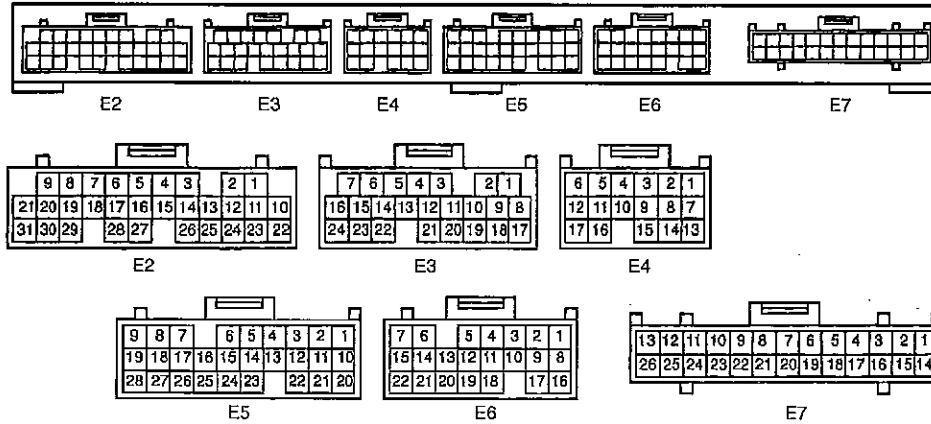


**2000 Lexus GS 400**  
**Fig. 5: Pin Voltage Chart (GS400 - 1 Of 2)**  
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.



Symbols (Terminal No.)	Wiring Color	Condition	STD Voltage (V)
BATT (E6-1) - E1 (E3-17)	B-Y ↔ BR	Always	9 - 14
+BM (E6-7) - E1 (E3-17)	V-Y ↔ BR		
IGSW (E6-9) - E1 (E3-17)	B-O ↔ BR	IG switch ON	9 - 14
+B (E6-16) - E1 (E3-17)	B-R ↔ BR		
+B2 (E6-8) - E1 (E3-17)	B-R ↔ BR		
VC (E3-2) - E2 (E3-18)	L-Y ↔ BR	IG switch ON	4.5 - 5.5
VTA (E3-13) - E2 (E3-18)	R-B ↔ BR	IG switch ON, Accelerator pedal released	0.4 - 1.0
		IG switch ON, Accelerator pedal depressed	3.2 - 4.8
VTA2 (E3-20) - E2 (E3-18)	L-B ↔ BR	IG switch ON, Accelerator pedal released	2.0 - 2.9
		IG switch ON, Accelerator pedal depressed	4.6 - 5.1
VPA (E3-21) - E2 (E3-18)	L-W ↔ BR	IG switch ON, Accelerator pedal released	0.3 - 0.9
		IG switch ON, Accelerator pedal depressed	3.2 - 4.8
VPA2 (E3-9) - E2 (E3-18)	Y-B ↔ BR	IG switch ON, Accelerator pedal released	1.8 - 2.7
		IG switch ON, Accelerator pedal depressed	4.7 - 5.1
VG (E3-10) - EVG (E3-19)	R-L ↔ GR	Idling, P or N position, A/C switch OFF	0.5 - 3.0
THA (E3-22) - E2 (E3-18)	W-R ↔ BR	Idling, Intake air temp. 20°C (68°F)	0.5 - 3.4
THW (E3-14) - E2 (E3-18)	B-R ↔ BR	Idling, Engine coolant temp. 80°C (176°F)	0.2 - 1.0
STA (E5-17) - E1 (E3-17)	B ↔ BR	Shift lever position P or N position, Ignition switch START	6.0 or more
#10 (E3-5) - E01 (E2-21)	Y ↔ W-B	IG switch ON	9 - 14
#20 (E3-6) - E01 (E2-21)	B-R ↔ W-B		
#30 (E2-1) - E01 (E2-21)	L ↔ W-B	Idling	Pulse generation
#40 (E2-2) - E01 (E2-21)	R ↔ W-B		
#50 (E2-3) - E01 (E2-21)	W ↔ W-B		
#60 (E2-4) - E01 (E2-21)	R-L ↔ W-B		
#70 (E2-6) - E01 (E2-21)	G ↔ W-B		
#80 (E2-6) - E01 (E2-21)	B ↔ W-B		
CL+ (E4-12) - CL- (E3-8)	G-R ↔ Y-R	Idling	Pulse generation
M+ (E2-8) - E1 (E3-17)	G ↔ BR	Idling	Pulse generation
M- (E2-7) - E1 (E3-17)	R ↔ BR		
SIL (E6-11) - E1 (E3-17)	W ↔ BR	During transmission	Pulse generation
SP2+ (E4-5) - SP2- (E4-11)	L-Y ↔ R-L	Vehicle is driving	Pulse generation

