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# SECTION STR

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## STARTING SYSTEM

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## DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

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### BASIC INSPECTION

#### DIAGNOSIS AND REPAIR WORK FLOW

Work Flow (GT-R certified NISSAN dealer)(With GR8-1200 NI)

INFOID:000000011487171

#### STARTING SYSTEM DIAGNOSIS WITH GR8-1200 NI

To test the starting system, use the following special service tool:

- GR8-1200 NI Multitasking battery and electrical diagnostic station

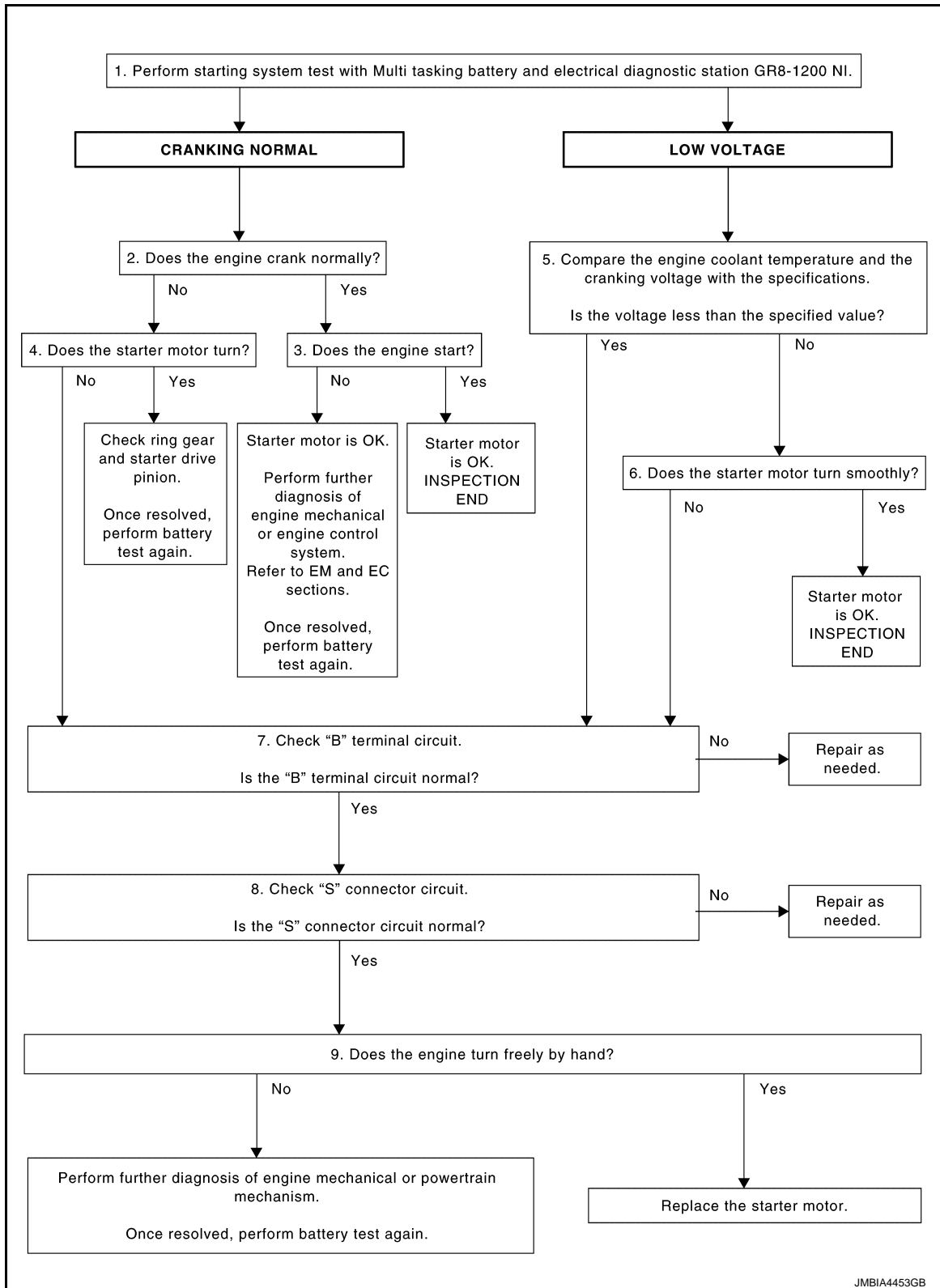
**NOTE:**

Refer to the diagnostic station Instruction Manual for proper starting system diagnosis procedures.

# DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

## OVERALL SEQUENCE



### DETAILED FLOW

#### NOTE:

To ensure a complete and thorough diagnosis, the battery, starter motor and alternator test segments must be done as a set from start to finish.

### 1. DIAGNOSIS WITH MULTITASKING BATTERY AND ELECTRICAL DIAGNOSTIC STATION GR8-1200 NI

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# DIAGNOSIS AND REPAIR WORK FLOW

## < BASIC INSPECTION >

Perform the starting system test with Multitasking battery and electrical diagnostic station GR8-1200 NI. For details and operating instructions, refer to diagnostic station Instruction Manual.

### Test result

CRANKING NORMAL>>GO TO 2.

LOW VOLTAGE>>GO TO 5.

CHARGE BATTERY>>Perform the slow battery charging procedure. (Initial rate of charge is 10A for 12 hours.) Perform battery test again. Refer to diagnostic station instruction manual.

REPLACE BATTERY>>Before replacing battery, clean the battery cable clamps and battery posts. Perform battery test again. Refer to diagnostic station instruction manual. If second test result is "REPLACE BATTERY", then do so. Perform battery test again to confirm repair.

## 2. CRANKING CHECK

Check that the starter motor operates correctly.

### Does the engine crank normally?

YES >> GO TO 3.

NO >> GO TO 4.

## 3. ENGINE START CHECK

Check that the engine starts.

### Does the engine start?

YES >> Starter motor is OK. INSPECTION END

NO >> Perform further diagnosis of engine mechanical or engine control system. Refer EM and EC sections. Once resolved, perform battery test again.

## 4. STARTER MOTOR ACTIVATION

Check that the starter motor operates.

### Does the starter motor turn?

YES >> Check ring gear and starter motor drive pinion. Once resolved, perform battery test again.

NO >> GO TO 7.

## 5. COMPARISON BETWEEN ENGINE COOLANT AND CRANKING VOLTAGE

Compare the engine coolant temperature and the cranking voltage with the specifications.

### Minimum Specification of Cranking Voltage Referencing Coolant Temperature

Engine coolant temperature [°C (°F)]	Voltage [V]
-30 to -20 (-22 to -4)	8.6
-19 to -10 (-2 to 14)	9.1
-9 to 0 (16 to 32)	9.5
More than 1 (More than 34)	9.9

### Is the voltage less than the specified value?

YES >> GO TO 7.

