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1997 FORD Fiesta 5 Doors OEM Service and Repair Workshop Manual

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Yes	REFER to: Lane Keeping System(419-07 Lane Keeping System, Diagnosis and Testing).
No	GO to O4

O4 RECHECK THE HCM (HEADLAMP CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

NOTE

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

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Repeat the HCM (headlamp control module) self-test.

Is DTC (diagnostic trouble code) U023A:00 DTC (diagnostic trouble code) still present?

Yes	GO to O5
No	The system is operating correctly at this time. The DTC (diagnostic trouble code) may have been set due to high network traffic or an intermittent fault condition.

O5 CHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U023A:00 SET IN OTHER MODULES

- Using a diagnostic scan tool, clear all Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, perform the continuous memory self-test.
- Retrieve the Continuous Memory Diagnostic Trouble Codes (CMDTCs) from all modules.

Is DTC (diagnostic trouble code) U023A:00 set in other modules?

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

HCM (headlamp control module) U2101:00	Control Module Configuration Incompatible: No Sub Type Information	A continuous memory DTC (diagnostic trouble code) that sets due to incomplete or incorrect HCM (headlamp control module) configuration.
HCM (headlamp control module) U2101:56	Control Module Configuration Incompatible: Invalid/Incompatible Configuration	A continuous memory DTC (diagnostic trouble code) that sets due to incomplete or incorrect HCM (headlamp control module) configuration.
HCM (headlamp control module) U2101:86	Control Module Configuration Incompatible: Signal Invalid	A continuous memory DTC (diagnostic trouble code) that sets due to incomplete or incorrect HCM (headlamp control module) configuration.
HCM (headlamp control module) U2200:45	Control Module Configuration Memory Corrupt: Program Memory Failure	A continuous memory and on-demand DTC (diagnostic trouble code) that sets due to incomplete or incorrect HCM (headlamp control module) configuration.
HCM (headlamp control module) U3000:45	Control Module: Program Memory Failure	A continuous memory and on-demand DTC (diagnostic trouble code) that sets due to incomplete or incorrect HCM (headlamp control module) configuration.
HCM (headlamp control module) U3000:46	Control Module: Calibration/Parameter Memory Failure	A continuous memory and on-demand DTC (diagnostic trouble code) that sets due to incomplete or incorrect HCM (headlamp control module) configuration.

Possible Sources

- HCM (headlamp control module)

P1 CHECK VEHICLE HISTORY

- Check vehicle history for recent service actions with the HCM (headlamp control module) .

Where there any recent HCM (headlamp control module) service actions?

Yes	PERFORM the PMI (programmable module installation) procedure as directed by the scan tool. REFER to: Module Programming

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
HCM (headlamp control module) U0415:00	Invalid Data Received from Anti-Lock Brake System (ABS) Control Module 'A': No Sub Type Information	A continuous memory and on-demand DTC (diagnostic trouble code) that sets when the HCM (headlamp control module) receives invalid network data from the ABS (anti-lock brake system) module.
HCM (headlamp control module) U0429:00	Invalid Data Received From Steering Column Control Module: No Sub Type Information	A continuous memory and on-demand DTC (diagnostic trouble code) that sets when the HCM (headlamp control module) receives invalid network data from the SCCM (steering column control module) .
HCM (headlamp control module) U0447:00	Invalid Data Received From Serial Data Gateway 'A': No Sub Type Information	A continuous memory and on-demand DTC (diagnostic trouble code) that sets when the HCM (headlamp control module) receives invalid network data from the GWM (gateway module A) .
HCM (headlamp control module) U0452:00	Invalid Data Received From Restraints Control Module: No Sub Type Information	A continuous memory and on-demand DTC (diagnostic trouble code) that sets when the HCM (headlamp control module) receives invalid network data from the RCM (restraints control module) .
HCM (headlamp control module) U053B:00	Invalid Data Received From Image Processing Module A: No Sub Type Information	A continuous memory and on-demand DTC (diagnostic trouble code) that sets when the HCM (headlamp control module) receives invalid network data from the IPMA (image processing module A) .

