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1. General Scan Tool Information

1.1 User Interface

The scan tool is designed for easy use. All menus and lists operate the same way.



ENTER key selects item.



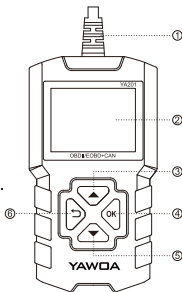
BACK key returns to previous screen.



UP SCROLL KEY



DOWN SCROLL KEY



1. **OBDII CONNECTOR** - Connects the scan tool to the vehicle's Data Link Connector (DLC)
2. **LCD DISPLAY** - Visual display of information to the user. Backlit , 320 x 240 Pixel display with TFT color screen.
3. **UP SCROLL Key** - Moves up through menu and submenu items in menu mode. When more than one screen of data is retrieved, moves up through the current screen to the previous screens for additional data.
4. **ENTER Key** - Confirms a selection (or action) from a menu.
5. **DOWN SCROLL Key** - Moves down through menu and submenu items in menu mode. When more than one screen of data is retrieved, moves down through the current screen to next screens for additional data.
6. **BACK Key** - Cancels a selection (or action) from a menu or returns to the menu. It is also used to exit DTC lookup screen.

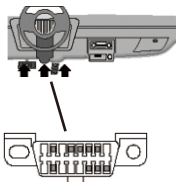
1.2 Specifications

1. Display: Backlit, 320 x 240 pixel display with TFT color screen.
2. Operating Temperature: -10°C to 40°C (14°F to 104°F)
3. Storage Temperature: -20°C to 70°C (-4°F to 158°F)
4. External power: 9.0V to 16.0V power provided via vehicle battery.
5. Dimensions:
 - Length: 74.5 mm (2.9")
 - Width: 22 mm (0.9")
 - Height: 137.5 mm (5.4")
6. Net weight: 0.19kg (0.42lb)
GW: 0.24kg (0.53lb)

2. Using Your Scan Tool

2.1 Locating Data Link Connector

- Choose a location (under driver side dash, or under steering wheel) and use that description in both places.
- If unsure about location of DLC, check vehicle manual or reputable service center about location.



2.2 Connect the Tool

1. Locate the OBDII Data Link Connector under the steering column. If the connector is not there, a label should be there indicating the whereabouts of the connector.
2. If necessary, remove the cover from the DLC.
3. Turn the ignition switch to the ON position. Do not start the engine.
4. Plug the OBDII connector into the Data Link Connector.
5. The tool will attempt to identify the vehicle. If successful, the vehicle identified will be displayed. If the vehicle cannot be identified, menus will be shown for you to select the vehicle manually.
6. Perform quick test

By using the  or  keys to select to **Diagnosis Menu** by pressing  key to ENTER.

3. Tool Menu

The **Main Menu** and **Diagnosis Menu** are broken down into the following menus:

▲ **Diagnosis**

- | | |
|-----------------|-----------------------------|
| +Read Codes | +Freeze Frame |
| +Erase Codes | +Vehicle Info. |
| +Live Data | +I/M Readiness |
| -All Datastream | +On-Board Monitoring |
| -Graph Display | +O ₂ Sensor Test |
| -Record | +Component Test |
| -Playback | |

▲ **DTC Lookup**

▲ **Battery**

▲ **Settings**

- | | | | | |
|---------------|----------------|------------|----------|-----------|
| +Languages | | | | |
| -English | -En français | -Русский | -Deutsch | -Italiano |
| -日本語 | -Español | -Português | -中文(繁) | |
| +Unit | | | | |
| -Metric | -English | | | |
| +Data Logging | | | | |
| +Self-test | | | | |
| -Display Test | -Keyboard Test | | | |

▲ **System Info**

- ▲ Function is only on main menu.
- + Function is only on secondary menu.
- Function is only on third level menu.

3.1 Diagnosis Functions

Read Codes

Reads DTCs from vehicle's computer with KOEO or KOER.

Erase Codes

Deletes DTCs from vehicle's memory.

Live Data

Live Data menu lets you view, record and playback real time PIDs data from the electronic control module.

** In live data menu, you can insert the selected item to front by holding pressing the  key for 3 seconds.*

All Datastream

Views vehicle Parameter Identification Data (PIDs) in real time.