NO >> GO TO 6.

## 6. STARTER OPERATION

Check the starter operation status.

### Does the starter motor turn smoothly?

YES >> Starter motor is OK. INSPECTION END

NO >> GO TO 7.

## 7. "B" TERMINAL CIRCUIT INSPECTION

Check "B" terminal circuit. Refer to [STR-9, "Diagnosis Procedure \(GT-R certified NISSAN dealer\)"](#).

### Is "B" terminal circuit normal?

YES >> GO TO 8.

NO >> Repair as needed.

## 8. "S" CONNECTOR CIRCUIT INSPECTION

Check "S" connector circuit. Refer to [STR-10, "Diagnosis Procedure \(GT-R certified NISSAN dealer\)"](#).

# DIAGNOSIS AND REPAIR WORK FLOW

## < BASIC INSPECTION >

### Is "S" connector circuit normal?

- YES >> GO TO 9.
- NO >> Repair as needed.

## 9. ENGINE ROTATION STATUS

Check that the engine can be rotated by hand.

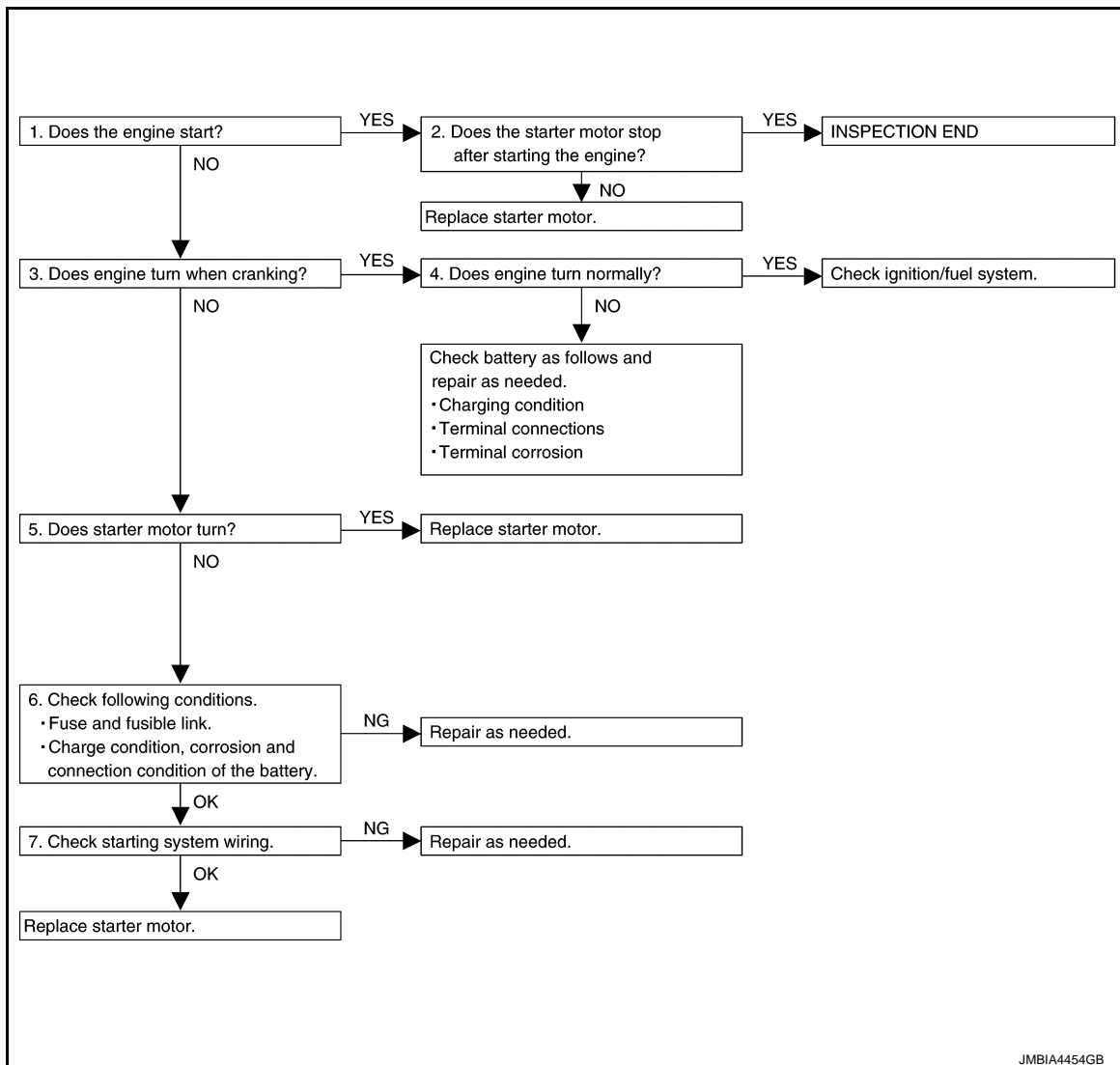
### Does the engine turn freely by hand?

- YES >> Replace starter motor. Refer to [STR-20. "Removal and Installation \(GT-R certified NISSAN dealer\)"](#).
- NO >> Perform further diagnosis of engine mechanical or powertrain mechanism. Once resolved, perform battery test again using Multitasking battery and electrical diagnostic station GR8-1200 NI. Refer to the diagnostic station Instruction Manual for proper testing procedures.

## Work Flow (GT-R certified NISSAN dealer)(Without GR8-1200 NI)

INFOID:000000011487172

## OVERALL SEQUENCE



## DETAILED FLOW

### NOTE:

If any malfunction is found, immediately disconnect the battery cable from the negative terminal.

## 1. CHECK ENGINE START

Crank the engine and check that the engine starts.

### Does the engine start?

# DIAGNOSIS AND REPAIR WORK FLOW

## < BASIC INSPECTION >

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

## 2.CHECK THAT THE STARTER MOTOR STOPS

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Check that the starter motor stops after starting the engine.

### Does the starter motor stop?

- YES >> INSPECTION END  
NO >> Replace starter motor. Refer to [STR-20, "Removal and Installation \(GT-R certified NISSAN dealer\)"](#).

## 3.CHECK THAT THE ENGINE TURNS WHEN CRANKING

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Check that the engine turns when cranking.

### Does engine turn when cranking?

- YES >> GO TO 4.  
NO >> GO TO 5.

## 4.CHECK THE ENGINE SPEED WHEN CRANKING

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Check that the engine speed is not low when cranking.

