

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: MSRP**

<b>Number of Observations Read</b>	428
<b>Number of Observations Used</b>	405
<b>Number of Observations with Missing Values</b>	23

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
<b>Model</b>	15	1.150655E11	7671035775	78.14	<.0001
<b>Error</b>	389	38187692707	98168876		
<b>Corrected Total</b>	404	1.532532E11			

<b>Root MSE</b>	9908.02078	<b>R-Square</b>	0.7508
<b>Dependent Mean</b>	32858	<b>Adj R-Sq</b>	0.7412
<b>Coeff Var</b>	30.15425		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
<b>Intercept</b>	1	45462	18730	2.43	0.0157
<b>engineSize</b>	1	-3410.92250	1499.54149	-2.27	0.0235
<b>numCylinders</b>	1	2598.88420	885.62058	2.93	0.0035
<b>Horsepower</b>	1	225.05022	14.74785	15.26	<.0001
<b>cityMPG</b>	1	65.34459	345.10141	0.19	0.8499
<b>hwyMPG</b>	1	592.76815	367.17824	1.61	0.1073
<b>Weight</b>	1	11.51234	2.23491	5.15	<.0001
<b>Wheelbase</b>	1	-620.68930	171.41018	-3.62	0.0003
<b>Length</b>	1	86.06277	89.35228	0.96	0.3361
<b>Width</b>	1	-1048.86246	315.78412	-3.32	0.0010
<b>updatedDriveWheels</b>	1	-155.97680	1510.47237	-0.10	0.9178
<b>isSedan</b>	1	2232.87826	3173.20622	0.70	0.4821
<b>isSportsCar</b>	1	7700.82647	4206.38732	1.83	0.0679
<b>isSUV</b>	1	-1015.93834	3204.47744	-0.32	0.7514
<b>isWagon</b>	1	1759.18046	3540.15692	0.50	0.6195
<b>isMinivan</b>	1	4901.76059	3615.00655	1.36	0.1759

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**Stepwise Selection: Step 1**

Variable Horsepower Entered: R-Square = 0.6873 and C(p) = 87.2172

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
<b>Model</b>	1	1.053255E11	1.053255E11	885.63	<.0001

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Error	403	47927733593	118927379		
Corrected Total	404	1.532532E11			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	-16708	1751.47204	10822048374	91.00	<.0001
Horsepower	230.94570	7.76040	1.053255E11	885.63	<.0001

Bounds on condition number: 1, 1

Stepwise Selection: Step 2

Variable Wheelbase Entered: R-Square = 0.7169 and C(p) = 42.9986

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	1.098627E11	54931362883	508.92	<.0001
Error	402	43390503562	107936576		
Corrected Total	404	1.532532E11			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	29915	7382.06127	1772567142	16.42	<.0001
Horsepower	251.46340	8.04194	1.05535E11	977.75	<.0001
Wheelbase	-473.47529	73.02747	4537230031	42.04	<.0001

Bounds on condition number: 1.1832, 4.7329

Stepwise Selection: Step 3

Variable hwyMPG Entered: R-Square = 0.7207 and C(p) = 39.0920

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	1.104426E11	36814189956	344.83	<.0001
Error	401	42810659461	106759749		
Corrected Total	404	1.532532E11			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	12464	10487	150797028	1.41	0.2353
Horsepower	264.03298	9.64662	79978561784	749.15	<.0001
hwyMPG	292.85492	125.66105	579844101	5.43	0.0203
Wheelbase	-409.96849	77.57212	2981927999	27.93	<.0001

Bounds on condition number: 1.9403, 15.034

Stepwise Selection: Step 4

Variable Weight Entered: R-Square = 0.7310 and C(p) = 24.9850

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	1.120238E11	28005942437	271.71	<.0001
Error	400	41229459580	103073649		

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Corrected Total	404	1.532532E11			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	12904	10305	161622046	1.57	0.2112
Horsepower	253.57187	9.84774	68340253051	663.02	<.0001
hwyMPG	667.36316	156.16781	1882300936	18.26	<.0001
Weight	6.41736	1.63846	1581199881	15.34	0.0001
Wheelbase	-699.18628	106.12427	4474082715	43.41	<.0001

Bounds on condition number: 5.6213, 52.799

Stepwise Selection: Step 5

Variable Width Entered: R-Square = 0.7359 and C(p) = 19.2249

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	1.127856E11	22557114555	222.41	<.0001
Error	399	40467656553	101422698		
Corrected Total	404	1.532532E11			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	45045	15557	850284910	8.38	0.0040
Horsepower	255.30638	9.78904	68988810630	680.21	<.0001
hwyMPG	704.24068	155.49537	2080379031	20.51	<.0001
Weight	8.60348	1.81048	2290323141	22.58	<.0001
Wheelbase	-601.62891	111.12639	2972748333	29.31	<.0001
Width	-725.67529	264.78207	761803028	7.51	0.0064

