

### Corporate Average Fuel Economy (CAFE) Input Data Record Layout

Field Name	Transaction Type					Position	Length	Data Type	Valid Range/Entry Criteria
	R	A	R	D	R				
Input Record Type	F1	R	R	R	R	1-2	2	A	F1
Process Code	F1	R	R	R	R	3-3	1	A	For Add: 'A' or blank - '' For Replace: 'R' For Delete: 'D' For Reprocess: 'S'
Manufacturer Code	F1	R	R	R	R	4-7	4	I	Valid MANUFACTURER CODE
Index Number	F1	R	R	R	R	9-11	3	I	001-999
Model Year	F1	R	R	R	R	13-16	4	I	1970-2100
Cubic Inch Displacement	F1	R	R			18-20	3	I	000-999
Number of Cylinders	F1	R	R			22-23	2	I	00-99
Combustion Cycle	F1	R	R			25-25	1	A	G - Otto Cycle (SI) Piston R - Otto Cycle (SI) Rotary D - Diesel Cycle (CI) 2 - Two Stroke Cycle T - Turbine H - Hybrid Electric E - Electric F - Fuel Cell A - Other
Fuel Injection	F1	R	R			27-27	1	A	N - No S - Single M - Multi-point (Default for diesels)
Number of Carburetor Venturis	F1	R	R			29-30	2	I	Note: Default is '00'. 00 - 99
Catalyst	F1	R	R			32-32	1	A	Note: Default is 'Y'. Y - Yes N - No
Feedback Fuel System	F1	R	R			34-34	1	A	Note: Default is 'Y'. Y - Yes N - No

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	R e c o r d T y p e	A d d	R e p l a c e	D e l e t e	R e p r o c e s s				
Variable Displacement	F1	R	R			36-36	1	A	<i>Note:</i> Default is 'N'. Y - Yes N - No
Turbocharged	F1	R	R			38-38	1	A	<i>Note:</i> Default is 'N'. Y - Yes N - No C - Yes, with charge air cooling
Supercharged	F1	R	R			40-40	1	A	<i>Note:</i> Default is 'N'. Y - Yes N - No C - Yes, with charge air cooling
Number of Valves per Cylinder	F1	X	X			42-43	2	I	00-09
Police Vehicle, Only	F1	X	X			45-45	1	A	<i>Note:</i> Default is 'N'. Y - Yes N - No
Engine Block Descriptors	F1	R	R			47-56	10	A	<i>Note:</i> Default is 'Blank'. Text
Compliance Category	F1	R	R	R	R	58-58	1	A	1 - Domestic Passenger Vehicles 2 - Import Passenger Vehicles 7 - <del>Domestic</del> Light Trucks 8 - <del>Import</del> Light Trucks A - Domestic Passenger Vehicles - Baseline Calculation (without extra credit for dual fuel, alternative fueled vehicles) B - Import Passenger Vehicles - Baseline Calculation (without extra credit for dual fuel, alternative fueled vehicles) C - Light Trucks - Baseline Calculation (without extra credit for dual fuel, alternative fueled vehicles)
Input Record Type	F2	R	R			1-2	2	A	F2
Transmission Class Link	F2	R	R			4-5	2	I	01-99 Linkage field to 'FF' input records.

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	R e c o r d T y p e	A d d	R e p l a c e	D e l e t e	R e p r o c e s s				
Transmission Type	F2	R	R			7-8	2	A	A3 - No lockup/automatic/3 - speed A4 - No lockup/automatic/4 - speed A5 - No lockup/automatic/5 - speed A6 - No lockup/automatic/6 - speed AV - Automatic variable gear ratios B3 - Both C4 & M3 B4 - Both C5 & M4 C4 - Creeper/Manual 4 - speed C5 - Creeper/Manual 5 - speed L3 - Lockup/automatic/3 - speed L4 - Lockup/automatic/4 - speed L5 - Lockup/automatic/5 - speed L6 - Lockup/automatic/6 - speed M3 - Manual 3 - speed M4 - No creeper/Manual 4 - speed M5 - Manual 5 - speed M6 - Manual 6 - speed S2 - Semi-automatic 2 - speed S3 - Semi-automatic 3 - speed S4 - Semi-automatic 4 - speed S5 - Semi-automatic 5 - speed S6 - Semi-automatic 6 - speed
Drive System	F2	R	R			10-10	1	A	4 - 4 wheel drive F - 2 wheel drive, front R - 2 wheel drive, rear
Transmission Overdrive	F2	R	R			12-12	1	I	<i>Note:</i> Default is '2'. 1 - No gear ratio < 1 2 - Top gear ratio < 1
Shift Indicator Light	F2	R	R			14-14	1	A	<i>Note:</i> Default is 'N'. See Advisory Circular 83A, Page 4 Y - Yes N - No
Engine Management System	F2	R	R			16-16	1	A	<i>Note:</i> Default is 'N'. See Advisory Circular 83A, Page 4. Y - Yes N - No L - Yes with lockout features

