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2008 FORD Focus ST 3 Doors OEM Service and Repair Workshop Manual

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		detects a short to ground on one or both of the damper solenoid circuits for longer than 200 milliseconds.
VDM (vehicle dynamics control module) C110C:12	Left Front Damper Solenoid: Circuit Short To Battery	This DTC (diagnostic trouble code) sets in continuous memory when the VDM (vehicle dynamics control module) detects a short to battery voltage on one or both of the damper solenoid circuits for longer than 200 milliseconds.
VDM (vehicle dynamics control module) C110C:13	Left Front Damper Solenoid: Circuit Open	This DTC (diagnostic trouble code) sets in continuous memory when the VDM (vehicle dynamics control module) detects an open circuit on one or both of the damper solenoid circuits for longer than 200 milliseconds.
VDM (vehicle dynamics control module) C110C:64	Left Front Damper Solenoid: Signal Plausibility Failure	This DTC (diagnostic trouble code) sets in continuous memory when the VDM (vehicle dynamics control module) detects an error set due to current matching and initial test being triggered 10 times in 1 minute.
VDM (vehicle dynamics control module) P0608:11	Control Module VSS Output 'A': Circuit Short To Ground	This DTC (diagnostic trouble code) sets in continuous memory when the VDM (vehicle dynamics control module) detects a short to ground on one or both of the damper solenoid for longer than 200 milliseconds.
VDM (vehicle dynamics control module) P0608:12	Control Module VSS Output 'A': Circuit Short To Battery	This DTC (diagnostic trouble code) sets in continuous memory when the VDM (vehicle dynamics control module) detects a short to battery voltage on one or both of the damper solenoid for longer than 200 milliseconds.
VDM (vehicle dynamics control module) P0608:13	Control Module VSS Output 'A': Circuit Open	This DTC (diagnostic trouble code) sets in continuous memory when the VDM (vehicle dynamics control module) detects an open circuit on one or both of the damper solenoid for longer than 200 milliseconds.

Possible Sources

- Wiring, terminals or connectors
- Shock (valve solenoid is serviced as an assembly with the shock) for base F-150
- Shock (valve solenoid is serviced separately as part of repair kits) for Raptor
- VDM (vehicle dynamics control module)

Visual Inspection and Pre-checks

- Make sure the valve solenoid harness is routed correctly and is undamaged.

No	REPAIR the affected circuit.

D3 CHECK THE LH (LEFT-HAND) FRONT DAMPER SOLENOID CIRCUITS FOR A SHORT TO BATTERY

- Ignition OFF.
- Disconnect VDM (vehicle dynamics control module) C4396 .
- Disconnect LH (left-hand) front damper solenoid C1668 .
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C4396-A1	$\overline{\overline{V}}$	Ground
C4396-B1	$\overline{\overline{V}}$	Ground

Is any voltage present?

Yes	REPAIR the affected circuit.

No	GO to D4

D4 CHECK THE LH (LEFT-HAND) FRONT DAMPER SOLENOID CIRCUITS FOR AN OPEN

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C4396-A1	Ω	C1668-1

C1668-1 **component side**	Ω	C1668-2 **component side**

Is the resistance between 2.8 and 4.5 ohms?

Yes	GO to D7

No	INSTALL a new LH (left-hand) front damper. REFER to: Shock Absorber Solenoid - Raptor (204-01B Front Suspension - LHD 4WD, Removal and Installation). REFER to: Shock Absorber and Spring Assembly - Vehicles With: Dynamic Suspension (204-01B Front Suspension - LHD 4WD, Removal and Installation).

D7 VERIFY ALL WIRING CONNECTIONS

- Disconnect VDM (vehicle dynamics control module) C4396 (if not previously disconnected).
- Disconnect damper solenoid valve electrical connector C1668 (if not previously disconnected).
- 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?

Yes	GO to D8

No	REPAIR the connector or terminals. Refer to Wiring Diagrams Cell 5for schematic and connector information.

