

The CONTENTS Procedure

Data Set Name	WORK.IMPORT	Observations	38113
Member Type	DATA	Variables	80
Engine	V9	Indexes	0
Created	05/28/2024 22:14:03	Observation Length	640
Last Modified	05/28/2024 22:14:03	Deleted Observations	0
Protection		Compressed	NO
Data Set Type		Sorted	NO
Label			
Data Representation	SOLARIS_X86_64, LINUX_X86_64, ALPHA_TRU64, LINUX_IA64		
Encoding	utf-8 Unicode (UTF-8)		

Engine/Host Dependent Information	
Data Set Page Size	131072
Number of Data Set Pages	187
First Data Page	1
Max Obs per Page	204
Obs in First Data Page	183
Number of Data Set Repairs	0
Filename	/saswork/SAS_work580800012396_odaws01-usw2-2.oda.sas.com/SAS_workAEB500012396_odaws01-usw2-2.oda.sas.com/import.sas7bdat
Release Created	9.0401M7
Host Created	Linux
Inode Number	2080376901
Access Permission	rw-r--r--
Owner Name	u63660163
File Size	24MB
File Size (bytes)	24641536

Alphabetic List of Variables and Attributes					
#	Variable	Type	Len	Format	Informat
57	2D Luggage Volume	Num	8	BEST12.	BEST32.
56	2D Passenger Volume	Num	8	BEST12.	BEST32.
59	4D Luggage Volume	Num	8	BEST12.	BEST32.
58	4D Passenger Volume	Num	8	BEST12.	BEST32.
68	Alternate Charger	Char	1	\$1.	\$1.
63	Alternative Fuel/Technology	Char	1	\$1.	\$1.
47	Annual Consumption in Barrels (F	Num	8	BEST12.	BEST32.
43	Annual Fuel Cost (FT1)	Num	8	BEST12.	BEST32.
44	Annual Fuel Cost (FT2)	Num	8	BEST12.	BEST32.
23	City Electricity Consumption	Num	8	BEST12.	BEST32.
22	City Gasoline Consumption (CD)	Num	8	BEST12.	BEST32.
18	City MPG (FT1)	Num	8	BEST12.	BEST32.
20	City MPG (FT2)	Num	8	BEST12.	BEST32.
76	City Range (FT1)	Num	8	BEST12.	BEST32.
79	City Range (FT2)	Num	8	BEST12.	BEST32.
24	City Utility Factor	Num	8	BEST12.	BEST32.
5	Class	Char	27	\$27.	\$27.

Alphabetic List of Variables and Attributes					
#	Variable	Type	Len	Format	Informat
40	Combined Electricity Consumption	Num	8	BEST12.	BEST32.
41	Combined Gasoline Consumption (C	Num	8	BEST12.	BEST32.
36	Combined MPG (FT1)	Num	8	BEST12.	BEST32.
38	Combined MPG (FT2)	Num	8	BEST12.	BEST32.
42	Combined Utility Factor	Num	8	BEST12.	BEST32.
72	Composite City MPG	Num	8	BEST12.	BEST32.
74	Composite Combined MPG	Num	8	BEST12.	BEST32.
73	Composite Highway MPG	Num	8	BEST12.	BEST32.
6	Drive	Char	26	\$26.	\$26.
64	Electric Motor	Char	1	\$1.	\$1.
11	Engine Cylinders	Num	8	BEST12.	BEST32.
10	Engine Descriptor	Char	19	\$19.	\$19.
12	Engine Displacement	Num	8	BEST12.	BEST32.
9	Engine Index	Num	8	BEST12.	BEST32.
52	Fuel Economy Score	Num	8	BEST12.	BEST32.
15	Fuel Type	Char	7	\$7.	\$7.
16	Fuel Type 1	Char	16	\$16.	\$16.
17	Fuel Type 2	Char	1	\$1.	\$1.
53	GHG Score	Num	8	BEST12.	BEST32.
54	GHG Score (Alt Fuel)	Num	8	BEST12.	BEST32.
45	Gas Guzzler Tax	Char	1	\$1.	\$1.
66	Gasoline/Electricity Blended (CD	Char	5	\$5.	\$5.
61	Hatchback Luggage Volume	Num	8	BEST12.	BEST32.
60	Hatchback Passenger Volume	Num	8	BEST12.	BEST32.
30	Highway Electricity Consumption	Num	8	BEST12.	BEST32.
29	Highway Gasoline Consumption (CD	Num	8	BEST12.	BEST32.
25	Highway MPG (FT1)	Num	8	BEST12.	BEST32.
27	Highway MPG (FT2)	Num	8	BEST12.	BEST32.
77	Highway Range (FT1)	Num	8	BEST12.	BEST32.
80	Highway Range (FT2)	Num	8	BEST12.	BEST32.
31	Highway Utility Factor	Num	8	BEST12.	BEST32.
69	Hours to Charge (120V)	Num	8	BEST12.	BEST32.
70	Hours to Charge (240V)	Num	8	BEST12.	BEST32.
71	Hours to Charge (AC 240V)	Num	8	BEST12.	BEST32.
3	Make	Char	27	\$27.	\$27.
65	Manufacturer Code	Char	1	\$1.	\$1.
4	Model	Char	18	\$18.	\$18.
55	My MPG Data	Char	1	\$1.	\$1.
75	Range (FT1)	Num	8	BEST12.	BEST32.
78	Range (FT2)	Char	1	\$1.	\$1.
46	Save or Spend (5 Year)	Num	8	BEST12.	BEST32.
62	Start Stop Technology	Char	1	\$1.	\$1.
14	Supercharger	Char	1	\$1.	\$1.
48	Tailpipe CO2 (FT1)	Num	8	BEST12.	BEST32.
50	Tailpipe CO2 (FT2)	Num	8	BEST12.	BEST32.
49	Tailpipe CO2 in Grams/Mile (FT1)	Num	8	BEST12.	BEST32.
51	Tailpipe CO2 in Grams/Mile (FT2)	Num	8	BEST12.	BEST32.
7	Transmission	Char	17	\$17.	\$17.

