The SAS System

Obs	age	weight	oxy	runtime	rstpulse	runpulse	maxpulse
1	44	89.47	44.609	11.37	62	178	182
2	40	75.07	45.313	10.07	62	185	185
3	44	85.84	54.297	8.65	45	156	168
4	42	68.15	59.571	8.17	40	166	172
5	38	89.02	49.874	9.22	55	178	180
6	47	77.45	44.811	11.63	58	176	176
7	40	75.98	45.681	11.95	70	176	180
8	43	81.19	49.091	10.85	64	162	170
9	44	81.42	39.442	13.08	63	174	176
10	38	81.87	60.055	8.63	48	170	186
11	44	73.03	50.541	10.13	45	168	168
12	45	87.66	37.388	14.03	56	186	192
13	45	66.45	44.754	11.12	51	176	176
14	47	79.15	47.273	10.60	47	162	164
15	54	83.12	51.855	10.33	50	166	170
16	49	81.42	49.156	8.95	44	180	185
17	51	69.63	40.836	10.95	57	168	172
18	51	77.91	46.672	10.00	48	162	168
19	48	91.63	46.774	10.25	48	162	164
20	49	73.37	50.388	10.08	67	168	168
21	57	73.37	39.407	12.63	58	174	176
22	54	79.38	46.080	11.17	62	156	165
23	52	76.32	45.441	9.63	48	164	166
24	50	70.87	54.625	8.92	48	146	155
25	51	67.25	45.118	11.08	48	172	172
26	54	91.63	39.203	12.88	44	168	172
27	51	73.71	45.790	10.47	59	186	188
28	57	59.08	50.545	9.93	49	148	155
29	49	76.32	48.673	9.40	56	186	188
30	48	61.24	47.920	11.50	52	170	176
31	52	82.78	47.467	10.50	53	170	172

The SAS System

The CORR Procedure

6 With Variables:	age weight runtime rstpulse runpulse maxpulse
1 Variables:	oxy

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
age	31	47.67742	5.21144	1478	38.00000	57.00000
weight	31	77.44452	8.32857	2401	59.08000	91.63000
runtime	31	10.58613	1.38741	328.17000	8.17000	14.03000
rstpulse	31	53.45161	7.61944	1657	40.00000	70.00000
runpulse	31	169.64516	10.25199	5259	146.00000	186.00000
maxpulse	31	173.77419	9.16410	5387	155.00000	192.00000
oxy	31	47.37581	5.32723	1469	37.38800	60.05500

Pearson Correlation Coefficients, N = 31
Prob > |r| under H0: Rho=0

	oxy
age	-0.30459 0.0957
weight	-0.16275 0.3817
runtime	-0.86219 <.0001
rstpulse	-0.39936 0.0260
runpulse	-0.39797 0.0266
maxpulse	-0.23674 0.1997

The SAS System

The CORR Procedure

7 Variables:	oxy age weight runtime rstpulse runpulse maxpulse

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
oxy	31	47.37581	5.32723	1469	37.38800	60.05500
age	31	47.67742	5.21144	1478	38.00000	57.00000
weight	31	77.44452	8.32857	2401	59.08000	91.63000
runtime	31	10.58613	1.38741	328.17000	8.17000	14.03000
rstpulse	31	53.45161	7.61944	1657	40.00000	70.00000
runpulse	31	169.64516	10.25199	5259	146.00000	186.00000
maxpulse	31	173.77419	9.16410	5387	155.00000	192.00000

Pearson Correlation Coefficients, N = 31
Prob > |r| under H0: Rho=0

	oxy	age	weight	runtime	rstpulse	runpulse	maxpulse
oxy	1.00000	-0.30459 0.0957	-0.16275 0.3817	-0.86219 <.0001	-0.39936 0.0260	-0.39797 0.0266	-0.23674 0.1997
age	-0.30459 0.0957	1.00000	-0.23354 0.2061	0.18875 0.3092	-0.16410 0.3777	-0.33787 0.0630	-0.43292 0.0150
weight	-0.16275 0.3817	-0.23354 0.2061	1.00000	0.14351 0.4412	0.04397 0.8143	0.18152 0.3284	0.24938 0.1761
runtime	-0.86219 <.0001	0.18875 0.3092	0.14351 0.4412	1.00000	0.45038 0.0110	0.31365 0.0858	0.22610 0.2213
rstpulse	-0.39936 0.0260	-0.16410 0.3777	0.04397 0.8143	0.45038 0.0110	1.00000	0.35246 0.0518	0.30512 0.0951
runpulse	-0.39797 0.0266	-0.33787 0.0630	0.18152 0.3284	0.31365 0.0858	0.35246 0.0518	1.00000	0.92975 <.0001
maxpulse	-0.23674 0.1997	-0.43292 0.0150	0.24938 0.1761	0.22610 0.2213	0.30512 0.0951	0.92975 <.0001	1.00000

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: oxy

R-Square Selection Method

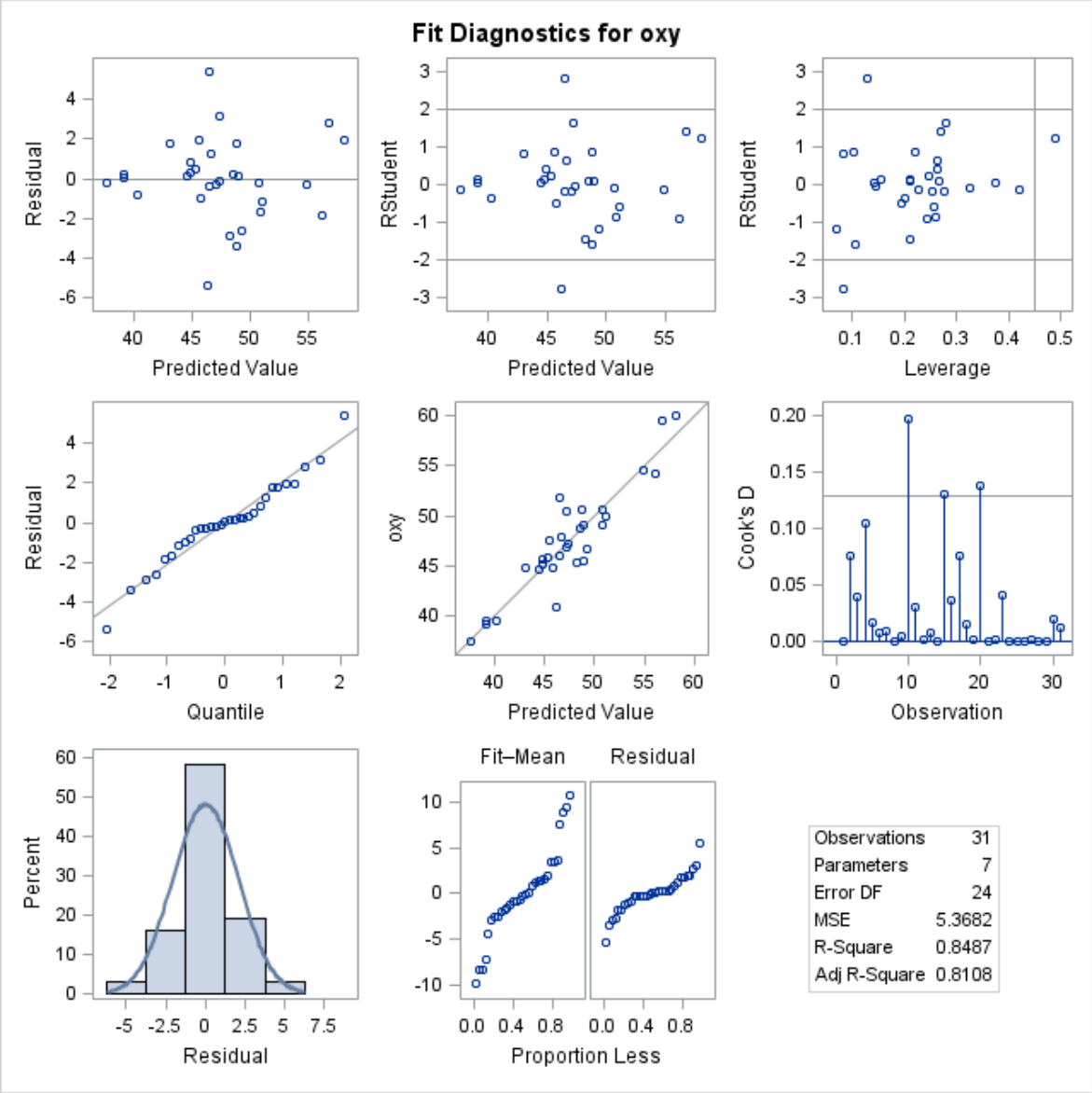
Number of Observations Read	31
Number of Observations Used	31

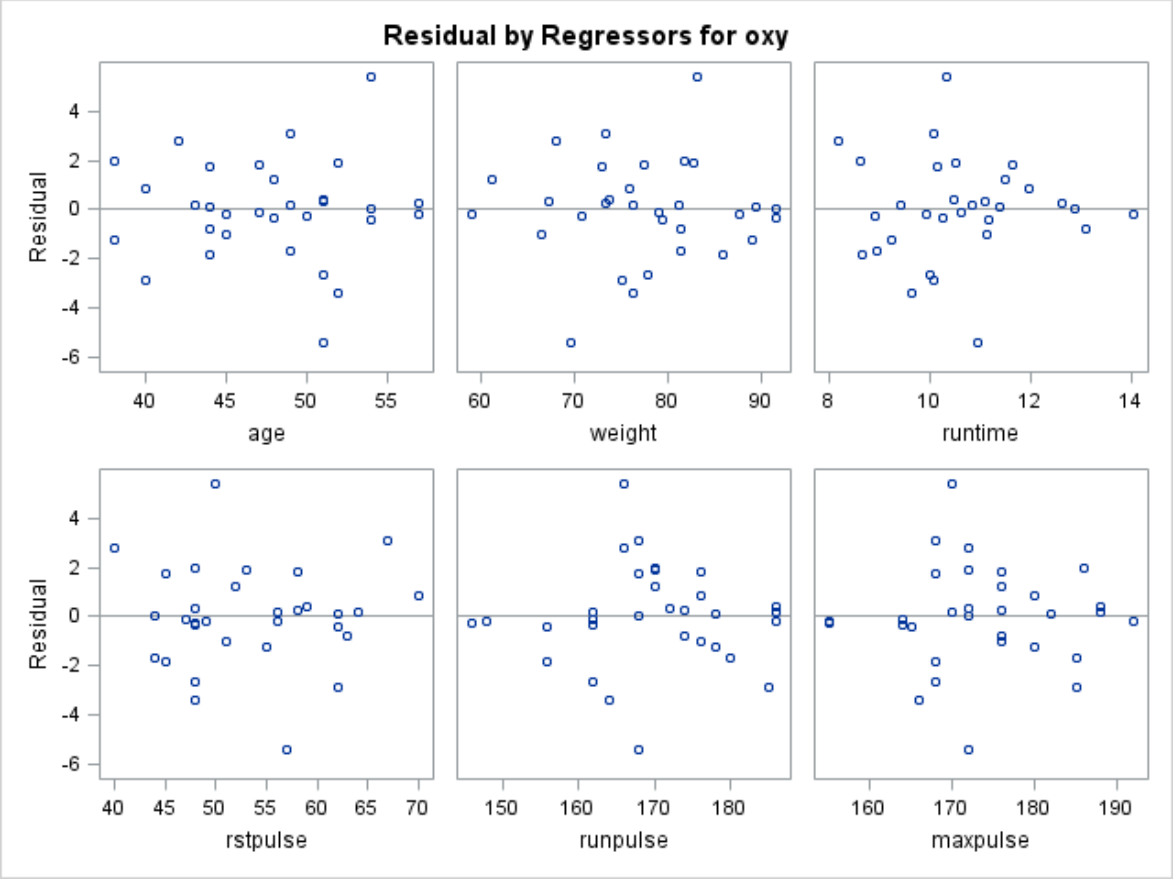
Number in Model	R-Square	C(p)	Variables in Model
1	0.7434	13.6988	runtime
1	0.1595	106.3021	rstpulse
1	0.1584	106.4769	runpulse
1	0.0928	116.8818	age
1	0.0560	122.7072	maxpulse
1	0.0265	127.3948	weight
2	0.7642	12.3894	age runtime
2	0.7614	12.8372	runtime runpulse
2	0.7452	15.4069	runtime maxpulse
2	0.7449	15.4523	weight runtime
2	0.7435	15.6746	runtime rstpulse
2	0.3760	73.9645	age runpulse
2	0.3003	85.9742	age rstpulse
2	0.2894	87.6951	runpulse maxpulse
2	0.2600	92.3638	age maxpulse
2	0.2350	96.3209	rstpulse runpulse
2	0.1806	104.9523	weight rstpulse
2	0.1740	105.9939	rstpulse maxpulse
2	0.1669	107.1332	weight runpulse
2	0.1506	109.7057	age weight
2	0.0675	122.8881	weight maxpulse
3	0.8111	6.9596	age runtime runpulse
3	0.8100	7.1350	runtime runpulse maxpulse
3	0.7817	11.6167	age runtime maxpulse
3	0.7708	13.3453	age weight runtime
3	0.7673	13.8974	age runtime rstpulse
3	0.7619	14.7619	runtime rstpulse runpulse
3	0.7618	14.7729	weight runtime runpulse
3	0.7462	17.2588	weight runtime maxpulse
3	0.7452	17.4060	runtime rstpulse maxpulse
3	0.7451	17.4243	weight runtime rstpulse
3	0.4666	61.5873	age rstpulse runpulse
3	0.4223	68.6250	age runpulse maxpulse
3	0.4091	70.7102	age weight runpulse
3	0.3900	73.7424	age rstpulse maxpulse
3	0.3568	79.0013	age weight rstpulse
3	0.3538	79.4891	rstpulse runpulse maxpulse
3	0.3208	84.7216	weight runpulse maxpulse
3	0.2902	89.5693	age weight maxpulse
3	0.2447	96.7952	weight rstpulse runpulse

