



TOYOTA
2019 MID-MODEL YEAR
AUTOMOTIVE FUEL ECONOMY REPORT

July-2019

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Section I - General Description

- 1) Identification of this report: Mid-Model Year Report
- 2) Official responsible for preparing this report:

The name, title and address of the official responsible for preparing this report is as follows:

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- 3) Identification of the current model year: 2019 model year
- 4) [REDACTED] of the information:

In accordance with 49 CFR Section 537.5 (c)(7) and 49 CFR Part 512, we request to withhold from public disclosure any sales projection information that is included in this report, as trade secret, until December 31, 2019. This is because these data fall within our sales strategy plans and come under 5 U.S.C. 552 (b)(4), "Trade Secrets and Commercial Information." Release of the information, which is claimed to be [REDACTED] to competitors before the specified date may result in significant competitive damage to Toyota. Application for certification submitted to EPA also includes similar information. We have requested its [REDACTED] for the same reason.

Section II Specific Information on 2019 Model Year Vehicle Fuel Economy

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● Manufacturer's averaging fuel economy value required by 40 CFR part 600.512-12(c)(5)(i) is:

	§600.510-12 (h) -Without AC and Off-Cycle credits	§600.510-12 (e) -Adjustment for passenger automobiles	§600.510-12 (c)(1)(ii) -With AC and Off-Cycle credits	Projected average fuel economy	Projected Total Sales
Domestic passenger automobiles	42.4503 mpg	42.8802 mpg	44.91595876 mpg	<u>44.9</u> mpg	536,237
Non-domestic passenger automobiles	41.3268 mpg	41.6059 mpg	43.57904231 mpg	<u>43.6</u> mpg	564,685
Light trucks 2WD and 4WD	28.3808 mpg	N/A	29.72687678 mpg	<u>29.7</u> mpg	1,220,627

● Projected Air conditioning Fuel Consumption improvements (S600.510-12(c)(3)(i))

- 0.000539588 gallons/mile (502,107megagram) for Toyota Domestic passenger automobiles;
- 0.000509438 gallons/mile (499,200megagram) for Toyota Non-domestic passenger automobiles; and
- 0.000659909 gallons/mile (1,616,856megagram) for Toyota light trucks 2WD and 4WD.

● Projected Off-Cycle Fuel Consumption improvements (S600.510-12(c)(3)(ii))

- 0.000506634 gallons/mile (471,442megagram) for Toyota Domestic passenger automobiles;
- 0.000582214 gallons/mile (570,514megagram) for Toyota Non-domestic passenger automobiles; and
- 0.000911767 gallons/mile (2,233,936 megagram) for Toyota light trucks 2WD and 4WD.

● Required fuel economy level required by 40 CFR Part 600.512-12 (c) (9).

- 41.4 mpg for Toyota Domestic passenger automobiles;
- 42.0 mpg for Toyota Non-domestic passenger automobiles; and
- 31.3 mpg for Toyota light trucks 2WD and 4WD.

● Footprint Information for each Model Type

The footprint information for each model type is provided in Table 1.

● Model Type Fuel Economy

Model type fuel economy is provided in Table 2.

● Projected Air conditioning Fuel Consumption improvements (S600.510-12(c)(3)(i))

The projected Air conditioning fuel economy credits detailed in Table 7.

● Projected Off-Cycle Fuel Consumption improvements (S600.510-12(c)(3)(ii))

The projected Off-Cycle technology fuel economy credits detailed in Table 8.

● Data for Non-passenger vehicle

The data for each model type of automobile, classified as a non-passenger vehicle (light truck), as required by Section 537.7(c)(5), are as follows:

Classified as a non-passenger vehicle (light truck), as required by Section 537.7(c)(5)

	(i)(A) Transport more than 10 persons	(i)(B) Temporary living quarters	(i)(C) Transport property on an open bed	(i)(D) Greater cargo carrying than passenger-carrying volume	(i)(E) Permit expanded use for non-passenger carrying purposes	(ii)(A) 4-wheel drive	(ii)(B) GVW (lbs)	(ii)(C)(1) Approach angle (deg)	(ii)(C)(2) Breakover angle (deg)	(ii)(C)(3) Departure angle (deg)	(ii)(C)(4) Minimum running clearance (inch)	(ii)(C)(5) Axle clearance (inch)	
												Front	Rear
RAV4	No	No	No	No	No	YES	4658	19 0	18 0	21 0	8 4	10 1	10 4
RAV4 HYBRID	No	No	No	No	No	YES	4920	19 0	17 5	21 0	8 1	10 0	10 2
NX 300	No	No	No	No	No	YES	5200	28 4	15 9	24 0	6 3	9 0	9 7
NX 300h	No	No	No	No	No	YES	5335	28 4	15 9	24 0	6 3	9 0	9 7
HIGHLANDER	No	No	No	No	Yes	YES	6000	17 9	18 3	23 4	8 0	8 4	10 2
HIGHLANDER HYBRID	No	No	No	No	Yes	YES	6260	17 6	16 9	24 1	8 0	8 4	9 7
SIENNA	No	No	No	No	Yes	YES	5995	15 0	14 0	18 0	6 4	6 4	8 3
RX 350	No	No	No	No	No	YES	5860	17 0	16 8	24 9	8 2	9 6	9 8
RX 350 L	No	No	No	No	No	YES	5985	17 1	20 6	21 3	8 0	9 1	9 6
RX 450h	No	No	No	No	No	YES	6000	17 0	16 8	24 9	8 2	9 6	9 8
RX 450h L	No	No	No	No	No	YES	6200	17 1	20 6	21 3	8 0	9 1	9 6
TACOMA	No	No	Yes	Yes	No	YES	5600	29 0	20 0	23 1	9 4	9 1	8 1
4RUNNER	No	No	No	No	No	YES	6300	30 0	22 0	26 0	9 0	7 6	9 2
GX 460	No	No	No	No	No	YES	6600	22 0	21 0	23 0	8 1	8 7	9 1
TUNDRA	No	No	Yes	Yes	No	YES	7050	27 0	18 0	20 0	9 8	9 6	8 5
TUNDRA FFV	No	No	Yes	Yes	No	YES	7150	27 0	18 0	20 0	9 8	9 6	8 5
SEQUOIA	No	No	No	No	Yes	YES	7300	28 0	20 0	21 0	9 5	9 5	8 6
LAND CRUISER	No	No	No	No	No	YES	7385	30 0	23 0	20 0	8 9	9 6	8 9
LX 570	No	No	No	No	No	YES	7385	25 0	23 0	20 0	8 9	9 3	8 9

TABLE 1: Footprint Information (Domestically produced passenger automobiles)

Carline	Basic Engine	Transmission Class	BaseTire	Front Track Width	Rear Track Width	Average Track Width	Wheelbase	Footprint	Footprint sales
COROLLA	2ZR-FE/FAE1	AV-1	P205/55R16 AS	59.8	59.9	59.8	106.3	44.1	125163
COROLLA	2ZR-FE/FAE1	AV-1	195/65R15 AS	60.3	60.4	60.4	106.3	44.6	6018
COROLLA	2ZR-FE/FAE1	M6	P205/55R16 AS	59.8	59.9	59.8	106.3	44.1	470
COROLLA	2ZR-FE/FAE1	M6	195/65R15 AS	60.3	60.4	60.4	106.3	44.6	70
COROLLA	2ZR-FE/FAE1	S7-2	P205/55R16 AS	59.8	59.9	59.8	106.3	44.1	55476
COROLLA LE ECO	2ZR-FE/FAE2	AV-1	195/65R15 AS	60.3	60.4	60.4	106.3	44.6	350
COROLLA LE ECO	2ZR-FE/FAE2	AV-2	P205/55R16 AS	59.8	59.9	59.8	106.3	44.1	58
CAMRY LE/SE	A25A-FKS1	S8-1	235/45R18 AS	62.1	62.5	62.3	111.2	48.1	150186
CAMRY LE/SE	A25A-FKS1	S8-1	215/55R17 AS	62.6	62.9	62.8	111.2	48.5	94897
CAMRY XLE/XSE	A25A-FKS1	S8-3	235/45R18 AS	62.2	62.5	62.4	111.2	48.2	15423
CAMRY XLE/XSE	A25A-FKS1	S8-3	235/40R19 AS	62.2	62.6	62.4	111.2	48.2	44288
CAMRY	A25A-FKS2	S8-1	205/65R16 AS	62.9	63.3	63.1	111.2	48.7	1606
CAMRY	2GR-FKS1	S8-3	235/45R18 AS	62.2	62.4	62.3	111.2	48.1	2018
AVALON XLE	2GR-FKS11	S8-3	215/55R17 AS	63.0	63.4	63.2	113.0	49.6	7660
ES 350 F SPORT	2GR-FKS12	S8-3	235/40R19 AS	62.5	63.0	62.8	113.0	49.3	9805
AVALON	2GR-FKS2	S8-3	235/45R18 AS	62.6	63.1	62.8	113.0	49.3	11904
AVALON	2GR-FKS2	S8-3	235/40R19 AS	62.6	63.1	62.8	113.0	49.3	10845

TABLE 2 MODEL TYPE FUEL ECONOMY (DOMESTICALLY PRODUCED PASSENGER AUTOMOBILES)

NO	CAR LINE	BASIC ENGINE LIT/FS/SD *1	TRANS CLASS *2	COMBINED F/E	PROJECTED SALES
1	COROLLA	1.8/FI/FFS	AV-1	43.1	131181
2	COROLLA	1.8/FI/FFS	M6	41.4	540
3	COROLLA	1.8/FI/FFS	S7-2	42.2	55476
4	COROLLA LE ECO	1.8/FI/FFS	AV-1	47.0	350
5	COROLLA LE ECO	1.8/FI/FFS	AV-2	44.9	58
6	CAMRY LE/SE	2.5/FI/FFS	S8-1	43.7	245083
7	CAMRY XLE/XSE	2.5/FI/FFS	S8-3	44.3	59711
8	CAMRY	2.5/FI/FFS	S8-1	46.8	1606
9	CAMRY	3.5/FI/FFS	S8-3	34.9	2018
10	AVALON XLE	3.5/FI/FFS	S8-3	34.5	7660
11	ES 350 F SPORT	3.5/FI/FFS	S8-3	33.3	9805
12	AVALON	3.5/FI/FFS	S8-3	33.1	22749

C

*1 : SPECIAL DESCRIPTION

*2 : THE NUMBER AFTER "-" INDICATES THE NUMBER OF TRANSMISSION MODE.

TABLE 3: Footprint Information (Non-domestically produced passenger automobiles)

Carline	Basic Engine	Transmission Class	BaseTire	Front Track Width	Rear Track Width	Average Track Width	Wheelbase	Footprint	Footprint sales	C
MIRAI	FCHV	AV-1	P215/55R17 AS	60.6	60.8	60.7	104.4	44.0	1747	
YARIS	1NZ-FE	L4-1	P175/65R15 AS	57.9	57.4	57.6	98.8	39.5	313	
PRIUS c	1NZ-FXE	AV-2 SS	P175/65R15 AS	58.4	58.0	58.2	100.4	40.6	1620	
YARIS	P5	M6	P185/65 R15	58.8	58.4	58.6	101.2	41.2	2049	
YARIS	P5	S6-2	P185/65 R15	58.8	58.4	58.6	101.2	41.2	25191	
PRIUS	2ZR-FXE3	AV-3 SS	P215/45R17 AS	59.4	59.6	59.5	106.3	43.9	11188	
PRIUS	2ZR-FXE3	AV-3 SS	195/65R15 AS	60.3	60.4	60.4	106.3	44.6	15117	
PRIUS AWD	2ZR-FXE3	AV-3 SS	195/65R15 AS	60.3	60.4	60.4	106.3	44.6	10849	
PRIUS Eco	2ZR-FXE4	AV-3 SS	195/65R15 AS	60.3	60.4	60.4	106.3	44.6	3138	
PRIUS PRIME	2ZR-FXE5	AV-3 SS	P195/65R15 AS	60.2	60.5	60.4	106.3	44.6	10628	
86	2.0L	M6	215/45R17 SM	59.8	60.6	60.2	101.2	42.3	527	
86	2.0L	M6	215/40R18 SM	59.8	60.6	60.2	101.2	42.3	1450	
86	2.0L	S6-2	215/45R17 SM	59.8	60.6	60.2	101.2	42.3	1440	
C-HR	3ZR-FAE	S7-3	215/60R17 AS	61.0	61.2	61.1	103.9	44.1	67662	
NX 300	8AR-FTS1	S6-3	225/60R18 AS	62.2	62.2	62.2	104.7	45.2	28451	
NX 300 AWD F SPORT	8AR-FTS2	S6-3	225/60R18 AS	62.2	62.2	62.2	104.7	45.2	5283	
IS 300	8AR-FTS3	S8-3	225/45R17 AS	60.4	61.1	60.8	110.2	46.5	11032	
RC 300	8AR-FTS3	S8-3	P235/45R18 AS	62.1	62.9	62.5	107.6	46.7	1318	
GS 300 F SPORT	8AR-FTS4	S8-3	265/35R19 SM	62.0	61.4	61.7	112.2	48.1	2	
GS 300	8AR-FTS5	S8-3	225/50R17 SM	62.0	62.6	62.3	112.2	48.5	7	
COROLLA HATCHBACK MANUAL	M20A-FKS1	M6	205/55R16 AS	60.3	60.8	60.6	103.9	43.7	4503	
COROLLA HATCHBACK	M20A-FKS2	S10-3	205/55R16 AS	60.3	60.8	60.6	103.9	43.7	20796	
COROLLA HATCHBACK XSE	M20A-FKS3	S10-3	205/55R16 AS	60.3	60.8	60.6	103.9	43.7	7812	
UX 200	M20A-FKS4	S10-3	225/50RF18 RF-AS	60.9	61.0	61.0	103.9	44.0	9254	
UX 200	M20A-FKS4	S10-3	225/50RF18 RF-AS	61.3	61.4	61.4	103.9	44.3	0	
UX 250h	M20A-FXS	S6-3 SS	225/50RF18 RF-AS	60.9	61.0	61.0	103.9	44.0	143	
UX 250h AWD	M20A-FXS	S6-3 SS	225/50RF18 RF-AS	60.9	61.0	61.0	103.9	44.0	8774	
RAV4	A25A-FKS3	S8-3	235/55R19 AS	62.6	63.3	63.0	105.9	46.3	12656	
RAV4	A25A-FKS3	S8-3	225/65R17 AS	63.0	63.7	63.4	105.9	46.6	133367	
CAMRY HYBRID LE	A25A-FXS1	S6-3 SS	205/65R16 AS	62.9	63.3	63.1	111.2	48.7	12721	
ES 300h	A25A-FXS1	S6-3 SS	215/55R17 AS	62.6	63.0	62.8	113.0	49.3	3047	
ES 300h	A25A-FXS1	S6-3 SS	215/55R17 AS	63.0	63.3	63.2	113.0	49.6	7532	
CAMRY HYBRID XLE/SE	A25A-FXS2	S6-3 SS	235/45R18 AS	62.2	62.6	62.4	111.2	48.2	5679	
CAMRY HYBRID XLE/SE	A25A-FXS2	S6-3 SS	235/45R18 AS	62.1	62.6	62.4	111.2	48.2	7619	
AVALON HYBRID	A25A-FXS3	S6-3 SS	235/45R18 AS	62.6	63.1	62.8	113.0	49.3	6948	
AVALON HYBRID XLE	A25A-FXS4	S6-3 SS	215/55R17 AS	62.9	63.5	63.2	113.0	49.6	2018	
LS 500	V35A-FTS	S10-4	245/50RF19 RF-SM	64.2	64.2	64.2	123.0	54.8	3460	
LS 500 AWD	V35A-FTS	S10-4	245/50RF19 RF-SM	64.2	64.2	64.2	123.0	54.8	2110	
GS 350	2GR-FKS1	S8-3	235/45R18 SM	62.0	62.6	62.3	112.2	48.5	311	
GS 350 AWD	2GR-FKS1	S6-3	P235/45R18 AS	62.0	62.6	62.3	112.2	48.5	1542	
IS 300 AWD	2GR-FKS1	S6-3	225/45R17 AS	60.5	61.1	60.8	110.2	46.5	4650	
IS 350	2GR-FKS1	S8-3	255/35R18 AS	60.4	60.7	60.6	110.2	46.4	789	
IS 350 AWD	2GR-FKS1	S6-3	255/35R18 AS	60.5	60.7	60.6	110.2	46.4	613	
RC 300 AWD	2GR-FKS1	S6-3	P235/45R18 AS	62.2	62.9	62.6	107.6	46.8	886	
RC 350	2GR-FKS1	S8-3	P235/45R18 AS	62.1	62.9	62.5	107.6	46.7	1976	
RC 350 AWD	2GR-FKS1	S6-3	P235/45R18 AS	62.2	62.9	62.6	107.6	46.8	751	
ES 350	2GR-FKS10	S8-3	215/55R17 AS	62.5	63.0	62.8	113.0	49.3	31595	
ES 350	2GR-FKS10	S8-3	215/55R17 AS	62.9	63.3	63.1	113.0	49.5	9046	

TABLE 3: Footprint Information (Non-domestically produced passenger automobiles)

