

id100201000400

- Perform the following malfunction diagnosis only when it is diagnosed with a open circuit by **CONTROLLER AREA NETWORK (CAN) MALFUNCTION DIAGNOSIS FLOW [SKYACTIV-G 2.0 (L.H.D.)]**.
- If the malfunctioning part is detected in the communication line, before disconnecting the related connector for inspection, press the connector in the connection direction to verify that there is no looseness or disconnection.
- When disconnecting the connector, verify that there is no damage, deformation, or corrosion of the connector terminals.

- The open circuit location can be determined by the DTC indicated in the DTC output pattern and malfunctioning location chart. DTCs not listed in the chart are not used for the determination of the open circuit location.

DTC output pattern and malfunctioning location

[illegible]

M-MDS display		DTC output pattern and malfunctioning location																
DTC output module	DTC																	
4X4*3 (4WD control module)	U0100:00	x		x		x			x									
	U0101:00				x	x			x									
	U0121:00		x	x		x			x									
SCBS*4 (Laser sensor)	U0100:00	x		x		x			x		x							
	U0121:00		x	x		x			x		x							
	U0131:00														x			
	U0155:00																	x
FSC*5 (Forward sensing camera)	U0100:00	x		x		x			x		x							
	U0121:00		x	x		x			x		x							
	U0131:00														x			
	U0140:00							x	x		x							
	U0155:00																	x
	U0214:00														x			
SSU (Start stop unit)	U0100:00	x		x		x			x		x			x				
	U0101:00				x	x			x		x			x				
	U0121:00		x	x		x			x		x			x				
	U0121:87		x	x		x			x		x			x				
	U0131:00														x			
	U0140:00							x	x		x			x				
	U0146:00																	x
	U0151:00															x		
EPS (EPS control module)	U0100:00	x		x		x			x		x			x				
	U0121:00		x	x		x			x		x			x				
	U0155:00																	x
RCM (SAS control module)	U0155:00																	x
IC (Instrument cluster)	U0100:00	x		x		x			x		x			x				
	U0101:00				x	x			x		x			x				
	U0114:00									x	x			x				
	U0121:00		x	x		x			x		x			x				
	U0131:00														x			
	U0140:00							x	x		x			x				
	U0151:00															x		
	U0182:00						x		x		x			x				
	U0214:00														x			
	U0235:00											x		x				
	U023A:00												x	x				
M-MDS display module		[Fail] display pattern																
PCM		x		x		x			x		x			x				
ABS			x	x		x			x		x			x				
TCM*1					x	x			x		x			x				
AFS*2							x		x		x			x				
F_BCM								x	x		x			x				
4X4*3										x	x			x				
SCBS*4												x		x				
FSC*5													x	x				
SSU															x			
EPS																x		
RCM																	x	
IC																		x
Diagnostic result																		
Possible cause and inspection item	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	

*1 : ATX vehicles

*2 : With AFS system

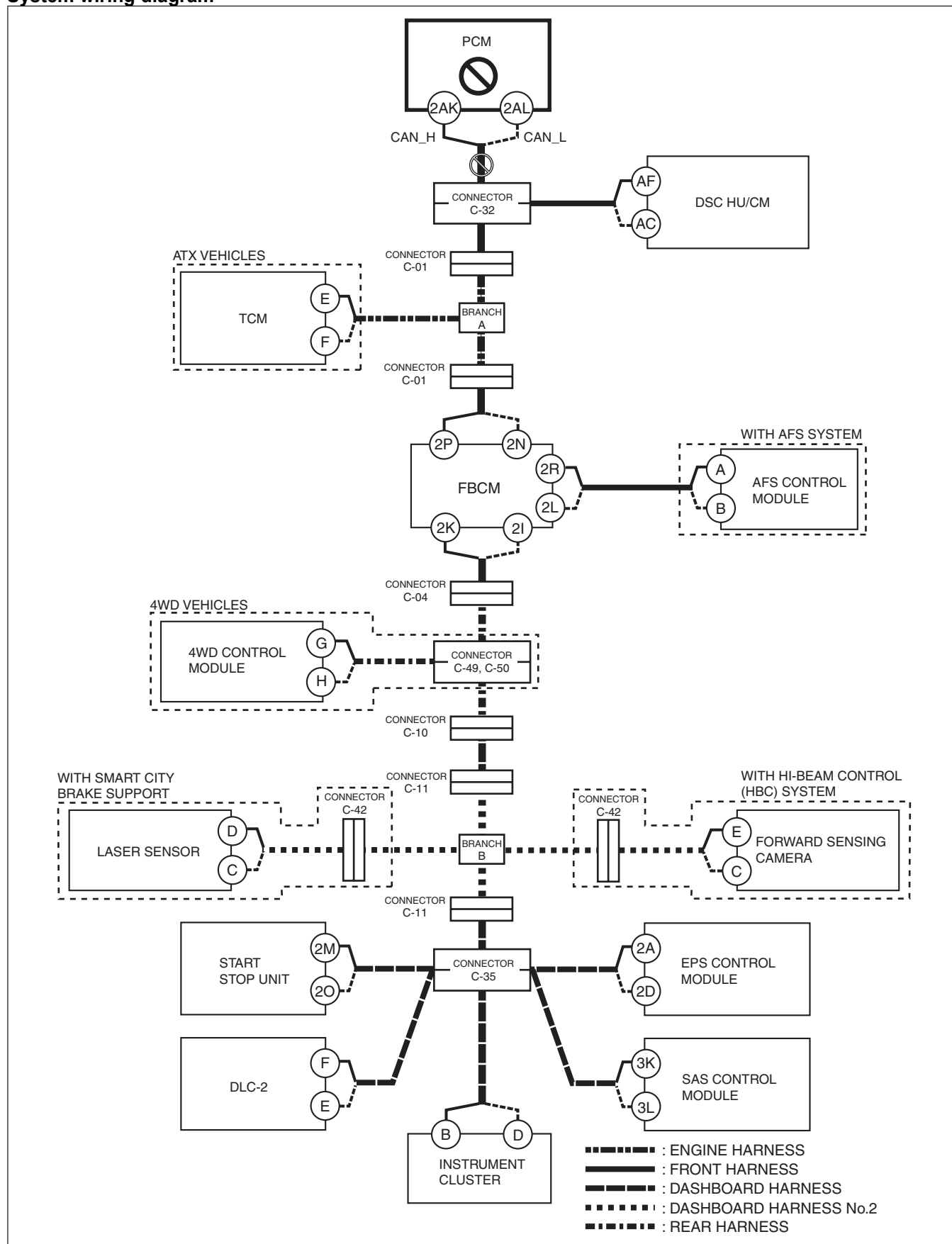
-
- *3 : 4WD vehicles
 - *4 : With smart city brake support
 - *5 : With hi-beam control (HBC) system
 - *6 : Without smart city brake support or steering angle sensor
 - *7 : With smart city brake support or steering angle sensor

A

Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between PCM and connector C-32
- Connector C-32 malfunction
- PCM malfunction

System wiring diagram



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Inspection item

- PCM connector

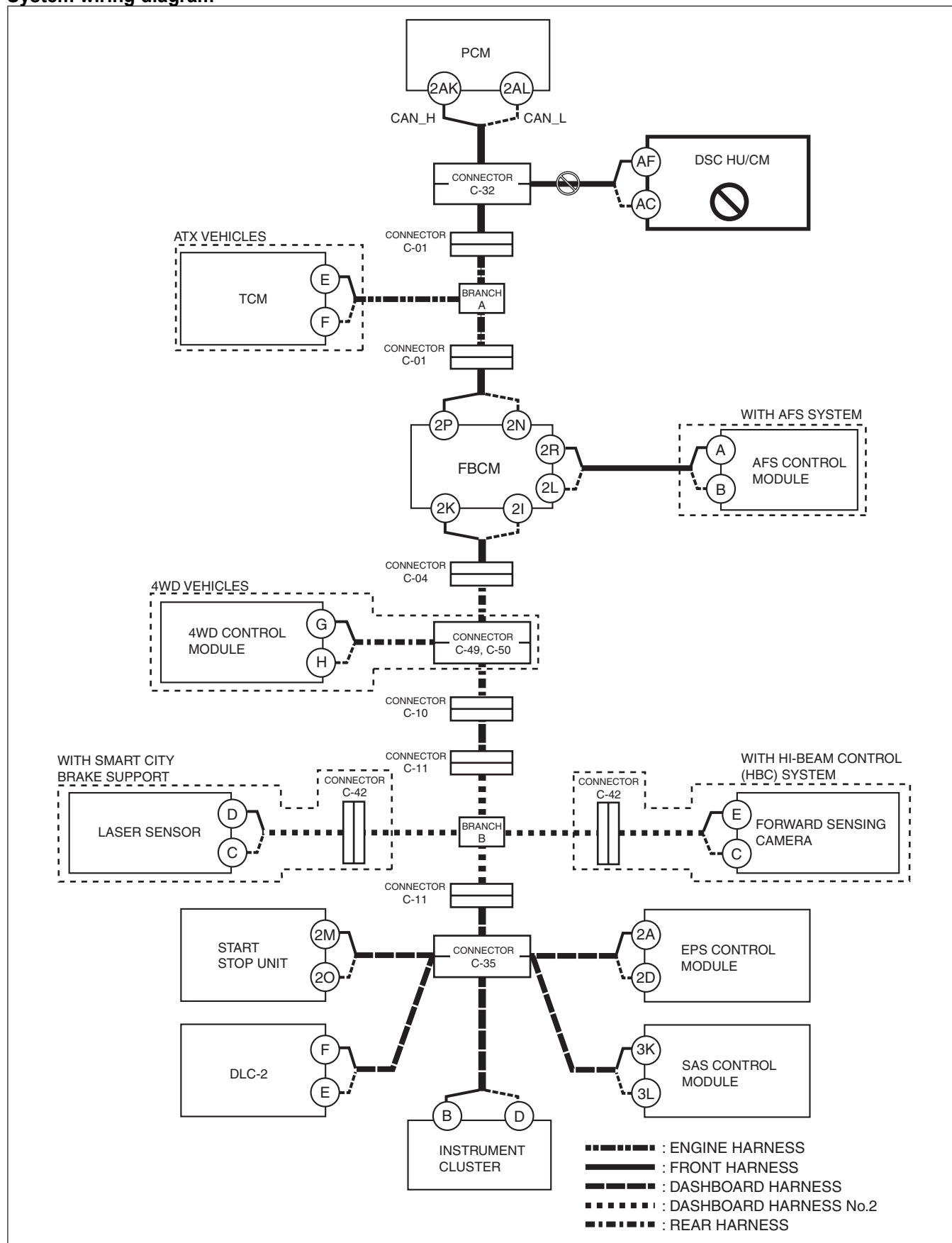
-
- Connector C-32
 - Wiring harness between PCM terminal 2AK and connector C-32
 - Wiring harness between PCM terminal 2AL and connector C-32
 - PCM