Number in Model	R-Square	C(p)	Variables in Model
3	0.1882	105.7430	weight rstpulse maxpulse
4	0.8368	4.8800	age runtime runpulse maxpulse
4	0.8165	8.1035	age weight runtime runpulse
4	0.8158	8.2056	weight runtime runpulse maxpulse
4	0.8117	8.8683	age runtime rstpulse runpulse
4	0.8104	9.0697	runtime rstpulse runpulse maxpulse
4	0.7862	12.9039	age weight runtime maxpulse
4	0.7834	13.3468	age runtime rstpulse maxpulse
4	0.7750	14.6788	age weight runtime rstpulse
4	0.7623	16.7058	weight runtime rstpulse runpulse
4	0.7462	19.2550	weight runtime rstpulse maxpulse
4	0.5034	57.7590	age weight rstpulse runpulse
4	0.5025	57.9092	age rstpulse runpulse maxpulse
4	0.4717	62.7830	age weight runpulse maxpulse
4	0.4256	70.0963	age weight rstpulse maxpulse
4	0.3858	76.4100	weight rstpulse runpulse maxpulse
5	0.8480	5.1063	age weight runtime runpulse maxpulse
5	0.8370	6.8461	age runtime rstpulse runpulse maxpulse
5	0.8176	9.9348	age weight runtime rstpulse runpulse
5	0.8161	10.1685	weight runtime rstpulse runpulse maxpulse
5	0.7887	14.5111	age weight runtime rstpulse maxpulse
5	0.5541	51.7233	age weight rstpulse runpulse maxpulse
6	0.8487	7.0000	age weight runtime rstpulse runpulse maxpulse

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: oxy




Residual by Regressors for oxy
Residual
4
2
0
-2
-4
-6
40
45
50
55
age
60
70
80
90
weight
8
10
12
14
runtime
40
45
50
55
60
65
70
rstpulse
150
160
170
180
runpulse
160
170
180
190
maxpulse

The SAS System

The REG Procedure
Model: MODEL1

Model Crossproducts X'X X'Y Y'Y					
Variable	**Intercept**	**runtime**	**rstpulse**	**runpulse**	**oxy**
Intercept	31	328.17	1657	5259	1468.65
runtime	328.17	3531.7975	17684.05	55806.29	15356.14199
rstpulse	1657	17684.05	90311	281928	78015.409
runpulse	5259	55806.29	281928	895317	248497.309
oxy	1468.65	15356.14199	78015.409	248497.309	70429.85969

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: oxy

Number of Observations Read	31
Number of Observations Used	31

X'X Inverse, Parameter Estimates, and SSE

Variable	Intercept	runtime	rstpulse	runpulse	oxy
Intercept	9.3828239535	-0.061831973	-0.001539603	-0.050774866	93.05344714
runtime	-0.061831973	0.0224964239	-0.001589544	-0.000538503	-3.176652237
rstpulse	-0.001539603	-0.001589544	0.0007679172	-0.000133689	0.017616277
runpulse	-0.050774866	-0.000538503	-0.000133689	0.0003750264	-0.076576358
oxy	93.05344714	-3.176652237	0.017616277	-0.076576358	202.71523967

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	648.66631	216.22210	28.80	<.0001
Error	27	202.71524	7.50797		
Corrected Total	30	851.38154			

Root MSE	2.74007	R-Square	0.7619
Dependent Mean	47.37581	Adj R-Sq	0.7354
Coeff Var	5.78369		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	Type I SS	Type II SS	Standardized Estimate	Squared Semi-partial Corr Type I	Squared Semi-partial Corr Type II
Intercept	1	93.05345	8.39321	11.09	<.0001	69578	922.85053	0	.	.
runtime	1	-3.17665	0.41098	-7.73	<.0001	632.90010	448.56549	-0.82732	0.74338	0.52687
rstpulse	1	0.01762	0.07593	0.23	0.8183	0.13014	0.40412	0.02520	0.00015285	0.00047467
runpulse	1	-0.07658	0.05306	-1.44	0.1605	15.63607	15.63607	-0.14737	0.01837	0.01837

Covariance of Estimates

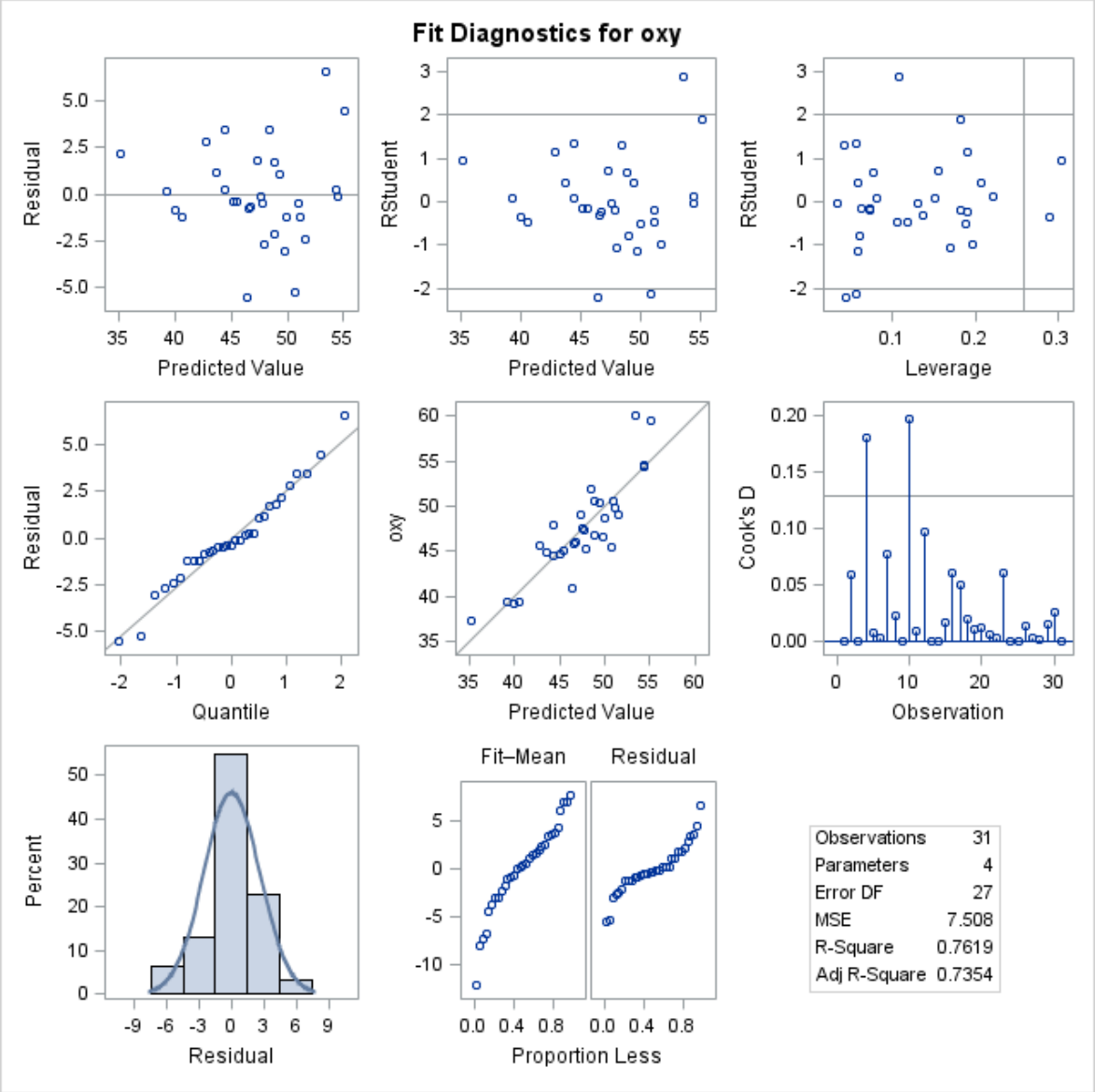
Variable	Intercept	runtime	rstpulse	runpulse
Intercept	70.445978019	-0.46423271	-0.011559293	-0.381216267
runtime	-0.46423271	0.168902517	-0.011934251	-0.004043064
rstpulse	-0.011559293	-0.011934251	0.0057655006	-0.001003733
runpulse	-0.381216267	-0.004043064	-0.001003733	0.0028156879

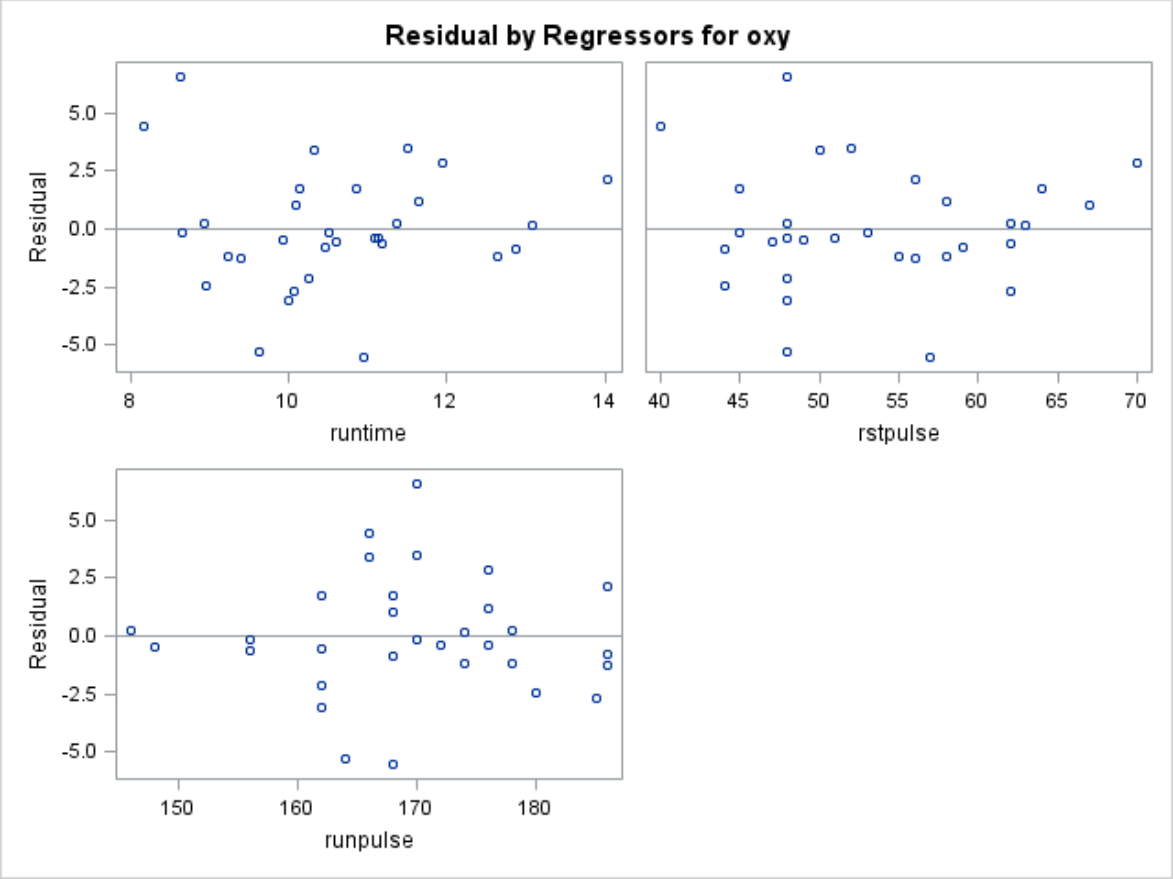
The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: oxy