Carline	Basic Engine	Transmission Class	BaseTire	Front Track Width	Rear Track Width	Average Track Width	Wheelbase	Footprint	Footprint sales
GS 350 F SPORT	2GR-FKS3	S8-3	265/35R19 SM	62.0	61.4	61.7	112.2	48.1	1828
RX 350	2GR-FKS4	S8-3	235/65R18 AS	64.6	64.6	64.6	109.8	49.3	34096
RX 350 AWD(F SPORT)	2GR-FKS4-PV	S8-3	235/65R18 AS	64.6	64.6	64.6	109.8	49.3	7910
CAMRY XSE	2GR-FKS8	S8-3	235/40R19 AS	62.2	62.6	62.4	111.2	48.2	11878
RX 350 L	2GR-FKS9	S8-3	235/65R18 AS	64.6	64.6	64.6	109.8	49.3	5000
LC 500h	8GR-FXS	S10-3 SS	275/40RF20 RF-SM	64.2	64.5	64.4	113.0	50.5	25
LS 500h	8GR-FXS	S10-3 SS	245/50RF19 RF-SM	64.2	64.2	64.2	123.0	54.8	115
LS 500h AWD	8GR-FXS	S10-3 SS	245/50RF19 RF-SM	64.2	64.2	64.2	123.0	54.8	81
GS F	2UR-GSE	S8-3	275/35ZR19 SM	61.2	61.4	61.3	112.2	47.8	243
LC 500	2UR-GSE	S10-4	275/40RF20 RF-SM	64.2	64.5	64.4	113.0	50.5	922
RC F	2UR-GSE	S8-3	275/35ZR19 SM	61.2	61.4	61.3	107.6	45.8	370
RX 450h AWD(F SPORT)	2GR-FXS2-PV	S6-3 SS	235/65R18 AS	64.6	64.6	64.6	109.8	49.3	2607

TABLE 4 MODEL TYPE FUEL ECONOMY (NON-DOMESTICALLY PRODUCED PASSENGER AUTOMOBILES)

NO	CAR LINE	BASIC ENGINE LIT/FS/SD *1	TRANS CLASS *2	COMBINED F/E	PROJECTED SALES
1	MIRAI	FCV	AV-1	640.0	1747
2	YARIS	1.5/FI/FFS	L4-1	43.8	313
3	PRIUS c	1.5/FI/FFS	AV-2 SS	66.7	1620
4	YARIS	1.5/FI/FFS	M6	47.4	2049
5	YARIS	1.5/FI/FFS	S6-2	49.6	25191
6	PRIUS	1.8/FI/FFS	AV-3 SS	72.9	26305
7	PRIUS AWD	1.8/FI/FFS	AV-3 SS	72.9	10849
8	PRIUS Eco	1.8/FI/FFS	AV-3 SS	80.8	3138
9	PRIUS PRIME	1.8/FI/FFS	AV-3 SS	146.6	10628
10	86	2.0/FI/FFS	M6	31.5	1977
11	86	2.0/FI/FFS	S6-2	36.2	1440
12	C-HR	2.0/FI/FFS	S7-3	40.8	67662
13	NX 300	2.0/FI/FFS	S6-3	32.8	28451
14	NX 300 AWD F SPORT	2.0/FI/FFS	S6-3	31.4	5283
15	IS 300	2.0/FI/FFS	S8-3	32.2	11032
16	RC 300	2.0/FI/FFS	S8-3	32.2	1318
17	GS 300 F SPORT	2.0/FI/FFS	S8-3	31.7	2
18	GS 300	2.0/FI/FFS	S8-3	34.1	7
19	COROLLA HATCHBACK MANUAL	2.0/FI/FFS	M6	43.0	4503
20	COROLLA HATCHBACK	2.0/FI/FFS	S10-3	49.8	20796
21	COROLLA HATCHBACK XSE	2.0/FI/FFS	S10-3	45.7	7812
22	UX 200	2.0/FI/FFS	S10-3	44.6	9254
23	UX 250h	2.0/FI/FFS	S6-3 SS	58.9	143
24	UX 250h AWD	2.0/FI/FFS	S6-3 SS	55.5	8774
25	RAV4	2.5/FI/FFS	S8-3	40.9	146023
26	CAMRY HYBRID LE	2.5/FI/FFS	S6-3 SS	71.8	12721
27	ES 300h	2.5/FI/FFS	S6-3 SS	60.0	10579
28	CAMRY HYBRID XLE/SE	2.5/FI/FFS	S6-3 SS	62.9	13298
29	AVALON HYBRID	2.5/FI/FFS	S6-3 SS	59.3	6948
30	AVALON HYBRID XLE	2.5/FI/FFS	S6-3 SS	61.1	2018
31	LS 500	3.4/FI/FFS	S10-4	30.0	3460
32	LS 500 AWD	3.4/FI/FFS	S10-4	27.6	2110
33	GS 350	3.5/FI/FFS	S8-3	30.2	311
34	GS 350 AWD	3.5/FI/FFS	S6-3	28.2	1542
35	IS 300 AWD	3.5/FI/FFS	S6-3	28.2	4650
36	IS 350	3.5/FI/FFS	S8-3	30.2	789
37	IS 350 AWD	3.5/FI/FFS	S6-3	28.2	613
38	RC 300 AWD	3.5/FI/FFS	S6-3	28.2	886
39	RC 350	3.5/FI/FFS	S8-3	30.2	1976
40	RC 350 AWD	3.5/FI/FFS	S6-3	28.2	751
41	ES 350	3.5/FI/FFS	S8-3	33.9	40641
42	GS 350 F SPORT	3.5/FI/FFS	S8-3	28.6	1828
43	RX 350	3.5/FI/FFS	S8-3	29.8	34096
44	CAMRY XSE	3.5/FI/FFS	S8-3	34.1	11878
45	RX 350 L	3.5/FI/FFS	S8-3	28.9	5000
46	LC 500h	3.5/FI/FFS	S10-3 SS	40.8	25
47	LS 500h	3.5/FI/FFS	S10-3 SS	38.2	115
48	LS 500h AWD	3.5/FI/FFS	S10-3 SS	34.5	81
49	RX 350 AWD(F SPORT)	3.5/FI/FFS	S8-3	28.6	7910
50	RX 450h AWD(F SPORT)	3.5/FI/FFS	S6-3 SS	40.9	2607
51	GS F	5.0/FI/FFS	S8-3	23.8	243
52	LC 500	5.0/FI/FFS	S10-4	24.1	922
53	RC F	5.0/FI/FFS	S8-3	25.3	370

C

*1 : SPECIAL DESCRIPTION

*2 : THE NUMBER AFTER "-" INDICATES THE NUMBER OF TRANSMISSION MODE.

TABLE 5: Footprint Information (Light Truck)

Carline	Basic Engine	Transmission Class	BaseTire	Front Track Width	Rear Track Width	Average Track Width	Wheelbase	Footprint	Footprint sales	C
HIGHLANDER	1AR-FE1	S6-1	245/60R18 AS	64.3	64.1	64.2	109.8	49.0	15775	
TACOMA 2WD	2TR-FE	S6-2	P245/75R16 AS	63.0	63.2	63.1	127.4	55.8	32687	
HIGHLANDER LE/XLE/SE/LTD	2GR-FKS4	S8-2 SS	245/55R19 AS	64.3	64.1	64.2	109.8	49.0	14581	
HIGHLANDER LE/XLE/SE/LTD	2GR-FKS4	S8-2 SS	245/60R18 AS	64.3	64.1	64.2	109.8	49.0	43416	
HIGHLANDER LE/XLE/SE/LTD	2GR-FKS4	S8-2 SS	245/60R18 AS	64.3	64.0	64.2	109.8	49.0	8986	
SIENNA	2GR-FKS4	S8-2	P235/60R17 AS	67.7	67.5	67.6	119.3	56.0	39459	
SIENNA	2GR-FKS4	S8-2	P235/50R19 AS	67.7	67.5	67.6	119.3	56.0	3811	
TACOMA 2WD	2GR-FKS4	S6-2	P245/75R16 AS	63.0	63.2	63.1	127.4	55.8	49804	
TACOMA 2WD	2GR-FKS4	S6-2	P265/60R18 AS	63.3	63.6	63.4	127.4	56.1	677	
TACOMA 2WD	2GR-FKS4	S6-2	P245/75R16 AS	63.0	63.2	63.1	140.6	61.6	6636	
TACOMA 2WD	2GR-FKS4	S6-2	P265/60R18 AS	63.3	63.6	63.4	140.6	61.9	0	
HIGHLANDER	2GR-FKS6	S8-2	245/60R18 AS	64.3	64.0	64.2	109.8	49.0	10489	
4RUNNER 2WD	1GR-FE	S5-1	P265/70R17 AS	63.2	63.2	63.2	109.8	48.2	21836	
TUNDRA 2WD	1UR-FE	S6-1	P255/70R18 AS	67.9	67.9	67.9	145.7	68.7	10394	
SEQUOIA 2WD	3UR-FE	S6-1	P275/55R20 AS	67.9	69.1	68.5	122.0	58.0	999	
SEQUOIA 2WD	3UR-FE	S6-1	P275/65R18 AS	67.9	69.1	68.5	122.0	58.0	772	
TUNDRA 2WD	3UR-FE	S6-1	P255/70R18 AS	67.9	67.9	67.9	145.7	68.7	8607	
TUNDRA 2WD	3UR-FE	S6-1	P275/55R20 AS	67.9	67.9	67.9	145.7	68.7	3119	
TUNDRA 2WD	3UR-FE	S6-1	P255/70R18 AS	67.9	67.9	67.9	164.6	77.6	470	
NX 300 AWD	8AR-FTS1	S6-3	225/60R18 AS	62.2	62.2	62.2	104.7	45.2	17973	
NX 300h AWD	2AR-FXE3	S6-3 SS	225/60R18 AS	62.2	62.2	62.2	104.7	45.2	9296	
RAV4 AWD	A25A-FKS3	S8-3	235/55R19 AS	62.6	63.3	63.0	105.9	46.3	39388	
RAV4 AWD	A25A-FKS3	S8-3	225/65R17 AS	63.0	63.7	63.4	105.9	46.6	86620	
RAV4 AWD	A25A-FKS3	S8-3 SS	225/65R17 AS	63.0	63.7	63.4	105.9	46.6	50899	
RAV4 HYBRID AWD	A25A-FXS5	S6-3 SS	225/60R18 AS	63.0	63.7	63.4	105.9	46.6	16537	
RAV4 HYBRID AWD	A25A-FXS5	S6-3 SS	225/65R17 AS	63.0	63.7	63.4	105.9	46.6	58383	
TACOMA 4WD	2TR-FE	S6-2	P245/75R16 AS	63.0	63.2	63.1	127.4	55.8	7231	
HIGHLANDER AWD	2GR-FKS4	S8-2	245/60R18 AS	64.3	64.0	64.2	109.8	49.0	16596	
HIGHLANDER AWD	2GR-FKS4	S8-2 SS	245/60R18 AS	64.3	64.1	64.2	109.8	49.0	93983	
HIGHLANDER AWD	2GR-FKS4	S8-2 SS	245/55R19 AS	64.3	64.1	64.2	109.8	49.0	34473	
RX 350 AWD	2GR-FKS4	S8-3	235/65R18 AS	64.6	64.6	64.6	109.8	49.3	33760	
SIENNA AWD	2GR-FKS4	S8-2	235/55RF18 RF-AS	67.7	67.6	67.6	119.2	56.0	2104	
SIENNA AWD	2GR-FKS4	S8-2	235/55RF18 RF-AS	67.7	67.6	67.6	119.3	56.0	11691	
TACOMA 4WD	2GR-FKS4	M6	P245/75R16 AS	63.0	63.2	63.1	127.4	55.8	4073	
TACOMA 4WD	2GR-FKS4	S6-2	P245/75R16 AS	63.0	63.2	63.1	127.4	55.8	123093	
TACOMA 4WD	2GR-FKS4	S6-2	P265/60R18 AS	63.3	63.6	63.4	127.4	56.1	4741	
TACOMA 4WD	2GR-FKS4	S6-2	P245/75R16 AS	63.0	63.2	63.1	140.6	61.6	25726	
TACOMA 4WD	2GR-FKS4	S6-2	P265/65R17 AS	63.0	63.2	63.1	140.6	61.6	0	
TACOMA 4WD D-CAB V6 MT OFF-ROAD	2GR-FKS5	M6	265/70R16 OFF	63.3	63.6	63.4	127.4	56.1	6931	
HIGHLANDER AWD LE	2GR-FKS7	S8-2 SS	245/60R18 AS	64.3	64.0	64.2	109.8	49.0	9966	
RX 350 L AWD	2GR-FKS9	S8-3	235/65R18 AS	64.6	64.6	64.6	109.8	49.3	5975	

TABLE 5: Footprint Information (Light Truck)

Carline	Basic Engine	Transmission Class	BaseTire	Front Track Width	Rear Track Width	Average Track Width	Wheelbase	Footprint	Footprint sales	C
HIGHLANDER HYBRID AWD	2GR-FXS2	S6-2 SS	245/60R18 AS	64.3	63.9	64.1	109.8	48.9	9844	
HIGHLANDER HYBRID AWD	2GR-FXS2	S6-2 SS	245/55R19 AS	64.4	63.9	64.2	109.8	49.0	13149	
RX 450h AWD	2GR-FXS2	S6-3 SS	235/65R18 AS	64.6	64.6	64.6	109.8	49.3	10581	
RX 450h L AWD	2GR-FXS2CAFE	S6-3 SS	235/65R18 AS	64.6	64.6	64.6	109.8	49.3	1871	
HIGHLANDER HYBRID AWD LE	2GR-FXS3	S6-2 SS	245/60R18 AS	64.3	63.9	64.1	109.8	48.9	1367	
4RUNNER 4WD	1GR-FE	S5-1	P265/70R17 AS	63.2	63.2	63.2	109.8	48.2	116958	
GX 460	1UR-FE	S6-1	P265/60R18 AS	62.3	62.4	62.4	109.8	47.6	27708	
TUNDRA 4WD	1UR-FE	S6-1	P255/70R18 AS	67.9	67.9	67.9	145.7	68.7	4153	
TUNDRA 4WD FFV	3UR-FBE	S6-1	P275/55R20 AS	67.9	67.9	67.9	145.7	68.7	0	
TUNDRA 4WD FFV	3UR-FBE	S6-1	P255/70R18 AS	67.9	67.9	67.9	145.7	68.7	20186	
TUNDRA 4WD FFV	3UR-FBE	S6-1	P255/70R18 AS	67.9	67.9	67.9	164.6	77.6	0	
LAND CRUISER WAGON 4WD	3UR-FE	S8-2	285/60R18 AS	64.9	64.7	64.8	112.2	50.5	3348	
LX 570	3UR-FE	S8-3	285/50R20 AS	64.8	64.6	64.7	112.2	50.4	4756	
SEQUOIA 4WD	3UR-FE	S6-1	P275/55R20 AS	67.9	69.1	68.5	122.0	58.0	4724	
SEQUOIA 4WD	3UR-FE	S6-1	P275/65R18 AS	67.9	69.1	68.5	122.0	58.0	4243	
TUNDRA 4WD	3UR-FE	S6-1	P275/55R20 AS	67.9	67.9	67.9	145.7	68.7	31378	
TUNDRA 4WD	3UR-FE	S6-1	P255/70R18 AS	67.9	67.9	67.9	145.7	68.7	33141	
TUNDRA 4WD	3UR-FE	S6-1	P255/70R18 AS	67.9	67.9	67.9	164.6	77.6	1263	

TABLE 6 MODEL TYPE FUEL ECONOMY (LIGHT TRUCKS)

(1) 2WD

NO	CAR LINE	BASIC ENGINE LIT/FS/SD *1	TRANS CLASS *2	COMBINED F/E	PROJECTED SALES C
1	HIGHLANDER	2.7/FI/FFS	S6-1	30.1	15775
2	TACOMA 2WD	2.7/FI/FFS	S6-2	27.7	32687
3	HIGHLANDER LE/XLE/SE/LTD	3.5/FI/FFS	S8-2 SS	30.8	66983
4	SIENNA	3.5/FI/FFS	S8-2	28.4	43270
5	TACOMA 2WD	3.5/FI/FFS	S6-2	27.0	57117
6	HIGHLANDER	3.5/FI/FFS	S8-2	30.1	10489
7	4RUNNER 2WD	4.0/FI/FFS	S5-1	24.5	21836
8	TUNDRA 2WD	4.6/FI/FFS	S6-1	21.3	10394
9	SEQUOIA 2WD	5.7/FI/FFS	S6-1	18.9	1771
10	TUNDRA 2WD	5.7/FI/FFS	S6-1	19.0	12196

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TABLE 6 MODEL TYPE FUEL ECONOMY (LIGHT TRUCKS)

(2) 4WD

NO	CAR LINE	BASIC ENGINE LIT/FS/SD *1	TRANS CLASS *2	COMBINED F/E	PROJECTED SALES C
11	NX 300 AWD	2.0/FI/FFS	S6-3	32.5	17973
12	NX 300h AWD	2.5/FI/FFS	S6-3 SS	43.6	9296
13	RAV4 AWD	2.5/FI/FFS	S8-3	39.1	126008
14	RAV4 AWD	2.5/FI/FFS	S8-3 SS	41.0	50899
15	RAV4 HYBRID AWD	2.5/FI/FFS	S6-3 SS	55.8	74920
16	TACOMA 4WD	2.7/FI/FFS	S6-2	26.2	7231
17	HIGHLANDER AWD	3.5/FI/FFS	S8-2	29.0	16596
18	HIGHLANDER AWD	3.5/FI/FFS	S8-2 SS	29.2	128456
19	RX 350 AWD	3.5/FI/FFS	S8-3	28.6	33760
20	SIENNA AWD	3.5/FI/FFS	S8-2	26.2	13795
21	TACOMA 4WD	3.5/FI/FFS	M6	24.0	4073
22	TACOMA 4WD	3.5/FI/FFS	S6-2	25.9	153560
23	TACOMA 4WD D-CAB V6 MT OFF-ROAD	3.5/FI/FFS	M6	23.8	6931
24	HIGHLANDER AWD LE	3.5/FI/FFS	S8-2 SS	29.9	9966
25	RX 350 L AWD	3.5/FI/FFS	S8-3	27.8	5975
26	HIGHLANDER HYBRID AWD	3.5/FI/FFS	S6-2 SS	39.3	22993
27	RX 450h AWD	3.5/FI/FFS	S6-3 SS	40.8	10581
28	RX 450h L AWD	3.5/FI/FFS	S6-3 SS	39.4	1871
29	HIGHLANDER HYBRID AWD LE	3.5/FI/FFS	S6-2 SS	40.3	1367
30	4RUNNER 4WD	4.0/FI/FFS	S5-1	23.9	116958
31	GX 460	4.6/FI/FFS	S6-1	21.3	27708
32	TUNDRA 4WD	4.6/FI/FFS	S6-1	20.3	4153
33	TUNDRA 4WD FFV	5.7/FI/FFS	S6-1	31.3	20186
34	LAND CRUISER WAGON 4WD	5.7/FI/FFS	S8-2	19.1	3348
35	LX 570	5.7/FI/FFS	S8-3	19.0	4756
36	SEQUOIA 4WD	5.7/FI/FFS	S6-1	18.4	8967
37	TUNDRA 4WD	5.7/FI/FFS	S6-1	18.5	65782

