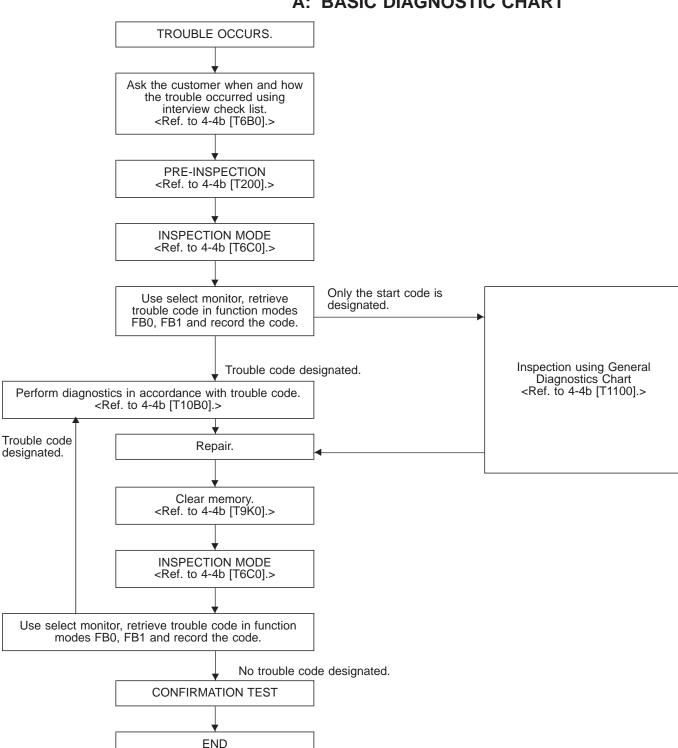
10. Diagnostic Chart with Select Monitor



A: BASIC DIAGNOSTIC CHART

NOTE:

To check harness for broken wires or short circuits, shake it while holding it or the connector.

Diagnostic items (select monitor FB0)	Code	Display screen (FB0)	Diagnostic items (select monitor FB1)	Display screen (FB1)	Ref. to 4-4b
Normal	11	NO TROUBLE	Normal	NO TROUBLE	[T10C0]
Detection of FR sensor 21		FR.SS HARD	Open circuit of FR sensor	FR.SS OPEN	[T10D1]
hardware	21	FR.55 HARD	Short circuit of FR sensor	FR.SS SHORT	[T10D2]
			FR sensor, variations in wheel speed	FR.SS W.SPEED	[T10E1]
Detection of FR sensor software	22	FR.SS SOFT	FR sensor, reduced pressure mode	FR.SS OR MV	[T10E2]
			FR sensor, wheel speed higher than prescribed	FR.SS OVER	[T10E3]
Detection of FL sensor	23	FL.SS HARD	Open circuit of FL sensor	FL.SS OPEN	[T10F1]
hardware	23		Short circuit of FL sensor	FL.SS SHORT	[T10F2]
			FL sensor, variations in wheel speed	FL.SS W.SPEED	[T10G1]
Detection of FL sensor software	24	FL.SS SOFT	FL sensor, reduced pressure mode	FL.SS OR MV	[T10G2]
			FL sensor, wheel speed higher than prescribed	FL.SS OVER	[T10G3]
Detection of RR sensor	25		Open circuit of RR sensor	RR.SS OPEN	[T10H1]
hardware	25	RR.SS HARD	Short circuit of RR sensor	RR.SS SHORT	[T10H2]
Detection of RR sensor 26 software			RR sensor, variations in wheel speed	RR.SS W.SPEED	[T10I1]
	26	RR.SS SOFT	RR sensor, reduced pressure mode	RR.SS OR MV	[T10l2]
			RR sensor, wheel speed higher than prescribed	RR.SS OVER	[T10I3]
Detection of RL sensor 27	27	RL.SS HARD	Open circuit of RL sensor	RL.SS OPEN	[T10J1]
	21		Short circuit of RL sensor	RL.SS SHORT	[T10J2]
Detection of RL sensor 28 28		RL.SS SOFT	RL sensor, variations in wheel speed	RL.SS W.SPEED	[T10K1]
	28		RL sensor, reduced pressure mode	RL.SS OR MV	[T10K2]
			RL sensor, wheel speed higher than prescribed	RL.SS OVER	[T10K3]
Abnormal FR.IN valve	31	FR.IN VALVE	Abnormal FR.IN valve	FR.IN VALVE	[T10L0]
Abnormal FR.OUT valve	32	FR.OUT VALVE	Abnormal FR.OUT valve	FR.OUT VALVE	[T10M0]
Abnormal FL.IN valve	33	FL.IN VALVE	Abnormal FL.IN valve	FL.IN VALVE	[T10N0]
Abnormal FL.OUT valve	34	FL.OUT VALVE	Abnormal FL.OUT valve	FL.OUT VALVE	[T10O0]
Abnormal RR.IN valve	35	RR.IN VALVE	Abnormal RR.IN valve	RR.IN VALVE	[T10P0]
Abnormal RR.OUT valve	36	RR.OUT VALVE	Abnormal RR.OUT valve	RR.OUT VALVE	[T10Q0]
Abnormal RL.IN valve	37	RL.IN VALVE	Abnormal RL.IN valve	RL.IN VALVE	[T10R0]
Abnormal RL.OUT valve	38	RL.OUT VALVE	Abnormal RL.OUT valve	RL.OUT VALVE	[T10S0]
Abnormal ECM	41	ECU	Abnormal ECM	ECU	[T10T0]
Abnormal line voltage	42	HIGH VOLTAGE	Abnormal line voltage	HIGH VOLTAGE	[T10U0]
Abnormal EGI commu- nication line	43	EGI LINE	Abnormal EGI communication line	EGI LINE	[T10V0]
Abnormal value relay	51		Valve relay ON failure	V.RELAY ON	[T10W1]
Abnormal valve relay	51	V.RELAY	Valve relay OFF failure	V.RELAY OFF	[T10W2]
Abnormal motor sys-	50	MOTOR	Motor relay ON failure	MOTOR ON	[T10X1]
tem	52		Motor relay OFF failure	MOTOR OFF	[T10X2]