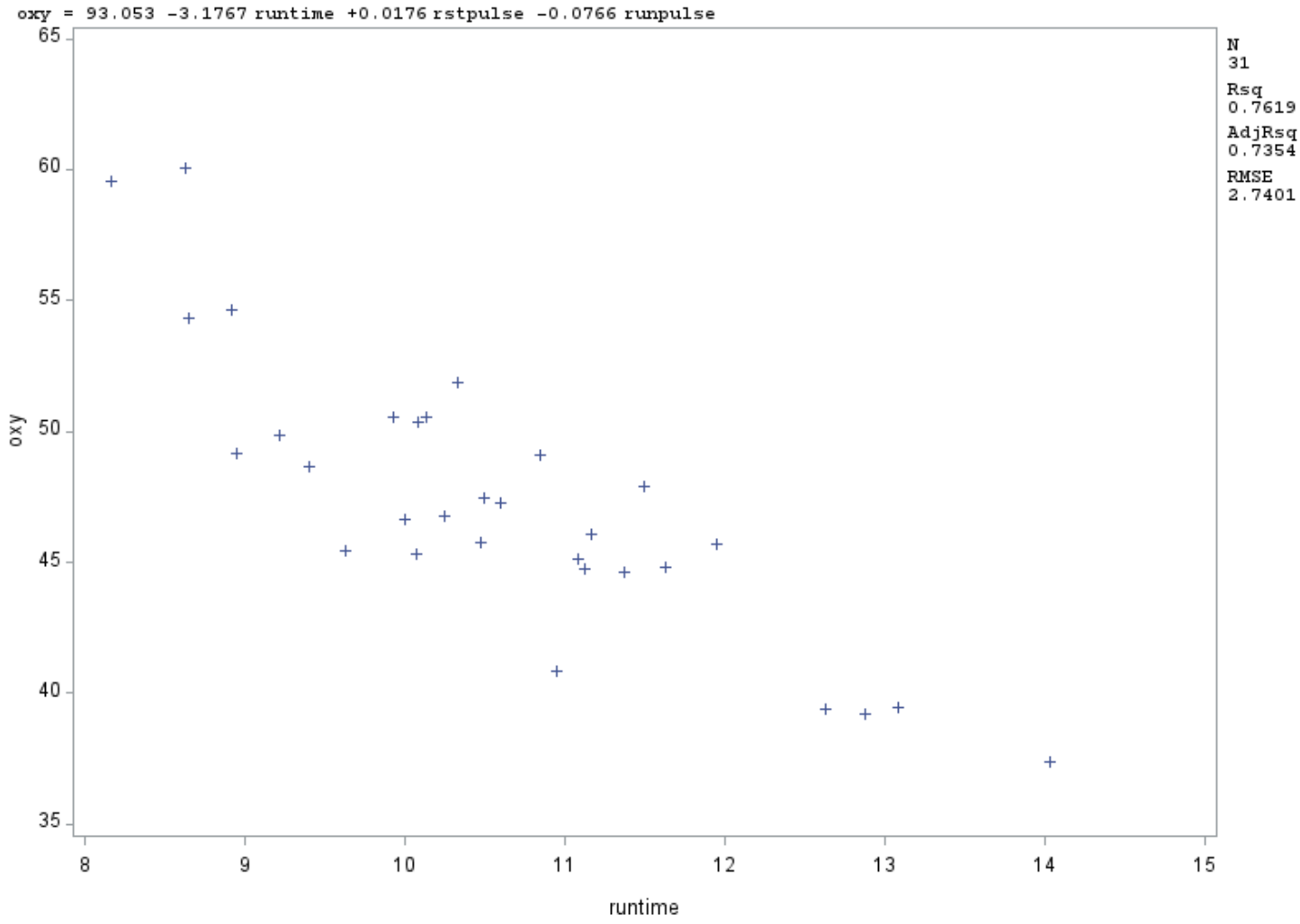
Output Statistics								
Obs	Dependent Variable	Predicted Value	Std Error Mean Predict	95% CL Mean		95% CL Predict		Residual
1	44.6	44.3965	0.7795	42.7972	45.9959	38.5513	50.2417	0.2125
2	45.3	47.9901	1.1306	45.6703	50.3099	41.9082	54.0721	-2.6771
3	54.3	54.4222	0.9878	52.3955	56.4490	48.4459	60.3985	-0.1252
4	59.6	55.0932	1.1677	52.6973	57.4890	48.9818	61.2045	4.4778
5	49.9	51.1030	0.9405	49.1732	53.0328	45.1589	57.0472	-1.2290
6	44.8	43.6533	0.6590	42.3012	45.0054	37.8708	49.4357	1.1577
7	45.7	42.8482	1.1954	40.3953	45.3010	36.7142	48.9821	2.8328
8	49.1	47.3088	1.0825	45.0877	49.5300	41.2638	53.3538	1.7822
9	39.4	39.2884	1.0640	37.1053	41.4715	33.2572	45.3195	0.1536
10	60.1	53.4665	0.9029	51.6140	55.3191	47.5470	59.3860	6.5885
11	50.5	48.8019	0.7555	47.2517	50.3520	42.9699	54.6338	1.7391
12	37.4	35.2283	1.5124	32.1251	38.3316	28.8066	41.6501	2.1597
13	44.8	45.1501	0.6883	43.7378	46.5624	39.3532	50.9469	-0.3961
14	47.3	47.8035	0.7421	46.2808	49.3263	41.9788	53.6282	-0.5305
15	51.9	48.4078	0.5527	47.2737	49.5418	42.6724	54.1432	3.4472
16	49.2	51.6138	1.2148	49.1213	54.1063	45.4639	57.7637	-2.4578
17	40.8	46.4084	0.5749	45.2288	47.5880	40.6638	52.1530	-5.5724
18	46.7	49.7271	0.6633	48.3661	51.0881	43.9426	55.5117	-3.0551
19	46.8	48.9330	0.6701	47.5581	50.3079	43.1451	54.7208	-2.1590
20	50.4	49.3483	1.2462	46.7912	51.9053	43.1719	55.5246	1.0397
21	39.4	40.6298	0.8870	38.8098	42.4498	34.7204	46.5392	-1.2228
22	46.1	46.7165	1.1936	44.2674	49.1657	40.5841	52.8490	-0.6365
23	45.4	50.7493	0.6541	49.4072	52.0914	44.9692	56.5295	-5.3083
24	54.6	54.3831	1.2894	51.7375	57.0287	48.1696	60.5967	0.2419
25	45.1	45.5306	0.7423	44.0075	47.0536	39.7058	51.3554	-0.4126
26	39.2	40.0485	1.4732	37.0256	43.0713	33.6652	46.4317	-0.8455
27	45.8	46.5901	1.0118	44.5141	48.6660	40.5969	52.5832	-0.8001
28	50.5	51.0392	1.1706	48.6373	53.4411	44.9254	57.1529	-0.4942
29	48.7	49.9362	1.1899	47.4948	52.3776	43.8069	56.0656	-1.2632
30	47.9	44.4200	0.6526	43.0811	45.7590	38.6406	50.1994	3.5000
31	47.5	47.6143	0.4946	46.5995	48.6291	41.9013	53.3273	-0.1473

Sum of Residuals	0
Sum of Squared Residuals	202.71524
Predicted Residual SS (PRESS)	256.01511

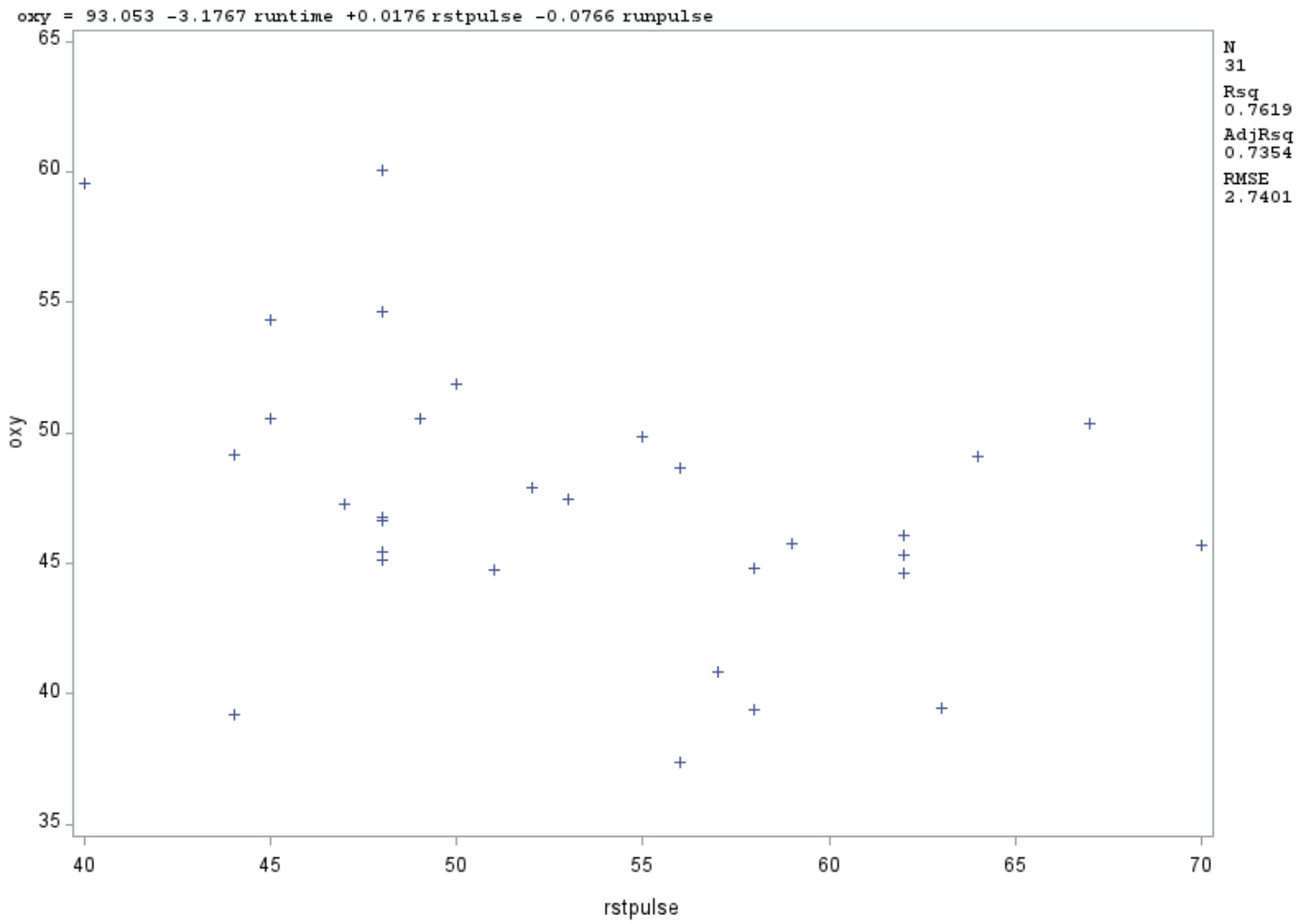

Fit Diagnostics for oxy
Residual
Predicted Value
RStudent
Predicted Value
RStudent
Leverage
Residual
Quantile
oxy
Predicted Value
Cook's D
Observation
Percent
Residual
Fit–Mean
Residual
Proportion Less
Observations 31
Parameters 4
Error DF 27
MSE 7.508
R-Square 0.7619
Adj R-Square 0.7354


Residual by Regressors for oxy
Residual
5.0
2.5
0.0
-2.5
-5.0
8
10
12
14
runtime
40
45
50
55
60
65
70
rstpulse
150
160
170
180
runpulse