B

Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between DSC HU/CM and connector C-32
- Connector C-32 malfunction
- DSC HU/CM malfunction

System wiring diagram



ac5wzw00003536

Inspection item

- DSC HU/CM connector

-
- Connector C-32
 - Wiring harness between DSC HU/CM terminal AF and connector C-32
 - Wiring harness between DSC HU/CM terminal AC and connector C-32
 - DSC HU/CM

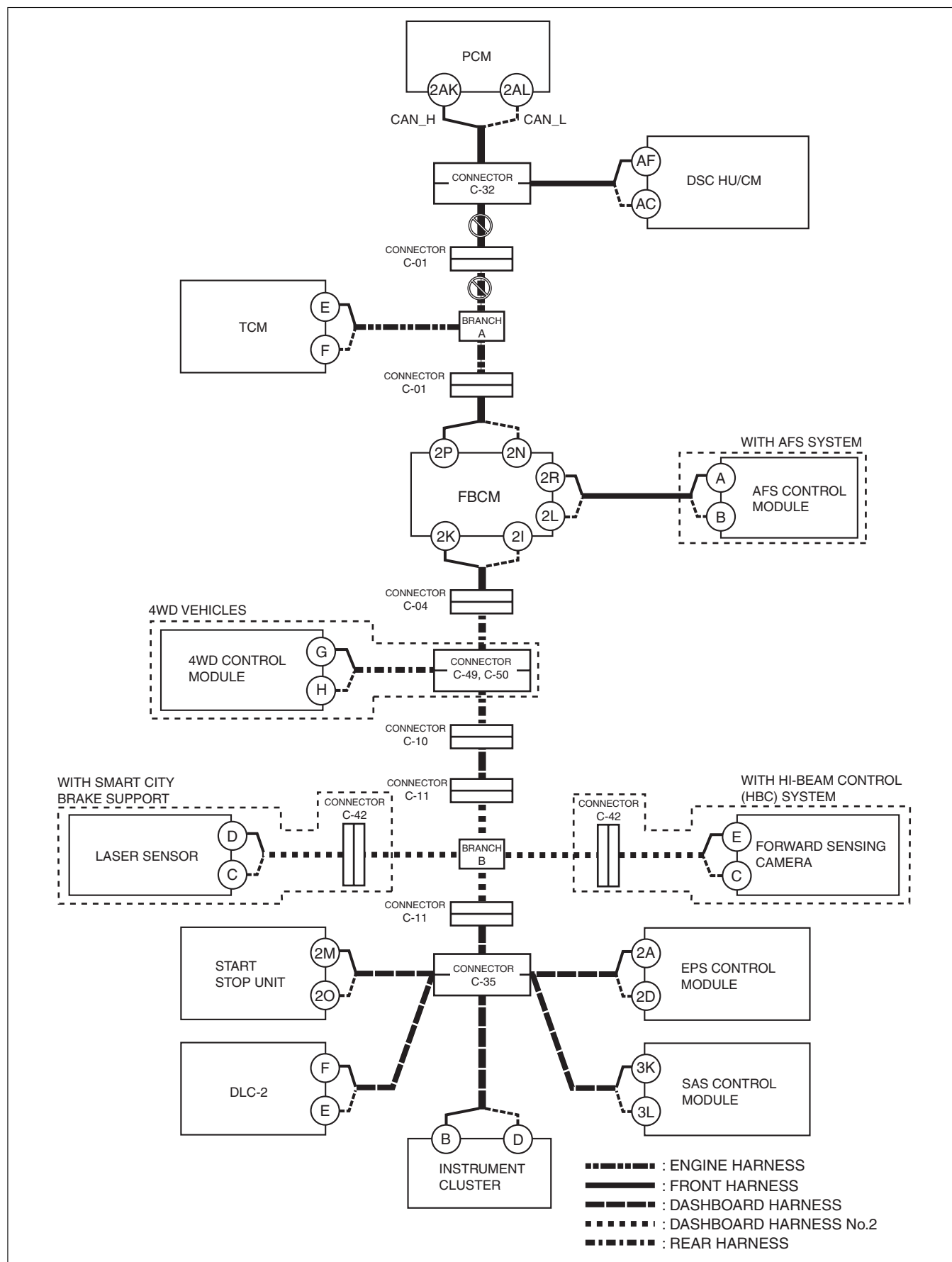
C

ATX vehicles

Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between connectors C-32 and C-01
- Open circuit in wiring harness between connector C-01 and branch A
- Connector C-32 malfunction
- Connector C-01 malfunction

System wiring diagram



ac5wzw00003537

Inspection item

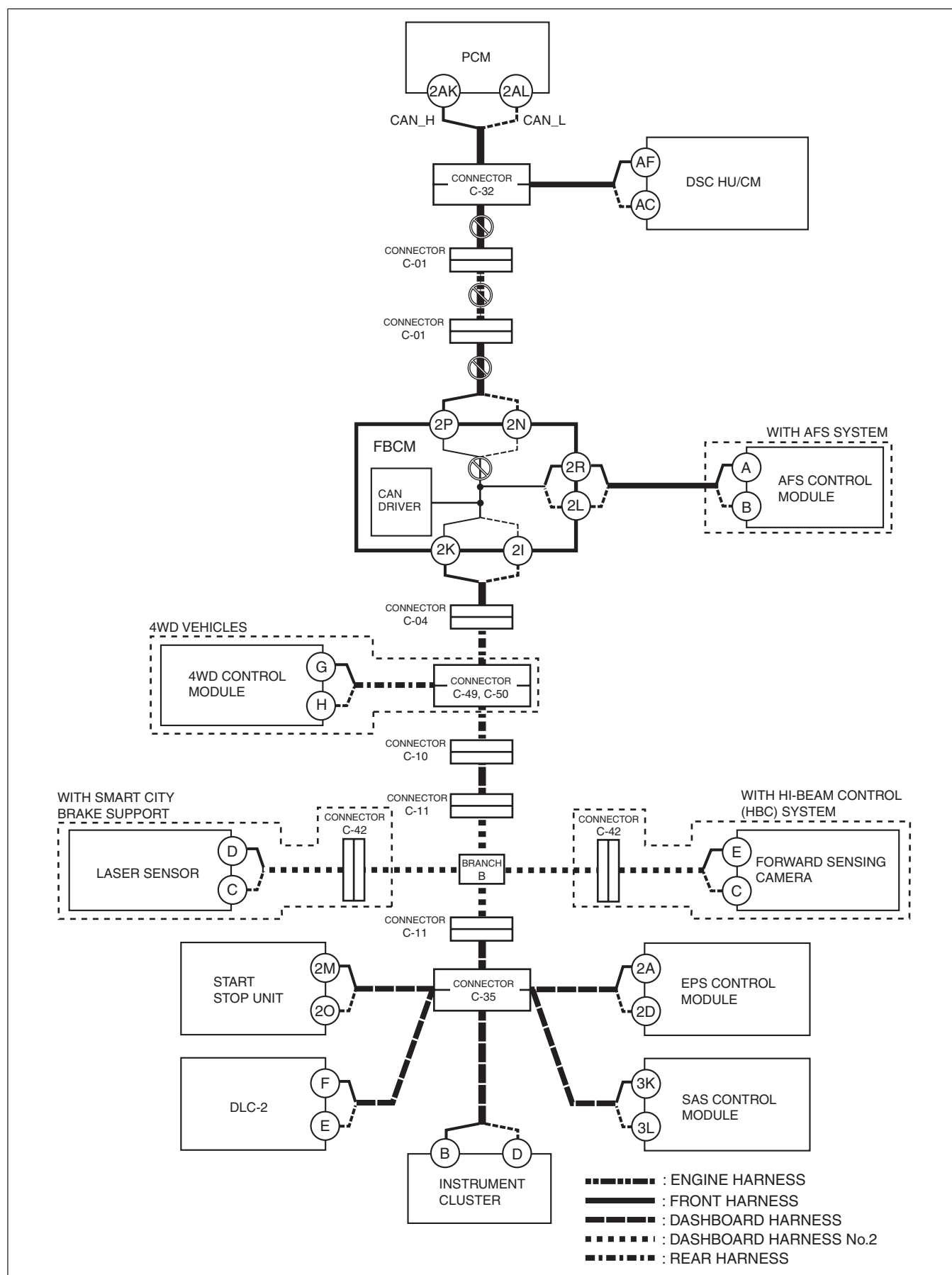
- Connector C-32

-
- Connector C-01
 - Wiring harness between connectors C-32 and C-01
 - Wiring harness between connector C-01 and branch A

MTX vehicles**Possible cause**

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between connectors C-32 and C-01
- Open circuit in wiring harness between connectors C-01 and C-01
- Open circuit in wiring harness between connector C-01 and front body control module (FBCM)
- CAN circuit in front body control module (FBCM) malfunction

