

## C - SPECIFICATIONS

### 1998 Toyota Supra

1998 ENGINE PERFORMANCE  
Toyota - Service & Adjustment Specifications

Avalon, Camry, Celica, Corolla, Land Cruiser, LX470, RAV4,  
Sienna, Supra, Tacoma, Tercel, T100, 4Runner

### INTRODUCTION

**NOTE:** References to California models apply to California emission vehicles, which may be verified by underhood Emission Control label. California emissions may be available in other states.

Use this article to quickly find specifications related to servicing and on-vehicle adjustments. This is a quick-reference article to use when you are familiar with an adjustment procedure and only need a specification.

### CAPACITIES

**CAUTION:** Some transaxles may require that differential be filled separately from transaxle. A separate quantity of lubricant is required for differential. See appropriate FLUID CAPACITIES table.

AVALON FLUID CAPACITIES TABLE

Application	(1) Quantity
Crankcase (Includes Filter) (2)	5.0 Qts. (4.7L)
Cooling System (Includes Heater)	9.8 Qts. (9.3L)
Automatic Transaxle (Dexron-III)	
Drain & Refill	4.1 Qts. (3.9L)
Dry Fill	8.5 Qts. (8.0L)
Differential (Dexron-III)	.9 Qt. (.85L)
Power Steering Fluid (Dexron-III)	(3)

(1) - Approximate quantity is listed.

(2) - Use an API SH or SJ energy conserving engine oil.

(3) - Information is not available.

CAMRY FLUID CAPACITIES TABLE

Application	(1) Quantity
Crankcase (Includes Filter) (2)	
2.2L 4-Cyl.	3.8 Qts. (3.6L)
3.0L V6	5.0 Qts. (4.7L)
Cooling System (Includes Heater)	
2.2L 4-Cyl.	7.3 Qts. (6.9L)
3.0L V6	9.6 Qts. (9.1L)
Manual Transaxle (SAE 75W-90/API GL-5)	
2.2L 4-Cyl.	2.7 Qts. (2.6L)
3.0L V6	4.4 Qts. (4.2L)
Automatic Transaxle (Dexron-III)	
2.2L 4-Cyl.	
Drain & Refill	2.6 Qts. (2.5L)
Dry Fill	5.9 Qts. (5.6L)

3.0L V6	
Drain & Refill .....	4.1 Qts. (3.9L)
Dry Fill .....	8.5 Qts. (8.0L)
Differential (Dexron-III) (3)	
2.2L 4-Cyl. A/T .....	1.7 Qts. (1.6L)
3.0L V6 A/T .....	.9 Qt. (.85L)
Power Steering Fluid (Dexron-III) .....	(4)

- (1) - Approximate quantity is listed.  
(2) - Use an API SH or SJ energy conserving engine oil.  
(3) - On M/T, differential fluid is included in transaxle capacity.  
(4) - Information is not available.

#### CELICA FLUID CAPACITIES TABLE

Application	(1) Quantity
Crankcase (Includes Filter) (2) .....	4.1 Qts. (3.9L)
Cooling System (Includes Heater)	
A/T .....	7.5 Qts. (7.1L)
M/T .....	7.1 Qts. (6.7L)
Manual Transaxle (SAE 75W-90/API GL-5) .....	2.3 Qts. (2.2L)
Automatic Transaxle (Dexron-III)	
Drain & Refill .....	2.6 Qts. (2.5L)
Dry Refill .....	5.9 Qts. (5.6L)
Differential (Dexron-III) (3)	
A/T .....	1.7 Qts. (1.6L)
Power Steering Fluid (Dexron-III) .....	(4)

- (1) - Approximate quantity is listed.  
(2) - Use an API SH or SJ energy conserving engine oil.  
(3) - On M/T, differential fluid is included in transaxle capacity.  
(4) - Information is not available.

#### COROLLA FLUID CAPACITIES TABLE

Application	(1) Quantity
Crankcase (Includes Filter) (2) .....	3.9 Qts. (3.7L)
Cooling System (Includes Heater)	
A/T .....	6.0 Qts. (5.7L)
M/T .....	6.1 Qts. (5.8L)
Manual Transaxle (SAE 75W-90/API GL-5) .....	2.0 Qts. (1.9L)
Automatic Transaxle	
3-Speed (Dexron-III)	
Drain & Refill .....	2.6 Qts. (2.5L)
Dry Refill .....	5.8 Qts. (5.5L)
4-Speed (Dexron-III)	
Drain & Refill .....	3.3 Qts. (3.1L)
Dry Refill .....	8.0 Qts. (7.6L)
Differential (3)	
3-Speed A/T (Dexron-III) .....	1.5 Qts. (1.4L)
Power Steering Fluid (Dexron-III) .....	(4)

- (1) - Approximate quantity is listed.  
(2) - Use an API SH or SJ energy conserving engine oil.  
(3) - On 4-speed A/T and all M/T, differential fluid is included in transaxle capacity.  
(4) - Information is not available.

# LAND CRUISER & LX470 FLUID CAPACITIES TABLE

Application	(1) Quantity
Crankcase (Includes Filter) (2)	7.2 Qts. (6.8L)
Cooling System (Includes Heater)	
With Front Heater Only	15.6 Qts. (14.8L)
With Front & Rear Heater	16.2 Qts. (15.3L)
Automatic Transmission (Dexron-III)	
Drain & Refill	2.0 Qts. (1.9L)
Dry Refill	12.4 Qts. (11.7L)
Differential	
Front Axle (SAE 80W-90/API GL-5)	1.8 Qts. (1.7L)
Rear Axle	
With Limited Slip Differential (LSD)	
(Hypoid Gear Oil LSD GL-5)	3.5 Qts. (3.3L)
With Rear Differential Lock	
(SAE 80W-90/API GL-5)	3.4 Qts. (3.2L)
Without Rear Differential Lock	
(SAE 80W-90/API GL-5)	3.5 Qts. (3.3L)
Power Steering Fluid (Dexron-III)	(3)
Transfer Case (SAE 75W-90/API GL-5)	1.4 Qts. (1.3L)

(1) - Approximate quantity is listed.

(2) - Use an API SH or SJ energy conserving engine oil.

(3) - Information is not available.

## RAV4 FLUID CAPACITIES TABLE

Application	(1) Quantity
Crankcase (Includes Filter) (2)	4.3 Qts. (4.1L)
Cooling System (Includes Heater)	
A/T	8.1 Qts. (7.7L)
M/T	8.5 Qts. (8.0L)
Manual Transaxle (SAE 75W-90/API GL-5)	
2WD	4.1 Qts. (3.9L)
4WD	5.3 Qts. (5.0L)
Automatic Transmission	
2WD (Dexron-III)	
Drain & Refill	3.3 Qts. (3.1L)
Dry Refill	8.5 Qts. (8.0L)
4WD (Toyota Type "T" ATF)	
Drain & Refill	3.5 Qts. (3.3L)
Dry Refill	7.4 Qts. (7.0L)
Differential (SAE 80W-90/API GL-5)	
4WD	
Rear Axle	1.0 Qt. (.9L)
Power Steering Fluid (Dexron-III)	(3)
Transfer Case (SAE 75W-90/API GL-5)	
4WD With A/T	.74 Qt. (.7L)

(1) - Approximate quantity is listed.

(2) - Use an API SH or SJ energy conserving engine oil.

(3) - Information is not available.

