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2005 FORD Focus ST 3 Doors OEM Service and Repair Workshop Manual

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DTC (diagnostic trouble code)	Description	Fault Trigger Condition
VDM (vehicle dynamics control module) U0100:87	Lost Communication With ECM/PCM 'A': Missing Message	This DTC (diagnostic trouble code) sets in continuous memory if any one of the following messages is missing: accelerator pedal position, driven wheel torque. This can be due to a PCM (powertrain control module) failure, a circuit failure on the FD-CAN (Flexible Data Rate Controller Area Network) or an excessive load on the network

Possible Sources

- Wiring, terminals or connectors
- Network communication concern
- Vehicle battery
- Charging system concern
- PCM (powertrain control module)

M1 CHECK THE COMMUNICATION NETWORK

- Ignition OFF.
- Using a diagnostic scan tool, carry out the Network Test.

Does the PCM (powertrain control module) pass the Network Test?

Yes	GO to M2

No	DIAGNOSE the PCM (powertrain control module) does not respond to the diagnostic scan tool. REFER to: Controller Area Network (CAN) Module Communications Network (418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing).

M2 CHECK THE VDM (VEHICLE DYNAMICS CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the VDM (vehicle dynamics control module) self-test.
- Clear the Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Open then Close drivers door.
- Wait 2 1/2 minutes.

M5 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

NOTE

If new modules were installed prior to the DTC (diagnostic trouble code) being set, the module configuration can be incorrectly set during the PMI (programmable module installation) or the PMI (programmable module installation) may not have been carried out.

- Check the vehicle service history for recent service actions related to the PCM (powertrain control module) or VDM (vehicle dynamics control module) . If recent service history is found:
  - verify the correct replacement module was installed.
    - HVBOM may be used to verify correct part fitment.
  - verify the configuration of replacement module was correct.
    - re-configure the module by reprogramming if prior configuration is suspect.
  - verify the module was not obtained from a like vehicle and installed into customer vehicle.
    - return the swapped module to source vehicle and obtain new replacement module.
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to M6

No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

M6 VERIFY ALL WIRING CONNECTIONS

- Ignition OFF.
- Disconnect all PCM (powertrain control module) connectors.
- Using a good light source, inspect all disconnected electrical connectors for the following:
  - corrosion - install new connector or terminal and clean the module pins
  - damaged or bent pins - install new terminals or pins
  - pushed-out pins - install new pins as necessary
  - spread terminals - install new terminals as necessary

Are the connectors free of corrosion, damaged pins, bent pins, pushed-out pins and spread terminals?

to display a dynamic suspension system warning message.REFER to: Vehicle Dynamic Suspension (204-05 Vehicle Dynamic Suspension) .

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
VDM (vehicle dynamics control module) U0121:08	Lost Communication With Anti-Lock Brake System (ABS) Control Module 'A': Bus Signal/Message Failures	This DTC (diagnostic trouble code) sets in continuous memory if any one of the following messages is missing: SDM mode request. This can be due to a ABS (anti-lock brake system) module failure, a circuit failure on the FD-CAN (Flexible Data Rate Controller Area Network) module or an excessive load on the network.

Possible Sources

- Wiring, terminals or connectors
- Network communication concern
- Vehicle battery
- Charging system concern
- ABS (anti-lock brake system)

N1 CHECK THE COMMUNICATION NETWORK

- Ignition ON.
- Using a diagnostic scan tool, carry out the Network Test.

Does the ABS (anti-lock brake system) module pass the Network Test?

Yes	GO to N2

No	DIAGNOSE the ABS (anti-lock brake system) module does not respond to the diagnostic scan tool. REFER to: Controller Area Network (CAN) Module Communications Network (418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing).

N2 CHECK THE VDM (VEHICLE DYNAMICS CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the VDM (vehicle dynamics control module) self-test.

	(206-09 Anti-Lock Brake System (ABS) and Stability Control, Diagnosis and Testing).