System wiring diagram



ac5wzw00003538

Inspection item

- Front body control module (FBCM) connector

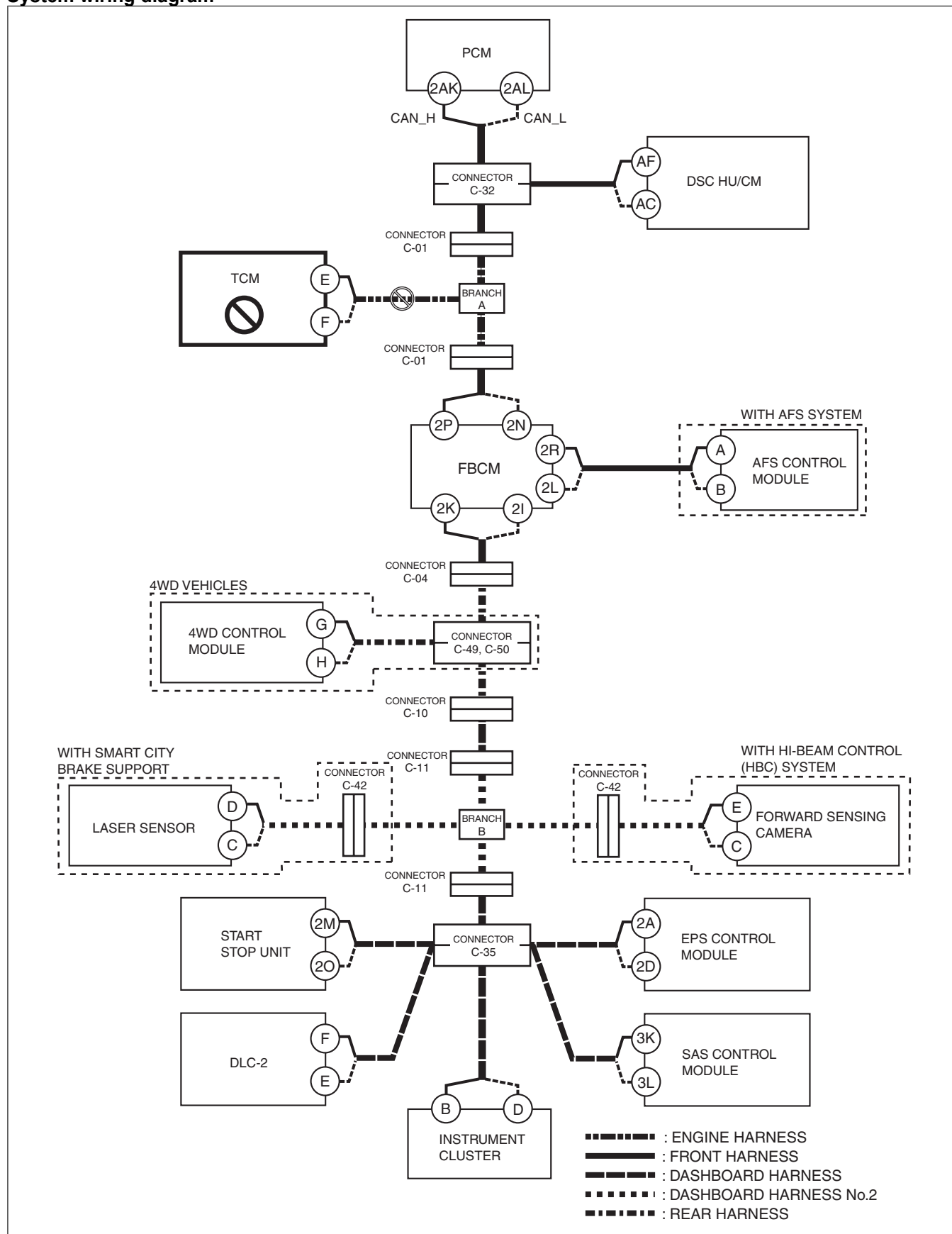
-
- Connector C-32
 - Connector C-01
 - Wiring harness between connectors C-32 and C-01
 - Wiring harness between connectors C-01 and C-01
 - Wiring harness between front body control module (FBCM) terminal 2P and connector C-01
 - Wiring harness between front body control module (FBCM) terminal 2N and connector C-01
 - Front body control module (FBCM)
 - Between front body control module (FBCM) terminal 2P and front body control module (FBCM) terminal 2K
 - Between front body control module (FBCM) terminal 2N and front body control module (FBCM) terminal 2I

D

Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between TCM and branch A
- TCM malfunction

System wiring diagram



ac5wzw00003539

Inspection item

- TCM connector

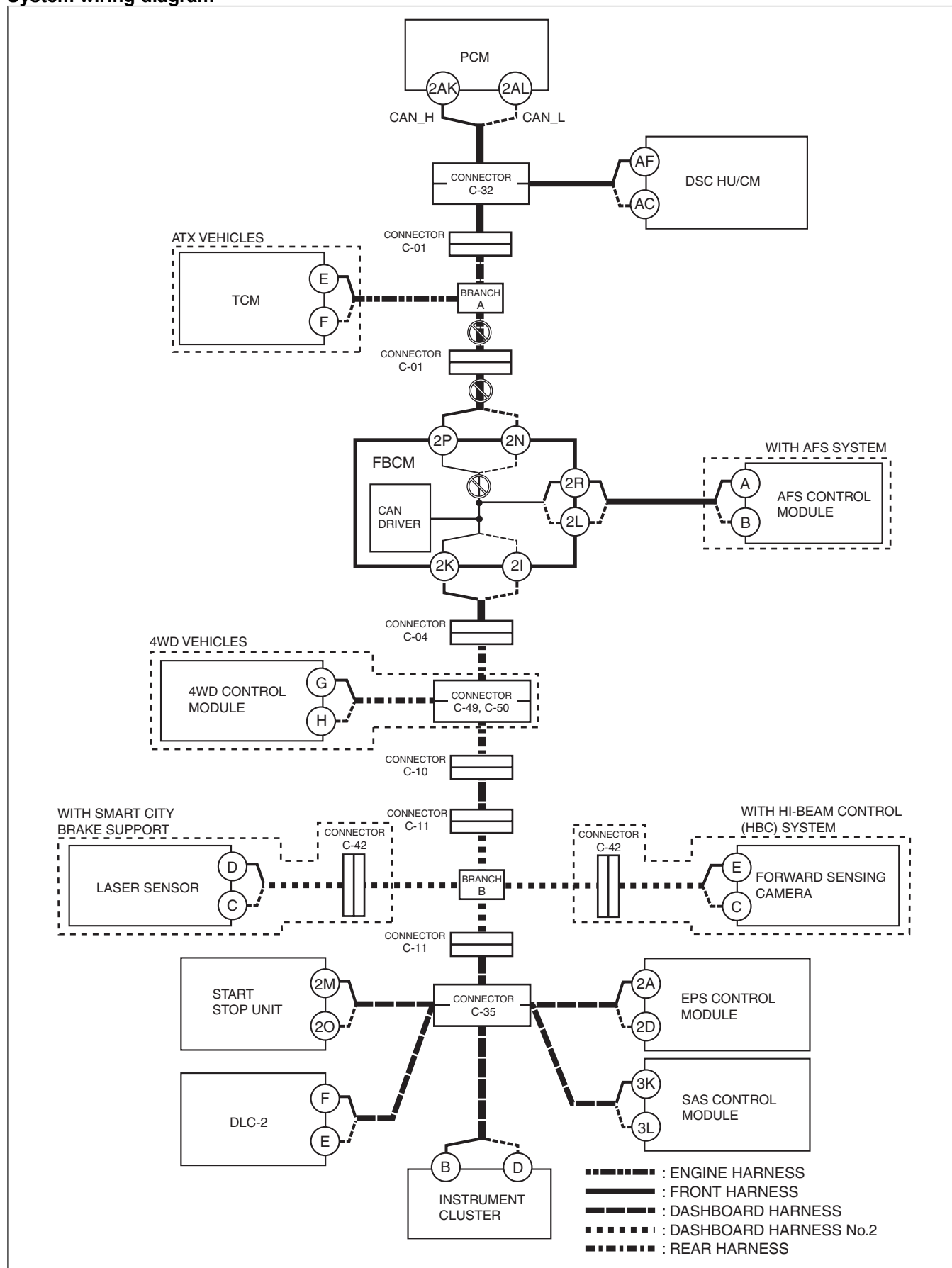
-
- Wiring harness between TCM terminal E and branch A
 - Wiring harness between TCM terminal F and branch A
 - TCM

E

Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between branch A and connector C-01
- Open circuit in wiring harness between connector C-01 and front body control module (FBCM)
- Connector C-01 malfunction
- CAN circuit in front body control module (FBCM) malfunction

System wiring diagram



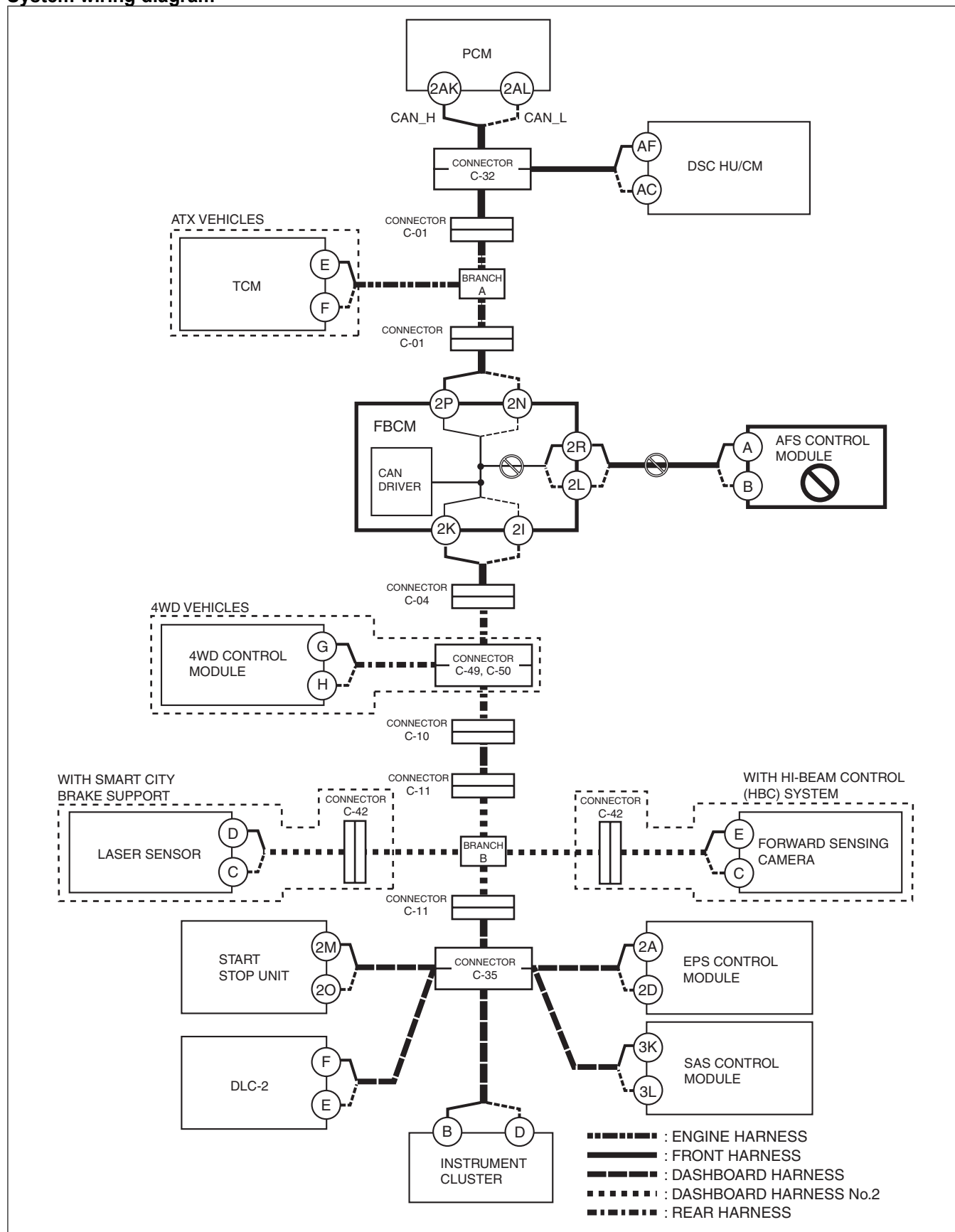
Inspection item

- Front body control module (FBCM) connector
- Connector C-01
- Wiring harness between branch A and connector C-01
- Wiring harness between front body control module (FBCM) terminal 2P and connector C-01
- Wiring harness between front body control module (FBCM) terminal 2N and connector C-01
- Front body control module (FBCM)
 - Between front body control module (FBCM) terminal 2P and front body control module (FBCM) terminal 2K
 - Between front body control module (FBCM) terminal 2N and front body control module (FBCM) terminal 2I

F**Possible cause**

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between AFS control module and front body control module (FBCM)
- CAN circuit in front body control module (FBCM) malfunction
- AFS control module malfunction