Possible Sources

- HCM (headlamp control module)

Q1 REPEAT THE ON-DEMAND SELF-TEST AND CHECK FOR DIAGNOSTIC TROUBLE CODES (DTCS)

- For DTC (diagnostic trouble code) U0415:00, Using a diagnostic scan tool, repeat the ABS (anti-lock brake system) module self-test.
- For DTC (diagnostic trouble code) U0429:00, Using a diagnostic scan tool, repeat the SCCM (steering column control module) self-test.
- For DTC (diagnostic trouble code) U0447:00, Using a diagnostic scan tool, repeat the GWM (gateway module A) self-test.

Refer to Wiring Diagrams Cell 85for schematic and connector information.

Normal Operation and Fault Conditions REFER to: Exterior Lighting - Overview (417-01 Exterior Lighting, Description and Operation).

REFER to: Exterior Lighting - System Operation and Component Description (417-01 Exterior Lighting, Description and Operation).

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
HCM (headlamp control module) U3003:16	Battery Voltage: Circuit Voltage Below Threshold	A continuous memory and on-demand DTC (diagnostic trouble code) that sets in the HCM (headlamp control module) if the HCM (headlamp control module) detects low battery voltage on the voltage supply input.

Possible Sources

- Wiring, terminals or connectors
- Battery concern
- Charging system concern
- HCM (headlamp control module)

R1 CARRY OUT THE HCM (HEADLAMP CONTROL MODULE) SELF-TEST

- Ignition ON.
- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Using a diagnostic scan tool, perform the HCM (headlamp control module) self-test.

Is DTC (diagnostic trouble code) U3003:16 still present?

Yes	GO to R2

No	The system is operating correctly at this time. The DTC (diagnostic trouble code) may have been set due to a previous low battery voltage condition.

R2 CHECK FOR CHARGING SYSTEM DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, retrieve all Continuous Memory Diagnostic Trouble Codes (CMDTCs).

- Check the battery condition and verify the battery is fully charged.
  REFER to: Battery(414-01 Battery, Mounting and Cables, Diagnosis and Testing).

Is the battery OK and fully charged?

Yes	GO to R4

No	CHARGE or INSTALL a new battery. For charging a battery, REFER to: Battery Charging (414-01 Battery, Mounting and Cables, General Procedures). For installing a new battery. REFER to: Battery (414-01 Battery, Mounting and Cables, Removal and Installation).

R4 CHECK THE HCM (HEADLAMP CONTROL MODULE) VOLTAGE SUPPLY

- Ignition OFF.
- Disconnect: HCM (headlamp control module) C2129.
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C2129-10	V	Ground

Is the voltage greater than 11 volts?

Yes	GO to R5

No	REPAIR the circuit in question for high resistance.

R5 CHECK THE HCM (HEADLAMP CONTROL MODULE) PROCESSOR GROUND

- Disconnect and inspect the HCM (headlamp control module) connector.
- Repair:
  - corrosion (install new connector or terminals – clean module pins)
  - damaged or bent pins – install new terminals/pins
  - pushed-out pins – install new pins as necessary
- Reconnect the HCM (headlamp control module) connector. Make sure it seats and latches correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

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 address this concern, INSTALL a new HCM (headlamp control module) . REFER to: Headlamp Control Module (HCM) (417-01 Exterior Lighting, Removal and Installation).

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

PINPOINT TEST S : U3003:17

Refer to Wiring Diagrams Cell 85for schematic and connector information.

Normal Operation and Fault Conditions REFER to: Exterior Lighting - Overview
(417-01 Exterior Lighting, Description and Operation).
REFER to: Exterior Lighting - System Operation and Component Description
(417-01 Exterior Lighting, Description and Operation).

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
HCM (headlamp control module) U3003:17	Battery Voltage: Circuit Voltage Above Threshold	A continuous memory and on-demand DTC (diagnostic trouble code) that sets in the HCM (headlamp control module) if the HCM (headlamp control module) detects high battery voltage on the voltage supply input.