B: LIST OF TROUBLE CODE

Diagnostic items (select monitor FB0)	Code	Display screen (FB0)	Diagnostic items (select monitor FB1)	Display screen (FB1)	Ref. to 4-4b
Abnormal stroke sen- sor and stop light 54 switch			Open/short circuits of stroke sensor	B.SW HARD	[T10Y1]
			Comparison of stroke sensor and acceleration	B.SW SOFT(G)	[T10Y2]
	PSS & BLS	Comparison of stroke sensor and stop light switch	B.SW SOFT(B)	[T10Y3]	
			Comparison of stroke sensor and pump	B.SW SOFT(P)	[T10Y4]
			Open circuit of stop light switch	B.SW SOFT(O)	[T10Y5]
Abnormal fluid level sensor line	57	FLUID LEVEL SS	Abnormal fluid level sensor line	FLUID LEVEL SS	[T10Z0]
Abnormal pressure switch	58	PRESSURE SW	Abnormal pressure switch	PRESSURE SW	[T10AA0]
Abnormal TCS1 valve	61	TCS1 VALVE	Abnormal TCS1 valve	TCS1 VALVE	[T10AB0]
Abnormal TCS2 valve	62	TCS2 VALVE	Abnormal TCS2 valve	TCS2 VALVE	[T10AC0]

1. IF THE SELECT MONITOR IS USED FOR TROUBLESHOOTING, IT IS ADVISED TO FOLLOW THE PROCEDURE BELOW

1) Activate function FB0 to read the most recent trouble code and record it.

2) Activate function FB1 to read all trouble codes and record them.

(If troubles occur in the wheel speed sensor, stop & brake switch, valve relay or motor system, detailed data on troubles are displayed by the FB1 function, allowing you to easily locate points where need repair.)

3) Perform troubleshooting mainly in the FB1 mode.

D.ALL 11 (FB1)	 C: TROUBLE CODE 11 NO TROUBLE — DIAGNOSIS: ABS/TCS control module does not store troubles.
NO TROUBLE	
B4M0490	
D.ALL 21 (FB1)	 D: TROUBLE CODE 21 1. FR.SS OPEN Faulty front right ABS sensor (Open circuit) — DIAGNOSIS: Faulty ABS sensor
FR.SS OPEN	 Faulty harness and connector Faulty ABS/TCS control module
B4M0491	TROUBLE SYMPTOM:ABS does not operate.
	 TCS does not operate.
1. Check resistance of ABS sensor. <ref. 4-4b="" [t8b1].="" to=""></ref.>	Not OK Replace ABS sensor.
ОК	
2. Check harness connector between ABS/TCS control module and ABS sensor. <ref. 4-4b="" [t8b3].="" to=""></ref.>	Not OK Repair harness/connector.
♦ОК	
Replace ABS/TCS control module.	

NOTE:

When checking ABS sensor, carefully bend or swing connector and harness to check for improper contacts or open circuits.

D.ALL 21 (FB1) FR.SS SHORT	 2. FR.SS SHORT Faulty front right ABS sensor (Short circuit) — DIAGNOSIS: Faulty ABS sensor Faulty harness and connector Faulty ABS/TCS control module TROUBLE SYMPTOM: ABS and TCS do not operate. TCS does not operate. 		
1. Check resistance of ABS sensor. <ref. 4-4b="" [t8b1].="" to=""></ref.>	Not OK	Replace ABS sensor.	
2. Check body short of ABS sensor. <ref. 4-4b="" [t8b2].="" to=""></ref.>	Not OK	Replace ABS sensor.	
<pre>VOK 3. Check body short of harness. <ref. 4-4b="" [t8b4].="" to=""> </ref.></pre> OK	Not OK	Repair harness/connector.	
Replace ABS/TCS control module.			

NOTE:

When checking ABS sensor, carefully bend or swing connector and harness to check for improper contacts or open circuits.

D. ALL 22 (FB1) FR. SS W. SPEED	 E: TROUBLE CODE 22 1. FR.SS W.SPEED Irregular signals from front right ABS sensor — DIAGNOSIS: Faulty ABS sensor signal (noise, irregular signal, etc.) Faulty harness/connector Faulty ABS/TCS control module TROUBLE SYMPTOM: 	
	 ABS and TCS do not operate. 	
1. Check ABS sensor mechanical trouble. <ref. 4-4b="" [t8c1].="" to=""></ref.>	Not OK Repair ABS sensor/tone wheel.	
ОК		
 ↓ Ott 2. Check ground circuit of ABS/TCS control module. 	Not OK Repair harness/connector.	
<ref. 4-4b="" [t8c2].="" to=""></ref.>		
LOK		
3. Check resistance of ABS sensor. <ref. 4-4b="" [t8c3].="" to=""></ref.>	Not OK Replace ABS sensor.	
OK		
4. Check harness connector between ABS/TCS	Not OK Repair harness/connector.	
control module and ABS sensor. <ref. 4-4b="" [t8c4].="" to=""></ref.>		
ОК		
5. Check sources of signal noise. <ref. 4-4b="" [t8c5].="" to=""></ref.>	Not OK Repair noise sources.	
LOK		
Replace ABS/TCS control module.		