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	R e c o r d  T y p e	A d d	R e p l a c e	D e l e t e	R e p r o c e s s				
Number of Transmission Modes	F2	R	R			18-19	2	A	<i>Note:</i> Default is 'N'. See Advisory Circular 83A, Page 4 V - Continuously variable, user selectable C - Computer controlled multiple gear ratios 1-9 - Discrete user-selectable transmission mode N - Not Applicable
Variable Lockup Point	F2	R	R			21-21	1	A	N, blank - No variable lock-up point See Advisory Circular 83A, Page 4 V - Continuously variable C - Computer controlled lock-up 1-9 - Number of discrete lock-up rpm ranges
Declutching / Freewheeling	F2	R	R			23-23	1	A	<i>Note:</i> Default is 'N'. See Advisory Circular 83A, Page 4 Y - Yes N - No L - Yes, but with lock-out features
Input Record Type	FR	R	R			1-2	2	A	FR
Transmission Configuration Link	FR	R	R			4-5	2	I	01-99 Linkage field to 'FF' and 'FL' input records.
Gear Range Number	FR	R	R			7-7	1	A	1-9 - Indicates gear range number N - Indicates ratios entered are normal gear ratios (O/D not engaged) O - Indicates ratios entered are O/D gear ratios (O/D engaged) L - Low-end range of gear ratios H - High-end range of gear ratios
Gear Ratio First	FR	R	X			9-13	5 (4,3)	R	0.000-9.999 (Enter 0.0 if not applicable)
Gear Ratio Second	FR	X	X			15-19	5 (4,3)	R	0.000-9.999
Gear Ratio Third	FR	X	X			21-25	5 (4,3)	R	0.000-9.999

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	R e c o r d  T y p e	A d d	R e p l a c e	D e l e t e	R e p r o c e s s				
Gear Ratio Fourth	FR	X	X			27-31	5 (4,3)	R	0.000-9.999
Gear Ratio Fifth	FR	X	X			33-37	5 (4,3)	R	0.000-9.999
Gear Ratio Sixth	FR	X	X			39-43	5 (4,3)	R	0.000-9.999
Lock-up Override	FR	X	X			45-45	1	A	<i>Note:</i> Default is 'N'. Y - Yes N - No
Input Record Type	FL	R	R			1-2	2	A	FL
Transmission Configuration	FL	R	R			4-5	2	I	01-99 Linkage field to 'FR' and 'FF' input records.
Lock-up Range Number	FL	R	R			7-7	1	A	1-9 - Indicates lockup range number L - Low-end range of RPM's H - High-end range of RPM's
Lock-up RPM First	FL	R	X			9-12	4	I	0000-9999 (Enter 0.0 if not applicable)
Lock-up RPM Second	FL	X	X			14-17	4	I	0000-9999
Lock-up RPM Third	FL	X	X			19-22	4	I	0000-9999
Lock-up RPM Fourth	FL	X	X			24-27	4	I	0000-9999
Lock-up RPM Fifth	FL	X	X			29-32	4	I	0000-9999
Lock-up RPM Sixth	FL	X	X			34-37	4	I	0000-9999
Input Record Type	FC	X	X			1-2	2	A	FC

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Field Name	Transaction Type					Position	Length	Data Type	Valid Range/Entry Criteria
	R	A	R	D	R				
Comments	FC	X	X			3-80	78	A	<i>Note:</i> Multiple comment input records permitted. 'Replace' deletes old comments and adds new comments, while 'Modify' adds additional input comments to previously stored comments if any. Comments
Input Record Type	FF	R	R			1-2	2	A	FF
Manufacturer Code	FF	R	R			4-7	4	I	Valid MANUFACTURER CODE
Division Code	FF	R	R			9-10	2	I	<i>Note:</i> Must be associated with a MANUFACTURER CODE. Valid DIVISION CODE
Car Line Code	FF	R	R			12-14	3	I	Valid CAR LINE CODE
Transmission Class Link	FF	R	R			16-17	2	I	01-99 Linkage field to 'F2' input records.
DVC (Data Vehicle Code)	FF	R	R			19-21	3	I	<i>Note:</i> The DVC is a number assigned to a configuration as defined in CFR 600.002-93(a)(24). 001-499: A portion of this configuration is represented by a test vehicle. 501-999: No portion of this configuration is represented by a test vehicle.
Transmission Configuration Link	FF	R	R			23-24	2	I	01-99 Linkage field to 'FR' and 'FL' input records.
Axle Ratio	FF	R	R			26-29	4 (3,2)	R	0.00-9.99
Engine Code	FF	R	R			31-44	14	A	Valid ENGINE CODE
RLC (Road Load Code)	FF	R	R			46-47	2	I	<i>Note:</i> The RLC is a number assigned to a subconfiguration as defined in CFR 600.002-93(a)(51). 01-49: Used for subconfigurations represented by a test vehicle. 51-99: Used for subconfiguration not represented by a test vehicle.

