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2018 FORD Kuga OEM Service and Repair Workshop Manual

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OCS (occupant classification system) module	765	No	No	OCSM (occupant classification system module) re-zero	None
PACM (pedestrian alert control module)	750	No	No	No	None
PCM (powertrain control module)	7E0	Yes	Yes	• PATS (passive anti-theft system) parameter reset • Misfire Monitor Neutral Profile Correction	None
PDM (passenger door module)	741	Yes	Yes	Windows initialization	BLIS (blind spot information system) indicator configuration enable/disable
PSCM (power steering control module)	730	Yes	Yes	No	None
RCM (restraints control module)	737	Yes	Yes	ABS (anti-lock brake system) calibration service functions	None
RGTM (rear gate trunk module)	775	No	No	No	None
RTM (radio transceiver	751	Yes	Yes	No	None

Control Module C)					
SODCMD (Side Obstacle Detection Control Module D)	6F3	Yes	Yes	No	None
SODL (side obstacle detection control module LH)	7C4	Yes	Yes	No	None
SODR (side obstacle detection control module RH)	7C6	Yes	Yes	No	None
TCCM (transfer case control module)	761	Yes	Yes	No	None
TCM (transmission control module)	7E9	Yes	Yes	Transmission Strategy Download	None
TCU (telematic control unit module)	754	Yes	Yes (diagnostic scan tool and USB (universal serial bus) flash drive)	No	None
TRM (trailer module) / TBM (trailer brake control module)	791	Yes	Yes	No	None
VDM (vehicle dynamics control module)	721	Yes	Yes	Height sensor calibration	None
WACM (wireless accessory charging	725	Yes	Yes	No	None

Module Programming

418-01A Module Configuration	***2022 F-150***
General Procedures	***Procedure revision date: 10/27/2022***

Module Programming

Check

NOTE

Perform the following pre-checks to make sure module programming completes without errors.

1. Start the programming session in Key OFF, Engine OFF and prior to initiating programming, turn to KOEO (key on, engine off) .
2. Make sure the vehicle battery is fully charged or is connected to a battery charger. The battery state of charge should be 12.6 - 13.6 volts during vehicle programming.
3. **NOTE**

   A good internet connection is necessary.

   Inspect the VCM (Vehicle Communication Module) II, VCMM (Vehicle Communication and Measurement Module) or later level device and cables for damage. Make sure cables remain connected throughout the programming procedure.
4. Turn off all unnecessary accessories, such as radio, A/C (air conditioning) , climate controlled seats, headlamps, interior and demand lamps.
5. Disconnect any aftermarket accessories, such as remote start, security alarm and power inverter.
6. For Plug-in hybrid and electric vehicles, disconnect the external charge cord from the charge port.

4. Log into FDRS (Ford Diagnosis and Repair System) .

5. Identify/enter the vehicle being programmed on FDRS (Ford Diagnosis and Repair System) .

6. **NOTE**

   Vehicle information is automatically retrieved by the diagnostic software and a Network Test is run. Vehicle identification data appears on the screen when this is complete.

   Click 'Read VIN (vehicle identification number) from Vehicle' or manually enter the VIN (vehicle identification number) .

7. **NOTE**

   Available modules are shown on the LH (left-hand) side of the screen, and available procedures are listed on the RH (right-hand) side of the screen. Modules that are communicating are highlighted in green.

   Select Toolbox tab.

8. **NOTE**

   If a module is integrated within another module, both modules will automatically program during this process. For example, if the ACM (audio front control module) is selected, the DACMC (digital audio control module C) (if integrated with the ACM (audio front control module)) is also programmed.

   From the list on the LH (left-hand) side of the screen, select the module that requires a programming procedure to be completed.

9. There are 3 types of module programming available:

   - **Programmable Module Installation (PMI)**

     —When the module is replaced, this type of programming carries out the required provisioning (restores software for newly installed hardware).

   - **Module configuration**

     — Downloads configuration data to the module. The module may also be programmed, depending on current software level, when this option is selected.

   - **Software Update**

Click 'Read VIN (vehicle identification number) from Vehicle' or manually enter the VIN (vehicle identification number) .

5. **NOTE**

   Available modules are shown on the LH (left-hand) side of the screen, and available procedures are listed on the RH (right-hand) side of the screen. Modules that are communicating are highlighted in green.

   Select Toolbox tab.

6. **NOTE**

   If the module is already at the latest software level, the software update application will not be available in the diagnostic scan tool.