	2. FR.SS OR MV — Irregular signals from front right ABS sensor in
D.ALL 22 (FB1)	decompressing mode — DIAGNOSIS:
FR.SS OR MV	 Faulty ABS sensor signal (noise, irregular signal, etc.) Faulty hydraulic unit Faulty harness/connector Faulty ABS/TCS control module TROUBLE SYMPTOM:
	ABS does not operate.TCS does not operate.
1. Check ABS sensor mechanical trouble. <ref. 4-4b="" [t8c1].="" to=""></ref.>	Not OK Repair ABS sensor/tone wheel.
OK	<u> </u>
 Check ground circuit of ABS/TCS control module. <ref. 4-4b="" [t8c2].="" to=""></ref.> 	Not OK Repair harness/connector.
ОК	
3. Check sources of signal noise. <ref. 4-4b="" [t8c5].="" to=""></ref.>	Not OK Repair noise sources.
↓ OK	
4. Check operation of hydraulic unit. <ref. 4-4b="" [t8c6].="" to=""></ref.>	Not OK Replace hydraulic unit.
OK	
Replace ABS/TCS control module.	

D. ALL 22 (FB1) FR. SS OVER	 3. FR.SS OVER Excessive speed of front right ABS sensor signal — DIAGNOSIS: Faulty ABS sensor signal (noise, irregular signal, etc.) Faulty harness/connector Faulty ABS/TCS control module TROUBLE SYMPTOM: ABS and TCS do not operate.
B4M0495	
1. Check ABS sensor mechanical trouble. <ref. 4-4b="" [t8c1].="" to=""></ref.>	Not OK
2. Check ground circuit of ABS/TCS control module. <ref. 4-4b="" [t8c2].="" to=""></ref.>	Not OK
ОК	
3. Check sources of signal noise. <ref. 4-4b="" [t8c5].="" to=""></ref.>	Not OK Repair noise sources.
↓ OK	
Replace ABS/TCS control module.	

D.ALL 23 (FB1)

FL.SS OPEN

B4M0496

F: TROUBLE CODE 23

1. FL.SS OPEN

— Faulty front left ABS sensor (Open circuit) — DIAGNOSIS:

- Faulty ABS sensor
- Faulty harness and connector
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

• ABS and TCS do not operate.

NOTE:

The procedures used are the same as those for FR.SS OPEN.

<Ref. to 4-4b [T10D1].>

D.ALL 23 (FB1)

FL.SS SHORT

2. FL.SS SHORT

— Faulty front left ABS sensor (Short circuit) — DIAGNOSIS:

- Faulty ABS sensor
- Faulty harness and connector
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

• ABS and TCS do not operate.

B4M0497 NOTE:

The procedures used are the same as those for FR.SS SHORT.

<Ref. to 4-4b [T10D2].>

D .	ALL	24 ((FB1)

FL.SS W.SPEED

G: TROUBLE CODE 24

1. FL.SS W.SPEED

— Irregular signals from front left ABS sensor — DIAGNOSIS:

- Faulty ABS sensor signal (noise, irregular signal, etc.)
- Faulty harness/connector
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

- ABS and TCS do not operate.
 - NOTE:

B4M0498

The procedures used are the same as those for FR.SS W.SPEED.

<Ref. to 4-4b [T10E1].>

FL.SS OR MV

B4M0499

2. FL.SS OR MV

Irregular signals from front left ABS sensor in decompressing mode —
 DIAGNOSIS:

- Faulty ABS sensor signal (noise, irregular signal, etc.)
- Faulty hydraulic unit
- Faulty harness/connector
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

• ABS and TCS do not operate.

NOTE:

The procedures used are the same as those for FR.SS OR MV.

<Ref. to 4-4b [T10E2].>

3. FL.SS OVER

Excessive speed of front left ABS sensor signal — DIAGNOSIS:

- Faulty ABS sensor signal (noise, irregular signal, etc.)
- Faulty harness/connector
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

• ABS and TCS do not operate.

NOTE:

B4M0500

The procedures used are the same as those for FR.SS OVER.

<Ref. to 4-4b [T10E3].>

D.ALL 24 (FB1)

FL.SS OVER

D.ALL 25 (FB1)

RR.SS OPEN

B4M0501

H: TROUBLE CODE 25

1. RR.SS OPEN

— Faulty rear right ABS sensor (Open circuit) — DIAGNOSIS:

- Faulty ABS sensor
- Faulty harness and connector
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

ABS and TCS do not operate.

NOTE:

The procedures used are the same as those for FR.SS OPEN.

<Ref. to 4-4b [T10D1].>

D.ALL 25 (FB1)

RR. SS SHORT

B4M0502

2. RR.SS SHORT

— Faulty rear right ABS sensor (Short circuit) — DIAGNOSIS:

- Faulty ABS sensor
- Faulty harness and connector
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

• ABS and TCS do not operate.

NOTE:

The procedures used are the same as those for FR.SS SHORT.

<Ref. to 4-4b [T10D2].>

RR.SS W.SPEED

B4M0503

I: TROUBLE CODE 26

1. RR.SS W.SPEED

— Irregular signals from rear right ABS sensor — DIAGNOSIS:

- Faulty ABS sensor signal (noise, irregular signal, etc.)
- Faulty harness/connector
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

- ABS and TCS do not operate.
 - NOTE:

The procedures used are the same as those for FR.SS W.SPEED.

<Ref. to 4-4b [T10E1].>

D.ALL 26 (]	FB1)
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RR.SS OR MV

B4M0504

2. RR.SS OR MV

Irregular signals from rear right ABS sensor in decompressing mode —
 DIAGNOSIS:

- Faulty ABS sensor signal (noise, irregular signal, etc.)
- Faulty hydraulic unit
- Faulty harness/connector
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

• ABS and TCS do not operate.

NOTE:

The procedures used are the same as those for FR.SS OR MV.

<Ref. to 4-4b [T10E2].>

3. RR.SS OVER

— Excessive speed of rear right ABS sensor signal — DIAGNOSIS:

- Faulty ABS sensor signal (noise, irregular signal, etc.)
- Faulty harness/connector
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

• ABS and TCS do not operate.

NOTE:

B4M0505

The procedures used are the same as those for FR.SS OVER.