*1 : SPECIAL DESCRIPTION

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Air Conditioning Efficiency Credits Earned

Manufacturer: TOYOTA

Select Model Year: 2019
 Select Report: Mid-Model Year Report
 Select Program: Primary (non-TLAAS)
 Select Fleet: Cars

AK: Total production volume generating A/C credits (and equipped with A/C) [X HI] 564,685

July, 2019
 Instructions Notes

BB. Total A/C Efficiency Credits for the Model Year (megagrams) [Z W] 499,200
 CC. Total A/C Credits for the Model Year (gal/mi) [Z W] 0.000509438

OMB Control Number 2060-0644
 Expires 10-31-2013

Model Type Information			Air Conditioning				Production	Air Conditioning System Menu Based Components & Credits (gpm)										Credits Generated			X. Comments	Intermediate Calculations				
A. Carline Name	B. Drive	C. Engine	D. Trans	E. A/C System Identifier	F. Refrigerant	G. A/C System	H. Production volume generating A/C credits (and equipped with A/C)	I. Reduc'd Reheat with variable displ compressor	J. Reduced Reheat with fixed displ or pneumatic compressor	K. Default to Recirc with feedback sensor	L. Default to Recirc without feedback sensor	M. Efficient Blower Motor Controls	N. Internal Heat Exchange r	O. Improved Condenser and/or Evaporator (requires EPA approval)	P. Oil Separator (requires EPA approval)	Q. Total Menu based Credits [(+)+K+L+M +N+O+P]	R. Cap Limited Credits [Capped at 5.0 max for Truck]	S. Increased CO2 on Idle Test	T. Electric only A/C: Time engine remained off during A/C on portion of Idle Test	U. Electric only A/C: Time engine remained off during A/C on portion of Idle Test	V. Credits adjusted for idle test [calc from R, S, T per 86.1866 12(c)(5)]	W. A/C Efficiency credits [calc from C3, H, (R or V) per 86.1866 12(c)(3)]	X. Comments		Cars or rucks? [from cell D7]	Vehicle Lifetime Miles (VLM) [derived from adjacent column Z]
							Car: 1.5 Truck: 2.2 gpm	Car: 1.0 Truck: 1.4 gpm	Car: 1.5 Truck: 2.2 gpm	Car: 1.0 Truck: 1.4 gpm	Car: 0.8 Truck: 1.1 gpm	Car: 1.0 Truck: 1.4 gpm	Car: 1.0 Truck: 1.4 gpm	Car: 0.5 Truck: 0.7 gpm	gpm	gpm	g/min	NA, <120, > 120	Seconds	gpm	megagrams			Cars		
86	FR	2	6AT				1,440									0.0	0				0.0	0			Cars	195.26
86	FR	2	6MT				1,977									0.0	0				0.0	0			Cars	195.26
AVALON HYBRID	FF	2.5	HV	70	R-1234YF	ELECTRIC	6,948	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	4.8	6,512		Cars	195.26
AVALON HYBRID XLE	FF	2.5	HV	69	R-1234YF	ELECTRIC	2,018	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	4.8	1,891		Cars	195.26
CAMRY HYBRID LE	FF	2.5	HV	28	R-1234YF	ELECTRIC	12,721	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	4.8	11,923		Cars	195.26
CAMRY HYBRID XLE/SE	FF	2.5	HV	29	R-1234YF	ELECTRIC	13,293	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	4.8	12,644		Cars	195.26
CAMRY XSE	FF	3.5	S8-3	31	R-1234YF	BELT-DRIVEN	11,878	1.5			1.0	0.8	1.0	1.0	0.5	5.8	5				5.0	5	11,597		Cars	195.26
C-HR	FF	2	S7-3	22	R-1234YF	BELT-DRIVEN	23,606	1.5			1.0	0.8		1.0	0.5	3.0	3				5.0	3	13,828		Cars	195.26
C-HR	FF	2	S7-3	47	R-1234YF	BELT-DRIVEN	44,956	1.5			1.0	0.8	1.0	1.0	0.5	5.8	5				5.0	5	43,013		Cars	195.26
COROLLA HATCHBACK	FF	2	S10-3	38	R-1234YF	BELT-DRIVEN	20,796	1.5			1.0	0.8	1.0	1.0	0.5	5.8	5				5.0	5	20,304		Cars	195.26
COROLLA HATCHBACK MANUAL	FF	2	M6	87	R-1234YF	BELT-DRIVEN	4,503	1.5			1.0	0.8	1.0	1.0	0.5	5.8	5				5.0	5	4,396		Cars	195.26
COROLLA HATCHBACK XSE	FF	2	S10-3	89	R-1234YF	BELT-DRIVEN	7,812	1.5			1.0	0.8	1.0	1.0	0.5	5.8	5				5.0	5	7,627		Cars	195.26
ES 300H	FF	2.5	HV	81	R-1234YF	ELECTRIC	7,393	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	4.8	6,929		Cars	195.26
ES 300H	FF	2.5	HV	84	R-1234YF	ELECTRIC	3,186	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	4.8	2,866		Cars	195.26
ES 350	FF	3.5	S8-3	82	R-1234YF	BELT-DRIVEN	2,768	1.5			1.0	0.8	1.0	1.0	0.5	5.8	5				5.0	5	2,702		Cars	195.26
ES 350	FF	3.5	S8-3	85	R-1234YF	BELT-DRIVEN	37,873	1.5			1.0	0.8	1.0	1.0	0.5	5.8	5				5.0	5	36,976		Cars	195.26
GS 300	FR	2	S8-3	9	R-134A	BELT-DRIVEN	7	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	7			Cars	195.26
GS 300 F SPORT	FR	2	S8-3	10	R-134A	BELT-DRIVEN	2	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	2			Cars	195.26
GS 350	FR	3.5	S8-3	11	R-134A	BELT-DRIVEN	311	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	291			Cars	195.26
GS 350 AWD	4WD	3.5	S6-3	13	R-134A	BELT-DRIVEN	1,542	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	1,445			Cars	195.26
GS 350 F SPORT	FR	3.5	S8-3	12	R-134A	BELT-DRIVEN	1,826	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	1,713			Cars	195.26
GS F	FR	5	S8-3	8	R-134A	BELT-DRIVEN	243	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	228			Cars	195.26
IS 300	FR	2	S8-3	42	R-134A	BELT-DRIVEN	11,032	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	10,340			Cars	195.26
IS 300 AWD	4WD	3.5	S6-3	45	R-134A	BELT-DRIVEN	4,650	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	4,358			Cars	195.26
IS 350	FR	3.5	S8-3	43	R-134A	BELT-DRIVEN	789	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	740			Cars	195.26
IS 350 AWD	4WD	3.5	S6-3	44	R-134A	BELT-DRIVEN	613	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	575			Cars	195.26
LC 500	FR	5	S10-4	24	R-1234YF	BELT-DRIVEN	922	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	864			Cars	195.26
LC 500H	FR	3.5	HV	23	R-1234YF	ELECTRIC	26	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	23			Cars	195.26
LS 500	FR	3.4	S10-4	76	R-1234YF	BELT-DRIVEN	3,460	1.5			1.0	0.8	1.0	1.0	0.5	5.8	5				5.0	3,378			Cars	195.26
LS 500 AWD	4WD	3.4	S10-4	75	R-1234YF	BELT-DRIVEN	2,110	1.5			1.0	0.8	1.0	1.0	0.5	5.8	5				5.0	2,060			Cars	195.26
LS 500H	FR	3.5	HV	73	R-1234YF	ELECTRIC	119	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	108			Cars	195.26
LS 500H AWD	4WD	3.5	HV	74	R-1234YF	ELECTRIC	81	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	76			Cars	195.26
MIRAI	FF	0	FCV	7	R-134A	ELECTRIC	1,747	1.5			1.0	0.8	1.0	1.0	0.5	5.8	5				5.0	1,706			Cars	195.26
NX 300	FF	2	S6-3	55	R-134A	BELT-DRIVEN	467				0.8			1.0	0.5	2.3	2.3				2.3	210			Cars	195.26
NX 300	FF	2	S6-3	56	R-134A	BELT-DRIVEN	27,984	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	26,228			Cars	195.26
NX 300 AWD F SPORT	4WD	2	S6-3	59	R-134A	BELT-DRIVEN	32				0.8			1.0	0.5	2.3	2.3				2.3	14			Cars	195.26
NX 300 AWD F SPORT	4WD	2	S6-3	60	R-134A	BELT-DRIVEN	5,251	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	4,922			Cars	195.26
PRIUS	FWD	1.8	HV	116	R-134A	ELECTRIC	26,305	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	24,655			Cars	195.26
PRIUS AWD	4WD	1.8	HV	117	R-134A	ELECTRIC	10,840	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	10,169			Cars	195.26
PRIUS C	FF	1.5	HV	88	R-134A	ELECTRIC	1,620	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	1,518			Cars	195.26
PRIUS ECO	FWD	1.8	HV	115	R-134A	ELECTRIC	3,138	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	2,941			Cars	195.26
PRIUS PRIME	FF	1.8	HV	33	R-134A	ELECTRIC	10,628	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	9,861			Cars	195.26
RAV4	FF	2.5	S8-3	90	R-1234YF	BELT-DRIVEN	146,023	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	138,863			Cars	195.26
RAV4	FF	2.5	S8-3 SS	91	R-1234YF	BELT-DRIVEN	0	1.5			1.0	0.8	1.0	1.0	0.5	5.8	5				5.0	0			Cars	195.26
RC 300	FR	2	S8-3	111	R-134A	BELT-DRIVEN	1,318	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	1,235			Cars	195.26
RC 300 AWD	4WD	3.5	S6-3	114	R-134A	BELT-DRIVEN	886	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	830			Cars	195.26
RC 350	FR	3.5	S8-3	112	R-134A	BELT-DRIVEN	1,976	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	1,852			Cars	195.26
RC 350 AWD	4WD	3.5	S6-3	113	R-134A	BELT-DRIVEN	751	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	704			Cars	195.26
RC F	FR	5	S8-3	6	R-134A	BELT-DRIVEN	370	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	347			Cars	195.26
RX 350	FF	3.5	S8-3	15	R-134A	BELT-DRIVEN	34,096	1.5			1.0	0.8	1.0	1.0	0.5	5.8	5				5.0	33,289			Cars	195.26
RX 350 AWD (F SPORT)	4WD	3.5	S8-3	17	R-134A	BELT-DRIVEN	7,910	1.5			1.0	0.8	1.0	1.0	0.5	5.8	5				5.0	7,723			Cars	195.26
RX 350 L	FF	3.5	S8-3	105	R-134A	BELT-DRIVEN	5,000	1.5			1.0	0.8	1.0	1.0	0.5	5.8	5				5.0	4,882			Cars	195.26
RX 450H AWD (F SPORT)	4WD	3.5	HV	19	R-134A	ELECTRIC	2,607	1.5			1.0	0.8		1.0	0.5	4.3	4.3				4.3	2,189			Cars	195.26
UX 200	FF	2	S10-3	108	R-1234YF	BELT-DRIVEN	9,254	1.5			1.0	0.8	1.0	1.0	0.5	5.8	5				5.0	9,035			Cars	195.26
UX 250H	FF	2	HV	109	R-1234YF	ELECTRIC	143	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	134			Cars	195.26
UX 250H AWD	4WD	2	HV	110	R-1234YF	ELECTRIC	8,774	1.5			1.0	0.8		1.0	0.5	4.8	4.8				4.8	8,224			Cars	195.26
YARIS	FF	1.5	6AT				25,191																			

Offcycle total credits

Select Model Year: **2019**
 Select Report: **Mid-Model Year Report**

July, 2019

Total of Off Cycle Credits 2-6 and Column 13

	2)	3)	4)	5)	6)-1	6)-2	6)-3	6)-4	7)	8)			BB. Total Off-Cycle Credits for the Model Year (megagrams) [Σ L]	CC. Total Off-Cycle Credits for the Model Year (gal/mi) [Σ L]	Production volume of the category	Vehicle Lifetime Miles
	High efficiency lights	Active aerodynamic improvements	Start & Stop	Active transmission/Engine warm up	[Thermal control] Thermal control glass/glazing	[Thermal control] Active Seat ventilation	[Thermal control] Solar reflective surface coating	[Thermal control] Passive cabin ventilation	High Efficiency Alternator	SAS compressor	Total of Thermal control tech. (before Cap)	Total of Thermal control tech. (after Cap)				
Domestic Car Totals for the Model Year:	55,519	0	0	102,113	70,766	5,258	7,933	175,985	36,757	20,362	259,942	256,691	471,442	0.000506634	536237	195264
Import Car Totals for the Model Year:	61,148	15,652	53,624	118,260	95,719	32,452	11,437	177,169	27,923	8,162	316,770	285,744	570,514	0.000582214	564685	195264
Truck Totals for the Model Year:	86,336	11,794	357,750	565,684	506,211	166,838	36,951	537,816	98,537	35,438	1,247,823	1,078,398	2,233,936	0.000911767	1220627	225865

Model Year Report - Off-Cycle Technology Credits Earned - page 1 of 3

Manufacturer: TOYOTA Item: High efficiency lights

July, 2019

OMB Control Number 2060-0644
Expires 10-31-2013

Select Model Year:	2019
Select Report:	Mid-Model Year Report
Select Program:	Primary (non-TLAAS)
Select Fleet:	Cars & Trucks

AA. Total production volume generating credits (Z J)	536,237
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BB. Total Off Cycle Credits for the Model Year (megagrams) (Z L)	55,519
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Instructions

Notes

Domestic Car Totals for the Model Year:	536,237
Import Car Totals for the Model Year:	533,715
Truck Totals for the Model Year:	1,111,914

55,519
61,148
86,336

Domestic Cars:

Model Type Information				Off Cycle Technology					Production	Credits Generated		M. Comments
A. Carline Name	B. Drive	C. Engine	D. Trans	E. Description	F. Type of Testing (5 cycle or Other)	G. Date Announced in Federal Register	H. Date of EPA Approval	I. Initial Model Year Credits can be Generated	J. Production volume (generating credits) units	K. Off Cycle CREE benefit1 (per vehicle) [round to 0.1] gpm	L. Off cycle credits [calc per 86,1866 12 (d)(2)(iii)] megagrams	
AVALON	FF	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	17 126	0.1	334	
AVALON	FF	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	5 623	0.5	549	
AVALON XLE	FF	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	7 660	0.5	748	
CAMRY	FF	2.5	S8-1	High efficiency lights	Pre-approved ist	NA	NA	14MY	1 606	0.6	188	
CAMRY	FF	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	2 018	0.7	276	
CAMRY LE/SE	FF	2.5	S8-1	High efficiency lights	Pre-approved ist	NA	NA	14MY	245 080	0.6	28 713	
CAMRY XLE/XSE	FF	2.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	59 714	0.7	8 162	
COROLLA	FF	1.8	AV-1	High efficiency lights	Pre-approved ist	NA	NA	14MY	128 150	0.4	10 009	
COROLLA	FF	1.8	AV-1	High efficiency lights	Pre-approved ist	NA	NA	14MY	3 031	0.5	296	
COROLLA	FF	1.8	M6	High efficiency lights	Pre-approved ist	NA	NA	14MY	70	0.4	5	
COROLLA	FF	1.8	M6	High efficiency lights	Pre-approved ist	NA	NA	14MY	470	0.5	46	
COROLLA	FF	1.8	S7-2	High efficiency lights	Pre-approved ist	NA	NA	14MY	55 476	0.5	5 416	
COROLLA LE ECO	FF	1.8	AV-1	High efficiency lights	Pre-approved ist	NA	NA	14MY	350	0.4	27	
COROLLA LE ECO	FF	1.8	AV-2	High efficiency lights	Pre-approved ist	NA	NA	14MY	58	0.4	5	
ES 350 F SPORT	FF	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	6 918	0.3	405	
ES 350 F SPORT	FF	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	2 887	0.6	338	

Vehicle Lifetime Miles [column O]	①	②	③	④	⑤	⑥	⑦	⑧	⑨	Final credit (if all components are equipped, the credit is 1.0)
	Low beam	High beam	Parking/position	Turn signal, front	Side marker, front	Tail	Turn signal, rear	Side marker, rear	Licence plate	
195 264	0.38	0.05	0.10	0.06	0.06	0.10	0.06	0.06	0.08	0.95
195 264	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.13
195 264	0.38	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.51
195 264	0.38	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.51
195 264	0.38	0.05	0.00	0.00	0.00	0.10	0.00	0.00	0.08	0.61
195 264	0.38	0.05	0.10	0.00	0.06	0.00	0.00	0.06	0.08	0.73
195 264	0.38	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.61
195 264	0.38	0.05	0.10	0.00	0.06	0.00	0.00	0.06	0.08	0.73
195 264	0.38	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43
195 264	0.38	0.05	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.53
195 264	0.38	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43
195 264	0.38	0.05	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.53
195 264	0.38	0.05	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.53
195 264	0.38	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43
195 264	0.38	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43
195 264	0.00	0.00	0.00	0.00	0.06	0.00	0.06	0.06	0.08	0.26
195 264	0.38	0.05	0.00	0.00	0.00	0.00	0.06	0.06	0.08	0.63

