

RLink Lite/RLink J2534 Case Study

TOPDON®



Honda Engine Fault Detection Case

**How to Use TOPDON RLink Lite/RLink J2534 and IHDS
to Perform Honda Diagnostics**

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Vehicle Fault Problems

01

Vehicle Fault Problems

- 1. Vehicle Information:** 2019 Honda CRV car, with a driving mileage of 99,172 kilometers.
- 2. Customer Phenomenon:** The customer reported that the Check Engine Light comes on while driving, and the acceleration is weak.



Fault Confirmation

02

Fault Confirmation

1. According to customer feedback, check and confirm that the Check Engine Light is on.
2. Conduct a real-vehicle test, and the vehicle accelerated slowly.



Devices Required for Diagnostics

03

Devices Required for Diagnostics

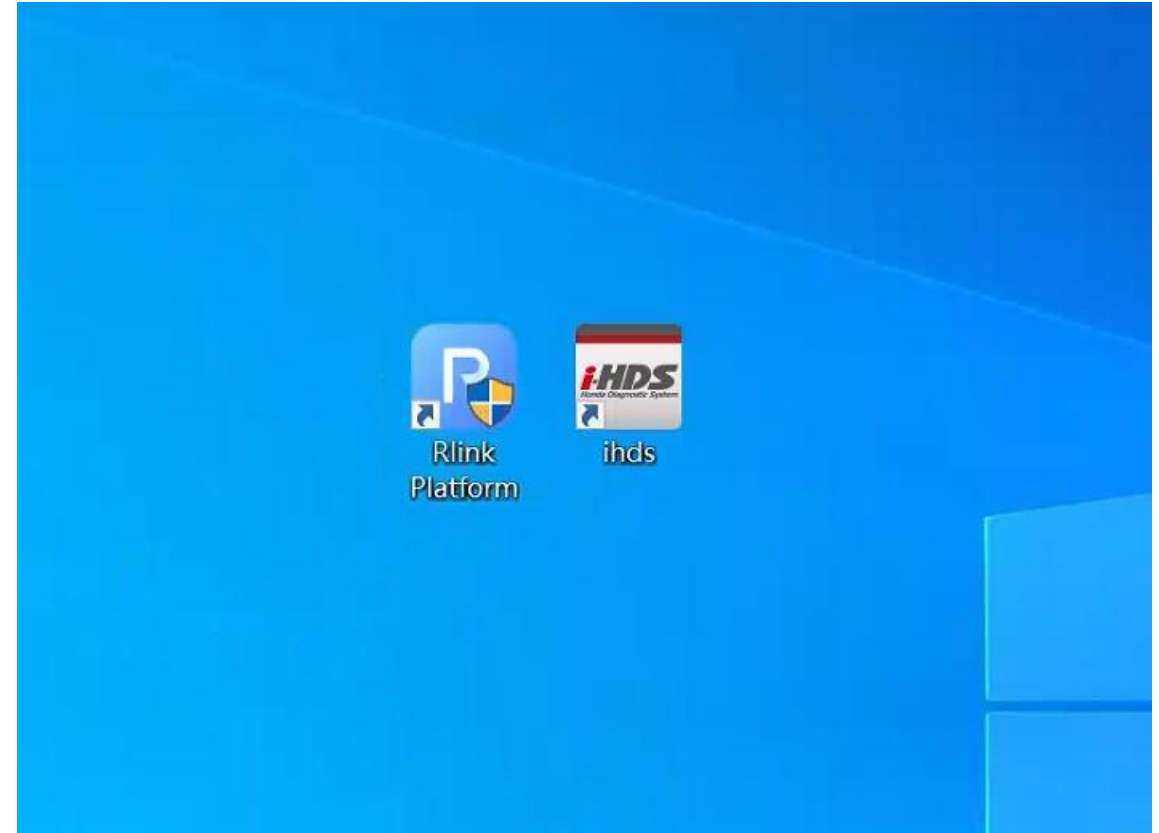


RLink Lite

0



RLink J2534



Computer with GM OEM Software

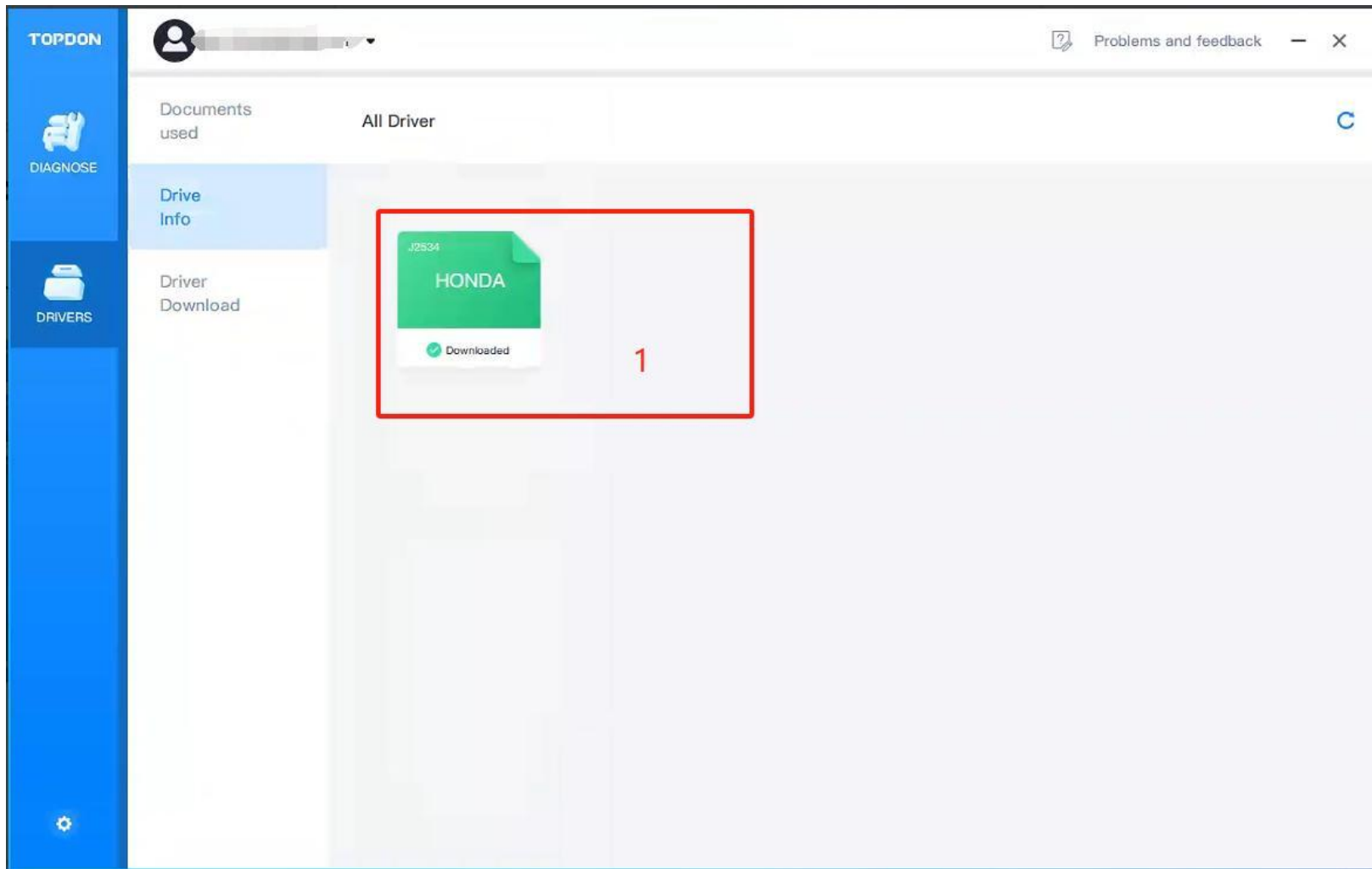
Tips: Both the RLink Lite and the RLink J2534 can be used with GM OEM software for diagnostics.