G99C52870

## 2000 Lexus GS 400

## Fig. 6: Pin Voltage Chart (GS400 - 2 Of 2)

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

IGT1 (E2-11) - E1 (E3-17) IGT2 (E2-12) - E1 (E3-17) IGT3 (E2-13) - E1 (E3-17) IGT4 (E2-14) - E1 (E3-17) IGT5 (E2-15) - E1 (E3-17) IGT6 (E2-16) - E1 (E3-17) IGT7 (E2-25) - E1 (E3-17) IGT8 (E2-26) - E1 (E3-17)	Y-B ↔ BR Y-G ↔ BR R-W ↔ BR B-R ↔ BR L-Y ↔ BR R-L ↔ BR Y-R ↔ BR L-W ↔ BR	Idling	Pulse generation
IGF1 (E2-27) - E1 (E3-17) IGF2 (E2-28) - E1 (E3-17)	R-Y ↔ BR R ↔ BR	IG switch ON	4.5 - 5.5
		Idling	Pulse generation
G2 (E2-10) - NE- (E2-22)	Y ↔ L	Idling	Pulse generation
NE+ (E2-23) - NE- (E2-22)	W ↔ L		
M-REL (E6-10) - E1 (E3-17)	B-Y ↔ BR	IG switch ON	9 - 14
DI (E6-4) - E1 (E3-17)	B-R ↔ BR	IG switch ON	0 - 3.0
FPC (E6-5) - E1 (E3-17)	B-L ↔ BR	IG switch ON	9 - 14
STP (E5-6) - E1 (E3-17)	G-W ↔ BR	Brake pedal is depressed	7.5 - 14
		Brake pedal is released	Below 1.5
PRG (E3-7) - E1 (E3-17)	B-Y ↔ BR	IG switch ON	9 - 14
TPC (E5-10) - E1 (E3-17)	W-R ↔ BR	IG switch ON	9 - 14
PTNK (E5-22) - E2 (E3-18)	L-Y ↔ BR	Ignition switch ON	2.9 - 3.7
		Apply vacuum 4.0 kPa (30 mmHg, 1.18 in.Hg)	Below 0.5
OXL1 (E3-12) - E1 (E3-17) OXR1 (E3-11) - E1 (E3-17)	W ↔ BR B ↔ BR	Maintain engine speed at 2,500 rpm for 90 sec. after warming up	Pulse generation
OXL2 (E5-18) - E1 (E3-17) OXR2 (E5-27) - E1 (E3-17)	W ↔ BR R ↔ BR	Maintain engine speed at 2,500 rpm for 3 min. after warming up	Pulse generation
HTL (E3-4) - E1 (E3-17) HTL2 (E5-8) - E1 (E3-17)	Y-G ↔ BR GR ↔ BR	Idling	Below 3.0
HTR (E3-3) - E1 (E3-17) HTR2 (E5-7) - E1 (E3-17)	R-Y ↔ BR GR-B ↔ BR	IG switch ON	9 - 14
KNKL (E2-18) - E1 (E3-17)	GR ↔ BR	Maintain engine speed at 4,000 rpm after warming up	Pulse generation
KNKR (E2-17) - E1 (E3-17)	B ↔ BR		
TC (E5-5) - E1 (E3-17)	P-B ↔ BR	IG switch ON	9 - 14
W (E6-6) - E1 (E3-17)	GR-R ↔ BR	Idling	9 - 14
		IG switch ON	Below 3.0
ACMG (E5-13) - E1 (E3-17)	L-O ↔ BR	A/C switch ON (at idling)	Below 3.0
		A/C switch OFF	9 - 14
ENG+ (E6-14) - ENG- (E6-21) TRC+ (E6-13) - TRC- (E6-20)	LG ↔ L P ↔ V	Idling	Pulse generation
VVL+ (E3-16) - VVL- (E3-24)	R ↔ G	Idling	Pulse generation
VVR+ (E3-15) - VVR- (E3-23)	Y ↔ L		
OCV+ (E2-20) - OCV- (E2-19)	W-R ↔ L-B	IG switch ON	Pulse generation
OCR+ (E5-19) - OCR- (E5-28)	W-G ↔ Y-R		
ACIS (E2-29) - E01 (E2-21)	B-L ↔ W-B	IG switch ON	9 - 14
		Engine speed between 2,500 rpm and 4,000 rpm	Below 3.0

G99D52855

## ARTICLE BEGINNING

### INTRODUCTION

Pin voltage charts are used for diagnosing intermittent symptoms and faults that are unable to be resolved during self-diagnostics. Pin voltage tests ensure the Engine Control Module (ECM) is receiving and transmitting proper voltage and other signals. Before performing pin voltage tests, ensure engine mechanical condition has been thoroughly inspected and self-diagnostics has been attempted. Technical Service Bulletins (TSBs) may also be helpful in correcting a hard to diagnose problem.