Bounds on condition number: 6.9752, 91.629

Stepwise Selection: Step 6

Variable isSUV Entered: R-Square = 0.7405 and C(p) = 14.0360

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	6	1.134913E11	18915216271	189.33	<.0001
Error	398	39761931703	99904351		
Corrected Total	404	1.532532E11			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	55951	15976	1225329205	12.27	0.0005
Horsepower	244.12943	10.58656	53126945669	531.78	<.0001
hwyMPG	626.56163	157.07016	1589734579	15.91	<.0001
Weight	10.96910	2.00524	2989480375	29.92	<.0001
Wheelbase	-720.32113	118.98957	3661162086	36.65	<.0001
Width	-744.13024	262.88435	800484343	8.01	0.0049
isSUV	-4987.39914	1876.50023	705724850	7.06	0.0082

Bounds on condition number: 8.6867, 136.54

Stepwise Selection: Step 7

Variable numCylinders Entered: R-Square = 0.7431 and C(p) = 12.0359

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	7	1.13884E11	16269141044	164.06	<.0001
Error	397	39369242020	99166856		
Corrected Total	404	1.532532E11			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	58411	15965	1327431267	13.39	0.0003
numCylinders	1262.87047	634.62523	392689683	3.96	0.0473
Horsepower	229.59998	12.82805	31767943752	320.35	<.0001
hwyMPG	642.26881	156.68828	1666200191	16.80	<.0001
Weight	10.27754	2.02782	2547329025	25.69	<.0001
Wheelbase	-732.84887	118.71660	3778961494	38.11	<.0001
Width	-789.90274	262.92035	895087264	9.03	0.0028
isSUV	-4770.92098	1872.72357	643611267	6.49	0.0112

Bounds on condition number: 8.9496, 194.68

Stepwise Selection: Step 8

Variable engineSize Entered: R-Square = 0.7460 and C(p) = 9.5533

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	8	1.14324E11	14290504202	145.37	<.0001
Error	396	38929195708	98306050		
Corrected Total	404	1.532532E11			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	46833	16811	762928680	7.76	0.0056
engineSize	-3046.79424	1440.07150	440046312	4.48	0.0350
numCylinders	2436.17006	840.70911	825475024	8.40	0.0040
Horsepower	235.58725	13.08200	31881274112	324.31	<.0001
hwyMPG	616.76125	156.47190	1527361048	15.54	<.0001
Weight	10.74925	2.03127	2752953237	28.00	<.0001
Wheelbase	-695.83019	119.48823	3333777007	33.91	<.0001
Width	-675.82453	267.27204	628551822	6.39	0.0118
isSUV	-4517.40569	1868.42408	574655444	5.85	0.0161

Bounds on condition number: 9.166, 322.65

Stepwise Selection: Step 9

Variable isSportsCar Entered: R-Square = 0.7492 and C(p) = 6.5059

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	9	1.148195E11	12757726501	131.12	<.0001
Error	395	38433690822	97300483		
Corrected Total	404	1.532532E11			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	40600	16951	558138692	5.74	0.0171

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
engineSize	-3423.87966	1442.39908	548253117	5.63	0.0181
numCylinders	2671.11194	842.85292	977227267	10.04	0.0016
Horsepower	223.92266	14.00379	24878241487	255.68	<.0001
hwyMPG	665.91451	157.18602	1746321198	17.95	<.0001
Weight	11.40611	2.04171	3036686204	31.21	<.0001
Wheelbase	-546.59194	136.03262	1570924430	16.15	<.0001
Width	-841.64193	275.86739	905667899	9.31	0.0024
isSportsCar	4981.57181	2207.49599	495504886	5.09	0.0246
isSUV	-3773.36485	1887.85778	388717460	4.00	0.0463