## SIENNA CAPACITIES TABLE

Application	(1) Quantity
Crankcase (Includes Filter) (2)	5.0 Qts. (4.7L)

Cooling System (Includes Heater)	
With Rear Heater .....	11.0 Qts. (10.4L)
Without Rear Heater .....	10.0 Qts. (9.5L)
Automatic Transaxle (Dexron-III)	
Drain & Refill .....	3.7 Qts. (3.5L)
Dry Fill .....	8.0 Qts. (7.6L)
Differential (Dexron-III) .....	.84 Qt. (.8L)
Power Steering Fluid (Dexron-III) .....	(3)

- (1) - Approximate quantity is listed.  
(2) - Use an API SH or SJ energy conserving engine oil.  
(3) - Information is not available.

#### SUPRA FLUID CAPACITIES TABLE

Application	(1) Quantity
Crankcase (Includes Filter) (2)	
Non-Turbo .....	5.8 Qts. (5.5L)
Turbo .....	5.3 Qts. (5.0L)
Cooling System (Includes Heater)	
Non-Turbo .....	8.8 Qts. (8.3L)
Turbo	
A/T .....	9.3 Qts. (8.8L)
M/T .....	9.4 Qts. (8.9L)
Manual Transmission (Toyota Gear Oil V160)	
Turbo .....	1.9 Qts. (1.8L)
Automatic Transmission (Type T-IV ATF)	
Non-Turbo	
Drain & Refill .....	1.7 Qts. (1.6L)
Dry Refill .....	7.6 Qts. (7.2L)
Turbo	
Drain & Refill .....	2.0 Qts. (1.9L)
Dry Refill .....	8.7 Qts. (8.2L)
Differential (SAE 80W-90/API GL-5) .....	1.4 Qts. (1.3L)
Power Steering Fluid (Dexron-III) .....	(3)

- (1) - Approximate quantity is listed.  
(2) - Use an API SH or SJ energy conserving engine oil.  
(3) - Information is not available.

#### TACOMA FLUID CAPACITIES TABLE

Application	(1) Quantity
Crankcase (Includes Filter) (2)	
2WD	
2.4L 4-Cyl. (2RZ-FE) .....	5.8 Qts. (5.5L)
3.4L V6 .....	5.7 Qts. (5.4L)
4WD	
2.7L 4-Cyl. (3RZ-FE) .....	5.7 Qts. (5.4L)
3.4L V6 .....	5.5 Qts. (5.2L)
Cooling System (Includes Heater)	
2WD	
A/T	
2.4L 4-Cyl. (2RZ-FE) .....	8.2 Qts. (7.8L)
3.4L V6 .....	10.0 Qts. (9.5L)
M/T	
2.4L 4-Cyl. (2RZ-FE) .....	8.5 Qts. (8.0L)
3.4L V6 .....	10.3 Qts. (9.7L)
4WD	

A/T		
2.7L 4-Cyl. (3RZ-FE)	8.7 Qts.	(8.2L)
3.4L V6	10.5 Qts.	(10.0L)
M/T		
2.7L 4-Cyl. (3RZ-FE)	8.8 Qts.	(8.3L)
3.4L V6	10.7 Qts.	(10.1L)
Manual Transmission (SAE 75W-90/API GL-5)		
2WD	2.7 Qts.	(2.6L)
4WD		
2.7L 4-Cyl. (3RZ-FE)	2.6 Qts.	(2.5L)
3.4L V6	2.3 Qts.	(2.2L)
Automatic Transmission (Dexron-III)		
2WD		
2.4L 4-Cyl. (2RZ-FE)		
Drain & Refill	2.5 Qts.	(2.4L)
Dry Refill	6.9 Qts.	(6.5L)
3.4L V6		
Drain & Refill	1.7 Qts.	(1.6L)
Dry Refill	7.6 Qts.	(7.2L)
4WD		
Drain & Refill	2.1 Qts.	(2.0L)
Dry Refill	10.7 Qts.	(10.1L)
Differential		
2WD (SAE 80W-90/API GL-5)		
2.4L 4-Cyl. (2RZ-FE)	1.4 Qts.	(1.3L)
3.4L V6	2.7 Qts.	(2.6L)
4WD		
Front Axle		
With Automatic Disconnecting		
Differential (SAE 75W-90/API GL-5)	1.2 Qts.	(1.1L)
Without Automatic Disconnecting		
Differential (SAE 80W-90/API GL-5)	1.2 Qts.	(1.1L)
Rear Axle (SAE 80W-90/API GL-5)		
Short Wheel Base		
With Rear Differential Lock System	2.8 Qts.	(2.7L)
Without Rear Differential Lock System	2.7 Qts.	(2.6L)
Long Wheel Base		
With Rear Differential Lock System	3.1 Qts.	(2.9L)
Without Rear Differential Lock System	2.6 Qts.	(2.5L)
Power Steering Fluid (Dexron-III)		(3)
Transfer Case (SAE 75W-90/API GL-5)	1.1 Qts.	(1.0L)

- (1) - Approximate quantity is listed.  
(2) - Use an API SH or SJ energy conserving engine oil.  
(3) - Information is not available.

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#### TERCEL FLUID CAPACITIES TABLE

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Application	(1) Quantity
Crankcase (Includes Filter) (2)	3.0 Qts. (2.8L)
Cooling System (Includes Heater)	
A/T	5.6 Qts. (5.3L)
M/T	5.2 Qts. (4.9L)
Manual Transaxle (SAE 75W-90/API GL-5)	2.0 Qts. (1.9L)
Automatic Transaxle	
3-Speed (Dexron-III)	
Drain & Refill	2.6 Qts. (2.5L)
Dry Refill	5.8 Qts. (5.5L)
4-Speed (Dexron-III)	
Dry Refill	7.6 Qts. (7.2L)
Drain & Refill	3.3 Qts. (3.1L)

Differential (3)	
3-Speed A/T (Dexron-III)	1.5 Qts. (1.4L)
Power Steering Fluid (Dexron-III)	(4)

- (1) - Approximate quantity is listed.  
(2) - Use an API SH or SJ energy conserving engine oil.  
(3) - On M/T, differential fluid is included in transaxle capacity.  
(4) - Information is not available.

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#### T100 FLUID CAPACITIES TABLE

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Application	(1) Quantity
Crankcase (Includes Filter) (2)	
2WD	
2.7L 4-Cyl.	5.8 Qts. (5.5L)
3.4L V6	5.5 Qts. (5.2L)
4WD	5.0 Qts. (4.7L)
Cooling System (Includes Heater)	
2WD	
A/T	
2.7L 4-Cyl.	9.5 Qts. (9.0L)
3.4L V6	10.5 Qts. (10.0L)
M/T	
2.7L 4-Cyl.	9.2 Qts. (8.7L)
3.4L V6	10.5 Qts. (10.0L)
4WD	
A/T	10.5 Qts. (10.0L)
M/T	10.7 Qts. (10.1L)
Manual Transmission (SAE 75W-90/API GL-5)	
2WD	2.7 Qts. (2.6L)
4WD	2.3 Qts. (2.2L)
Automatic Transmission (Dexron-III)	
2WD	
Drain & Refill	1.7 Qts. (1.6L)
Dry Refill	7.6 Qts. (7.2L)
4WD	
Drain & Refill	2.1 Qts. (2.0L)
Dry Refill	8.0 Qts. (7.6L)
Differential	
2WD (SAE 80W-90/API GL-5)	2.9 Qts. (2.8L)
4WD	
Front Axle (SAE 75W-90/API GL-5)	2.0 Qts. (1.9L)
Rear Axle (SAE 80W-90/API GL-5)	3.1 Qts. (2.9L)
Power Steering Fluid (Dexron-III)	(3)
Transfer Case (SAE 75W-90/API GL-5)	1.2 Qts. (1.1L)

- (1) - Approximate quantity is listed.  
(2) - Use an API SH or SJ energy conserving engine oil.  
(3) - Information is not available.