   If replacing the module, download and run the PMI (programmable module installation) . If the module is not being replaced but is receiving a software update in accordance with a TSB (Technical Service Bulletin) or service publication, download and run the software update application for the target module.

7. Close all doors or mechanically latch the door to simulate a closed door.

8. Follow the on-screen prompts to complete the PMI (programmable module installation) .

9. On-screen prompts are displayed to inform that a USB (universal serial bus) is required to complete the process.

10. Follow the on-screen instructions to download the required software to the USB (universal serial bus) memory device and upload to the vehicle though the vehicle USB (universal serial bus) port.

11. Once the USB (universal serial bus) memory device is connected to the media hub or USB (universal serial bus) port, the software update will automatically install. The USB (universal serial bus) memory device transfers the data through the USB (universal serial bus) cable to the APIM (SYNC module) . The APIM (SYNC module) transfers the data to the GWM (gateway module A) where it is distributed to the receiving module over the Ethernet network.

12. It is advised that the USB (universal serial bus) memory device remain connected to the vehicle for a minimum of 2 minutes after the progress bar displayed on the vehicle display screen has reached 100%, to ensure the upload has completed fully.

13. If an error occurs during the USB (universal serial bus) programming process an error message is displayed on the vehicle display screen indicating an error has occurred and displays an error number

USB (universal serial bus) Error 4	USBRemoved	• Make sure the USB (universal serial bus) memory device is installed in the vehicle until the vehicle display screen indicates programming was successful and the USB (universal serial bus) memory device can be removed. • Using a diagnostic scan tool carry out the APIM (SYNC module) self -test and verify there are no USB (universal serial bus) cable or media hub related Diagnostic Trouble Codes (DTCs). • Verify USB (universal serial bus) / media hub functionality by using the MIT (multi-media interface tester) , a mobile phone connected via a USB (universal serial bus) charge cord and/or a USB (universal serial bus) memory device with media files loaded. • Remove and reinsert the USB (universal serial bus) memory device and retry programming. • Attempt programming with a different USB (universal serial bus) memory device.
USB (universal serial bus) Error 5	InstallSignature	Delete all contents on the USB (universal serial bus) memory device/ Format the USB (universal serial bus) memory device. Re-run the PMI (programmable module installation) routine with the diagnostic scan tool and re attempt the PMI (programmable module installation) . If the PMI (programmable module installation) fails again, attempt a CAN (controller area network) flash, following the diagnostic scan tool on-screen instructions.
USB (universal serial bus) Error 6	RebootReset	• Do not perform a master reset or SYNC hard reset during the USB (universal serial bus) programming. Make sure active resets are finished and the SYNC system has rebooted before re-attempting the USB (universal serial bus) programming. • Test the vehicle's 12 volt vehicle battery using approved diagnostic battery testers. Fully recharge or replace the battery per the test results. Complete the Battery Monitoring System (BMS) reset after the battery service, if directed by the workshop manual procedure. Retry the programming.

serial bus) Error 11		
USB (universal serial bus) Error 12	eCallPhone	Verify that any paired mobile phones are not making a Bluetooth connected call through the SYNC system.
USB (universal serial bus) Error 13	Crash	Using a diagnostic scan tool carry out the OCSM (occupant classification system module) and RCM (restraints control module) self-test. Verify there are no crash related Diagnostic trouble codes (DTCs) stored. Diagnose any related codes and reattempt to reprogram the vehicle.
USB (universal serial bus) Error 14	IgnitionCycle	• Make sure the vehicle ignition remains in the key on, engine off state during programming. The LED (light emitting diode) indicator on the ignition push button remains flashing when in key on, engine off state. Low battery state of charge or battery health may cause battery load shed strategies to shut the ignition off during programming. • Test the 12-volt battery using an approved diagnostic battery tester. Fully recharge or replace the battery per the tester results. Once complete, carry out the Battery Monitor System (BMS) reset with the scan tool. • Reattempt the programming.
USB (universal serial bus) Error 15	MasterReset	Do not perform a master reset or SYNC hard reset during the USB (universal serial bus) programming. Make sure active resets are finished and the SYNC system has rebooted before re-attempting the USB programming.

Recovery

NOTE

Perform the following steps when programming has resulted in a blank module.

1. Disconnect the VCM (Vehicle Communication Module) II, VCMM (Vehicle Communication and Measurement Module) or later level device from the DLC (data link connector) and PC.