Bounds on condition number: 9.2907, 402.86

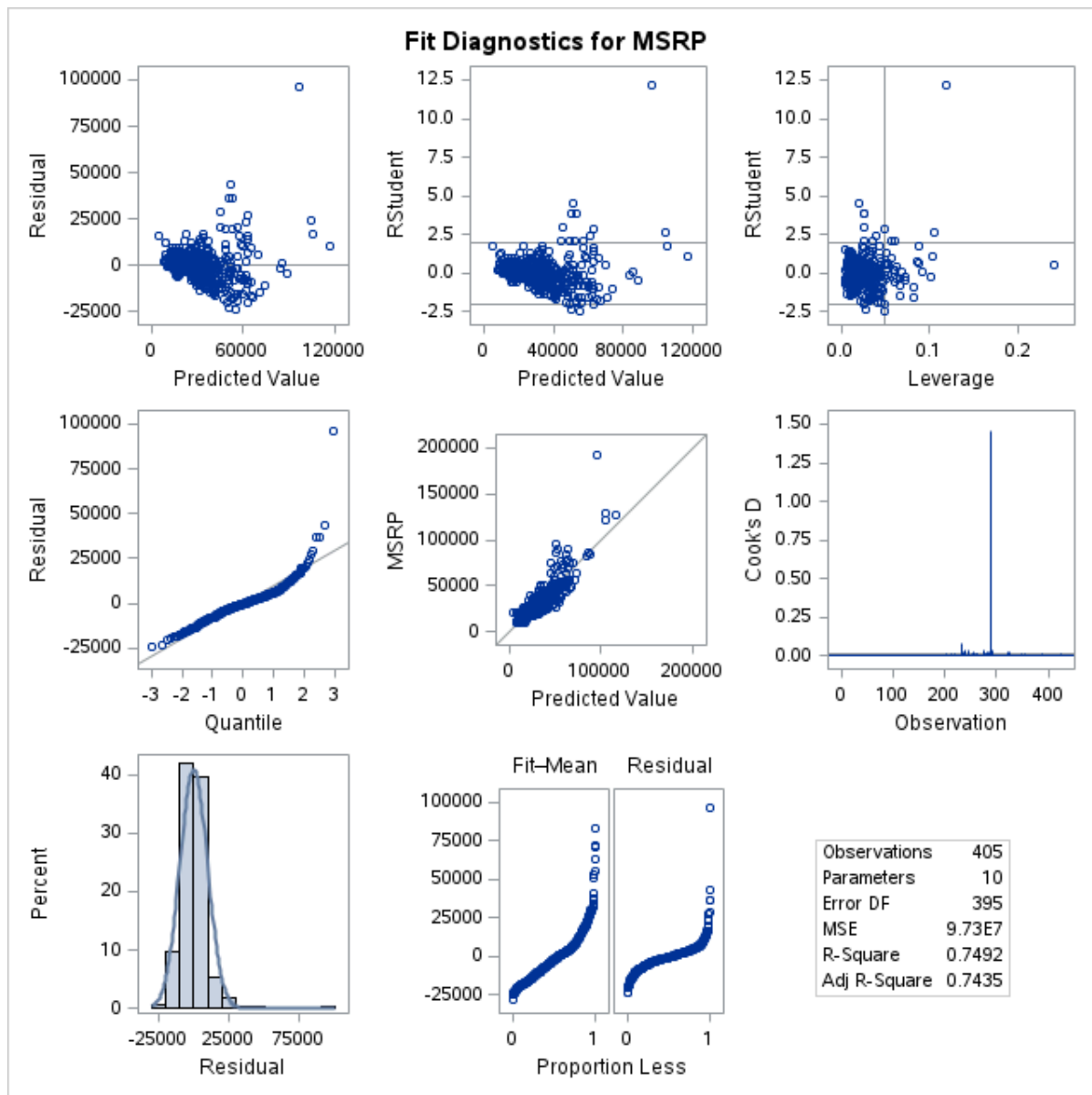
All variables left in the model are significant at the 0.1000 level.