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#### 4RUNNER FLUID CAPACITIES TABLE

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Application	(1) Quantity
Crankcase (Includes Filter) (2)	
2.7L 4-Cyl.	5.7 Qts. (5.4L)
3.4L V6	5.5 Qts. (5.2L)
Cooling System (Includes Heater)	
2.7L 4-Cyl.	
With Rear Heater	11.6 Qts. (11.0L)

Without Rear Heater .....	10.5 Qts. (10.0L)
3.4L V6	
With Rear Heater .....	9.5 Qts. (9.0L)
Without Rear Heater .....	8.5 Qts. (8.0L)
Manual Transmission (SAE 75W-90/API GL-5)	
2.7L 4-Cyl.	
2WD .....	2.7 Qts. (2.6L)
4WD .....	2.6 Qts. (2.5L)
3.4L V6 .....	2.3 Qts. (2.2L)
Automatic Transmission (Dexron-III)	
2WD	
Drain & Refill .....	1.7 Qts. (1.6L)
Dry Refill .....	7.6 Qts. (7.2L)
4WD	
Drain & Refill .....	2.1 Qts. (2.0L)
Dry Refill .....	10.8 Qts. (10.2L)
Differential	
2WD (SAE 80W-90/API GL-5) .....	2.9 Qts. (2.8L)
4WD	
Front Axle	
With Automatic Disconnecting	
Differential (SAE 75W-90/API GL-5) .....	1.2 Qts. (1.1L)
Without Automatic Disconnecting	
Differential (SAE 80W-90/API GL-5) .....	1.2 Qts. (1.1L)
Rear Axle (SAE 80W-90/API GL-5)	
With Rear Differential Lock System .....	2.9 Qts. (2.8L)
Without Rear Differential Lock System .....	2.6 Qts. (2.5L)
Power Steering Fluid (Dexron-III) .....	(3)
Transfer Case (SAE 75W-90/API GL-5) .....	1.1 Qts. (1.0L)

(1) - Approximate quantity is listed.

(2) - Use an API SH or SJ energy conserving engine oil.

(3) - Information is not available.

## QUICK-SERVICE

### SERVICE INTERVALS & SPECIFICATIONS

REPLACEMENT INTERVALS (AVALON, CAMRY, CELICA, COROLLA, SIENNA, SUPRA & TERCEL) TABLE

Component	Months	Miles
Air Filter .....	24	30,000
Camshaft Timing Belt (1) (2)		
Supra		
Non-Turbo		
Normal Service .....	72	90,000
Severe Service .....	(3)	(3)
Turbo		
Normal Service .....	(3)	(3)
Severe Service .....	72	90,000
All Others		
Normal Service .....	(3)	(3)
Severe Service .....	72	90,000
Coolant .....	24	30,000
Engine Oil & Filter (1)		
Supra		
Non-Turbo		
Normal Service .....	6	7500
Severe Service .....	4	5000

Turbo			
Normal Service	.....	4	5000
Severe Service	.....	(2)	(4) 2500
All Others			
Normal Service	.....	6	7500
Severe Service	.....	4	5000
Spark Plugs			
Corolla & Tercel	.....	24	30,000
All Others	.....	48	60,000
Automatic Transmission			
Fluid (1) (5)			
Normal Service	.....	(3)	(3)
Severe Service	.....	12	15,000
Manual Transmission Fluid (1)			
Normal Service	.....	(3)	(3)
Severe Service	.....	24	30,000
Rear Limited Slip Differential Oil			
Supra	.....	48	60,000
Repack Rear Wheel Bearings			
Tercel	.....	24	30,000

- (1) - Different interval is required for normal service and severe service. Severe service is described as using cartop carrier, trailer towing, police, taxi, local delivery service, operating for short trips of less than 5 miles in freezing temperatures, or operating in rough, muddy or dusty conditions.
- (2) - Camshaft timing belt used on all models except Corolla.
- (3) - Service interval is not available.
- (4) - Manufacturer recommends changing oil filter every other oil change.
- (5) - If transmission has separate differential fluid reservoir on the transmission, change differential fluid when changing transmission fluid.

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REPLACEMENT INTERVALS (LAND CRUISER, LX470, RAV4, TACOMA, T100 & 4RUNNER) TABLE

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Component	Months	Miles
Air Filter	24	30,000
Camshaft Timing Belt (1)		
Land Cruiser, LX470, RAV4, Tacoma V6, T100 V6 & 4Runner V6		
Normal Service	(2)	(2)
Severe Service	72	90,000
Coolant	24	30,000
Engine Oil & Filter (1)		
Normal Service	6	7500
Severe Service	4	5000
Spark Plugs		
Land Cruiser, LX470, Tacoma, T100 & 4Runner		
RAV4	24	30,000
	48	60,000
Automatic Transmission Fluid (1)		
Normal Service	(2)	(2)
Severe Service	12	15,000
Manual Transmission Fluid (1)		
RAV4, Tacoma, T100 & 4Runner		
Normal Service	(2)	(2)
Severe Service	24	30,000
Transfer Case Fluid (1)		
Normal Service	(2)	(2)



Severe Service .....	24	.....	30,000
Differential Fluid (1)			
Front Differential			
Land Cruiser, LX470, Tacoma, T100 & 4Runner			
Normal Service .....	(2)	.....	(2)
Severe Service .....	12	.....	15,000
Rear Differential			
Land Cruiser, LX470 & RAV4			
W/Limited Slip			
Differential .....	48	.....	60,000
W/O Limited Slip Differential			
Normal Service .....	(2)	.....	(2)
Severe Service .....	12	.....	15,000
Tacoma, T100 & 4Runner			
Normal Service .....	(2)	.....	(2)
Severe Service .....	12	.....	15,000
Repack Front Wheel Bearings			
Land Cruiser, LX470			
Tacoma 2WD & T100 .....	24	.....	30,000

- (1) - Different interval is required for normal service and severe service. Severe service is described as trailer towing, police, taxi, local delivery service, operating for short trips of less than 5 miles in freezing temperatures, or operating in rough, muddy or dusty conditions.
- (2) - Service interval is not available.

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#### VALVE CLEARANCE ADJUSTMENT INTERVALS TABLE

Application	Months	Miles
All Models (1) .....	48	60,000
(1) - Manufacturer recommends listening for valve noise from excessive valve clearance. Adjust valve clearance if valve noise exists.		

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#### 4-CYLINDER BELT ADJUSTMENT (1) TABLE

Application	New Belt	(2) Used Belt
Camry		
A/C .....	139-191 (63-87)	99-121 (44-55)
Generator		
With A/C .....	140-190 (64-86)	100-120 (45-54)
Without A/C .....	100-150 (45-68)	75-115 (34-52)
Power Steering .....	95-145 (43-66)	60-100 (27-45)
Celica		
A/C .....	170-180 (77-82)	88-132 (40-60)
Generator		
With A/C .....	170-180 (77-82)	95-135 (43-61)
Without A/C .....	100-150 (45-68)	75-115 (34-52)
Power Steering .....	100-121 (45-55)	44-77 (20-35)
Corolla		
Drive Belt .....	(3)	(3)
RAV4		
A/C .....	135-185 (61-84)	80-120 (36-54)
Generator		
With A/C .....	140-190 (64-86)	100-120 (45-54)
Without A/C .....	100-150 (45-68)	75-115 (34-52)

Power Steering .....	95-145 (43-66)	.....	60-100 (27-45)
Tacoma			
A/C .....	135-185 (61-84)	.....	80-120 (36-54)
Generator .....	116-169 (52-77)	.....	66-88 (30-40)
Power Steering .....	135-180 (61-82)	.....	85-120 (39-54)
Tercel			
A/C .....	135-185 (61-84)	.....	80-120 (36-54)
Generator .....	140-180 (64-82)	.....	80-120 (36-54)
Power Steering .....	140-180 (64-82)	.....	80-120 (36-54)
T100 & 4Runner			
A/C .....	135-185 (61-84)	.....	80-120 (36-54)
Generator .....	117-170 (53-77)	.....	66-88 (30-40)
Power Steering .....	135-180 (61-82)	.....	85-120 (39-54)

- (1) - Tension In Lbs. (kg) Using Burroughs Tension Gauge.  
(2) - Used belt is a belt in operation at least 5 minutes.  
(3) - Automatic belt tensioner is used. Adjustment is not required.