System wiring diagram



ac5wzw00003541

Inspection item

- Front body control module (FBCM) connector

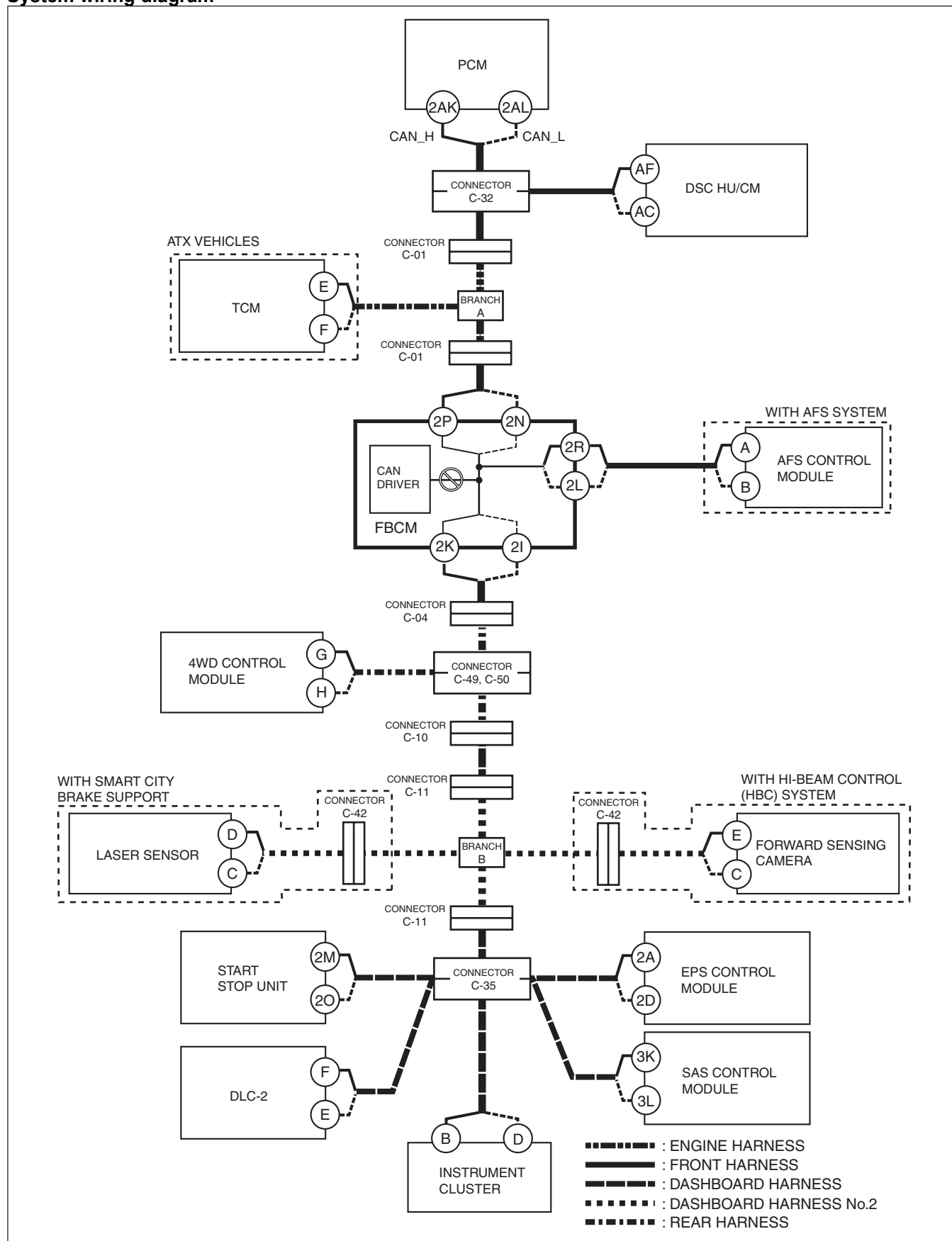
-
- AFS control module connector
 - Wiring harness between front body control module (FBCM) terminal 2R and AFS control module terminal A
 - Wiring harness between front body control module (FBCM) terminal 2L and AFS control module terminal B
 - Front body control module (FBCM)
 - Between front body control module (FBCM) terminal 2R and front body control module (FBCM) terminal 2K
 - Between front body control module (FBCM) terminal 2L and front body control module (FBCM) terminal 2I

G

Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Front body control module (FBCM) malfunction

System wiring diagram



ac5wzw00003542

Inspection item

- Front body control module (FBCM)

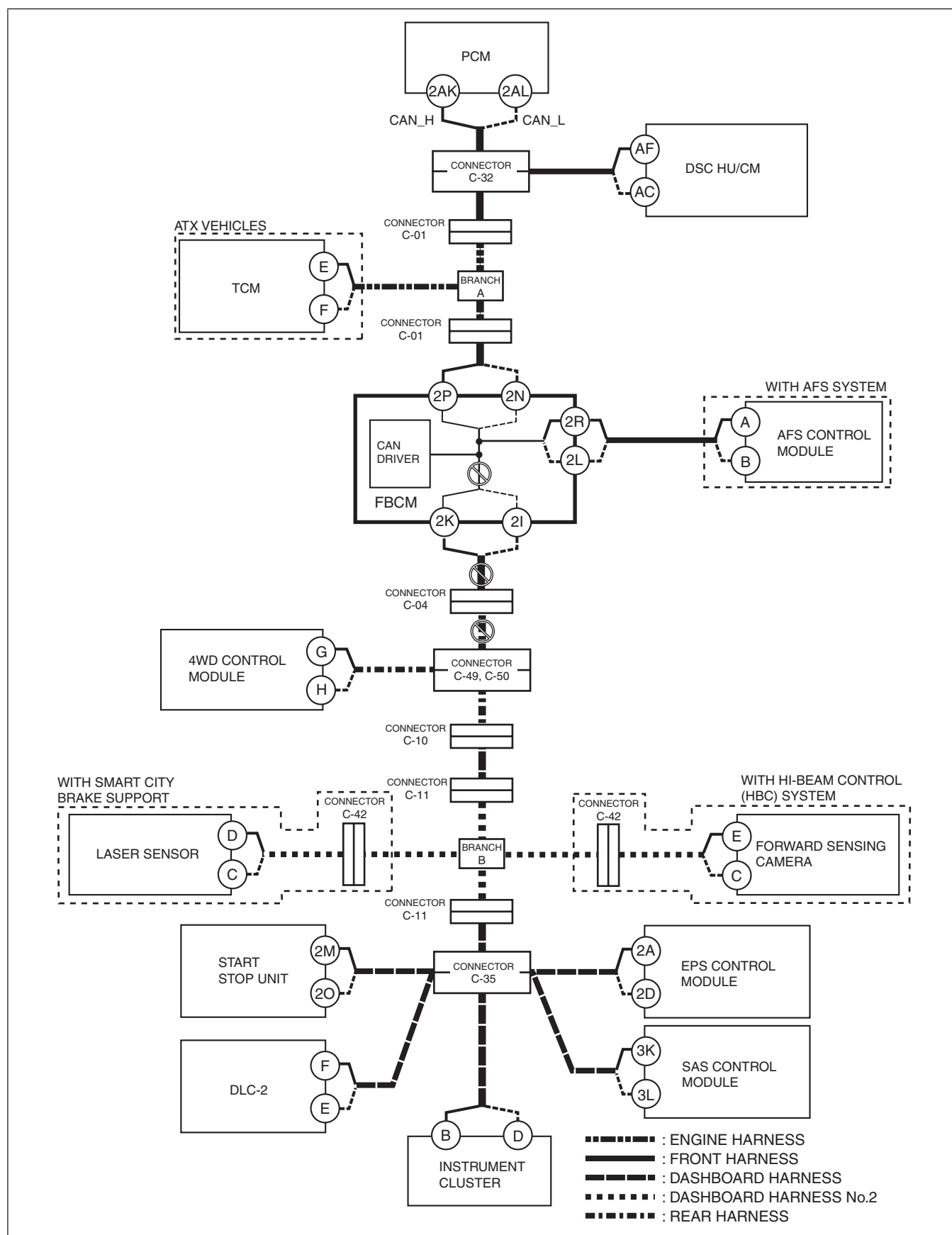
H

With 4WD

Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between front body control module (FBCM) and connector C-04
- Open circuit in wiring harness between connectors C-04 and C-49, C-50
- Connector C-04 malfunction
- Connectors C-49, C-50 malfunction
- CAN circuit in front body control module (FBCM) malfunction

System wiring diagram



ac5wzw00003543

Inspection item

- Front body control module (FBCM) connector
- Connector C-04
- Connectors C-49, C-50

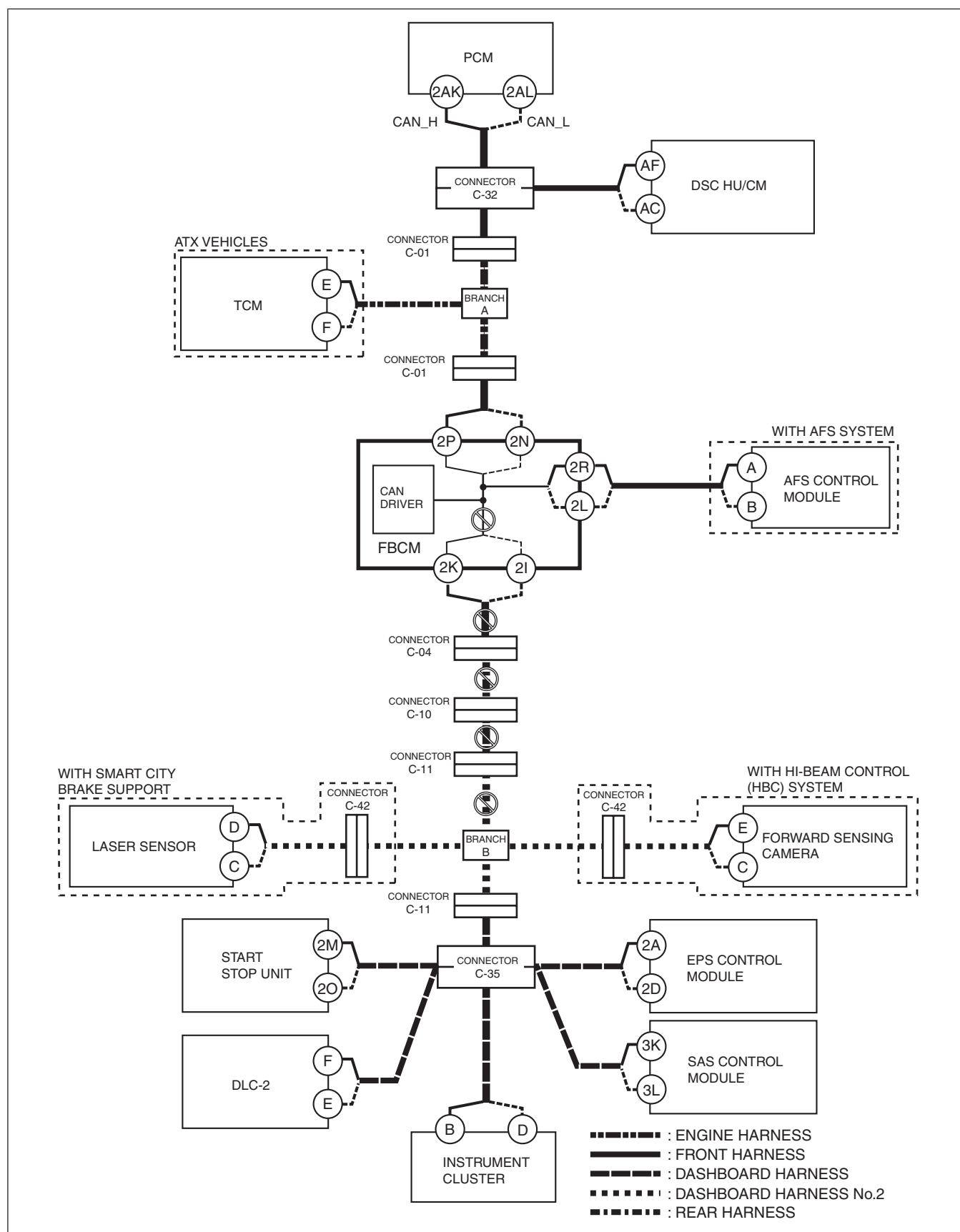
-
- Wiring harness between front body control module (FBCM) terminal 2K and connector C-04
 - Wiring harness between front body control module (FBCM) terminal 2I and connector C-04
 - Wiring harness between connectors C-04 and C-49, C-50
 - Front body control module (FBCM)
 - Between front body control module (FBCM) terminal 2P and front body control module (FBCM) terminal 2K
 - Between front body control module (FBCM) terminal 2N and front body control module (FBCM) terminal 2I