### Does engine turn normally?

- YES >> Check ignition/fuel system.  
NO >> Check charge condition, corrosion and connection condition of the battery. Refer to [PG-3, "Work Flow"](#).

## 5.CHECK STARTER MOTOR ACTIVATION

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Check that the starter motor runs at cranking.

### Does starter motor turn?

- YES >> Replace starter motor. Refer to [STR-20, "Removal and Installation \(GT-R certified NISSAN dealer\)"](#).  
NO >> GO TO 6.

## 6.CHECK POWER SUPPLY CIRCUIT

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Check the following conditions.

- Fuse and fusible link
- Charge condition, corrosion and connection condition of the battery. Refer to [PG-3, "Work Flow"](#).

### Are these inspection results normal?

- YES >> GO TO 7.  
NO >> Repair as needed.

## 7.CHECK STARTING SYSTEM WIRING

---

Check the following.

- "B" terminal circuit. Refer to [STR-9, "Diagnosis Procedure \(GT-R certified NISSAN dealer\)"](#).
- "S" connector circuit. Refer to [STR-10, "Diagnosis Procedure \(GT-R certified NISSAN dealer\)"](#).

### Are these inspection results normal?

- YES >> Replace starter motor. Refer to [STR-20, "Removal and Installation \(GT-R certified NISSAN dealer\)"](#).  
NO >> Repair as needed.

# STARTING SYSTEM

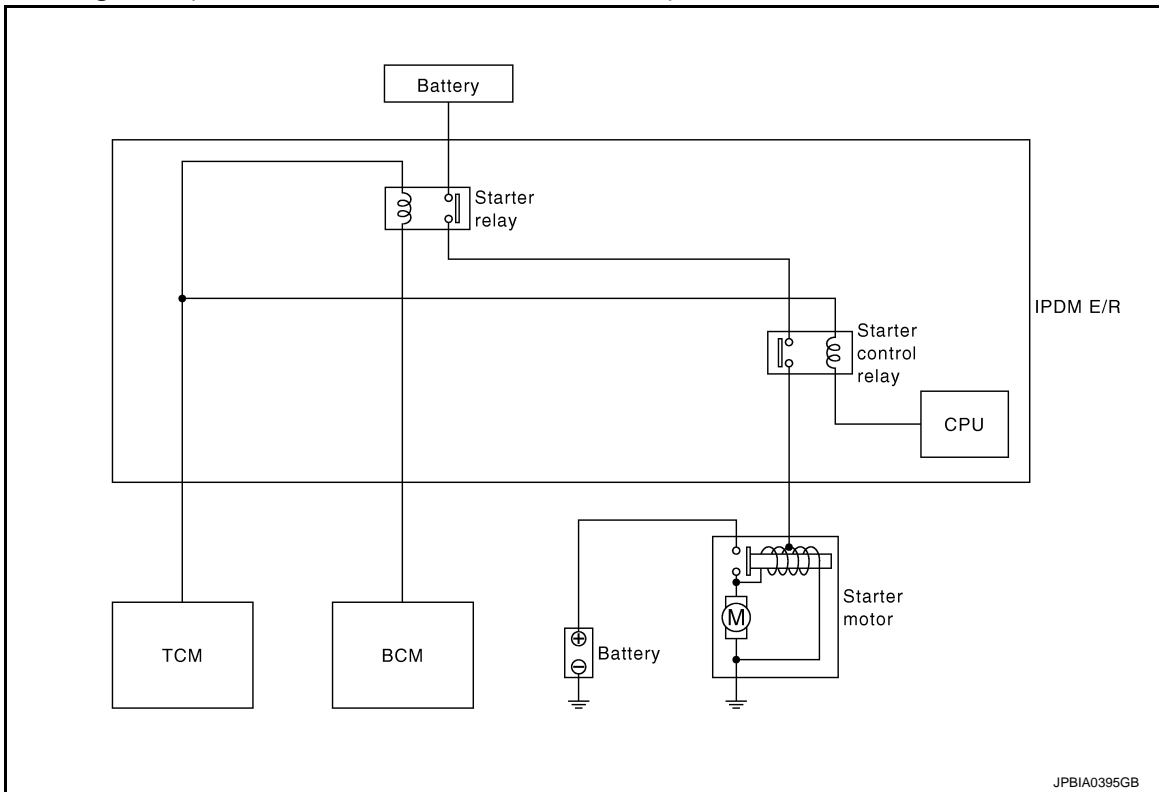
< SYSTEM DESCRIPTION >

## SYSTEM DESCRIPTION

### STARTING SYSTEM

System Diagram (GT-R certified NISSAN dealer)

INFOID:0000000011487173



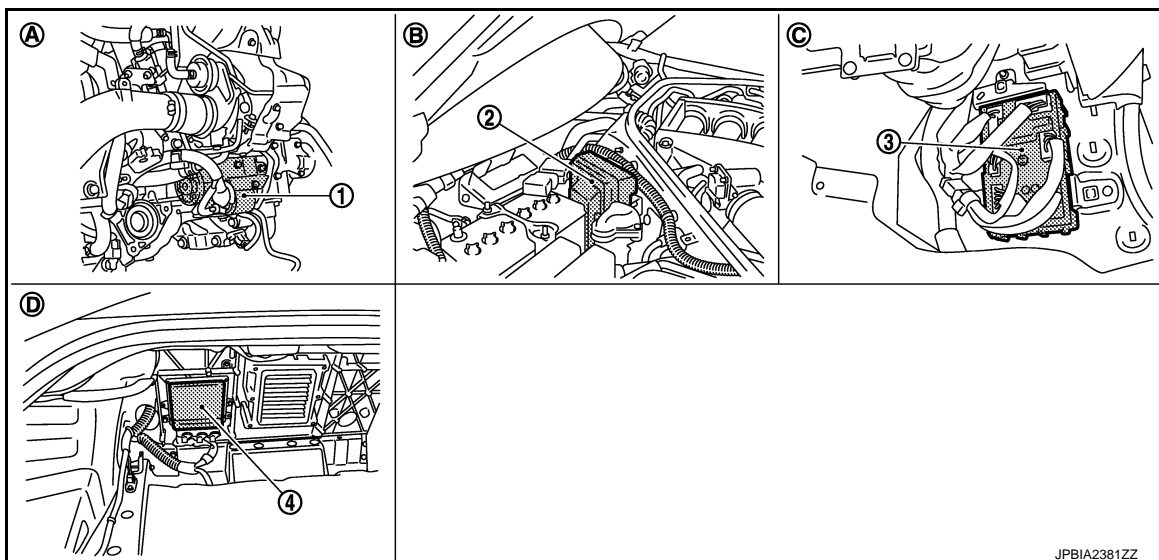
System Description (GT-R certified NISSAN dealer)

INFOID:0000000011487174

The starter motor plunger closes and provides a closed circuit between the battery and starter motor. The starter motor is grounded to the engine block. With power and ground supplied, cranking occurs and the engine starts.