PIDs are displayed in either a text format or graph format when available.

Graph Display

Show the live data via graph mode, select PIDs by  key, enter the graph by  key switch the PIDs by  and  key.

Record

Record the PIDs frame, select PIDs by  key, enter the record page by  key. Select the storage slot location to start record.

Playback

Choose the record slot to playback the live data, switch frame by  and  key.

Freeze Frame

Displays a snapshot of operating conditions at the time of a fault.

Vehicle Info.

Scan tool displays the vehicle's VIN number, Calibration ID (s) and CVN that identify the software version in the vehicles control module (s.)

The tool also displays In-Use Performance Tracking of important readiness monitors.

I/M Readiness

Displays a snapshot of the state of the vehicle's OBDII Monitors.

NOTE:

- * To review I/M Readiness status, make sure that the ignition key is switched to ON with the engine off.
- * Not all monitors are supported by all vehicles.

There are two types of I/M Readiness tests:

- * since DTCs Cleared -shows status of the monitors since the DTCs were last cleared.
- * This Drive Cycle-shows status of monitors since the start of the current drive cycle.

Abbreviations Explanation of IM Readiness

No.	Abbreviation	Name	No.	Abbreviation	Name
1	MIL	Malfunction Indicator Lamp (MIL) Status	8	IGN	Ignition Key
2	DTC	Data Link Connector	9	PdDTC	Pending DTC
3	MIS	Misfire Monitoring	10	EVAP	Evaporative System Monitor
4	FUE	Fuel System Monitor	11	AIR	Air Conditioning Refrigerant Monitor
5	CCM	Comprehensive Components Monitor	12	O ₂ S	Oxygen Sensor Monitor
6	CAT	Catalyst Monitor	13	HTR	Heated catalyst monitor
7	HCAT	Heated Catalyst Monitor	14	EGR	Exhaust Gas Recirculation System Monitor

When the monitor's status is:

-  OK — vehicle was driven enough to complete the monitor.
-  INC (Incomplete) — vehicle was not driven enough to complete the monitor.
-  N/A (Not Applicable) — vehicle does not support that monitor.

I/M Readiness			
MIL	OFF	IGN	Spark
DTC	5	PdDTC	10
MIS		EVAP	
FUE		AIR	
CCM		O2S	
CAT		HTR	
HCAT		EGR	

On-Board Monitoring

Scan tool controls the operation of vehicle components, tests or systems.

O₂ Sensor Test

Displays oxygen sensor monitoring test results from the vehicle's memory, the O₂ Monitor Test is NOT an ON-DEMAND TEST.

Component Test

Tool will display a list of components and their locations on the vehicle.

This function will always appear on the Main Menu.

This selection will appear on the Diagnostic Menu only when the tool has a list of component locations for the currently selected vehicle.

3.2 DTC Lookup

Looks up definitions of DTCs stored in scan tool, and shows the possible causes of the DTC. (NOT every DTC with possible causes reason)

3.3 Battery

Display battery condition, Max value & Min value by graph in real time.

3.4 Settings

Changes tool settings, displays tool information, and performs tool self-tests.

Languages

Allows the user to change the language used by the tool. English is default.

Unit

Changes measurement units display metric or english.

Data Logging

Turn on /off the data log function to record the device data through vehicle.

Self-test

Display Test

Used to check the display screen.

Keyboard Test

Verifies that the keys are working correctly.

3.5 System Info

Display the device hardware information , software information , release date and serial number, etc.