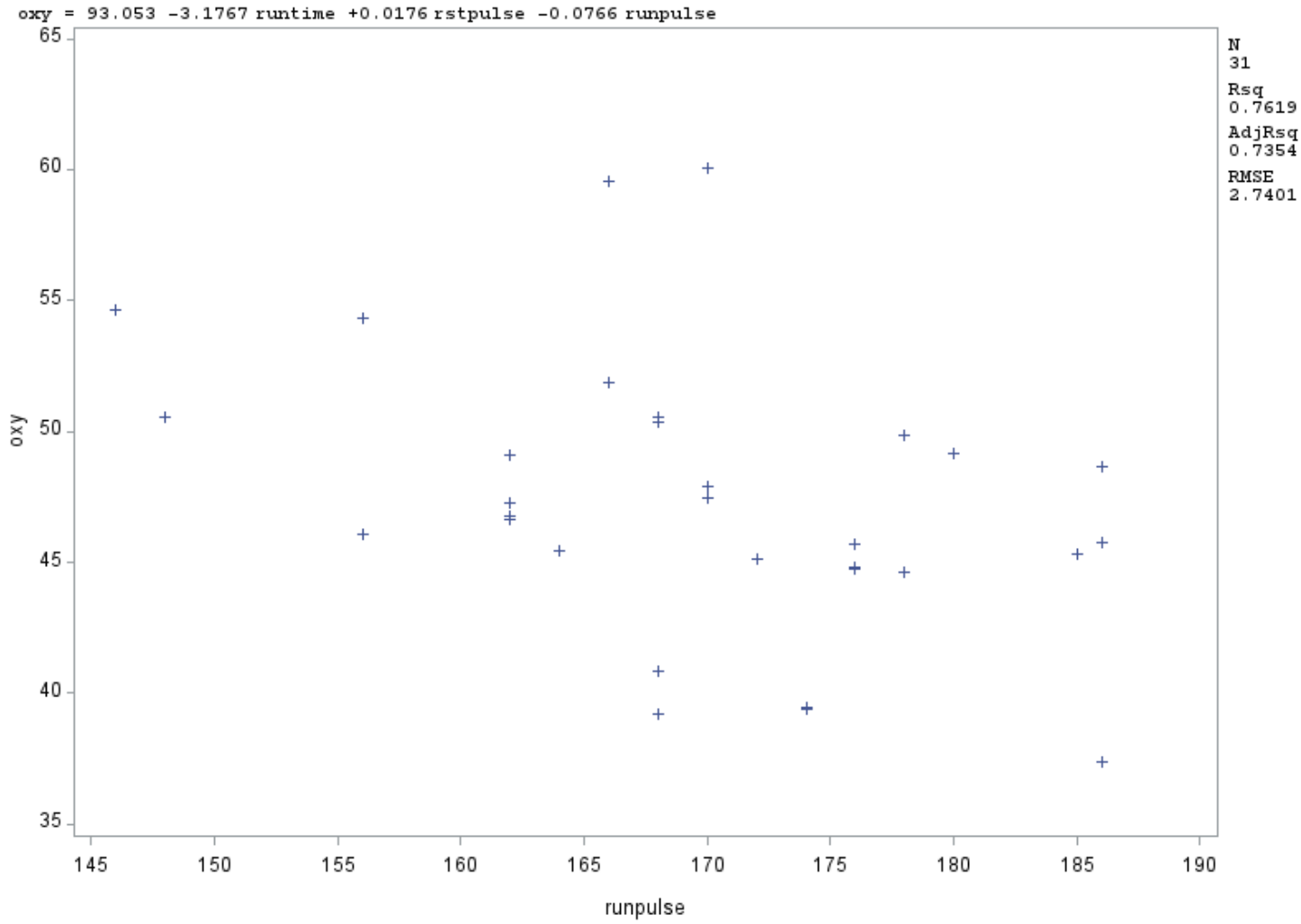
The REG Procedure



The REG Procedure



The REG Procedure



The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: oxy

Number of Observations Read	31
Number of Observations Used	31

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	648.66631	216.22210	28.80	<.0001
Error	27	202.71524	7.50797		
Corrected Total	30	851.38154			

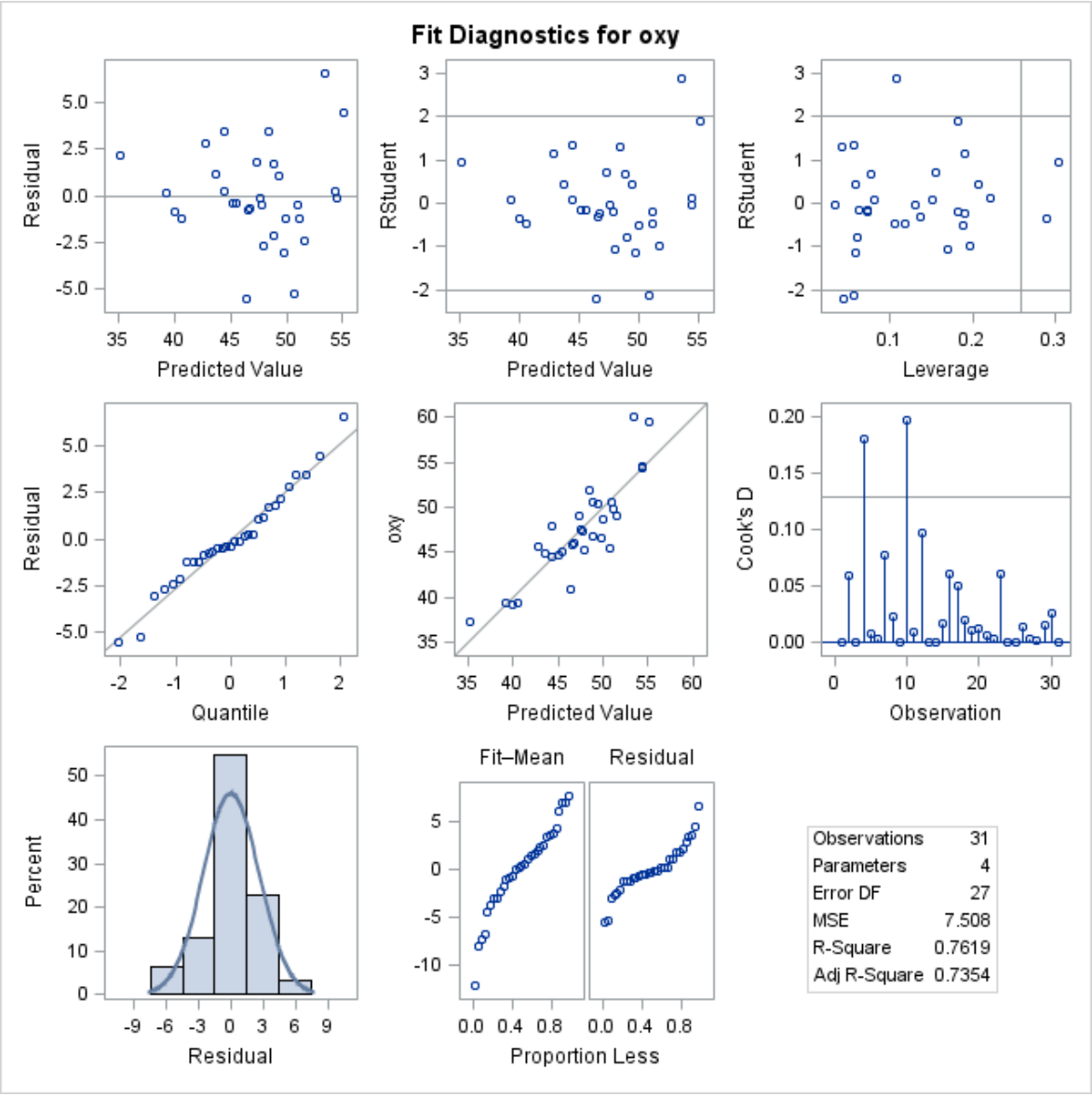
Root MSE	2.74007	R-Square	0.7619
Dependent Mean	47.37581	Adj R-Sq	0.7354
Coeff Var	5.78369		

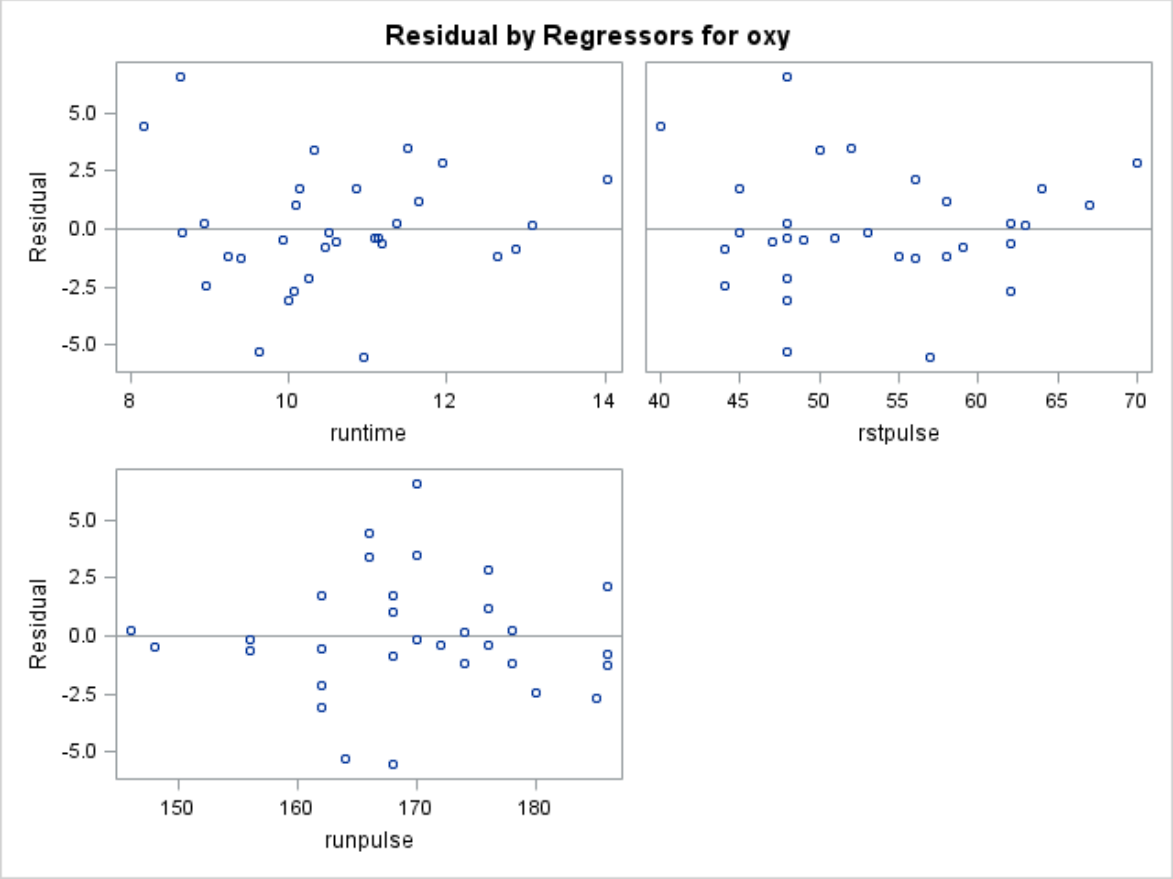
Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	93.05345	8.39321	11.09	<.0001
runtime	1	-3.17665	0.41098	-7.73	<.0001
rstpulse	1	0.01762	0.07593	0.23	0.8183
runpulse	1	-0.07658	0.05306	-1.44	0.1605

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: oxy




Residual by Regressors for oxy
Residual
5.0
2.5
0.0
-2.5
-5.0
8
10
12
14
runtime
40
45
50
55
60
65
70
rstpulse
150
160
170
180
runpulse

The SAS System

The REG Procedure
Model: MODEL1

Test pulsevars Results for Dependent Variable oxy				
Source	DF	Mean Square	F Value	Pr > F
Numerator	2	7.88310	1.05	0.3638
Denominator	27	7.50797		

The SAS System

The REG Procedure
Model: MODEL1

Test timeoverpulse Results for Dependent Variable oxy				
Source	DF	Mean Square	F Value	Pr > F
Numerator	1	638.68868	85.07	<.0001
Denominator	27	7.50797		

The SAS System

The REG Procedure
Model: MODEL1

Test test3 Results for Dependent Variable oxy				
Source	**DF**	**Mean Square**	**F Value**	**Pr > F**
Numerator	2	855.59276	113.96	<.0001
Denominator	27	7.50797		

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: oxy

Number of Observations Read	31
Number of Observations Used	31

Forward Selection: Step 1

Variable runtime Entered: R-Square = 0.7434 and C(p) = 13.6988

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	632.90010	632.90010	84.01	<.0001
Error	29	218.48144	7.53384		
Corrected Total	30	851.38154			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	82.42177	3.85530	3443.36654	457.05	<.0001
runtime	-3.31056	0.36119	632.90010	84.01	<.0001

Bounds on condition number: 1, 1

Forward Selection: Step 2

Variable age Entered: R-Square = 0.7642 and C(p) = 12.3894

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	650.66573	325.33287	45.38	<.0001
Error	28	200.71581	7.16842		
Corrected Total	30	851.38154			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	88.46229	5.37264	1943.41071	271.11	<.0001
age	-0.15037	0.09551	17.76563	2.48	0.1267
runtime	-3.20395	0.35877	571.67751	79.75	<.0001