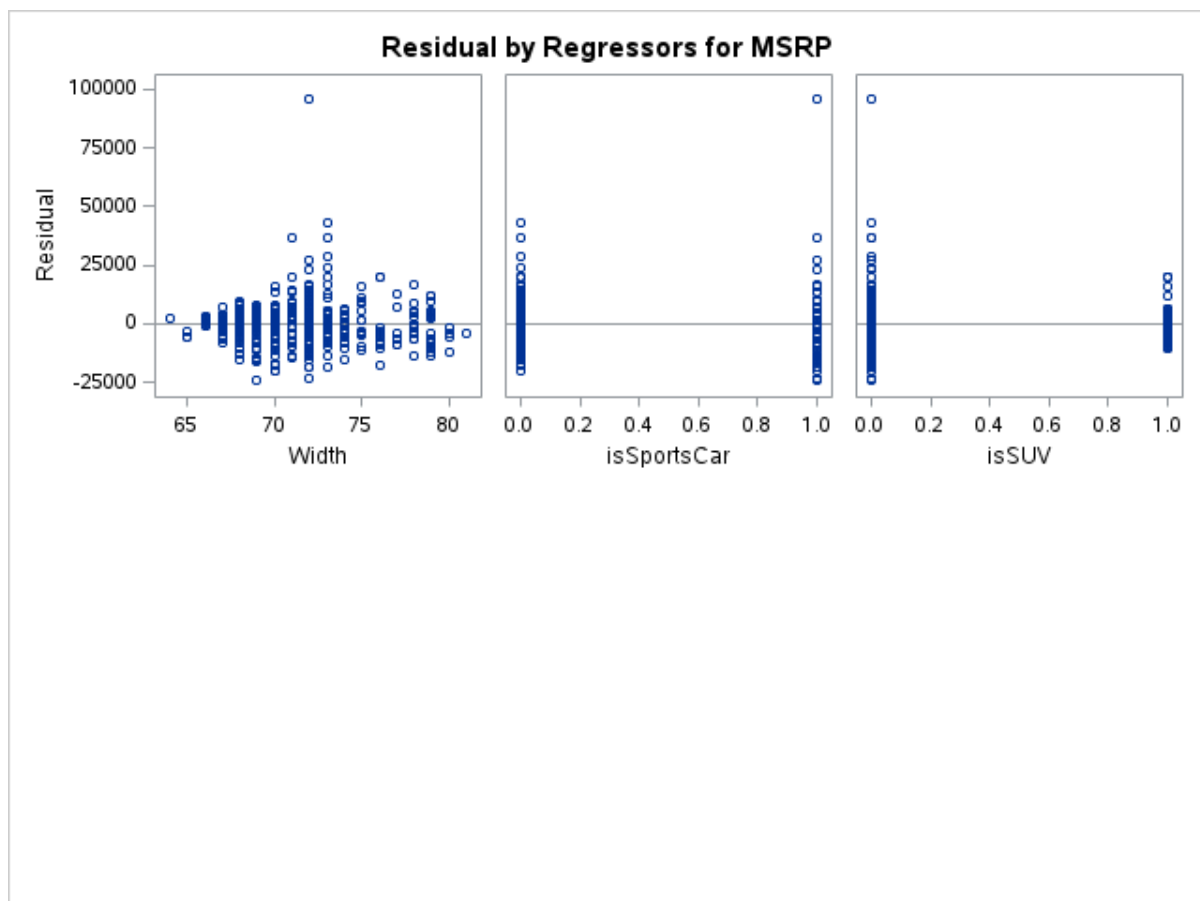
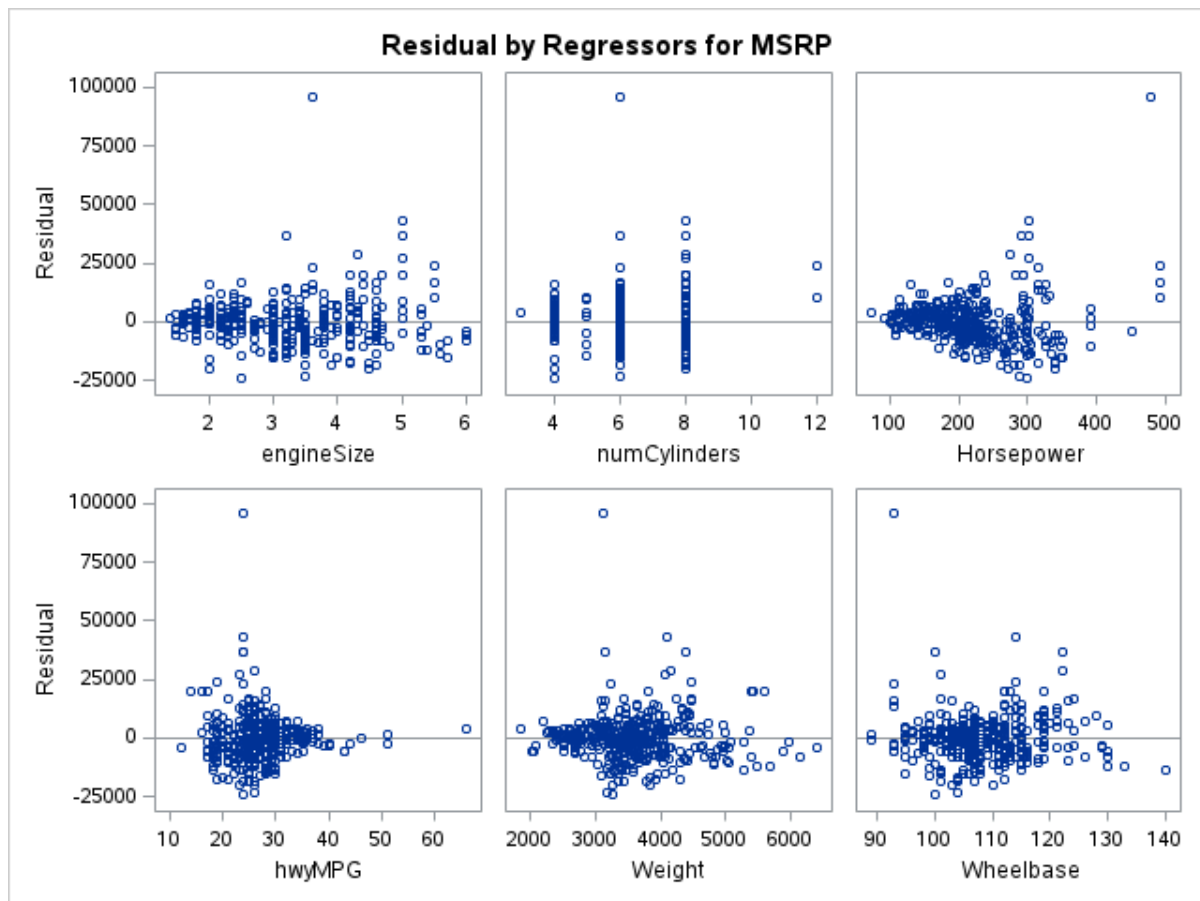
No other variable met the 0.1000 significance level for entry into the model.

Summary of Stepwise Selection								
Step	Variable Entered	Variable Removed	Number Vars In	Partial R-Square	Model R-Square	C(p)	F Value	Pr > F
1	Horsepower		1	0.6873	0.6873	87.2172	885.63	<.0001
2	Wheelbase		2	0.0296	0.7169	42.9986	42.04	<.0001
3	hwyMPG		3	0.0038	0.7207	39.0920	5.43	0.0203
4	Weight		4	0.0103	0.7310	24.9850	15.34	0.0001
5	Width		5	0.0050	0.7359	19.2249	7.51	0.0064
6	isSUV		6	0.0046	0.7405	14.0360	7.06	0.0082
7	numCylinders		7	0.0026	0.7431	12.0359	3.96	0.0473
8	engineSize		8	0.0029	0.7460	9.5533	4.48	0.0350
9	isSportsCar		9	0.0032	0.7492	6.5059	5.09	0.0246

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The REG Procedure  
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Dependent Variable: MSRP





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Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
<b>Model</b>	9	1.148195E11	12757726501	131.12	<.0001
<b>Error</b>	395	38433690822	97300483		
<b>Corrected Total</b>	404	1.532532E11			