<Ref. to 4-4b [T10E3].>

D.ALL 26 (FB1)

RR.SS OVER

D.ALL 27 (FB1)

RL.SS OPEN

B4M0506

J: TROUBLE CODE 27

1. RL.SS OPEN

— Faulty rear left ABS sensor (Open circuit) — DIAGNOSIS:

- Faulty ABS sensor
- Faulty harness and connector
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

• ABS and TCS do not operate.

NOTE:

The procedures used are the same as those for FR.SS OPEN.

<Ref. to 4-4b [T10D1].>

D.ALL 27 (FB1)

RL.SS SHORT

B4M0507

2. RL.SS SHORT

— Faulty rear left ABS sensor (Short circuit) — DIAGNOSIS:

- Faulty ABS sensor
- Faulty harness and connector
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

• ABS and TCS do not operate.

NOTE:

The procedures used are the same as those for FR.SS SHORT.

<Ref. to 4-4b [T10D2].>

D. ALL	28 (FB1)
\mathbf{D} . It \mathbf{L}	20(1D1)

RL.SS W.SPEED

B4M0508

K: TROUBLE CODE 28

1. RL.SS W.SPEED

— Irregular signals from rear left ABS sensor — DIAGNOSIS:

- Faulty ABS sensor signal (noise, irregular signal, etc.)
- Faulty harness/connector
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

- ABS and TCS do not operate.
 - NOTE:

The procedures used are the same as those for FR.SS W.SPEED.

<Ref. to 4-4b [T10E1].>

D.ALL 28 ((FB1)
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RL.SS OR MV

B4M0509

2. RL.SS OR MV

Irregular signals from rear left ABS sensor in decompressing mode —
 DIAGNOSIS:

- Faulty ABS sensor signal (noise, irregular signal, etc.)
- Faulty hydraulic unit
- Faulty harness/connector
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

• ABS and TCS do not operate.

NOTE:

The procedures used are the same as those for FR.SS OR MV.

<Ref. to 4-4b [T10E2].>

3. RL.SS OVER

Excessive speed of rear left ABS sensor signal — DIAGNOSIS:

- Faulty ABS sensor signal (noise, irregular signal, etc.)
- Faulty harness/connector
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

• ABS and TCS do not operate.

NOTE:

B4M0510

The procedures used are the same as those for FR.SS OVER. <Ref. to 4-4b [T10E3].>

D.ALL 28 (FB1)

RL . SS OVER

ABS and TCS do not operate. ABS and TCS do not operate. ABS sequence control does not operate. TCS sequence control does not operate. TCS sequence control does not operate. Air bleeding mode does not operate. Air blee	D.ALL 31(FB1) FR.IN VALVE	L: TROUBLE CODE 31 FR.IN VALVE — Faulty front right inlet solenoid valve — DIAGNOSIS: • Faulty harness/connector • Faulty solenoid valve in hydraulic unit • Faulty ABS/TCS control module TROUBLE SYMPTOM:
1. Check resistance of solehold valve. Replace hydraulic unit. OK 2. Check body short of solehold valve. Not OK OK 3. Check body short of harness. Not OK OK 3. Check body short of harness. Not OK OK 4. Check harness between ABS/TCS control module and hydraulic unit. Not OK Not OK	B4M0511	 ABS sequence control does not operate. TCS sequence control does not operate.
2. Check body short of solenoid valve. Not OK Replace hydraulic unit. < OK Not OK Repair harness. OK Repair harness. Not OK	<ref. 4-4b="" [t8d1].="" to=""></ref.>	Not OK Replace hydraulic unit.
3. Check body short of harness. Not OK Repair harness. <ref. 4-4b="" [t8d3].="" to=""> OK 4. Check harness between ABS/TCS control module and hydraulic unit. Not OK Repair harness/connector. Ref. to 4-4b [T8D4].> Not OK Repair harness/connector.</ref.>	2. Check body short of solenoid valve.	Not OK Replace hydraulic unit.
 3. Check body short of namess. <ref. 4-4b="" [t8d3].="" to=""></ref.> OK 4. Check harness between ABS/TCS control module and hydraulic unit. <ref. 4-4b="" [t8d4].="" to=""></ref.> 	↓ OK	
4. Check harness between ABS/TCS control module and hydraulic unit. <ref. 4-4b="" [t8d4].="" to=""></ref.>		Not OK Repair harness.
4. Check harness between ABS/TCS control module and hydraulic unit. <ref. 4-4b="" [t8d4].="" to=""></ref.>	↓ок	
OK	module and hydraulic unit.	Not OK Repair harness/connector.
V	OK	
Replace ABS/TCS control module.	Replace ABS/TCS control module.	

D. ALL 32 (FB1) FR. OUT VALVE	 M: TROUBLE CODE 32 FR.OUT VALVE Faulty front right outlet solenoid valve — DIAGNOSIS: Faulty harness/connector Faulty solenoid valve in hydraulic unit Faulty ABS/TCS control module TROUBLE SYMPTOM: ABS and TCS do not operate.
	 ABS and TeS do not operate. ABS sequence control does not operate. TCS sequence control does not operate. Air bleeding mode does not operate.
1. Check resistance of solenoid valve. <ref. 4-4b="" [t8e1].="" to=""></ref.>	Not OK
<pre> OK 2. Check body short of solenoid valve. <ref. 4-4b="" [t8e2].="" to=""> OK </ref.></pre>	Not OK Replace hydraulic unit.
3. Check body short of harness. <ref. 4-4b="" [t8e3].="" to=""></ref.>	Not OK Repair harness.
 Vertical of the second second	Not OK
OK Replace ABS/TCS control module.	

D.ALL 33 (FB1)

FL.IN VALVE

B4M0513

N: TROUBLE CODE 33

FL.IN VALVE

 Faulty front left inlet solenoid valve — DIAGNOSIS:

- Faulty harness/connector
- Faulty solenoid valve in hydraulic unit
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

- ABS and TCS do not operate.
- ABS sequence control does not operate.
- TCS sequence control does not operate.
- Air bleeding mode does not operate.