5. Abbreviation Appendix of Live Data

NO	Abbreviation	Explanation
1	2ND AIR SYS	Secondary Air System Monitor
2	2ND O2S COMP B1 CNT	Secondary O2 Sensor Monitor Completion Counts Bank 1
3	2ND O2S COMP B2 CNT	Secondary O2 Sensor Monitor Completion Counts Bank 2
4	2ND O2S COND ENCONT B1 CNT	Secondary O2 Sensor Monitor Conditions Encountered Counts Bank 1
5	2ND O2S COND ENCONT B2 CNT	Secondary O2 Sensor Monitor Conditions Encountered Counts Bank 2
6	A/C REF	A/C System Refrigerant Monitor
7	AAT	Ambient Air Temperature
8	AIR_STAT	Commanded Secondary Air Status
9	AIR2 COMP	AIR Monitor Completion Condition Counts (Secondary Air)
10	AIR2 COND	AIR Monitor Conditions Encountered Counts (Secondary Air)
11	ATP_B	Absolute Throttle Position B
12	ATP_C	Absolute Throttle Position C
13	ATP_D	Absolute Throttle Position D
14	ATP_E	Absolute Throttle Position E
15	ATP_F	Absolute Throttle Position F
16	BARO	Barometric Pressure
17	BOOST PRESSURE Cmpl CNT	Boost Pressure Monitor Completion Condition Counts
18	BOOST PRESSURE COND ENCONT	Boost Pressure Monitor Conditions Encountered Counts
19	CALID	Calibration Identifications
20	CAT	Catalyst Monitor
21	CAT COMP1	Catalyst Monitor Completion Counts Bank 1
22	CAT COMP2	Catalyst Monitor Completion Counts Bank 2
23	CAT COND1	Catalyst Monitor Conditions Encountered Counts Bank 1
24	CAT COND2	Catalyst Monitor Conditions Encountered Counts Bank 2
25	CATEMP11	Catalyst Temperature Bank 1, Sensor 1
26	CATEMP12	Catalyst Temperature Bank 1, Sensor 2
27	CATEMP21	Catalyst Temperature Bank 2, Sensor 1
28	CATEMP22	Catalyst Temperature Bank 2, Sensor 2
29	CCM	Comprehensive Component Monitor
30	CLR DIST	Distance Traveled Since DTCs Cleared

NO	Abbreviation	Explanation
31	CVN	Calibration Verification Numbers
32	DTCFRZF	DTC That Caused Required Freeze Frame Data Storage
33	ECT	Engine Coolant Temperature
34	EGR COMP	EGR Monitor Completion Condition Counts
35	EGR COND	EGR Monitor Conditions Encountered Counts
36	EGR ERR	Exhaust Gas Recirculation Error
37	EGR PCT	Commanded Exhaust Gas Recirculation
38	EGR SYS	Exhaust Gas Recirculation System
39	EGR/VVT CMPL CONT	EGR and/or VVT Monitor Completion Condition Counts
40	EGR/VVT ENCONT	EGR and/or VVT Monitor Conditions Encountered Counts
41	EOT	Engine Run Time Since DTCs Cleared
42	EQ RAT11	Equivalence Ratio (lambda)(B1-S1)
43	EQ RAT12	Equivalence Ratio (lambda)(B1-S2)
44	EQ RAT13	Equivalence Ratio (lambda)(B1-S3)
45	EQ RAT14	Equivalence Ratio (lambda)(B1-S4)
46	EQ RAT21	Equivalence Ratio (lambda)(B2-S1)
47	EQ RAT22	Equivalence Ratio (lambda)(B2-S2)
48	EQ RAT23	Equivalence Ratio (lambda)(B2-S3)
49	EQ RAT24	Equivalence Ratio (lambda)(B2-S4)
50	EQ RAT31	Equivalence Ratio (lambda)(B3-S1)
51	EQ RAT32	Equivalence Ratio (lambda)(B3-S2)
52	EQ RAT41	Equivalence Ratio (lambda)(B4-S1)
53	EQ RAT42	Equivalence Ratio (lambda)(B4-S2)
54	EQ RAT	Fuel/Air Commanded Equivalence Ratio
55	EVAP	Evaporative System Monitor
56	EVAP COMP	EVAP Monitor Completion Condition Counts
57	EVAP COND	EVAP Monitor Conditions Encountered Counts
58	EVAP VP	Evap System Vapor Pressure
59	EWMA MISFIRE LST 10 CYC	(Exponential Weighted Moving Average) Misfire Counts For Last Ten Driving Cycles
60	EXHAUST GAS SNSR CMPL CONT	Exhaust Gas Sensor Monitor Completion Condition Counts

