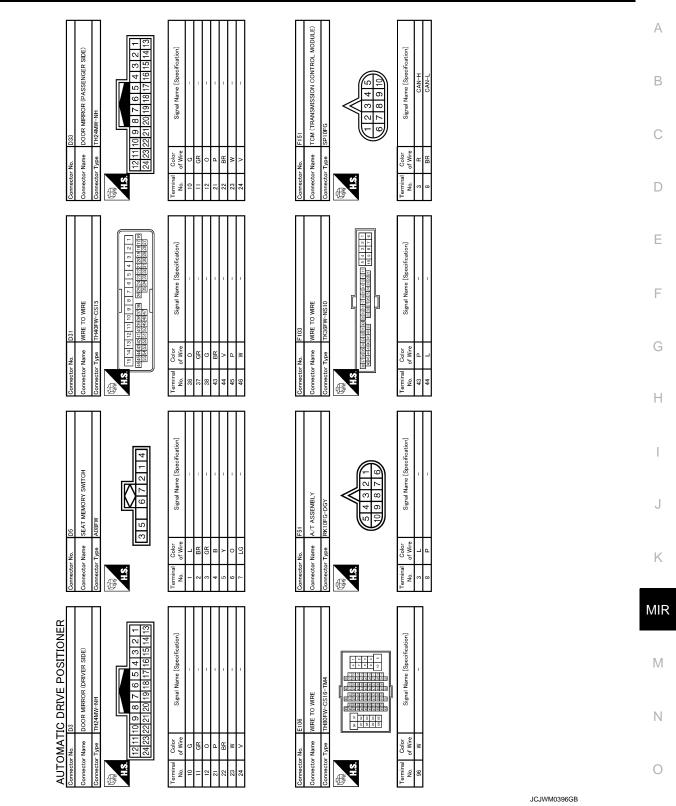


JCJWM0395GB

46

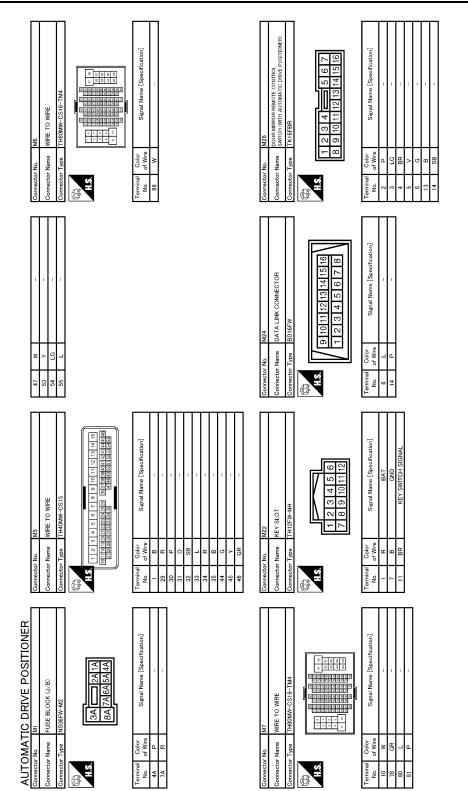
## < ECU DIAGNOSIS INFORMATION >

[WITH ADP]



## < ECU DIAGNOSIS INFORMATION >

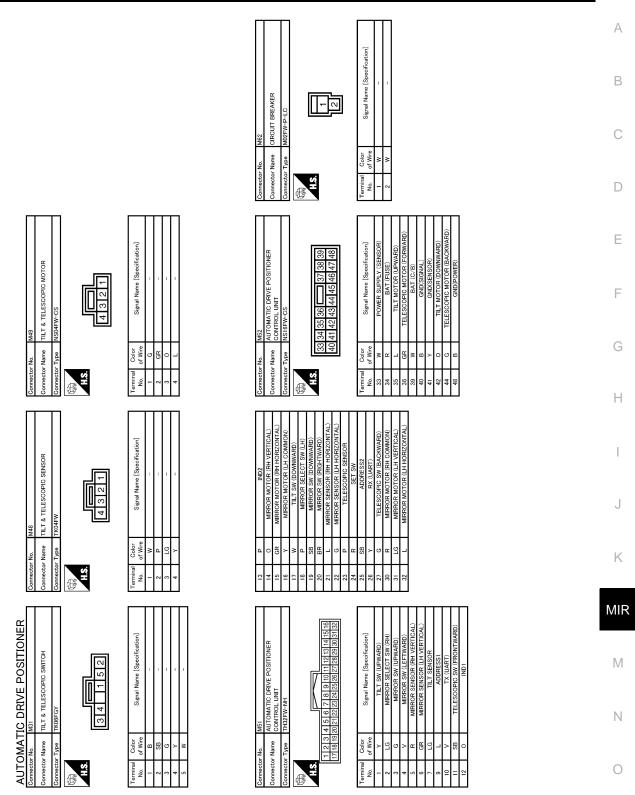
[WITH ADP]



JCJWM0397GB

## < ECU DIAGNOSIS INFORMATION >

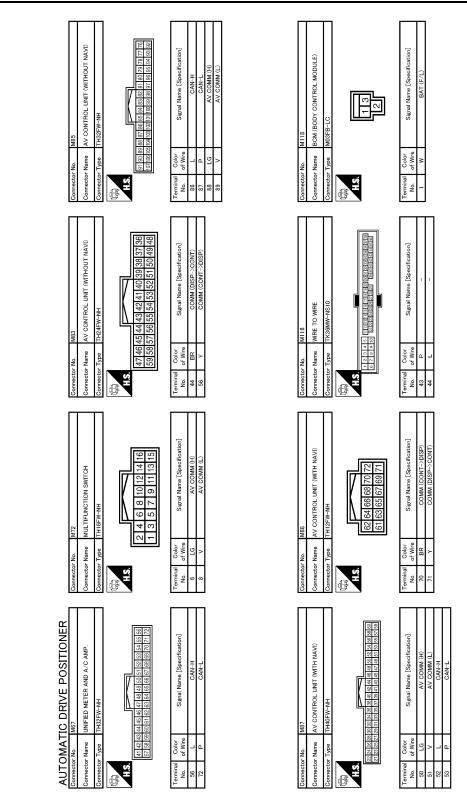
[WITH ADP]



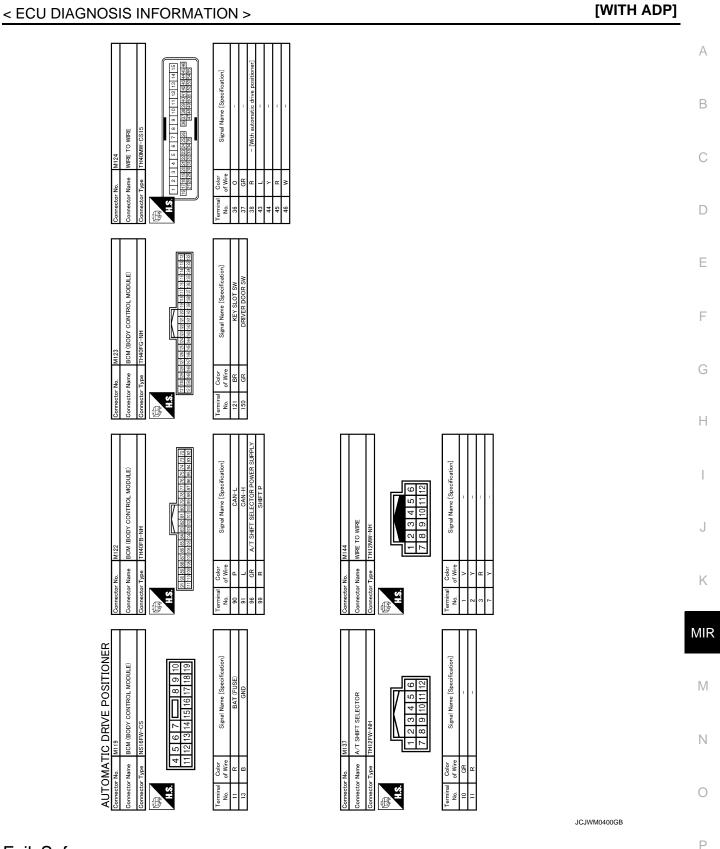
JCJWM0398GB

## < ECU DIAGNOSIS INFORMATION >

[WITH ADP]



JCJWM0399GB



# Fail Safe

The fail-safe mode may be activated if the following symptoms are observed.

# Revision: 2009 March

INFOID:000000004172891

## < ECU DIAGNOSIS INFORMATION >

## [WITH ADP]

Operating in fail-safe mode	Malfunction Item	Related DTC	Diagnosis
	CAN communication	U1000	<u>ADP-45</u>
Only manual functions operate normally.	Tilt sensor	B2118	<u>ADP-50</u>
Only manual functions operate normally.	Telescopic sensor	B2119	<u>ADP-53</u>
	Detent switch	B2126	ADP-56
Only manual functions, except door mirror, operate normally.	UART communication	B2128	<u>ADP-58</u>
Only manual functions, except seat sliding, operate normally.	Seat sliding output	B2112	ADP-46
Only manual functions, except seat reclining, operate normally.	Seat reclining output	B2113	<u>ADP-48</u>

# DTC Index

INFOID:000000004172892

CONSULT-III	Tim	ing <sup>*1</sup>		
display	Current mal- function	Previous mal- function	ltem	Reference page
CAN COMM CIRCUIT [U1000]	0	1-39	CAN communication	<u>ADP-45</u>
SEAT SLIDE [B2112]	0	1-39	Seat slide motor output	<u>ADP-46</u>
SEAT RECLINING [B2113]	0	1-39	Seat reclining motor output	<u>ADP-48</u>
TILT SENSOR [B2118]	0	1-39	Tilt sensor input	<u>ADP-50</u>
TELESCO SENSOR [B2119]	0	1-39	Telescopic sensor input	<u>ADP-53</u>
DETENT SW [B2126]	0	1-39	Detention switch condition	<u>ADP-56</u>
UART COMM [B2128]	0	1-39	UART communication	<u>ADP-58</u>

\*1.

• 0: Current malfunction is present

• 1-39: Displayed if any previous malfunction is present when current condition is normal. The numeral value increases by one at each IGN ON to OFF cycle from 1 to 39. The counter remains at 39 even if the number of cycles exceeds it. However, the counter is reset to 1 if any malfunction is detected again, the normal operation is resumed and the ignition switch is turned from OFF to ON.