<b>Root MSE</b>	9864.10072	<b>R-Square</b>	0.7492
<b>Dependent Mean</b>	32858	<b>Adj R-Sq</b>	0.7435
<b>Coeff Var</b>	30.02058		

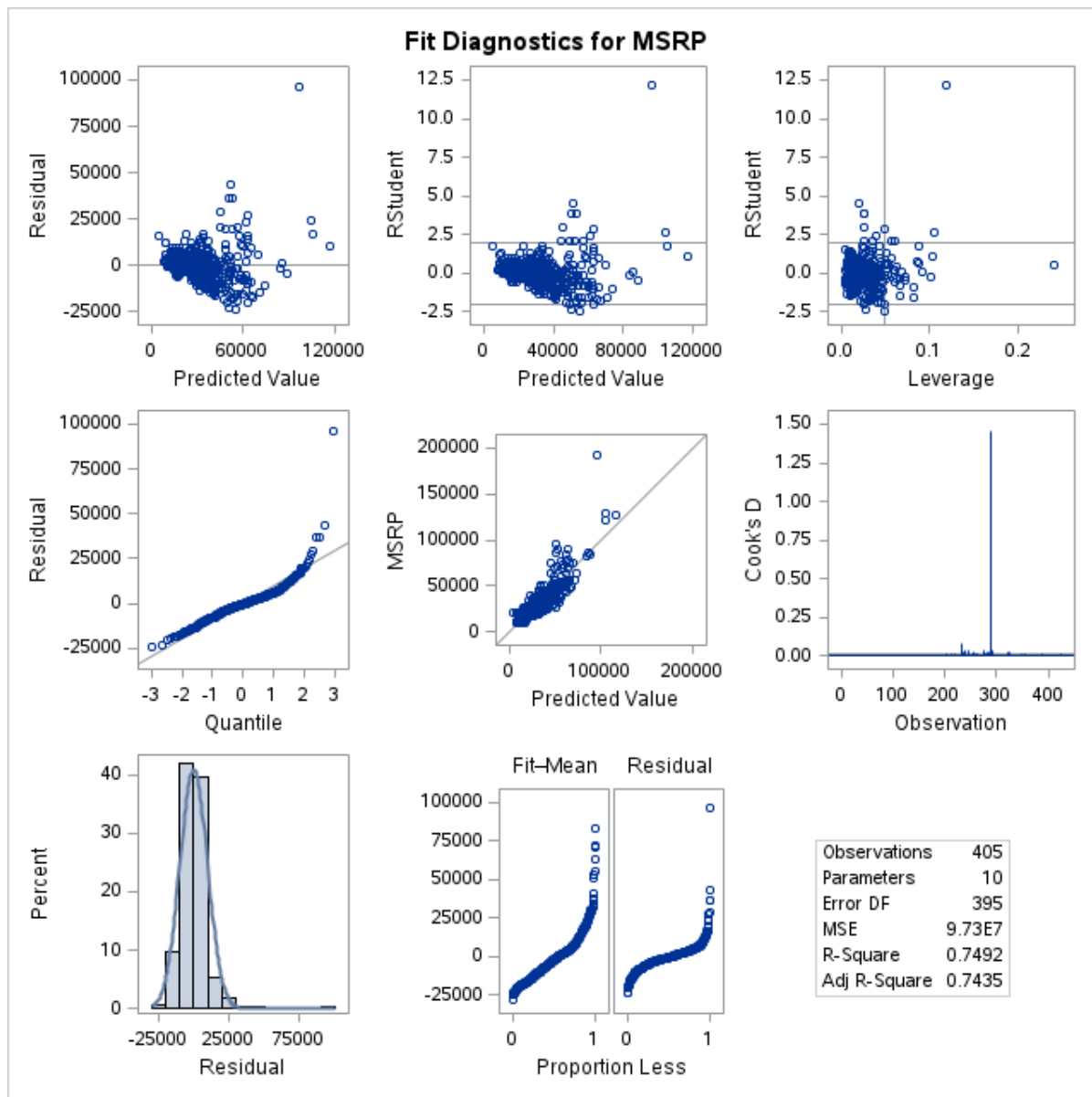
Parameter Estimates						
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variance Inflation
<b>Intercept</b>	1	40600	16951	2.40	0.0171	0
<b>Horsepower</b>	1	223.92266	14.00379	15.99	<.0001	3.98007
<b>Wheelbase</b>	1	-546.59194	136.03262	-4.02	<.0001	4.55443
<b>hwyMPG</b>	1	665.91451	157.18602	4.24	<.0001	3.33103
<b>Weight</b>	1	11.40611	2.04171	5.59	<.0001	9.24662
<b>Width</b>	1	-841.64193	275.86739	-3.05	0.0024	3.89412
<b>isSUV</b>	1	-3773.36485	1887.85778	-2.00	0.0463	1.84628
<b>numCylinders</b>	1	2671.11194	842.85292	3.17	0.0016	6.61614
<b>engineSize</b>	1	-3423.87966	1442.39908	-2.37	0.0181	9.29074
<b>isSportsCar</b>	1	4981.57181	2207.49599	2.26	0.0246	2.00329