Component Parts Location (GT-R certified NISSAN dealer)

INFOID:0000000011487175



# STARTING SYSTEM

## < SYSTEM DESCRIPTION >

1. Starter motor
2. IPDM E/R
3. BCM
4. TCM
- A. Cylinder block bank2 side
- B. Engine room dash panel (RH)
- C. Dash side lower (Passenger side)
- D. Trunk front finisher inner

## Component Description (GT-R certified NISSAN dealer)

INFOID:000000011487176

Component part	Description
TCM	TCM supplies power to the starter relay and starter control relay inside IPDM E/R when the shift lever is shifted to the P or N position.
BCM	BCM controls the starter relay inside IPDM E/R.
IPDM E/R	CPU inside IPDM E/R controls the starter control relay.
Starter motor	The starter motor plunger closes and the motor is supplied with battery power, which in turn cranks the engine, when the "S" terminal is supplied with electric power.



# B TERMINAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

## DTC/CIRCUIT DIAGNOSIS

### B TERMINAL CIRCUIT

Description (GT-R certified NISSAN dealer)

INFOID:0000000011487177

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The "B" terminal is constantly supplied with battery power.

Diagnosis Procedure (GT-R certified NISSAN dealer)

INFOID:0000000011487178

#### CAUTION:

Perform diagnosis under the condition that engine cannot start by the following procedure.

1. Remove fuel pump fuse.
2. Crank or start the engine (where possible) until the fuel pressure is released.

#### 1. CHECK "B" TERMINAL CIRCUIT

1. Turn ignition switch OFF.
2. Check that starter motor "B" terminal connection is clean and tight.
3. Check voltage between starter motor "B" terminal and ground.

Terminals		Voltage (Approx.)
(+)	(-)	
Starter motor "B" terminal	Terminal	Battery voltage
E205	2	
	Ground	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check harness between battery and starter motor for open circuit.

#### 2. CHECK BATTERY CABLE CONNECTION STATUS (VOLTAGE DROP TEST)

1. Shift the shift lever to "P" or "N" position.
2. Check voltage between battery positive terminal and starter motor "B" terminal.

Terminals		Condition	Voltage (Approx.)
(+)	(-)		
	Starter motor "B" terminal	When the ignition switch is in START position	Less than 0.5 V
	Terminal		
Battery positive terminal	E205		
	2		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness between the battery and the starter motor for poor continuity.

#### 3. CHECK GROUND CIRCUIT STATUS (VOLTAGE DROP TEST)

1. Shift the shift lever to "P" or "N" position.
2. Check voltage between starter motor case and battery negative terminal.

Terminals		Condition	Voltage (Approx.)
(+)	(-)		
Starter motor case	Battery negative terminal	When the ignition switch is in START position	Less than 0.2 V

Is the inspection result normal?

YES >> "B" terminal circuit is OK. Further inspection is necessary. Refer to [STR-2, "Work Flow \(GT-R certified NISSAN dealer\)\(With GR8-1200 NI\)"](#) or [STR-5, "Work Flow \(GT-R certified NISSAN dealer\)\(Without GR8-1200 NI\)"](#).

NO >> Check the starter motor case and ground for poor continuity.

# S CONNECTOR CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

## S CONNECTOR CIRCUIT

Description (GT-R certified NISSAN dealer)

INFOID:000000011487179

The starter motor magnetic switch is supplied with power when the ignition switch is turned to the START position while the shift lever is in the P or N position.

Diagnosis Procedure (GT-R certified NISSAN dealer)

INFOID:000000011487180

### CAUTION:

Perform diagnosis under the condition that engine cannot start by the following procedure.

1. Remove fuel pump fuse.
2. Crank or start the engine (where possible) until the fuel pressure is released.

### 1. CHECK "S" CONNECTOR CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect starter motor connector.
3. Shift the shift lever to "P" or "N" position.
4. Check voltage between starter motor harness connector and ground.

Terminals		Condition	Voltage (Approx.)
(+)	(-)		
Starter motor harness connector	Terminal		
F206	1	When the ignition switch is in START position	Battery voltage

Is the inspection result normal?

YES >> "S" connector circuit is OK. Further inspection is necessary. Refer to [STR-2, "Work Flow \(GT-R certified NISSAN dealer\)\(With GR8-1200 NI\)"](#) or [STR-5, "Work Flow \(GT-R certified NISSAN dealer\)\(Without GR8-1200 NI\)"](#).

NO >> GO TO 2.

### 2. CHECK HARNESS CONTINUITY (OPEN CIRCUIT)

1. Disconnect IPDM E/R connector.
2. Check continuity between starter motor harness connector and IPDM E/R harness connector.

Starter motor harness connector		IPDM E/R harness connector		Continuity
Connector No.	Terminal No.	Connector No.	Terminal No.	
F206	1	E7	80	Existed

Is the inspection result normal?

YES >> Further inspection is necessary. Refer to [STR-2, "Work Flow \(GT-R certified NISSAN dealer\)\(With GR8-1200 NI\)"](#) or [STR-5, "Work Flow \(GT-R certified NISSAN dealer\)\(Without GR8-1200 NI\)"](#).

NO >> Repair the harness.

# STARTING SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

## STARTING SYSTEM

Wiring Diagram - STARTING SYSTEM - (GT-R certified NISSAN dealer)