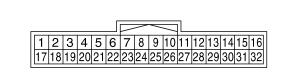
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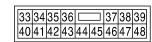
# AUTOMATIC DRIVE POSITIONER CONTROL UNIT

## **Reference Value**

#### INFOID:000000004172771

TERMINAL LAYOUT







D

Е

С

А

В

JMJIA0199ZZ

## PHYSICAL VALUES

Ter	minal No.		Description					
+	-	Wire color		Input/ Out- put	Condition		Voltage (V) (Approx.)	
1	Ground	Y	Tilt switch up signal	Input	Tilt switch	Operate (up)	0	
1	Ground	I		input	The Switch	Other than above	5	
			Changeover switch RH		Changeover	RH	0	
2	Ground	LG	signal	Input	switch position	Neutral or LH	5	
3	Ground	G	Mirror switch up signal	Input	Mirror switch	Operated (up)	0	
3	Ground	9	winter switch up signal	input	WINTOF SWITCH	Other than above	5	
4	Ground	V	Mirror switch left signal	Innut		Operated (left)	0	
4	Ground	v	Minor Switch left signal	Input	put Mirror switch	Other than above	5	
5	Ground	R	Door mirror sensor (RH) up/down signal	Input	Door mirror RH position		Change between 3.4 (close to peak) 0.6 (close to valley)	
6	Ground	GR	Door mirror sensor (LH) up/down signal	Input	Door mirror LH po	osition	Change between 3.4 (close to peak) 0.6 (close to valley)	
7	Ground	0	Tilt sensor signal	Input	Tilt position		Change between 1.2 (close to top) 3.4 (close to bottom)	
						Push	0	
9	Ground	L	Memory switch 1 signal	Input	Memory switch 1	Other than above	5	
10	Ground	V	UART communication (TX)	Out- put	Ignition switch ON	١	2mSec/div	

## < ECU DIAGNOSIS INFORMATION >

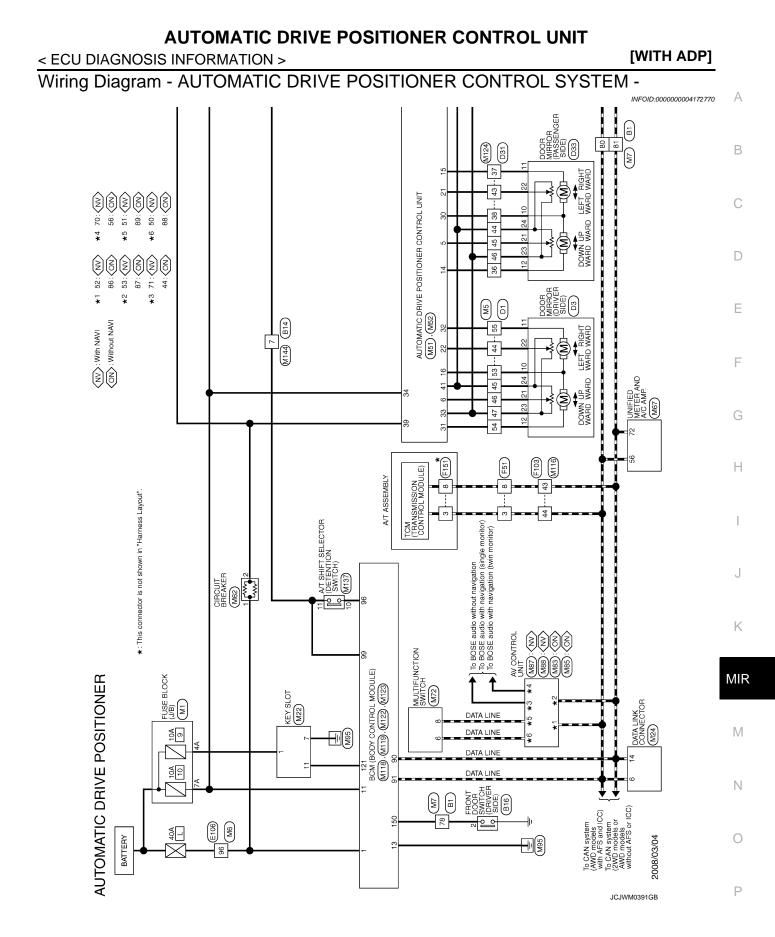
Terr	ninal No.		Description													
+	-	Wire color	Signal name	Input/ Out- put	Conditio	on	Voltage (V) (Approx.)									
11	Ground	GR	Telescopic switch for-	Input	Telescopic	Operate (forward)	0									
		-	ward signal		switch	Other than above	5									
		_		Out-	Memory indictor	Illuminate	0									
12	Ground	0	Memory indictor 1 signal	put	1	Other than above	Battery voltage									
				Out-	Memory indictor	Illuminate	0									
13	Ground	Ρ	Memory indictor 2 signal	put	2	Other than above	Battery voltage									
14	Ground	W	Door mirror motor (RH)	Out-	Door mirror RH	Operate (up)	Battery voltage									
14	Ground	vv	up output signal	put		Other than above	0									
15	Ground	G	Door mirror motor (RH)	Out-	Door mirror RH	Operate (left)	Battery voltage									
15	Ground	G	left output signal	put		Other than above	0									
			Door mirror motor (LH)			Operate (down)	Battery voltage									
16	Ground	Y	down output signal	Out- put		Out-	Out-	Out-	Out-	Out-	Out-	Out-	Out-	Door mirror (LH)	Other than above	0
10	Ground		Door mirror motor (LH)				Operate (right)	Battery voltage								
			right output signal			Other than above	0									
17	Ground	W	Tilt switch down signal	Input	Tilt switch	Operate (down)	0									
17	Ground	vv	The switch down signal	mput	The Switch	Other than above	5									
			Changeover switch LH		Changeover	LH	0									
18	Ground	Ρ	signal	Input	switch position	Neutral or RH	5									
19	Ground	SB	Mirror switch down sig-	Input	Mirror switch	Operate (down)	0									
10	Ground	00	nal	mput	WIITOF SWITCH	Other than above	5									
20	Ground	BR	Mirror switch right signal	Input	Mirror switch	Operate (right)	0									
20	Ground	DR	winter switch fight signal	mput		Other than above	5									
21	Ground	L	Door mirror sensor (RH) left/right signal	Input	Door mirror RH po	osition	Change between 3.4 (close to left edge) 0.6 (close to right edge)									
22	Ground	G	Door mirror sensor (LH) left/right signal	Input	Door mirror LH po	sition	Change between 0.6 (close to left edge) 3.4 (close to right edge)									
23	Ground	Ρ	Telescopic sensor signal	Input	Telescopic positio	n	Change between 0.8 (close to top) 3.4 (close to bottom)									

## < ECU DIAGNOSIS INFORMATION >

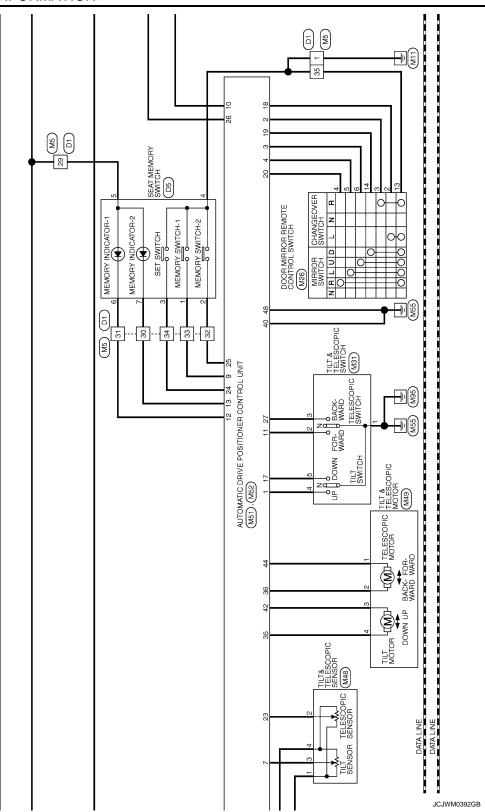
Terr	minal No.		Description				
+	-	Wire color	Signal name	Input/ Out- put	Condition		Voltage (V) (Approx.)
24	Ground	R	Set switch signal	Input	Set switch	Push Other than above	0 5
25	Ground	SB	Memory switch 2 signal	Input	Memory switch 2	Push Other than above	0 5
26	Ground	Y	UART communication (RX)	Input	Ignition switch ON	l	10mSec/div
27	Ground	G	Telescopic switch back- ward signal	Input	Telescopic switch	Operate (back- ward) Other than	0
			Door mirror motor (RH)			above Operate (down)	Battery voltage
30	Ground	R	down output signal	Out-	Door mirror (RH)	Other than above	0
00	Ground	IX.	Door mirror motor (RH)	put		Operate (right)	Battery voltage
			right output signal			Other than above	0
31	Ground	L	Door mirror motor (LH)	Out-	Door mirror (LH)	Operate (up)	Battery voltage
			up output signal	put		Other than above	0
32	Ground	L	Door mirror motor (LH)	Out-	Door mirror (LH)	Operate (left)	Battery voltage
	Croana	-	left output signal	put		Other than above	0
33	Ground	W	Sensor power supply	Input			5
34	Ground	R	Power source (Fuse)	Input		1	Battery voltage
35	Ground	L	Tilt motor up output sig-	Out-	Steering tilt	Operate (up)	Battery voltage
00	Cround	L	nal	put		Other than above	0
36	Ground	GR	Telescopic motor for-	Out-	Steering tele-	Operate (forward)	Battery voltage
30	Cround	UIX	ward output signal	put	scopic	Other than above	0
39	Ground	W	Power source (C/B)				Battery voltage
40	Ground	В	Ground				0
41	Ground	Y	Sensor ground	—	_		0

## < ECU DIAGNOSIS INFORMATION >

Terr	minal No.		Description		Condition		
+	-	Wire color	Signal name	Input/ Out- put			Voltage (V) (Approx.)
42	Ground	0	Tilt motor down output	Out-	Steering tilt	Operate (down)	Battery voltage
42	Ground	0	signal	put		Other than above	0
44	Ground	G	Telescopic motor back- ward output signal	Out- put	Steering tele- scopic	Operate (back- ward)	Battery voltage
			waru ouiput signai	put	scopic	Other than above	0
48	Ground	В	Ground		—		0

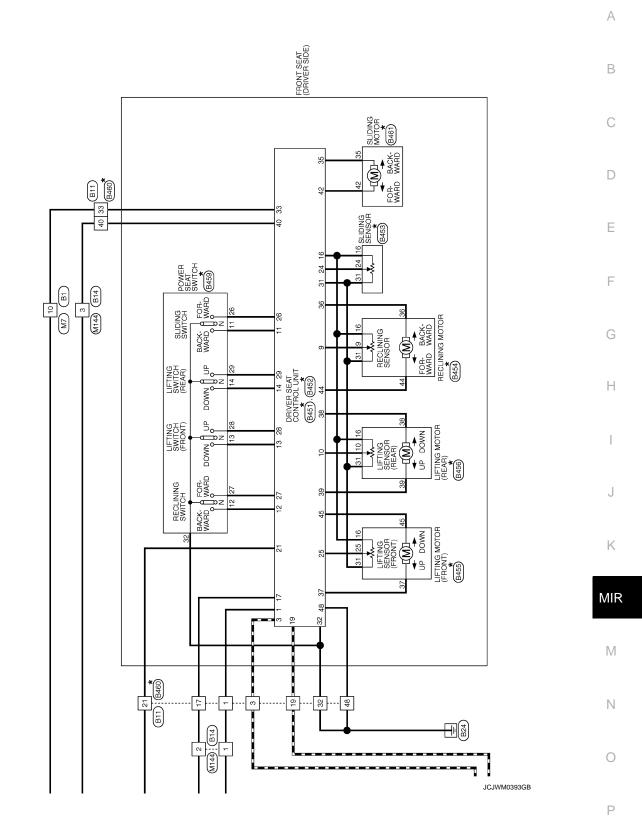


## < ECU DIAGNOSIS INFORMATION >



< ECU DIAGNOSIS INFORMATION >

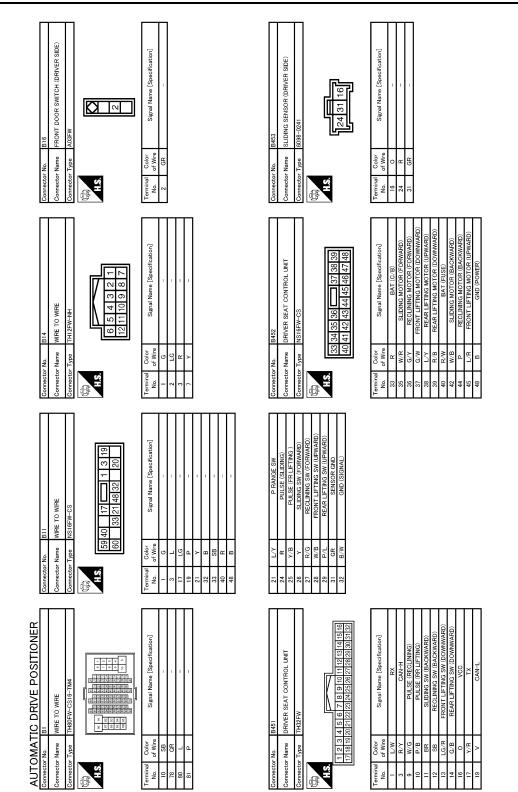
[WITH ADP]



 $\bigstar$  : This connector is not shown in "Harness Layout".