Model Year Report - Off-Cycle Technology Credits Earned - page 2 of 3

Manufacturer: TOYOTA Item: High efficiency lights

Model Type Information				Off Cycle Technology				Production		Credits Generated		M. Comments
A. Carline Name	B. Drive	C. Engine	D. Trans	E. Description	F. Type of Testing (5 cycle or Other)	G. Date Announced in Federal Register	H. Date of EPA Approval	I. Initial Model Year Credits can be Generated	J. Production volume (generating credits)	K. Off Cycle CREE benefit1 (per vehicle) [round to 0.1]	L. Off cycle credits [calc per 86,186 12 (d)(2)(iii)]	
									units	gpm	megagrams	
AVALON HYBRID	FF	2.5	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	5 123	0.1	100	
AVALON HYBRID	FF	2.5	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	1,825	0.5	178	
AVALON HYBRID XLE	FF	2.5	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	2,018	0.5	197	
CAMRY HYBRID LE	FF	2.5	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	12 721	0.6	1 490	
CAMRY HYBRID XLE/SE	FF	2.5	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	5 679	0.6	625	
CAMRY HYBRID XLE/SE	FF	2.5	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	7 619	0.7	1 041	
CAMRY XSE	FF	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	11 878	0.7	1 624	
C-HR	FF	2	S7-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	67 662	0.2	2 642	
COROLLA HATCHBACK	FF	2	S10-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	20 796	0.6	2 436	
COROLLA HATCHBACK MANUAL	FF	2	M6	High efficiency lights	Pre-approved ist	NA	NA	14MY	4 533	0.6	528	
COROLLA HATCHBACK XSE	FF	2	S10-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	7 812	0.6	915	
ES 300H	FR	2.5	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	1 873	0.3	110	
ES 300H	FR	2.5	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	8 706	0.6	1 020	
ES 350	FF	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	7 163	0.3	420	
ES 350	FR	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	33 478	0.6	3 922	
ES 350	FR	2	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	7	0.7	7	
GS 300 F SPORT	FR	2	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	2	0.7	0.7	
GS 350	FR	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	311	0.7	43	
GS 350 AWD	4WD	3.5	S6-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	1 542	0.7	211	
GS 350 F SPORT	FR	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	1 828	0.7	250	
IS 300	FR	2	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	243	0.7	33	
IS 300	FR	2	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	10 382	0.7	1 419	
IS 300 AWD	4WD	3.5	S6-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	650	0.7	89	
IS 300 AWD	4WD	3.5	S6-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	4 366	0.7	597	
IS 350	FR	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	284	0.7	39	
IS 350	FR	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	684	0.7	93	
IS 350	FR	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	105	0.7	14	
IS 350 AWD	4WD	3.5	S6-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	154	0.7	21	
IS 350 AWD	4WD	3.5	S6-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	459	0.7	63	
LC 500	FR	5	S10-4	High efficiency lights	Pre-approved ist	NA	NA	14MY	922	0.2	36	
LC 500H	FR	3.5	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	26	0.2	1	
LS 500	FR	3.4	S10-4	High efficiency lights	Pre-approved ist	NA	NA	14MY	3 460	0.2	135	
LS 500 AWD	4WD	3.4	S10-4	High efficiency lights	Pre-approved ist	NA	NA	14MY	2 110	0.2	82	
LS 500H	FR	3.5	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	115	0.2	4	
LS 500H AWD	4WD	3.5	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	81	0.2	3	
MIRAI	FF	0	FCV	High efficiency lights	Pre-approved ist	NA	NA	14MY	1 747	0.7	239	
NX 300	FF	2	S6-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	851	0.2	33	
NX 300	FF	2	S6-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	27 600	0.6	3 234	
NX 300 AWD F SPORT	4WD	2	S6-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	1 359	0.2	53	
NX 300 AWD F SPORT	4WD	2	S6-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	9 924	0.6	460	
PRIUS	FWD	1.8	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	15 117	0.6	1 771	
PRIUS	FWD	1.8	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	11 188	0.7	1 529	
PRIUS AWD	4WD	1.8	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	10 849	0.7	1 483	
PRIUS C	FF	1.5	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	1 620	0.6	190	
PRIUS ECO	FWD	1.8	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	3 138	0.6	368	
PRIUS PRIME	FF	1.8	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	10 628	0.8	1 660	
RAV4	FF	2.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	146 023	0.7	19 959	
RC 300	FR	2	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	6	0.2	0	
RC 300 AWD	4WD	3.5	S6-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	1 312	0.7	179	
RC 300 AWD	4WD	3.5	S6-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	10	0.2	0	
RC 350	FR	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	876	0.7	120	
RC 350	FR	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	1 318	0.2	51	
RC 350 AWD	4WD	3.5	S6-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	658	0.7	90	
RC 350 AWD	4WD	3.5	S6-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	353	0.2	14	
RC F	FR	5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	398	0.7	54	
RX 350	FF	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	32 457	0.7	4 436	
RX 350	FF	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	1 639	0.7	224	
RX 350 AWD (F SPORT)	4WD	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	2 911	0.6	341	
RX 350 AWD (F SPORT)	4WD	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	4 989	0.7	683	
RX 350 L	FF	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	4 174	0.7	571	
RX 350 L	FF	3.5	S8-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	826	0.7	113	
RX 450H AWD (F SPORT)	4WD	3.5	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	370	0.6	43	
RX 450H AWD (F SPORT)	4WD	3.5	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	2 237	0.7	307	
UX 200	FF	2	S10-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	123	0.3	7	
UX 200	FF	2	S10-3	High efficiency lights	Pre-approved ist	NA	NA	14MY	9 131	0.7	1 248	
UX 250H	FF	2	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	3	0.3	0	
UX 250H	FF	2	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	140	0.7	19	
UX 250H AWD	4WD	2	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	154	0.3	9	
UX 250H AWD	4WD	2	HV	High efficiency lights	Pre-approved ist	NA	NA	14MY	8 620	0.7	1 178	

Vehicle Lifetime Miles [column O]	①	②	③	④	⑤	⑥	⑦	⑧	⑨	Final credit (if all components are equipped, the credit is 1.0)
	Low beam	High beam	Parking position	Turn signal, front	Side marker, front	Tail	Turn signal, rear	Side marker, rear	License plate	
0.38	0.05	0.10	0.06	0.06	0.10	0.06	0.06	0.08	0.08	0.95
195 264	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.13
195 264	0.38	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.51
195 264	0.38	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.51
195 264	0.38	0.05	0.00	0.00	0.00	0.10	0.00	0.00	0.08	0.61
195 264	0.38	0.05	0.00	0.00	0.00	0.10	0.00	0.00	0.08	0.61
195 264	0.38	0.05	0.10	0.00	0.06	0.00	0.00	0.06	0.08	0.73
195 264	0.38	0.05	0.10	0.00	0.06	0.00	0.00	0.06	0.08	0.73
195 264	0.00	0.00	0.10	0.00	0.00	0.10	0.00	0.00	0.00	0.20
195 264	0.38	0.05	0.00	0.06	0.00	0.00	0.06	0.06	0.08	0.61
195 264	0.38	0.05	0.00	0.06	0.00	0.00	0.06	0.06	0.08	0.61
195 264	0.38	0.05	0.00	0.06	0.00	0.00	0.06	0.06	0.08	0.61
195 264	0.00	0.00	0.00	0.06	0.00	0.06	0.06	0.06	0.08	0.26
195 264	0.38	0.05	0.00	0.00	0.00	0.00	0.06	0.06	0.08	0.63
195 264	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	0.08	0.26
195 264	0.38	0.05	0.00	0.00	0.00	0.00	0.06	0.06	0.08	0.63
195 264	0.38	0.05	0.10	0.00	0.06	0.00	0.00	0.06	0.08	0.73
195 264	0.38	0.05	0.10	0.00	0.06	0.00	0.00	0.06	0.08	0.73
195 264	0.38	0.05	0.00	0.00	0.00	0.00	0.00	0.06	0.08	0.67
195 264	0.38	0.05	0.00	0.00	0.00	0.10	0.00	0.06	0.08	0.73
195 264	0.38	0.05	0.00	0.00	0.00	0.10	0.00	0.06	0.08	0.73
195 264	0.38	0.05	0.00	0.00	0.00	0.10	0.00	0.06	0.08	0.73
195 264	0.38	0.05	0.00	0.00	0.00	0.10	0.00	0.06	0.08	0.73
195 264	0.38	0.05	0.00	0.00	0.00	0.10	0.00	0.06	0.08	0.73
195 264	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.08	0.20
195 264	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.08	0.20
195 264	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.08	0.20
195 264	0.00	0.00	0.10	0.00	0.06	0.00	0.00	0.06	0.08	0.24
195 264	0.38	0.05	0.10	0.00	0.00	0.00	0.00	0.06	0.08	0.61
195 264	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.06	0.08	0.24
195 264	0.38	0.05	0.10	0.00	0.00	0.00	0.00	0.06	0.08	0.61
195 264	0.38	0.05	0.10	0.00	0.00	0.00	0.00	0.06	0.08	0.67
195 264	0.38	0.05	0.00	0.00	0.00	0.00	0.00	0.06	0.08	0.65
195 264	0.38	0.05	0.00	0.00	0.00	0.00	0.00	0.06	0.08	0.57
195 264	0.38	0.05	0.00	0.00	0.00	0.10	0.06	0.06	0.08	0.79
195 264	0.38	0.05	0.00	0.00	0.00	0.00	0.00	0.06	0.08	0.67
195 264	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.08	0.20
195 264	0.38	0.05	0.10	0.00	0.06	0.00	0.00	0.06	0.08	0.73
195 264	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.08	0.20
195 264	0.38	0.05	0.10	0.00	0.06	0.00	0.00	0.06	0.08	0.73
195 264	0.38	0.05	0.10	0.00	0.06	0.00	0.00	0.06	0.08	0.77
195 264	0.38	0.05	0.10	0.00	0.06	0.00	0.00	0.06	0.08	0.73
195 264	0.38	0.05	0.10	0.00	0.06	0.00	0.00	0.06	0.08	0.61
195 264	0.38	0.05	0.10	0.00	0.06	0.00	0.00	0.06	0.08	0.67
195 264	0.38	0.05	0.10	0.00	0.					

Model Year Report - Off-Cycle Technology Credits Earned - page 1 of 3

Manufacturer: TOYOTA Item: Active aerodynamic improvements

Select Model Year: 2019
 Select Report: Mid-Model Year Report
 Select Program: Primary (non-TLAAS)
 Select Fleet: Cars & Trucks

July, 2019

AA. Total production volume generating credits [E, J]

BB. Total Off-Cycle Credits for the Model Year (megagrams) [E, L]

OMB Control Number 2060-0644
Expires 10-31-2013

Domestic Car Totals for the Model Year:	0	0
Import Car Totals for the Model Year:	114,906	15,652
Truck Totals for the Model Year:	119,064	11,794

Instructions Notes *****

Model Type Information				Off Cycle Technology					Production	Credits Generated		M. Comments
A. Carline Name	B. Drive	C. Engine	D. Trans	E. Description	F. Type of Testing (5-cycle or Other)	G. Date Announced in Federal Register	H. Date of EPA Approval	I. Initial Model Year Credits can be Generated	J. Production volume (generating credits)	K. Off-Cycle CREE benefit1 (per vehicle) [round to 0.1]	L. Off-cycle credits [calc per 86,1866-12 (d)(2)(iii)]	
									units	gpm	megagrams	
											0	
											0	
											0	
											0	

Vehicle Lifetime Miles [column O]	CO2 reduced (Active air suspension)	CO2 reduced (Grille shutter)	Factor Car:19.36 Truck:33.16	K. Off-Cycle CREE benefit1 (per vehicle)
	%	%		before astm
195,264				
195,264				
195,264				
195,264				

Model Year Report - Off-Cycle Technology Credits Earned - page 2 of 3

Manufacturer: TOYOTA Item: Active aerodynamic improvements

Model Type Information				Off Cycle Technology					Production	Credits Generated		M. Comments
A. Carline Name	B. Drive	C. Engine	D. Trans	E. Description	F. Type of Testing (5-cycle or Other)	G. Date Announced in Federal Register	H. Date of EPA Approval	I. Initial Model Year Credits can be Generated	J. Production volume (generating credits)	K. Off-Cycle CREE benefit1 (per vehicle) [round to 0.1]	L. Off-cycle credits [calc per 86,1866-12 (d)(2)(iii)]	
									units	gpm	megagrams	
AVALON HYBRID	FF	2.5	HV	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	1,825	0.5	178	
AVALON HYBRID	FF	2.5	HV	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	5,123	0.5	500	
AVALON HYBRID XLE	FF	2.5	HV	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	2,018	0.5	197	
CAMRY HYBRID LE	FF	2.5	HV	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	12,721	0.7	1,739	
CAMRY HYBRID XLE/SE	FF	2.5	HV	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	13,298	0.7	1,818	
ES 300H	FF	2.5	HV	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	504	0.6	59	
ES 300H	FF	2.5	HV	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	4,822	0.8	753	
ES 300H	FF	2.5	HV	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	5,253	0.8	821	
LS 500	FR	3.4	S10-4	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	3,460	0.3	203	
LS 500 AWD	4WD	3.4	S10-4	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	2,110	0.2	82	
LS 500H	FR	3.5	HV	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	115	0.3	7	
LS 500H AWD	4WD	3.5	HV	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	81	0.2	3	
PRIUS	FWD	1.8	HV	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	7,676	0.8	1,199	
PRIUS	FWD	1.8	HV	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	9	0.8	1	
PRIUS	FWD	1.8	HV	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	18,620	0.9	3,272	
PRIUS AWD	4WD	1.8	HV	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	10,849	0.9	1,907	
PRIUS ECO	FWD	1.8	HV	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	3,138	0.9	557	
PRIUS PRIME	FF	1.8	HV	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	10,628	0.9	1,868	
RAV4	FF	2.5	S8-3	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	12,015	0.2	469	
RAV4	FF	2.5	S8-3	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	641	0.2	25	

Vehicle Lifetime Miles [column O]	CO2 reduced (Active air suspension)	CO2 reduced (Grille shutter)	Factor Car:19.36 Truck:33.16	K. Off-Cycle CREE benefit1 (per vehicle)
	%	%		before astm
195,264	/	2.6	19.36	0.50336
195,264	/	2.66	19.36	0.514976
195,264	/	2.76	19.36	0.534336
195,264	/	3.7	19.36	0.71632
195,264	/	3.56	19.36	0.689216
195,264	/	3.33	19.36	0.644688
195,264	/	4.18	19.36	0.809248
195,264	/	4.24	19.36	0.820864
195,264	1.66	/	19.36	0.321376
195,264	0.96	/	19.36	0.185856
195,264	1.76	/	19.36	0.340736
195,264	1.01	/	19.36	0.195536
195,264	/	4.21	19.36	0.815056
195,264	/	4.36	19.36	0.844096
195,264	/	4.52	19.36	0.875072
195,264	/	4.49	19.36	0.869264
195,264	/	4.52	19.36	0.875072
195,264	/	4.42	19.36	0.855712
195,264	/	1.15	19.36	0.22264
195,264	/	1.2	19.36	0.23232

Model Year Report - Off-Cycle Technology Credits Earned - page 3 of 3

Manufacturer: [REDACTED] m: Active aerodynamic improvements

Trucks:				Off Cycle Technology					Production	Credits Generated			M. Comments
Model Type Information				E. Description	F. Type of Testing (5-cycle or Other)	G. Date Announced in Federal Register	H. Date of EPA Approval	I. Initial Model Year Credits can be Generated	J. Production volume (generating credits)	K. Off-Cycle CREE benefit ¹ (per vehicle) [round to 0.1]	L. Off-cycle credits [calc per 86.1866-12 (d)(2)(iii)]	M. Comments	
A. Carline Name	B. Drive	C. Engine	D. Trans							units	gpm		
LX 570	4WD	5.7	S8-3	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	4,758	0.7	752		
RAV4 AWD	4WD	2.5	S8-3	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	21,173	0.2	958		
RAV4 AWD	4WD	2.5	S8-3	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	461	0.2	21		
RAV4 AWD	4WD	2.5	S8-3	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	17,747	0.4	1,803		
RAV4 AWD	4WD	2.5	S8-3	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	7	0.4	1		
RAV4 HYBRID AWD	4WD	2.5	HV	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	17,871	0.5	2,030		
RAV4 HYBRID AWD	4WD	2.5	HV	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	21,785	0.5	2,460		
RAV4 HYBRID AWD	4WD	2.5	HV	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	35,073	0.5	3,961		
RAV4 HYBRID AWD	4WD	2.5	HV	Active aerodynamic improvements	Pre-approved list	NA	NA	14MY	91	0.5	10		

Vehicle Lifetime Miles [column O]	CO2 reduced (Active air suspension)	CO2 reduced (Grille shutter)	Factor Car:19.36 Truck:33.16	K. Off-Cycle CREE benefit ¹ (per vehicle) [round to 0.1]
	%	%		before astm
225,865	2	7	33.16	0.8832
225,865	/	0.56	33.16	0.185898
225,865	/	0.59	33.16	0.192644
225,865	/	1.15	33.16	0.38134
225,865	/	1.2	33.16	0.39792
225,865	/	1.45	33.16	0.48082
225,865	/	1.46	33.16	0.484136
225,865	/	1.47	33.16	0.487452
225,865	/	1.49	33.16	0.494094

Notes:
¹CREE benefit¹ based on in-use combined (city/hwy) CREE value tested with and without the device (adjusted for full useful-life compliance).
²5-cycle with additional benefits to account for eco headlight/elec cal system.
³Replicate sets of tests performed (minimum of 3 test sets with the device and 3 test sets without the device).

