

OIL	MILES	ODOMETER	CAR	Vehicle	LNLNODF1	LNLNODFL	FTP Mean	FFE Mean
Z	0	4560.5	F150	1	2.1312257	0	14.97925	22.68
A	500	5256.833333	F150	1	2.1479508	0	15.09883333	23.06
Z	0	9995	F150	1	2.2202725	0	14.68766667	22.48
GF4	500	10656.5	F150	1	2.2272067	0	15.228	23.18
Z	0	15377	F150	1	2.2659863	0	15.008	23
C	500	15947.66667	F150	1	2.2697589	0	15.29633333	23.38
Z	0	20737.33333	F150	1	2.2965359	0	14.86846667	22.9
Z	0	5536.266667	FUSION	1	0 2.1539778	25.98666667		40.82
A	500	6191.375	FUSION	1	0 2.1668699	26.5825		41.48
Z	0	10964.3	FUSION	1	0 2.2302724	26.27333333		40.96
C	500	11715.23333	FUSION	1	0 2.2373685	26.99333333		41.92
Z	0	16472.06667	FUSION	1	0 2.2730967	26.38		41.36
D	500	17101.6	FUSION	1	0 2.2769521	26.87		41.76
Z	0	21874.5	FUSION	1	0 2.3018925	26.3625		41.01
B	500	22519.1	FUSION	1	0 2.3047946	27.25666667		42.1
Z	0	27326.45	FUSION	1	0 2.323917	26.23		40.91
K	500	27979.3	FUSION	1	0 2.3262255	26.98333333		41.9
Z	0	32799.06667	FUSION	1	0 2.3416284	26.48333333		41.27
Z	0	11113.83333	FUSION	2	0 2.2317275	25.89666667		40.75
GF4	500	11790.15	FUSION	2	0 2.2380487	26.69333333		41.54
Z	0	21790.125	FUSION	2	0 2.3015057	26.245		41.33

General Linear Model: FTP Mean versus OIL, CAR, Vehicle

General Linear Model: FFE Mean versus OIL, CAR, Vehicle

Factor Type Levels Values
OIL fixed 7 A, B, C, D, GF4, K, Z
CAR fixed 2 F150, FUSION
Vehicle(CAR) fixed 3 1, 1, 2

Factor Type Levels Values
OIL fixed 7 A, B, C, D, GF4, K, Z
CAR fixed 2 F150, FUSION
Vehicle(CAR) fixed 3 1, 1, 2

Analysis of Variance for FTP Mean, using Adjusted SS for Tests

Analysis of Variance for FFE Mean, using Adjusted SS for Tests

Source	DF	Seq SS	Adj SS	Adj MS	F	P
LNLNODFUSION	1	616.222	0.094	0.094	4.41	0.060
OIL	6	1.893	1.727	0.288	13.45	0.000
CAR	1	0.349	0.343	0.343	16.02	0.002
Vehicle(CAR)	1	0.067	0.067	0.067	3.12	0.105
Error	11	0.235	0.235	0.021		
Total	20	618.766				

Source	DF	Seq SS	Adj SS	Adj MS	F	P
LNLNODFUSION	1	1580.54	0.094	0.094	4.41	0.060
OIL	6	2.75	2.32	0.39	13.45	0.000
CAR	1	1.32	1.32	1.32	16.02	0.002
Vehicle(CAR)	1	0.00	0.00	0.00	3.12	0.105
Error	11	0.50	0.50	0.05		
Total	20	1585.11				

S = 0.146305 R-Sq = 99.96% R-Sq(adj) = 99.93%

S = 0.214153 R-Sq = 99.97% R-Sq(adj) = 99.93%

Term	Coef	SE Coef	T	P
Constant	19.0399	0.9473	20.10	0.000
LNLNODFUSION	1.7391	0.8282	2.10	0.060
OIL				
A	-0.1310	0.1108	-1.18	0.262

Term	Coef	SE Coef	T	P
Constant	30.602	1.387	22.07	0.000
LNLNODFUSION	1.647	1.212	1.36	0.187
OIL				
A	-0.1276	0.1622	-0.79	0.437

B	0.3809	0.1378	2.77	0.018
C	0.1119	0.1016	1.10	0.294
D	0.0427	0.1343	0.32	0.757
GF4	0.0223	0.1135	0.20	0.848
K	0.0703	0.1429	0.49	0.632
CAR				
F150	-3.7324	0.9324	-4.00	0.002
(CAR)Vehicle				
FUSION 1	0.09521	0.05393	1.77	0.105

Unusual Observations for FTP Mean

Obs	FTP Mean	Fit	SE Fit	Residual	St Resid
13	26.8700	26.8700	0.1463	0.0000	* X
15	27.2567	27.2567	0.1463	0.0000	* X
17	26.9833	26.9833	0.1463	0.0000	* X

X denotes an observation whose X value gives it large influence.