INFOID:000000011487181

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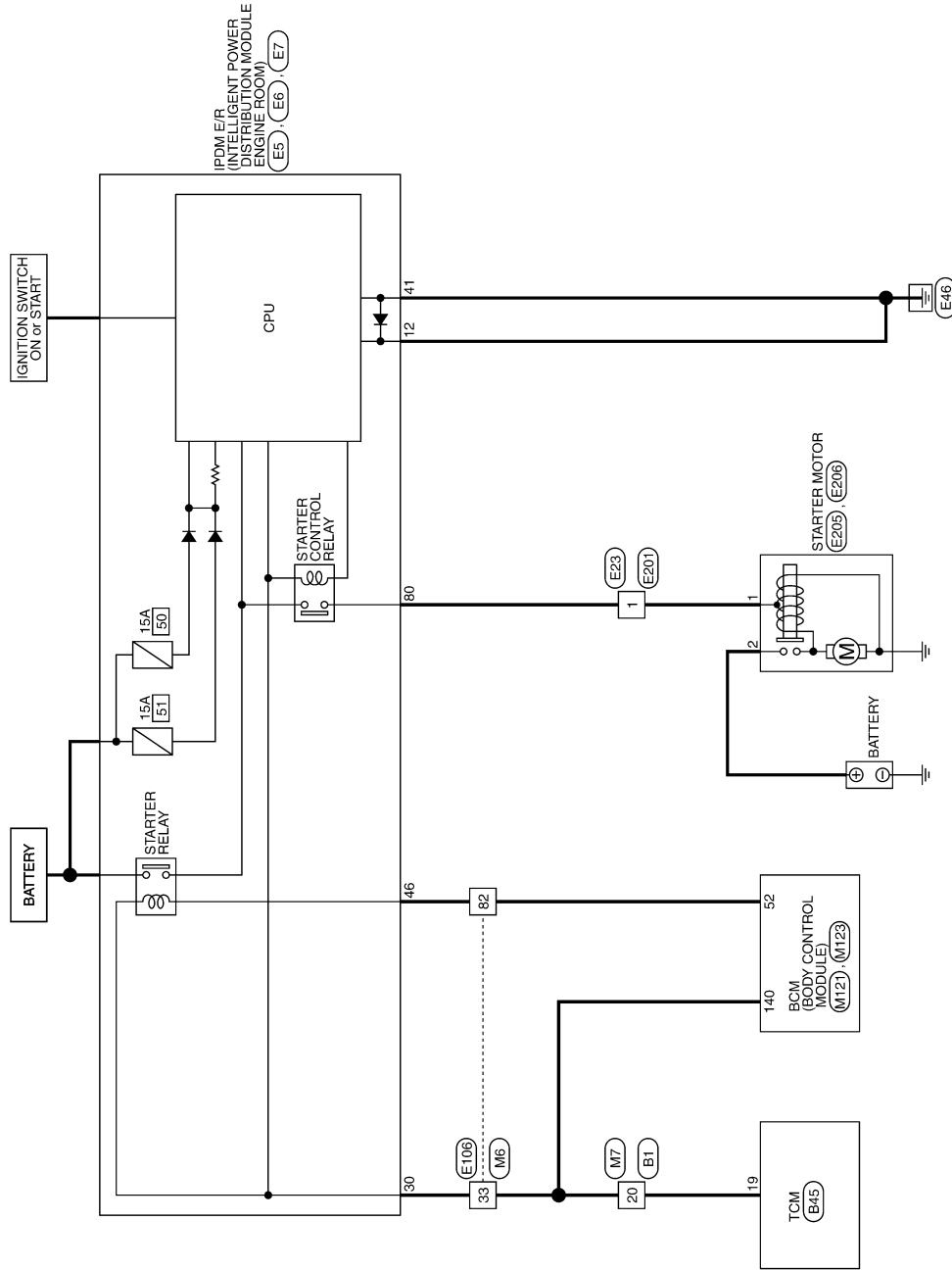
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STARTING SYSTEM



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# STARTING SYSTEM

## < DTC/CIRCUIT DIAGNOSIS >

### STARTING SYSTEM

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

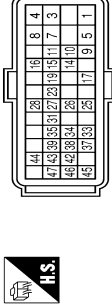


Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	-
3	P	-
6	V	-
7	W	-
8	W	-
9	Y	-
10	R	-
11	Y	-
12	GR	-
13	BG	-
14	Y	-
15	BR	-
16	R	-
17	W	-
18	BR	-
20	GR	-
21	SB	-
22	W	-
23	G	-
24	BG	-
25	L	-
26	P	-
27	GR	-
28	BG	-
31	GR	-
32	L	-
33	V	-
34	BG	-
39	G	-
40	LG	-
41	Y	-
42	SB	-
43	P	-
47	R	-
48	B	-

49	W	-
50	SHIELD	-
51	SB	-
52	B	-
53	R	-
54	B	-
56	R	-
57	G	-
58	G	-
59	R	-
60	BR	-
61	Y	-
62	SHIELD	-
63	LG	-
64	R	-
65	G	-
66	BR	-
67	BG	-
69	P	-
70	L	-
71	SHIELD	-
72	SHIELD	- [Without active noise control unit]
72	V	- [With active noise control unit]
73	SB	-
76	R	-
77	SB	-
78	G	-
79	Y	-
80	R	-
81	G	-
82	BR	- [Without active noise control unit]
82	G	- [With active noise control unit]
83	R	- [With active noise control unit]
83	Y	- [Without active noise control unit]
84	SHIELD	-
85	V	-
86	SB	- [Without active noise control unit]
86	W	- [With active noise control unit]
87	L	-
88	P	-
89	SHIELD	-
90	V	-
92	BR	-
93	SB	-
94	GR	-
95	BG	-
96	Y	-
97	Y	-
98	LG	-

99	R	-
100	G	-

Connector No.	B45
Connector Name	TCM
Connector Type	RH40FB-RZ8-L-H-Z



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	POWER SUPPLY (MEMORY BACK-UP)2
3	B	GROUND
4	B	GROUND
5	W	POWER SUPPLY (MEMORY BACK-UP)3
7	B	GROUND
8	B	GROUND
9	P	POWER SUPPLY (MEMORY BACK-UP)-1
10	LG	BACK-UP LAMP SIGNAL
11	L	CANH
14	V	POWER OFF
15	P	CANL
16	W	STOP LAMP SWITCH SIGNAL
17	Y	IGNITION SWITCH SIGNAL
19	GR	STARTER RELAY SIGNAL
23	BR	AUTOMANUAL RANGE CHANGE SWITCH 1 SIGNAL
25	L	RANGE SENSOR POWER SOURCE 1
26	LG	RANGE SENSOR POWER SOURCE 2
27	G	RANGE SENSOR NO. 1 SIGNAL
28	V	AUTOMANUAL RANGE CHANGE SWITCH 2 SIGNAL
31	SB	ENGINE SPEED SIGNAL
33	V	RANGE SENSOR NO. 1 SIGNAL
34	BG	SAVE MODE SWITCH SIGNAL
35	G	RANGE SENSOR NO. 3 SIGNAL
37	GR	R MODE SWITCH SIGNAL
38	R	RANGE SENSOR NO. 2 SIGNAL
39	W	PADDLE SHIFTER (SHIFT DOWN) SWITCH SIGNAL
42	L	PADDLE SHIFTER (SHIFT UP) SWITCH SIGNAL
43	P	RANGE SENSOR NO. 1 SIGNAL
44	GR	RANGE SENSOR NO. 2 SIGNAL
45	BG	R MODE LAMP SIGNAL
46	W	SHIFT LOCK SOLENOID CONTROL SIGNAL