## < ECU DIAGNOSIS INFORMATION >

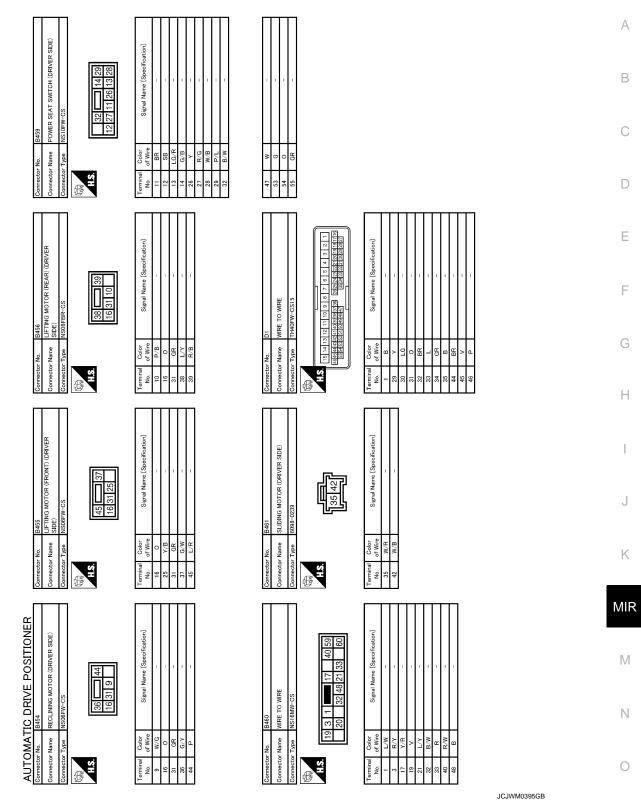
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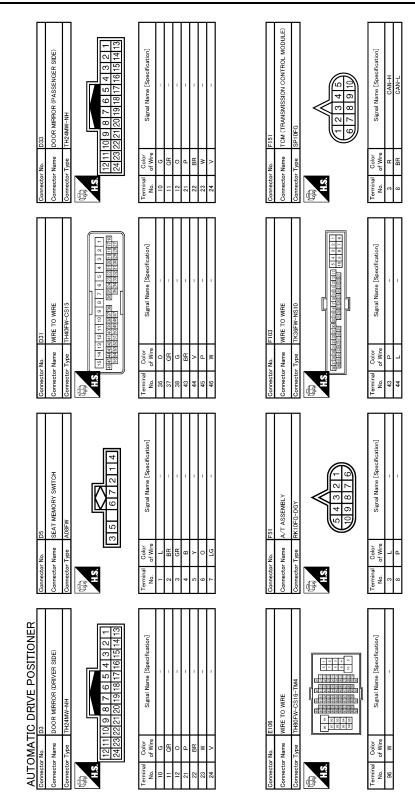
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## < ECU DIAGNOSIS INFORMATION >

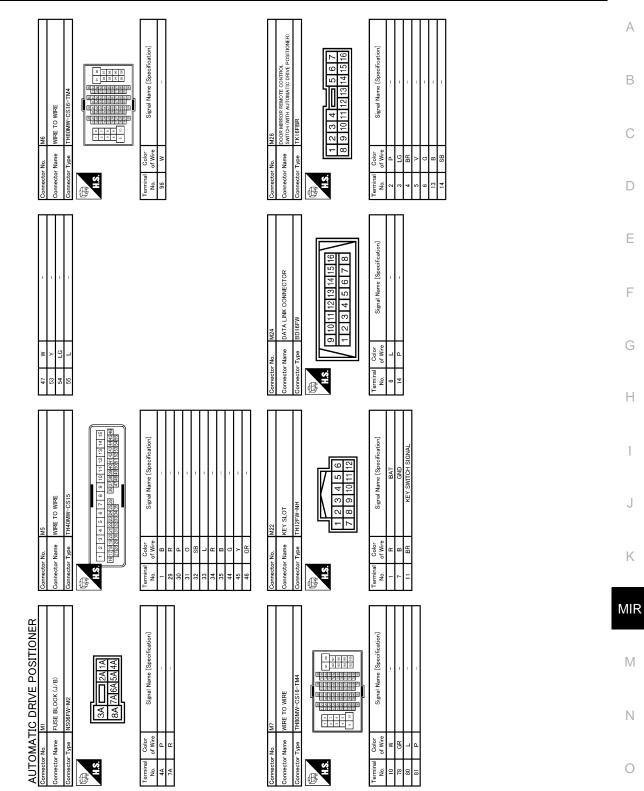
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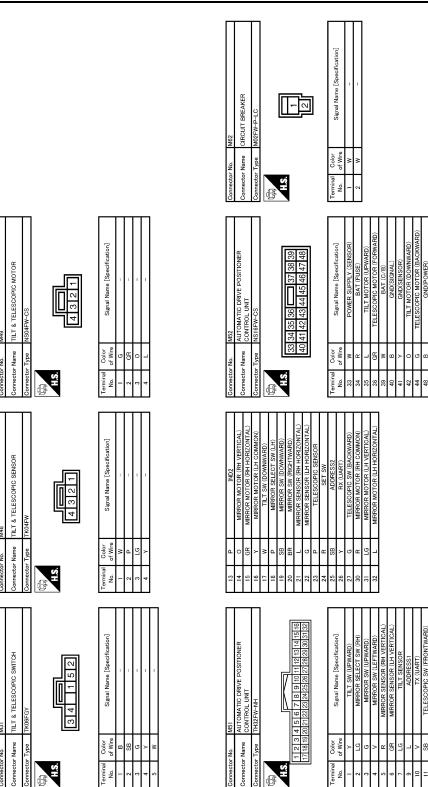
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## < ECU DIAGNOSIS INFORMATION >

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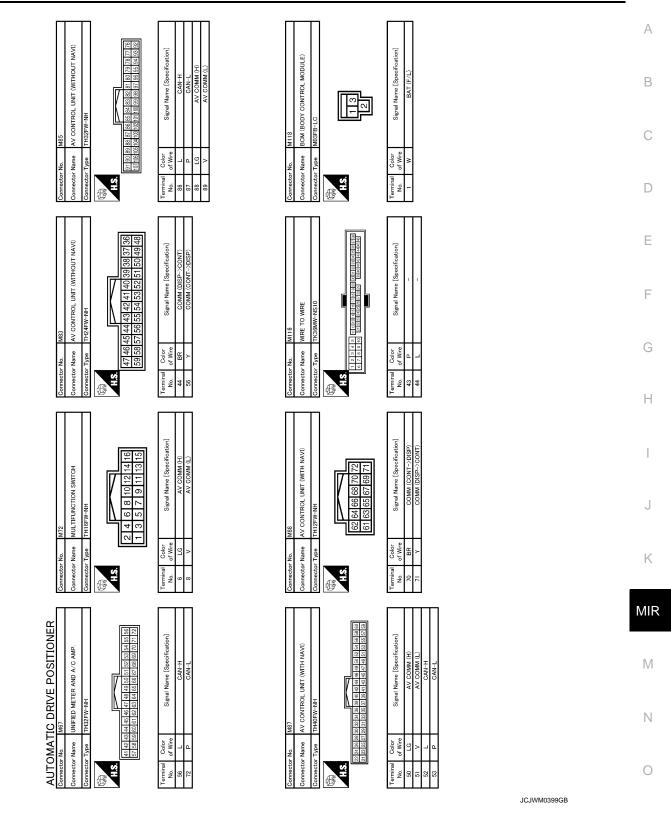


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AUTOMATIC DRIVE POSITIONER

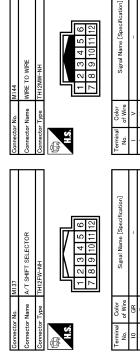
## < ECU DIAGNOSIS INFORMATION >

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Revision: 2009 March

## < ECU DIAGNOSIS INFORMATION >



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DOOR MIRROR DOES NOT OPERATE
< SYMPTOM DIAGNOSIS > [WITH ADP]
SYMPTOM DIAGNOSIS
DOOR MIRROR DOES NOT OPERATE
Diagnosis Procedure
1. CHECK AUTOMATIC DRIVE POSITIONER SYSTEM
Check door mirror operation with automatic drive positioner system. Is the inspection result normal?
<ul> <li>YES &gt;&gt; GO TO 2.</li> <li>NO &gt;&gt; Check automatic drive positioner system operation. Refer to <u>ADP-13, "AUTOMATIC DRIVE</u> <u>POSITIONER SYSTEM : System Diagram"</u></li> </ul>
<b>2.</b> CHECK DOOR MIRROR REMOTE CONTROL SWITCH (MIRROR SWITCH)
Check mirror switch. Refer to MIR-11, "MIRROR SWITCH : Component Function Check"
Is the inspection result normal?
YES >> GO TO 3. NO >> Repair or replace the malfunctioning parts.
3. CHECK DOOR MIRROR REMOTE CONTROL SWITCH (CHANGEOVER SWITCH)
Check changeover switch. Refer to <u>MIR-13, "CHANGEOVER SWITCH : Component Function Check"</u>
Is the inspection result normal?
YES >> GO TO 4. NO >> Repair or replace the malfunctioning parts.
4. CONFIRM THE OPERATION
Confirm the operation again.
Is the result normal?
YES >> Check intermittent incident. Refer to <u>GI-35, "Intermittent Incident"</u> NO >> GO TO 1.

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## **REVERSE INTERLOCK DOOR MIRROR DOES NOT OPERATE**

< SYMPTOM DIAGNOSIS >

# REVERSE INTERLOCK DOOR MIRROR DOES NOT OPERATE

Diagnosis Procedure

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[WITH ADP]

1.CHECK DOOR MIRROR (MANUAL FUNCTION)

Check door mirror function with door mirror remote control switch.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CHECK DTC

Check DTC for TCM.

Refer to TM-75, "CONSULT-III Function (TRANSMISSION)"

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3. CONFIRM THE OPERATION

Confirm the operation again.