Operations for Diagnostics

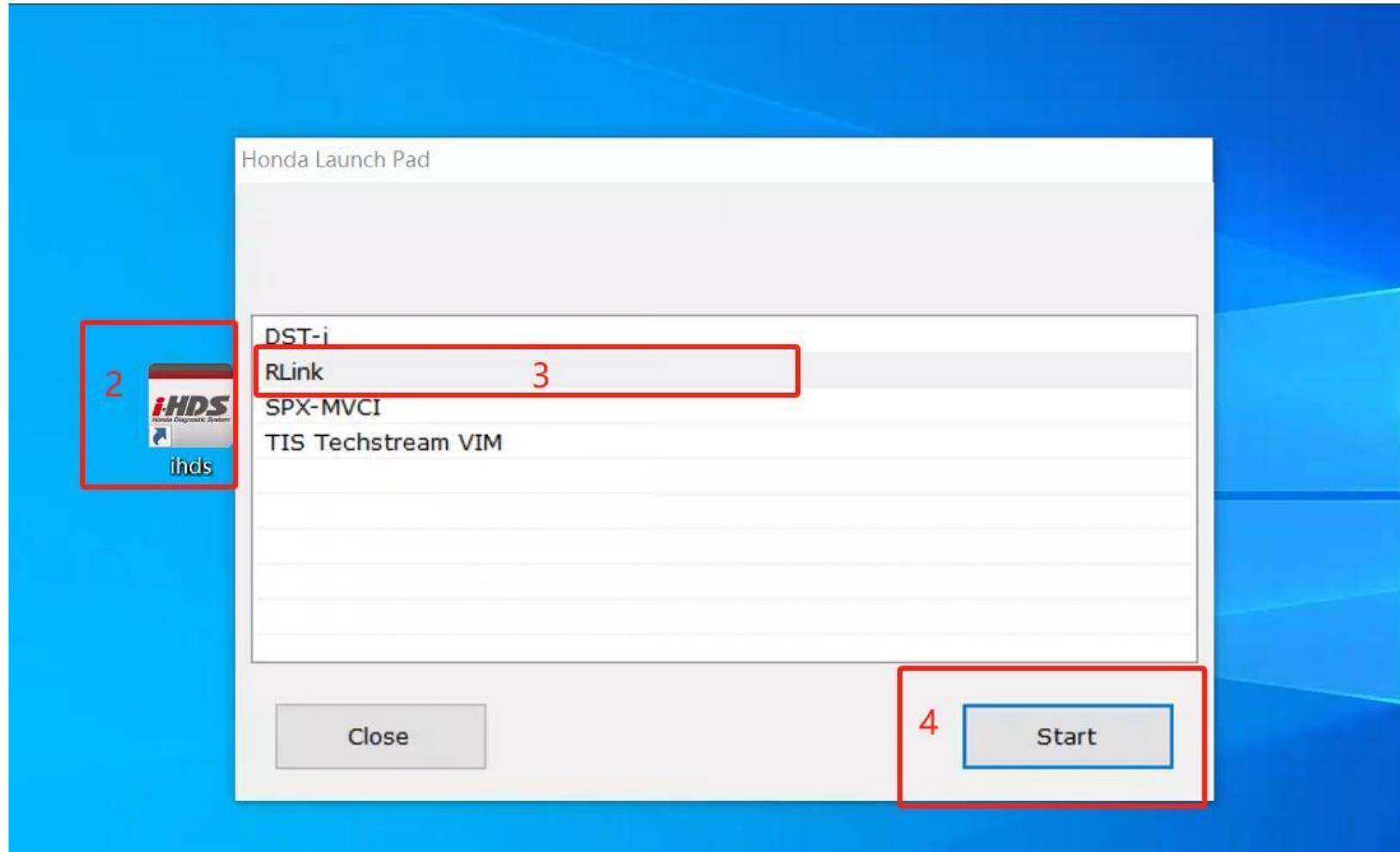
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Operations for Diagnostics