Alphabetic List of Variables and Attributes					
#	Variable	Type	Len	Format	Informat
8	Transmission Descriptor	Char	1	\$1.	\$1.
13	Turbocharger	Char	1	\$1.	\$1.
32	Unadjusted City MPG (FT1)	Num	8	BEST12.	BEST32.
34	Unadjusted City MPG (FT2)	Num	8	BEST12.	BEST32.
33	Unadjusted Highway MPG (FT1)	Num	8	BEST12.	BEST32.
35	Unadjusted Highway MPG (FT2)	Num	8	BEST12.	BEST32.
19	Unrounded City MPG (FT1)	Num	8	BEST12.	BEST32.
21	Unrounded City MPG (FT2)	Num	8	BEST12.	BEST32.
37	Unrounded Combined MPG (FT1)	Num	8	BEST12.	BEST32.
39	Unrounded Combined MPG (FT2)	Num	8	BEST12.	BEST32.
26	Unrounded Highway MPG (FT1)	Num	8	BEST12.	BEST32.
28	Unrounded Highway MPG (FT2)	Num	8	BEST12.	BEST32.
67	Vehicle Charger	Char	1	\$1.	\$1.
1	Vehicle ID	Num	8	BEST12.	BEST32.
2	Year	Num	8	BEST12.	BEST32.

The CONTENTS Procedure

Data Set Name	WORK.IMPORT1	Observations	119
Member Type	DATA	Variables	5
Engine	V9	Indexes	0
Created	05/28/2024 22:14:06	Observation Length	128
Last Modified	05/28/2024 22:14:06	Deleted Observations	0
Protection		Compressed	NO
Data Set Type		Sorted	NO
Label			
Data Representation	SOLARIS_X86_64, LINUX_X86_64, ALPHA_TRU64, LINUX_IA64		
Encoding	utf-8 Unicode (UTF-8)		

Engine/Host Dependent Information	
Data Set Page Size	131072
Number of Data Set Pages	1
First Data Page	1
Max Obs per Page	1022
Obs in First Data Page	119
Number of Data Set Repairs	0
Filename	/saswork/SAS_work580800012396_odaws01-usw2-2.oda.sas.com/SAS_workAEB500012396_odaws01-usw2-2.oda.sas.com/import1.sas7bdat
Release Created	9.0401M7
Host Created	Linux
Inode Number	2080376898
Access Permission	rw-r--r--
Owner Name	u63660163
File Size	256KB
File Size (bytes)	262144

Alphabetic List of Variables and Attributes					
#	Variable	Type	Len	Format	Informat
4	Average Fuel Efficiency	Num	8	BEST12.	BEST32.
1	Date	Num	8	DATE7.	ANYDTDTE7.
5	Equipment Number	Num	8	BEST12.	BEST32.
2	Vehicle Class	Char	48	\$48.	\$48.
3	Vehicle Year, Make, & Model	Char	50	\$50.	\$50.