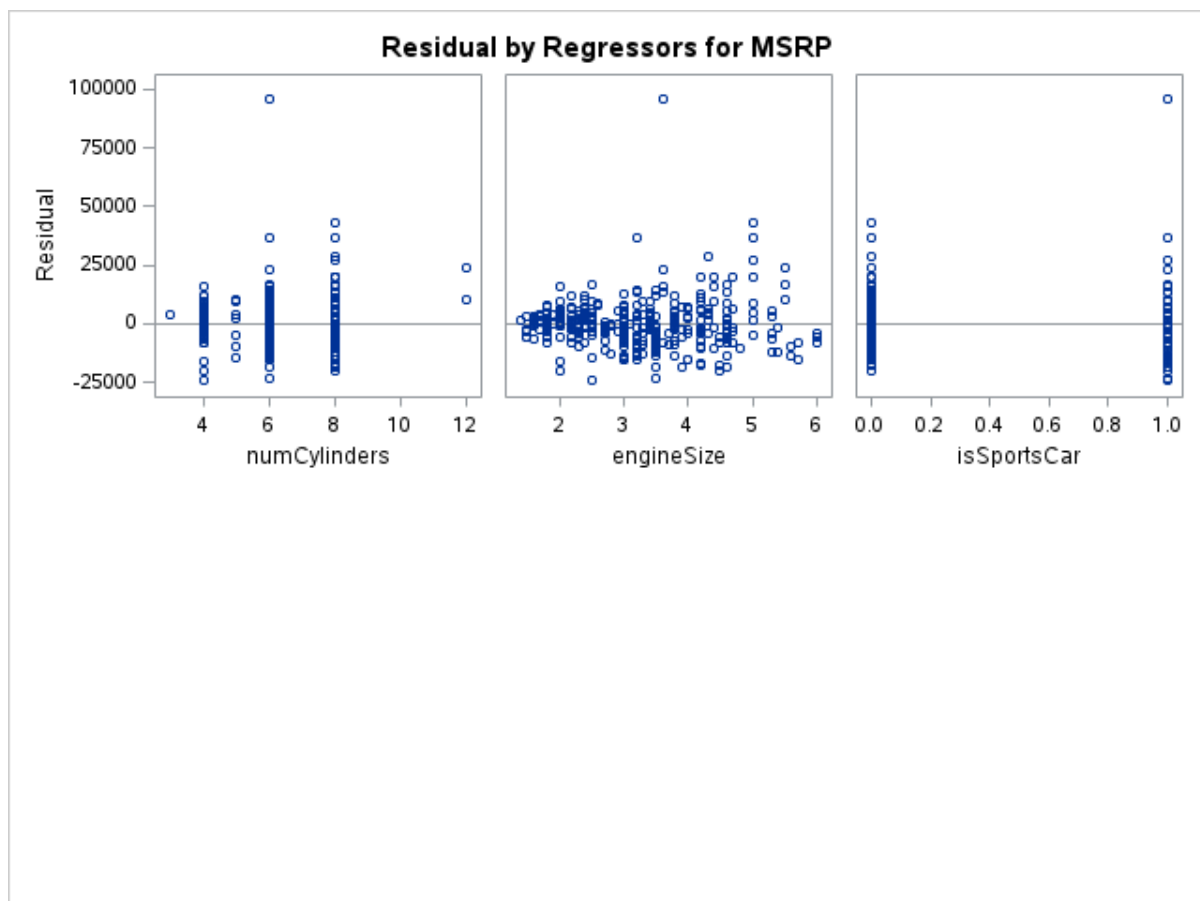
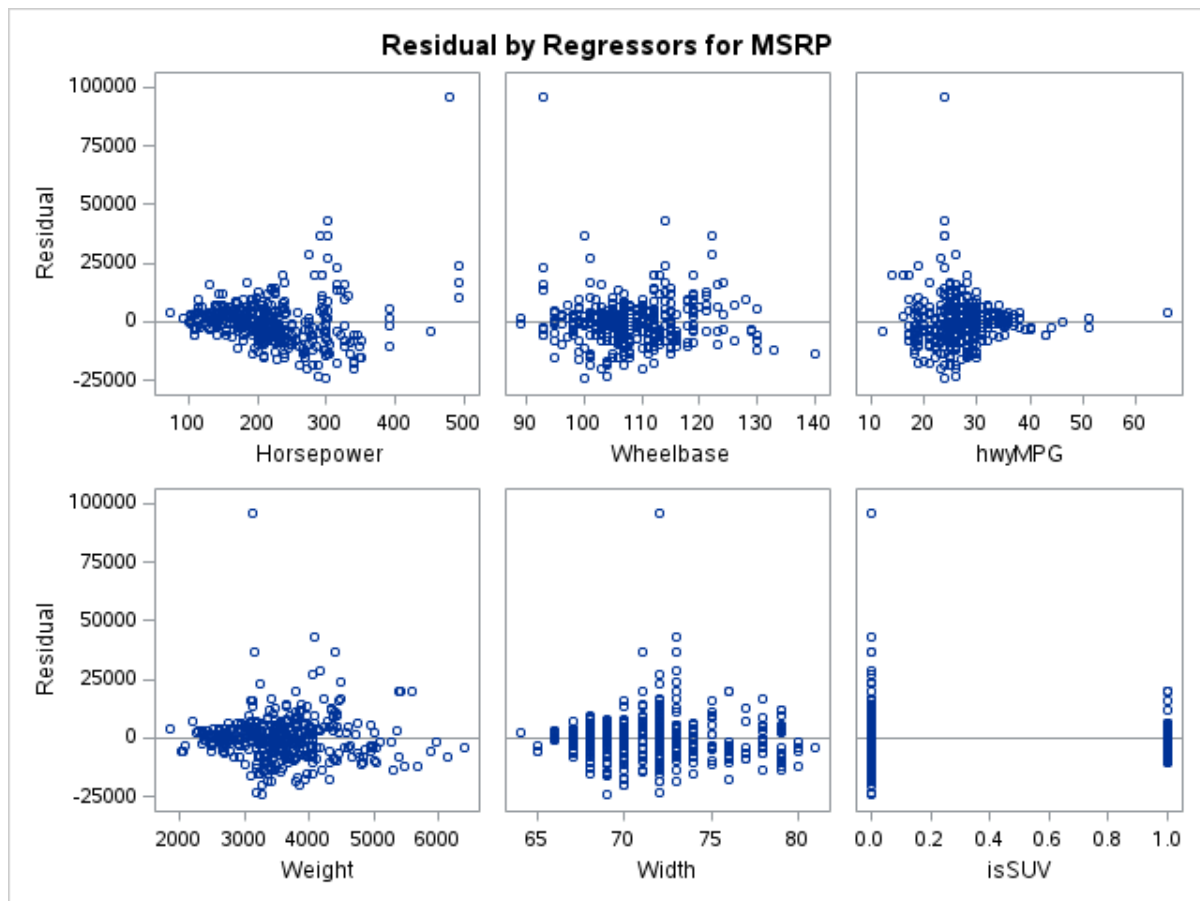
Collinearity Diagnostics (intercept adjusted)											
Number	Eigenvalue	Condition Index	Proportion of Variation								
			Horsepower	Wheelbase	hwyMPG	Weight	Width	isSUV	numCylinders	engineSize	isSportsCar
<b>1</b>	5.27368	1.00000	0.00548	0.00451	0.00750	0.00345	0.00653	0.00321	0.00416	0.00339	0.00000122
<b>2</b>	1.49304	1.87941	0.02671	0.01827	0.00063054	0.00150	0.00336	0.02472	0.00381	0.00091039	0.18566
<b>3</b>	0.98196	2.31744	0.00139	0.03107	0.02560	0.00049309	0.00449	0.38523	0.00237	0.00088917	0.01440
<b>4</b>	0.44297	3.45039	0.04932	0.02052	0.00483	0.00275	0.23308	0.00002620	0.05153	0.00579	0.31143
<b>5</b>	0.31240	4.10869	0.00035618	0.01233	0.58887	0.00470	0.03954	0.19237	0.06113	0.02417	0.00017127
<b>6</b>	0.18644	5.31846	0.71828	0.08687	0.15530	0.00775	0.01459	0.09734	0.13083	0.04464	0.00166
<b>7</b>	0.15153	5.89943	0.12674	0.59040	0.01648	0.00008366	0.53176	0.09321	0.00433	0.02330	0.43053
<b>8</b>	0.08491	7.88094	0.06922	0.18066	0.20043	0.97316	0.15904	0.18807	0.00193	0.00030826	0.01531
<b>9</b>	0.07307	8.49569	0.00252	0.05538	0.00037243	0.00612	0.00762	0.01582	0.73992	0.89660	0.04085