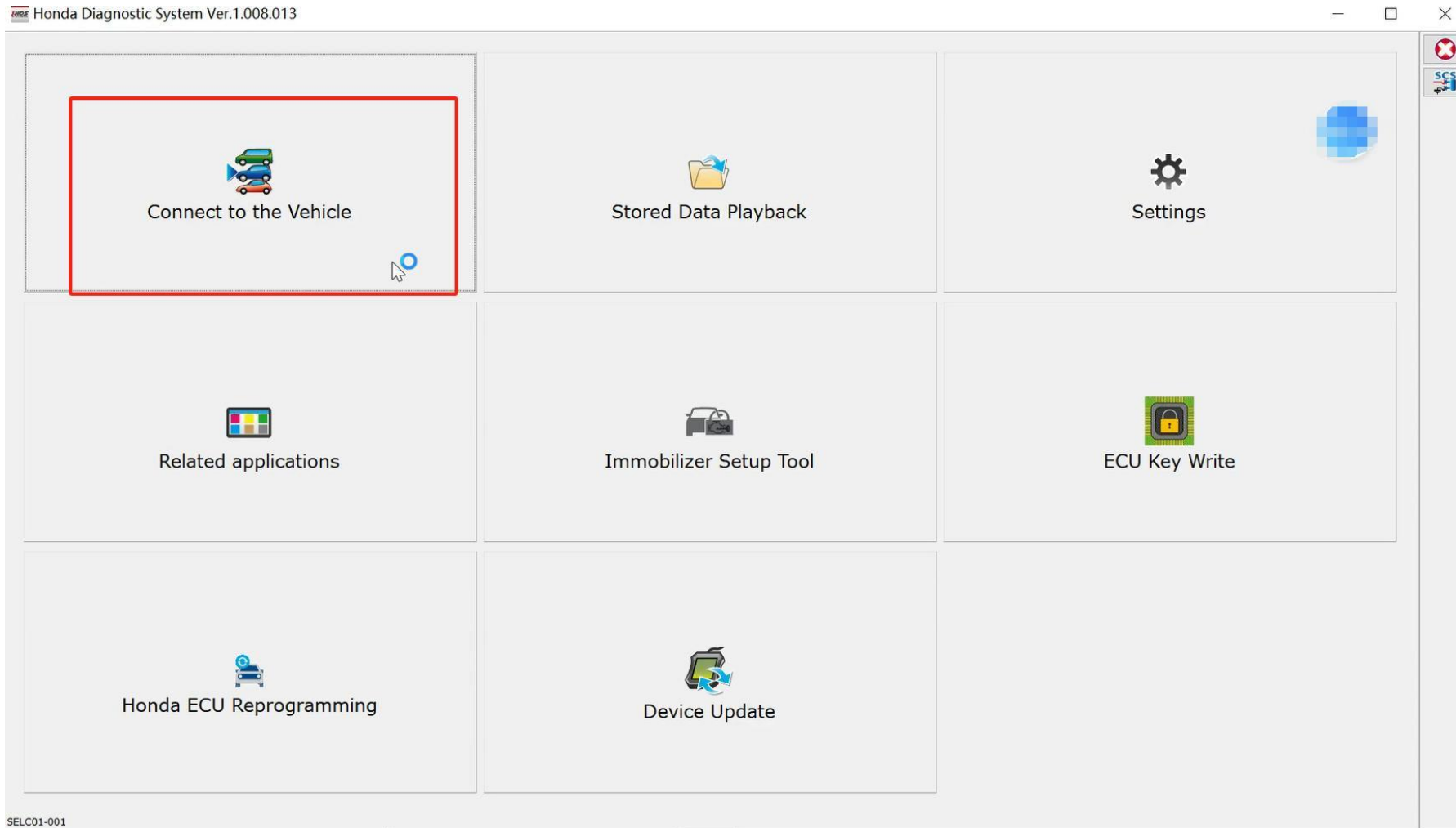
1. Open RLink Platform to download the Honda driver.