The CONTENTS Procedure

Data Set Name	WORK.IMPORT2	Observations	106
Member Type	DATA	Variables	14
Engine	V9	Indexes	0
Created	05/28/2024 22:14:10	Observation Length	136
Last Modified	05/28/2024 22:14:10	Deleted Observations	0
Protection		Compressed	NO
Data Set Type		Sorted	NO
Label			
Data Representation	SOLARIS_X86_64, LINUX_X86_64, ALPHA_TRU64, LINUX_IA64		
Encoding	utf-8 Unicode (UTF-8)		

Engine/Host Dependent Information	
Data Set Page Size	131072
Number of Data Set Pages	1
First Data Page	1
Max Obs per Page	962
Obs in First Data Page	106
Number of Data Set Repairs	0
Filename	/saswork/SAS_work580800012396_odaws01-usw2-2.oda.sas.com/SAS_workAEB500012396_odaws01-usw2-2.oda.sas.com/import2.sas7bdat
Release Created	9.0401M7
Host Created	Linux
Inode Number	2080376903
Access Permission	rw-r--r--
Owner Name	u63660163
File Size	256KB
File Size (bytes)	262144

Alphabetic List of Variables and Attributes					
#	Variable	Type	Len	Format	Informat
11	ACTUAL FUEL ECONOMY Geotab	Num	8	BEST12.	BEST32.
10	EPA EXPECTED FUEL	Num	8	BEST12.	BEST32.
6	EPA RATING (CITY)	Num	8	BEST12.	BEST32.
13	ESTIMATED FUEL COSTS PER GALLON	Char	15	\$15.	\$15.
14	FUEL COSTS PER MILE	Num	8	NLNUM12.	NLNUM32.
4	Hybrid/Non-Hybrid	Char	10	\$10.	\$10.
2	MAKE	Char	9	\$9.	\$9.
3	MODEL	Char	17	\$17.	\$17.

Alphabetic List of Variables and Attributes					
#	Variable	Type	Len	Format	Informat
12	PERCENT % DIFFERENCE ACTUAL TO E	Num	8	BEST12.	BEST32.
5	STANDARD TYPE	Char	6	\$6.	\$6.
9	TOTAL ACTUAL FUEL	Num	8	BEST12.	BEST32.
8	TOTAL ACTUAL MILES	Num	8	BEST12.	BEST32.
7	Vehicle Count	Num	8	BEST12.	BEST32.
1	YEAR	Num	8	BEST12.	BEST32.

The CONTENTS Procedure

Data Set Name	WORK.COMBINED	Observations	37979
Member Type	DATA	Variables	96
Engine	V9	Indexes	0
Created	05/28/2024 22:14:14	Observation Length	856
Last Modified	05/28/2024 22:14:14	Deleted Observations	359
Protection		Compressed	NO
Data Set Type		Sorted	NO
Label			
Data Representation	SOLARIS_X86_64, LINUX_X86_64, ALPHA_TRU64, LINUX_IA64		
Encoding	utf-8 Unicode (UTF-8)		

Engine/Host Dependent Information	
Data Set Page Size	131072
Number of Data Set Pages	251
First Data Page	1
Max Obs per Page	153
Obs in First Data Page	134
Number of Data Set Repairs	0
Filename	/saswork/SAS_work580800012396_odaws01-usw2-2.oda.sas.com/SAS_workAEB500012396_odaws01-usw2-2.oda.sas.com/combined.sas7bdat
Release Created	9.0401M7
Host Created	Linux
Inode Number	2080376905
Access Permission	rw-r--r--
Owner Name	u63660163
File Size	32MB
File Size (bytes)	33030144

Alphabetic List of Variables and Attributes					
#	Variable	Type	Len	Format	Informat
57	2D Luggage Volume	Num	8	BEST12.	BEST32.
56	2D Passenger Volume	Num	8	BEST12.	BEST32.
59	4D Luggage Volume	Num	8	BEST12.	BEST32.
58	4D Passenger Volume	Num	8	BEST12.	BEST32.
68	Alternate Charger	Char	1	\$1.	\$1.
63	Alternative Fuel/Technology	Char	1	\$1.	\$1.
47	Annual Consumption in Barrels (F	Num	8	BEST12.	BEST32.