No	GO to N5

N5 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

NOTE

If new modules were installed prior to the DTC (diagnostic trouble code) being set, the module configuration can be incorrectly set during the PMI (programmable module installation) or the PMI (programmable module installation) may not have been carried out.

- Check the vehicle service history for recent service actions related to the ABS (anti-lock brake system) module or VDM (vehicle dynamics control module) . If recent service history is found:
  - verify the correct replacement module was installed.
    - HVBOM may be used to verify correct part fitment.
  - verify the configuration of replacement module was correct.
    - re-configure the module by reprogramming if prior configuration is suspect.
  - verify the module was not obtained from a like vehicle and installed into customer vehicle.
    - return the swapped module to source vehicle and obtain new replacement module.
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to N6

No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

N6 VERIFY ALL WIRING CONNECTIONS

- Ignition OFF.
- Disconnect all ABS (anti-lock brake system) connectors.
- Using a good light source, inspect all disconnected electrical connectors for the following:
  - corrosion - install new connector or terminal and clean the module pins

over the FD-CAN (Flexible Data Rate Controller Area Network)
. If the VDM (vehicle dynamics control module)
does not receive these messages within a 5 second time frame, the module sets Diagnostic Trouble Codes (DTCs). After setting the DTC (diagnostic trouble code)
the VDM (vehicle dynamics control module)
deactivates the dynamic suspension system but will not cause the IPC (instrument panel cluster)
to display a dynamic suspension system warning message. REFER to: Vehicle Dynamic Suspension (204-05 Vehicle Dynamic Suspension) .

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
VDM (vehicle dynamics control module) U0121:87	Lost Communication With Anti-Lock Brake System (ABS) Control Module 'A': Missing Message	This DTC (diagnostic trouble code) sets in continuous memory if any one of the following messages is missing: ABS (anti-lock brake system) active, brake torque request, stability control, stability control event in progress, stability control indicator request, traction control, vehicle lateral acceleration, vehicle longitudinal acceleration, vehicle vertical acceleration, vehicle roll rate, vehicle yaw rate, vehicle yaw stability index or vehicle vertical acceleration. This can be due to a ABS (anti-lock brake system) module failure, a circuit failure on the FD-CAN (Flexible Data Rate Controller Area Network) module or an excessive load on the network.

Possible Sources

- Wiring, terminals or connectors
- Network communication concern
- Vehicle battery
- Charging system concern
- ABS (anti-lock brake system)

O1 CHECK THE COMMUNICATION NETWORK

- Ignition ON.
- Using a diagnostic scan tool, carry out the Network Test.

Does the ABS (anti-lock brake system) module pass the Network Test?

Yes	GO to O2

No	GO to O4

O4 CHECK FOR DIAGNOSTIC TROUBLE CODES (DTCS) IN THE ABS (ANTI-LOCK BRAKE SYSTEM) MODULE

- Using a diagnostic scan tool, carry out the ABS (anti-lock brake system) module self-test.

Is DTC (diagnostic trouble code) U3003:16 or U3003:17 present in the ABS (anti-lock brake system) module?

Yes	DIAGNOSE the ABS (anti-lock brake system) module Diagnostic Trouble Codes (DTCs). REFER to: Anti-Lock Brake System (ABS) and Stability Control (206-09 Anti-Lock Brake System (ABS) and Stability Control, Diagnosis and Testing).

No	GO to O5

O5 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

NOTE

If new modules were installed prior to the DTC (diagnostic trouble code) being set, the module configuration can be incorrectly set during the PMI (programmable module installation) or the PMI (programmable module installation) may not have been carried out.

- Check the vehicle service history for recent service actions related to the ABS (anti-lock brake system) module or VDM (vehicle dynamics control module) . If recent service history is found:
  - verify the correct replacement module was installed.
    - HVBOM may be used to verify correct part fitment.
  - verify the configuration of replacement module was correct.
    - re-configure the module by reprogramming if prior configuration is suspect.
  - verify the module was not obtained from a like vehicle and installed into customer vehicle.
    - return the swapped module to source vehicle and obtain new replacement module.
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to O6

No	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

PINPOINT TEST P : U0131:87

Refer to Wiring Diagrams Cell 43for schematic and connector information.