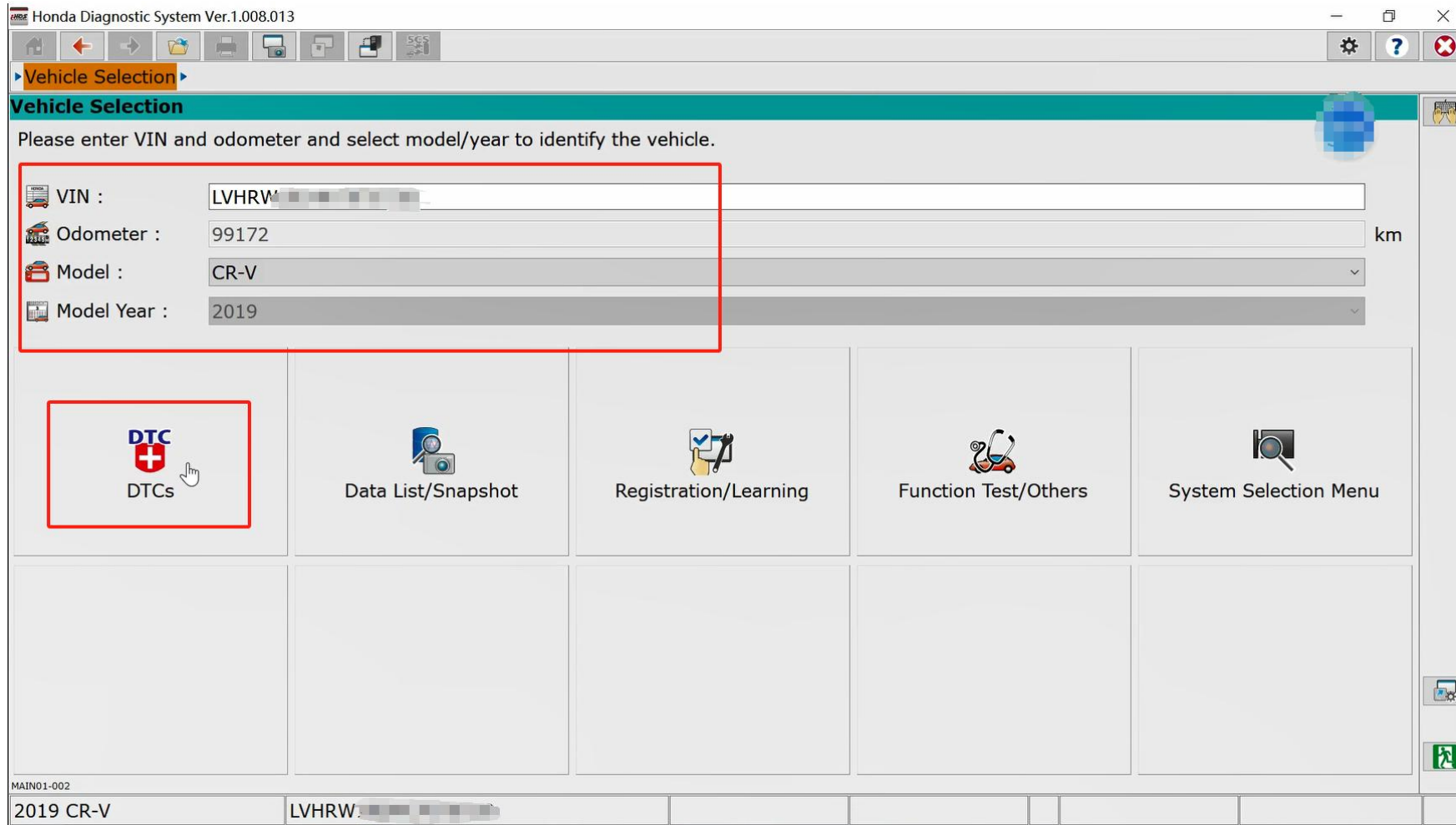
2. Open the I-HDS diagnostic software. Choose RLink for diagnostics and click Start.



3. Connect the device. Then click Connect to the Vehicle.



4. The vehicle will be automatically recognized. Click DTCs to perform vehicle trouble code diagnostics.



Troubleshooting

05

Troubleshooting

- I. After the diagnostics are completed, the following faults are detected.
- ① ABS/VSA DTCs:U0401-68 (ECM Failure) fault.
 - ② PGM-FI Pending DTCs: P2565 EWG Lift Sensor High Voltage fault.