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**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: MSRP**







## The GLM Procedure

Number of Observations Read	428
Number of Observations Used	405

## The GLM Procedure

Dependent Variable: MSRP

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	11	118069572140	10733597467	119.89	<.0001
Error	393	35183657188	89525845.262		
Corrected Total	404	153253229328			

R-Square	Coeff Var	Root MSE	MSRP Mean
0.770421	28.79624	9461.810	32857.80

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Horsepower	1	105325495735	105325495735	1176.48	<.0001
Wheelbase	1	4537230030.7	4537230030.7	50.68	<.0001
hwyMPG	1	579844101.06	579844101.06	6.48	0.0113
Weight	1	1581199881.1	1581199881.1	17.66	<.0001
Width	1	761803027.65	761803027.65	8.51	0.0037
isSUV	1	705724850.03	705724850.03	7.88	0.0052
numCylinders	1	392689682.68	392689682.68	4.39	0.0369
engineSize	1	440046311.72	440046311.72	4.92	0.0272
isSportsCar	1	495504886.31	495504886.31	5.53	0.0191
hwyMPG*Weight	1	16712046.364	16712046.364	0.19	0.6659
Horsepower*isSportsCar	1	3233321587.4	3233321587.4	36.12	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Horsepower	1	12810942942	12810942942	143.10	<.0001
Wheelbase	1	999709899	999709899	11.17	0.0009
hwyMPG	1	177467485	177467485	1.98	0.1599
Weight	1	1450147309	1450147309	16.20	<.0001
Width	1	1063895226	1063895226	11.88	0.0006
isSUV	1	299696068	299696068	3.35	0.0681
numCylinders	1	1383686619	1383686619	15.46	<.0001
engineSize	1	676701817	676701817	7.56	0.0062
isSportsCar	1	1793488046	1793488046	20.03	<.0001
hwyMPG*Weight	1	29409518	29409518	0.33	0.5669
Horsepower*isSportsCar	1	3233321587	3233321587	36.12	<.0001