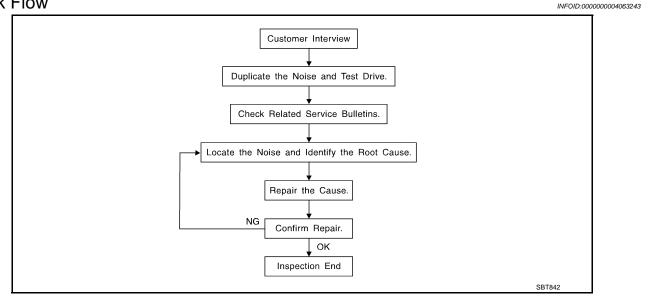
Is the result normal?

- YES >> Check intermittent incident. Refer to GI-35. "Intermittent Incident"
- NO >> GO TO 1.

## < SYMPTOM DIAGNOSIS >

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

## Work Flow



## CUSTOMER INTERVIEW

Interview the customer if possible, to determine the conditions that exist when the noise occurs. Use the Diagnostic Worksheet during the interview to document the facts and conditions when the noise occurs and any of customer's comments; refer to <u>MIR-63</u>, "<u>Diagnostic Worksheet</u>". This information is necessary to duplicate the conditions that exist when the noise occurs.

- The customer may not be able to provide a detailed description or the location of the noise. Attempt to obtain all the facts and conditions that exist when the noise occurs (or does not occur).
- If there is more than one noise in the vehicle, perform a diagnosis and repair the noise that the customer is concerned about. This can be accomplished by performing a cruise test on the vehicle with the customer.
- After identifying the type of noise, isolate the noise in terms of its characteristics. The noise characteristics J are provided so the customer, service adviser and technician are all speaking the same language when defining the noise.
- Squeak (Like tennis shoes on a clean floor)
   Squeak characteristics include the light contact/fast movement/brought on by road conditions/hard surfaces
   higher pitch noise/softer surfaces = lower pitch noises/edge to surface = chirping
- Creak (Like walking on an old wooden floor)
   Creak characteristics include firm contact/slow movement/twisting with a rotational movement/pitch dependent on materials/often brought on by activity.
- Rattle (Like shaking a baby rattle) Rattle characteristics include the fast repeated contact/vibration or similar movement/loose parts/missing clip or fastener/incorrect clearance.
- Knock (Like a knock on a door)
   Knock characteristics include hollow sounding/sometimes repeating/often brought on by driver action.
- Tick (Like a clock second hand)
   Tick characteristics include gentle contacting of light materials/loose components/can be caused by driver action or road conditions.
- Thump (Heavy, muffled knock noise) Thump characteristics include softer knock/dead sound often brought on by activity.
- Buzz (Like a bumblebee)
   Buzz characteristics include high frequency rattle/firm contact.
- Often the degree of acceptable noise level will vary depending up on the person. A noise that a technician may judge as acceptable may be very irritating to the customer.
- Weather conditions, especially humidity and temperature, may have a great effect on noise level.

## DUPLICATE THE NOISE AND TEST DRIVE

If possible, drive the vehicle with the customer until the noise is duplicated. Note any additional information on the Diagnostic Worksheet regarding the conditions or location of the noise. This information can be used to duplicate the same conditions when the repair is reconfirmed.

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## < SYMPTOM DIAGNOSIS >

[WITH ADP]

If the noise can be duplicated easily during the test drive, to help identify the source of the noise, try to duplicate the noise with the vehicle stopped by doing one or all of the following:

- 1) Close a door.
- 2) Tap or push/pull around the area where the noise appears to be coming from.
- 3) Rev the engine.
- 4) Use a floor jack to recreate vehicle "twist".
- 5) At idle, apply engine load (electrical load, half-clutch on M/T models, drive position on A/T models).
- 6) Raise the vehicle on a hoist and hit a tire with a rubber hammer.
- Drive the vehicle and attempt to duplicate the conditions the customer states exist when the noise occurs.
- If it is difficult to duplicate the noise, drive the vehicle slowly on an undulating or rough road to stress the vehicle body.

## CHECK RELATED SERVICE BULLETINS

After verifying the customer concern or symptom, check ASIST for Technical Service Bulletins (TSBs) related to that concern or symptom.

If a TSB relates to the symptom, follow the procedure to repair the noise.

## LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE

- 1. Narrow down the noise to a general area. To help pinpoint the source of the noise, use a listening tool (Chassis ear: J-39570, Engine ear and mechanics stethoscope).
- 2. Narrow down the noise to a more specific area and identify the cause of the noise by:
- Removing the components in the area that is are suspected to be the cause of the noise. Do not use too much force when removing clips and fasteners, otherwise clips and fastener can be broken or lost during the repair, resulting in the creation of new noise.
- Tapping or pushing/pulling the component that is are suspected to be the cause of the noise. Do not tap or push/pull the component with excessive force, otherwise the noise will be eliminated only temporarily.
- Feeling for a vibration by hand by touching the component(s) that is are suspected to be the cause of the noise.
- Placing a piece of paper between components that are suspected to be the cause of the noise.
- Looking for loose components and contact marks. Refer to <u>MIR-61</u>, "Inspection Procedure".

## REPAIR THE CAUSE

- If the cause is a loose component, tighten the component securely.
- If the cause is insufficient clearance between components:
- Separate components by repositioning or loosening and retightening the component, if possible.
- Insulate components with a suitable insulator such as urethane pads, foam blocks, felt cloth tape or urethane tape. A Nissan Squeak and Rattle Kit (J-43980) is available through the authorized Nissan Parts Department.

## CAUTION:

# Never use excessive force as many components are constructed of plastic and may be damaged. NOTE:

Always check with the Parts Department for the latest parts information.

The following materials are contained in the Nissan Squeak and Rattle Kit (J-43980). Each item can be ordered separately as needed.

URETHANE PADS [1.5 mm (0.059 in) thick]

Insulates connectors, harness, etc.

76268-9E005: 100  $\times$  135 mm (3.94  $\times$  5.31 in)/76884-71L01: 60  $\times$  85 mm (2.36  $\times$  3.35 in)/76884-71L02:15  $\times$  25 mm (0.59  $\times$  0.98 in)

INSULATOR (Foam blocks)

Insulates components from contact. Can be used to fill space behind a panel.

73982-9E000: 45 mm (1.77 in) thick,  $50 \times 50$  mm (1.97  $\times$  1.97 in)/73982-

50Y00: 10 mm (0.39 in) thick,  $50 \times 50$  mm (1.97  $\times$  1.97 in)

INSULATOR (Light foam block)

80845-71L00: 30 mm (1.18 in) thick,  $30 \times 50$  mm (1.18  $\times$  1.97in)

FELT CLOTHTAPE

Used to insulate where movement does not occur. Ideal for instrument panel applications. 68370-4B000:  $15 \times 25 \text{ mm} (0.59 \times 0.98 \text{ in}) \text{ pad}/68239-13E00: 5 \text{ mm} (0.20 \text{ in}) \text{ wide tape roll}$  The following materials, not found in the kit, can also be used to repair squeaks and rattles. UHMW (TEFLON) TAPE

SQUEAK AND RATTLE TROUBLE DIAGNOSES	
< SYMPTOM DIAGNOSIS > [WITH ADP]	
Insulates where slight movement is present. Ideal for instrument panel applications.	
SILICONE GREASE Used in place of UHMW tape that is be visible or does not fit. Will only last a few months. SILICONE SPRAY	A
Used when grease cannot be applied.	В
DUCT TAPE Used to eliminate movement.	D
CONFIRM THE REPAIR Confirm that the cause of a noise is repaired by test driving the vehicle. Operate the vehicle under the same	С
conditions as when the noise originally occurred. Refer to the notes on the Diagnostic Worksheet.	
Inspection Procedure	D
Refer to Table of Contents for specific component removal and installation information.	
INSTRUMENT PANEL	Е
Most incidents are caused by contact and movement between:	
1. The cluster lid A and instrument panel	_
2. Acrylic lens and combination meter housing	F
3. Instrument panel to front pillar garnish	
4. Instrument panel to windshield	G
5. Instrument panel mounting pins	
6. Wiring harnesses behind the combination meter	
<ol> <li>A/C defroster duct and duct joint These incidents can usually be located by tapping or moving the components to duplicate the noise or by</li> </ol>	Н
pressing on the components while driving to stop the noise. Most of these incidents can be repaired by	
applying felt cloth tape or silicon spray (in hard to reach areas). Urethane pads can be used to insulate wiring harness.	I
CAUTION: Never use silicone spray to isolate a squeak or rattle. If the area is saturated with silicone, the	
recheck of repair becomes impossible.	J
CENTER CONSOLE	
Components to pay attention to include:	
1. Shifter assembly cover to finisher	K
2. A/C control unit and cluster lid C	
3. Wiring harnesses behind audio and A/C control unit	MIR
The instrument panel repair and isolation procedures also apply to the center console.	
DOORS	
Pay attention to the following:	Μ
1. Finisher and inner panel making a slapping noise	
<ol> <li>Inside handle escutcheon to door finisher</li> <li>Wiring harposes tapping</li> </ol>	Ν
<ol> <li>Wiring harnesses tapping</li> <li>Door striker out of alignment causing a popping noise on starts and stops</li> </ol>	1 1
Tapping or moving the components or pressing on them while driving to duplicate the conditions can isolate	
many of these incidents. The areas can usually be insulated with felt cloth tape or insulator foam blocks from the Nissan Squeak and Rattle Kit (J-43980) to repair the noise.	0
TRUNK	
Trunk noises are often caused by a loose jack or loose items put into the trunk by the customer. In addition look for the following:	Ρ
1. Trunk lid dumpers out of adjustment	
2. Trunk lid striker out of adjustment	
3. The trunk lid torsion bars knocking together	

- 3. The trunk lid torsion bars knocking together
- 4. A loose license plate or bracket

## < SYMPTOM DIAGNOSIS >

Most of these incidents can be repaired by adjusting, securing or insulating the item(s) or component(s) causing the noise.

## SUNROOF/HEADLINING

Noises in the sunroof/headlining area can often be traced to one of the following:

- 1. Sunroof lid, rail, linkage or seals making a rattle or light knocking noise
- 2. Sunvisor shaft shaking in the holder
- 3. Front or rear windshield touching headlining and squeaking

Again, pressing on the components to stop the noise while duplicating the conditions can isolate most of these incidents. Repairs usually consist of insulating with felt cloth tape.

#### SEATS

When isolating seat noise it's important to note the position the seats in and the load placed on the seat when the noise occurs. These conditions should be duplicated when verifying and isolating the cause of the noise. Cause of seat noise include:

- 1. Headrest rods and holder
- 2. A squeak between the seat pad cushion and frame
- 3. The rear seatback lock and bracket

These noises can be isolated by moving or pressing on the suspected components while duplicating the conditions under which the noise occurs. Most of these incidents can be repaired by repositioning the component or applying urethane tape to the contact area.

## UNDERHOOD

Some interior noise may be caused by components under the hood or on the engine wall. The noise is then transmitted into the passenger compartment.

Causes of transmitted underhood noise include:

- 1. Any component mounted to the engine wall
- 2. Components that pass through the engine wall
- 3. Engine wall mounts and connectors
- 4. Loose radiator mounting pins
- 5. Hood bumpers out of adjustment
- 6. Hood striker out of adjustment

These noises can be difficult to isolate since they cannot be reached from the interior of the vehicle. The best method is to secure, move or insulate one component at a time and test drive the vehicle. Also, engine RPM or load can be changed to isolate the noise. Repairs can usually be made by moving, adjusting, securing, or insulating the component causing the noise.