EPA Form Number
5900-244

Model Year Report - Off-Cycle Technology Credits Earned - page 1 of 3

Manufacturer: TOYOTA Item: Active transmission/engine warm-up

OMB Control Number 2060-0644
Expires 10-31-2013

Select Model Year	2019
Select Report	Mid-Model Year Report
Select Program	Primary (non-TLAAS)
Select Fleet	Cars & Trucks

July, 2019

AA. Total production volume generating credits [E J]

BB. Total Off-Cycle Credits for the Model Year (megagrams) [E L]

Instructions

Notes

Domestic Car Totals for the Model Year	348,632
Import Car Totals for the Model Year	403,762
Truck Totals for the Model Year	782,663

102,113
118,260
565,684

Domestic Cars

Model Type Information				Off Cycle Technology					Production	Credits Generated		M. Comments	Vehicle Lifetime Miles [column O]
A. Carline Name	B. Drive	C. Engine	D. Trans	E. Description	F. Type of Testing (5-cycle or Other)	G. Date Announced in Federal Register	H. Date of EPA Approval	I. Initial Model Year Credits can be Generated	J. Production volume (generating credits)	K. Off-Cycle CREE benefit1 (per vehicle) [round to 0.1]	L. Off-cycle credits [calc per 86.1866-12 (d)(2)(iii)]		
									units	gpm	megagrams		
AVALON	FF	3.5	S8-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	22,749	1.5	6,663		195,264
AVALON XLE	FF	3.5	S8-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	7,660	1.5	2,244		195,264
CAMRY	FF	2.5	S8-1	Active transmission warm-up	Pre-approved list	NA	NA	14MY	1,606	1.5	470		195,264
CAMRY	FF	3.5	S8-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	2,018	1.5	591		195,264
CAMRY LE/SE	FF	2.5	S8-1	Active transmission warm-up	Pre-approved list	NA	NA	14MY	245,080	1.5	71,783		195,264
CAMRY XLE/XSE	FF	2.5	S8-3	Active transmission warm-up	Pre-approved list	NA	NA	14MY	59,714	1.5	17,490		195,264
ES 350 F SPORT	FF	3.5	S8-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	9,805	1.5	2,872		195,264

Model Year Report - Off-Cycle Technology Credits Earned - page 2 of 3

Manufacturer: TOYOTA Item: Active transmission/engine warm-up

Import Cars				Off Cycle Technology					Production	Credits Generated		M. Comments	Vehicle Lifetime Miles [column O]
Model Type Information									J. Production volume (generating credits)	K. Off-Cycle CREE benefit1 (per vehicle) [round to 0.1]	L. Off-cycle credits [calc per 86.1866-12 (d)(2)(iii)]		
A. Carline Name	B. Drive	C. Engine	D. Trans	E. Description	F. Type of Testing (5-cycle or Other)	G. Date Announced in Federal Register	H. Date of EPA Approval	I. Initial Model Year Credits can be Generated	units	gpm	megagrams		
CAMRY XSE	FF	3.5	S8-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	11 878	1.5	3 479	195 264	
COROLLA HATCHBACK	FF	2	S10-3	Active transmission warm-up	Pre-approved list	NA	NA	14MY	20 796	1.5	6 091	195 264	
COROLLA HATCHBACK XSE	FF	2	S10-3	Active transmission warm-up	Pre-approved list	NA	NA	14MY	7 812	1.5	2 288	195 264	
ES 350	FF	3.5	S8-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	40 641	1.5	11 904	195 264	
GS 300	FR	2	S8-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	7	1.5	2	195 264	
GS 300 F SPORT	FR	2	S8-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	2	1.5	1	195 264	
GS 350	FR	3.5	S8-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	311	1.5	91	195 264	
GS 350 AWD	4WD	3.5	S6-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	1 542	1.5	452	195 264	
GS 350 F SPORT	FR	3.5	S8-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	1 828	1.5	535	195 264	
IS 300	FR	2	S8-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	11 032	1.5	3 231	195 264	
IS 300 AWD	4WD	3.5	S6-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	4 650	1.5	1 362	195 264	
IS 350	FR	3.5	S8-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	789	1.5	231	195 264	
IS 350 AWD	4WD	3.5	S6-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	613	1.5	180	195 264	
LS 500	FR	3.4	S10-4	Active transmission warm-up	Pre-approved list	NA	NA	14MY	3 460	1.5	1 013	195 264	
LS 500 AWD	4WD	3.4	S10-4	Active transmission warm-up	Pre-approved list	NA	NA	14MY	2 110	1.5	618	195 264	
LS 500H	FR	3.5	HV	Active engine warm-up	Pre-approved list	NA	NA	14MY	115	1.5	34	195 264	
LS 500H AWD	4WD	3.5	HV	Active engine warm-up	Pre-approved list	NA	NA	14MY	81	1.5	24	195 264	
NX 300	FF	2	S6-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	28 451	1.5	8 333	195 264	
NX 300 AWD F SPORT	4WD	2	S6-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	5 283	1.5	1 547	195 264	
PRIUS	FWD	1.8	HV	Active engine warm-up	Pre-approved list	NA	NA	14MY	26 305	1.5	7 705	195 264	
PRIUS AWD	4WD	1.8	HV	Active engine warm-up	Pre-approved list	NA	NA	14MY	10 849	1.5	3 178	195 264	
PRIUS C	FF	1.5	HV	Active engine warm-up	Pre-approved list	NA	NA	14MY	1 620	1.5	474	195 264	
PRIUS ECO	FWD	1.8	HV	Active engine warm-up	Pre-approved list	NA	NA	14MY	3 138	1.5	919	195 264	
PRIUS PRIME	FF	1.8	HV	Active engine warm-up	Pre-approved list	NA	NA	14MY	10 628	1.5	3 113	195 264	
RAV4	FF	2.5	S8-3	Active transmission warm-up	Pre-approved list	NA	NA	14MY	146 023	1.5	42 770	195 264	
RC 300	FR	2	S8-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	1 318	1.5	386	195 264	
RC 300 AWD	4WD	3.5	S6-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	886	1.5	260	195 264	
RC 350	FR	3.5	S8-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	1 976	1.5	579	195 264	
RC 350 AWD	4WD	3.5	S6-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	751	1.5	220	195 264	
RX 350	FF	3.5	S8-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	34 096	1.5	9 987	195 264	
RX 350 AWD (F SPORT)	4WD	3.5	S8-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	7 910	1.5	2 317	195 264	
RX 350 L	FF	3.5	S8-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	5 000	1.5	1 464	195 264	
RX 450H AWD (F SPORT)	4WD	3.5	HV	Active engine warm-up	Pre-approved list	NA	NA	14MY	2 607	1.5	764	195 264	
UX 200	FF	2	S10-3	Active transmission warm-up	Pre-approved list	NA	NA	14MY	9 254	1.5	2 710	195 264	

Model Year Report - Off-Cycle Technology Credits Earned - page 3 of 3

Manufacturer: XXXX Active engine/transmission warm-up

Trucks				Off Cycle Technology					Production	Credits Generated			M. Comments	Vehicle Lifetime Miles [column O]
Model Type Information				E. Description	F. Type of Testing (5-cycle or Other)	G. Date Announc- ed in Federal Register	H. Date of EPA Approval	I. Initial Model Year Credits can be Generated	J.	K. Off-Cycle CREE	L. Off-cycle credits			
A. Carline Name	B. Drive	C. Engine	D. Trans						Production volume (generating credits)	benefit1 (per vehicle) [round to 0.1]	[calc per 86.1866-12 (d)(2)(iii)]			
								units	gpm	megagrams				
HIGHLANDER	FF	3.5	S8-2	Active engine warm-up	Pre-approved list	NA	NA	14MY	10,489	3.2	7,581		225,865	
HIGHLANDER AWD	4WD	3.5	S8-2	Active engine warm-up	Pre-approved list	NA	NA	14MY	16,596	3.2	11,995		225,865	
HIGHLANDER AWD	4WD	3.5	S8-2 SS	Active engine warm-up	Pre-approved list	NA	NA	14MY	128,456	3.2	92,844		225,865	
HIGHLANDER AWD LE	4WD	3.5	S8-2 SS	Active engine warm-up	Pre-approved list	NA	NA	14MY	9,966	3.2	7,203		225,865	
HIGHLANDER HYBR D AWD	4WD	3.5	HV	Active engine warm-up	Pre-approved list	NA	NA	14MY	22,993	3.2	16,619		225,865	
HIGHLANDER HYBR D AWD LE PLUS	4WD	3.5	HV	Active engine warm-up	Pre-approved list	NA	NA	14MY	1,367	3.2	988		225,865	
HIGHLANDER LE/XLE/SE/LTD	FF	3.5	S8-2 SS	Active engine warm-up	Pre-approved list	NA	NA	14MY	66,983	3.2	48,413		225,865	
NX 300 AWD	4WD	2	S6-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	17,973	3.2	12,990		225,865	
RAV4 AWD	4WD	2.5	S8-3	Active transmission warm-up	Pre-approved list	NA	NA	14MY	126,008	3.2	91,075		225,865	
RAV4 AWD	4WD	2.5	S8-3 SS	Active transmission warm-up	Pre-approved list	NA	NA	14MY	50,899	3.2	36,788		225,865	
RX 350 AWD	4WD	3.5	S8-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	33,760	3.2	24,401		225,865	
RX 350 L AWD	4WD	3.5	S8-3	Active engine warm-up	Pre-approved list	NA	NA	14MY	5,975	3.2	4,319		225,865	
RX 450H AWD	4WD	3.5	HV	Active engine warm-up	Pre-approved list	NA	NA	14MY	10,581	3.2	7,648		225,865	
RX 450H L AWD	4WD	3.5	HV	Active engine warm-up	Pre-approved list	NA	NA	14MY	1,871	3.2	1,352		225,865	
S ENNA	FF	3.5	S8-2	Active engine warm-up	Pre-approved list	NA	NA	14MY	43,270	3.2	31,274		225,865	
S ENNA AWD	4WD	3.5	S8-2	Active engine warm-up	Pre-approved list	NA	NA	14MY	13,795	3.2	9,971		225,865	
TACOMA 2WD	FR	3.5	S6-2	Active engine warm-up	Pre-approved list	NA	NA	14MY	57,117	3.2	41,282		225,865	
TACOMA 4WD	4WD	3.5	M6	Active engine warm-up	Pre-approved list	NA	NA	14MY	4,073	3.2	2,944		225,865	
TACOMA 4WD	4WD	3.5	S6-2	Active engine warm-up	Pre-approved list	NA	NA	14MY	153,560	3.2	110,988		225,865	
TACOMA 4WD D-CAB V6 MT OFF-ROAD	4WD	3.5	M6	Active engine warm-up	Pre-approved list	NA	NA	14MY	6,931	3.2	5,010		225,865	

Notes
 1CREE benefit based on in-use combined (city/hwy) CREE value tested with and without the device (adjusted for full useful-life compliance).
 25-cycle with additional benefits to account for eco head lights/electrical system.
 3Replicate sets of tests performed (minimum of 3 test sets with the device and 3 test sets without the device).

EPA Form Number
5900-244

Model Type Information				Off Cycle Technology				Production		Credits Generated		M. Comments
A. Carline Name	B. Drive	C. Engine	D. Trans	E. Description	F. Type of Testing (5-cycle or Other)	G. Date Announced in Federal Register	H. Date of EPA Approval	I. Initial Model Year Credits can be Generated	J. Production volume (generating credits) units	K. Off-Cycle CREE benefit1 (per vehicle) [round to 0.1] gpm	L. Off-cycle credits [calc per 86.1866-12 (d)(2)(iii)] megagrams	

Vehicle Lifetime Miles [column O]

glass/glazing		Active Seat ventilation	Solar reflective surface coating	Passive cabin ventilation	Thermal Control Total
Before CAP	After CAP				

Model Year Report - Off-Cycle Technology Credits Earned - page 2 of 3
Manufacturer: TOYOTA Item: Thermal control

Model Type Information				Off Cycle Technology				Production		Credits Generated		M. Comments
A. Carline Name	B. Drive	C. Engine	D. Trans	E. Description	F. Type of Testing (5-cycle or Other)	G. Date Announced in Federal Register	H. Date of EPA Approval	I. Initial Model Year Credits can be Generated	J. Production volume (generating credits) units	K. Off-Cycle CREE benefit1 (per vehicle) [round to 0.1] gpm	L. Off-cycle credits [calc per 86.1866-12 (d)(2)(iii)] megagrams	
Import Cars:												
AVALON HYBRID	FF	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	1,825	2.5	891	
AVALON HYBRID	FF	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	5,123	3.0	3,001	
AVALON HYBRID XLE	FF	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	2,018	2.5	985	
CAMRY HYBRID LE	FF	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	9,575	2.4	4,534	
CAMRY HYBRID LE	FF	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	3,046	2.4	1,665	
CAMRY HYBRID XLE/SE	FF	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	11,728	2.4	5,496	
CAMRY HYBRID XLE/SE	FF	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	1,570	2.8	858	
CAMRY XSE	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	11,878	2.4	5,566	
C-HR	FF	2	S7-3	Thermal control	Pre-approved list	NA	NA	14MY	55,827	2.5	27,253	
C-HR	FF	2	S7-3	Thermal control	Pre-approved list	NA	NA	14MY	11,835	2.9	6,702	
COROLLA HATCHBACK	FF	2	S10-3	Thermal control	Pre-approved list	NA	NA	14MY	12,134	2.4	5,586	
COROLLA HATCHBACK	FF	2	S10-3	Thermal control	Pre-approved list	NA	NA	14MY	8,662	2.8	4,736	
COROLLA HATCHBACK MANUAL	FF	2	M6	Thermal control	Pre-approved list	NA	NA	14MY	2,566	2.4	1,203	
COROLLA HATCHBACK MANUAL	FF	2	M6	Thermal control	Pre-approved list	NA	NA	14MY	1,937	2.8	1,059	
COROLLA HATCHBACK XSE	FF	2	S10-3	Thermal control	Pre-approved list	NA	NA	14MY	4,605	2.4	2,158	
COROLLA HATCHBACK XSE	FF	2	S10-3	Thermal control	Pre-approved list	NA	NA	14MY	3,207	2.8	1,753	
ES 300H	FF	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	197	2.4	92	
ES 300H	FF	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	86	2.7	45	
ES 300H	FF	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	107	2.4	69	
ES 300H	FF	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	5,479	3.0	3,210	
ES 300H	FF	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	1,610	3.0	943	
ES 300H	FF	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	851	3.0	499	
ES 300H	FF	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	212	3.0	124	
ES 300H	FF	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	45	3.0	26	
ES 300H	FF	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	1,517	3.0	889	
ES 300H	FF	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	475	3.0	278	
ES 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	2,444	2.4	1,114	
ES 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,649	2.7	869	
ES 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	76	2.8	42	
ES 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	11,205	3.0	6,564	
ES 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	4,175	3.0	2,446	
ES 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	589	3.0	345	
ES 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	248	3.0	145	
ES 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,650	3.0	967	
ES 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	623	3.0	365	
ES 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	735	3.0	431	
ES 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	14,763	3.0	8,648	
ES 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	4,684	3.0	2,744	
GS 300	FR	2	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1	2.4	0	
GS 300	FR	2	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	3	3.0	2	
GS 300	FR	2	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	3	3.0	2	
GS 300 F SPORT	FR	2	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1	3.0	1	
GS 300 F SPORT	FR	2	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1	3.0	1	
GS 350	FR	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	190	3.0	111	
GS 350	FR	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	121	3.0	71	
GS 350 AWD	4WD	3.5	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	2	2.4	1	
GS 350 AWD	4WD	3.5	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	1	2.8	1	
GS 350 AWD	4WD	3.5	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	1,109	3.0	650	
GS 350 AWD	4WD	3.5	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	430	3.0	252	
GS 350 F SPORT	FR	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,139	3.0	667	
GS 350 F SPORT	FR	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	689	3.0	404	
GS F	FR	5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	186	3.0	109	
GS F	FR	5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	57	3.0	33	
IS 300	FR	2	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,792	2.5	875	
IS 300	FR	2	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,537	3.0	870	
IS 300	FR	2	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	3,981	3.0	2,332	
IS 300	FR	2	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	3,722	3.0	2,180	
IS 300 AWD	4WD	3.5	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	171	2.5	83	
IS 300 AWD	4WD	3.5	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	121	2.9	69	
IS 300 AWD	4WD	3.5	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	2,789	3.0	1,634	
IS 300 AWD	4WD	3.5	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	1,569	3.0	919	
IS 350	FR	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	463	3.0	271	
IS 350	FR	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	326	3.0	191	
IS 350 AWD	4WD	3.5	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	394	3.0	231	
IS 350 AWD	4WD	3.5	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	219	3.0	128	
LC 500	FR	5	S10-4	Thermal control	Pre-approved list	NA	NA	14MY	922	3.0	540	
LC 500H	FR	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	25	3.0	15	
LS 500	FR	3.4	S10-4	Thermal control	Pre-approved list	NA	NA	14MY	1,126	3.0	660	
LS 500	FR	3.4	S10-4	Thermal control	Pre-approved list	NA	NA	14MY	606	3.0	355	
LS 500	FR	3.4	S10-4	Thermal control	Pre-approved list	NA	NA	14MY	347	3.0	203	
LS 500	FR	3.4	S10-4	Thermal control	Pre-approved list	NA	NA	14MY	184	3.0	108	
LS 500	FR	3.4	S10-4	Thermal control	Pre-approved list	NA	NA	14MY	563	3.0	330	
LS 500	FR	3.4	S10-4	Thermal control	Pre-approved list	NA	NA	14MY	311	3.0	182	
LS 500	FR	3.4	S10-4	Thermal control	Pre-approved list	NA	NA	14MY	212	3.0	124	
LS 500	FR	3.4	S10-4	Thermal control	Pre-approved list	NA	NA	14MY	111	3.0	65	

Vehicle Lifetime Miles [column O]

glass/glazing		Active Seat ventilation	Solar reflective surface coating	Passive cabin ventilation	Thermal Control Total
Before CAP	After CAP				