2WD vehicles

Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between front body control module (FBCM) and connector C-04
- Open circuit in wiring harness between connectors C-04 and C-10
- Open circuit in wiring harness between connectors C-10 and C-11
- Open circuit in wiring harness between connectors C-11 and branch B
- Connector C-04 malfunction
- Connector C-10 malfunction
- Connector C-11 malfunction
- CAN circuit in front body control module (FBCM) malfunction

System wiring diagram



ac5wzw00003544

Inspection item

- Front body control module (FBCM) connector
- Connector C-04
- Connector C-10

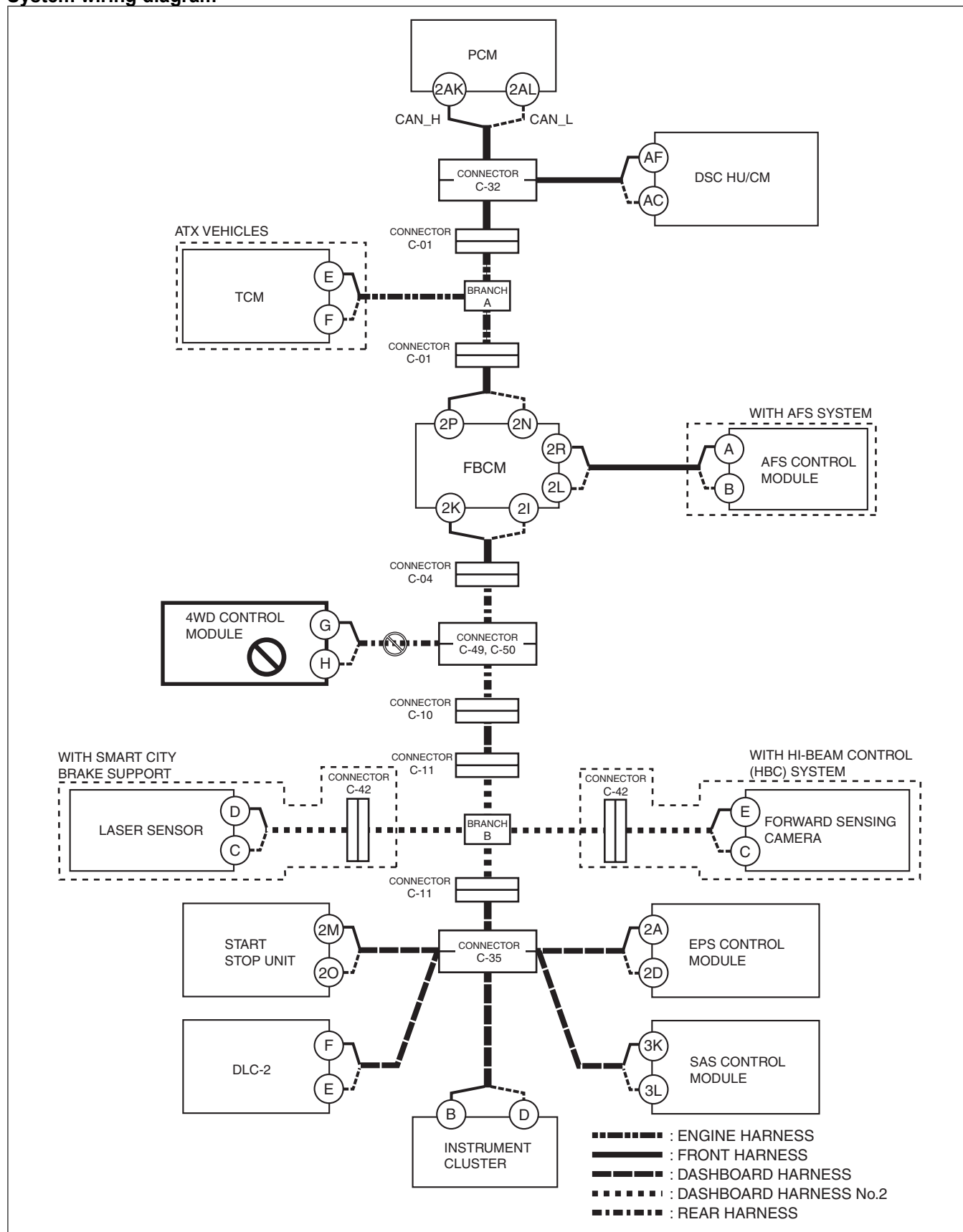
-
- Connector C-11
 - Wiring harness between front body control module (FBCM) terminal 2K and connector C-04
 - Wiring harness between front body control module (FBCM) terminal 2I and connector C-04
 - Wiring harness between connectors C-04 and C-10
 - Wiring harness between connectors C-10 and C-11
 - Wiring harness between connectors C-11 and branch B
 - Front body control module (FBCM)
 - Between front body control module (FBCM) terminal 2P and front body control module (FBCM) terminal 2K
 - Between front body control module (FBCM) terminal 2N and front body control module (FBCM) terminal 2I

I

Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between 4WD control module and connectors C-49, C-50
- Connector C-49, C-50 malfunction
- 4WD control module malfunction

System wiring diagram



ac5wzw00003545

Inspection item

- 4WD control module connector
- Connectors C-49, C-50

-
- Wiring harness between 4WD control module terminal G and connector C-49
 - Wiring harness between 4WD control module terminal H and connector C-50
 - 4WD control module

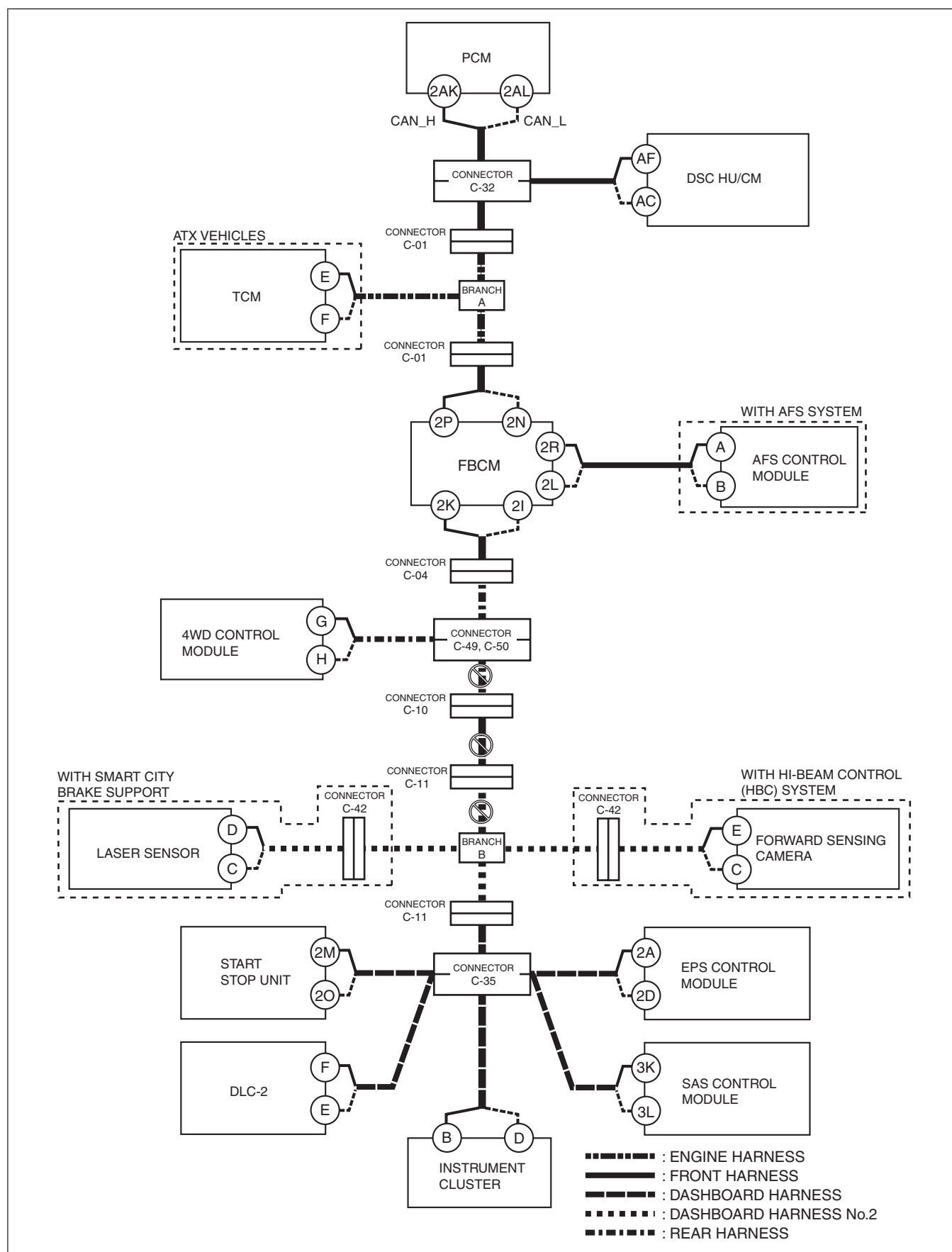
J

With smart city brake support or hi-beam control (HBC) system

Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between connector C-49, C-50 and connector C-10
- Open circuit in wiring harness between connector C-10 and connector C-11
- Open circuit in wiring harness between connector C-11 and branch B
- Connector C-49, C-50 malfunction
- Connector C-10 malfunction
- Connector C-11 malfunction