< SYMPTOM DIAGNOSIS >

**Diagnostic Worksheet** 



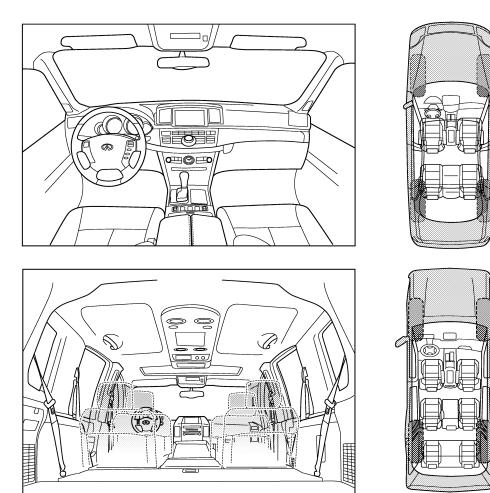
SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

#### Dear Infiniti Customer:

We are concerned about your satisfaction with your Infiniti vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your Infiniti right the first time, please take a moment to note the area of the vehicle where the squeak or rattle occurs and under what conditions. You may be asked to take a test drive with a service consultant or technician to ensure we confirm the noise you are hearing.

#### I. WHERE DOES THE NOISE COME FROM? (circle the area of the vehicle)

The illustrations are for reference only, and may not reflect the actual configuration of your vehicle.



Continue to page 2 of the worksheet and briefly describe the location of the noise or rattle. In addition, please indicate the conditions which are present when the noise occurs.

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## < SYMPTOM DIAGNOSIS >

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## SQUEAK & RATTLE DIAGNOSTIC WORKSHEET - page 2

Briefly describe the location where the noise occurs:

II. WHEN DOES IT OCCUR? (please check	< the boxes that apply)
<ul> <li>anytime</li> <li>1st time in the morning</li> <li>only when it is cold outside</li> </ul>	<ul> <li>after sitting out in the rain</li> <li>when it is raining or wet</li> <li>dry or dusty conditions</li> </ul>
<ul> <li>only when it is hot outside</li> <li>III. WHEN DRIVING:</li> </ul>	Other: IV. WHAT TYPE OF NOISE
<ul> <li>through driveways</li> <li>over rough roads</li> <li>over speed bumps</li> <li>only about mph</li> <li>on acceleration</li> <li>coming to a stop</li> <li>on turns: left, right or either (circle)</li> <li>with passengers or cargo</li> <li>other:</li> </ul>	<ul> <li>squeak (like tennis shoes on a clean floor)</li> <li>creak (like walking on an old wooden floor)</li> <li>rattle (like shaking a baby rattle)</li> <li>knock (like a knock at the door)</li> <li>tick (like a clock second hand)</li> <li>thump (heavy, muffled knock noise)</li> <li>buzz (like a bumble bee)</li> </ul>

## TO BE COMPLETED BY DEALERSHIP PERSONNEL

**Test Drive Notes:** 

	YES	NO	Initials of person performing
Vehicle test driven with customer - Noise verified on test drive - Noise source located and repaired - Follow up test drive performed to confirm repair			
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# < PRECAUTION > PRECAUTION PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

## WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the "SRS AIR BAG".
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

## WARNING:

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

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# < PREPARATION > PREPARATION

# PREPARATION

Commercial Service Tools

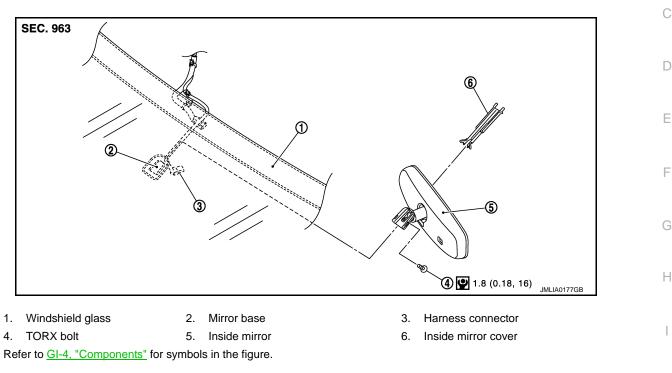
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Tool name		Description
Remover tool	PIIB7923J	Removes the clips, pawls and metal clips

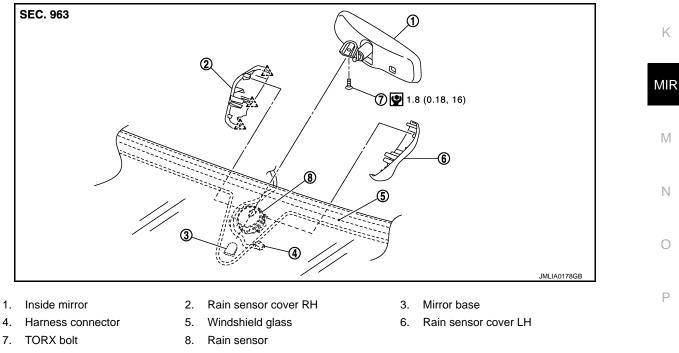
# < REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION INSIDE MIRROR

# Exploded View

Base model



## Option model



Refer to GI-4, "Components" for symbols in the figure.

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# < REMOVAL AND INSTALLATION >

# Removal and Installation

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## REMOVAL

Base model

- 1. Remove the inside mirror cover.
- 2. Remove TORX bolt.
- 3. Disconnect harness connector from inside mirror.
- 4. Slide the inside mirror upward to remove.

## Option model

- 1. Remove the rain sensor cover (LH/RH).
- 2. Disconnect harness connector from inside mirror.
- 3. Loosen TORX bolt and slide inside mirror upward to remove.

## INSTALLATION

Install in the reverse order of removal.

< REMOVAL AND INSTALLATION >

# OUTSIDE MIRROR DOOR MIRROR ASSEMBLY

DOOR MIRROR ASSEMBLY : Exploded View

SEC. 963 D Æ 6 JMLIA0174ZZ 1. Door mirror cover 2. Puddle lamp 3. Base cover Side camera finisher assembly (with 5. Side camera assembly (with side 4. 6. Glass mirror side camera model) camera model) Κ 7. Mirror assembly 八 :Pawl MIR DOOR MIRROR ASSEMBLY : Removal and Installation INFOID:000000003843238 REMOVAL Μ

- 1. Remove front door finisher. Refer to INT-11, "Removal and Installation".
- 2. Remove front door sash inner cover. Refer to GW-18, "Exploded View". 3. Disconnect door mirror harness connector. 4. Remove door mirror mounting nuts, and remove door mirror assembly. INSTALLATION Install in the reverse order of removal.

# **CAUTION:**

Perform camera image calibration. Refer to AV-614, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Special Repair Requirement".

DOOR MIRROR ASSEMBLY : Disassembly and Assembly INFOID:00000003843239

## DISASSEMBLY

Remove door mirror assembly. Refer to MIR-69, "DOOR MIRROR ASSEMBLY : Removal and Installa-1. tion".

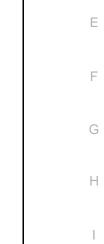
## **MIR-69**

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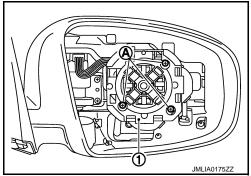


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# **OUTSIDE MIRROR**

## < REMOVAL AND INSTALLATION >

- 2. Remove glass mirror. Refer to MIR-71. "GLASS MIRROR : Disassembly and Assembly".
- 3. Remove door mirror cover. Refer to MIR-72, "DOOR MIRROR COVER : Disassembly and Assembly".
- 4. Remove screws (A) and connector, and then remove actuator (1).



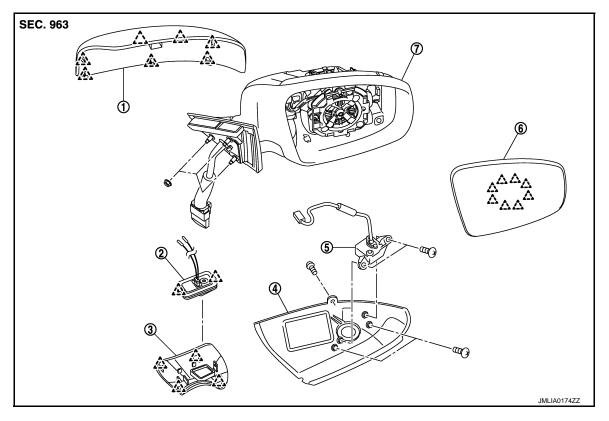
- 5. Remove side camera and LED lamp. Refer to <u>AV-600, "Removal and Installation"</u> (SIDE CAMERA LH), <u>AV-601, "Removal and Installation"</u> (SIDE CAMERA RH).
- 6. Remove base cover and puddle lamp.

## ASSEMBLY

Assemble in the reverse order of disassembly.  $\ensuremath{\mathsf{GLASS}}$   $\ensuremath{\mathsf{MIRROR}}$ 

**GLASS MIRROR : Exploded View** 

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1. Door mirror cover

2. Puddle lamp

camera model)

- 4. Side camera finisher assembly (with 5. side camera model)
- 7. Mirror assembly
- Pawl : Pawl

Side camera assembly (with side

Base cover

Glass mirror

3.

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# **OUTSIDE MIRROR**

## < REMOVAL AND INSTALLATION >

## **GLASS MIRROR** : Disassembly and Assembly

## DISASSEMBLY

- 1. Place the glass mirror upward.
- 2. Put a strip of protective tape (B) on housing assembly.
- As shown in the figure, insert a small flat-bladed screwdriver (A) between glass mirror (1) and actuator (2). Push up both pawls simultaneously to remove glass mirror lower half side.
   NOTE:

Insert flat-bladed screwdriver into recesses, and push up while rotating (twisting) to make work easier.

- 4. Remove two terminals of mirror heater attachment.
- 5. Lightly lift up lower side of glass mirror, and detach both pawls of upper side as if pulling it out to disassemble glass mirror from actuator.

NOTE:

Be careful not to allow grease on sealing agent in center of mirror or back side of glass mirror.

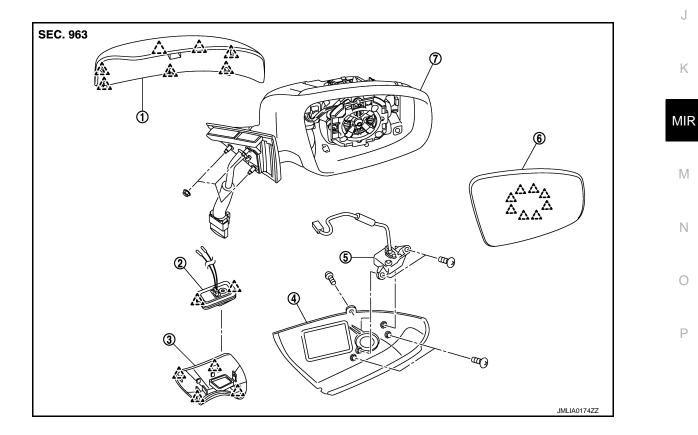
## ASSEMBLY

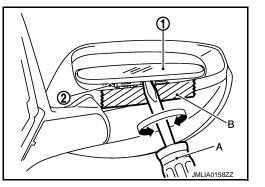
Assemble in the reverse order of disassembly.