Normal Operation and Fault Conditions

With the ignition ON, the EPAS (electronic power assist steering) sends messages to the VDM (vehicle dynamics control module) over the FD-CAN (Flexible Data Rate Controller Area Network) . If the VDM (vehicle dynamics control module) does not receive these messages within a 5 second time frame, the module sets Diagnostic Trouble Codes (DTCs). After setting the DTC (diagnostic trouble code) the VDM (vehicle dynamics control module) deactivates the dynamic suspension system resulting in a firm suspension feel but will not cause the IPC (instrument panel cluster) to display a dynamic suspension system warning message. REFER to: Vehicle Dynamic Suspension (204-05 Vehicle Dynamic Suspension) .

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
VDM (vehicle dynamics control module) U0131:87	Lost Communication With Power Steering Control Module 'A': Missing Message	This DTC (diagnostic trouble code) sets in continuous memory if any one of the following messages is missing: Steering wheel angle. This can be due to an EPAS (electronic power assist steering) module failure, a circuit failure on the FD-CAN (Flexible Data Rate Controller Area Network) or an excessive load on the network.

Possible Sources

- Fuse(s)
- Wiring, terminals or connectors
- PSCM (power steering control module)

P1 CHECK THE COMMUNICATION NETWORK

Is DTC (diagnostic trouble code) U3003:16 or U3003:17 present in the PSCM (power steering control module) ?

Yes	If DTC (diagnostic trouble code) U3003:16 is present, GO to Pinpoint Test A If DTC (diagnostic trouble code) U3003:17 is present, GO to Pinpoint Test B
No	GO to P4

P4 CHECK FOR DIAGNOSTIC TROUBLE CODES (DTCS) IN THE PSCM (POWER STEERING CONTROL MODULE)

- Using a diagnostic scan tool, carry out the PSCM (power steering control module) self-test.

Are any Diagnostic Trouble Codes (DTCs) present in the PSCM (power steering control module) ?

Yes	DIAGNOSE the PSCM (power steering control module) Diagnostic Trouble Codes (DTCs).  Guided Routine available in the on-line Workshop Manual.
No	GO to P5

P5 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

NOTE

If new modules were installed prior to the DTC (diagnostic trouble code) being set, the module configuration can be incorrectly set during the PMI (programmable module installation) or the PMI (programmable module installation) may not have been carried out.

- Check the vehicle service history for recent service actions related to the PSCM (power steering control module) or VDM (vehicle dynamics control module) . If recent service history is found:
  - verify the correct replacement module was installed.
    - HVBOM may be used to verify correct part fitment.

Yes	CHECK OASIS (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or FSA (Field Service Action) . If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles exist for this concern, INSTALL a new PSCM (power steering control module) module. REFER to: Steering Gear (211-02 Power Steering, Removal and Installation).
No	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

PINPOINT TEST Q : U0121:08

Refer to Wiring Diagrams Cell 42for schematic and connector information.

Normal Operation and Fault Conditions

With the ignition ON, the ABS (anti-lock brake system) module sends messages to the VDM (vehicle dynamics control module) over the FD-CAN (Flexible Data Rate Controller Area Network) . If the VDM (vehicle dynamics control module) does not receive these messages within a 5 second time frame, the module sets Diagnostic Trouble Codes (DTCs). After setting the DTC (diagnostic trouble code) the VDM (vehicle dynamics control module) will NOT deactivate the dynamic suspension system or cause the IPC (instrument panel cluster) to display a dynamic suspension system warning message.REFER to: Vehicle Dynamic Suspension (204-05 Vehicle Dynamic Suspension) .

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
VDM (vehicle dynamics control module) U0121:08	Lost Communication With Anti-Lock Brake System (ABS) Control Module 'A': Bus Signal/Message Failures	This DTC (diagnostic trouble code) sets in continuous memory if any one of the following messages is missing: SDM mode request. This can be due to a ABS (anti-lock brake system) module failure, a circuit failure on the FD-