#### 6-CYLINDER BELT ADJUSTMENT (1) TABLE

Application	New Belt	(2) Used Belt
Supra		
Drive Belt .....	(3)	(3)

- (1) - Tension In Lbs. (kg) Using Burroughs Tension Gauge.  
(2) - Used belt is a belt in operation at least 5 minutes.  
(3) - Automatic belt tensioner is used. Adjustment is not required.

#### V6 BELT ADJUSTMENT (1) TABLE

Application	New Belt	(2) Used Belt
Avalon		
A/C .....	143-187 (65-85)	66-110 (30-50)
Generator .....	170-180 (77-82)	95-135 (43-61)
Power Steering .....	150-185 (68-84)	95-135 (43-61)
Camry		
A/C .....	139-191 (63-87)	99-121 (44-55)
Generator .....	170-180 (77-82)	95-135 (43-61)
Power Steering .....	150-185 (68-84)	95-135 (43-61)
Sienna		
A/C .....	139-191 (63-87)	66-110 (30-50)
Generator .....	170-180 (77-82)	95-135 (43-61)
Power Steering .....	150-185 (68-84)	95-135 (43-61)
Tacoma, T100 & 4Runner		
A/C .....	135-185 (61-84)	80-120 (36-54)
Generator .....	140-180 (64-82)	80-120 (36-54)
Power Steering .....	135-180 (61-82)	85-120 (39-54)

- (1) - Tension In Lbs. (kg) Using Burroughs Tension Gauge.  
(2) - Used belt is a belt in operation at least 5 minutes.

#### V8 BELT ADJUSTMENT (1) TABLE

Application	New Belt	(2) Used Belt
Land Cruiser, LX470		
Drive Belt .....	(3)	(3)

- (1) - Tension In Lbs. (kg) Using Burroughs Tension Gauge
- (2) - Used belt is a belt in operation at least 5 minutes.
- (3) - Automatic belt tensioner is used. Adjustment is not required.

## MECHANICAL CHECKS

### ENGINE COMPRESSION

Check engine compression with engine at normal operating temperature at specified cranking speed, all spark plugs removed and throttle wide open.

#### 4-CYLINDER COMPRESSION SPECIFICATIONS TABLE

Application	Specification
Compression Ratio	
Camry & Celica .....	9.5:1
Corolla .....	10.0:1
RAV4 & Tacoma .....	9.5:1
Tercel .....	9.4:1
T100 & 4Runner .....	9.5:1
Normal Compression Pressure	
Camry & Celica .....	178 psi (12.5 kg/cm <sup>2</sup> )
Corolla .....	218 psi (15.3 kg/cm <sup>2</sup> )
RAV4 & Tacoma .....	178 psi (12.5 kg/cm <sup>2</sup> )
Tercel .....	185 psi (13.0 kg/cm <sup>2</sup> )
T100 & 4Runner .....	178 psi (12.5 kg/cm <sup>2</sup> )
Minimum Compression Pressure	
Camry & Celica .....	142 psi (10.0 kg/cm <sup>2</sup> )
Corolla .....	145 psi (10.2 kg/cm <sup>2</sup> )
RAV4 & Tacoma .....	128 psi (9.0 kg/cm <sup>2</sup> )
Tercel .....	142 psi (10.0 kg/cm <sup>2</sup> )
T100 & 4Runner .....	128 psi (9.0 kg/cm <sup>2</sup> )
Maximum Variation Between Cylinders	
All Models .....	14 psi (1.0 kg/cm <sup>2</sup> )

#### 6-CYLINDER COMPRESSION SPECIFICATIONS TABLE

Application	Specification
Compression Ratio	
Supra	
Non-Turbo .....	10.5:1
Turbo .....	8.5:1
Normal Compression Pressure	
Supra	
Non-Turbo .....	192 psi (13.5 kg/cm <sup>2</sup> )
Turbo .....	156 psi (10.9 kg/cm <sup>2</sup> )
Minimum Compression Pressure	
Supra	
Non-Turbo .....	156 psi (10.9 kg/cm <sup>2</sup> )
Turbo .....	128 psi (9.0 kg/cm <sup>2</sup> )
Maximum Variation Between Cylinders	
All Models .....	14 psi (1.0 kg/cm <sup>2</sup> )

#### V6 COMPRESSION SPECIFICATIONS TABLE

Application	Specification
-------------	---------------

Compression Ratio	
Avalon, Camry & Sienna .....	10.5:1
Tacoma, T100 & 4Runner .....	9.6:1
Normal Compression Pressure	
Avalon, Camry & Sienna .....	218 psi (15.3 kg/cm <sup>2</sup> )
Tacoma, T100 & 4Runner .....	174 psi (12.2 kg/cm <sup>2</sup> )
Minimum Compression Pressure	
All Models .....	145 psi (10.1 kg/cm <sup>2</sup> )
Maximum Variation Between Cylinders	
All Models .....	15 psi (1.1 kg/cm <sup>2</sup> )

#### V8 COMPRESSION SPECIFICATIONS TABLE

Application	Specification
Land Cruiser & LX470	
Compression Ratio .....	9.6:1
Normal Compression Pressure .....	192 psi (13.5 kg/cm <sup>2</sup> )
Minimum Compression Pressure .....	142 psi (10.0 kg/cm <sup>2</sup> )
Maximum Variation Between Cylinders .....	14 psi (1.0 kg/cm <sup>2</sup> )

### VALVE CLEARANCE

#### 4-CYLINDER VALVE CLEARANCE SPECIFICATIONS TABLE

Application	(1) In. (mm)
Camry & Celica	
Intake .....	.007-.011 (.19-.29)
Exhaust .....	.011-.015 (.29-.38)
Corolla	
Intake .....	.006-.010 (.15-.25)
Exhaust .....	.010-.014 (.25-.35)
RAV4	
Intake .....	.007-.011 (.19-.29)
Exhaust .....	.011-.015 (.29-.38)
Tacoma	
Intake .....	.006-.010 (.15-.25)
Exhaust .....	.010-.014 (.25-.35)
Tercel	
Intake .....	.006-.010 (.15-.25)
Exhaust .....	.012-.016 (.31-.41)
T100 & 4Runner	
Intake .....	.006-.010 (.15-.25)
Exhaust .....	.010-.014 (.25-.35)

(1) - Adjust valve clearance with engine cold.

#### 6-CYLINDER VALVE CLEARANCE SPECIFICATIONS TABLE

Application	(1) In. (mm)
Supra	
Intake .....	.006-.010 (.15-.25)
Exhaust .....	.010-.014 (.25-.35)

(1) - Adjust valve clearance with engine cold.

#### V6 VALVE CLEARANCE SPECIFICATIONS TABLE

Application	(1) In. (mm)
Avalon, Camry & Sienna	
Intake .....	.006-.010 (.15-.25)
Exhaust .....	.010-.014 (.25-.35)
Tacoma, T100 & 4Runner	
Intake .....	.006-.009 (.15-.23)
Exhaust .....	.011-.014 (.29-.35)

(1) - Adjust valve clearance with engine cold.