## CAUTION:

After installation, visually check that pawls are securely engaged. DOOR MIRROR COVER

# DOOR MIRROR COVER : Exploded View





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# **OUTSIDE MIRROR**

# < REMOVAL AND INSTALLATION >

- 1. Door mirror cover
- 2. Puddle lamp
- 4. Side camera finisher assembly (with 5. side camera model)
- 7. Mirror assembly
- ^ : Pawl

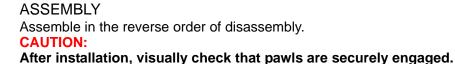
# DOOR MIRROR COVER : Disassembly and Assembly

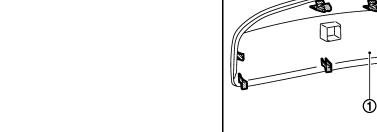
## **CAUTION:**

## Never damage the mirror bodies.

## DISASSEMBLY

- 1. Remove the glass mirror. Refer to MIR-71, "GLASS MIRROR : Disassembly and Assembly".
- 2. Remove the pawls, and disassemble the door mirror cover (1) from the mirror assembly.





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- 3. Base cover 6. Glass mirror
- Side camera assembly (with side camera model)

#### DOOR MIRROR REMOTE CONTROL SWITCH

#### < REMOVAL AND INSTALLATION >

## DOOR MIRROR REMOTE CONTROL SWITCH

#### **Exploded View**

Refer to INT-14, "Exploded View"

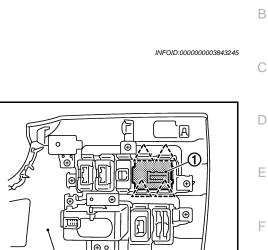
#### **Removal and Installation**

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#### REMOVAL

- 1. Remove the instrument lower panel LH (2). Refer to <u>INT-11,</u> <u>"Exploded View"</u>
- 2. Remove door mirror remote control switch (1) from instrument lower panel LH (2) a using screwdriver (A).

INSTALLATION Install in the reverse order of removal.



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# SYSTEM DESCRIPTION DOOR MIRROR SYSTEM

#### **Component Description**

Component		Function	
	Mirror switch	It supplies power to mirror motor through mirror switch and changeover switch.	
Door mirror remote control switch	Changeover switch	It transmits the LH/RH control of door mirror that supplies power.	
	Open/close switch	Power is supplied to folding mirror from door remote control switch when operating switch.	
Deservices	Door mirror motor	It makes mirror face operate from side to side and up and down via inte- grated motor.	
Door mirror	Folding motor	The door mirror operates because power is received from power supply when pressing door mirror remote control switch.	

#### **INSIDE MIRROR SYSTEM**

#### < SYSTEM DESCRIPTION >

#### **INSIDE MIRROR SYSTEM**

#### System Description

The sensor built in inside mirror detects the brightness of headlight of the vehicle behind and automatically changes the light transmission to decrease the brightness.

#### **Component Description**

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-	Component	Function	
-	Auto anti-dazzling inside mirror	It automatically changes the light transmittance according to the brightness of the light from the headlight of the vehicle behind.	D

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#### AUTO ANTI-DAZZLING INSIDE MIRROR SYSTEM

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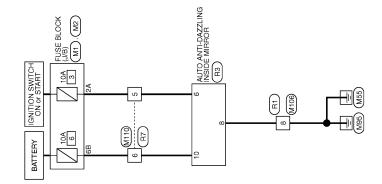
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# DTC/CIRCUIT DIAGNOSIS

AUTO ANTI-DAZZLING INSIDE MIRROR SYSTEM

Wiring Diagram - INSIDE MIRROR SYSTEM -

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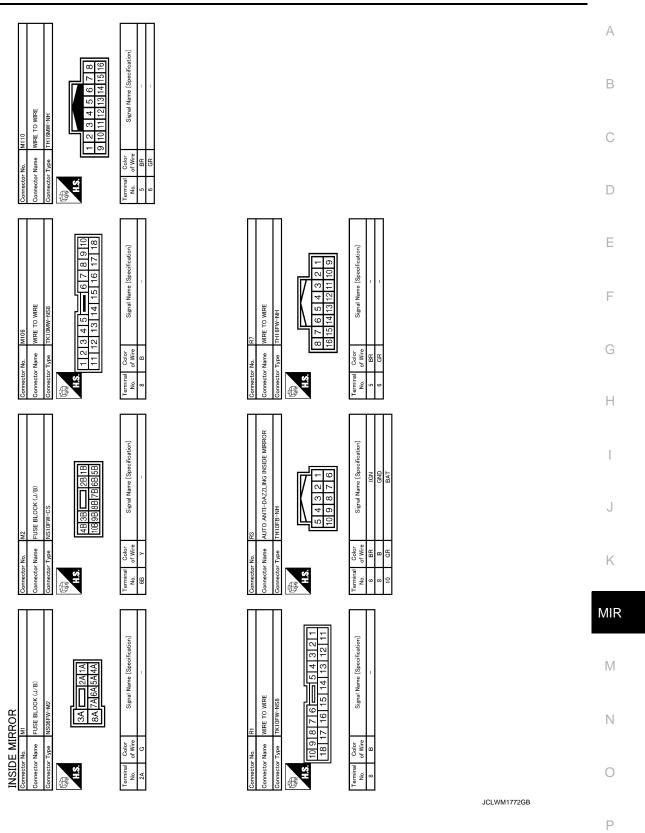
INSIDE MIRROR

2008/03/04

#### AUTO ANTI-DAZZLING INSIDE MIRROR SYSTEM

#### < DTC/CIRCUIT DIAGNOSIS >

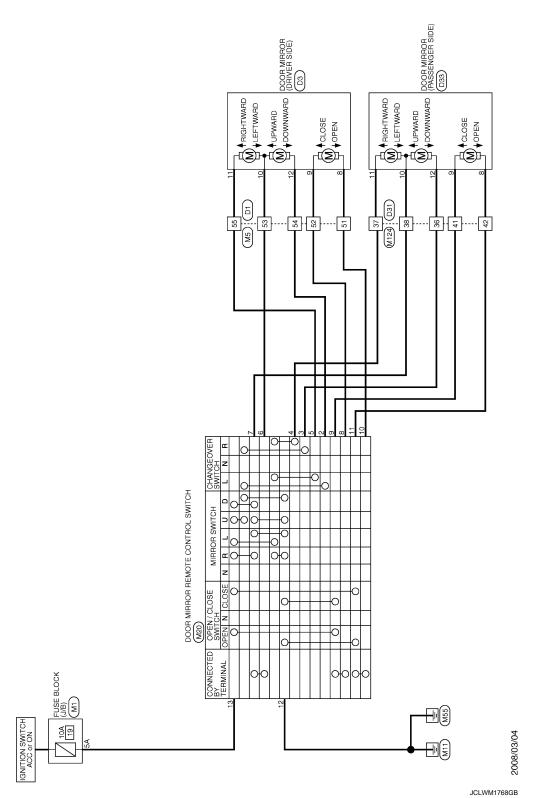
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< DTC/CIRCUIT DIAGNOSIS >

Wiring Diagram - MIRROR SYSTEM -

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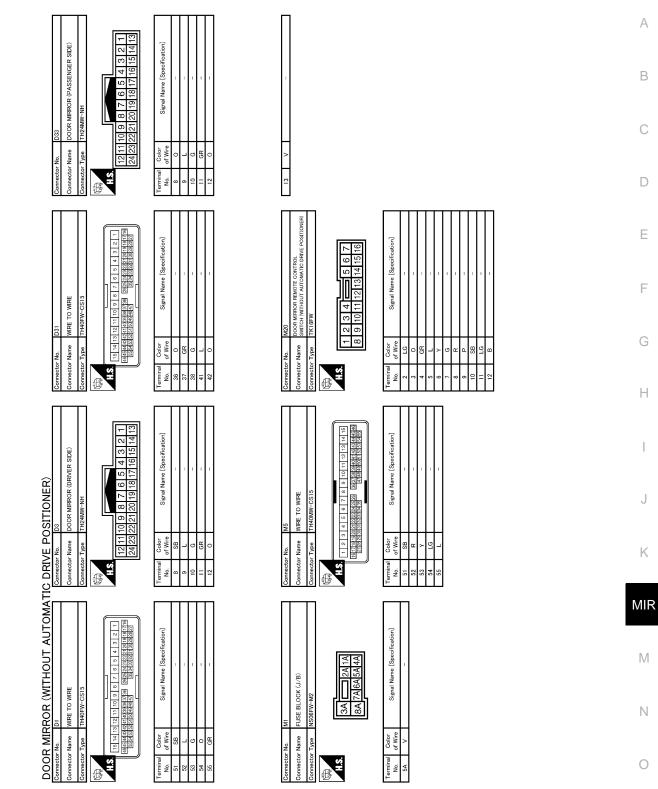


DOOR MIRROR (WITHOUT AUTOMATIC DRIVE POSITIONER)

#### **MIRROR SYSTEM**

#### < DTC/CIRCUIT DIAGNOSIS >

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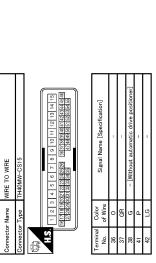


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DOOR MIRROR (WITHOUT AUTOMATIC DRIVE POSITIONER)

#### **MIRROR SYSTEM**



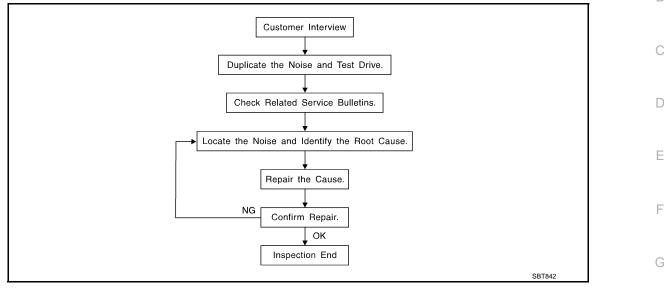
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#### < SYMPTOM DIAGNOSIS >

# SYMPTOM DIAGNOSIS

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

Work Flow



#### CUSTOMER INTERVIEW

Interview the customer if possible, to determine the conditions that exist when the noise occurs. Use the Diagnostic Worksheet during the interview to document the facts and conditions when the noise occurs and any of customer's comments; refer to <u>MIR-85</u>, "<u>Diagnostic Worksheet</u>". This information is necessary to duplicate the conditions that exist when the noise occurs.

- The customer may not be able to provide a detailed description or the location of the noise. Attempt to obtain all the facts and conditions that exist when the noise occurs (or does not occur).
- If there is more than one noise in the vehicle, perform a diagnosis and repair the noise that the customer is concerned about. This can be accomplished by performing a cruise test on the vehicle with the customer.
- After identifying the type of noise, isolate the noise in terms of its characteristics. The noise characteristics are provided so the customer, service adviser and technician are all speaking the same language when defining the noise.
- Squeak (Like tennis shoes on a clean floor)
   Squeak characteristics include the light contact/fast movement/brought on by road conditions/hard surfaces
   higher pitch noise/softer surfaces = lower pitch noises/edge to surface = chirping
- Creak (Like walking on an old wooden floor)
   Creak characteristics include firm contact/slow movement/twisting with a rotational movement/pitch dependent on materials/often brought on by activity.
- Rattle (Like shaking a baby rattle) Rattle characteristics include the fast repeated contact/vibration or similar movement/loose parts/missing clip or fastener/incorrect clearance.
- Knock (Like a knock on a door) Knock characteristics include hollow sounding/sometimes repeating/often brought on by driver action.
- Tick (Like a clock second hand) Tick characteristics include gentle contacting of light materials/loose components/can be caused by driver action or road conditions.
- Thump (Heavy, muffled knock noise) Thump characteristics include softer knock/dead sound often brought on by activity.
- Buzz (Like a bumblebee) Buzz characteristics include high frequency rattle/firm contact.
- Often the degree of acceptable noise level will vary depending up on the person. A noise that a technician may judge as acceptable may be very irritating to the customer.
- Weather conditions, especially humidity and temperature, may have a great effect on noise level.