NOTE:

The procedures used are the same as those for $\ensuremath{\mathsf{FR.IN}}$ VALVE.

<Ref. to 4-4b [T10L0].>

D.ALL 34 (FB1)

FL.OUT VALVE

B4M0514

O: TROUBLE CODE 34

FL.OUT VALVE

— Faulty front left outlet solenoid valve — DIAGNOSIS:

- Faulty harness/connector
- Faulty solenoid valve in hydraulic unit
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

- ABS and TCS do not operate.
- ABS sequence control does not operate.
- TCS sequence control does not operate.
- Air bleeding mode does not operate.

NOTE:

The procedures used are the same as those for FR.OUT VALVE.

<Ref. to 4-4b [T10M0].>

D.ALL 35 (FB1)

RR. IN VALVE

B4M0515

P: TROUBLE CODE 35

RR.IN VALVE

— Faulty rear right inlet solenoid valve — DIAGNOSIS:

- Faulty harness/connector
- Faulty solenoid valve in hydraulic unit
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

- ABS and TCS do not operate.
- ABS sequence control does not operate.
- TCS sequence control does not operate.
- Air bleeding mode does not operate.

NOTE:

The procedures used are the same as those for FR.IN VALVE.

<Ref. to 4-4b [T10L0].>

D.ALL 36(FB1)

RR.OUT VALVE

B4M0516

Q: TROUBLE CODE 36

RR.OUT VALVE

— Faulty rear right outlet solenoid valve — DIAGNOSIS:

- Faulty harness/connector
- Faulty solenoid valve in hydraulic unit
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

- ABS and TCS do not operate.
- ABS sequence control does not operate.
- TCS sequence control does not operate.
- Air bleeding mode does not operate.

NOTE:

The procedures used are the same as those for FR.OUT VALVE.

<Ref. to 4-4b [T10M0].>

D.ALL 37(FB1)

RL.IN VALVE

B4M0517

R: TROUBLE CODE 37

RL.IN VALVE

Faulty rear left inlet solenoid valve — DIAGNOSIS:

- Faulty harness/connector
- Faulty solenoid valve in hydraulic unit
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

- ABS and TCS do not operate.
- ABS sequence control does not operate.
- TCS sequence control does not operate.
- Air bleeding mode does not operate.

NOTE:

The procedures used are the same as those for FR.IN VALVE.

<Ref. to 4-4b [T10L0].>

S: TROUBLE CODE 38 **RL.OUT VALVE** D.ALL 38 (FB1) - Faulty rear left outlet solenoid valve -**DIAGNOSIS:** Faulty harness/connector Faulty solenoid valve in hydraulic unit **RL.OUT VALVE** Faulty ABS/TCS control module **TROUBLE SYMPTOM:** B4M0518 ABS and TCS do not operate. ABS sequence control does not operate. TCS sequence control does not operate. Air bleeding mode does not operate. NOTE: The procedures used are the same as those for FR.OUT VALVE. <Ref. to 4-4b [T10M0].> T: TROUBLE CODE 41 ECU D.ALL 41 (FB1) Faulty ABS/TCS control module — DIAGNOSIS: Faulty ABS/TCS control module Faulty harness/connector **ECU TROUBLE SYMPTOM:** ABS does not operate. B4M0519 TCS does not operate. Not OK 1. Check ground circuit of ABS/TCS control Repair harness/connector. module. <Ref. to 4-4b [T8F1].> OK Not OK 2. Check harness connectors between power Repair harness/connector. supply generator, battery and ABS/TCS control module. <Ref. to 4-4b [T8F2].> ⊥ок Not OK 3. Check sources of signal noise. Repair noise sources. <Ref. to 4-4b [T8F3].> OK Replace ABS/TCS control module.

D.ALL 42(FB1) HIGH VOLTAGE	 U: TROUBLE CODE 42 HIGH VOLTAGE Source voltage is high — DIAGNOSIS: Power source voltage of the ABS/TCS control module is more than 18 V. Faulty ABS/TCS control module Faulty harness/connector
B4M0520	TROUBLE SYMPTOM:
	ABS does not operate.TCS does not operate.
1. Check generator. <ref. 4-4b="" [t8g1].="" to=""></ref.>	Not OK Repair generator.
↓ OK	
2. Check battery terminal. <ref. 4-4b="" [t8g2].="" to=""></ref.>	Not OK Repair battery terminal.
↓ OK	
3. Check input voltage of ABS/TCS control mod- ule. <ref. 4-4b="" [t8g3].="" to=""></ref.>	Not OK
ОК	
4. Check ground circuit of ABS/TCS control module. <ref. 4-4b="" [t8g4].="" to=""></ref.>	Not OK
↓ OK Replace ABS/TCS control module.	

	V: TROUBLE	CODE 43	
D.ALL 43 (FB1)	EGI LINE		
D.ALL +3(IDI)	— Faulty engine cables —	control module communication	n
	DIAGNOSIS:		
EGI LINE		ation cable is broken or short cir	
		ation cable is broken or short cin ation cable is broken or short cin	
B4M052	• Faulty ABS/TCS	S control module	
	 Faulty engine c TROUBLE SYMP 		
	 TCS does not a 	-	
	Terminal voltage remains at 4 — 5.4 V.	Replace ABS/TCS control module.	
1. Check communication cables. <ref. 4-4b="" [t8h1].="" to=""></ref.>	Terminal voltage remains at 10 — 14 V.	Go to step 2.	
	Terminal voltage		
	Terminal voltage remains at 2 V or less.	Go to step 4.	
↓ОК	-		
Replace ABS/TCS control module.			
2. Check harness between ABS/TCS control	Not OK	Repair harness.	
module and ECM. <ref. 4-4b="" [t8h2].="" to=""></ref.>			
OK			
3. Check ABS/TCS control module internal circuits.	Not OK	Replace ABS/TCS control module.	
<ref. 4-4b="" [t8h3].="" to=""></ref.>			
↓ OK	1		
Replace engine control module.			
4. Check output voltage of ECM. <ref. 4-4b="" [t8h4].="" to=""></ref.>] ОК 	6. Check open circuit of harness.	
Not OK		OK	ot OK
		Replace ABS/TCS	
\downarrow		control module.	
5. Check body short of harness. <ref. 4-4b="" [t8h5].="" to=""></ref.>	Not OK	Repair harness/connector.	
ОК	-		
Replace engine control module.]		