**NOTE:** Unless stated otherwise in testing procedures, perform all voltage tests using a Digital Volt-Ohmmeter (DVOM) with a minimum 10-megohm input impedance. Voltage readings may vary slightly due to battery condition or charging rate. When battery is disconnected, vehicle computer and memory systems may lose memory data. Driveability problems may exist until computer systems have completed a relearn cycle.

### ENGINE CONTROL MODULE LOCATION

For Engine Control Module (ECM) location, see ECM LOCATION table.

#### ECM LOCATION

Model	(1) Location
ES300, LS400, LX470 & RX300	Behind Glove Box
GS300 & GS400	Driver's Side Front Corner Of Engine Compartment
SC300 & SC400	Under Passenger's Side Front Carpet Below Instrument Panel
(1) For illustration of ECM location, see THEORY & OPERATION article.	

**NOTE:** An engine immobilizer system is used on all models. If ECM is replaced, ECM must be programmed with proper ignition key code for engine immobilizer system. For programming procedures, see COMPUTER RELEARN PROCEDURES article in GENERAL INFORMATION.

### PIN VOLTAGE CHARTS

### PIN VOLTAGE CHART INDEX

For appropriate pin voltage chart figure reference, see PIN VOLTAGE CHART INDEX table.

**PIN VOLTAGE CHART INDEX**

<b>Model</b>	<b>Figure Reference</b>
ES300	<u><a href="#">Fig. 1</a></u>
GS300	<u><a href="#">Fig. 3</a></u>
GS400	<u><a href="#">Fig. 5</a></u>
LS400	<u><a href="#">Fig. 7</a></u>
LX470	<u><a href="#">Fig. 10</a></u>
RX300	<u><a href="#">Fig. 12</a></u>
SC300	<u><a href="#">Fig. 14</a></u>
SC400	<u><a href="#">Fig. 16</a></u>

**NOTE:** When using pin voltage chart, it may be necessary to determine wire color by using wire color abbreviation. See [WIRE COLOR ABBREVIATIONS](#) table.

**WIRE COLOR ABBREVIATIONS <sup>(1)</sup>**

<b>Wire Color Abbreviation</b>	<b>Wire Color</b>
B	Black
BR	Brown
G	Green
GR	Gray
L	Blue
LG	Light Green
O	Orange
P	Pink
R	Red
SB	Sky Blue
V	Violet
W	White
Y	Yellow

(1) Example: L-Y is a Blue wire with a Yellow tracer.

**NOTE:** For wiring circuit identification, see appropriate wiring diagram in [WIRING DIAGRAMS](#) article.

**[Fig. 1: Pin Voltage Chart \(ES300 - 1 Of 2\)](#)**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**[Fig. 2: Pin Voltage Chart \(ES300 - 2 Of 2\)](#)**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**[Fig. 3: Pin Voltage Chart \(GS300 - 1 Of 2\)](#)**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**Fig. 4: Pin Voltage Chart (GS300 - 2 Of 2)**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**Fig. 5: Pin Voltage Chart (GS400 - 1 Of 2)**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**Fig. 6: Pin Voltage Chart (GS400 - 2 Of 2)**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**Fig. 7: Pin Voltage Chart (LS400 - 1 Of 3)**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**Fig. 8: Pin Voltage Chart (LS400 - 2 Of 3)**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**Fig. 9: Pin Voltage Chart (LS400 - 3 Of 3)**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**Fig. 10: Pin Voltage Chart (LX470 - 1 Of 2)**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**Fig. 11: Pin Voltage Chart (LX470 - 2 Of 2)**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**Fig. 12: Pin Voltage Chart (RX300 - 1 Of 2)**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**Fig. 13: Pin Voltage Chart (RX300 - 2 Of 2)**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**Fig. 14: Pin Voltage Chart (SC300 - 1 Of 2)**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**Fig. 15: Pin Voltage Chart (SC300 - 2 Of 2)**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**Fig. 16: Pin Voltage Chart (SC400 - 1 Of 2)**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

**Fig. 17: Pin Voltage Chart (SC400 - 2 Of 2)**  
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.