195,264	0.8	0.8	0.0	0.0	1.7	2.5
195,264	0.8	0.8	1.0	0.0	1.7	3.5
195,264	0.8	0.8	0.0	0.0	1.7	2.5
195,264	0.7	0.7	0.0	0.0	1.7	2.4
195,264	0.7	0.7	0.0	0.4	1.7	2.8
195,264	0.7	0.7	0.0	0.0	1.7	2.4
195,264	0.7	0.7	0.0	0.4	1.7	2.8
195,264	0.7	0.7	0.0	0.0	1.7	2.4
195,264	0.8	0.8	0.0	0.0	1.7	2.5
195,264	0.7	0.7	0.0	0.4	1.7	2.9
195,264	0.7	0.7	0.0	0.4	1.7	2.8
195,264	0.7	0.7	0.0	0.0	1.7	2.4
195,264	0.7	0.7	0.0	0.4	1.7	2.8
195,264	0.7	0.7	0.0	0.0	1.7	2.4
195,264	0.7	0.7	0.0	0.4	1.7	2.8
195,264	1.0	1.0	0.0	0.0	1.7	2.7
195,264	0.7	0.7	0.0	0.4	1.7	2.8
195,264	0.7	0.7	1.0	0.0	1.7	3.4
195,264	0.7	0.7	1.0	0.4	1.7	3.8
195,264	0.9	0.9	1.0	0.0	1.7	3.6
195,264	0.9	0.9	1.0	0.4	1.7	4.0
195,264	1.0	1.0	0.0	0.0	1.7	3.1
195,264	1.0	1.0	1.0	0.0	1.7	3.7
195,264	1.0	1.0	1.0	0.4	1.7	4.1
195,264	1.0	1.0	1.0	0.0	1.7	3.4
195,264	0.7	0.7	1.0	0.0	1.7	3.4
195,264	1.0	1.0	0.0	0.4	1.7	3.1
195,264	0.6	0.6	1.0	0.0	1.7	3.3
195,264	0.6	0.6	1.0	0.4	1.7	3.7
195,264	0.7	0.7	1.0	0.0	1.7	3.4
195,264	0.7	0.7	1.0	0.4	1.7	3.8
195,264	0.9	0.9	1.0	0.0	1.7	3.6
195,264	0.9	0.9	1.0	0.4	1.7	4.0
195,264	1.0	1.0	0.0	0.4	1.7	3.1
195,264	1.0	1.0	1.0	0.0	1.7	3.7
195,264	1.0	1.0	1.0	0.4	1.7	4.1
195,264	0.7	0.7	0.0	0.0	1.7	2.4
195,264	0.7	0.7	1.0	0.0	1.7	3.4
195,264	0.7	0.7	1.0	0.4	1.7	3.8
195,264	0.7	0.7	1.0	0.0	1.7	3.4
195,264	0.7	0.7	1.0	0.4	1.7	3.8
195,264	0.7	0.7	1.0	0.0	1.7	3.4
195,264	0.7	0.7	1.0	0.4	1.7	3.8
195,264	0.8	0.8	0.0	0.0	1.7	2.5
195,264	0.8	0.8	1.0	0.0	1.7	3.5
195,264	0.8	0.8	1.0	0.0	1.7	3.5
195,264	0.8	0.8	1.0	0.4	1.7	3.9
195,264	0.8	0.8	1.0	0.0	1.7	3.5
195,264	0.8	0.8	1.0	0.4	1.7	3.9
195,264	0.8	0.8	1.0	0.0	1.7	3.5
195,264	0.8	0.8	1.0	0.4	1.7	3.9
195,264	0.8	0.8	1.0	0.0	1.7	3.5
195,264	0.8	0.8	1.0	0.4	1.7	3.9</

Model Type Information				Off Cycle Technology				Production		Credits Generated		M. Comments
A. Carline Name	B. Drive	C. Engine	D. Trans	E. Description	F. Type of Technology (5-cycle or Other)	G. Date Announced in Federal Register	H. Date of EPA Approval	I. Initial Model Year Credits can be Generated	J. Production volume (generating credits)	K. Off-Cycle CREEs benefit (per vehicle) [round to 0.1]	L. Off-cycle credits [calc per 86.1866-12 (d)(2)(iii)] megagrams	
									units	gpm	megagrams	
LS 500 AWD	4WD	3.4	S10-4	Thermal control	Pre-approved list	NA	NA	14MY	929	3.0	544	
LS 500 AWD	4WD	3.4	S10-4	Thermal control	Pre-approved list	NA	NA	14MY	388	3.0	227	
LS 500 AWD	4WD	3.4	S10-4	Thermal control	Pre-approved list	NA	NA	14MY	2	3.0	1	
LS 500 AWD	4WD	3.4	S10-4	Thermal control	Pre-approved list	NA	NA	14MY	3	3.0	2	
LS 500 AWD	4WD	3.4	S10-4	Thermal control	Pre-approved list	NA	NA	14MY	312	3.0	183	
LS 500 AWD	4WD	3.4	S10-4	Thermal control	Pre-approved list	NA	NA	14MY	210	3.0	123	
LS 500 AWD	4WD	3.4	S10-4	Thermal control	Pre-approved list	NA	NA	14MY	201	3.0	118	
LS 500 AWD	4WD	3.4	S10-4	Thermal control	Pre-approved list	NA	NA	14MY	65	3.0	38	
LS 500H	FR	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	15	3.0	9	
LS 500H	FR	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	21	3.0	12	
LS 500H	FR	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	53	3.0	31	
LS 500H	FR	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	26	3.0	15	
LS 500H AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	63	3.0	37	
LS 500H AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	18	3.0	11	
MIRAI	FF	0	FCV	Thermal control	Pre-approved list	NA	NA	14MY	1,747	2.6	887	
NX 300	FF	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	73	2.9	41	
NX 300	FF	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	34	3.0	20	
NX 300	FF	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	13,618	3.0	7,977	
NX 300	FF	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	7,181	3.0	4,207	
NX 300	FF	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	4,687	3.0	2,746	
NX 300	FF	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	2,657	3.0	1,556	
NX 300	FF	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	126	3.0	74	
NX 300	FF	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	75	3.0	44	
NX 300 AWD F SPORT	4WD	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	1	2.9	1	
NX 300 AWD F SPORT	4WD	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	14	3.0	8	
NX 300 AWD F SPORT	4WD	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	8	3.0	5	
NX 300 AWD F SPORT	4WD	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	3,429	3.0	2,009	
NX 300 AWD F SPORT	4WD	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	1,673	3.0	980	
NX 300 AWD F SPORT	4WD	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	87	3.0	51	
NX 300 AWD F SPORT	4WD	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	66	3.0	39	
NX 300 AWD F SPORT	4WD	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	3	3.0	2	
NX 300 AWD F SPORT	4WD	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	2	3.0	1	
PRIUS	FWD	1.8	HV	Thermal control	Pre-approved list	NA	NA	14MY	14,995	2.5	7,320	
PRIUS	FWD	1.8	HV	Thermal control	Pre-approved list	NA	NA	14MY	11,310	2.9	6,404	
PRIUS AWD	4WD	1.8	HV	Thermal control	Pre-approved list	NA	NA	14MY	7,101	2.5	3,466	
PRIUS AWD	4WD	1.8	HV	Thermal control	Pre-approved list	NA	NA	14MY	3,748	2.9	2,127	
PRIUS C	FF	1.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	1,257	2.3	565	
PRIUS C	FF	1.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	363	2.7	191	
PRIUS ECO	FWD	1.8	HV	Thermal control	Pre-approved list	NA	NA	14MY	1,644	2.7	867	
PRIUS ECO	FWD	1.8	HV	Thermal control	Pre-approved list	NA	NA	14MY	1,494	3.0	875	
PRIUS PRIME	FF	1.8	HV	Thermal control	Pre-approved list	NA	NA	14MY	6,087	2.5	2,971	
PRIUS PRIME	FF	1.8	HV	Thermal control	Pre-approved list	NA	NA	14MY	4,541	2.9	2,571	
RAV4	FF	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	59,829	2.3	26,915	
RAV4	FF	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	19,302	2.7	10,236	
RAV4	FF	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,126	2.7	594	
RAV4	FF	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,598	3.0	936	
RAV4	FF	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	783	3.0	459	
RAV4	FF	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	519	3.0	304	
RAV4	FF	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	685	3.0	401	
RAV4	FF	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	286	3.0	156	
RAV4	FF	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	29,718	3.0	17,409	
RAV4	FF	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	9,272	3.0	5,431	
RAV4	FF	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,219	3.0	714	
RAV4	FF	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	590	3.0	346	
RAV4	FF	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	16,121	3.0	9,444	
RAV4	FF	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	4,895	3.0	2,867	
RC 300	FR	2	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	242	2.6	123	
RC 300	FR	2	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	4	2.7	2	
RC 300	FR	2	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	93	3.0	54	
RC 300	FR	2	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	610	3.0	357	
RC 300	FR	2	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	267	3.0	156	
RC 300	FR	2	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	67	3.0	39	
RC 300	FR	2	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	35	3.0	21	
RC 300 AWD	4WD	3.5	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	1	3.0	1	
RC 300 AWD	4WD	3.5	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	61	3.0	370	
RC 300 AWD	4WD	3.5	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	252	3.0	148	
RC 300 AWD	4WD	3.5	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	2	3.0	1	
RC 350	FR	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1	2.7	1	
RC 350	FR	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,411	3.0	827	
RC 350	FR	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	539	3.0	316	
RC 350	FR	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	17	3.0	10	
RC 350	FR	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	8	3.0	5	
RC 350 AWD	4WD	3.5	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	1	2.7	1	
RC 350 AWD	4WD	3.5	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	548	3.0	321	
RC 350 AWD	4WD	3.5	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	195	3.0	114	
RC 350 AWD	4WD	3.5	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	6	3.0	4	
RC 350 AWD	4WD	3.5	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	1	3.0	1	
RC F	FR	5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	52	3.0	30	
RC F	FR	5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	22	3.0	13	
RC F	FR	5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	276	3.0	162	
RC F	FR	5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	20	3.0	12	
RX 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	4	3.0	2	
RX 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1	3.0	1	
RX 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,840	3.0	1,078	
RX 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,184	3.0	694	
RX 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,045	3.0	614	
RX 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	696	3.0	408	
RX 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	17,662	3.0	10,346	
RX 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	7,834	3.0	4,589	
RX 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	2,446	3.0	1,433	
RX 350	FF	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,381	3.0	809	
RX 350 AWD (F SPORT)	4WD	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	2,661	3.0	1,559	

Vehicle Lifetime Miles [column O]	glass/glazing		Active Seat ventilation	Solar reflective surface coating	Passive cabin ventilation	Thermal Control Total
	Before CAP	After CAP				
195,264	0.7	0.7	1.0	0.0	1.7	3.4
195,264	0.7	0.7	1.0	0.4	1.7	3.8
195,264	0.8	0.8	1.0	0.0	1.7	3.5
195,264	0.8	0.8	1.0	0.4	1.7	3.9
195,264	0.9	0.9	1.0	0.0	1.7	3.6
195,264	0.9	0.9	1.0	0.4	1.7	4.0
195,264	1.0	1.0	1.0	0.0	1.7	4.1
195,264	1.0	1.0	1.0	0.4	1.7	4.5
195,264	0.8	0.8	1.0	0.0	1.7	3.5
195,264	0.8	0.8	1.0	0.4	1.7	3.9
195,264	0.9	0.9	1.0	0.0	1.7	3.6
195,264	0.9	0.9	1.0	0.4	1.7	4.0
195,264	0.9	0.9	1.0	0.0	1.7	3.6
195,264	0.9	0.9	1.0	0.4	1.7	4.0
195,264	0.9	0.9	1.0	0.0	1.7	3.6
195,264	0.9	0.9	1.0	0.4	1.7	4.0
195,264	0.9	0.9	1.0	0.0	1.7	3.6
195,264	0.9	0.9	1.0	0.4	1.7	4.0
195,264	1.2	1.2	0.0	0.0	1.7	2.9
195,264	1.2	1.2	0.0	0.4	1.7	3.3
195,264	1.2	1.2	1.0	0.0	1.7	3.9
195,264	1.2	1.2	1.0	0.4	1.7	4.3
195,264	1.3	1.3	0.0	0.0	1.7	3.0
195,264	1.3	1.3	0.0	0.4	1.7	3.4
195,264	1.3	1.3	1.0	0.0	1.7	4.4
195,264	1.2	1.2	0.0	0.0	1.7	2.9
195,264	0.8	0.8	1.0	0.0	1.7	3.5
195,264	0.8	0.8	1.0	0.4	1.7	3.9
195,264	1.2	1.2	1.0	0.0	1.7	3.9
195,264	1.2	1.2	1.0	0.4	1.7	4.3
195,264	1.3	1.3	0.0	0.0	1.7	3.0
195,264	1.3	1.3	0.0	0.4	1.7	3.4
195,264	1.3	1.3	1.0	0.0	1.7	4.0
195,264	1.3	1.3	1.0	0.4	1.7	4.4
195,264	0.8	0.8	0.0	0.0	1.7	2.5
195,264	0.8	0.8	0.0	0.4	1.7	2.9
195,264	0.8	0.8	0.0	0.0	1.7	2.5
195,264	0.8	0.8	0.0	0.4	1.7	2.9
195,264	0.8	0.8	0.0	0.0	1.7	2.5
195,264	0.8	0.8	0.0	0.4	1.7	2.9
195,264	0.6	0.6	0.0	0.0	1.7	2.3
195,264	0.6	0.6	0.0	0.4	1.7	2.7
195,264	1.0	1.0	0.0	0.0	1.7	2.7
195,264</						

Model Type Information				Off Cycle Technology				Production		Credits Generated		M. Comments
A. Carline Name	B. Drive	C. Engine	D. Trans	E. Description	F. Type of Testing (5-cycle or Other)	G. Date Announced in Federal Register	H. Date of EPA Approval	I. Initial Model Year Credits can be Generated	J. Production volume (generating credits) units	K. Off-Cycle CREE benefit (per vehicle) [round to 0.1] gpm	L. Off-cycle credits [calc per 86.1866-12 (d)(2)(iii)] megagrams	

Vehicle Lifetime Miles [column O]

glass/glazing		Active Seat ventilation	Solar reflective surface coating	Passive cabin ventilation	Thermal Control Total
Before CAP	After CAP				

