

2017 ENGINE PERFORMANCE**Engine Controls and Fuel - 1.4L (LUV) - Specifications - Encore, Trax****SPECIFICATIONS****TEMPERATURE VERSUS RESISTANCE - INTAKE AIR TEMPERATURE SENSOR (BOSCH SENSOR)**

Temperature C°/F°	Resistance Minimum Ohms	Resistance Maximum Ohms
Bosch Intake Air Temperature (IAT) Sensor		
-40/-40	36,595	42,717
-20/-4	12,947	14,744
-10/14	8,082	9,105
0/32	5,191	5,789
20/68	2,309	2,530
25/77	1,913	2,088
40/104	1,122	1,210
60/140	587	625
80/176	328	345
100/212	193	201
120/248	119	125
140/284	76	81

TEMPERATURE VERSUS RESISTANCE - INTAKE AIR TEMPERATURE SENSOR (DELCO SENSOR)

Temperature C°/F°	Resistance Minimum Ohms	Resistance Maximum Ohms
Delco Intake Air Temperature (IAT) Sensor		
-40/-40	42,661	54,224
-20/-4	14,039	17,333
-10/14	8,529	10,399
0/32	5,358	6,458
20/68	2,308	2,727
25/77	1,904	2,236
40/104	1,113	1,292
60/140	571	655
80/176	309	351
100/212	175	197
120/248	103	116
140/284	67	73
150/302	54	59

TEMPERATURE VERSUS RESISTANCE - ENGINE COOLANT TEMPERATURE SENSOR

Temperature	Resistance
150° C (302° F)	47 to 49 ohms
140° C (284° F)	58 to 62 ohms
130° C (266° F)	76 to 80 ohms
120° C (248° F)	98 to 104 ohms

Temperature	Resistance
110Â°C (230Â°F)	130 to 136 ohms
100Â°C (212Â°F)	174 to 182 ohms
90Â°C (194Â°F)	237 to 247 ohms
80Â°C (176Â°F)	327 to 341 ohms
70Â°C (158Â°F)	459 to 479 ohms
60Â°C (140Â°F)	656 to 686 ohms
50Â°C (122Â°F)	958 to 1002 ohms
45Â°C (113Â°F)	1167 to 1223 ohms
40Â°C (104Â°F)	1430 to 1500 ohms
35Â°C (95Â°F)	1763 to 1849 ohms
30Â°C (86Â°F)	2185 to 2295 ohms
25Â°C (77Â°F)	2725 to 2865 ohms
20Â°C (68Â°F)	3418 to 3604 ohms
15Â°C (59Â°F)	4318 to 4564 ohms
10Â°C (50Â°F)	5493 to 5823 ohms
5Â°C (41Â°F)	7041 to 7485 ohms
0Â°C (32Â°F)	9097 to 9701 ohms
-5Â°C (23Â°F)	11844 to 12678 ohms
-10Â°C (14Â°F)	15540 to 16700 ohms
-15Â°C (5Â°F)	20559 to 22183 ohms
-20Â°C (-4Â°F)	27439 to 29725 ohms
-30Â°C (-22Â°F)	50264 to 54924 ohms
-40Â°C (-40Â°F)	95953 to 105777 ohms

ALTITUDE VERSUS BAROMETRIC PRESSURE

Altitude Measured in Meters (m)	Altitude Measured in Feet (ft)	Barometric Pressure Measured in Kilopascals (kPa)	Barometric Pressure Measured in Pounds Per Square Inch (PSI)
Determine your altitude by contacting a local weather station or by using another reference source.			
4,267	14,000	56-64	8.1-9.3
3,962	13,000	58-66	8.4-9.6
3,658	12,000	61-69	8.8-10.0
3,353	11,000	64-72	9.3-10.4
3,048	10,000	66-74	9.6-10.7
2,743	9,000	69-77	10.0-11.2
2,438	8,000	71-79	10.3-11.5
2,134	7,000	74-82	10.7-11.9
1,829	6,000	77-85	11.2-12.3
1,524	5,000	80-88	11.6-12.8
1,219	4,000	83-91	12.0-13.2
914	3,000	87-95	12.6-13.8
610	2,000	90-98	13.1-14.2
305	1,000	94-102	13.6-14.8
0	0 Sea Level	96-104	13.9-15.1
-305	-1,000	101-105	14.6-15.2

IGNITION SYSTEM SPECIFICATIONS

Application	Specification
Ignition System Type	K35 Ignition Coil Module

Application	Specification
Firing Order	1-3-4-2
Spark Plug Torque	Refer to: <u>Fastener Specifications</u>
Spark Plug Gap	0.70 mm (0.028 in)
Spark Plug Type	Refer to: Electronic Parts Catalog

FASTENER SPECIFICATIONS

Single Use Non-Threaded Fasteners/Components

NOTE:

All fasteners/components listed in this table MUST BE DISCARDED and replaced with NEW after removal.

Application
Fuel Injector Seal Ring
Fuel Sender O-Ring Gasket
Fuel Tank Fuel Pump Module O-Ring Gasket
Throttle Body Seal Ring

Reusable Threaded Fastener Tightening Specifications

NOTE:

All fasteners listed in this table can be reused after removal.

Application	Specification
	Metric (English)
Accelerator Pedal Position Sensor Fastener	6 N.m (53 lb in)
Camshaft Position Actuator Solenoid Valve Bolt	8 N.m (71 lb in)
Camshaft Position Sensor Fastener	6 N.m (53 lb in)
Charge Air Bypass Valve Cover Fastener	12 N.m (106 lb in)
Charge Air Cooler Fastener	10 N.m (89 lb in)
Crankshaft Position Sensor Fastener	8 N.m (71 lb in)
Engine Control Module Fastener	9 N.m (80 lb in)
Engine Oil Pressure Indicator Switch	20 N.m (15 lb ft)
Fuel Injection Fuel Rail Bolt	7 N.m (62 lb in)
Fuel Pump Flow Control Module Bolt	9 N.m (80 lb in)
Fuel Tank Filler Pipe Fastener	9 N.m (80 lb in)
Fuel Tank Strap Fastener	22 N.m (16 lb ft)
Heated Oxygen Sensor	42 N.m (31 lb ft)
Ignition Coil Assembly Fastener	8 N.m (71 lb in)
Knock Sensor Fastener	20 N.m (15 lb ft)
Manifold Absolute Pressure Sensor Fastener	10 N.m (89 lb in)
Mass Airflow Sensor Fastener	5 N.m (44 lb in)
Spark Plug	25 N.m (18 lb ft)
Throttle Body Fastener	8 N.m (71 lb in)

APPROXIMATE FLUID CAPACITIES

Application	Specification	
	Metric	English
Fuel Tank Capacity	53 liters	14 gallons

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