#### V8 VALVE CLEARANCE SPECIFICATIONS TABLE

Application	(1) In. (mm)
Land Cruiser & LX470	
Intake .....	.006-.010 (.15-.25)
Exhaust .....	.010-.014 (.25-.35)

(1) - Adjust valve clearance with engine cold.

## IGNITION SYSTEM

### IGNITION COIL

#### 4-CYLINDER IGNITION COIL RESISTANCE - Ohms TABLE

Application	Primary	Secondary
Camry		
Cold (1) .....	(2) .....	9700-16,700
Hot (3) .....	(2) .....	12,400-19,600
Celica		
Cold (1) .....	.36-.55 .....	9000-15,400
Hot (3) .....	.45-.65 .....	11,400-18,100
Corolla, RAV4 & Tacoma		
Cold (1) .....	(2) .....	9700-16,700
Hot (3) .....	(2) .....	12,400-19,600
Tercel		
Cold (1) .....	.67-1.05 .....	9300-16,000
Hot (3) .....	.85-1.23 .....	11,700-18,800
T100 & 4Runner		
Cold (1) .....	(2) .....	9700-16,700
Hot (3) .....	(2) .....	12,400-19,600

(1) - Cold is with temperature of 14-122°F (-10-50°C).

(2) - Primary ignition coil resistance cannot be measured.

(3) - Hot is with temperature of 122-212°F (50-100°C).

#### 6-CYLINDER IGNITION COIL RESISTANCE - Ohms TABLE

Application	Primary	Secondary
Supra		
Non-Turbo		
Cold (1) .....	.33-.52 .....	8500-14,700
Hot (2) .....	.42-.61 .....	10,800-17,200

Turbo			
Cold (1)	.....	.54-.84	..... (3)
Hot (2)	.....	.68-.98	..... (3)

- (1) - Cold is with temperature of 14-122°F (-10-50°C).  
(2) - Hot is with temperature of 122-212°F (50-100°C).  
(3) - Secondary ignition coil resistance cannot be measured.

#### V6 IGNITION COIL RESISTANCE - Ohms TABLE

Application	Primary		Secondary
Avalon, Camry & Sienna			
Aisan Ign. Coil (1)			
Cold (2)	.70-.94		10,800-14,900
Hot (3)	.85-1.10		13,100-17,500
Diamond Ign. Coil (1)			
Cold (2)	.70-.94		6800-11,700
Hot (3)	.85-1.10		8600-13,700
Tacoma, Tl00 & 4Runner			
Cold (2)	.67-1.05		9300-16,000
Hot (3)	.85-1.23		11,700-18,800

- (1) - This is the manufacturer of the ignition coil.  
(2) - Cold is with temperature of 14-122°F (-10-50°C).  
(3) - Hot is with temperature of 122-212°F (50-100°C).

#### V8 IGNITION COIL RESISTANCE - Ohms TABLE

Application	Primary		Secondary
Land Cruiser & LX470	..... (1)	.....	..... (1)

- (1) - Ignition coil resistance is not available.

## DISTRIBUTOR SENSORS

#### DISTRIBUTOR PICK-UP COIL AIR GAP TABLE

Application	In. (mm)
Celica	..... .008-.018 (.20-.45)
All Others	..... (1)

- (1) - Distributorless Ignition System (DIS) is used.

#### DISTRIBUTOR PICK-UP COIL RESISTANCE TABLE

Application	(1) Pick-Up Coil Terminals	Ohms
Celica		
Cold (2)	(3) .....	135-220
Hot (4)	(3) .....	175-255
All Others	(5) .....	(5)

- (1) - For proper testing and terminal identification, see appropriate F - BASIC TESTING article.  
(2) - Cold is with temperature of 14-122°F (-10-50°C).  
(3) - Measure resistance between terminals on pick-up coil.

- (4) - Hot is with temperature of 122-212°F (50-100°C).  
 (5) - Distributorless Ignition System (DIS) is used.

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#### CAMSHAFT POSITION SENSOR RESISTANCE TABLE

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Application	Ohms
Avalon	
Denso Sensor (1)	
Cold (2) .....	835-1400
Hot (3) .....	1060-1645
Wabash Sensor (1)	
Cold (2) .....	1690-2560
Hot (3) .....	2145-3010
Camry	
2.2L 4-Cyl.	
Cold (2) .....	835-1400
Hot (3) .....	1060-1645
3.0L V6	
Denso Sensor (1)	
Cold (2) .....	835-1400
Hot (3) .....	1060-1645
Wabash Sensor (1)	
Cold (2) .....	1690-2560
Hot (3) .....	2145-3010
Corolla, Land Cruiser, LX470 & RAV4	
Cold (2) .....	835-1400
Hot (3) .....	1060-1645
Sienna	
Denso Sensor (1)	
Cold (2) .....	835-1400
Hot (3) .....	1060-1645
Wabash Sensor (1)	
Cold (2) .....	1690-2560
Hot (3) .....	2145-3010
Supra & Tacoma	
Cold (2) .....	835-1400
Hot (3) .....	1060-1645
Tercel	
Cold (2) .....	985-1600
Hot (3) .....	1265-1890
T100 & 4Runner	
Cold (2) .....	835-1400
Hot (3) .....	1060-1645

- (1) - This is the manufacturer of camshaft position sensor.  
 (2) - Cold is with temperature of 14-122°F (-10-50°C).  
 (3) - Hot is with temperature of 122-212°F (50-100°C).
- 

#### CRANKSHAFT POSITION SENSOR RESISTANCE TABLE

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Application	Ohms
Avalon	
Cold (1) .....	1630-2740
Hot (2) .....	2065-3225
Camry	
2.2L 4-Cyl.	
Cold (1) .....	985-1600
Hot (2) .....	1265-1890
3.0L V6	

Cold (1)	1630-2740
Hot (2)	2065-3225
Celica	
Cold (1)	985-1600
Hot (2)	1265-1890
Corolla & Land Cruiser, LX470	
Cold (1)	1630-2740
Hot (2)	2065-3225
RAV4	
Cold (1)	985-1600
Hot (2)	1265-1890
Sienna, Supra & Tacoma	
Cold (1)	1630-2740
Hot (2)	2065-3225
Tercel	
Cold (1)	985-1600
Hot (2)	1265-1890
T100 & 4Runner	
Cold (1)	1630-2740
Hot (2)	2065-3225

(1) - Cold is with temperature of 14-122°F (-10-50°C).  
(2) - Hot is with temperature of 122-212°F (50-100°C).

## HIGH TENSION WIRE RESISTANCE

### HIGH TENSION WIRE RESISTANCE TABLE

Application	Maximum Ohms
Land Cruiser, LX470 & Supra Turbo	(1)
All Others	25,000 Per Wire

(1) - Distributorless Ignition System (DIS) is used with ignition coil mounted on the spark plug. No high tension wires are used.