Bounds on condition number: 1.0369, 4.1478

Forward Selection: Step 3

Variable runpulse Entered: R-Square = 0.8111 and C(p) = 6.9596

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	690.55086	230.18362	38.64	<.0001
Error	27	160.83069	5.95669		
Corrected Total	30	851.38154			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	111.71806	10.23509	709.69014	119.14	<.0001
age	-0.25640	0.09623	42.28867	7.10	0.0129
runtime	-2.82538	0.35828	370.43529	62.19	<.0001
runpulse	-0.13091	0.05059	39.88512	6.70	0.0154

Bounds on condition number: 1.3548, 11.597

Forward Selection: Step 4

Variable maxpulse Entered: R-Square = 0.8368 and C(p) = 4.8800

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	712.45153	178.11288	33.33	<.0001
Error	26	138.93002	5.34346		
Corrected Total	30	851.38154			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	98.14789	11.78569	370.57373	69.35	<.0001
age	-0.19773	0.09564	22.84231	4.27	0.0488
runtime	-2.76758	0.34054	352.93570	66.05	<.0001
runpulse	-0.34811	0.11750	46.90089	8.78	0.0064
maxpulse	0.27051	0.13362	21.90067	4.10	0.0533

Bounds on condition number: 8.4182, 76.851

Forward Selection: Step 5

Variable weight Entered: R-Square = 0.8480 and C(p) = 5.1063

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	721.97309	144.39462	27.90	<.0001
Error	25	129.40845	5.17634		
Corrected Total	30	851.38154			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	102.20428	11.97929	376.78935	72.79	<.0001
age	-0.21962	0.09550	27.37429	5.29	0.0301
weight	-0.07230	0.05331	9.52157	1.84	0.1871
runtime	-2.68252	0.34099	320.35968	61.89	<.0001

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
runpulse	-0.37340	0.11714	52.59624	10.16	0.0038
maxpulse	0.30491	0.13394	26.82640	5.18	0.0316

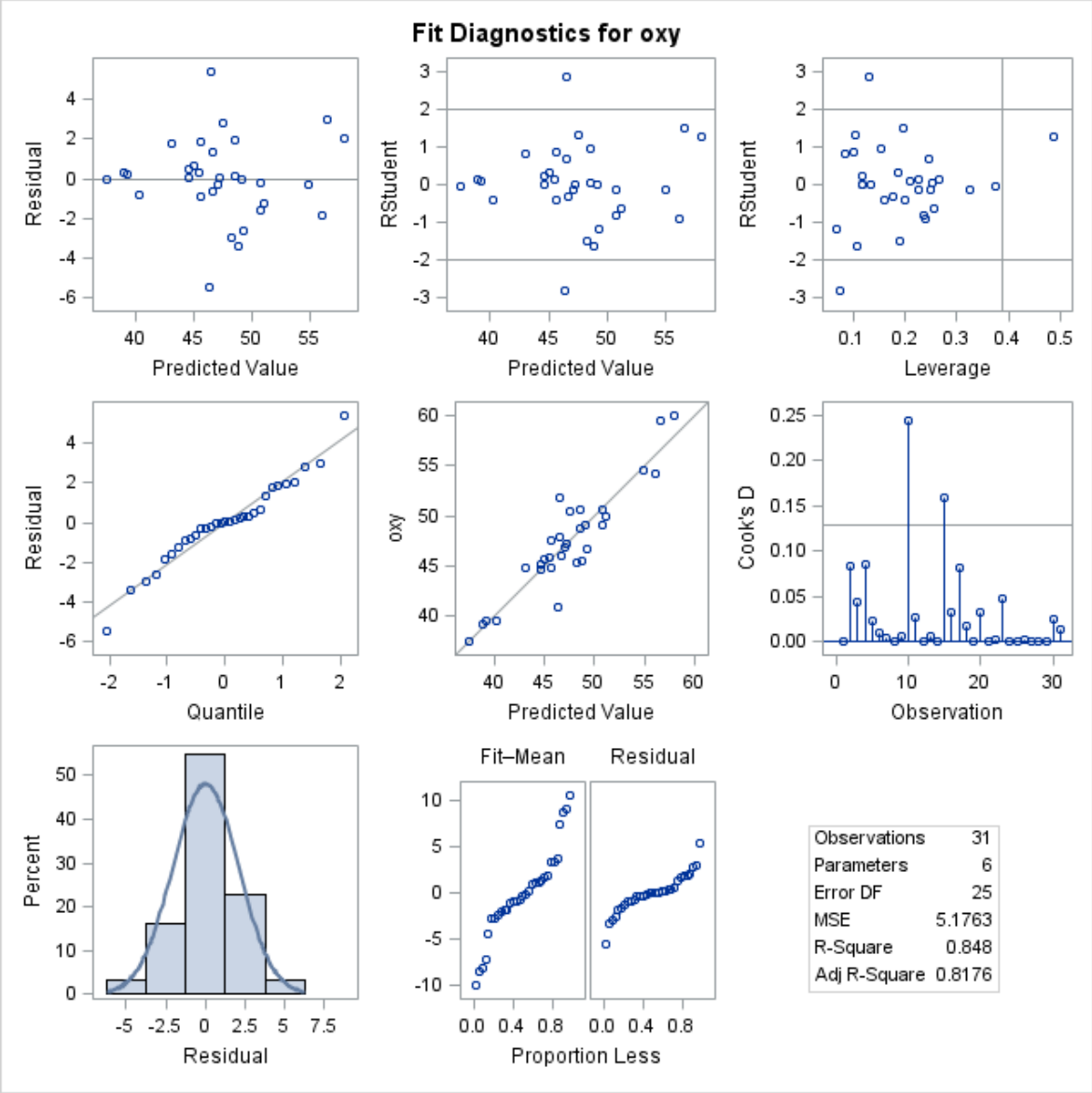
Bounds on condition number: 8.7312, 104.83

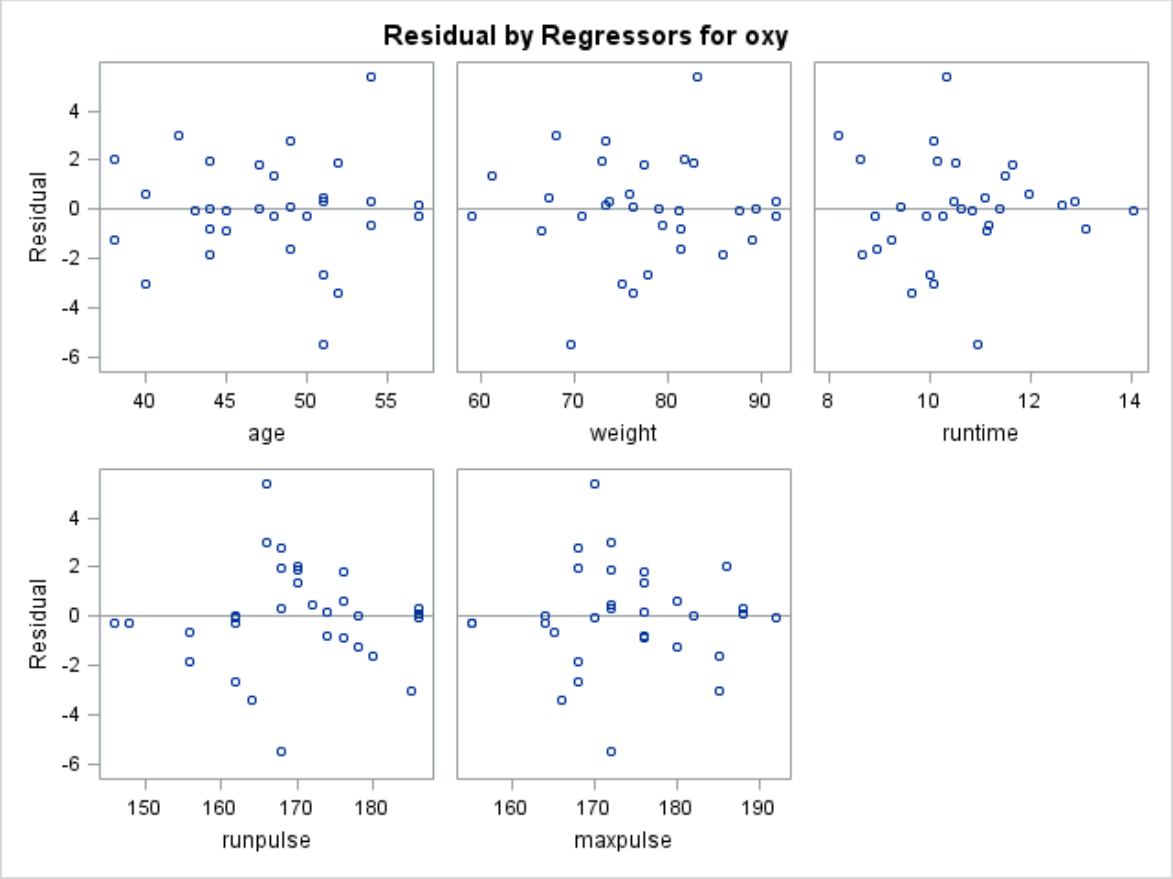
No other variable met the 0.5000 significance level for entry into the model.

Summary of Forward Selection							
Step	Variable Entered	Number Vars In	Partial R-Square	Model R-Square	C(p)	F Value	Pr > F
1	runtime	1	0.7434	0.7434	13.6988	84.01	<.0001
2	age	2	0.0209	0.7642	12.3894	2.48	0.1267
3	runpulse	3	0.0468	0.8111	6.9596	6.70	0.0154
4	maxpulse	4	0.0257	0.8368	4.8800	4.10	0.0533
5	weight	5	0.0112	0.8480	5.1063	1.84	0.1871

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: oxy




Residual by Regressors for oxy
Residual
4
2
0
-2
-4
-6
40
45
50
55
age
60
70
80
90
weight
8
10
12
14
runtime
150
160
170
180
runpulse
160
170
180
190
maxpulse

The SAS System

The REG Procedure
Model: MODEL2
Dependent Variable: oxy

Number of Observations Read	31
Number of Observations Used	31

Backward Elimination: Step 0

All Variables Entered: R-Square = 0.8487 and C(p) = 7.0000

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	6	722.54361	120.42393	22.43	<.0001
Error	24	128.83794	5.36825		
Corrected Total	30	851.38154			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	102.93448	12.40326	369.72831	68.87	<.0001
age	-0.22697	0.09984	27.74577	5.17	0.0322
weight	-0.07418	0.05459	9.91059	1.85	0.1869
runtime	-2.62865	0.38456	250.82210	46.72	<.0001
rstpulse	-0.02153	0.06605	0.57051	0.11	0.7473
runpulse	-0.36963	0.11985	51.05806	9.51	0.0051
maxpulse	0.30322	0.13650	26.49142	4.93	0.0360

Bounds on condition number: 8.7438, 137.13

Backward Elimination: Step 1

Variable rstpulse Removed: R-Square = 0.8480 and C(p) = 5.1063

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	721.97309	144.39462	27.90	<.0001
Error	25	129.40845	5.17634		
Corrected Total	30	851.38154			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	102.20428	11.97929	376.78935	72.79	<.0001
age	-0.21962	0.09550	27.37429	5.29	0.0301
weight	-0.07230	0.05331	9.52157	1.84	0.1871
runtime	-2.68252	0.34099	320.35968	61.89	<.0001
runpulse	-0.37340	0.11714	52.59624	10.16	0.0038
maxpulse	0.30491	0.13394	26.82640	5.18	0.0316

Bounds on condition number: 8.7312, 104.83

Backward Elimination: Step 2

Variable weight Removed: R-Square = 0.8368 and C(p) = 4.8800

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	712.45153	178.11288	33.33	<.0001
Error	26	138.93002	5.34346		
Corrected Total	30	851.38154			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	98.14789	11.78569	370.57373	69.35	<.0001
age	-0.19773	0.09564	22.84231	4.27	0.0488
runtime	-2.76758	0.34054	352.93570	66.05	<.0001
runpulse	-0.34811	0.11750	46.90089	8.78	0.0064
maxpulse	0.27051	0.13362	21.90067	4.10	0.0533