Honda Diagnostic System Ver.1.008.013

Vehicle Selection > DTCs > All DTCs

DTC	Description	FD/OBS
ALL DTC Check		
-ABS/VSA DTCs: 1 DTC(s)		
U0401-68	(ECM Failure)	
-EPS DTCs: 1 DTC(s)		
U0416-68	(VSA System Malfunction)	
-Electric Brake Booster DTCs: 1 DTC(s)		
U3003-16	Brake Booster Control Unit Power Circui...	
-PGM-FI Confirmed DTCs: 1 DTC(s)		
P2565	EWG Lift Sensor High Voltage	
-PGM-FI Pending DTCs: 1 DTC(s)		
P2565	EWG Lift Sensor High Voltage	
AT Confirmed DTCs: 0 DTC(s)		
AT Pending DTCs: 0 DTC(s)		
CAN Gateway DTCs: 0 DTC(s)		
Door Lock DTCs: 0 DTC(s)		
Gauges DTCs: 0 DTC(s)		
HVAC DTCs: 0 DTC(s)		
IMMOBI DTCs: - No DTC function		
Keyless Transmitter DTCs: 0 DTC(s)		
Lighting DTCs: 0 DTC(s)		
Mode Menu DTCs: 0 DTC(s)		
Power Window DTCs: 0 DTC(s)		
SRS DTCs: 0 DTC(s)		
Security DTCs: 0 DTC(s)		
Semiconductor Fuse DTCs: 0 DTC(s)		
Wiper DTCs: 0 DTC(s)		

DTC Help

A: Waste Gate Lift Sensor
B: Engine Control Module(ECM)
C: GND
D: WGL
E: Vcc

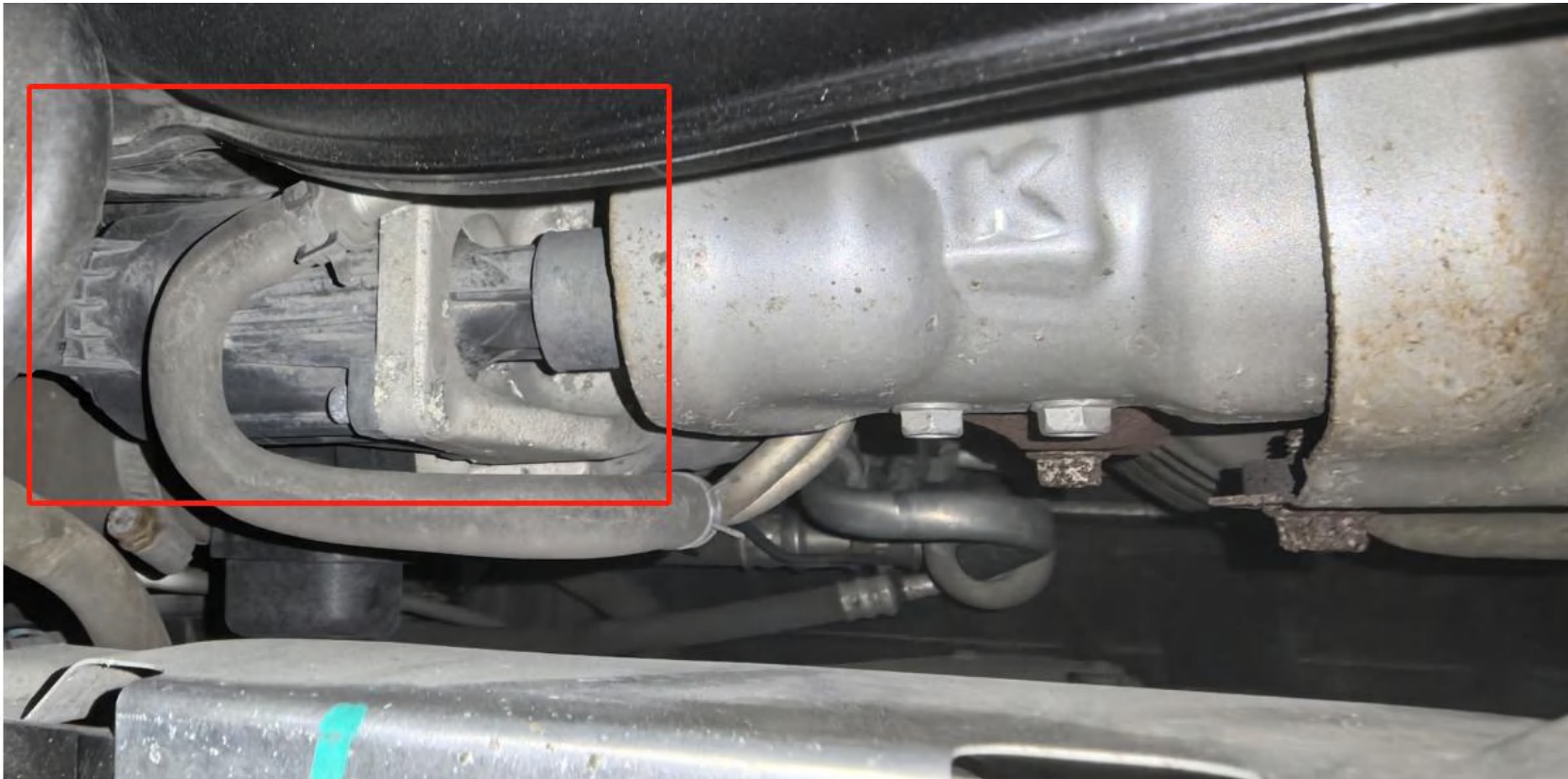
F: Sensor Voltage(V)
G: EWG Position
H: High
I: Low
J: Close
K: Full Close
L: Open