Alphabetic List of Variables and Attributes					
#	Variable	Type	Len	Format	Informat
44	Annual Fuel Cost (FT2)	Num	8	BEST12.	BEST32.
48	CO2_emissions	Num	8	BEST12.	BEST32.
23	City Electricity Consumption	Num	8	BEST12.	BEST32.
22	City Gasoline Consumption (CD)	Num	8	BEST12.	BEST32.
20	City MPG (FT2)	Num	8	BEST12.	BEST32.
76	City Range (FT1)	Num	8	BEST12.	BEST32.
79	City Range (FT2)	Num	8	BEST12.	BEST32.
24	City Utility Factor	Num	8	BEST12.	BEST32.
5	Class	Char	27	\$27.	\$27.
40	Combined Electricity Consumption	Num	8	BEST12.	BEST32.
41	Combined Gasoline Consumption (C	Num	8	BEST12.	BEST32.
36	Combined MPG (FT1)	Num	8	BEST12.	BEST32.
38	Combined MPG (FT2)	Num	8	BEST12.	BEST32.
42	Combined Utility Factor	Num	8	BEST12.	BEST32.
72	Composite City MPG	Num	8	BEST12.	BEST32.
74	Composite Combined MPG	Num	8	BEST12.	BEST32.
73	Composite Highway MPG	Num	8	BEST12.	BEST32.
81	Date	Num	8	DATE7.	ANYDTDTE7.
6	Drive	Char	26	\$26.	\$26.
92	EPA EXPECTED FUEL	Num	8	BEST12.	BEST32.
88	EPA RATING (CITY)	Num	8	BEST12.	BEST32.
95	ESTIMATED FUEL COSTS PER GALLON	Char	15	\$15.	\$15.
64	Electric Motor	Char	1	\$1.	\$1.
11	Engine Cylinders	Num	8	BEST12.	BEST32.
10	Engine Descriptor	Char	19	\$19.	\$19.
9	Engine Index	Num	8	BEST12.	BEST32.
85	Equipment Number	Num	8	BEST12.	BEST32.
96	FUEL COSTS PER MILE	Num	8	NLNUM12.	NLNUM32.
52	Fuel Economy Score	Num	8	BEST12.	BEST32.
15	Fuel Type	Char	7	\$7.	\$7.
16	Fuel Type 1	Char	16	\$16.	\$16.
17	Fuel Type 2	Char	1	\$1.	\$1.
53	GHG Score	Num	8	BEST12.	BEST32.
54	GHG Score (Alt Fuel)	Num	8	BEST12.	BEST32.
45	Gas Guzzler Tax	Char	1	\$1.	\$1.
66	Gasoline/Electricity Blended (CD	Char	5	\$5.	\$5.
61	Hatchback Luggage Volume	Num	8	BEST12.	BEST32.
60	Hatchback Passenger Volume	Num	8	BEST12.	BEST32.
30	Highway Electricity Consumption	Num	8	BEST12.	BEST32.
29	Highway Gasoline Consumption (CD	Num	8	BEST12.	BEST32.
25	Highway MPG (FT1)	Num	8	BEST12.	BEST32.
27	Highway MPG (FT2)	Num	8	BEST12.	BEST32.
77	Highway Range (FT1)	Num	8	BEST12.	BEST32.
80	Highway Range (FT2)	Num	8	BEST12.	BEST32.
31	Highway Utility Factor	Num	8	BEST12.	BEST32.
69	Hours to Charge (120V)	Num	8	BEST12.	BEST32.
70	Hours to Charge (240V)	Num	8	BEST12.	BEST32.
71	Hours to Charge (AC 240V)	Num	8	BEST12.	BEST32.

Alphabetic List of Variables and Attributes					
#	Variable	Type	Len	Format	Informat
86	Hybrid/Non-Hybrid	Char	10	\$10.	\$10.
3	Make	Char	27	\$27.	\$27.
65	Manufacturer Code	Char	1	\$1.	\$1.
4	Model	Char	18	\$18.	\$18.
55	My MPG Data	Char	1	\$1.	\$1.
94	PERCENT % DIFFERENCE ACTUAL TO E	Num	8	BEST12.	BEST32.
75	Range (FT1)	Num	8	BEST12.	BEST32.
78	Range (FT2)	Char	1	\$1.	\$1.
87	STANDARD TYPE	Char	6	\$6.	\$6.
46	Save or Spend (5 Year)	Num	8	BEST12.	BEST32.
62	Start Stop Technology	Char	1	\$1.	\$1.
14	Supercharger	Char	1	\$1.	\$1.
91	TOTAL ACTUAL FUEL	Num	8	BEST12.	BEST32.
90	TOTAL ACTUAL MILES	Num	8	BEST12.	BEST32.
50	Tailpipe CO2 (FT2)	Num	8	BEST12.	BEST32.
49	Tailpipe CO2 in Grams/Mile (FT1)	Num	8	BEST12.	BEST32.
51	Tailpipe CO2 in Grams/Mile (FT2)	Num	8	BEST12.	BEST32.
7	Transmission	Char	17	\$17.	\$17.
8	Transmission Descriptor	Char	1	\$1.	\$1.
13	Turbocharger	Char	1	\$1.	\$1.
32	Unadjusted City MPG (FT1)	Num	8	BEST12.	BEST32.
34	Unadjusted City MPG (FT2)	Num	8	BEST12.	BEST32.
33	Unadjusted Highway MPG (FT1)	Num	8	BEST12.	BEST32.
35	Unadjusted Highway MPG (FT2)	Num	8	BEST12.	BEST32.
19	Unrounded City MPG (FT1)	Num	8	BEST12.	BEST32.
21	Unrounded City MPG (FT2)	Num	8	BEST12.	BEST32.
37	Unrounded Combined MPG (FT1)	Num	8	BEST12.	BEST32.
39	Unrounded Combined MPG (FT2)	Num	8	BEST12.	BEST32.
26	Unrounded Highway MPG (FT1)	Num	8	BEST12.	BEST32.
28	Unrounded Highway MPG (FT2)	Num	8	BEST12.	BEST32.
67	Vehicle Charger	Char	1	\$1.	\$1.
82	Vehicle Class	Char	48	\$48.	\$48.
89	Vehicle Count	Num	8	BEST12.	BEST32.
1	Vehicle ID	Num	8	BEST12.	BEST32.
83	Vehicle Year, Make, & Model	Char	50	\$50.	\$50.
2	Year	Num	8	BEST12.	BEST32.
93	actual_fuel_economy	Num	8	BEST12.	BEST32.
43	annual_fuel_cost	Num	8	BEST12.	BEST32.
84	avg_fuel_efficiency	Num	8	BEST12.	BEST32.
18	city_mpg	Num	8	BEST12.	BEST32.
12	engine_displacement	Num	8	BEST12.	BEST32.