- Start and run the engine at approximately 2,000 RPM for 3 minutes while monitoring the battery voltage.

Does the battery voltage rise to 15.9 volts or higher?

Yes	Diagnose the charging system. REFER to: Charging System - 2.7L EcoBoost (238kW/324PS)/3.5L EcoBoost (BM) (414-00 Charging System - General Information, Diagnosis and Testing). REFER to: Charging System - 3.3L Duratec-V6/5.0L 32V Ti-VCT (414-00 Charging System - General Information, Diagnosis and Testing). REFER to: Charging System (414-00 Charging System - General Information, Diagnosis and Testing).

No	GO to S3

S3 RECHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U3003:17

- Turn the engine off.
- Ignition ON.
- Using a diagnostic scan tool, perform the self-test.
- Clear the Continuous Memory Diagnostic Trouble Codes (CMDTCs).
- Carry out the HCM (headlamp control module) self-test.

Is DTC (diagnostic trouble code) U3003:17 still present?

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 address this concern, INSTALL a new HCM (headlamp control module) . REFER to: Headlamp Control Module (HCM) (417-01 Exterior Lighting, Removal and Installation).

No	The system is operating normally at this time. The DTC (diagnostic trouble code) may have been set previously during battery charging or while jump starting the vehicle.

Parking, Rear and License Plate Lamps - Electric

417-01 Exterior Lighting	***2022 F-150***
Diagnosis and Testing	***Procedure revision date: 04/1/2022***

Parking, Rear and License Plate Lamps - Electric

Diagnostic Trouble Code (DTC) Chart

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.

REFER to: Diagnostic Methods

(100-00 General Information, Description and Operation).

Diagnostic Trouble Code Chart

Module	DTC (diagnostic trouble code)	Description	Action
BCM (body control module)	B10F3:11	Left Front Position Light: Circuit Short to Ground	GO to Pinpoint Test D
BCM (body control module)	B10F3:15	Left Front Position Light: Circuit Short to Battery or Open	GO to Pinpoint Test D
BCM (body control module)	B10F4:11	Right Front Position Light: Circuit Short to Ground	GO to Pinpoint Test D
BCM (body control module)	B10F4:15	Right Front Position Light: Circuit Short to Battery or Open	GO to Pinpoint Test D

BCM (body control module)	B14B3:15	Right Position Lamps: Circuit Short To Battery or Open	GO to Pinpoint Test D
LDCMA (Lighting Driver Control Module A)	B149E:11	Left Front Position/Sidemarker: Circuit Short To Ground	GO to Pinpoint Test A
LDCMA (Lighting Driver Control Module A)	B149E:12	Left Front Position/Sidemarker: Circuit Short To Battery	GO to Pinpoint Test A
LDCMA (Lighting Driver Control Module A)	B149E:13	Left Front Position/Sidemarker: Circuit Open	GO to Pinpoint Test A
LDCMA (Lighting Driver Control Module A)	B149E:16	Left Front Position/Sidemarker: Circuit Voltage Below	GO to Pinpoint Test A
LDCMA (Lighting Driver Control Module A)	B149E:87	Left Front Position/Sidemarker: Missing Message	GO to Pinpoint Test A
LDCMB (Lighting Driver Control Module B)	B149F:11	Right Front Position/Sidemarker: Circuit Short To Ground	GO to Pinpoint Test A
LDCMB (Lighting Driver Control Module B)	B149F:12	Right Front Position/Sidemarker: Circuit Short To Battery	GO to Pinpoint Test A
LDCMB (Lighting Driver Control Module B)	B149F:13	Right Front Position/Sidemarker: Circuit Open	GO to Pinpoint Test A
LDCMB (Lighting Driver Control Module B)	B149F:16	Right Front Position/Sidemarker: Circuit Voltage Below	GO to Pinpoint Test A
LDCMB (Lighting Driver Control Module B)	B149F:87	Right Front Position/Sidemarker: Missing Message	GO to Pinpoint Test A