47	G	-
48	G	SAVE MODE LAMP SIGNAL

Connector No.	E5
Connector Name	FROM INTELLIGENT POWER DISTRIBUTION MODULE (ENGINE ROOM)
Connector Type	TH20FW-CS12-M4-1V



Terminal No.	Color Of Wire	Signal Name [Specification]
4	V	-
5	L	-
6	Y	-
7	R	-
10	W	-
11	SB	-
12	BW	-
13	R	-
16	LG	-
25	BG	-
27	Y	-
28	G	-
30	GR	-
32	L	-
33	P	-
36	LG	-

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# STARTING SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

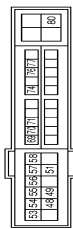
## STARTING SYSTEM

Connector No.	E6
Connector Name	POWER INTELLIGENT POWER DISTRIBUTION MODULE (ENGINE ROOM)
Connector Type	TH89FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
39	P	-
40	L	-
41	RY	-
42	G	-
43	SB	-
44	W	-
46	BG	-

Connector No.	E7
Connector Name	POWER INTELLIGENT POWER DISTRIBUTION MODULE (ENGINE ROOM)
Connector Type	TH89FW-CS12-M4



Terminal No.	Color Of Wire	Signal Name [Specification]
48	L	-
49	P	-
51	LG	-
53	SB	-
54	W	-
55	BG	-
56	R	-
57	G	-
58	Y	-
59	BG	-
70	G	-
71	SB	-
74	LG	-

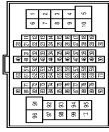
76	P	-
77	BW	-
80	W	-

Connector No.	E23
Connector Name	WIRE TO WIRE
Connector Type	X01FGY



Terminal No.	1	W	-
Color Of Wire	W	-	-
Signal Name [Specification]	-	-	-

Connector No.	E106
Connector Name	WIRE TO WIRE
Connector Type	TH89FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
3	BG	-
4	BG	-
5	R	-
6	P	-
7	BG	-
8	P	-
9	W	-
10	Y	-
11	SB	-
12	BG	-
13	P	-
14	L	-
15	SB	-

16	BG	-
17	SHIELD	-
18	L	-
19	P	-
20	B	-
21	Y	-
22	V	-
23	Y	-
24	V	-
25	BR	-
26	L	-
27	SHIELD	-
28	G	-
29	R	-
30	W	-
31	V	-
32	G	-
33	GR	-
34	P	-
35	LG	-
36	G	-
37	Y	-
38	SB	-
39	GR	-
40	G	-
41	V	-
42	V	-
43	L	-
44	BR	-
45	G	-
46	SB	-
48	BG	-
49	L	-
50	R	-
51	SHIELD	-
60	P	-
61	L	-
71	LG	-
72	SB	-
74	P	-
75	BR	-
76	LG	-
77	V	-
78	BR	-
79	W	-
80	Y	-
81	GR	-
82	BG	-
84	P	-
85	P	-

Connector No.	E201
Connector Name	WIRE TO WIRE
Connector Type	X01MGY



Terminal No.	1	W	-
Color Of Wire	W	-	-
Signal Name [Specification]	-	-	-

Connector No.	E205
Connector Name	STARTER MOTOR
Connector Type	24348_51E44



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# STARTING SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

## STARTING SYSTEM

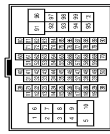
Terminal No.	Color Of Wire	Signal Name [Specification]
2	BR	-

Connector No.	E206
Connector Name	STARTER MOTOR
Connector Type	X01MGY



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Type	TR60MW-CS16-TM4

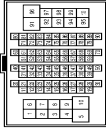


Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
3	R	-
4	G	-
5	Y	-
6	P	-
7	W	-
8	V	-
9	L	-
10	Y	-
11	G	-
12	EG	-
13	R	-
14	L	-
15	BR	-

16	R	-
17	SHIELD	-
18	L	-
19	P	-
20	B	-
21	W	-
22	GR	-
23	L	-
24	V	-
25	BR	-
26	G	-
27	SHIELD	-
28	G	-
29	R	-
30	W	-
31	V	-
32	G	-
33	GR	-
34	LG	-
35	P	-
36	L	-
37	W	-
38	Y	-
39	GR	-
40	BG	-
41	W	-
42	R	-
43	Y	-
44	BR	-
45	G	-
46	LG	-
48	W	-
49	L	-
50	R	-
51	SHIELD	-
60	SB	-
61	V	-
71	W	-
72	LG	-
74	R	-
75	BR	-
76	LG	-
77	R	-
78	BR	-
79	W	-
80	Y	-
81	G	-
82	EG	-
83	SB	-
84	Y	-
85	P	-

86	GR	-
87	R	-
88	L	-
89	G	-
90	P	-
91	W	-
92	R	-
93	LG	-
94	W	-
95	SB	-
96	L	-
97	L	-
98	Y	-
99	BG	-
100	L	-

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Type	TR60MW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	-
3	P	-
6	L	-
7	W	-
8	W	-
9	G	-
10	R	-
11	W	-
12	SB	-
13	G	-
14	W	-
15	BR	-
16	R	-
17	BG	-
18	SB	-
20	GR	-
21	L	-
22	R	-
23	G	-

24	BR	-
25	L	-
26	LG	-
27	W	-
28	R	-
31	GR	-
32	L	-
33	V	-
34	BG	-
39	W	-
40	BG	-
41	R	-
42	V	-
43	W	-
47	G	-
48	R	-
49	W	-
50	SHIELD	-
51	SB	-
52	B	-
53	R	-
54	B	-
56	R	-
57	G	-
58	G	-
59	R	-
60	BR	-
61	Y	-
62	SHIELD	-
63	GR	-
64	R	-
65	G	-
66	BR	-
67	BG	-
69	P	-
70	L	-
71	SHIELD	-
72	SHIELD	- [Without active noise control unit]
72	V	- [With active noise control unit]
73	LG	-
76	R	-
77	SB	-
78	G	-
79	Y	-
80	R	-
81	G	-
82	BR	- [Without active noise control unit]
82	G	- [With active noise control unit]
83	R	- [With active noise control unit]
83	Y	- [Without active noise control unit]

# STARTING SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

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## STARTING SYSTEM

84	SHIELD	-
85	V	-
86	LG	- [Without active noise control unit]
86	W	- [With active noise control unit]
87	L	-
88	P	-
89	SHIELD	-
90	V	-
92	LG	-
93	Y	-
94	G	-
95	R	-
96	Y	-
97	R	-
98	G	-
99	L	-
100	W	-