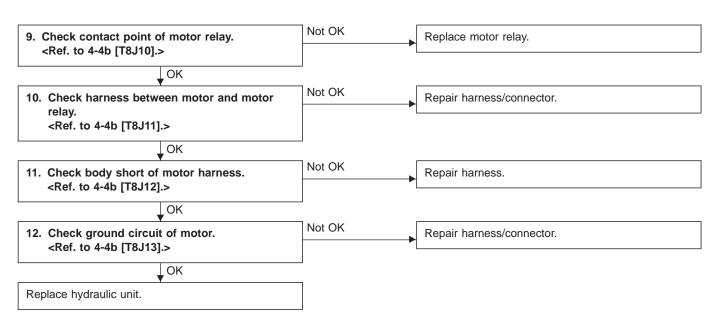
D.ALL 51(FB1) V.RELAY ON	 W: TROUBLE CODE 51 1. V.RELAY ON Valve relay ON malfunction — DIAGNOSIS: Faulty valve relay Faulty harness/connector Faulty ABS/TCS control module
B4M0522	 TROUBLE SYMPTOM: ABS does not operate. TCS does not operate.
1. Check contact point of valve relay. <ref. 4-4b="" [t8l2].="" to=""></ref.>	Not OK Replace valve relay.
↓ OK	
2. Check short circuit of valve relay. <ref. 4-4b="" [t8l3].="" to=""></ref.>	Not OK Replace valve relay.
♦ОК	
3. Check ground circuit of valve relay. <ref. 4-4b="" [t8l5].="" to=""></ref.>	Not OK
↓ ок	
4. Check body short of harness. <ref. 4-4b="" [t8l8].="" to=""></ref.>	Not OK Repair harness.
ок	
Replace ABS/TCS control module.	
L	

D.ALL 51 (FB1) V.RELAY OFF	DIAGNOSIS:Faulty valveFaulty harne	OFF malfunction — relay ss/connector TCS control module MPTOM: ot operate.
1. Check resistance of valve relay. <ref. 4-4b="" [t8i1].="" to=""></ref.>	Not OK	Replace valve relay.
↓ок		
2. Check contact point of valve relay. <ref. 4-4b="" [t8l2].="" to=""></ref.>	Not OK	Replace valve relay.
↓ок		
3. Check input voltage of valve relay. <ref. 4-4b="" [t8i4].="" to=""></ref.>	Not OK	Repair harness/connector.
↓ок		
4. Check harness between ABS/TCS control module and valve relay. <ref. 4-4b="" [t816].="" to=""></ref.>	Not OK	Repair harness/connector.
↓ок		
5. Check resistance of valve relay to ABS/TCS control module side. <ref. 4-4b="" [t8i7].="" to=""></ref.>	Not OK	Repair harness/connector.
ОК	_	
Replace ABS/TCS control module.		

D.ALL 52(FB1) MOTOR ON	 X: TROUBLE CODE 52 1. MOTOR ON Motor relay ON malfunction — DIAGNOSIS: Faulty motor relay Faulty motor Faulty motor sensor Faulty motor sensor Faulty harness Faulty ABS/TCS control module TROUBLE SYMPTOM: ABS does not operate. TCS does not operate.
1. Check body short of harness. <ref. 4-4b="" [t8j3].="" to=""></ref.>	Not OK Repair harness.
OK 2. Check motor operation. <ref. 4-4b="" [t8j5].="" to=""> ↓OK</ref.>	Not OK
3. Check body short of motor sensor. <ref. 4-4b="" [t8j7].="" to=""></ref.>	Not OK Replace hydraulic unit.
 4. Check body short of motor sensor harness. <ref. 4-4b="" [t8j9].="" to=""></ref.> 	Not OK Repair harness.
♥ OK Replace ABS/TCS control module.	

	2. MOTOR OF	F
\mathbf{D} ALL 53 (ED1)	 Motor relay OFF malfunction — 	
D.ALL 52(FB1)	DIAGNOSIS:	
MOTOR OFF B4M0525	 Faulty motor relay Faulty motor Faulty motor sensor Faulty harness/connector Faulty ABS/TCS control module TROUBLE SYMPTOM:	
		S do not operate.
1. Check resistance of motor relay. <ref. 4-4b="" [t8j1].="" to=""></ref.>	Not OK	Replace motor relay.
ОК		
2. Check input voltage of motor relay. <ref. 4-4b="" [t8j2].="" to=""></ref.>	Not OK	Repair harness/connector.
L OK		
3. Check harness between ABS/TCS control	Not OK	Densis herroes (connector
module and motor relay.	•	Repair harness/connector.
<ref. 4-4b="" [t8j4].="" to=""></ref.>		
ОК		
4. Check motor operation. <ref. 4-4b="" [t8j5].="" to=""></ref.>	Not OK	Go to step 9.
OK		
5. Check resistance of motor sensor.	Not OK	Replace hydraulic unit.
<ref. 4-4b="" [t8j6].="" to=""></ref.>		
↓ок		
6. Check body short of motor sensor.	Not OK	Replace hydraulic unit.
<ref. 4-4b="" [t8j7].="" to=""></ref.>		
♦ОК	Not OK	
7. Check harness between ABS/TCS control module and motor sensor.		Repair harness/connector.
<ref. 4-4b="" [t8j8].="" to=""></ref.>		
ОК		
8. Check body short of motor sensor harness.	Not OK	Repair harness.
<ref. 4-4b="" [t8j9].="" to=""></ref.>		· ·
↓ок		
Replace ABS/TCS control module.		