## SPARK PLUGS

### 4-CYLINDER SPARK PLUG TYPE TABLE

Application	NGK No.	Denso No.
Camry & Celica	BKR6EKP11	PK20TR11
Corolla	BKR5EKB11	K16TR11
RAV4	BKR6EKP11	PK20TR11
Tacoma	BKR5EYA	K16R-U
Tercel	BKR5EKB11	K16TR11
T100 & 4Runner	BKR5EYA	K16R-U

### 6-CYLINDER SPARK PLUG TYPE TABLE

Application	NGK No.	Denso No.
Supra		
Non-Turbo	BKR5EKP11	PK16TR11
Turbo	BKR6EP11	PK20R11

### V6 SPARK PLUG TYPE TABLE



Application	NGK No.	Denso No.
Avalon, Camry & Sienna .....	BKR6EKP B11 .....	PK20TR11
Tacoma, T100 & 4Runner .....	BKR5EKB-11 .....	K16TR11

#### V8 SPARK PLUG TYPE TABLE

Application	NGK No.	Denso No.
Land Cruiser & LX470 .....	IFR6A11 .....	SK20R11

#### 4-CYLINDER SPARK PLUG SPECIFICATIONS TABLE

Application	Gap In. (mm)	Torque Ft. Lbs. (N.m)
Camry, Celica, Corolla & RAV4 .....	.043 (1.10) .....	13 (18)
Tacoma .....	.031 (.80) .....	15 (20)
Tercel .....	.043 (1.10) .....	13 (18)
T100 & 4Runner .....	.031 (.80) .....	15 (20)

#### 6-CYLINDER SPARK PLUG SPECIFICATIONS TABLE

Application	Gap In. (mm)	Torque Ft. Lbs. (N.m)
Supra .....	.043 (1.10) .....	13 (18)

#### V6 SPARK PLUG SPECIFICATIONS TABLE

Application	Gap In. (mm)	Torque Ft. Lbs. (N.m)
Avalon, Camry, Sienna, Tacoma, T100 & 4Runner ...	.043 (1.10) .....	13 (18)

#### V8 SPARK PLUG SPECIFICATIONS TABLE

Application	Gap In. (mm)	Torque Ft. Lbs. (N.m)
Land Cruiser & LX470 .....	.043 (1.10) .....	13 (18)

## FIRING ORDER

#### FIRING ORDER TABLE

Application	Firing Order
4-Cylinder (1)	
Camry .....	(2) 1-3-4-2
Celica .....	1-3-4-2
Corolla, RAV4, Tacoma, Tercel, T100 & 4Runner .....	(2) (3)
6-Cylinder	
Supra	
Non-Turbo (4) .....	(3) (5)

Turbo (4) ..... (3) (6)  
V6 (7)  
Avalon, Camry & Sienna ..... (8) 1-2-3-4-5-6  
Tacoma, T100 & 4Runner ..... (3) (8)  
V8 (9)  
Land Cruiser & LX470 ..... (10) 1-8-4-3-6-5-7-2

- (1) - Cylinder No. 1 is located at timing belt or timing chain end of engine. Cylinder No. 4 is located at flywheel end of engine.
- (2) - System uses a Distributorless Ignition System (DIS) with 2 ignition coils. Cylinders No. 1 and 4 use the same ignition coil. Cylinders No. 2 and 3 use the same ignition coil.
- (3) - Firing order is not available.
- (4) - Cylinder No. 1 is located at timing belt end of engine. Cylinder No. 6 is located at flywheel end of engine.
- (5) - System uses a Distributorless Ignition System (DIS) with 3 ignition coils. Cylinders No. 1 and 6 use the same ignition coil. Cylinders No. 2 and 5 use the same ignition coil. Cylinders No. 3 and 4 use the same ignition coil.
- (6) - System uses a Distributorless Ignition System (DIS) with 6 ignition coils.
- (7) - Cylinder No. 1 is front cylinder on right side of engine when viewed from flywheel end of engine. Cylinder No. 2 is front cylinder on left side of engine when viewed from flywheel end of engine. Cylinders No. 1, 3 and 5 are on right side of engine. Cylinders No. 2, 4 and 6 are on left side of engine.
- (8) - System uses a Distributorless Ignition System (DIS) with 3 ignition coils. Two cylinders fire simultaneously using same the ignition coil.
- (9) - Cylinder No. 1 is front cylinder on left side of engine when viewed from flywheel end of engine. Cylinder No. 2 is front cylinder on right side of engine when viewed from flywheel end of engine. Cylinders No. 1, 3, 5 and 7 are on left side of engine. Cylinders No. 2, 4, 6 and 8 on right side of engine.
- (10) - System uses a Distributorless Ignition System (DIS) with 8 ignition coils.

## IGNITION TIMING

### 4-CYLINDER IGNITION TIMING (Degrees BTDC @ Idle) (1) TABLE

Application	(2) Base Timing	(3) ECM Controlled Timing
Camry & Celica .....	8-12 .....	0-10
Corolla .....	8-12 .....	6-15
RAV4 .....	8-12 .....	0-10
Tacoma .....	3-7 .....	4-17
Tercel .....	10 .....	7-17
T100 .....	3-7 .....	(4)
4Runner .....	3-7 .....	4-17

- (1) - Check with engine at normal operating temperature, transmission/transaxle in Neutral, parking brake applied, electric cooling fan off (if equipped), and A/C and all accessories off.
- (2) - With Jumper Wire (SST 09843-18020) installed between terminals TE1 and E1 on data link connector No. 1.
- (3) - With jumper wire removed from data link connector No. 1.
- (4) - Information is not available.

#### 6-CYLINDER IGNITION TIMING (Degrees BTDC @ Idle) (1) TABLE

Application	(2) Base Timing	(3) ECM Controlled Timing
Supra		
Non-Turbo .....	8-12 .....	6-16
Turbo .....	8-12 .....	10-20

- (1) - Check with engine at normal operating temperature, transmission in Neutral, parking brake applied, and A/C and all accessories off.
- (2) - With Jumper Wire (SST 09843-18020) installed between terminals TC and E1 on data link connector No. 1 for non-turbo models, or TE1 and E1 on data link connector No. 1 for turbo models.
- (3) - With jumper wire removed from data link connector No. 1.

#### V6 IGNITION TIMING (Degrees BTDC @ Idle) (1) TABLE

Application	(2) Base Timing	(3) ECM Controlled Timing
Avalon, Camry & Sienna .....	8-12 .....	7-24
Tacoma .....	8-12 .....	3-19
T100 .....	8-12 .....	13-22
4Runner .....	8-12 .....	3-19

- (1) - Check with engine at normal operating temperature, transmission/transaxle in Neutral, parking brake applied, electric cooling fan off (if equipped), and A/C and all accessories off.
- (2) - With Jumper Wire (SST 09843-18020) installed between terminals TE1 and E1 on data link connector No. 1.
- (3) - With jumper wire removed from data link connector No. 1.

#### V8 IGNITION TIMING (Degrees BTDC @ Idle) (1) TABLE

Application	(2) Base Timing	(3) ECM Controlled Timing
Land Cruiser & LX470 .....	5-15 .....	(4)

- (1) - Check with engine at normal operating temperature, transmission in Neutral, parking brake applied, and A/C and all accessories off.
- (2) - With Jumper Wire (SST 09843-18020) installed between terminals TC and E1 on data link connector No. 1.
- (3) - With jumper wire removed from data link connector No. 1.
- (4) - Information is not available.

## FUEL SYSTEM

### FUEL PUMP

NOTE: Fuel pump performance measures fuel pressure, not regulated fuel pressure.

#### 4-CYLINDER FUEL PUMP PERFORMANCE TABLE

---

Application	(1) Pressure psi (kg/cm <sup>2</sup> )
Camry .....	44-50 (3.1-3.5)
Celica .....	38-44 (2.7-3.1)
Corolla & RAV4 .....	44-50 (3.1-3.5)
Tacoma .....	38-44 (2.7-3.1)
Tercel .....	44-50 (3.1-3.5)
T100 & 4Runner .....	38-44 (2.7-3.1)

(1) - Check fuel pressure with engine off and using scan tool connected to data link connector No. 3 with ignition on to activate fuel pump or by connecting battery voltage to terminals on electric fuel pump.

