

FDRS and VCMM

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VCMM Advanced Kit



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Ford diagnostic and Repair System

FDRS

- The Ford Diagnosis and Repair System (FDRS) is the next generation of diagnostic support for Ford and Lincoln vehicles.
- The FDRS program resides on the computer but all vehicle information and associated tools must be downloaded from Ford.
- The FDRS uses either a Vehicle Communication Module II (VCMII) or Vehicle Communication & Measurement Module (VCMM) to connect to the vehicle's Data Link Connector (DLC).
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Vehicle Communication & Measurement Module

VCMM

- Combines the functions of the Customer Flight Recorder, VCMII, VMM, MTS4000/4001 in one easy to use tool

What comes in the VCMM kits

VCMM Standard Kit

VCMM Unit	Vibration Analyzer Accelerometer A
Low Current Probe (0-50 amp)	NVH Timing Light Inductive Loop
High Current Probe (0-500 amp)	Bluetooth Analyzer H/W Kit
Pressure Vacuum Transducer (PVT)	USB Cable
Fuel Hose Assembly	DLC Cable
Transmission Extension Hose	External Power Cable
Red Probe with Tick	AC Adapter Power Supply
Universal Probe Tip Adapter (4)	Set of Red/Blue/Yellow/Green Leads with Probes and Alligator Clips
Probe Tip Adapters (19)	
Temperature Probe	USB Drive w/ Quick Start Guide

VCMM Advanced Kit

Secondary Ignition Transducer Cables (4)
Coil-On Plug (COP) Ignition Transducer Clips (4) (Older COP systems)
Secondary Ignition Transducer Probes (4)
Vibration Analyzer Accelerometer B
Driveline Balance Kit

Setup

- Download IDS, FDRS, VMS, and VCI Manager
- Connect VCMM to laptop via USB cord.
 - VCMM needs to have power source such as battery, wall plug, or DLC
- Verify VCMM is at latest level

Oscilloscope

- Probes or DLC
 - DLC not available on 2019 Edge and Ranger, possibly other vehicles
- Setting up triggers
 - Auto trigger will always display a pattern even if it is not correct
 - Manual/normal trigger will only display once criteria is met
 - Rising
 - Falling
 - Missing pulse



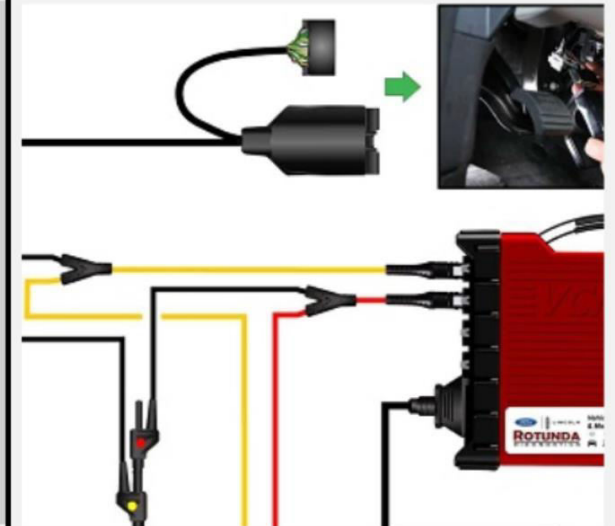
Oscilloscope

- Preconfigured tests
 - Connection diagrams
 - Reference waveforms
- Cursor
- Recordings
- Waveform Library
 - Must be in a preconfigured test
- Able to create your own library
- Battery Draw diagnostics

HS1 CAN Single Ended Ch1 High / Ch2 Low with Breakout Box

1. Connect the Gateway Module Breakout Box (Rotunda #164-R9852) between the Gateway Module and the vehicle harness.
2. Connect Channel 1 of the VCMM using the Red Test Probe Lead to pin 20 and the Black lead to pin 1 (Ground) to the breakout box.
3. Connect Channel 2 of the VCMM using the Yellow Test Probe Lead to pin 19 and the Black lead to pin 1 (Ground) to the breakout box.
4. Turn Vehicle key on.

Note: To compare a known good waveform, goto Reference Waveforms in the lower right corner of VMS. The reference waveform will not look identical because CAN signals varies greatly.



Digital Multimeter

- Able to measure voltage on 4 channels
- 2 channels is displayed as graph
- Can test Voltage, Resistance, Amperage, Duty Cycle, Pulse Width, Frequency, Pressure/Vacuum, or Temperature

Signal Generator

- Can only use channel one for output
- Checks circuit to protect against shorts to ground
- Outputs up to 30 volts
- Simulate sign, square, triangle, pulse, or DC voltage

Vibration Analyzer

- Have to manually enter vehicle information
- Have to connect to DLC to enable component identification
- Amplitude Threshold
 - Changes sensitivity
- Follow connection diagram instructions

Engine Speed :754 RPM | Vehicle Speed :0 MPH | Driveshaft :0 RPM

System Orders Accelerometer A

Components	Order	Amplitude	Hz	
AC compressor (AC)	1.0			>
Alternator (AL)	1.0			>
Coupling (C)	3.0			>
Driveshaft (DS)	1.0			>
Engine (E)	0.5	0.001	6.28	>
PS Pump (PS)	1.0			>
Waterpump (WP)	1.0			>
Wheel-Front (WF)	1.0			>
Wheel-Rear (WR)	1.0			>
Accessory (AP)	1.0			>
Unknown Source (US)	-			>

Questions