NO	Abbreviation	Explanation
61	EXHAUST GAS SNSR ENCONT	Exhaust Gas Sensor Monitor Conditions Encountered Counts
62	FLI	Fuel Level Input
63	FRP	Fuel Rail Pressure
64	FRP	Fuel Rail Pressure(gauge)
65	FRP RMV	Fuel Rail Pressure Relative to Manifold Vacuum
66	FUEL	Fuel System Monitor
67	FUELSYS1	Fuel System 1
68	FUELSYS2	Fuel System 2
69	HIGH SNSR VTG TM CAL (CONST)	High Sensor Voltage For Switch Time Calculation (Constant)
70	HTR CAT	Heated Catalyst Monitor
71	IAT	Intake Air Temperature
72	IGN CYC CNTR	Ignition Cycle Counter
73	IMAP	Intake Manifold Absolute Pressure
74	IN-USE PERF TC IGN ENG	In-use Performance Tracking-compression Ignition Engines
75	IPT	In-use Performance Tracking-spark Ignition Engines
76	LEAN TO RICH SNSR TM (CAL)	Lean To Rich Sensor Switch Time (Calculated)
77	LEAN TO RICH SNSR/V	Lean to Rich Sensor Threshold Voltage (Constant)
78	LOAD_ABS	Absolute Load Value
79	LOAD_PCT	Calculated Load Percentage
80	LONGFT1	Long Term Fuel Trim - Bank 1
81	LONGFT2	Long Term Fuel Trim - Bank 2
82	LONGFT3	Long Term Fuel Trim - Bank 3
83	LONGFT4	Long Term Fuel Trim - Bank 4
84	LOW SNSR VTG TM CAL (CONST)	Low Sensor Voltage For Switch Time Calculation (Constant)
85	MAF	Air Flow Rate From Mass Air Flow Sensor
86	MAX SNSR VTG TEST CYCLE(CAL)	Maximum Sensor Voltage For Test Cycle (Calculated)
87	MIL	Malfunction Indicator Lamp
88	MIL DIST	Distance Traveled While MIL is Activated
89	MIL TIME	Engine Run Time While MIL is Activated
90	MIN SNSR VTG TEST CYCLE (CAL)	Minimum Sensor Voltage For Test Cycle (calculated)

NO	Abbreviation	Explanation
91	MIS	Misfire Monitor
92	MISFIRE CNT LAST/CUR CYC	Misfire Counts For Last/Current Driving Cycles
93	NMHC CMPL COND CONT	NMHC Catalyst Monitor Completion Condition Counts
94	NMHC COND ENCONT	NMHC Catalyst Monitor Conditions Encountered Counts
95	NOX ADSORBER CMPL COND CONT	NOx Adsorber Monitor Completion Condition Counts
96	NOX ADSORBER COND ENCONT	NOx Adsorber Monitor Conditions Encountered Counts
97	NOX CAT CMPL COND CONT	NOx Catalyst Monitor Completion Condition Counts
98	NOX CAT COND ENCONT	NOx Catalyst Monitor Conditions Encountered Counts
99	O2B1S1	Oxygen Sensor Output Voltage B1S1
100	O2B1S3	Oxygen Sensor Output Voltage B1S3
101	O2B1S4	Oxygen Sensor Output Voltage B1S4
102	O2B2S1	Oxygen Sensor Output Voltage B2S1
103	O2B2S2	Oxygen Sensor Output Voltage B2S2
104	O2B2S3	Oxygen Sensor Output Voltage B2S3
105	O2B2S4	Oxygen Sensor Output Voltage B2S4
106	O2B3S1	Oxygen Sensor Output Voltage B3S1
107	O2B3S2	Oxygen Sensor Output Voltage B3S2
108	O2B4S1	Oxygen Sensor Output Voltage B4S1
109	O2B4S2	Oxygen Sensor Output Voltage B4S2
110	O2B1S1	Oxygen Sensor Current (B1-S1)
111	O2B1S2	Oxygen Sensor Current (B1-S2)
112	O2B1S3	Oxygen Sensor Current (B1-S3)
113	O2B1S4	Oxygen Sensor Current (B1-S4)
114	O2B2S1	Oxygen Sensor Current (B2-S1)
115	O2B2S1	Oxygen Sensor Current (B2-S1)
116	O2B2S2	Oxygen Sensor Current (B2-S2)
117	O2B2S3	Oxygen Sensor Current (B2-S3)
118	O2B2S4	Oxygen Sensor Current (B2-S4)
119	O2B3S1	Oxygen Sensor Current (B3-S1)
120	O2B3S2	Oxygen Sensor Current (B3-S2)