4-4b 10. Diagnostic Chart with Select Monitor



NOTE:

The check can also be made by analyzing the sensor output signal with oscilloscope during the TCS sequence control operation. If the ECM female connector end gives correct value, skip steps 5 through 8.

If not, operate the TCS sequence control again and measure the value at motor sensor male connector end, with the motor sensor connector disconnected. If the value is OK, proceed with steps 7 through 8 above.

	Y: TROUBLE CODE 54
	1. B.SW HARD
D.ALL 54 (FB1)	— Break and short circuit at stroke sensor or its
	wiring —
	DIAGNOSIS:
B.SW HARD	 Faulty stroke sensor Faulty harness/connector
	 Faulty stop light switch
B4M0526	 Faulty ABS/TCS control module TROUBLE SYMPTOM:
	ABS and TCS do not operate.
	NOTE:
	Operate the function F09 in select monitor TCS mode, and
	read the sensor output step.
	If system is normal, the output reading is 1 when brake pedal is not depressed, and it changes from 2 to 3, 4 and
	5 in accordance with the brake pedal depressing. If so, skip
	check steps 1 through 5.
1. Check resistance of stroke sensor. <ref. 4-4b="" [t8k2].="" to=""></ref.>	Not OK Replace stroke sensor.
OK	
2. Check stroke sensor operation.	Not OK Replace stroke sensor.
<ref. 4-4b="" [t8k3].="" to=""></ref.>	
♦ ОК	
3. Check body short of stroke sensor. <ref. 4-4b="" [t8k4].="" to=""></ref.>	Not OK Replace stroke sensor.
↓ок	
4. Check harness between stroke sensor and	Not OK Repair harness/connector.
ABS/TCS control module. <ref. 4-4b="" [t8k10].="" to=""></ref.>	
↓ок	
5. Check body short of stroke sensor harness. <ref. 4-4b="" [t8k11].="" to=""></ref.>	Not OK Repair harness.
↓ок	
Replace ABS/TCS control module.	

	2. B.SW SOFT (G)
D.ALL 54 (FB1)	 Irregular value in comparison stroke sensor and vehicle acceleration comparison — DIAGNOSIS:
B.SW SOFT (G) b4m0527	 Faulty stroke sensor Faulty harness/connector Faulty stop light switch Faulty ABS/TCS control module TROUBLE SYMPTOM: ABS and TCS do not operate. NOTE: Operate the function F09 in select monitor TCS mode, and read the sensor output step. If system is normal, the output reading is 1 when brake pedal is not depressed, and it changes from 2 to 3, 4 and 5 in accordance with the brake pedal depressing. If so, skip check steps 2 through 4.
1. Check correct installation of stroke sensor. <ref. 4-4b="" [t8k1].="" to=""></ref.>	Not OK Repair stroke sensor.
↓ OK	
2. Check resistance of stroke sensor. <ref. 4-4b="" [t8k2].="" to=""></ref.>	Not OK Replace stroke sensor.
OK	
 Check stroke sensor operation. <ref. 4-4b="" [t8k3].="" to=""></ref.> 	Not OK Replace stroke sensor.
L OK	
4. Check harness between stroke sensor and ABS/TCS control module. <ref. 4-4b="" [t8k10].="" to=""></ref.>	Not OK
ОК	_
Replace ABS/TCS control module.	

3. B.SW SOFT (B)

Irregular value in stroke sensor and brake light switch comparison —

DIAGNOSIS:

D.ALL 54 (FB1)

B.SW SOFT (B)

- Faulty stroke sensor
- Faulty stop light switch
- Faulty harness/connector
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

• ABS and TCS do not operate.

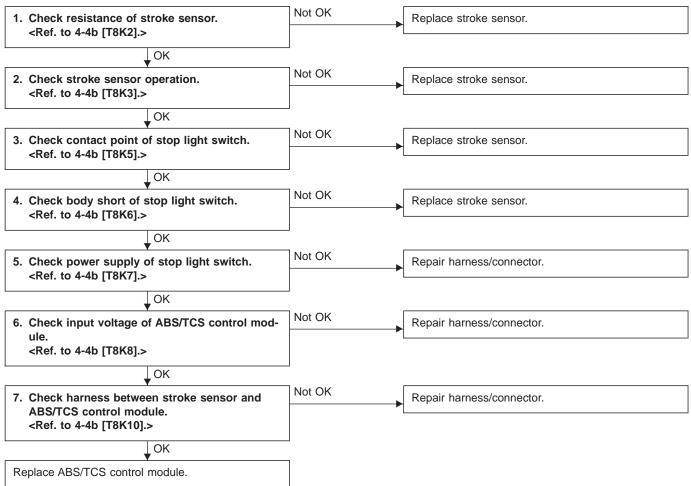
NOTE:

B4M0528

Operate the function F09 in select monitor TCS mode, and read the sensor output step.

If system is normal, the output reading is 1 when brake pedal is not depressed, and it changes from 2 to 3, 4 and 5 in accordance with the brake pedal depressing. If so, skip check steps 1 and 2 through 7.

Then, operate the function FA0 and check the stop and brake switches by B1 LED ON/OFF. If system is normal, LED comes on when depressing brake pedal, and goes off when not depressing. If so, skip check steps 3 through 6.