Means for Covariates

Covariate	Mean	StDev
LNLNODFUSION	1.510	1.095

Least Squares Means for FTP Mean

OIL	Mean	SE Mean
A	21.53	0.3689
B	22.05	0.3147
C	21.78	0.3411
D	21.71	0.3349
GF4	21.69	0.3411
K	21.74	0.2994
Z	21.17	0.3112
CAR		
F150	17.93	1.2384
FUSION	25.40	0.6298

Tukey Simultaneous Tests

Response Variable FTP Mean
All Pairwise Comparisons among Levels of OIL
OIL = A subtracted from:

OIL	Difference of Means	SE of Difference	Adjusted T-Value	P-Value
B	0.5119	0.2001	2.559	0.2271

B	0.3761	0.2016	1.87	0
C	0.1961	0.1487	1.32	0
D	0.0780	0.1966	0.40	0
GF4	-0.0770	0.1662	-0.46	0
K	0.1355	0.2091	0.65	0
CAR				
F150	-7.316	1.365	-5.36	0
(CAR)Vehicle				
FUSION 1	0.01378	0.07894	0.17	0

Unusual Observations for FFE Mean

Obs	FFE Mean	Fit	SE Fit	Residual	St Resid
13	41.7600	41.7600	0.2142	0	0
15	42.1040	42.1040	0.2142	0	0
17	41.8987	41.8987	0.2142	0	0

X denotes an observation whose X value gives it large influence.

Means for Covariates

Covariate	Mean	StDev
LNLNODFUSION	1.510	1.095

Least Squares Means for FFE Mean

OIL	Mean	SE Mean
A	32.96	0.5400
B	33.47	0.4606
C	33.29	0.4992
D	33.17	0.4902
GF4	33.01	0.4992
K	33.22	0.4383
Z	32.51	0.4555
CAR		
F150	25.77	1.8127
FUSION	40.40	0.9219

Tukey Simultaneous Tests

Response Variable FFE Mean
All Pairwise Comparisons among Levels of OIL
OIL = A subtracted from:

OIL	Difference of Means	SE of Difference	Adjusted T-Value	P-Value
B	0.5037	0.2928	1.720	0.1000

C	0.2429	0.1492	1.628	0.6700
D	0.1737	0.1920	0.905	0.9642
GF4	0.1533	0.1586	0.966	0.9516
K	0.2013	0.2078	0.969	0.9511
Z	-0.3662	0.1219	-3.005	0.1178

C	0.3236	0.2184	1.482	
D	0.2055	0.2810	0.731	
GF4	0.0505	0.2322	0.218	
K	0.2631	0.3041	0.865	
Z	-0.4535	0.1784	-2.542	

OIL = B subtracted from:

	Difference of Means	SE of Difference	Adjusted T-Value	Adjusted P-Value
OIL				
C	-0.2691	0.1903	-1.414	0.7846
D	-0.3382	0.2082	-1.625	0.6718
GF4	-0.3586	0.2018	-1.777	0.5861
K	-0.3106	0.2077	-1.496	0.7424
Z	-0.8781	0.1605	-5.472	0.0026

OIL = B subtracted from:

	Difference of Means	SE of Difference	Adjusted T-Value	Adjusted P-Value
OIL				
C	-0.1800	0.2785	-0.646	
D	-0.2981	0.3047	-0.978	
GF4	-0.4532	0.2954	-1.534	
K	-0.2406	0.3040	-0.792	
Z	-0.9572	0.2349	-4.075	

OIL = C subtracted from:

	Difference of Means	SE of Difference	Adjusted T-Value	Adjusted P-Value
OIL				
D	-0.0692	0.1854	-0.373	0.9997
GF4	-0.0895	0.1559	-0.574	0.9964
K	-0.0415	0.1958	-0.212	1.0000
Z	-0.6091	0.1143	-5.330	0.0032

OIL = C subtracted from:

	Difference of Means	SE of Difference	Adjusted T-Value	Adjusted P-Value
OIL				
D	-0.1181	0.2714	-0.435	
GF4	-0.2731	0.2282	-1.197	
K	-0.0606	0.2865	-0.211	
Z	-0.7771	0.1673	-4.646	

OIL = D subtracted from:

	Difference of Means	SE of Difference	Adjusted T-Value	Adjusted P-Value
OIL				
GF4	-0.0204	0.1973	-0.103	1.0000
K	0.0276	0.2109	0.131	1.0000
Z	-0.5399	0.1571	-3.437	0.0603

OIL = D subtracted from:

	Difference of Means	SE of Difference	Adjusted T-Value	Adjusted P-Value
OIL				
GF4	-0.1550	0.2888	-0.537	
K	0.0575	0.3087	0.186	
Z	-0.6590	0.2300	-2.866	

OIL = GF4 subtracted from:

	Difference of Means	SE of Difference	Adjusted T-Value	Adjusted P-Value
OIL				
K	0.0480	0.2070	0.232	1.0000
Z	-0.5195	0.1207	-4.304	0.0153

OIL = GF4 subtracted from:

	Difference of Means	SE of Difference	Adjusted T-Value	Adjusted P-Value
OIL				
K	0.2125	0.3030	0.701	
Z	-0.5040	0.1767	-2.853	

OIL = K subtracted from:

	Difference of Means	SE of Difference	Adjusted T-Value	Adjusted P-Value
OIL				
Z	-0.5675	0.1652	-3.435	0.0605

OIL = K subtracted from:

	Difference of Means	SE of Difference	Adjusted T-Value	Adjusted P-Value
OIL				
Z	-0.7165	0.2418	-2.963	

Tukey Simultaneous Tests
Response Variable FTP Mean
All Pairwise Comparisons among Levels of CAR
CAR = F150 subtracted from:

	Difference	SE of	Adjusted	
CAR	of Means	Difference	T-Value	P-Value
FUSION	7.465	1.865	4.003	0.0021

Tukey Simultaneous Tests
Response Variable FFE Mean
All Pairwise Comparisons among L
CAR = F150 subtracted from:

	Difference	SE of	Ad
CAR	of Means	Difference	T-V
FUSION	14.63	2.730	5.31

COMB Mean

17.68005
 17.87481
 17.40312
 18.00787
 17.79076
 18.11411
 17.65342
 31.06667
 31.705
 31.32667
 32.14333
 31.51806
 32.00445
 31.41474
 32.39741
 31.28133
 32.12819
 31.57215
 30.97766
 31.8097
 31.40258

versus OIL, CAR, Vehicle

General Linear Model: COMB Mean versus OIL, CAR, Ve

GF4, K, Z
FUSION

Factor	Type	Levels	Values
OIL	fixed	7	A, B, C, D, GF4, K, Z
CAR	fixed	2	F150, FUSION
Vehicle(CAR)	fixed	3	1, 1, 2

n, using Adjusted SS for Tests

Analysis of Variance for COMB Mean, using Adjusted SS

Source	DF	Seq SS	Adj SS	Adj MS	F	P
LNLNODFUSION	1	892.828	0.100	0.100	3.81	0.07
OIL	6	2.264	2.032	0.339	12.84	0.000
CAR	1	0.584	0.578	0.578	21.90	0.001
Vehicle(CAR)	1	0.045	0.045	0.045	1.72	0.217
Error	11	0.290	0.290	0.026		
Total	20	896.012				

Source	DF	Seq SS	Adj SS	Adj MS	F	P
LNLNODFUSION	1	892.828	0.100	0.100	3.81	0.07
OIL	6	2.264	2.032	0.339	12.84	0.000
CAR	1	0.584	0.578	0.578	21.90	0.001
Vehicle(CAR)	1	0.045	0.045	0.045	1.72	0.217
Error	11	0.290	0.290	0.026		
Total	20	896.012				

R-Sq(adj) = 99.94%

S = 0.162424 R-Sq = 99.97% R-Sq(adj) = 99.94%

Term	Coef	SE Coef	T	P
Constant	22.943	1.052	21.82	0.000
LNLNODFUSION	1.7940	0.9194	1.95	0.077
OIL				
A	-0.1358	0.1230	-1.10	0.293

Term	Coef	SE Coef	T	P
Constant	22.943	1.052	21.82	0.000
LNLNODFUSION	1.7940	0.9194	1.95	0.077
OIL				
A	-0.1358	0.1230	-1.10	0.293