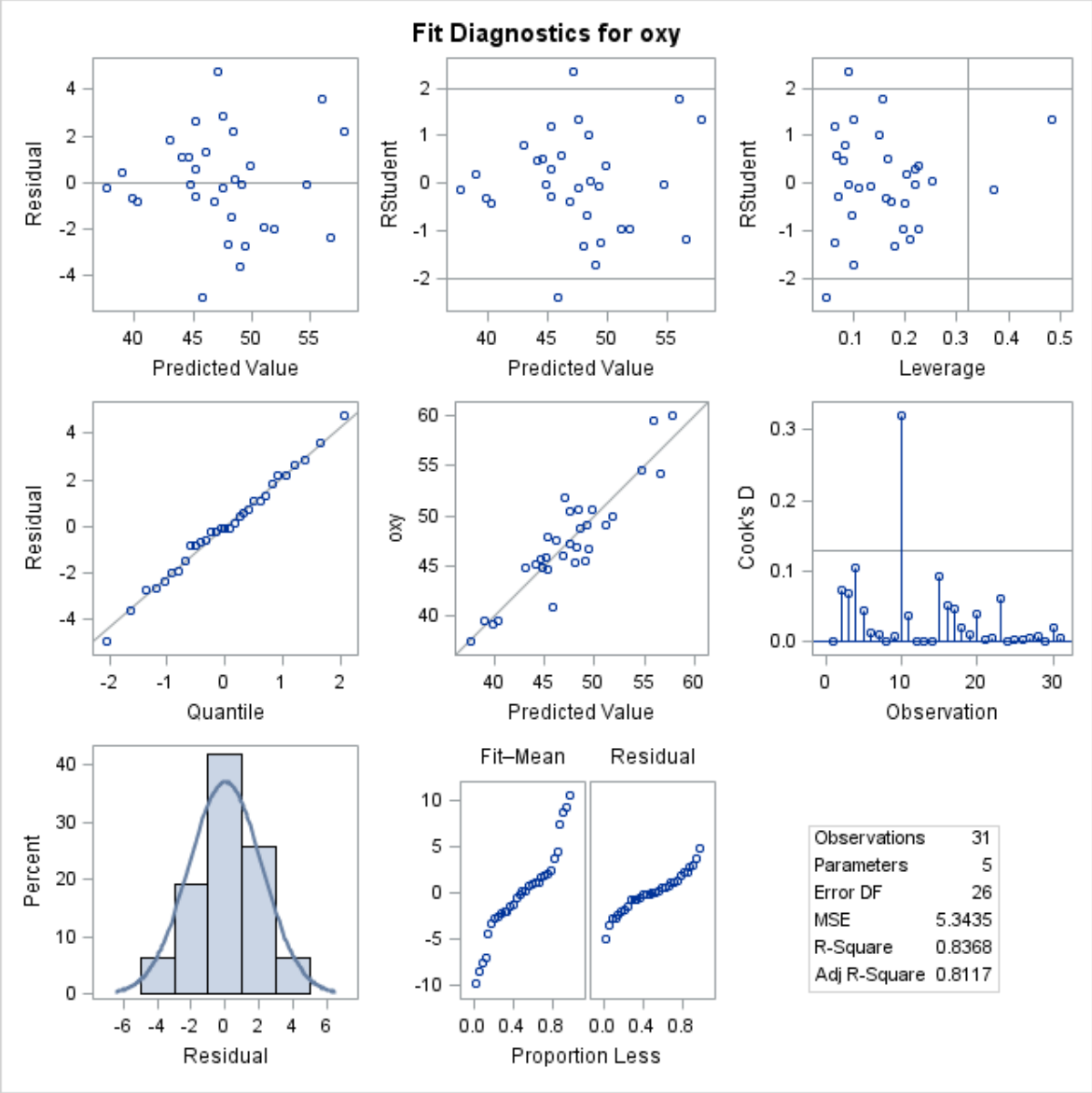
Bounds on condition number: 8.4182, 76.851

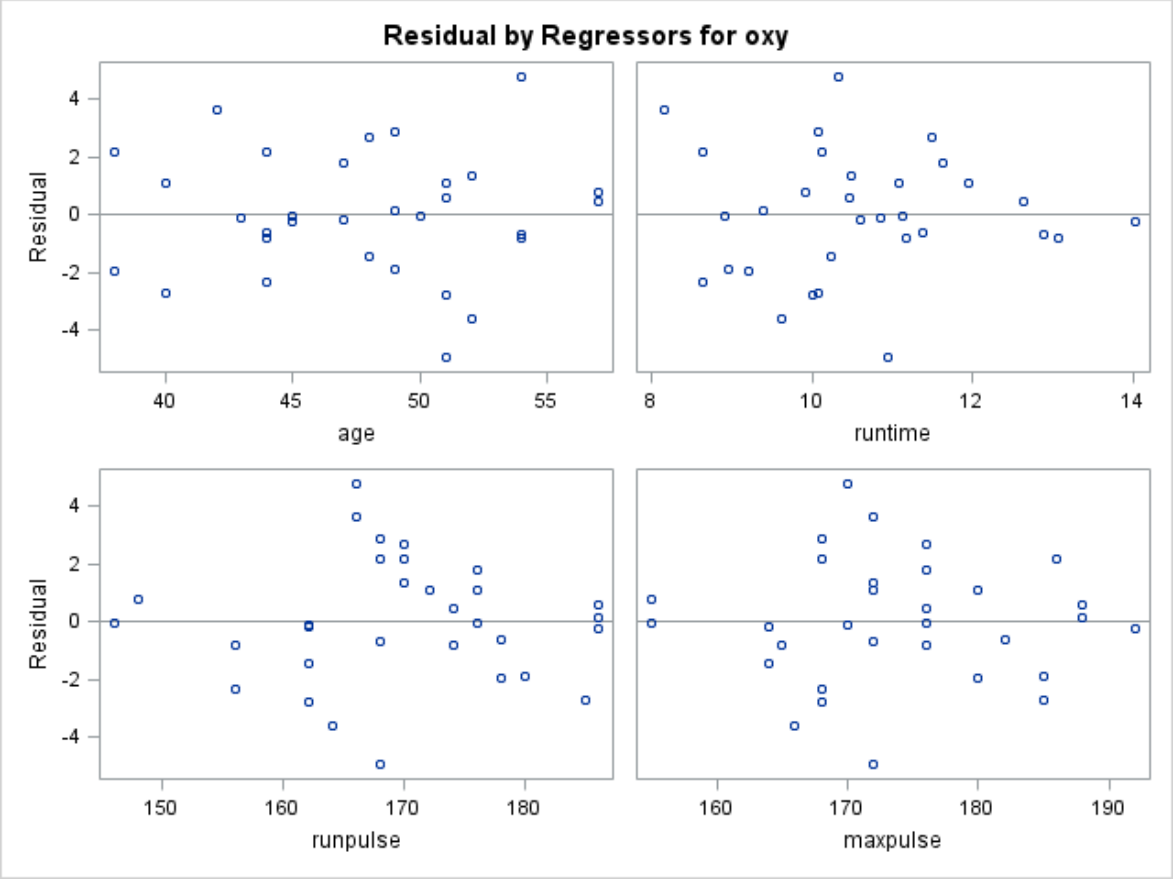
All variables left in the model are significant at the 0.1000 level.

Summary of Backward Elimination							
Step	Variable Removed	Number Vars In	Partial R-Square	Model R-Square	C(p)	F Value	Pr > F
1	rstpulse	5	0.0007	0.8480	5.1063	0.11	0.7473
2	weight	4	0.0112	0.8368	4.8800	1.84	0.1871

The SAS System

The REG Procedure
Model: MODEL2
Dependent Variable: oxy




Residual by Regressors for oxy
Residual
4
2
0
-2
-4
40
45
50
55
age
8
10
12
14
runtime
150
160
170
180
runpulse
160
170
180
190
maxpulse

The SAS System

The REG Procedure
Model: MODEL3
Dependent Variable: oxy

Number of Observations Read	31
Number of Observations Used	31

Stepwise Selection: Step 1

Variable runtime Entered: R-Square = 0.7434 and C(p) = 13.6988

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	632.90010	632.90010	84.01	<.0001
Error	29	218.48144	7.53384		
Corrected Total	30	851.38154			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	82.42177	3.85530	3443.36654	457.05	<.0001
runtime	-3.31056	0.36119	632.90010	84.01	<.0001

Bounds on condition number: 1, 1

Stepwise Selection: Step 2

Variable age Entered: R-Square = 0.7642 and C(p) = 12.3894

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	650.66573	325.33287	45.38	<.0001
Error	28	200.71581	7.16842		
Corrected Total	30	851.38154			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	88.46229	5.37264	1943.41071	271.11	<.0001
age	-0.15037	0.09551	17.76563	2.48	0.1267
runtime	-3.20395	0.35877	571.67751	79.75	<.0001

Bounds on condition number: 1.0369, 4.1478

Stepwise Selection: Step 3

Variable runpulse Entered: R-Square = 0.8111 and C(p) = 6.9596

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	690.55086	230.18362	38.64	<.0001
Error	27	160.83069	5.95669		
Corrected Total	30	851.38154			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	111.71806	10.23509	709.69014	119.14	<.0001
age	-0.25640	0.09623	42.28867	7.10	0.0129
runtime	-2.82538	0.35828	370.43529	62.19	<.0001
runpulse	-0.13091	0.05059	39.88512	6.70	0.0154

Bounds on condition number: 1.3548, 11.597

Stepwise Selection: Step 4

Variable maxpulse Entered: R-Square = 0.8368 and C(p) = 4.8800

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	712.45153	178.11288	33.33	<.0001
Error	26	138.93002	5.34346		
Corrected Total	30	851.38154			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	98.14789	11.78569	370.57373	69.35	<.0001
age	-0.19773	0.09564	22.84231	4.27	0.0488
runtime	-2.76758	0.34054	352.93570	66.05	<.0001
runpulse	-0.34811	0.11750	46.90089	8.78	0.0064
maxpulse	0.27051	0.13362	21.90067	4.10	0.0533

Bounds on condition number: 8.4182, 76.851

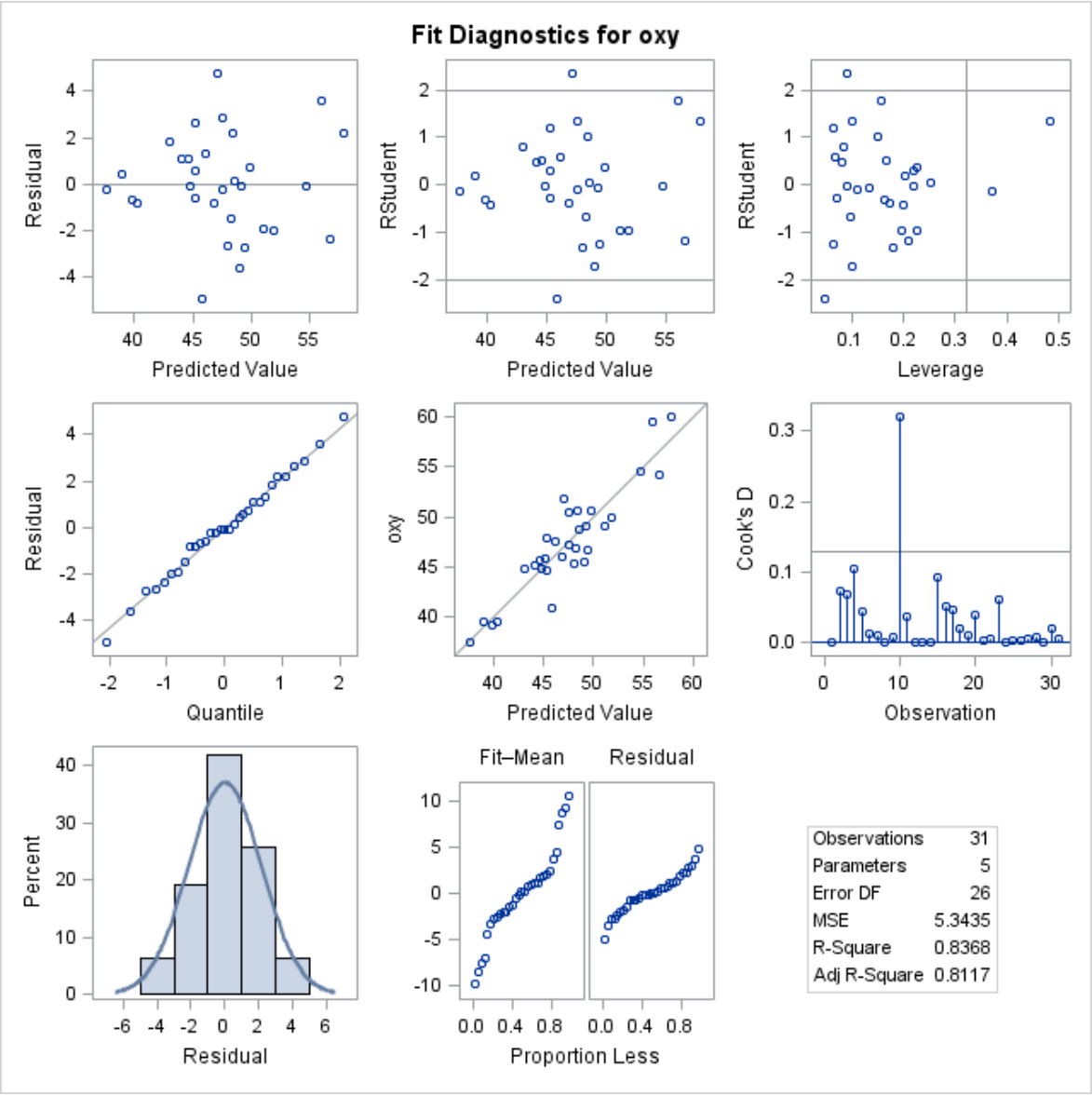
All variables left in the model are significant at the 0.1500 level.