#### DUPLICATE THE NOISE AND TEST DRIVE

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#### < SYMPTOM DIAGNOSIS >

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If possible, drive the vehicle with the customer until the noise is duplicated. Note any additional information on the Diagnostic Worksheet regarding the conditions or location of the noise. This information can be used to duplicate the same conditions when the repair is reconfirmed.

If the noise can be duplicated easily during the test drive, to help identify the source of the noise, try to duplicate the noise with the vehicle stopped by doing one or all of the following:

- 1) Close a door.
- 2) Tap or push/pull around the area where the noise appears to be coming from.
- 3) Rev the engine.
- 4) Use a floor jack to recreate vehicle "twist".
- 5) At idle, apply engine load (electrical load, half-clutch on M/T models, drive position on A/T models).
- 6) Raise the vehicle on a hoist and hit a tire with a rubber hammer.
- Drive the vehicle and attempt to duplicate the conditions the customer states exist when the noise occurs.
- If it is difficult to duplicate the noise, drive the vehicle slowly on an undulating or rough road to stress the vehicle body.

#### CHECK RELATED SERVICE BULLETINS

After verifying the customer concern or symptom, check ASIST for Technical Service Bulletins (TSBs) related to that concern or symptom.

If a TSB relates to the symptom, follow the procedure to repair the noise.

#### LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE

- 1. Narrow down the noise to a general area. To help pinpoint the source of the noise, use a listening tool (Chassis ear: J-39570, Engine ear and mechanics stethoscope).
- 2. Narrow down the noise to a more specific area and identify the cause of the noise by:
- Removing the components in the area that is are suspected to be the cause of the noise. Do not use too much force when removing clips and fasteners, otherwise clips and fastener can be broken or lost during the repair, resulting in the creation of new noise.
- Tapping or pushing/pulling the component that is are suspected to be the cause of the noise. Do not tap or push/pull the component with excessive force, otherwise the noise will be eliminated only temporarily.
- Feeling for a vibration by hand by touching the component(s) that is are suspected to be the cause of the noise.
- Placing a piece of paper between components that are suspected to be the cause of the noise.
- Looking for loose components and contact marks. Refer to <u>MIR-83</u>, "Inspection Procedure".

#### REPAIR THE CAUSE

- If the cause is a loose component, tighten the component securely.
- If the cause is insufficient clearance between components:
- Separate components by repositioning or loosening and retightening the component, if possible.
- Insulate components with a suitable insulator such as urethane pads, foam blocks, felt cloth tape or urethane tape. A Nissan Squeak and Rattle Kit (J-43980) is available through the authorized Nissan Parts Department.

#### CAUTION:

# Never use excessive force as many components are constructed of plastic and may be damaged. NOTE:

Always check with the Parts Department for the latest parts information.

The following materials are contained in the Nissan Squeak and Rattle Kit (J-43980). Each item can be ordered separately as needed.

URETHANE PADS [1.5 mm (0.059 in) thick]

Insulates connectors, harness, etc.

76268-9E005: 100  $\times$  135 mm (3.94  $\times$  5.31 in)/76884-71L01: 60  $\times$  85 mm (2.36  $\times$  3.35 in)/76884-

71L02:15  $\times$  25 mm (0.59  $\times$  0.98 in)

INSULATOR (Foam blocks)

Insulates components from contact. Can be used to fill space behind a panel.

73982-9E000: 45 mm (1.77 in) thick, 50  $\times$  50 mm (1.97  $\times$  1.97 in)/73982-

50Y00: 10 mm (0.39 in) thick, 50  $\times$  50 mm (1.97  $\times$  1.97 in)

INSULATOR (Light foam block)

80845-71L00: 30 mm (1.18 in) thick, 30  $\times$  50 mm (1.18  $\times$  1.97in)

#### FELT CLOTHTAPE

Used to insulate where movement does not occur. Ideal for instrument panel applications.

#### **MIR-82**

SQUEAK AND RATTLE TROUBLE DIAGNOSES	
< SYMPTOM DIAGNOSIS > [WITHOUT ADP]	
68370-4B000: 15 $\times$ 25 mm (0.59 $\times$ 0.98 in) pad/68239-13E00: 5 mm (0.20 in) wide tape roll The following materials, not found in the kit, can also be used to repair squeaks and rattles. UHMW (TEFLON) TAPE	А
Insulates where slight movement is present. Ideal for instrument panel applications.	
SILICONE GREASE	В
Used in place of UHMW tape that is be visible or does not fit. Will only last a few months. SILICONE SPRAY	D
Used when grease cannot be applied.	
DUCT TAPE	С
Used to eliminate movement.	
CONFIRM THE REPAIR	D
Confirm that the cause of a noise is repaired by test driving the vehicle. Operate the vehicle under the same conditions as when the noise originally occurred. Refer to the notes on the Diagnostic Worksheet.	D
Inspection Procedure	Е
Refer to Table of Contents for specific component removal and installation information.	
INSTRUMENT PANEL	
Most incidents are caused by contact and movement between:	F
1. The cluster lid A and instrument panel	
2. Acrylic lens and combination meter housing	G
3. Instrument panel to front pillar garnish	0
4. Instrument panel to windshield	
5. Instrument panel mounting pins	Н
6. Wiring harnesses behind the combination meter	
7. A/C defroster duct and duct joint These incidents can usually be located by tapping or moving the components to duplicate the noise or by pressing on the components while driving to stop the noise. Most of these incidents can be repaired by applying felt cloth tape or silicon spray (in hard to reach areas). Urethane pads can be used to insulate	I
wiring harness. CAUTION:	J
Never use silicone spray to isolate a squeak or rattle. If the area is saturated with silicone, the recheck of repair becomes impossible.	V
CENTER CONSOLE	K
Components to pay attention to include:	
1. Shifter assembly cover to finisher	MIR
2. A/C control unit and cluster lid C	
3. Wiring harnesses behind audio and A/C control unit	5.4
The instrument panel repair and isolation procedures also apply to the center console.	Μ
DOORS	
Pay attention to the following:	Ν
<ol> <li>Finisher and inner panel making a slapping noise</li> <li>Inside handle escutcheon to door finisher</li> </ol>	
3. Wiring harnesses tapping	
<ol> <li>Wining namesses tapping</li> <li>Door striker out of alignment causing a popping noise on starts and stops</li> </ol>	0
Tapping or moving the components or pressing on them while driving to duplicate the conditions can isolate	
many of these incidents. The areas can usually be insulated with felt cloth tape or insulator foam blocks from the Nissan Squeak and Rattle Kit (J-43980) to repair the noise.	Ρ
TRUNK	
Trunk noises are often caused by a loose jack or loose items put into the trunk by the customer.	

Trunk noises are often caused by a loose jack or loose items put into the trunk by the customer. In addition look for the following:

- 1. Trunk lid dumpers out of adjustment
- 2. Trunk lid striker out of adjustment

#### < SYMPTOM DIAGNOSIS >

- 3. The trunk lid torsion bars knocking together
- 4. A loose license plate or bracket

Most of these incidents can be repaired by adjusting, securing or insulating the item(s) or component(s) causing the noise.

#### SUNROOF/HEADLINING

Noises in the sunroof/headlining area can often be traced to one of the following:

- 1. Sunroof lid, rail, linkage or seals making a rattle or light knocking noise
- 2. Sunvisor shaft shaking in the holder
- 3. Front or rear windshield touching headlining and squeaking

Again, pressing on the components to stop the noise while duplicating the conditions can isolate most of these incidents. Repairs usually consist of insulating with felt cloth tape.

#### SEATS

When isolating seat noise it's important to note the position the seats in and the load placed on the seat when the noise occurs. These conditions should be duplicated when verifying and isolating the cause of the noise. Cause of seat noise include:

- 1. Headrest rods and holder
- 2. A squeak between the seat pad cushion and frame
- 3. The rear seatback lock and bracket

These noises can be isolated by moving or pressing on the suspected components while duplicating the conditions under which the noise occurs. Most of these incidents can be repaired by repositioning the component or applying urethane tape to the contact area.

#### UNDERHOOD

Some interior noise may be caused by components under the hood or on the engine wall. The noise is then transmitted into the passenger compartment.

Causes of transmitted underhood noise include:

- 1. Any component mounted to the engine wall
- 2. Components that pass through the engine wall
- 3. Engine wall mounts and connectors
- 4. Loose radiator mounting pins
- 5. Hood bumpers out of adjustment
- 6. Hood striker out of adjustment

These noises can be difficult to isolate since they cannot be reached from the interior of the vehicle. The best method is to secure, move or insulate one component at a time and test drive the vehicle. Also, engine RPM or load can be changed to isolate the noise. Repairs can usually be made by moving, adjusting, securing, or insulating the component causing the noise.

< SYMPTOM DIAGNOSIS >

**Diagnostic Worksheet** 



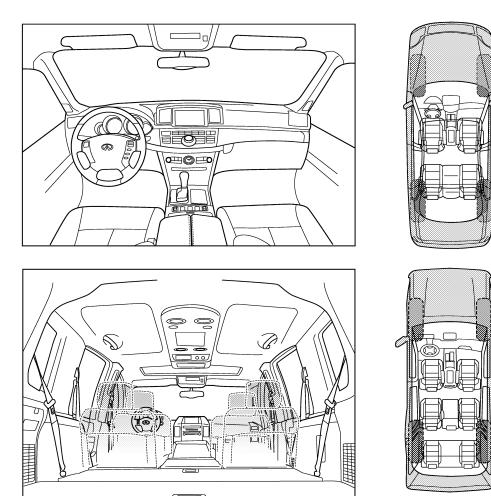
SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

#### Dear Infiniti Customer:

We are concerned about your satisfaction with your Infiniti vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your Infiniti right the first time, please take a moment to note the area of the vehicle where the squeak or rattle occurs and under what conditions. You may be asked to take a test drive with a service consultant or technician to ensure we confirm the noise you are hearing.

#### I. WHERE DOES THE NOISE COME FROM? (circle the area of the vehicle)

The illustrations are for reference only, and may not reflect the actual configuration of your vehicle.