D8 CHECK FOR CORRECT VDM (VEHICLE DYNAMICS CONTROL MODULE) OPERATION

- Connect damper solenoid valve electrical connector C1668 . Make sure it seats and latches correctly.
- Connect VDM (vehicle dynamics control module) C4396. Make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

VDM (vehicle dynamics control module) C110D:11	Right Front Damper Solenoid: Circuit Short To Ground	This DTC (diagnostic trouble code) sets in continuous memory when the VDM (vehicle dynamics control module) detects a short to ground on one or both of the damper solenoid circuits for longer than 200 milliseconds.
VDM (vehicle dynamics control module) C110D:12	Right Front Damper Solenoid: Circuit Short To Battery	This DTC (diagnostic trouble code) sets in continuous memory when the VDM (vehicle dynamics control module) detects a short to battery voltage on one or both of the damper solenoid circuits for longer than 200 milliseconds.
VDM (vehicle dynamics control module) C110D:13	Right Front Damper Solenoid: Circuit Open	This DTC (diagnostic trouble code) sets in continuous memory when the VDM (vehicle dynamics control module) detects an open circuit on one or both of the damper solenoid circuits for longer than 200 milliseconds.
VDM (vehicle dynamics control module) C110D:64	Right Front Damper Solenoid: Signal Plausibility Failure	This DTC (diagnostic trouble code) sets in continuous memory when the VDM (vehicle dynamics control module) detects an error set due to current matching and initial test being triggered 10 times in 1 minute.
VDM (vehicle dynamics control module) P0608:11	Control Module VSS Output 'A': Circuit Short To Ground	This DTC (diagnostic trouble code) sets in continuous memory when the VDM (vehicle dynamics control module) detects a short to ground on one or both of the damper solenoids for longer than 200 milliseconds.
VDM (vehicle dynamics control module) P0608:12	Control Module VSS Output 'A': Circuit Short To Battery	This DTC (diagnostic trouble code) sets in continuous memory when the VDM (vehicle dynamics control module) detects a short to battery voltage on one or both of the damper solenoids for longer than 200 milliseconds.
VDM (vehicle dynamics control module) P0608:13	Control Module VSS Output 'A': Circuit Open	This DTC (diagnostic trouble code) sets in continuous memory when the VDM (vehicle dynamics control module) detects an open circuit on one or both of the damper solenoids for longer than 200 milliseconds.

Possible Sources

- Wiring, terminals or connectors
- Shock (valve solenoid is serviced as an assembly with the shock) for base F-150
- Shock (valve solenoid is serviced separately as part of repair kits) for Raptor
- VDM (vehicle dynamics control module)

Yes	GO to E5

No	REPAIR the affected circuit.

E3 CHECK THE RH (RIGHT-HAND) FRONT DAMPER SOLENOID CIRCUITS FOR A SHORT TO BATTERY

- Ignition OFF.
- Disconnect VDM (vehicle dynamics control module) C4396 .
- Disconnect RH (right-hand) front damper solenoid C1669 .
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C4396-C1	V	Ground
C4396-D1	V	Ground

Is any voltage present?

Yes	REPAIR the affected circuit.

No	GO to E4

E4 CHECK THE RH (RIGHT-HAND) FRONT DAMPER SOLENOID CIRCUITS FOR AN OPEN

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead

Positive Lead	Measurement / Action	Negative Lead
C1669-1 **component side**	Ω	C1669-2 **component side**

Is the resistance between 2.8 and 4.5 ohms?

Yes	GO to E7

No	INSTALL a new RH (right-hand) front damper. REFER to: Shock Absorber Solenoid - Raptor (204-01B Front Suspension - LHD 4WD, Removal and Installation). REFER to: Shock Absorber and Spring Assembly - Vehicles With: Dynamic Suspension (204-01B Front Suspension - LHD 4WD, Removal and Installation).

E7 VERIFY ALL WIRING CONNECTIONS

- Disconnect VDM (vehicle dynamics control module) C4396 (if not previously disconnected).
- Disconnect damper solenoid valve electrical connector C1669 (if not previously disconnected).
- 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?