DCFD01-006

2019 CR-V | LVHRW1824K7076728 | Multi System

II. Fault Cause Analysis Base on DTCs and Fault Phenomenon

- ① Damage to the EWG valve.
- ② Damage to the EWG valve circuit.
- ③ Internal damage to the ECM.



III. Check that the positive power supply of the EWG valve circuit, the negative bond strap, and the signal power supply are all normal. Conduct vehicle test, and check the EWG valve data stream, the EWG valve is not working and the EWG Output Duty data is always 0%. The cause of the fault may be internal damage to the EWG valve.

The screenshot shows the Honda Diagnostic System interface. The left pane displays a data list for PGM-FI. The 'EWG Output Duty' parameter is highlighted with a red box, showing a value of 0%. The right pane shows 'PARAMETER SPECIFICATION' for Engine Speed (RPM), noting it is converted from the CKP sensor. A 'Waiting for Trigger' progress bar is visible at the bottom.

Signal	Value	Unit
Cyl Crank Speed #2	2636	°/s
Cyl Crank Speed #3	2435	°/s
Cyl Crank Speed #4	2722	°/s
Idle Learning (Torque)	Completed	
EX VTC Advance Angle	0.0	°
EX VTC Status	OFF	
EX VTC Target Advance Angle	0.0	°
EXVTC Sol Duty	0.00	%
Fuel Pressure Converted From PF Sensor	3700	kPa
Fuel Pressure Converted From PF Sensor ...	1.11	V
AF Heater	38	%
AF Sensor Voltage Supply	2.26	V
EWG Actual Lift	11.033	mm
EWG Battery Voltage	14.5	V
EWG Freezing Information	No Freeze	
EWG Learned Information	Complete	
EWG Learned Value	-0.698	mm
EWG Output Duty	0	%
EWG Target Lift	8.000	mm
EWG Voltage From Lift Sensor	4.98	V
MAP Sensor	40	kPa
Fuel Pressure Direct Injection System	3750	kPa
Estimated Electric Load Level	38.50	A

PARAMETER SPECIFICATION

Engine Speed (RPM)

Engine speed is converted from CKP sensor.