0.089
 0.214
 0.699
 0.652
 0.530

B	0.3967	0.1529	2.59	0.025
C	0.1398	0.1127	1.24	0.241
D	0.0537	0.1491	0.36	0.725
GF4	-0.0023	0.1260	-0.02	0.986
K	0.0891	0.1586	0.56	0.586
CAR				
F150	-4.845	1.035	-4.68	0.001
(CAR)Vehicle				
FUSION 1	0.07844	0.05987	1.31	0.217

0.000

0.17 0.865

an

Unusual Observations for COMB Mean

Residual Resid
 0.0000 * X
 0.0000 * X
 0.0000 * X

Obs	COMB Mean	Fit	SE Fit	Residual	Resid
13	32.0045	32.0045	0.1624	0.0000	* X
15	32.3974	32.3974	0.1624	-0.0000	* X
17	32.1282	32.1282	0.1624	0.0000	* X

X value gives it large influence.

X denotes an observation whose X value gives it large inf

Means for Covariates

Covariate	Mean	StDev
LNLNODFUSION	1.510	1.095

an

Least Squares Means for COMB Mean

OIL	Mean	SE Mean
A	25.52	0.4095
B	26.05	0.3494
C	25.79	0.3786
D	25.71	0.3718
GF4	25.65	0.3786
K	25.74	0.3324
Z	25.11	0.3455
CAR		
F150	20.81	1.3748
FUSION	30.50	0.6992

Levels of OIL

Tukey Simultaneous Tests
 Response Variable COMB Mean
 All Pairwise Comparisons among Levels of OIL
 OIL = A subtracted from:

Adjusted
 P-Value
 0.6181

OIL	Difference of Means	SE of Difference	Adjusted T-Value	P-Value
B	0.5325	0.2221	2.398	0.2834

0.7497
0.9872
1.0000
0.9710
0.2324

C	0.2756	0.1656	1.664	0.6498
D	0.1895	0.2131	0.889	0.9670
GF4	0.1335	0.1761	0.758	0.9848
K	0.2249	0.2307	0.975	0.9497
Z	-0.4054	0.1353	-2.997	0.1194

OIL = B subtracted from:

Adjusted
P-Value
0.9932
0.9489
0.7219
0.9811
0.0220

	Difference of Means	SE of Difference	Adjusted T-Value	Adjusted P-Value
OIL				
C	-0.2570	0.2112	-1.216	0.8740
D	-0.3430	0.2311	-1.484	0.7486
GF4	-0.3991	0.2241	-1.781	0.5838
K	-0.3077	0.2305	-1.335	0.8232
Z	-0.9379	0.1781	-5.265	0.0036

OIL = C subtracted from:

Adjusted
P-Value
0.9992
0.8817
1.0000
0.0090

	Difference of Means	SE of Difference	Adjusted T-Value	Adjusted P-Value
OIL				
D	-0.0861	0.2059	-0.418	0.9994
GF4	-0.1421	0.1731	-0.821	0.9774
K	-0.0507	0.2173	-0.233	1.0000
Z	-0.6810	0.1269	-5.368	0.0031

OIL = D subtracted from:

Adjusted
P-Value
0.9975
1.0000
0.1454

	Difference of Means	SE of Difference	Adjusted T-Value	Adjusted P-Value
OIL				
GF4	-0.0561	0.2190	-0.256	1.0000
K	0.0353	0.2341	0.151	1.0000
Z	-0.5949	0.1744	-3.411	0.0628

OIL = GF4 subtracted from:

Adjusted
P-Value
0.9897
0.1482

	Difference of Means	SE of Difference	Adjusted T-Value	Adjusted P-Value
OIL				
K	0.0914	0.2298	0.398	0.9995
Z	-0.5389	0.1340	-4.021	0.0239

OIL = K subtracted from:

Adjusted
P-Value
0.1256

	Difference of Means	SE of Difference	Adjusted T-Value	Adjusted P-Value
OIL				
Z	-0.6303	0.1834	-3.436	0.0604

Tukey Simultaneous Tests

Response Variable COMB Mean

All Pairwise Comparisons among Levels of CAR

CAR = F150 subtracted from:

Levels of CAR

Adjusted
Value P-Value
160 0.0002

	Difference of Means	SE of Difference	Adjusted T-Value	P-Value
FUSION	9.689	2.070	4.680	0.0007

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for Tests

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