System wiring diagram



Inspection item

- Connector C-49, C-50
- Connector C-10

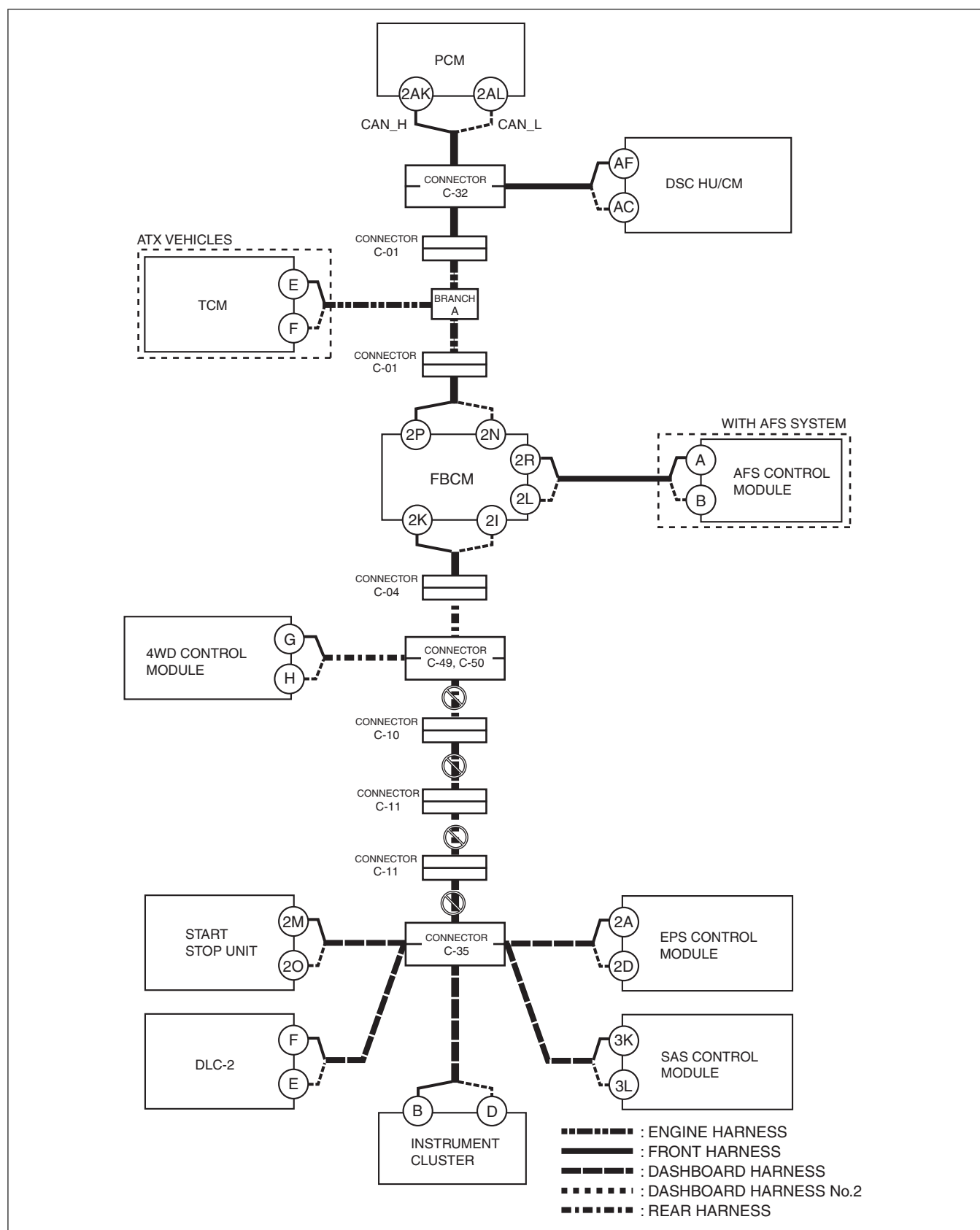
-
- Connector C-11
 - Wiring harness between connector C-49, C-50 and connector C-10
 - Wiring harness between connector C-10 and connector C-11
 - Wiring harness between connector C-11 and branch B

Without smart city brake support or hi-beam control (HBC) system

Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between connector C-49, C-50 and connector C-10
- Open circuit in wiring harness between connector C-10 and connector C-11
- Open circuit in wiring harness between connector C-11 and connector C-11
- Open circuit in wiring harness between connector C-11 and connector C-35
- Connector C-49, C-50 malfunction
- Connector C-10 malfunction
- Connector C-11 malfunction
- Connector C-35 malfunction

System wiring diagram



ac5wzw00003547

Inspection item

- Connector C-49, C-50
- Connector C-10
- Connector C-11
- Connector C-35
- Wiring harness between connector C-49, C-50 and connector C-10

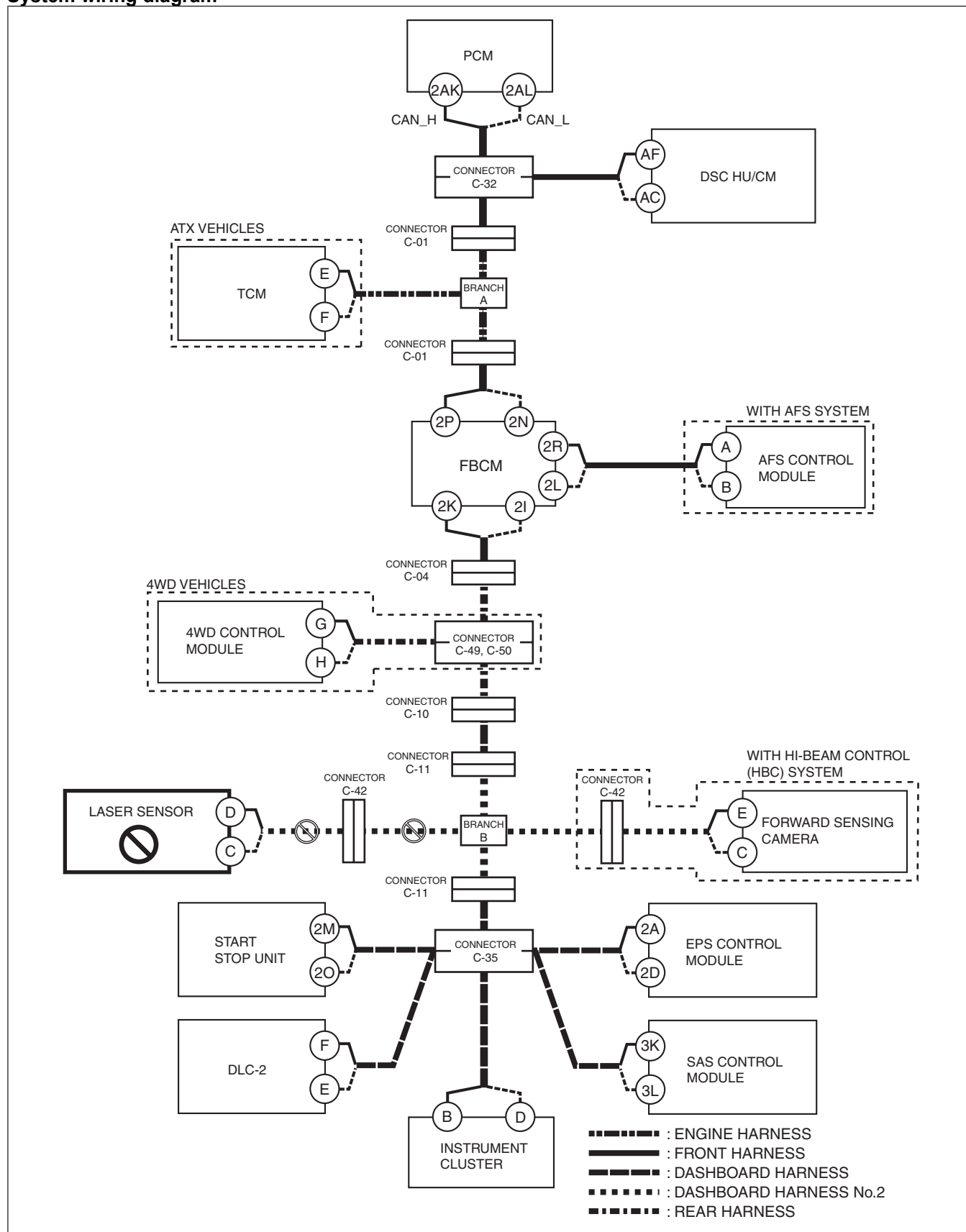
-
- Wiring harness between connector C-10 and connector C-11
 - Wiring harness between connector C-11 and connector C-11
 - Wiring harness between connector C-11 and connector C-35

K

Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between laser sensor and connector C-42
- Open circuit in wiring harness between connector C-42 and branch B
- Connector C-42 malfunction
- Laser sensor malfunction