Waiting for Trigger

15s 0 30s

DLST01-001

2019 CR-V LVHRW1824K7076728 PGM-FI 3E190F6E01 37805-5PC-B740 DTC

IV. Disassemble and inspect the EWG valve and found that the valve was loose inside. An internal fault may prevent the adjustment rod from adjusting and cause damage. Replace the EWG valve, and conduct vehicle test, the fault is eliminated. The EWG Output Duty data stream returns to normal, confirming that the fault is resolved.

Vehicle Selection > System Selection Menu > PGM-FI > Data List

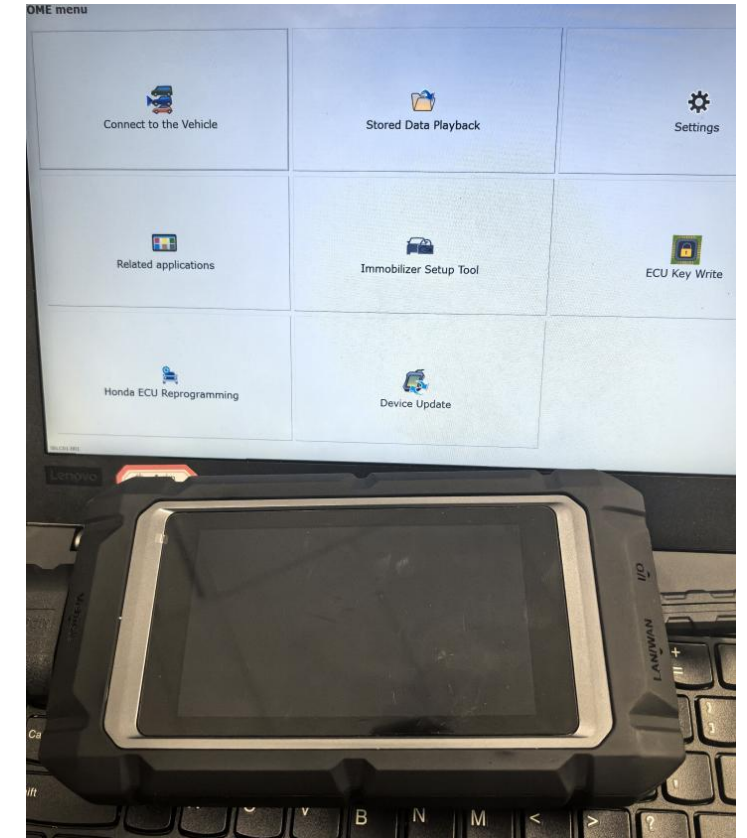
Signal	Value	Unit
AF Sensor Voltage Supply	2.24	V
EWG Actual Lift	7.992	mm
EWG Battery Voltage	14.3	V
EWG Freezing Information	No Freeze	
EWG Learned Information	Complete	
EWG Learned Value	-0.698	mm
EWG Output Duty	-6	%
EWG Target Lift	8.000	mm
EWG Voltage From Lift Sensor	4.04	V
MAP Sensor	44	kPa
Fuel Pressure Direct Injection System	3850	kPa
Estimated Electric Load Level	49.50	A
Idle Device Torque	28.32	N·m
Relief Valve	Normal	●
Target Crank End Torque Value	-0.20	N·m
Target Idle Torque Correction Learning	0.34	N·m
Target Torque (Idle Speed)	29.28	N·m
DBW Stuck Ratio	53.7	%
Battery Current (Battery Sensor)	9.93	A
Estimated Battery Resistance (Battery Se...)	10.6	mOhm
Estimated Battery Temperature	47	°C
HO2S S2 Output Voltage	2.21	V
MAP Sensor (Hi-Pre)	42.9	kPa

PARAMETER SPECIFICATION

AF Sensor Voltage Supply
LAF sensor(NTK) VCENT line voltage(for single bank controlled engine, e.g. inline engine).
(V)

A: VS
B: VCENT
C: IP
D: ECM/PCM
E: A/F SENSOR

Waiting for Trigger
15s 0 30s



Using RLink J2534 and Computer with Honda OEM Software to Perform Diagnostics

THANKS