---

#### 6-CYLINDER FUEL PUMP PERFORMANCE TABLE

---

Application	(1) Pressure psi (kg/cm <sup>2</sup> )
Supra	
Non-Turbo .....	44-50 (3.1-3.5)
Turbo .....	33-40 (2.3-2.8)

(1) - Check fuel pressure with engine off and using scan tool connected to data link connector No. 3 with ignition on to activate fuel pump or by connecting battery voltage to terminals on electric fuel pump.

---

#### V6 FUEL PUMP PERFORMANCE TABLE

---

Application	(1) Pressure psi (kg/cm <sup>2</sup> )
Avalon, Camry & Sienna .....	44-50 (3.1-3.5)
Tacoma, T100 & 4Runner .....	38-44 (2.7-3.1)

(1) - Check fuel pressure with engine off and using scan tool connected to data link connector No. 3 with ignition on to activate fuel pump or by connecting battery voltage to terminals on electric fuel pump.

---

#### V8 FUEL PUMP PERFORMANCE TABLE

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Application	(1) Pressure psi (kg/cm <sup>2</sup> )
Land Cruiser & LX470 .....	38-44 (2.7-3.1)

(1) - Check fuel pressure with engine off and using scan tool connected to data link connector No. 3 with ignition on to activate fuel pump or by connecting battery voltage to terminals on electric fuel pump.

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#### 4-CYLINDER REGULATED FUEL PRESSURE TABLE

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At Idle	At Idle
W/Vacuum	W/O Vacuum

Application	psi (kg/cm <sup>2</sup> )	psi (kg/cm <sup>2</sup> )
Camry .....	(1) .....	(1)
Celica .....	33-38 (2.3-2.7) .....	38-44 (2.7-3.1)
Corolla & RAV4 .....	(1) .....	(1)
Tacoma .....	31-37 (2.2-2.6) .....	38-44 (2.7-3.1)
Tercel .....	(1) .....	(1)
T100 & 4Runner .....	31-37 (2.2-2.6) .....	38-44 (2.7-3.1)

(1) - Fuel pressure should be 44-50 psi (3.1-3.5 kg/cm<sup>2</sup>) with engine idling. Fuel pressure regulator is not vacuum controlled, as fuel pressure regulator is mounted on electric fuel pump in the fuel tank.

---

#### 6-CYLINDER REGULATED FUEL PRESSURE TABLE

Application	At Idle W/Vacuum psi (kg/cm <sup>2</sup> )	At Idle W/O Vacuum psi (kg/cm <sup>2</sup> )
Supra		
Non-Turbo .....	(1) .....	(1)
Turbo .....	24-31 (1.7-2.2) .....	33-40 (2.3-2.8)

(1) - Fuel pressure should be 44-50 psi (3.1-3.5 kg/cm<sup>2</sup>) with engine idling. Fuel pressure regulator is not vacuum controlled, as fuel pressure regulator is mounted on electric fuel pump in the fuel tank.

---

#### V6 REGULATED FUEL PRESSURE TABLE

Application	At Idle W/Vacuum psi (kg/cm <sup>2</sup> )	At Idle W/O Vacuum psi (kg/cm <sup>2</sup> )
Avalon, Camry & Sienna .....	(1) .....	(1)
Tacoma, T100 & 4Runner .....	33-38 (2.3-2.7) .....	38-44 (2.7-3.1)

(1) - Fuel pressure should be 44-50 psi (3.1-3.5 kg/cm<sup>2</sup>) with engine idling. Fuel pressure regulator is not vacuum controlled, as fuel pressure regulator is mounted on electric fuel pump in the fuel tank.

---

#### V8 REGULATED FUEL PRESSURE TABLE

Application	At Idle W/Vacuum psi (kg/cm <sup>2</sup> )	At Idle W/O Vacuum psi (kg/cm <sup>2</sup> )
Land Cruiser & LX470 .....	28-34 (2.0-2.4) .....	38-44 (2.7-3.1)

---

#### FUEL PUMP RESISTANCE - Ohms @ 68°F (20°C) TABLE

Application	Ohms
Supra	
Non-Turbo .....	.2-3.0
Turbo .....	.1-3.0

All Others ..... .2-3.0

---

## FUEL INJECTOR RESISTANCE

FUEL INJECTOR RESISTANCE - Ohms @ 68°F (20°C) TABLE

Application	Ohms
Avalon .....	13.8
Camry	
2.2L 4-Cyl. ....	13.4-14.2
3.0L V6 .....	13.8
Celica, Corolla, Land Cruiser & LX470 .....	13.4-14.2
RAV4 .....	13.8
Sienna .....	13.4-14.2
Supra	
Non-Turbo .....	13.4-14.2
Turbo .....	1.95
Tacoma	
2.4L 4-Cyl. & 2.7L 4-Cyl. ....	12.0-16.0
3.4L V6 .....	13.8
Tercel .....	13.4-14.2
T100	
2.7L 4-Cyl. ....	12.0-16.0
3.4L V6 .....	13.8
4Runner	
2.7L 4-Cyl. ....	13.4-14.2
3.4L V6 .....	13.8

## IDLE SPEED

4-CYLINDER IDLE SPEED SPECIFICATIONS (1) TABLE

Application	RPM
Camry, Celica & Corolla .....	650-750
RAV4 .....	700-800
Tacoma .....	650-750
Tercel .....	700-800
T100 & 4Runner .....	650-750

(1) - Check with engine at normal operating temperature, transmission/transaxle in Neutral, parking brake applied, air cleaner and all vacuum hoses installed, electronic fuel injection system wiring connectors properly installed, ignition timing properly set, electric cooling fan off (if equipped), and A/C and all accessories off.

6-CYLINDER IDLE SPEED SPECIFICATIONS (1) TABLE

Application	RPM
Supra	
Non-Turbo .....	650-750
Turbo .....	600-700

(1) - Check with engine at normal operating temperature, transmission in Neutral, parking brake applied, air cleaner and all vacuum hoses installed, electronic fuel injection system wiring connectors properly installed, ignition timing properly set,

and A/C and all accessories off.

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#### V6 IDLE SPEED SPECIFICATIONS (1) TABLE

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Application	RPM
Avalon, Camry, Sienna, Tacoma, T100 & 4Runner .....	650-750

(1) - Check with engine at normal operating temperature, transmission/transaxle in Neutral, parking brake applied, air cleaner and all vacuum hoses installed, electronic fuel injection system wiring connectors properly installed, ignition timing properly set, electric cooling fan off (if equipped), and A/C and all accessories off.

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#### V8 IDLE SPEED SPECIFICATIONS (1) TABLE

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Application	RPM
Land Cruiser & LX470 .....	700-800

(1) - Check with engine at normal operating temperature, transmission in Neutral, parking brake applied, air cleaner and all vacuum hoses installed, electronic fuel injection system wiring connectors properly installed, ignition timing properly set, and A/C and all accessories off.

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### DASHPOT SPECIFICATIONS

#### DASHPOT SPECIFICATIONS (1) TABLE

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Application	RPM
Supra Turbo .....	2100-2700
Tacoma 3.4L V6 M/T, T100 3.4L V6 M/T & 4Runner 3.4L V6 M/T .....	1800-2200

(1) - Check with engine at normal operating temperature.

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### THROTTLE OPENER

#### THROTTLE OPENER SPECIFICATIONS (1) TABLE

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Application	RPM
Avalon .....	900-1950
Camry 2.2L 4-Cyl. ....	1300-1500
3.0L V6 .....	900-1950
Celica .....	1300-1500
RAV4 .....	1300-1500
Sienna .....	900-1950
Supra Turbo .....	1300-1700
Tacoma 2.4L 4-Cyl. & 2.7L 4-Cyl. ....	1200-1500
3.4L V6 .....	900-1950

T100 & 4Runner	
2.7L 4-Cyl. ....	1200-1500
3.4L V6 ....	900-1950

(1) - Check with throttle opener vacuum hose disconnected and plugged, engine at normal operating temperature and electric cooling fan turned off (if equipped).