Model Year Report - Off-Cycle Technology Credits Earned - page 3 of 3

Man OTA Item: Thermal control

Model Type Information				Off Cycle Technology				Production		Credits Generated		M. Comments
A. Carline Name	B. Drive	C. Engine	D. Trans	E. Description	F. Type of Testing (5-cycle or Other)	G. Date Announced in Federal Register	H. Date of EPA Approval	I. Initial Model Year Credits can be Generated	J. Production volume (generating credits) units	K. Off-Cycle CREE benefit (per vehicle) [round to 0.1] gpm	L. Off-cycle credits [calc per 86.1866-12 (d)(2)(iii)] megagrams	
TRUCKS:												
4RUNNER 2WD	FR	4	S5-1	Thermal control	Pre-approved list	NA	NA	14MY	8,730	1.8	3,155	225,865
4RUNNER 2WD	FR	4	S5-1	Thermal control	Pre-approved list	NA	NA	14MY	7,579	2.1	3,595	225,865
4RUNNER 2WD	FR	4	S5-1	Thermal control	Pre-approved list	NA	NA	14MY	2,718	2.0	1,780	225,865
4RUNNER 2WD	FR	4	S5-1	Thermal control	Pre-approved list	NA	NA	14MY	2,809	3.4	2,157	225,865
4RUNNER 4WD	4WD	4	S5-1	Thermal control	Pre-approved list	NA	NA	14MY	64,907	1.6	19,343	225,865
4RUNNER 4WD	4WD	4	S5-1	Thermal control	Pre-approved list	NA	NA	14MY	37,531	2.1	17,802	225,865
4RUNNER 4WD	4WD	4	S5-1	Thermal control	Pre-approved list	NA	NA	14MY	14,136	2.0	9,259	225,865
4RUNNER 4WD	4WD	4	S5-1	Thermal control	Pre-approved list	NA	NA	14MY	10,384	3.4	7,974	225,865
GX 460	4WD	4.6	S6-1	Thermal control	Pre-approved list	NA	NA	14MY	535	2.0	242	225,865
GX 460	4WD	4.6	S6-1	Thermal control	Pre-approved list	NA	NA	14MY	262	2.6	148	225,865
GX 460	4WD	4.6	S6-1	Thermal control	Pre-approved list	NA	NA	14MY	15,642	3.3	11,859	225,865
GX 460	4WD	4.6	S6-1	Thermal control	Pre-approved list	NA	NA	14MY	11,288	3.8	9,872	225,865
HIGHLANDER	FF	2.7	S6-1	Thermal control	Pre-approved list	NA	NA	14MY	10,845	4.3	10,533	225,865
HIGHLANDER	FF	2.7	S6-1	Thermal control	Pre-approved list	NA	NA	14MY	4,930	4.3	4,788	225,865
HIGHLANDER	FF	3.5	S8-2	Thermal control	Pre-approved list	NA	NA	14MY	7,817	4.3	7,398	225,865
HIGHLANDER	FF	3.5	S8-2	Thermal control	Pre-approved list	NA	NA	14MY	2,872	4.3	2,789	225,865
HIGHLANDER AWD	4WD	3.5	S8-2	Thermal control	Pre-approved list	NA	NA	14MY	13,834	4.3	13,438	225,865
HIGHLANDER AWD	4WD	3.5	S8-2	Thermal control	Pre-approved list	NA	NA	14MY	2,762	4.3	2,683	225,865
HIGHLANDER AWD	4WD	3.5	S8-2 SS	Thermal control	Pre-approved list	NA	NA	14MY	10,062	4.3	9,792	225,865
HIGHLANDER AWD	4WD	3.5	S8-2 SS	Thermal control	Pre-approved list	NA	NA	14MY	6,234	4.3	6,056	225,865
HIGHLANDER AWD	4WD	3.5	S8-2 SS	Thermal control	Pre-approved list	NA	NA	14MY	81,175	4.3	78,839	225,865
HIGHLANDER AWD	4WD	3.5	S8-2 SS	Thermal control	Pre-approved list	NA	NA	14MY	30,065	4.3	30,074	225,865
HIGHLANDER AWD LE	4WD	3.5	S8-2 SS	Thermal control	Pre-approved list	NA	NA	14MY	7,901	4.3	7,674	225,865
HIGHLANDER AWD LE	4WD	3.5	S8-2 SS	Thermal control	Pre-approved list	NA	NA	14MY	2,065	4.3	2,008	225,865
HIGHLANDER HYBRID AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	5,085	4.3	4,939	225,865
HIGHLANDER HYBRID AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	2,764	4.3	2,684	225,865
HIGHLANDER HYBRID AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	10,815	4.3	10,309	225,865
HIGHLANDER HYBRID AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	4,529	4.3	4,399	225,865
HIGHLANDER HYBRID AWD LE PLUS	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	960	4.3	962	225,865
HIGHLANDER HYBRID AWD LE PLUS	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	377	4.3	368	225,865
HIGHLANDER LE/XLE/SE/LD	FF	3.5	S8-2 SS	Thermal control	Pre-approved list	NA	NA	14MY	2,067	4.3	2,008	225,865
HIGHLANDER LE/XLE/SE/LD	FF	3.5	S8-2 SS	Thermal control	Pre-approved list	NA	NA	14MY	1,474	4.3	1,420	225,865
HIGHLANDER LE/XLE/SE/LD	FF	3.5	S8-2 SS	Thermal control	Pre-approved list	NA	NA	14MY	35,447	4.3	34,727	225,865
HIGHLANDER LE/XLE/SE/LD	FF	3.5	S8-2 SS	Thermal control	Pre-approved list	NA	NA	14MY	19,022	4.3	18,715	225,865
HIGHLANDER LE/XLE/SE/LD	FF	3.5	S8-2 SS	Thermal control	Pre-approved list	NA	NA	14MY	6,142	4.3	5,965	225,865
HIGHLANDER LE/XLE/SE/LD	FF	3.5	S8-2 SS	Thermal control	Pre-approved list	NA	NA	14MY	2,834	4.3	2,752	225,865
LAND CRUISER WAGON 4WD	4WD	5.7	S8-2	Thermal control	Pre-approved list	NA	NA	14MY	1,884	3.3	1,389	225,865
LAND CRUISER WAGON 4WD	4WD	5.7	S8-2	Thermal control	Pre-approved list	NA	NA	14MY	1,484	3.8	1,274	225,865
LX 570	4WD	5.7	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	3	1.9	1	225,865
LX 570	4WD	5.7	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	3,363	3.2	2,431	225,865
LX 570	4WD	5.7	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,390	3.7	1,162	225,865
NX 300 AWD	4WD	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	3	3.9	3	225,865
NX 300 AWD	4WD	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	569	4.1	527	225,865
NX 300 AWD	4WD	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	2	4.3	2	225,865
NX 300 AWD	4WD	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	12,420	4.3	12,063	225,865
NX 300 AWD	4WD	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	4,477	4.3	4,348	225,865
NX 300 AWD	4WD	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	290	4.3	282	225,865
NX 300 AWD	4WD	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	142	4.3	138	225,865
NX 300 AWD	4WD	2	S6-3	Thermal control	Pre-approved list	NA	NA	14MY	70	4.3	68	225,865
NX 300H AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	266	4.1	246	225,865
NX 300H AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	5,280	4.3	5,128	225,865
NX 300H AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	2,909	4.3	2,825	225,865
NX 300H AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	177	4.3	172	225,865
NX 300H AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	374	4.3	363	225,865
NX 300H AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	281	4.3	269	225,865
RAV4 AWD	4WD	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	46,087	3.3	34,338	225,865
RAV4 AWD	4WD	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	3,001	3.4	2,305	225,865
RAV4 AWD	4WD	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	8,889	3.8	7,898	225,865
RAV4 AWD	4WD	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,740	3.9	1,533	225,865
RAV4 AWD	4WD	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	18,424	4.2	17,478	225,865
RAV4 AWD	4WD	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	11,378	4.3	11,051	225,865
RAV4 AWD	4WD	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,087	4.3	1,007	225,865
RAV4 AWD	4WD	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	2,164	4.3	2,102	225,865
RAV4 AWD	4WD	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	835	4.3	817	225,865
RAV4 AWD	4WD	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	3,088	4.3	2,997	225,865
RAV4 AWD	4WD	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,015	4.3	986	225,865
RAV4 AWD	4WD	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	4,451	4.3	4,323	225,865
RAV4 AWD	4WD	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	16,514	4.3	16,039	225,865
RAV4 AWD	4WD	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	3,635	4.3	3,530	225,865
RAV4 AWD	4WD	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	2,343	4.3	2,281	225,865
RAV4 AWD	4WD	2.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,029	4.3	999	225,865
RAV4 AWD	4WD	2.5	S8-3 SS	Thermal control	Pre-approved list	NA	NA	14MY	26,061	3.4	19,245	225,865
RAV4 AWD	4WD	2.5	S8-3 SS	Thermal control	Pre-approved list	NA	NA	14MY	5,904	3.9	5,201	225,865
RAV4 AWD	4WD	2.5	S8-3 SS	Thermal control	Pre-approved list	NA	NA	14MY	15,567	4.3	15,119	225,865
RAV4 AWD	4WD	2.5	S8-3 SS	Thermal control	Pre-approved list	NA	NA	14MY	4,367	4.3	4,241	225,865
RAV4 HYBRID AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	18,805	3.3	13,867	225,865

Vehicle Lifetime Miles [column O]

glass/glazing		Active Seat ventilation	Solar reflective surface coating	Passive cabin ventilation	Thermal Control Total
Before CAP	After CAP				

225,865	1.8	1.8	0.0	0.0	0.0	1.8
225,865	1.8	1.8	0.0	0.5	0.0	2.1
225,865	1.8	1.6	1.3	0.0	0.0	2.9
225,865	1.8	1.6	1.3	0.5	0.0	3.4
225,865	1.8	1.6	1.3	0.5	0.0	3.4
225,865	1.8	1.6	0.0	0.5	0.0	2.1
225,865	1.6	1.6	1.3	0.0	0.0	2.9
225,865	1.6	1.6	1.3	0.5	0.0	3.4
225,865	2.0	2.0	0.0	0.0	0.0	2.0
225,865	2.0	2.0	0.0	0.5	0.0	2.5
225,865	2.0	2.0	1.3	0.0	0.0	3.3
225,865	2.0	2.0	1.3	0.5	0.0	3.8
225,865	2.6	2.6	1.3	0.0	2.3	6.2
225,865	2.6	2.6	1.3	0.5	2.3	6.7
225,865	2.6	2.6	1.3	0.0	2.3	6.2
225,865	2.6	2.6	1.3	0.5	2.3	6.7
225,865	2.6	2.6	1.3	0.0	2.3	6.2
225,865	2.6	2.6	1.3	0.5	2.3	6.7
225,865	2.6	2.6	1.3	0.0	2.3	6.2
225,865	2.6	2.6	1.3	0.5	2.3	6.7
225,865	2.0	2.0	1.3	0.0	2.3	5.6
225,865	2.0	2.0	1.3	0.5	2.3	6.1
225,865	2.3	2.3	1.3	0.5	2.3	5.9
225,865	2.3	2.3	1.3	0.5	2.3	6.4
225,865	2.6	2.6	1.3	0.0	2.3	6.2
225,865	2.6	2.6	1.3	0.5	2.3	6.7
225,865	2.6	2.6	1.3	0.0	2.3	6.2
225,865	2.6	2.6	1.3	0.5	2.3	6.7
225,865	2.0	2.0	1.3	0.0	0.0	3.3
225,865	2.0	2.0	1.3	0.5	0.0	3.8
225,865	1.9	1.9	0.0	0.0	0.0	1.9
225,865	1.9	1.9	1.3	0.0	0.0	3.2
225,865	1.9	1.9	1.3	0.5	0.0	3.7
225,865	1.8	1.8	0.0	4.0	2.3	3.9
225,865	1.8	1.8	0.0	0.0	2.3	4.1
225,865	1.6	1.6	0.0	0.5	2.3	4.4
225,865	1.6	1.6	1.3	0.0	2.3	5.2

Model Type Information				Off Cycle Technology					Production			Credits Generated		M. Comments	Vehicle Lifetime Miles [column O]	glass/glazing		Active Seat ventilation	Solar reflective surface coating	Passive cabin ventilation	Thermal Control Total
A. Carline Name	B. Drive	C. Engine	D. Trans	E. Description	F. Type of Other (5)-cycle or Tether	G. Date Announced in Federal Register	H. Date of EPA Approval	I. Initial Model Year Credits can be Generated	J. Production volume (generating credits) units	K. Off-Cycle CREE benefit (per vehicle) [round to 0.1] gpm	L. Off-cycle credits [calc per 86.1866-12 (d)(2)(iii)] megagrams	Before CAP	After CAP			Before CAP	After CAP				
RAV4 HYBRID AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	7,179	3.4	5,513	225,865	1.1	1.1	0.0	0.0	0.0	2.3	3.4		
RAV4 HYBRID AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	3,328	3.8	2,856	225,865	1.0	1.0	0.0	0.5	2.3	3.8			
RAV4 HYBRID AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	2,658	3.9	2,341	225,865	1.1	1.1	0.0	0.5	2.3	3.9			
RAV4 HYBRID AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	4,980	3.9	4,387	225,865	1.6	1.6	0.0	0.0	2.3	3.9			
RAV4 HYBRID AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	2,393	4.3	2,324	225,865	1.0	1.0	1.3	0.0	2.3	4.6			
RAV4 HYBRID AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	913	4.3	887	225,865	1.0	1.0	1.3	0.5	2.3	5.1			
RAV4 HYBRID AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	239	4.3	232	225,865	1.6	1.6	0.0	0.5	2.3	4.4			
RAV4 HYBRID AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	2,781	4.3	2,701	225,865	1.6	1.6	1.3	0.0	2.3	5.2			
RAV4 HYBRID AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	1,095	4.3	1,063	225,865	1.6	1.6	1.3	0.5	2.3	5.7			
RAV4 HYBRID AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	18,751	4.3	18,211	225,865	2.0	2.0	0.0	0.0	2.3	4.3			
RAV4 HYBRID AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	2,488	4.3	2,416	225,865	2.0	2.0	0.0	0.5	2.3	4.8			
RAV4 HYBRID AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	992	4.3	963	225,865	2.0	2.0	1.3	0.0	2.3	5.6			
RAV4 HYBRID AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	384	4.3	373	225,865	2.0	2.0	1.3	0.5	2.3	6.1			
RAV4 HYBRID AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	6,534	4.3	6,346	225,865	2.2	2.2	0.0	0.0	2.3	4.5			
RAV4 HYBRID AWD	4WD	2.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	1,600	4.3	1,554	225,865	2.2	2.2	0.0	0.5	2.3	5.0			
RX 350 AWD	4WD	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	5	4.1	5	225,865	1.8	1.8	0.0	0.0	2.3	4.1			
RX 350 AWD	4WD	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	2,517	4.3	2,445	225,865	1.5	1.5	1.3	0.0	2.3	5.1			
RX 350 AWD	4WD	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,217	4.3	1,182	225,865	1.5	1.5	1.3	0.5	2.3	5.6			
RX 350 AWD	4WD	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,756	4.3	1,705	225,865	1.8	1.8	1.3	0.0	2.3	5.4			
RX 350 AWD	4WD	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,006	4.3	977	225,865	1.8	1.8	1.3	0.5	2.3	5.9			
RX 350 AWD	4WD	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	378	4.3	367	225,865	2.2	2.2	0.0	0.0	2.3	4.5			
RX 350 AWD	4WD	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	343	4.3	323	225,865	2.2	2.2	0.0	0.5	2.3	5.0			
RX 350 AWD	4WD	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	18,978	4.3	18,432	225,865	2.2	2.2	1.3	0.0	2.3	5.8			
RX 350 AWD	4WD	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	6,488	4.3	6,301	225,865	2.2	2.2	1.3	0.5	2.3	6.3			
RX 350 AWD	4WD	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	585	4.3	568	225,865	2.4	2.4	0.0	0.0	2.3	4.7			
RX 350 AWD	4WD	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	487	4.3	473	225,865	2.4	2.4	0.0	0.5	2.3	5.2			
RX 350 L AWD	4WD	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	4	3.9	4	225,865	1.6	1.6	0.0	0.0	2.3	3.9			
RX 350 L AWD	4WD	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	3,823	4.3	3,713	225,865	1.6	1.6	1.3	0.0	2.3	5.2			
RX 350 L AWD	4WD	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	1,880	4.3	1,836	225,865	1.6	1.6	1.3	0.5	2.3	5.7			
RX 350 L AWD	4WD	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	162	4.3	157	225,865	1.7	1.7	1.3	0.0	2.3	5.3			
RX 350 L AWD	4WD	3.5	S8-3	Thermal control	Pre-approved list	NA	NA	14MY	97	4.3	94	225,865	1.7	1.7	1.3	0.5	2.3	5.8			
RX 450H AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	2	4.1	2	225,865	1.8	1.8	0.0	0.0	2.3	4.1			
RX 450H AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	1	4.3	1	225,865	1.8	1.8	0.0	0.5	2.3	4.6			
RX 450H AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	2,280	4.3	2,214	225,865	1.8	1.8	1.3	0.0	2.3	5.4			
RX 450H AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	996	4.3	967	225,865	1.8	1.8	1.3	0.5	2.3	5.9			
RX 450H AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	345	4.3	260	225,865	2.2	2.2	0.0	0.0	2.3	4.5			
RX 450H AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	119	4.3	116	225,865	2.2	2.2	0.0	0.5	2.3	5.0			
RX 450H AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	4,787	4.3	4,649	225,865	2.2	2.2	1.3	0.0	2.3	5.8			
RX 450H AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	2,115	4.3	2,054	225,865	2.2	2.2	1.3	0.5	2.3	6.3			
RX 450H AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	10	4.3	10	225,865	2.4	2.4	0.0	0.0	2.3	4.7			
RX 450H AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	3	4.3	3	225,865	2.4	2.4	0.0	0.5	2.3	5.2			
RX 450H L AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	3	3.9	3	225,865	1.6	1.6	0.0	0.0	2.3	3.9			
RX 450H L AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	1	4.0	1	225,865	1.7	1.7	0.0	0.0	2.3	4.0			
RX 450H L AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	1	4.0	1	225,865	1.7	1.7	0.0	0.5	2.3	4.4			
RX 450H L AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	1,206	4.3	1,171	225,865	1.6	1.6	1.3	0.0	2.3	5.2			
RX 450H L AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	585	4.3	568	225,865	1.6	1.6	1.3	0.5	2.3	5.7			
RX 450H L AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	50	4.3	49	225,865	1.7	1.7	1.3	0.0	2.3	5.3			
RX 450H L AWD	4WD	3.5	HV	Thermal control	Pre-approved list	NA	NA	14MY	25	4.3	24	225,865	1.7	1.7	1.3	0.5	2.3	5.8			
SEQUOIA 2WD	FR	5.7	S6-1	Thermal control	Pre-approved list	NA	NA	14MY	1,092	3.5	863	225,865	2.2	2.2	1.3	0.0	2.3	3.5			
SEQUOIA 2WD	FR	5.7	S6-1	Thermal control	Pre-approved list	NA	NA	14MY	6,679	4.0	6,113	225,865	2.2	2.2	1.3	0.5	2.3	4.0			
SEQUOIA 4WD	4WD	5.7	S6-1	Thermal control	Pre-approved list	NA	NA	14MY	5,910	3.5	4,672	225,865	2.2	2.2	0.0	0.0	2.3	3.5			
SEQUOIA 4WD	4WD	5.7	S6-1	Thermal control	Pre-approved list	NA	NA	14MY	3,057	4.0	2,762	225,865	2.2	2.2	1.3	0.5	2.3	4.0			
SIENNA	FF	3.5	S8-2	Thermal control	Pre-approved list	NA	NA	14MY	19,661	4.3	19,095	225,865	2.1	2.1	0.0	0.0	2.3	4.4			
SIENNA	FF	3.5	S8-2	Thermal control	Pre-approved list	NA	NA	14MY	5,860	4.3	5,691	225,865	2.1	2.1	0.0	0.5	2.3	4.9			
SIENNA	FF	3.5	S8-2	Thermal control	Pre-approved list	NA	NA	14MY	13,142	4.3	12,764	225,865	2.3	2.3	0.0	0.0	2.3	4.6			
SIENNA	FF	3.5	S8-2	Thermal control	Pre-approved list	NA	NA	14MY	4,607	4.3	4,474	225,865	2.3	2.3	0.0	0.5	2.3	5.1			
SIENNA AWD	4WD	3.5	S8-2	Thermal control	Pre-approved list	NA	NA	14MY	6,587	4.3	6,340	225,865	2.1	2.1	0.0	0.0	2.3	4.4			
SIENNA AWD	4WD	3.5	S8-2	Thermal control	Pre-approved list	NA	NA	14MY	3,086	4.3	2,997	225,865	2.1	2.1	0.0	0.5	2.3	4.9			
SIENNA AWD	4WD	3.5	S8-2	Thermal control	Pre-approved list	NA	NA	14MY	1,798	4.3	1,746	225,865	2.3	2.3	0.0	0.0	2.3	4.6			
SIENNA AWD	4WD	3.5	S8-2	Thermal control	Pre-approved list	NA	NA	14MY	324	4.3	315	225,865	2.3	2.3	0.0	0.5	2.3	5.1			
TACOMA 2WD	FR	2.7	S6-2	Thermal control	Pre-approved list	NA	NA	14MY	19,094	4.2	18,113	225,865	1.9	1.9	0.0	0.0	2.3	4.2			
TACOMA 2WD	FR	2.7	S6-2	Thermal control	Pre-approved list	NA	NA	14MY	13,593	4.3	13,202	225,865	1.9	1.9	0.0	0.5	2.3	4.7			
TACOMA 2WD	FR	3.5	S6-2	Thermal control	Pre-approved list	NA	NA	14MY	44,941	4.2	42,633	225,865	1.9	1.9	0.0	0.0	2.3	4.2			
TACOMA 2WD	FR	3.5	S6-2	Thermal control	Pre-approved list	NA	NA	14MY	12,176	4.3	11,826	225,865	1.9	1.9	0.0	0.5	2.3	4.7			
TACOMA 4WD	4WD	2.7	S6-2	Thermal control	Pre-approved list	NA	NA	14MY	4,638	4.2	4,390	225,865	1.9	1.9	0.0	0.0	2.3	4.2			
TACOMA 4WD	4WD	2.7	S6-2	Thermal control	Pre-approved list	NA	NA	14MY	2,593	4.3	2,518	225,865	1.9	1.9	0.0	0.5	2.3	4.7			
TACOMA 4WD	4WD	3.5	M6	Thermal control	Pre-approved list	NA	NA	14MY	3,442	4.2	3,265	225,865	1.9	1.9	0.0	0.0	2.3	4.2			
TACOMA 4WD	4WD	3.5	M6	Thermal control	Pre-approved list	NA	NA	14MY	631	4.3	613	225,865	1.9	1.9	0.0	0.5	2.3	4.7			
TACOMA 4WD	4WD	3.5	S6-2	Thermal control	Pre-approved list	NA	NA	14MY	123,604	4.2	117,255	225,865	1.9	1.9	0.0	0.0	2.3	4.2			
TACOMA 4WD	4WD	3.5	S6-2	Thermal control	Pre-approved list	NA	NA	14MY	29,956	4.3	29,094	225,865	1.9	1.9	0.0	0.5	2.3	4.7			
TACOMA 4WD D-CAB V6 MT OFF-ROAD	4WD	3.5	M6	Thermal control	Pre-approved list	NA	NA	14MY	5,575	4.2	5,290	225,865	1.9	1.9	0.0	0.0	2.3	4.2			
TACOMA 4WD D-CAB V6 MT OFF-ROAD	4WD	3.5	M6	Thermal control	Pre-approved list	NA	NA	14MY	1,355	4.3	1,310	225,865	1.9	1.9							