System wiring diagram



ac5wzw00003548

Inspection item

- laser sensor connector
- Connector C-42

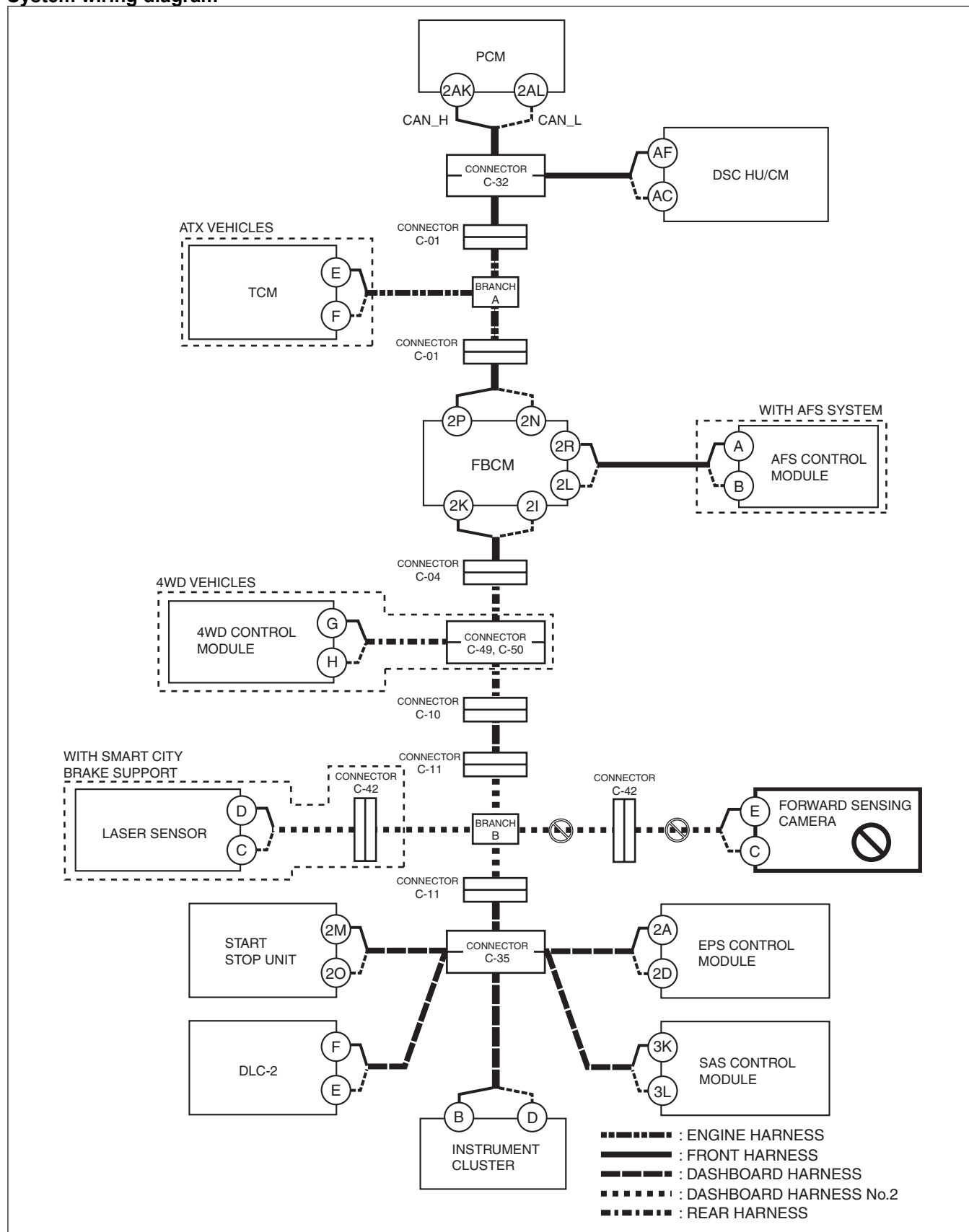
-
- Wiring harness between laser sensor terminal D and connector C-42
 - Wiring harness between laser sensor terminal C and connector C-42
 - Wiring harness between connector C-42 and branch B
 - Laser sensor

L

Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between forward sensing camera and connector C-42
- Open circuit in wiring harness between connector C-42 and branch B
- Connector C-42 malfunction
- Forward sensing camera malfunction

System wiring diagram



ac5wzw00003549

Inspection item

- Forward sensing camera connector
- Connector C-42

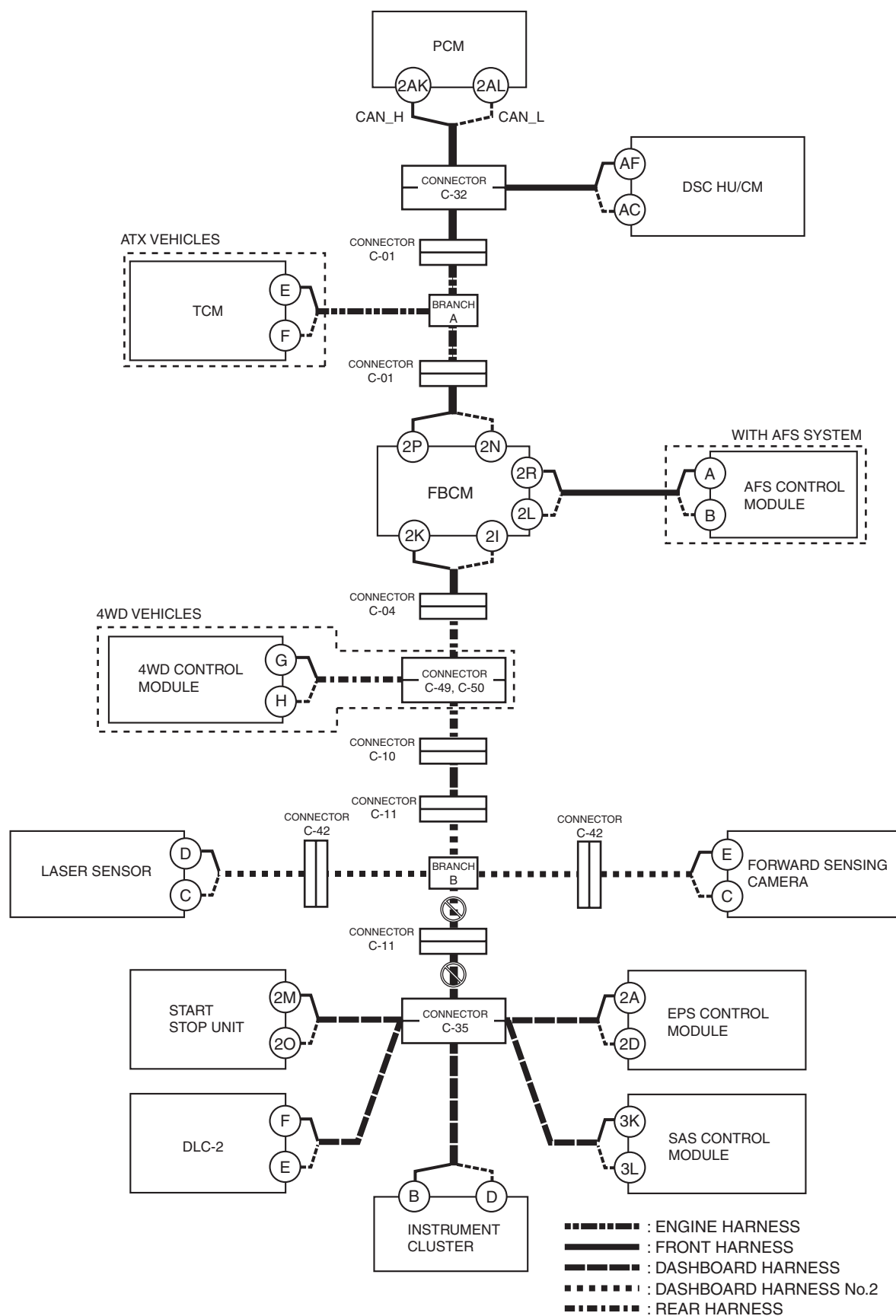
-
- Wiring harness between forward sensing camera terminal E and connector C-42
 - Wiring harness between forward sensing camera terminal C and connector C-42
 - Wiring harness between connector C-42 and branch B
 - Forward sensing camera

M

Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between branch B and connector C-11
- Open circuit in wiring harness between connectors C-11 and C-35
- Connector C-11 malfunction
- Connector C-35 malfunction

System wiring diagram



Inspection item

- Connector C-11
- Connector C-35
- Wiring harness between branch B and connector C-11
- Wiring harness between connectors C-11 and C-35

N**Possible cause**

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between start stop unit and connector C-35
- Connector C-35 malfunction
- Start stop unit malfunction

The diagram illustrates the front harness wiring for a vehicle, showing the following components and their connections:

- PCM (Powertrain Control Module):** Connected to the front harness via terminals 2AK and 2AL, labeled CAN_H and CAN_L.
- DSC HU/CM (Dynamic Stability Control Hydraulic Unit/Control Module):** Connected to the front harness via terminals AF and AC.
- ATX VEHICLES (ATX Vehicles):** A dashed box containing the TCM (Transmission Control Module) connected to terminals E and F.
- FBCM (Front Brake Control Module):** Connected to the front harness via terminals 2P, 2N, 2R, 2L, 2K, and 2I.
- WITH AFS SYSTEM (Active Front Steering System):** A dashed box containing the AFS CONTROL MODULE connected to terminals A and B.
- 4WD VEHICLES (4WD Vehicles):** A dashed box containing the 4WD CONTROL MODULE connected to terminals G and H.
- WITH SMART CITY BRAKE SUPPORT:** A dashed box containing the LASER SENSOR connected to terminals D and C.
- WITH HI-BEAM CONTROL (HBC) SYSTEM:** A dashed box containing the FORWARD SENSING CAMERA connected to terminals E and C.
- START STOP UNIT:** Connected to the front harness via terminals 2M and 2O.
- DLC-2 (Data Link Connector 2):** Connected to the front harness via terminals F and E.
- INSTRUMENT CLUSTER:** Connected to the front harness via terminals B and D.
- EPS CONTROL MODULE (Electric Power Steering Control Module):** Connected to the front harness via terminals 2A and 2D.
- SAS CONTROL MODULE (Steering Assist Control Module):** Connected to the front harness via terminals 3K and 3L.

Legend:

- : ENGINE HARNESS
- : FRONT HARNESS
- - - - : DASHBOARD HARNESS
- : DASHBOARD HARNESS No.2
- : REAR HARNESS

Inspection item

- Start stop unit connector

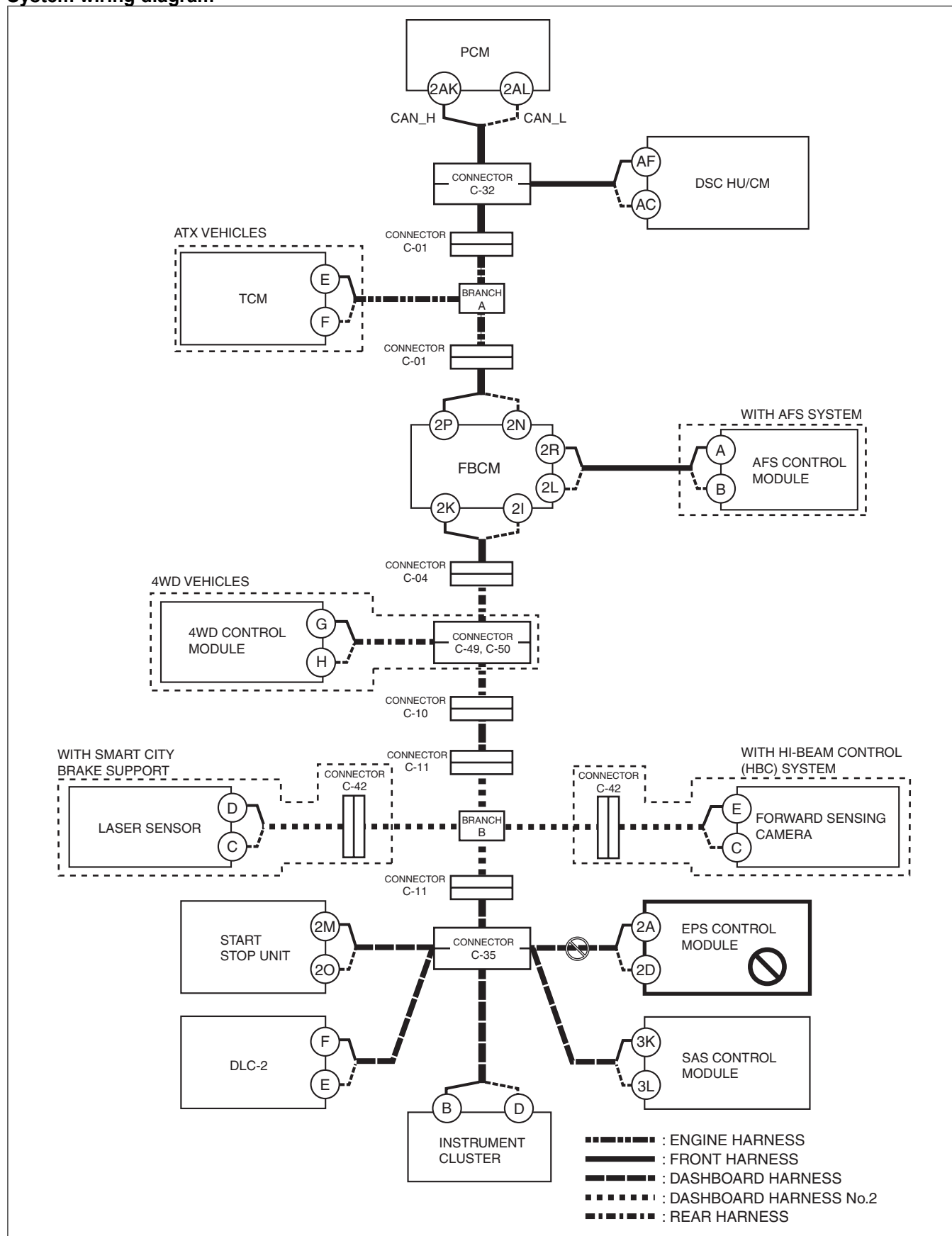
-
- Connector C-35
 - Wiring harness between start stop unit terminal 2M and connector C-35
 - Wiring harness between start stop unit terminal 2O and connector C-35
 - Start stop unit