Yes	GO to E8

No	REPAIR the connector or terminals. Refer to Wiring Diagrams Cell 5for schematic and connector information.

E8 CHECK FOR CORRECT VDM (VEHICLE DYNAMICS CONTROL MODULE) OPERATION

- Connect damper solenoid valve electrical connector C1669. Make sure it seats and latches correctly.

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
VDM (vehicle dynamics control module) C110E:11	Left Rear Damper Solenoid: Circuit Short To Ground	This DTC (diagnostic trouble code) sets in continuous memory when the VDM (vehicle dynamics control module) detects a short to ground on one or both of the damper solenoid circuits for longer than 200 milliseconds.
VDM (vehicle dynamics control module) C110E:12	Left Rear Damper Solenoid: Circuit Short To Battery	This DTC (diagnostic trouble code) sets in continuous memory when the VDM (vehicle dynamics control module) detects a short to battery voltage on one or both of the damper solenoid circuits for longer than 200 milliseconds.
VDM (vehicle dynamics control module) C110E:13	Left Rear Damper Solenoid: Circuit Open	This DTC (diagnostic trouble code) sets in continuous memory when the VDM (vehicle dynamics control module) detects an open circuit on one or both of the damper solenoid circuits for longer than 200 milliseconds.
VDM (vehicle dynamics control module) C110E:64	Left Rear Damper Solenoid: Signal Plausibility Failure	This DTC (diagnostic trouble code) sets in continuous memory when the VDM (vehicle dynamics control module) detects an error set due to current matching and initial test being triggered 10 times in 1 minute.
VDM (vehicle dynamics control module) P0608:11	Control Module VSS Output 'A': Circuit Short To Ground	This DTC (diagnostic trouble code) sets in continuous memory when the VDM (vehicle dynamics control module) detects a short to ground on one or both of the damper solenoids for longer than 200 milliseconds.
VDM (vehicle dynamics control module) P0608:12	Control Module VSS Output 'A': Circuit Short To Battery	This DTC (diagnostic trouble code) sets in continuous memory when the VDM (vehicle dynamics control module) detects a short to battery voltage on one or both of the damper solenoids for longer than 200 milliseconds.
VDM (vehicle dynamics control module) P0608:13	Control Module VSS Output 'A': Circuit Open	This DTC (diagnostic trouble code) sets in continuous memory when the VDM (vehicle dynamics control module) detects an open circuit on one or both of the damper solenoids for longer than 200 milliseconds.

Possible Sources

- Wiring, terminals or connectors

C4396-F1	Ω	Ground

Are the resistances greater than 10,000 ohms?

Yes	GO to F5

No	REPAIR the affected circuit.

F3 CHECK THE LH (LEFT-HAND) REAR DAMPER SOLENOID CIRCUITS FOR A SHORT TO BATTERY

- Ignition OFF.
- Disconnect VDM (vehicle dynamics control module) C4396 .
- Disconnect LH (left-hand) rear damper solenoid C3655 .
- Disconnect LH (left-hand) rear damper solenoid C373 Raptor .
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C4396-E1	V	Ground
C4396-F1	V	Ground

Is any voltage present?

Yes	REPAIR the affected circuit.

No	GO to F4

F4 CHECK THE LH (LEFT-HAND) REAR DAMPER SOLENOID CIRCUITS FOR AN OPEN

C3655-1	Ω	C3655-2

Raptor

Positive Lead	Measurement / Action	Negative Lead
C373-1	Ω	C373-2

Are the resistances greater than 10,000 ohms?

Yes	GO to F6

No	REPAIR the affected circuit.

F6 CHECK THE LH (LEFT-HAND) REAR DAMPER SOLENOID RESISTANCE

- Measure the **component side** resistance:

Positive Lead	Measurement / Action	Negative Lead
C3655-1 **component side**	Ω	C3655-2 **component side**

Raptor

Positive Lead	Measurement / Action	Negative Lead
C373-1 **component side**	Ω	C373-2 **component side**