EPA GHG Reporting Template

Model Type Information				Off Cycle Technology					Production	Credits Generated		M. Comments
A. Carline Name	B. Drive	C. Engine	D. Trans	E. Description	F. Type of Testing (5-cycle or Other)	G. Date Announced in Federal Register	H. Date of EPA Approval	I. Initial Model Year Credits can be Generated	J. Production volume (generating credits)	K. Off-Cycle CREE benefit (per vehicle) [round to 0.1]	L. Off-cycle credits [calc per 86.1866-12 (d)(2)(iii)]	
									units	gpm	megagrams	

Vehicle Lifetime Miles [column O]

glass/glazing		Active Seat ventilation	Solar reflective surface coating	Passive cabin ventilation	Thermal Control Total
Before CAP	After CAP				Before CAP

Notes:
 1CREE benefit based on in-use combined (city/hwy) CREE value tested with and without the device (adjusted for fuel use/efficiency compliance).
 25-cycle with additional benefits to account for eco headlights electrical system.
 3Repeat sets of tests performed (minimum of 3 test sets with the device and 3 test sets without the device).

EPA Form Number 5900-244

Model Year Report - Off-Cycle Technology Credits Earned - page 2 of 3

Manufacturer: TOYOTA Item: High-efficiency Alternators

Import Cars:				Off Cycle Technology					Production	Credits Generated		M. Comments	Vehicle Lifetime Miles [column O]
Model Type Information				E. Description	F. Type of Testing (5-cycle or Other)	G. Date Announced in Federal Register	H. Date of EPA Approval	I. Initial Model Year Credits can be Generated	J. Production volume (generating credits)	K. Off-Cycle CREE benefit1 (per vehicle) [round to 0.1]	L. Off-cycle credits [calc per 86.1866-12 (d)(2)(iii)]		
A. Carline Name	B. Drive	C. Engine	D. Trans						units	gpm	megagrams		
CAMRY XSE	FF	3.5	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	11,878	0.4	928	195,264	
C-HR	FF	2	S7-3	High efficiency alternator	Other	04/10/18	June '18	17MY	67,662	0.2	2,642	195,264	
COROLLA HATCHBACK	FF	2	S10-3	High efficiency alternator	Other	04/10/18	June '18	17MY	20,796	0.4	1,624	195,264	
COROLLA HATCHBACK MANUAL	FF	2	M6	High efficiency alternator	Other	04/10/18	June '18	17MY	4,503	0.4	352	195,264	
COROLLA HATCHBACK XSE	FF	2	S10-3	High efficiency alternator	Other	04/10/18	June '18	17MY	7,812	0.4	610	195,264	
ES 350	FF	3.5	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	40,641	0.4	3,174	195,264	
GS 300	FR	2	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	7	0.3	0	195,264	
GS 300 F SPORT	FR	2	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	2	0.3	0	195,264	
GS 350	FR	3.5	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	311	0.4	24	195,264	
GS 350 AWD	4WD	3.5	S6-3	High efficiency alternator	Other	04/10/18	June '18	17MY	1,542	0.4	120	195,264	
GS 350 F SPORT	FR	3.5	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	1,828	0.4	143	195,264	
GS F	FR	5	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	243	0.2	9	195,264	
IS 300	FR	2	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	11,032	0.3	646	195,264	
IS 300 AWD	4WD	3.5	S6-3	High efficiency alternator	Other	04/10/18	June '18	17MY	4,650	0.4	363	195,264	
IS 350	FR	3.5	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	789	0.4	62	195,264	
IS 350 AWD	4WD	3.5	S6-3	High efficiency alternator	Other	04/10/18	June '18	17MY	613	0.4	48	195,264	
LC 500	FR	5	S10-4	High efficiency alternator	Other	04/10/18	June '18	17MY	922	0.2	36	195,264	
LS 500	FR	3.4	S10-4	High efficiency alternator	Other	04/10/18	June '18	17MY	2,391	0.3	140	195,264	
LS 500	FR	3.4	S10-4	High efficiency alternator	Other	04/10/18	June '18	17MY	1,069	0.4	83	195,264	
LS 500 AWD	4WD	3.4	S10-4	High efficiency alternator	Other	04/10/18	June '18	17MY	1,656	0.3	97	195,264	
LS 500 AWD	4WD	3.4	S10-4	High efficiency alternator	Other	04/10/18	June '18	17MY	454	0.4	35	195,264	
NX 300	FF	2	S6-3	High efficiency alternator	Other	04/10/18	June '18	17MY	28,451	0.4	2,222	195,264	
NX 300 AWD F SPORT	4WD	2	S6-3	High efficiency alternator	Other	04/10/18	June '18	17MY	5,283	0.4	413	195,264	
RAV4	FF	2.5	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	75,344	0.2	2,942	195,264	
RAV4	FF	2.5	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	70,679	0.4	5,520	195,264	
RC 300	FR	2	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	1,318	0.3	77	195,264	
RC 300 AWD	4WD	3.5	S6-3	High efficiency alternator	Other	04/10/18	June '18	17MY	886	0.4	69	195,264	
RC 350	FR	3.5	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	1,976	0.4	154	195,264	
RC 350 AWD	4WD	3.5	S6-3	High efficiency alternator	Other	04/10/18	June '18	17MY	751	0.4	59	195,264	
RC F	FR	5	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	370	0.2	14	195,264	
RX 350	FF	3.5	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	34,096	0.5	3,329	195,264	
RX 350 AWD (F SPORT)	4WD	3.5	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	7,910	0.5	772	195,264	
RX 350 L	FF	3.5	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	5,000	0.5	488	195,264	
UX 200	FF	2	S10-3	High efficiency alternator	Other	04/10/18	June '18	17MY	9,254	0.4	723	195,264	

Model Year Report - Off-Cycle Technology Credits Earned - page 3 of 3

Manufactur****

Item: High-efficiency Alternators

Model Type Information				Off Cycle Technology					Production	Credits Generated		M. Comments	Vehicle Lifetime Miles [column O]
A. Carline Name	B. Drive	C. Engine	D. Trans	E. Description	F. Type of Testing (5-cycle or Other)	G. Date Announced in Federal Register	H. Date of EPA Approval	I. Initial Model Year Credits can be Generated	J. Production volume (generating credits)	K. Off-Cycle CREE benefit1 (per vehicle) [round to 0.1]	L. Off-cycle credits [calc per 86.1866-12 (d)(2)(iii)]		
									units	gpm	megagrams		
4RUNNER 2WD	FR	4	SS-1	High efficiency alternator	Other	04/10/18	June '18	17MY	21,836	0.2	986	225,865	
4RUNNER 4WD	4WD	4	SS-1	High efficiency alternator	Other	04/10/18	June '18	17MY	116,958	0.2	5,283	225,865	
GX 460	4WD	4.6	S6-1	High efficiency alternator	Other	04/10/18	June '18	17MY	802	0.2	36	225,865	
GX 460	4WD	4.6	S6-1	High efficiency alternator	Other	04/10/18	June '18	17MY	26,906	0.4	2,431	225,865	
HIGHLANDER	FF	2.7	S6-1	High efficiency alternator	Other	04/10/18	June '18	17MY	15,775	0.4	1,425	225,865	
HIGHLANDER	FF	3.5	S8-2	High efficiency alternator	Other	04/10/18	June '18	17MY	10,489	0.5	1,185	225,865	
HIGHLANDER AWD	4WD	3.5	S8-2	High efficiency alternator	Other	04/10/18	June '18	17MY	16,596	0.5	1,874	225,865	
HIGHLANDER AWD	4WD	3.5	S8-2 SS	High efficiency alternator	Other	04/10/18	June '18	17MY	128,456	0.5	14,507	225,865	
HIGHLANDER AWD LE	4WD	3.5	S8-2 SS	High efficiency alternator	Other	04/10/18	June '18	17MY	9,966	0.5	1,125	225,865	
HIGHLANDER LE/XLE/SE/LTD	FF	3.5	S8-2 SS	High efficiency alternator	Other	04/10/18	June '18	17MY	66,983	0.5	7,565	225,865	
LAND CRUISER WAGON 4WD	4WD	5.7	S8-2	High efficiency alternator	Other	04/10/18	June '18	17MY	3,348	0.2	151	225,865	
LX 570	4WD	5.7	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	4,756	0.2	215	225,865	
NX 300 AWD	4WD	2	S6-3	High efficiency alternator	Other	04/10/18	June '18	17MY	17,973	0.4	1,624	225,865	
RAV4 AWD	4WD	2.5	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	24,062	0.2	1,087	225,865	
RAV4 AWD	4WD	2.5	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	101,946	0.4	9,210	225,865	
RAV4 AWD	4WD	2.5	S8-3 SS	High efficiency alternator	Other	04/10/18	June '18	17MY	50,899	0.4	4,599	225,865	
RX 350 AWD	4WD	3.5	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	33,760	0.5	3,813	225,865	
RX 350 L AWD	4WD	3.5	S8-3	High efficiency alternator	Other	04/10/18	June '18	17MY	5,975	0.5	675	225,865	
SEQUOIA 2WD	FR	5.7	S6-1	High efficiency alternator	Other	04/10/18	June '18	17MY	1,771	0.2	80	225,865	
SEQUOIA 4WD	4WD	5.7	S6-1	High efficiency alternator	Other	04/10/18	June '18	17MY	8,967	0.2	405	225,865	
SIENNA	FF	3.5	S8-2	High efficiency alternator	Other	04/10/18	June '18	17MY	43,270	0.5	4,887	225,865	
SIENNA AWD	4WD	3.5	S8-2	High efficiency alternator	Other	04/10/18	June '18	17MY	13,795	0.5	1,558	225,865	
TACOMA 2WD	FR	2.7	S6-2	High efficiency alternator	Other	04/10/18	June '18	17MY	32,687	0.4	2,953	225,865	
TACOMA 2WD	FR	3.5	S6-2	High efficiency alternator	Other	04/10/18	June '18	17MY	57,117	0.4	5,160	225,865	
TACOMA 4WD	4WD	2.7	S6-2	High efficiency alternator	Other	04/10/18	June '18	17MY	7,231	0.4	653	225,865	
TACOMA 4WD	4WD	3.5	M6	High efficiency alternator	Other	04/10/18	June '18	17MY	4,073	0.4	368	225,865	
TACOMA 4WD	4WD	3.5	S6-2	High efficiency alternator	Other	04/10/18	June '18	17MY	153,560	0.4	13,874	225,865	
TACOMA 4WD D-CAB V6 MT OFF-ROAD	4WD	3.5	M6	High efficiency alternator	Other	04/10/18	June '18	17MY	6,931	0.4	626	225,865	
TUNDRA 2WD	FR	4.6	S6-1	High efficiency alternator	Other	04/10/18	June '18	17MY	7	0.1	0	225,865	
TUNDRA 2WD	FR	4.6	S6-1	High efficiency alternator	Other	04/10/18	June '18	17MY	10,387	0.4	938	225,865	
TUNDRA 2WD	FR	5.7	S6-1	High efficiency alternator	Other	04/10/18	June '18	17MY	12,196	0.4	1,102	225,865	
TUNDRA 4WD	4WD	4.6	S6-1	High efficiency alternator	Other	04/10/18	June '18	17MY	4,153	0.4	375	225,865	
TUNDRA 4WD	4WD	5.7	S6-1	High efficiency alternator	Other	04/10/18	June '18	17MY	5	0.1	0	225,865	
TUNDRA 4WD	4WD	5.7	S6-1	High efficiency alternator	Other	04/10/18	June '18	17MY	65,777	0.4	5,943	225,865	
TUNDRA 4WD FFV	4WD	5.7	S6-1	High efficiency alternator	Other	04/10/18	June '18	17MY	20,186	0.4	1,824	225,865	

Notes:
 1CREE benefit based on in-use combined (city/hwy) CREE value tested with and without the device (adjusted for full useful-life compliance).
 25-cycle with additional benefits to account for eco headlights/electrical system.
 3Replicate sets of tests performed (minimum of 3 test sets with the device and 3 test sets without the device).

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Model Year Report - Off-Cycle Technology Credits Earned - page 2 of 3

Manufacturer: TOYOTA Item: DENSO SAS (SES) Compressor

Import Cars:				Model Type Information					Off Cycle Technology				Production	Credits Generated		M. Comments	Vehicle Lifetime Miles [column O]
A. Carline Name	B. Drive	C. Engine	D. Trans	E. Description	F. Type of Testing (5-cycle or Other)	G. Date Announced in Federal Register	H. Date of EPA Approval	I. Initial Model Year Credits can be Generated	J. Production volume (generating credits)	K. Off-Cycle CREE benefit1 (per vehicle) [round to 0.1]	L. Off-cycle credits [calc per 86.1866-12 (d)(2)(iii)]	M. Comments	Vehicle Lifetime Miles [column O]				
									units	gpm	megagrams						
GS 300	FR	2	S8-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	7	0.2	0		195,264				
GS 300 F SPORT	FR	2	S8-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	2	0.2	0		195,264				
GS 350	FR	3.5	S8-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	311	0.2	12		195,264				
GS 350 AWD	4WD	3.5	S6-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	1,542	0.2	60		195,264				
GS 350 F SPORT	FR	3.5	S8-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	1,828	0.2	71		195,264				
IS 300	FR	2	S8-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	11,032	0.2	431		195,264				
IS 300 AWD	4WD	3.5	S6-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	4,650	0.2	182		195,264				
IS 350	FR	3.5	S8-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	789	0.2	31		195,264				
IS 350 AWD	4WD	3.5	S6-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	613	0.2	24		195,264				
LC 500	FR	5	S10-4	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	922	0.2	36		195,264				
NX 300	FF	2	S6-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	27,984	0.2	1,093		195,264				
NX 300	FF	2	S6-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	467	1.1	100		195,264				
NX 300 AWD F SPORT	4WD	2	S6-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	5,251	0.2	205		195,264				
NX 300 AWD F SPORT	4WD	2	S6-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	32	1.1	7		195,264				
RAV4	FF	2.5	S8-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	146,023	0.2	5,703		195,264				
RC 300	FR	2	S8-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	1,318	0.2	51		195,264				
RC 300 AWD	4WD	3.5	S6-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	886	0.2	35		195,264				
RC 350	FR	3.5	S8-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	1,976	0.2	77		195,264				
RC 350 AWD	4WD	3.5	S6-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	751	0.2	29		195,264				
RC F	FR	5	S8-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	370	0.2	14		195,264				

Model Year Report - Off-Cycle Technology Credits Earned - page 3 of 3

Manufacture: XXXX m: DENSO SAS (SES) Compressor

Trucks:														
Model Type Information				Off Cycle Technology					Production	Credits Generated			M. Comments	Vehicle Lifetime Miles [column O]
A. Carline Name	B. Drive	C. Engine	D. Trans	E. Description	F. Type of Testing (5-cycle or Other)	G. Date Announced in Federal Register	H. Date of EPA Approval	I. Initial Model Year Credits can be Generated	J. Production volume (generating credits)	K. Off-Cycle CREE benefit1 (per vehicle) [round to 0.1]	L. Off-cycle credits [calc per 86.1866-12 (d)(2)(iii)]			
									units	gpm	megagrams			
HIGHLANDER	FF	2.7	S6-1	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	15,775	0.4	1,425		225,865	
HIGHLANDER	FF	3.5	S8-2	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	10,489	0.4	948		225,865	
HIGHLANDER AWD	4WD	3.5	S8-2	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	16,596	0.4	1,499		225,865	
HIGHLANDER AWD	4WD	3.5	S8-2 SS	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	128,456	0.4	11,605		225,865	
HIGHLANDER AWD LE	4WD	3.5	S8-2 SS	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	9,966	0.4	900		225,865	
HIGHLANDER LE/XLE/SE/LTD	FF	3.5	S8-2 SS	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	66,983	0.4	6,052		225,865	
NX 300 AWD	4WD	2	S6-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	17,972	0.4	1,624		225,865	
NX 300 AWD	4WD	2	S6-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	1	1.1	0		225,865	
RAV4 AWD	4WD	2.5	S8-3	DENSO SAS (SES) Compressor	Other	02/26/18	June '18	17MY	126,008	0.4	11,384		225,865	

Notes:
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 3Replicate sets of tests performed (minimum of 3 test sets with the device and 3 test sets without the device).

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