The REG Procedure  
Model: MODEL1  
Dependent Variable: CO2\_emissions

Number of Observations Read	37979
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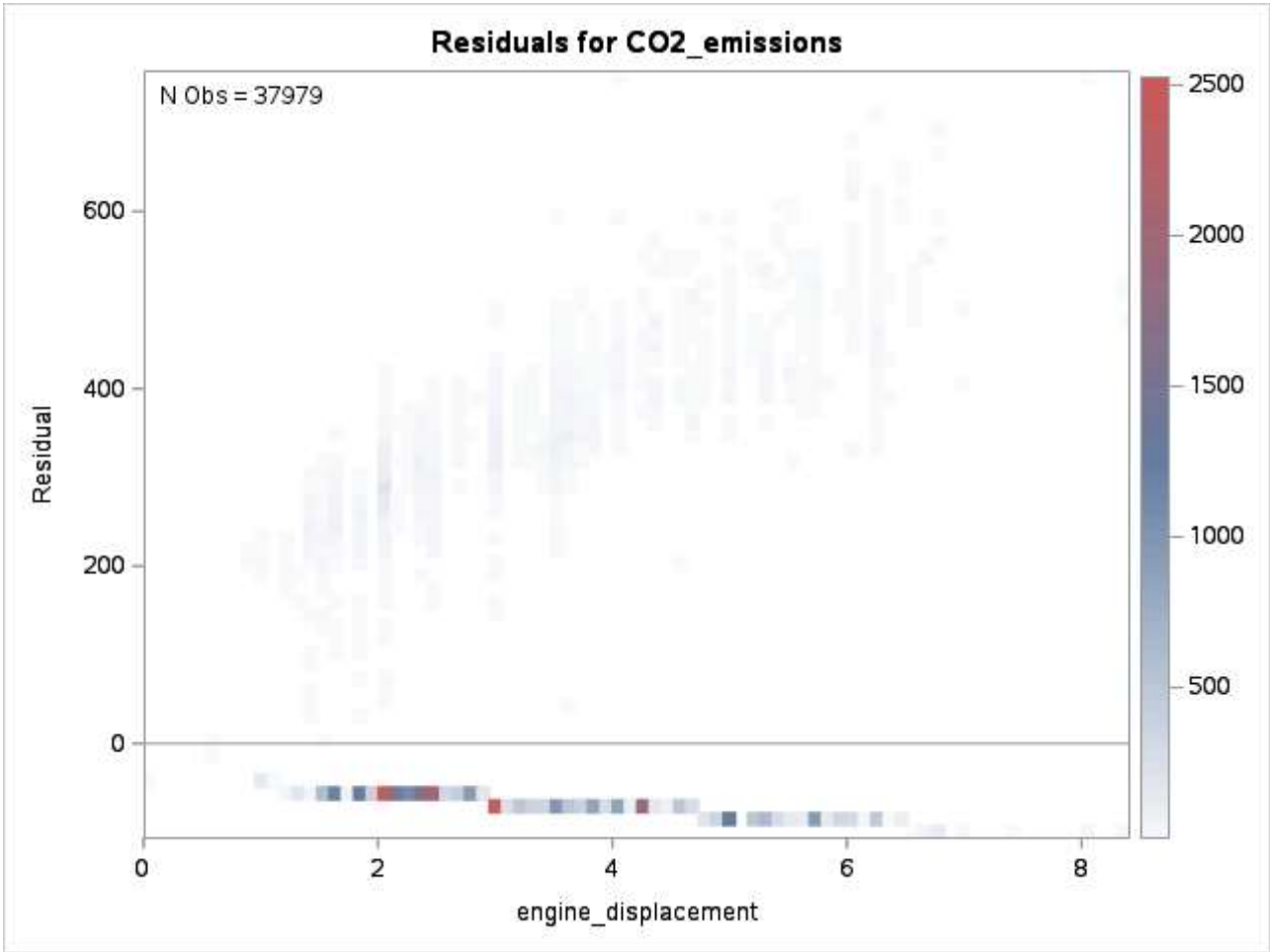
Number of Observations Used	37979
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Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	4383596	4383596	180.11	<.0001
Error	37977	924321190	24339		
Corrected Total	37978	928704786			