Connector No.	M121
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FGY-INH



Terminal No.	Color	Wire	Signal Name [Specification]
34	P		TRUNK ROOM ANT-
35	L		TRUNK ROOM ANT+
38	R		REAR BUMPER ANT-
39	BR		REAR BUMPER ANT+
47	Y		IGN RELAY (IPDM E/R) CONT
50	R		TRUNK ROOM LAMP SW
52	SB		STARTER RELAY CONT
61	W		TRUNK LID REQUEST SW
64	BG		1-KEY WARN BUZZER (ENG ROOM)
67	G		TRUNK LID OPENER SW

Connector No.	M123
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH



Terminal No.	Color	Wire	Signal Name [Specification]
113	P		OPTICAL SENSOR
116	SB		STOP LAMP SW 1
118	P		STOP LAMP SW 2
119	SB		DR DOOR UNLOCK SENSOR
121	R		KEY SLOT SW
123	BR		IGN P/B
124	LG		PASSENGER DOOR SW
128	P		DOOR LOCK/UNLOCK SW LOCK
129	BG		TRUNK CANCEL SW
131	BR		DOOR LOCK/UNLOCK SW UNLOCK
133	W		PUSH-BUTTON/IGNITION SW ILL POWER
134	GR		LOCK IND
137	L		RECEIVER GND
138	Y		RECEIVER SENSOR POWER SUPPLY
140	BR		SHIFT NP
141	G		SECURITY INDICATOR
142	BG		COMBI SW OUTPUT 5
143	P		COMBI SW OUTPUT 1
144	G		COMBI SW OUTPUT 2
145	L		COMBI SW OUTPUT 3
146	SB		COMBI SW OUTPUT 4
150	GR		DRIVER DOOR SW
151	G		REAR WINDOW DEFOGGER RELAY CONT

JRBWD1600GB

# STARTING SYSTEM

< SYMPTOM DIAGNOSIS >

## SYMPTOM DIAGNOSIS

### STARTING SYSTEM

Symptom Table (GT-R certified NISSAN dealer)

INFOID:000000011487182

Symptom	Reference
No normal cranking	Refer to <a href="#">STR-2, "Work Flow (GT-R certified NISSAN dealer)(With GR8-1200 NI)"</a> or <a href="#">STR-5, "Work Flow (GT-R certified NISSAN dealer)(Without GR8-1200 NI)"</a> .
Starter motor does not rotate	



# PRECAUTIONS

< PRECAUTION >

## PRECAUTION

### PRECAUTIONS

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

INFOID:000000011487183

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:**

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 "SRS AIR BAG".
- Never 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:**

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never 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.

#### Precaution for Battery Service

INFOID:000000011487184

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

#### Precautions for Removing Battery Terminal

INFOID:000000011487185

- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.

#### **NOTE:**

ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

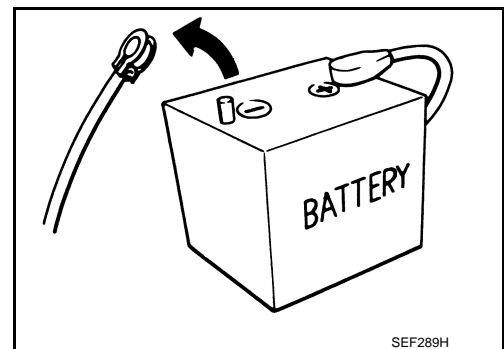
#### **NOTE:**

If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.

#### **NOTE:**

The removal of 12V battery may cause a DTC detection error.



# PREPARATION

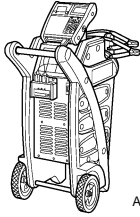
< PREPARATION >

## PREPARATION

### PREPARATION


#### Special Service Tools

INFOID:000000011487186

Tool number (Kent-Moore No.) Tool name	Description
<p>— (—) Model GR8-1200 NI Multitasking battery and electrical diagnostic station</p>  <p style="text-align: right; font-size: small;">AWIA1239ZZ</p>	<p>Tests batteries, starting and charging systems and charges batteries. For operating instructions, refer to diagnostic station instruction manual.</p>

#### Commercial Service Tools

INFOID:000000011487187

Tool name	Description
<p>Power tool</p>  <p style="text-align: right; font-size: small;">PIIB1407E</p>	<p>Loosening bolts, nuts and screws</p>

# STARTER MOTOR

< REMOVAL AND INSTALLATION >

## REMOVAL AND INSTALLATION

### STARTER MOTOR

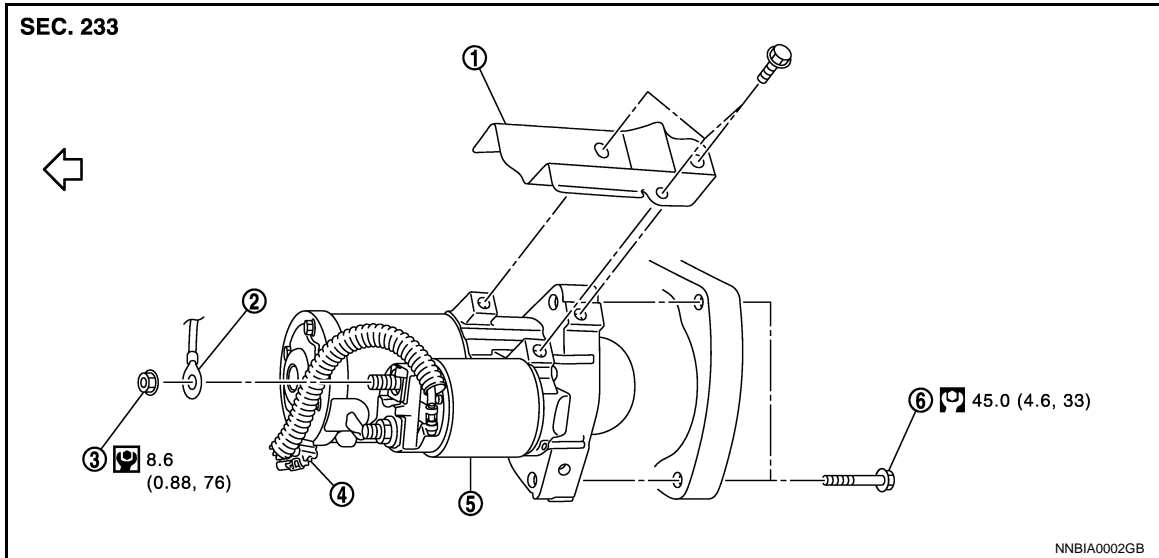
Exploded View (GT-R certified NISSAN dealer)

INFOID:000000011487188

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#### REMOVAL



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1. Starter motor protector
2. "B" terminal harness
3. Starter motor "B" terminal nut
4. "S" connector
5. Starter motor
6. Starter motor mounting bolt

← Engine front

Refer to [GI-4, "Components"](#) for symbols in the figure.