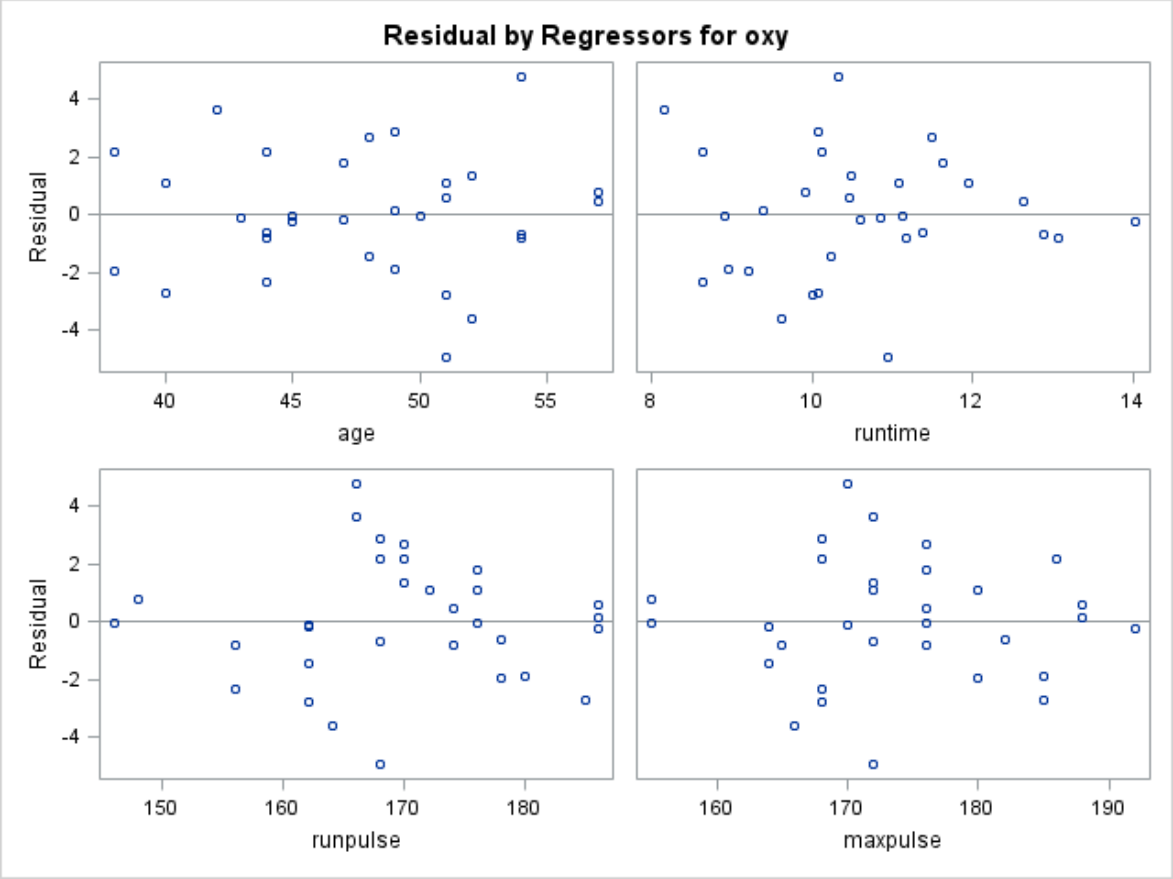
No other variable met the 0.1500 significance level for entry into the model.

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	runtime		1	0.7434	0.7434	13.6988	84.01	<.0001
2	age		2	0.0209	0.7642	12.3894	2.48	0.1267
3	runpulse		3	0.0468	0.8111	6.9596	6.70	0.0154
4	maxpulse		4	0.0257	0.8368	4.8800	4.10	0.0533

The SAS System

The REG Procedure
Model: MODEL3
Dependent Variable: oxy




Residual by Regressors for oxy
Residual
4
2
0
-2
-4
40
45
50
55
age
8
10
12
14
runtime
150
160
170
180
runpulse
160
170
180
190
maxpulse

The SAS System

The REG Procedure
Model: MODEL4
Dependent Variable: oxy

R-Square Selection Method

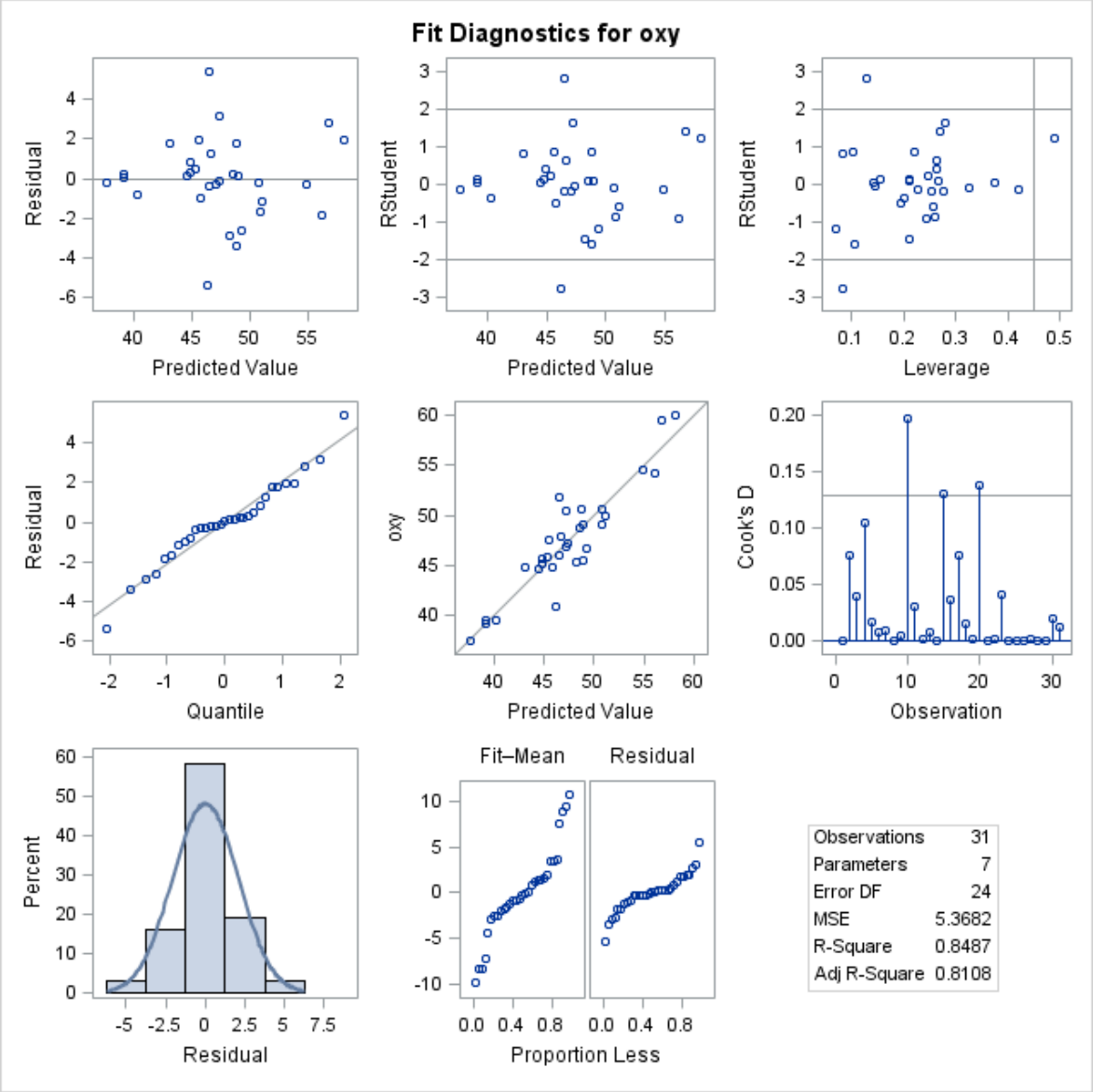
Number of Observations Read	31
Number of Observations Used	31

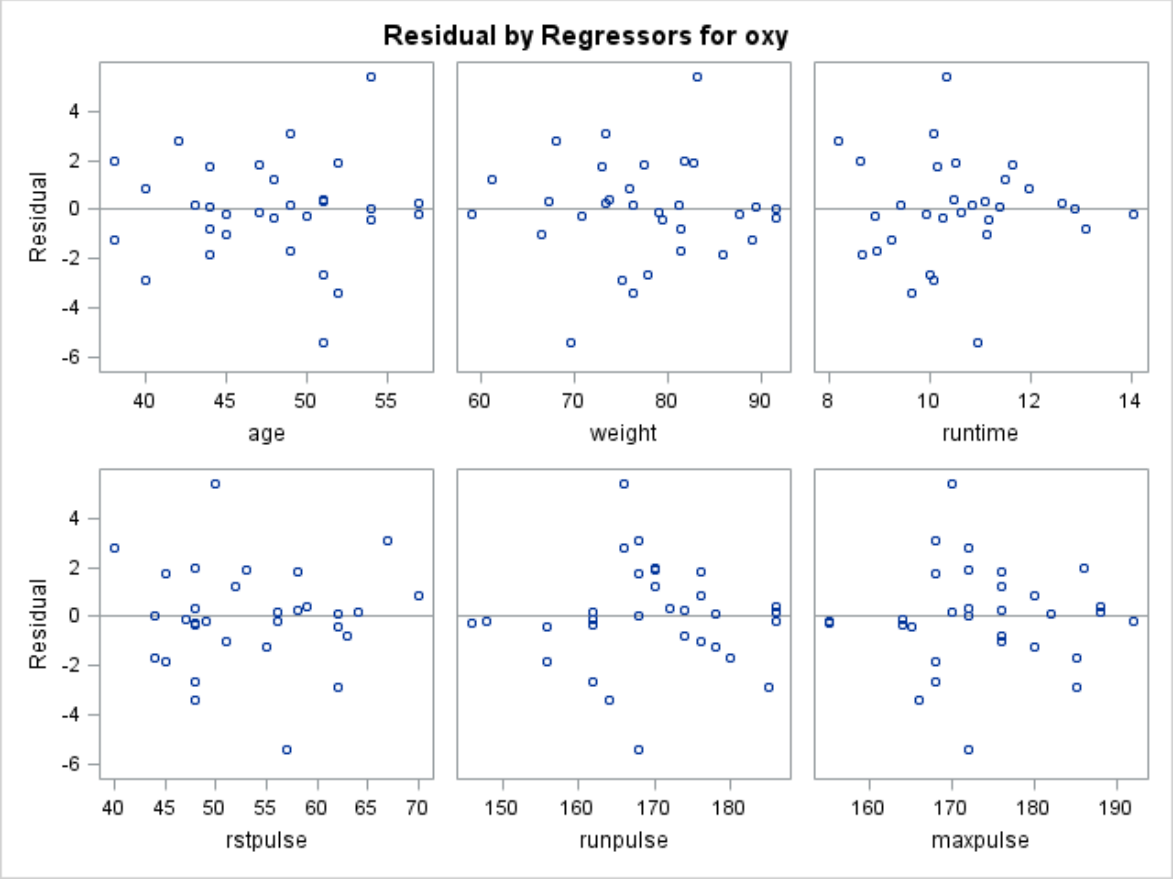
Number in Model	R-Square	C(p)	Variables in Model
1	0.7434	13.6988	runtime
1	0.1595	106.3021	rstpulse
1	0.1584	106.4769	runpulse
1	0.0928	116.8818	age
1	0.0560	122.7072	maxpulse
1	0.0265	127.3948	weight
2	0.7642	12.3894	age runtime
2	0.7614	12.8372	runtime runpulse
2	0.7452	15.4069	runtime maxpulse
2	0.7449	15.4523	weight runtime
2	0.7435	15.6746	runtime rstpulse
2	0.3760	73.9645	age runpulse
2	0.3003	85.9742	age rstpulse
2	0.2894	87.6951	runpulse maxpulse
2	0.2600	92.3638	age maxpulse
2	0.2350	96.3209	rstpulse runpulse
2	0.1806	104.9523	weight rstpulse
2	0.1740	105.9939	rstpulse maxpulse
2	0.1669	107.1332	weight runpulse
2	0.1506	109.7057	age weight
2	0.0675	122.8881	weight maxpulse
3	0.8111	6.9596	age runtime runpulse
3	0.8100	7.1350	runtime runpulse maxpulse
3	0.7817	11.6167	age runtime maxpulse
3	0.7708	13.3453	age weight runtime
3	0.7673	13.8974	age runtime rstpulse
3	0.7619	14.7619	runtime rstpulse runpulse
3	0.7618	14.7729	weight runtime runpulse
3	0.7462	17.2588	weight runtime maxpulse
3	0.7452	17.4060	runtime rstpulse maxpulse
3	0.7451	17.4243	weight runtime rstpulse
3	0.4666	61.5873	age rstpulse runpulse
3	0.4223	68.6250	age runpulse maxpulse
3	0.4091	70.7102	age weight runpulse
3	0.3900	73.7424	age rstpulse maxpulse
3	0.3568	79.0013	age weight rstpulse
3	0.3538	79.4891	rstpulse runpulse maxpulse
3	0.3208	84.7216	weight runpulse maxpulse
3	0.2902	89.5693	age weight maxpulse
3	0.2447	96.7952	weight rstpulse runpulse