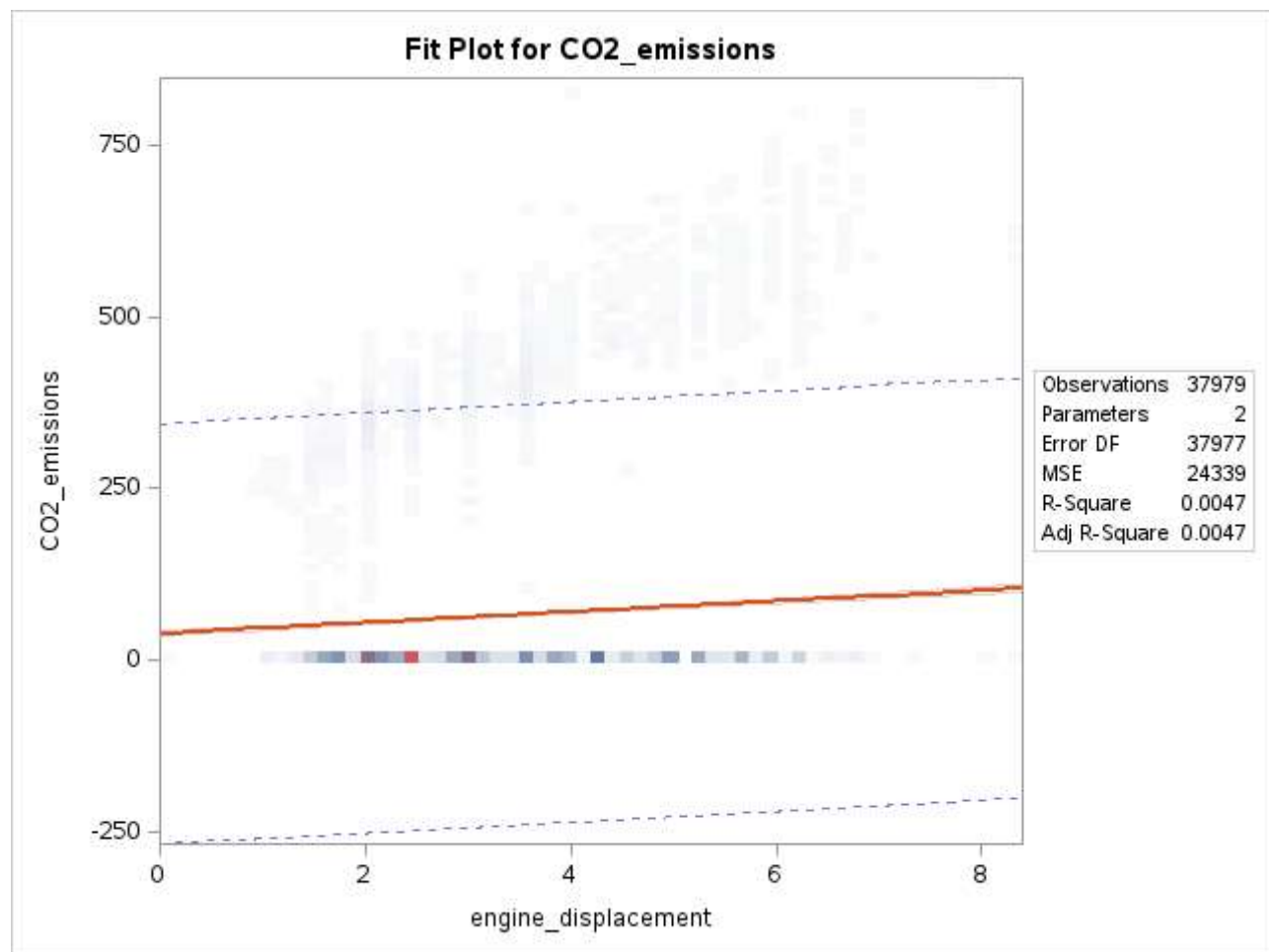
Root MSE	156.00953	R-Square	0.0047
Dependent Mean	64.50865	Adj R-Sq	0.0047
Coeff Var	241.84281		

Parameter Estimates							
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	95% Confidence Limits	
Intercept	1	38.33915	2.10791	18.19	<.0001	34.20758	42.47071
engine_displacement	1	7.88812	0.58777	13.42	<.0001	6.73607	9.04017