## FUEL CUT

FUEL CUT SPECIFICATIONS (1) TABLE

Application	Fuel Return RPM
Avalon .....	1400
Camry	
2.2L 4-Cyl. ....	1500
3.0L V6 .....	1200
Celica .....	1500
Corolla .....	1400
Land Cruiser & LX470 .....	1000
RAV4 .....	1500
Sienna .....	1200
Supra	
Non-Turbo .....	1000
Turbo .....	1100
Tacoma	
2.4L 4-Cyl. & 2.7L 4-Cyl.	
A/T .....	1500
M/T .....	1400
3.4L V6	
A/T .....	1200
M/T .....	1000
Tercel .....	900
T100	
2.7L 4-Cyl.	
A/T .....	1500
M/T .....	1400
3.4L V6	
A/T .....	1200
M/T .....	1000
4Runner	
2.7L 4-Cyl.	
A/T .....	1500
M/T .....	1400
3.4L V6 .....	1500

(1) - Check with engine at normal operating temperature and A/C off.

## THROTTLE POSITION (TP) SENSOR

AVALON TP SENSOR RESISTANCE SPECIFICATIONS TABLE

Application	Clearance In. (mm)	Terminals	Ohmmeter Reading
3.0L (1) .....	Fully Closed ...	VTA & E2 .....	200-6300
	Fully Open .....	VTA & E2 .....	2000-10,200
		VC & E2 .....	2500-5900

(1) - Apply vacuum to throttle opener before checking TP sensor.



CAMRY TP SENSOR RESISTANCE SPECIFICATIONS TABLE

Application	Clearance In. (mm)	Terminals	Ohmmeter Reading
2.2L 4-Cyl. (1) ....	Fully Closed ....	VTA & E2 .....	200-5700
	Fully Open .....	VTA & E2 ....	2000-10,200
		VC & E2 .....	2500-5900
3.0L V6 (1) .....	Fully Closed ....	VTA & E2 .....	200-6300
	Fully Open .....	VTA & E2 ....	2000-10,200
		VC & E2 .....	2500-5900

(1) - Apply vacuum to throttle opener before checking TP sensor.

CELICA TP SENSOR RESISTANCE SPECIFICATIONS TABLE

Application	Clearance In. (mm)	Terminals	Ohmmeter Reading
2.2L (1) .....	Fully Closed ..	VTA & E2 .....	200-5700
	Fully Open ....	VTA & E2 ....	2000-10,200
		VC & E2 .....	2500-5900

(1) - Apply vacuum to throttle opener before checking TP sensor.

COROLLA TP SENSOR RESISTANCE SPECIFICATIONS TABLE

Application	Clearance In. (mm)	Terminals	Ohmmeter Reading
1.8L .....	Fully Closed ...	VTA & E2 .....	200-5700
	Fully Open .....	VTA & E2 ....	2000-10,200
		VC & E2 .....	2500-5900

LAND CRUISER &amp; LX470 TP SENSOR RESISTANCE SPECIFICATIONS TABLE

Application	Terminals	Ohmmeter Reading
4.7L .....	VC & E2 .....	(1) 1250-2350

(1) - Resistance at 68°F (20°C).

RAV4 TP SENSOR RESISTANCE SPECIFICATIONS TABLE

Application	Clearance In. (mm)	Terminals	Ohmmeter Reading
2.0L (1) .....	Fully Closed ...	VTA & E2 .....	200-5700
	Fully Open .....	VTA & E2 ....	2000-10,200
		VC & E2 .....	2500-5900

(1) - Apply vacuum to throttle opener before checking TP sensor.

SIENNA TP SENSOR RESISTANCE SPECIFICATIONS TABLE

Application	Clearance In. (mm)	Terminals	Ohmmeter Reading
3.0L (1)	Fully Closed ...	VTA & E2	200-6300
	Fully Open .....	VTA & E2	2000-10,200
		VC & E2	2500-5900

(1) - Apply vacuum to throttle opener before checking TP sensor.

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#### SUPRA NON-TURBO TP SENSOR RESISTANCE SPECIFICATIONS TABLE

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Application	Terminals	Ohmmeter Reading
3.0L	VC & E2	(1) 1200-3200

(1) - Resistance at 68°F (20°C).

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#### SUPRA TURBO MAIN TP SENSOR RESISTANCE SPECIFICATIONS TABLE

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Application	Clearance In. (mm)	Terminals	Ohmmeter Reading
3.0L (1)	Fully Closed ...	VTA & E2	340-6300
	.027 (.69) .....	IDL & E2	500 Or Less
	.032 (.81) .....	IDL & E2	No Continuity
	Fully Open .....	VTA & E2	2400-11,200
		VC & E2	3100-7200

(1) - Apply vacuum to throttle opener before checking TP sensor.

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#### SUPRA TURBO SUB-TP SENSOR RESISTANCE SPECIFICATIONS TABLE

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Application	Clearance In. (mm)	Terminals	Ohmmeter Reading
3.0L	Fully Closed ...	VTA & E2	300-6300
	.016 (.41) .....	IDL & E2	500 Or Less
	.019 (.48) .....	IDL & E2	No Continuity
	Fully Open .....	VTA & E2	2000-10,800
		VC & E2	3500-6500

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#### TACOMA TP SENSOR RESISTANCE SPECIFICATIONS TABLE

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Application	Clearance In. (mm)	Terminals	Ohmmeter Reading
2.4L 4-Cyl. & 2.7L 4-Cyl. (1) ..	Fully Closed ...	VTA & E2	200-5700
	Fully Open .....	VTA & E2	2000-10,200
		VC & E2	2500-5900
3.4L V6 (1)	Fully Closed ...	VTA & E2	200-5700
	Fully Open .....	VTA & E2	2000-10,200
		VC & E2	2500-5900

(1) - Apply vacuum to throttle opener before checking TP sensor.

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#### TERCEL TP SENSOR RESISTANCE SPECIFICATIONS TABLE

Application	Clearance In. (mm)	Terminals	Ohmmeter Reading
1.5L (1) .....	Fully Closed ...	VTA & E2 .....	200-5700
	Fully Open .....	VTA & E2 .....	2000-10,200
		VC & E2 .....	2500-5900

(1) - On A/T models, disconnect throttle cable from linkage before checking TP sensor.

#### T100 TP SENSOR RESISTANCE SPECIFICATIONS TABLE

Application	Clearance In. (mm)	Terminals	Ohmmeter Reading
2.7L 4-Cyl. & 3.4L V6 (1) .....	Fully Closed ...	VTA & E2 .....	200-5700
	Fully Open .....	VTA & E2 .....	2000-10,200
		VC & E2 .....	2500-5900

(1) - Apply vacuum to throttle opener before checking TP sensor.

#### 4RUNNER TP SENSOR RESISTANCE SPECIFICATIONS TABLE

Application	Clearance In. (mm)	Terminals	Ohmmeter Reading
2.7L 4-Cyl. (1) ....	Fully Closed ...	VTA & E2 .....	200-5700
	Fully Open .....	VTA & E2 .....	2000-10,200
		VC & E2 .....	2500-5900
3.4L V6 (1) .....	Fully Closed ...	VTA & E2 .....	280-6400
	Fully Open .....	VTA & E2 .....	2000-11,600
		VC & E2 .....	2700-7700

(1) - Apply vacuum to throttle opener before checking TP sensor.