Module Configuration - System Operation and Component Description

418-01B Module Configuration - Vehicles With: Over-the-Air (OTA) Programming	***2022 F-150***
Description and Operation	***Procedure revision date: 03/21/2022***

Module Configuration - System Operation and Component Description

System Operation

Overview

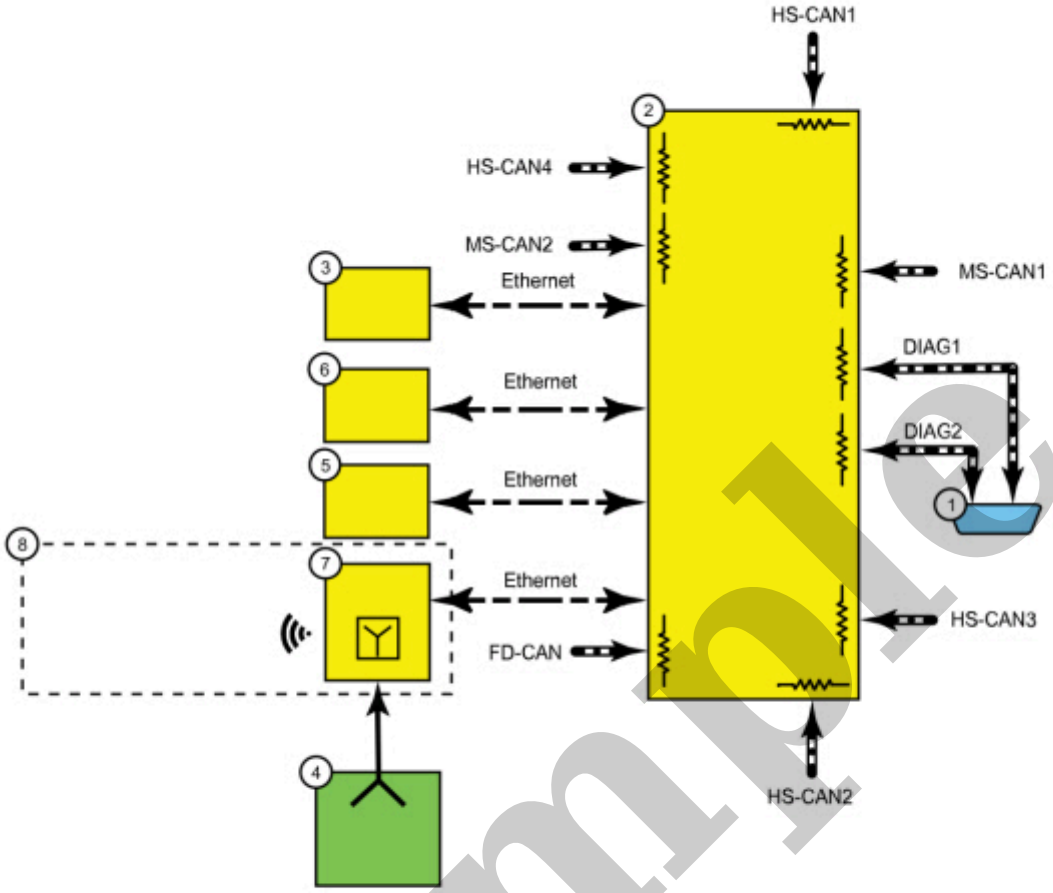
Over the Air (OTA) Programming

Over-the-Air updates allow for vehicle system software to be updated wirelessly over Wi-Fi (both private and or public Wi-Fi connection) and or the vehicle cellular network. Over-the-Air updates occur on a rolling basis. By default, the vehicle starts the update process as soon as new software becomes available, notifications of software update availability are displayed on the vehicle display screen.

The Over-the-Air Updates are available for vehicles that are factory equipped with GWM (gateway module A) , TCU (telematic control unit module) and APIM (SYNC module) with Ethernet communication network connections.

Some OTA updates can complete in the background, more complex updates can take up to 45 minutes to complete and the vehicle will be disabled during the update process. These more complex updates must be scheduled by the customer, to complete at a time convenient for them. If an OTA update becomes available that is required to be scheduled, the customer is notified through the vehicle display screen, remotely through the FordPass app and via e-mail where available.

During scheduled updates the vehicle will not function. The vehicle is inhibited by design when the OTA software update is being installed to the receiving module(s). Scheduled updates may take up to 45 minutes to complete.



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Item	Description
1	DLC (data link connector)
2	GWM (gateway module A)
3	IPMA (image processing module A)
4	Primary cellular antenna
5	IPC (instrument panel cluster)