The REG Procedure  
Model: MODEL1  
Dependent Variable: CO2\_emissions







The REG Procedure  
Model: MODEL1  
Dependent Variable: CO2\_emissions

Number of Observations Read	37979
Number of Observations Used	37979

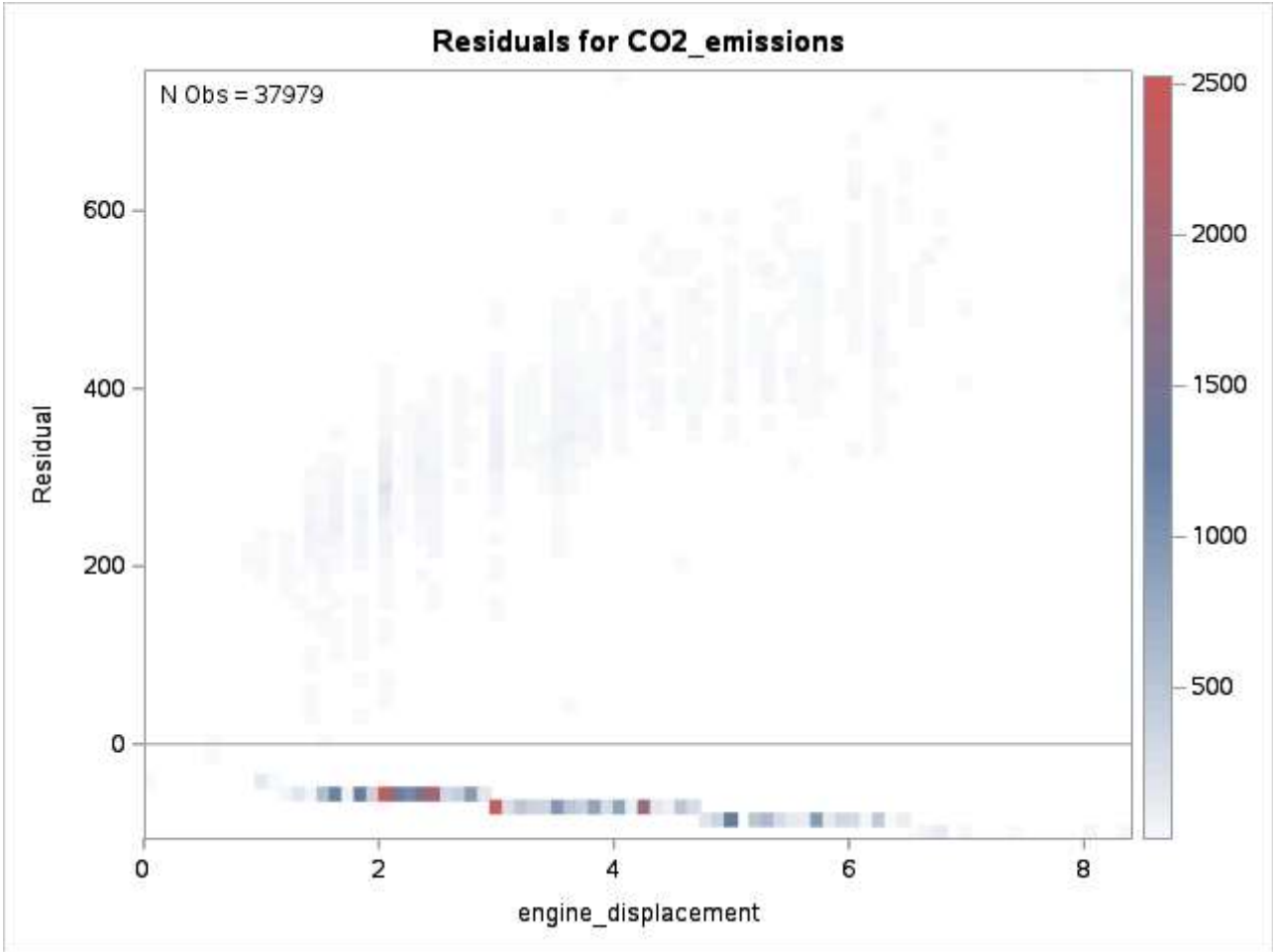
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	4383596	4383596	180.11	<.0001
Error	37977	924321190	24339		
Corrected Total	37978	928704786			