O

Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between EPS control module and connector C-35
- Connector C-35 malfunction
- EPS control module malfunction

System wiring diagram



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Inspection item

- EPS control module connector

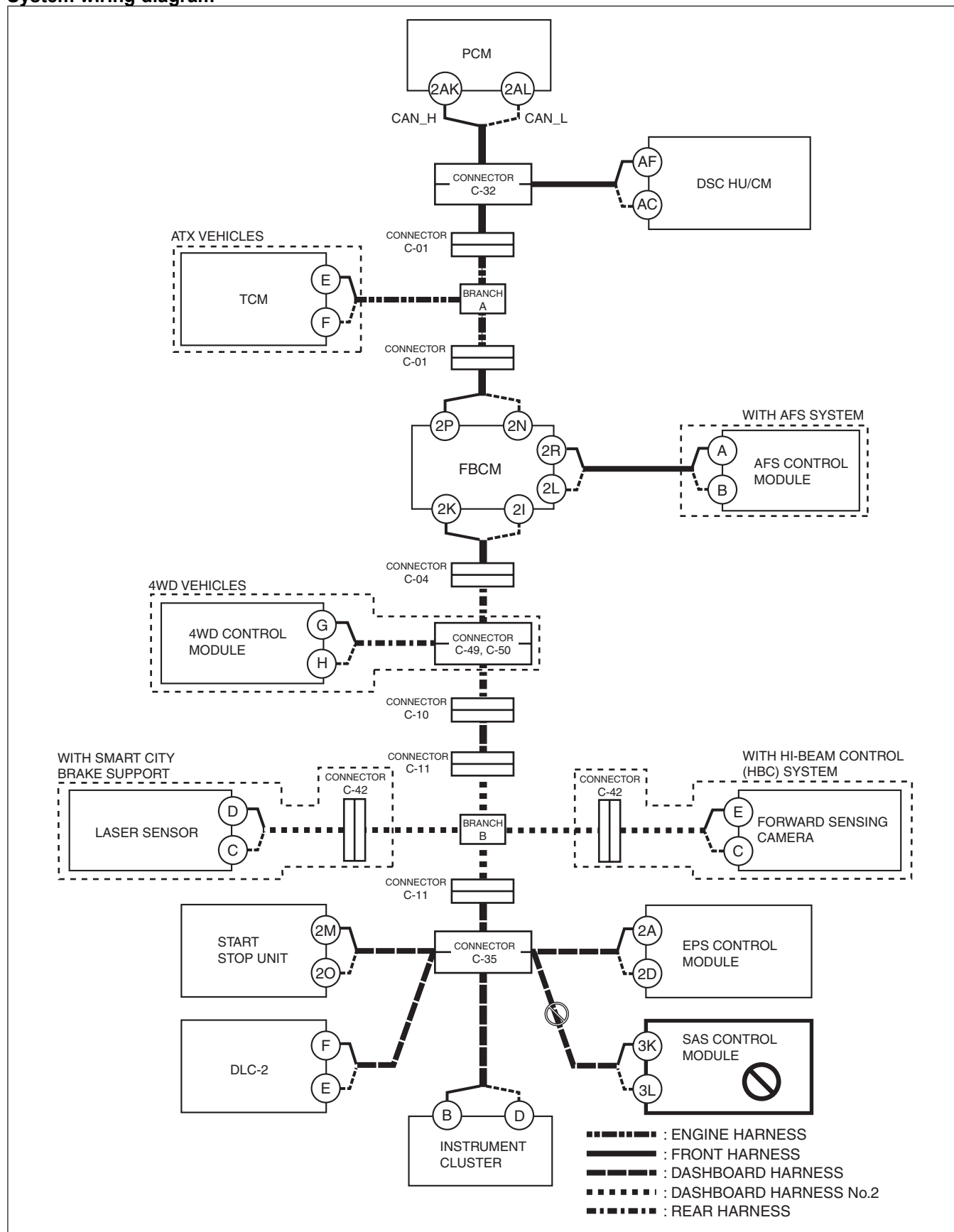
-
- Connector C-35
 - Wiring harness between EPS control module terminal 2A and connector C-35
 - Wiring harness between EPS control module terminal 2D and connector C-35
 - EPS control module

P

Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between SAS control module and connector C-35
- Connector C-35 malfunction
- SAS control module malfunction

System wiring diagram



Inspection item

Warning

- Handling the component parts of the SRS air bag system improperly can accidentally operate (deploy) the air bag module, which may seriously injure you. Read the service warnings and cautions before handling the air bag system components of the SRS air bag system.
(See AIR BAG SYSTEM SERVICE WARNINGS.)
(See AIR BAG SYSTEM SERVICE CAUTIONS.)

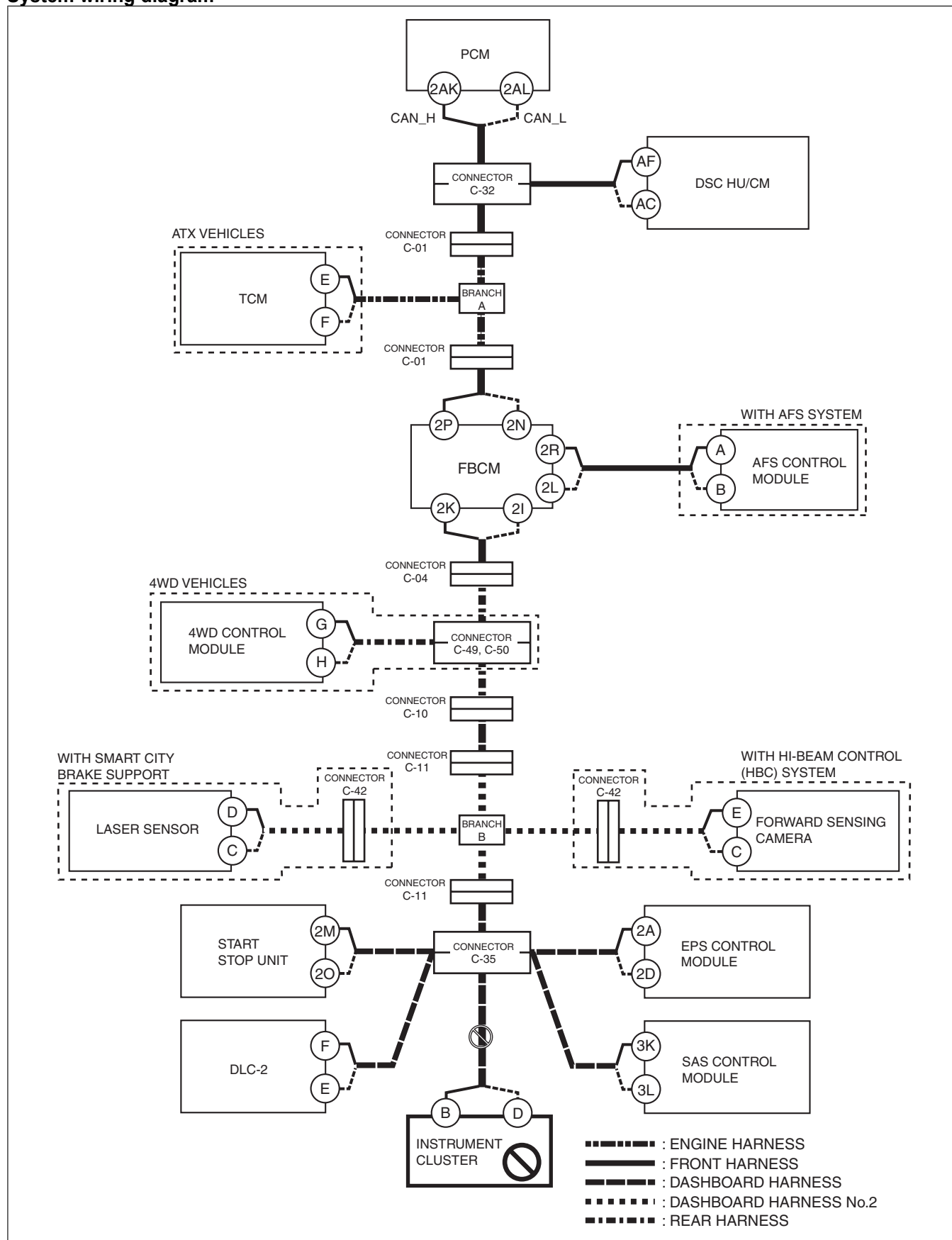
- SAS control module connector
- Connector C-35
- Wiring harness between SAS control module terminal 3K and connector C-35
- Wiring harness between SAS control module terminal 3L and connector C-35
- SAS control module

Q

Possible cause

- Connector terminal disconnection, poor contact, damage, deformation, corrosion
- Open circuit in wiring harness between instrument cluster and connector C-35
- Connector C-35 malfunction
- Instrument cluster malfunction

System wiring diagram



ac5wzw00003554

Inspection item

- Instrument cluster connector

-
- Connector C-35
 - Wiring harness between instrument cluster terminal B and connector C-35
 - Wiring harness between instrument cluster terminal D and connector C-35
 - Instrument cluster