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	R	A	R	D	R				
Record Type									
ETW	FF	R	R			49-53	5	I	Valid Equivalent Test Weight within a specified Inertia Weight Class as defined in paragraph § 86-129-80 of the 40 CFR.
TRLHP <sub>50</sub> or Actual Dyno Horsepower	FF	R	R			55-58	4 (3,1)	R	00.0-99.9 2001 and earlier: Enter actual dynamometer horsepower. 2002 - on: Enter total road load horsepower at 50 mph (TRLHP <sub>50</sub> ). Ref.: CCD-00-04 dated 4/24/00
Altitude Code	FF	R	R			60-60	1	I	<i>Note:</i> Default is '3'. 1 - Low altitude only 2 - High altitude only 3 - All altitudes
Engine Family/ Test Group Name	FF	R	R			62-73	12	A	Valid ENGINE FAMILY/TEST GROUP NAME
Sub-Configuration Sales	FF	R	R			75-80	6	I	1-999999
Input Record Type	FT	R	R			1-2	2	A	FT
DVC (Data Vehicle Code)	FT	R	R			4-6	3	I	001-499: A portion of this configuration is represented by a test vehicle.
RLC (Road Load Code)	FT	R	R			8-9	2	I	01-49: Used for subconfigurations represented by a test vehicle.
Averaging Method	FT	X	X			11	1	A	'W' or blank - Simple Weighting $3 \sum_{i=1}^n (FET_i \times WT_i)$ 'H' - Harmonic Weighting $1/3 \sum_{i=1}^n (WT_i/FET_i)$ where $WT_i$ = Weight $FET_i$ = MPG of test or vehicle configuration
Averaging Group Indicator	FT	X	X			13-13	1	A	<i>Note:</i> Links a group of City or Highway weighted group tests which may span multiple input records. This is only needed when spanning multiple input records for a group of city or highway tests. A-Z, 1-9

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Field Name	Record Type	Transaction Type					Position	Length	Data Type	Valid Range/Entry Criteria
		Add	Replace	Delete	Require	Optional				
City Highway Indicator	FT	R	R			15-15	1	A	C - City Test H - Highway Test	
Test Group Weighting	FT	X	X			17-20	4 (3,2)	R	0.01-0.99	
Test Number	FT	R	R			22-28	7	I	Valid existing test number	
Vehicle Configuration Number	FT	R	R			30-31	2	I	Vehicle configuration number the test is entered against.	
Input Record Type	FS	R	R			1-2	2	A	FS (FS record may be entered as a separate transaction with a ZZ record.)	
Process Code	FS	X	R			3-3	1	A	For Add: 'A' or blank - '' For Replace: 'R'	
Manufacturer Code	FS	R	R	R	R	4-7	4	I	Valid MANUFACTURER CODE	
Model Year	FS	R	R	R	R	9-12	4	I	1970-2100	
Compliance Category	FS	R	R	R	R	14-14	1	A	1 - Domestic Passenger Vehicles 2 - Import Passenger Vehicles 7 - Domestic Light Trucks 8 - Import Light Trucks A - Domestic Passenger Vehicles - Baseline Calculation (without extra credit for dual fuel, alternative fueled vehicles) B - Import Passenger Vehicles - Baseline Calculation (without extra credit for dual fuel, alternative fueled vehicles) C - Light Trucks - Baseline Calculation (without extra credit for dual fuel, alternative fueled vehicles)	
Total Sales	FS	R	R			16-22	7	I	0000000-9999999	
Average FE Unadjusted 4 Decimal	FS	R	R			24-30	7 (6,4)	R	Note: The mpg value entered may exceed the 1.2 mpg maximum credit allowed for production of dual fuel, alternative fueled vehicles. 00.0000-99.9999	
Average FE Unadjusted 1 Decimal	FS	R	R			32-35	4 (3,1)	R	Note: The mpg value entered may exceed the 1.2 maximum credit allowed for production of dual fuel, alternative fueled vehicles. 00.0-99.9	

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	R e c o r d  T y p e	A d d	R e p l a c e	D e l e t e	R e p r o c e s s				
Average FE Adjusted	FS	R	R			37-40	4 (3,1)	R	<i>Note:</i> The mpg value entered may exceed the 1.2 mpg maximum credit allowed for production of dual fuel, alternative fueled vehicles. 00.0-99.9
Applicable Standard	FS	R	R			42-45	4 (3,1)	R	00.0-99.9
Official CAFE MPG Value	FS	X	X			47-50 (new)	4 (3,1)	R	<i>Note:</i> The mpg value entered should <u>not</u> exceed the 1.2 mpg maximum credit allowed for production of dual fuel, alternative fueled vehicles. 00.0 - 99.9 If not entered for compliance category 1, 2, 7 or 8, "Average FE Adjusted" will be used. Leave this field blank for compliance category A, B or C.
EOT Input Record Type Code	ZZ	R	R	R	R	1-2	2	A	ZZ - End of Transaction

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