Continue to page 2 of the worksheet and briefly describe the location of the noise or rattle. In addition, please indicate the conditions which are present when the noise occurs.  $$_{\rm PHB8741E}$$ 

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#### < SYMPTOM DIAGNOSIS >

#### SQUEAK & RATTLE DIAGNOSTIC WORKSHEET - page 2

Briefly describe the location where the noise occurs:

II. WHEN DOES IT OCCUR? (please check the boxes that apply)				
anytime		after sitting out in the rain		
□ 1st time in the morning		when it is raining or wet		
only when it is cold outside		dry or dusty conditions		
only when it is hot outside		other:		
III. WHEN DRIVING:	IV.	WHAT TYPE OF NOISE		
L through driveways		squeak (like tennis shoes on a clean floor)		
over rough roads		creak (like walking on an old wooden floor)		
over speed bumps		rattle (like shaking a baby rattle)		
🗌 only about mph		knock (like a knock at the door)		
on acceleration		tick (like a clock second hand)		
□ coming to a stop		thump (heavy, muffled knock noise)		
☐ on turns: left, right or either (circle)		buzz (like a bumble bee)		
with passengers or cargo				
□ other:				
after driving miles or minu	ites			

#### TO BE COMPLETED BY DEALERSHIP PERSONNEL

**Test Drive Notes:** 

	YES	NO	Initials of person performing
Vehicle test driven with customer - Noise verified on test drive - Noise source located and repaired - Follow up test drive performed to confirm repair			
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# < PRECAUTION > PRECAUTION PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

#### WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the "SRS AIR BAG".
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

#### WARNING:

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

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# < PREPARATION > PREPARATION

# PREPARATION

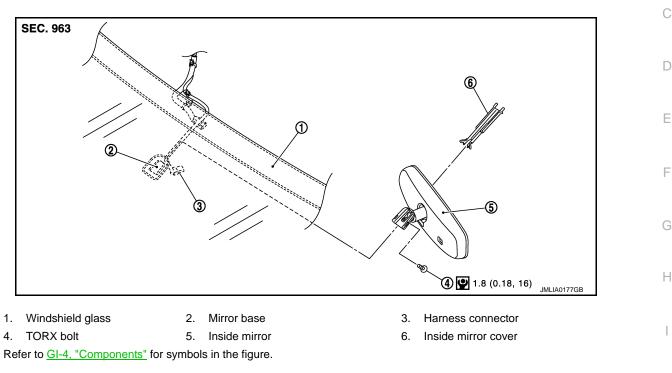
#### Commercial Service Tools

Tool name		Description
Remover tool	PIIB7923J	Removes the clips, pawls and metal clips

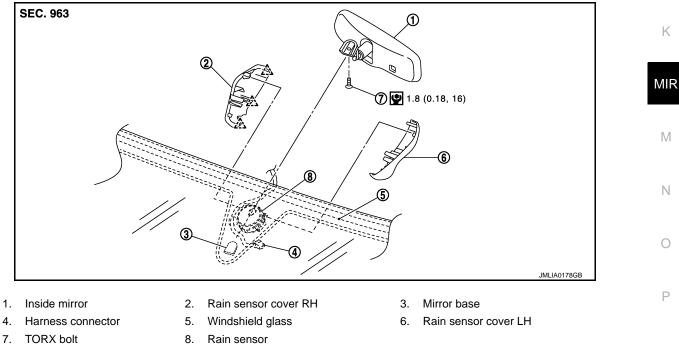
# < REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION INSIDE MIRROR

# Exploded View

Base model



#### Option model



Refer to GI-4, "Components" for symbols in the figure.

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#### < REMOVAL AND INSTALLATION >

#### Removal and Installation

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#### REMOVAL

Base model

- 1. Remove the inside mirror cover.
- 2. Remove TORX bolt.
- 3. Disconnect harness connector from inside mirror.
- 4. Slide the inside mirror upward to remove.

#### Option model

- 1. Remove the rain sensor cover (LH/RH).
- 2. Disconnect harness connector from inside mirror.
- 3. Loosen TORX bolt and slide inside mirror upward to remove.

#### INSTALLATION

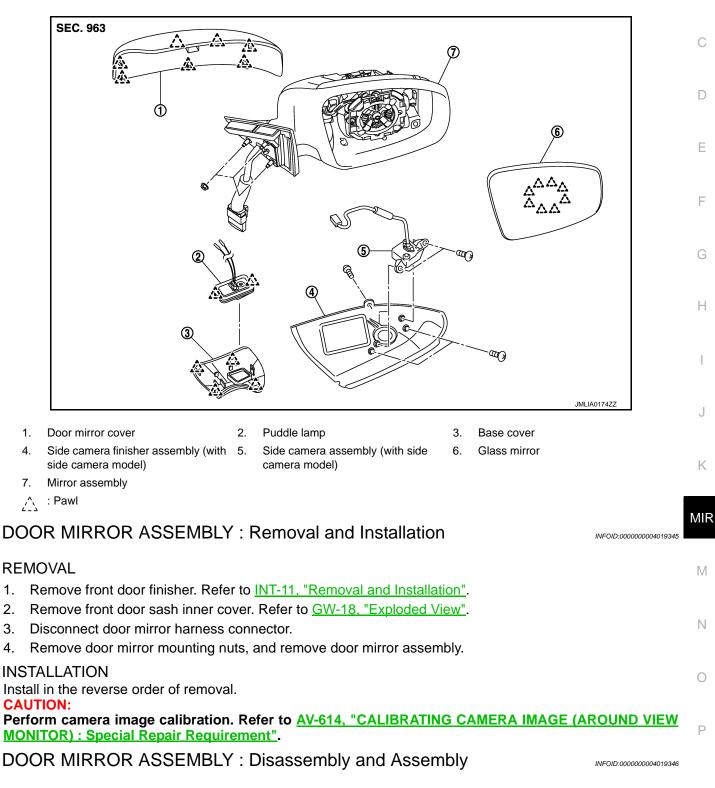
Install in the reverse order of removal.

< REMOVAL AND INSTALLATION >

# OUTSIDE MIRROR

DOOR MIRROR ASSEMBLY

DOOR MIRROR ASSEMBLY : Exploded View



#### DISASSEMBLY

1. Remove door mirror assembly. Refer to <u>MIR-91, "DOOR MIRROR ASSEMBLY : Removal and Installa-</u> tion".

#### **MIR-91**

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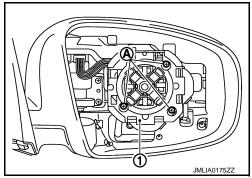
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#### **OUTSIDE MIRROR**

#### < REMOVAL AND INSTALLATION >

- 2. Remove glass mirror. Refer to MIR-93, "GLASS MIRROR : Disassembly and Assembly".
- 3. Remove door mirror cover. Refer to MIR-94, "DOOR MIRROR COVER : Disassembly and Assembly".
- 4. Remove screws (A) and connector, and then remove actuator (1).



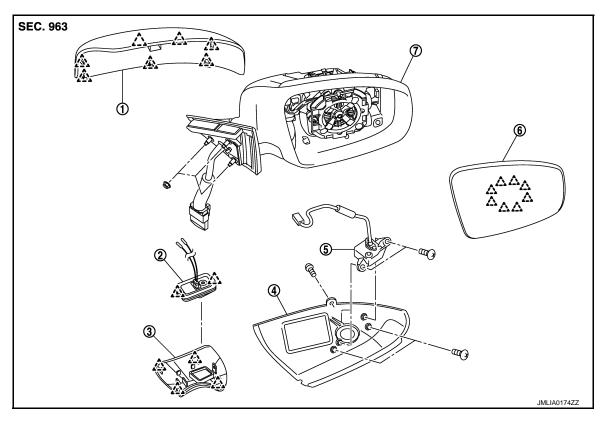
- 5. Remove side camera and LED lamp. Refer to <u>AV-600, "Removal and Installation"</u> (SIDE CAMERA LH), <u>AV-601, "Removal and Installation"</u> (SIDE CAMERA RH).
- 6. Remove base cover and puddle lamp.

#### ASSEMBLY

Assemble in the reverse order of disassembly. GLASS MIRROR

**GLASS MIRROR : Exploded View** 

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1. Door mirror cover

2. Puddle lamp

camera model)

- 4. Side camera finisher assembly (with 5. side camera model)
- 7. Mirror assembly
- Pawl : Pawl

Side camera assembly (with side

3.

6.

Base cover

Glass mirror

#### **OUTSIDE MIRROR**

#### < REMOVAL AND INSTALLATION >

#### **GLASS MIRROR** : Disassembly and Assembly

#### DISASSEMBLY

- 1. Place the glass mirror upward.
- 2. Put a strip of protective tape (B) on housing assembly.
- As shown in the figure, insert a small flat-bladed screwdriver (A) between glass mirror (1) and actuator (2). Push up both pawls simultaneously to remove glass mirror lower half side.
   NOTE:

Insert flat-bladed screwdriver into recesses, and push up while rotating (twisting) to make work easier.

- 4. Remove two terminals of mirror heater attachment.
- 5. Lightly lift up lower side of glass mirror, and detach both pawls of upper side as if pulling it out to disassemble glass mirror from actuator.

NOTE:

Be careful not to allow grease on sealing agent in center of mirror or back side of glass mirror.

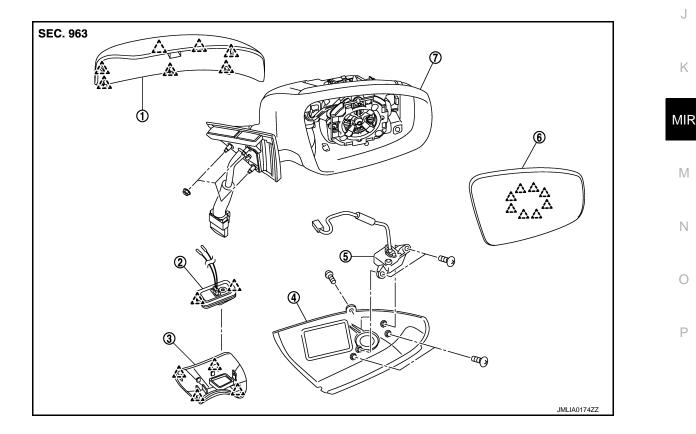
#### ASSEMBLY

Assemble in the reverse order of disassembly.

#### CAUTION:

After installation, visually check that pawls are securely engaged. DOOR MIRROR COVER

#### DOOR MIRROR COVER : Exploded View



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## **OUTSIDE MIRROR**

Side camera assembly (with side

#### < REMOVAL AND INSTALLATION >

- 1. Door mirror cover
- 2. Puddle lamp

camera model)

- 4. Side camera finisher assembly (with 5. side camera model)
- 7. Mirror assembly
- ^ : Pawl

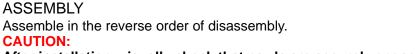
#### DOOR MIRROR COVER : Disassembly and Assembly

#### **CAUTION:**

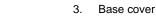
#### Never damage the mirror bodies.

#### DISASSEMBLY

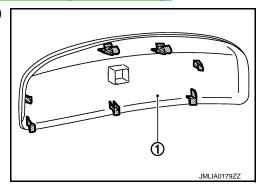
- 1. Remove the glass mirror. Refer to MIR-93, "GLASS MIRROR : Disassembly and Assembly".
- 2. Remove the pawls, and disassemble the door mirror cover (1) from the mirror assembly.



After installation, visually check that pawls are securely engaged.



6. Glass mirror



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#### DOOR MIRROR REMOTE CONTROL SWITCH

#### < REMOVAL AND INSTALLATION >

# DOOR MIRROR REMOTE CONTROL SWITCH

#### **Exploded View**

Refer to INT-14, "Exploded View"

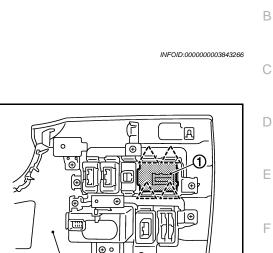
#### **Removal and Installation**

∴ : Pawl

#### REMOVAL

- 1. Remove the instrument lower panel LH (2). Refer to <u>INT-11,</u> <u>"Exploded View"</u>.
- 2. Remove door mirror remote control switch (1) from instrument lower panel LH (2) a using screwdriver (A).

INSTALLATION Install in the reverse order of removal.



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