#### DISASSEMBLY

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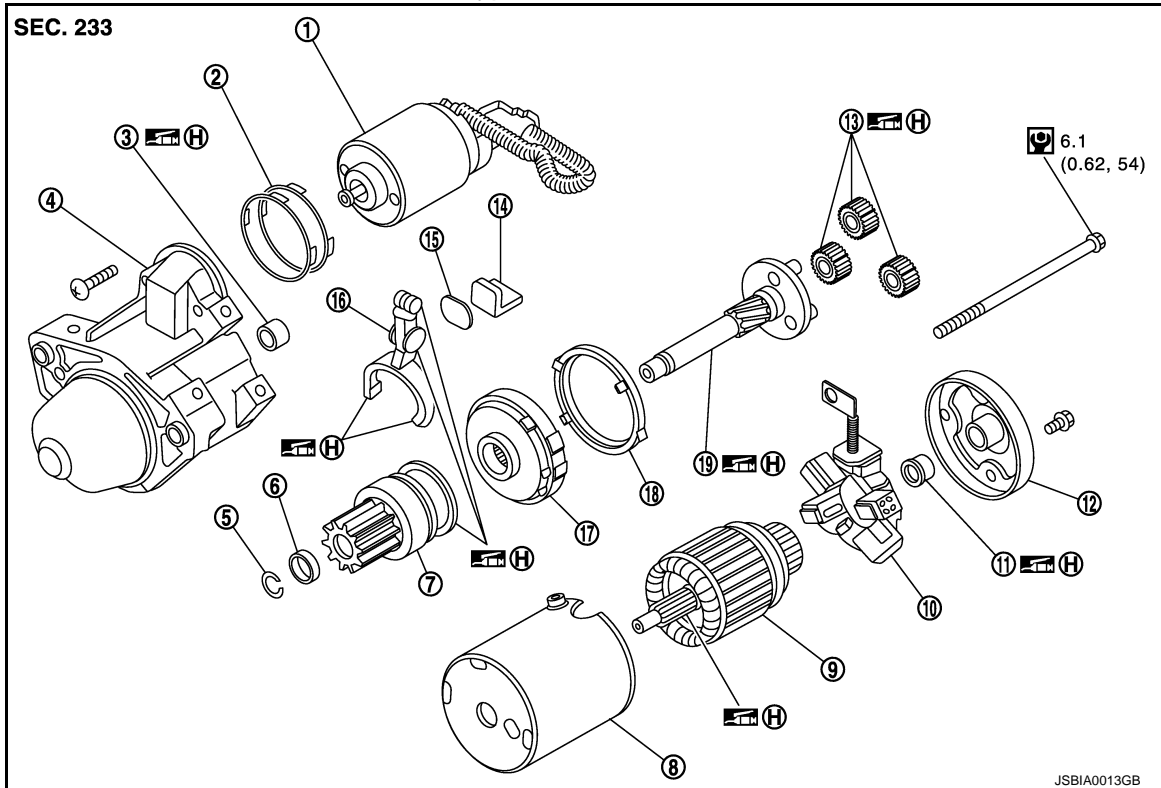
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P


# STARTER MOTOR

< REMOVAL AND INSTALLATION >

Type: M000T22772



- |                             |                    |                         |
|-----------------------------|--------------------|-------------------------|
| 1. Magnetic switch assembly | 2. Adjusting plate | 3. Metal FR             |
| 4. Gear case assembly       | 5. Stopper ring    | 6. Stopper              |
| 7. Pinion assembly          | 8. Yoke assembly   | 9. Armature assembly    |
| 10. Brush holder assembly   | 11. Metal RR       | 12. Rear cover assembly |
| 13. Planetary gear          | 14. Packing        | 15. Plate               |
| 16. Shift lever set         | 17. Internal gear  | 18. Packing             |
| 19. Gear shaft              |                    |                         |

 (H): High-temperature grease point

Refer to [GI-4. "Components"](#) for symbols not described above.

## NOTE:

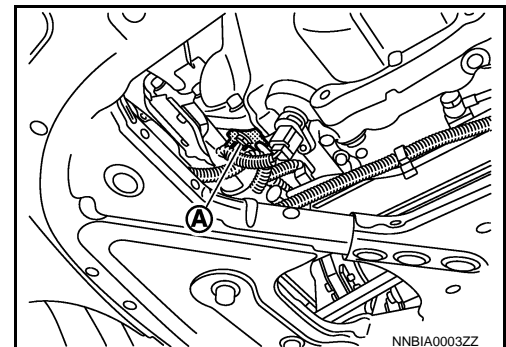
Apply high-temperature grease to lubricate the bearing, gears and frictional surface when assembling the starter.

## Removal and Installation (GT-R certified NISSAN dealer)

INFOID:000000011487189

### REMOVAL

1. Disconnect the battery cable from the negative terminal. Refer to [PG-91. "Removal and Installation"](#).
2. Remove engine rear undercover, using power tools.
3. Remove harness bracket mounting bolts (A) and harness bracket.



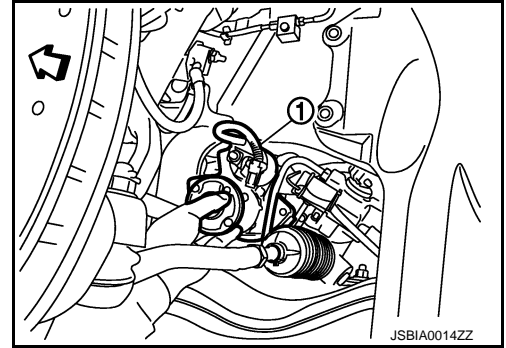
NNBIA0003ZZ

# STARTER MOTOR

## < REMOVAL AND INSTALLATION >

4. Disconnect "S" connector.
5. Remove "B" terminal nut.
6. Remove starter motor mounting bolts.
7. Remove front drive shaft left side housing bolts. Refer to [FAX-16. "Exploded View \(GT-R certified NISSAN dealer\)"](#).
8. Move a front drive shaft left side forward keep a service area.
9. Remove starter motor (1) to left side from the vehicle.

← : Vehicle front



## INSTALLATION

Note the following item, and then install in the reverse order of removal.

### **CAUTION:**

**Be careful to tighten "B" terminal nut to the specified torque.**

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## SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

## SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Starter Motor (GT-R certified NISSAN dealer)

INFOID:000000011487190

Type	M000T22772	
	MITSUBISHII make	
	Reduction gear type	
System voltage	[V]	12
No-load	Terminal voltage	[V] 11
	Current	[A] Less than 90
	Revolution	[rpm] More than 2,400