Parameter	Estimate	Standard Error	t Value	Pr >  t
Intercept	45699.64803	18298.91846	2.50	0.0129
Horsepower	181.84381	15.20135	11.96	<.0001
Wheelbase	-442.37737	132.38236	-3.34	0.0009
hwyMPG	414.64127	294.50139	1.41	0.1599
Weight	10.84378	2.69432	4.02	<.0001
Width	-928.97081	269.48019	-3.45	0.0006
isSUV	-3451.00070	1886.16091	-1.83	0.0681
numCylinders	3226.87985	820.80150	3.93	<.0001
engineSize	-3923.03640	1426.91427	-2.75	0.0062
isSportsCar	-22904.40362	5117.33631	-4.48	<.0001

Parameter	Estimate	Standard Error	t Value	Pr >  t
hwyMPG*Weight	0.06030	0.10520	0.57	0.5669
Horsepowe*isSportsCa	113.55523	18.89544	6.01	<.0001

## The GLM Procedure

Number of Observations Read	428
Number of Observations Used	405

## The GLM Procedure

Dependent Variable: MSRP

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	10	118040162622	11804016262	132.08	<.0001
Error	394	35213066706	89373265.751		
Corrected Total	404	153253229328			

R-Square	Coeff Var	Root MSE	MSRP Mean
0.770230	28.77169	9453.743	32857.80

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Horsepower	1	105325495735	105325495735	1178.49	<.0001
Wheelbase	1	4537230030.7	4537230030.7	50.77	<.0001
hwyMPG	1	579844101.06	579844101.06	6.49	0.0112
Weight	1	1581199881.1	1581199881.1	17.69	<.0001
Width	1	761803027.65	761803027.65	8.52	0.0037
isSUV	1	705724850.03	705724850.03	7.90	0.0052
numCylinders	1	392689682.68	392689682.68	4.39	0.0367
engineSize	1	440046311.72	440046311.72	4.92	0.0271
isSportsCar	1	495504886.31	495504886.31	5.54	0.0190
Horsepowe*isSportsCa	1	3220624115.9	3220624115.9	36.04	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Horsepower	1	13209647151	13209647151	147.80	<.0001
Wheelbase	1	976388912	976388912	10.92	0.0010
hwyMPG	1	1214911832	1214911832	13.59	0.0003
Weight	1	3301258651	3301258651	36.94	<.0001
Width	1	1034898403	1034898403	11.58	0.0007
isSUV	1	384612675	384612675	4.30	0.0387
numCylinders	1	1453267780	1453267780	16.26	<.0001
engineSize	1	785354745	785354745	8.79	0.0032
isSportsCar	1	1802045170	1802045170	20.16	<.0001
Horsepowe*isSportsCa	1	3220624116	3220624116	36.04	<.0001

Parameter	Estimate	Standard Error	t Value	Pr >  t
Intercept	40888.74122	16246.36530	2.52	0.0122
Horsepower	183.00487	15.05292	12.16	<.0001
Wheelbase	-435.25870	131.68607	-3.31	0.0010
hwyMPG	559.27753	151.69065	3.69	0.0003
Weight	11.90326	1.95853	6.08	<.0001

Parameter	Estimate	Standard Error	t Value	Pr >  t
Width	-900.30188	264.57153	-3.40	0.0007
isSUV	-3753.39530	1809.32391	-2.07	0.0387
numCylinders	3283.21923	814.19958	4.03	<.0001
engineSize	-4111.95807	1387.13764	-2.96	0.0032
isSportsCar	-22955.49588	5112.19788	-4.49	<.0001
Horsepowe*isSportsCa	113.30075	18.87411	6.00	<.0001

## Normal Probability Plot of Residuals

The UNIVARIATE Procedure  
Variable: res

Moments			
N	405	Sum Weights	405
Mean	0	Sum Observations	0
Std Deviation	9336.00858	Variance	87161056.2
Skewness	2.45838138	Kurtosis	17.5808419
Uncorrected SS	3.52131E10	Corrected SS	3.52131E10
Coeff Variation	.	Std Error Mean	463.909996

Basic Statistical Measures			
Location		Variability	
Mean	0.000	Std Deviation	9336
Median	-713.934	Variance	87161056
Mode	.	Range	107656
		Interquartile Range	7657

Tests for Location: Mu0=0				
Test	Statistic		p Value	
Student's t	t	0	Pr >  t	1.0000
Sign	M	-17.5	Pr >=  M	0.0910
Signed Rank	S	-3892.5	Pr >=  S	0.0987

Quantiles (Definition 5)	
Level	Quantile
100% Max	82906.737
99%	31998.973
95%	13538.103
90%	9018.957
75% Q3	3247.506
50% Median	-713.934
25% Q1	-4409.755
10%	-9123.737
5%	-12493.408
1%	-19777.452
0% Min	-24749.208

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
-24749.2	292	31999.0	232

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
-23770.6	282	35855.7	246
-20620.5	262	38253.5	238
-20228.2	256	46251.9	231
-19777.5	278	82906.7	288

Missing Values			
Missing Value	Count	Percent Of	
		All Obs	Missing Obs
.	23	5.37	100.00

### Normal Probability Plot of Residuals

The UNIVARIATE Procedure