NO	Abbreviation	Explanation
121	O2B4S1	Oxygen Sensor Current (B4-S1)
122	O2B4S2	Oxygen Sensor Current (B4-S2)
123	O2B1S1	Oxygen Sensor Voltage (B1-S1)
124	O2B1S2	Oxygen Sensor Voltage (B1-S2)
125	O2B1S3	Oxygen Sensor Voltage (B1-S3)
126	O2B1S4	Oxygen Sensor Voltage (B1-S4)
127	O2B2S1	Oxygen Sensor Voltage (B2-S1)
128	O2B2S2	Oxygen Sensor Voltage (B2-S2)
129	O2B2S3	Oxygen Sensor Voltage (B2-S3)
130	O2B2S4	Oxygen Sensor Voltage (B2-S4)
131	O2B3S1	Oxygen Sensor Voltage (B3-S1)
132	O2B3S2	Oxygen Sensor Voltage (B3-S2)
133	O2B4S1	Oxygen Sensor Voltage (B4-S1)
134	O2B4S2	Oxygen Sensor Voltage (B4-S2)
135	O2S	Oxygen Sensor Monitor
136	O2S COMP1	O2 Sensor Monitor Completion Counts Bank 1
137	O2S COMP2	O2 Sensor Monitor Completion Counts Bank 2
138	O2S COND1	O2 Sensor Monitor Conditions Encountered Counts Bank 1
139	O2S COND2	O2 Sensor Monitor Conditions Encountered Counts Bank 2
140	O2S HTR	Oxygen Sensor Heater Monitor
141	O2SLOC	Location of Oxygen Sensors
142	OBD COND	OBD Monitoring Conditions Encountered Counts
143	OBDSUP	OBD Requirements To Which Vehicle or Engine Is Certified
144	PM FILTER CMPL COND CONT	PM Filter Monitor Completion Condition Counts
145	PM FILTER COND ENCONT	PM Filter Monitor Conditions Encountered Counts
146	PTO	Power Take Off (PTO)
147	RICH TO LEAN SNSR/V	Rich To Lean Sensor Threshold Voltage (Constant)
148	RICH TO LEAN TM CAL	Rich To Lean Sensor Switch Time (Calculated)
149	RPM	Engine RPM
150	RUNTM	Time Since Engine Start

NO	Abbreviation	Explanation
151	SHRTFT1	Short Term Fuel Trim - Bank 1
152	SHRTFT2	Short Term Fuel Trim - Bank 2
153	SHRTFT3	Short Term Fuel Trim - Bank 3
154	SHRTFT4	Short Term Fuel Trim - Bank 4
155	SHRTFTB1S1	Short Term Fuel Trim B1S1
156	SHRTFTB1S3	Short Term Fuel Trim B1S3
157	SHRTFTB1S4	Short Term Fuel Trim B1S4
158	SHRTFTB2S1	Short Term Fuel Trim B2S1
159	SHRTFTB2S2	Short Term Fuel Trim B2S2
160	SHRTFTB2S3	Short Term Fuel Trim B2S3
161	SHRTFTB2S4	Short Term Fuel Trim B2S4
162	SHRTFTB3S1	Short Term Fuel Trim B3S1
163	SHRTFTB3S2	Short Term Fuel Trim B3S2
164	SHRTFTB4S2	Short Term Fuel Trim B4S2
165	SNSR PERIOD(CAL)	Sensor Period (calculated)
166	SPARKADV	Ignition Timing Advance For #1 Cylinder
167	TAC_PCT	Commanded Throttle Actuator Control
168	TM BTW SNSR TRANS(CAL)	Time Between Sensor Transitions (Calculated)
169	TP	Absolute Throttle Position
170	TP_R	Relative Throttle Position
171	VIN	Vehicle Identification Number
172	VPWR	Control Module Voltage
173	VSS	Vehicle Speed Sensor
174	WARM UPS	Number Of Warm-ups Since DTCs Cleared