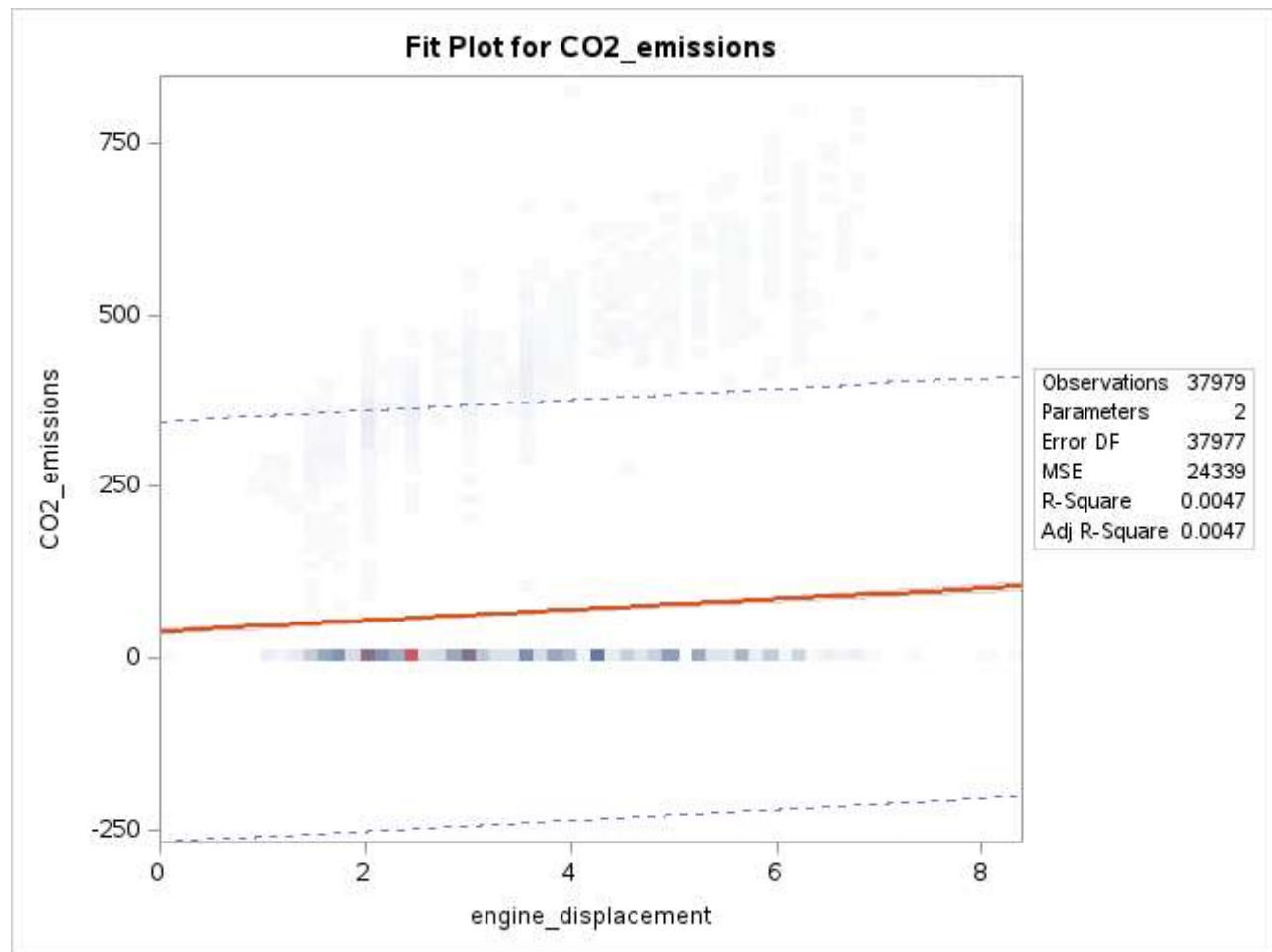
Root MSE	156.00953	R-Square	0.0047
Dependent Mean	64.50865	Adj R-Sq	0.0047
Coeff Var	241.84281		

Parameter Estimates							
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	95% Confidence Limits	
Intercept	1	38.33915	2.10791	18.19	<.0001	34.20758	42.47071

Parameter Estimates							
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	95% Confidence Limits	
engine_displacement	1	7.88812	0.58777	13.42	<.0001	6.73607	9.04017

The REG Procedure  
Model: MODEL1  
Dependent Variable: CO2\_emissions





#### The TTEST Procedure

Variable: city\_mpg

start_stop_technology	Method	N	Mean	Std Dev	Std Err	Minimum	Maximum
N		4545	19.6711	5.1013	0.0757	8.0000	126.0
Y		1766	22.8324	8.4398	0.2008	10.0000	58.0000
Diff (1-2)	Pooled		-3.1613	6.2186	0.1744		
Diff (1-2)	Satterthwaite		-3.1613		0.2146		

start_stop_technology	Method	Mean	95% CL Mean		Std Dev	95% CL Std Dev	
N		19.6711	19.5227	19.8194	5.1013	4.9986	5.2084
Y		22.8324	22.4385	23.2263	8.4398	8.1704	8.7278
Diff (1-2)	Pooled	-3.1613	-3.5032	-2.8195	6.2186	6.1120	6.3290
Diff (1-2)	Satterthwaite	-3.1613	-3.5822	-2.7405			

Method	Variances	DF	t Value	Pr >  t
Pooled	Equal	6309	-18.13	<.0001
Satterthwaite	Unequal	2283.8	-14.73	<.0001

Equality of Variances				
Method	Num DF	Den DF	F Value	Pr > F
Folded F	1765	4544	2.74	<.0001