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D. ALL 54 (FB1) B. SW SOFT (P)	output — DIAGNOSIS: • Faulty strok • Faulty harn • Faulty pum • Faulty stop	the sensor ess/connector p unit in hydraulic unit
	Operate the fur read the sens If system is n pedal is not de	Inction F09 in select monitor TCS mode, and or output step. formal, the output reading is 1 when brake epressed, and it changes from 2 to 3, 4 and ce with the brake pedal depressing. If so, skip through 4.
1. Check correct installation of stroke sensor. <ref. 4-4b="" [t8k1].="" to=""></ref.>	Not OK	Repair stroke sensor.
ОК		
2. Check resistance of stroke sensor. <ref. 4-4b="" [t8k2].="" to=""></ref.>	Not OK	Replace stroke sensor.
ОК		
3. Check stroke sensor operation. <ref. 4-4b="" [t8k3].="" to=""></ref.>	Not OK	Replace stroke sensor.
ОК		
4. Check harness between stroke sensor and ABS/TCS control module.	Not OK	Repair harness/connector.
<ref. 4-4b="" [t8k10].="" to=""></ref.>		
↓ OK		
5. Check pump unit operation. <ref. 4-4b="" [t8k12].="" to=""></ref.>	Not OK	Replace hydraulic unit.
ОК		
Replace ABS/TCS control module.		
	_	

D.ALL 54 (FB1) B.SW SOFT (O) _{B4M0530}	 5. B.SW SOFT (O) Broken brake light switch — DIAGNOSIS: Faulty stop light switch Faulty harness/connector Faulty stroke sensor Faulty ABS/TCS control module TROUBLE SYMPTOM: TCS does not operate. NOTE: Operate the function FA0 in select monitor TCS mode, and check the stop and brake switches by B1 LED ON/OFF. 	
	system is normal, LED comes on when depressing bra pedal, and goes off when not depressing. If so, skip che steps 2 through 4.	
1. Check correct installation of stroke sensor. <ref. 4-4b="" [t8k1].="" to=""></ref.>	Not OK Repair stroke sensor.	
<pre> OK 2. Check contact point of stop light switch. <ref. 4-4b="" [t8k5].="" to=""> _OK </ref.></pre>	Not OK Replace stroke sensor.	
3. Check input voltage of ABS/TCS control mod- ule. <ref. 4-4b="" [t8k8].="" to=""></ref.>	Not OK Repair harness/connector.	
4. Check stop light circuit. <ref. 4-4b="" [t8k9].="" to=""> ↓OK</ref.>	Not OK Repair harness/connector. Replace stop light bulb and/or fuse.	
Replace ABS/TCS control module.		

Z: TROUBLE CODE 57 FLUID LEVEL SS — Irregular signal from fluid level sensor — DIAGNOSIS:	
 Faulty fluid level sensor circuit Faulty harness/connector Faulty ABS/TCS control module Faulty generator 	
TROUBLE SYMPTOM:	
 ABS and TCS do not operate. 	
Not OK Repair generator.	

OK	_	
2. Check input voltage of ABS/TCS control mod- ule.	Not OK	Repair harness/connector.
<ref. 4-4b="" [t8l6].="" to=""></ref.>		
OK	_	
Replace ABS/TCS control module.		

D.ALL 58 (FB1) PRESSURE SW b4m0532	 AA: TROUBLE CODE 58 PRESSURE SW Faulty pressure switch — DIAGNOSIS: Faulty pressure Faulty stop light switch Faulty ABS/TCS control module Faulty harness/connector TROUBLE SYMPTOM: TCS does not operate. NOTE: Check using the select monitor. 		
	Operate the fun stop and brake ON/OFF. If sy depressing brak If so, skip check	ction FA0 in select monitor TCS mode. The e switches can be checked by B1 LED stem is normal, LED comes on when ke pedal, and goes off when not depressing. k steps 5 through 8.	
1. Check contact point of pressure switch. <ref. 4-4b="" [t8m1].="" to=""></ref.>	Not OK	Replace hydraulic unit.	
↓ок			
2. Check body short of pressure switch. <ref. 4-4b="" [t8m2].="" to=""></ref.>	Not OK	Replace hydraulic unit.	
 ↓ OK 3. Check harness between pressure switch and ABS/TCS control module. <ref. 4-4b="" [t8m3].="" to=""></ref.> 	Not OK	Repair harness/connector.	
 ↓ OK 4. Check body short of pressure switch harness. <ref. 4-4b="" [t8m4].="" to=""></ref.> 	Not OK	Repair harness.	
OK 5. Check contact point of stop light switch.	Not OK	Replace stroke sensor.	
<ref. 4-4b="" [t8m5].="" to=""></ref.>			
6. Check body short of stop light switch. <ref. 4-4b="" [t8m6].="" to=""></ref.>	Not OK	Replace stroke sensor.	
7. Check power supply of stop light switch. <ref. 4-4b="" [t8m7].="" to=""></ref.>	Not OK	Repair harness.	
<pre>OK 8. Check input voltage of ABS/TCS control mod- ule. <ref. 4-4b="" [t8m8].="" to=""></ref.></pre>	Not OK	Repair harness/connector.	
ок			
Replace ABS/TCS control module.]		

D.ALL 61 (FB1)

TCS1 VALVE

B4M0533

AB: TROUBLE CODE 61

TCS 1 VALVE

— Faulty TCS 1 solenoid valve — DIAGNOSIS:

- Faulty harness/connector
- Faulty solenoid valve in hydraulic unit
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

- ABS and TCS do not operate.
- ABS sequence control does not operate.
- TCS sequence control does not operate.
- Air bleeding mode does not operate.

NOTE:

The procedures used are the same as those for FR.IN VALVE.

<Ref. to 4-4b [T10L0].>

D.ALL 62 (FB1)

TCS2 VALVE

B4M0534

AC: TROUBLE CODE 62

TCS 2 VALVE

Faulty TCS 2 solenoid valve — DIAGNOSIS:

- Faulty harness/connector
- Faulty solenoid valve in hydraulic unit
- Faulty ABS/TCS control module

TROUBLE SYMPTOM:

- ABS and TCS do not operate.
- ABS sequence control does not operate.
- TCS sequence control does not operate.
- Air bleeding mode does not operate.

NOTE:

The procedures used are the same as those for FR.OUT VALVE.

<Ref. to 4-4b [T10M0].>