Number in Model	R-Square	C(p)	Variables in Model
3	0.1882	105.7430	weight rstpulse maxpulse
4	0.8368	4.8800	age runtime runpulse maxpulse
4	0.8165	8.1035	age weight runtime runpulse
4	0.8158	8.2056	weight runtime runpulse maxpulse
4	0.8117	8.8683	age runtime rstpulse runpulse
4	0.8104	9.0697	runtime rstpulse runpulse maxpulse
4	0.7862	12.9039	age weight runtime maxpulse
4	0.7834	13.3468	age runtime rstpulse maxpulse
4	0.7750	14.6788	age weight runtime rstpulse
4	0.7623	16.7058	weight runtime rstpulse runpulse
4	0.7462	19.2550	weight runtime rstpulse maxpulse
4	0.5034	57.7590	age weight rstpulse runpulse
4	0.5025	57.9092	age rstpulse runpulse maxpulse
4	0.4717	62.7830	age weight runpulse maxpulse
4	0.4256	70.0963	age weight rstpulse maxpulse
4	0.3858	76.4100	weight rstpulse runpulse maxpulse
5	0.8480	5.1063	age weight runtime runpulse maxpulse
5	0.8370	6.8461	age runtime rstpulse runpulse maxpulse
5	0.8176	9.9348	age weight runtime rstpulse runpulse
5	0.8161	10.1685	weight runtime rstpulse runpulse maxpulse
5	0.7887	14.5111	age weight runtime rstpulse maxpulse
5	0.5541	51.7233	age weight rstpulse runpulse maxpulse
6	0.8487	7.0000	age weight runtime rstpulse runpulse maxpulse

The SAS System

The REG Procedure
Model: MODEL4
Dependent Variable: oxy




Residual by Regressors for oxy
Residual
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age
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80
90
weight
8
10
12
14
runtime
40
45
50
55
60
65
70
rstpulse
150
160
170
180
runpulse
160
170
180
190
maxpulse

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: oxy

Number of Observations Read	31
Number of Observations Used	31

Forward Selection: Step 1

Variable runtime Entered: R-Square = 0.7434 and C(p) = 13.6988

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	632.90010	632.90010	84.01	<.0001
Error	29	218.48144	7.53384		
Corrected Total	30	851.38154			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	82.42177	3.85530	3443.36654	457.05	<.0001
runtime	-3.31056	0.36119	632.90010	84.01	<.0001

Bounds on condition number: 1, 1

Forward Selection: Step 2

Variable age Entered: R-Square = 0.7642 and C(p) = 12.3894

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	650.66573	325.33287	45.38	<.0001
Error	28	200.71581	7.16842		
Corrected Total	30	851.38154			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	88.46229	5.37264	1943.41071	271.11	<.0001
age	-0.15037	0.09551	17.76563	2.48	0.1267
runtime	-3.20395	0.35877	571.67751	79.75	<.0001

Bounds on condition number: 1.0369, 4.1478

Forward Selection: Step 3

Variable runpulse Entered: R-Square = 0.8111 and C(p) = 6.9596

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	690.55086	230.18362	38.64	<.0001
Error	27	160.83069	5.95669		
Corrected Total	30	851.38154			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	111.71806	10.23509	709.69014	119.14	<.0001
age	-0.25640	0.09623	42.28867	7.10	0.0129
runtime	-2.82538	0.35828	370.43529	62.19	<.0001
runpulse	-0.13091	0.05059	39.88512	6.70	0.0154

Bounds on condition number: 1.3548, 11.597

Forward Selection: Step 4

Variable maxpulse Entered: R-Square = 0.8368 and C(p) = 4.8800

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	712.45153	178.11288	33.33	<.0001
Error	26	138.93002	5.34346		
Corrected Total	30	851.38154			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	98.14789	11.78569	370.57373	69.35	<.0001
age	-0.19773	0.09564	22.84231	4.27	0.0488
runtime	-2.76758	0.34054	352.93570	66.05	<.0001
runpulse	-0.34811	0.11750	46.90089	8.78	0.0064
maxpulse	0.27051	0.13362	21.90067	4.10	0.0533

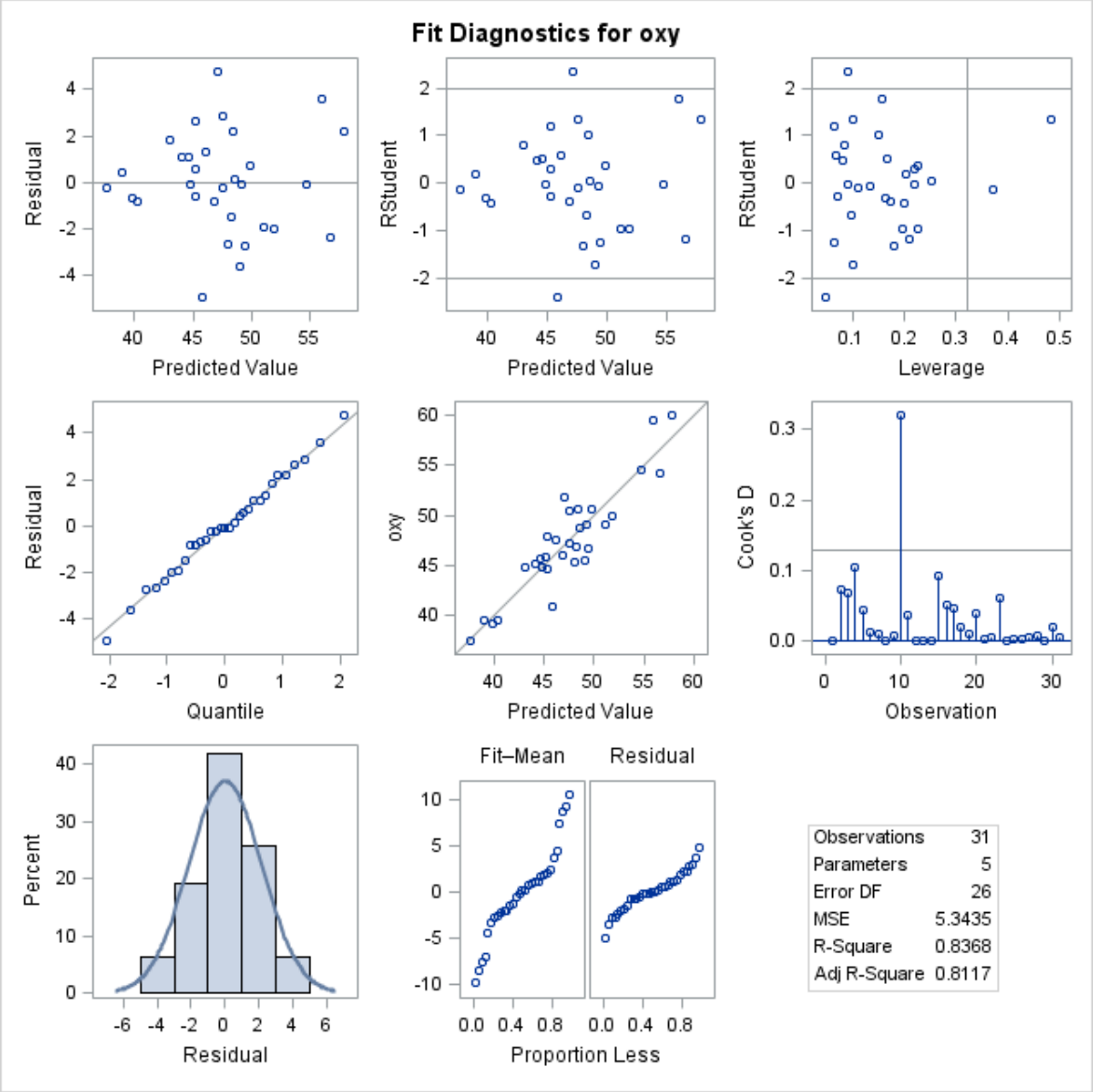
Bounds on condition number: 8.4182, 76.851

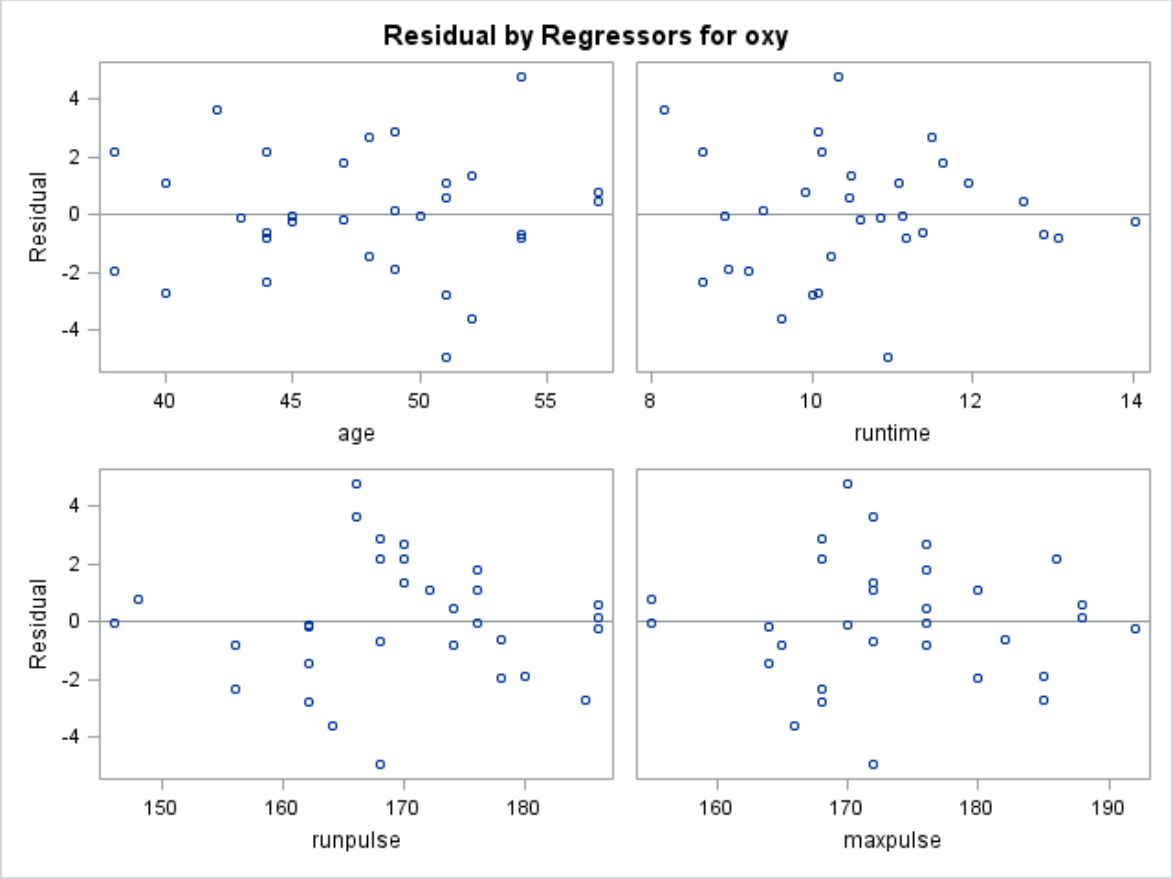
No other variable met the 0.1500 significance level for entry into the model.

Summary of Forward Selection							
Step	Variable Entered	Number Vars In	Partial R-Square	Model R-Square	C(p)	F Value	Pr > F
1	runtime	1	0.7434	0.7434	13.6988	84.01	<.0001
2	age	2	0.0209	0.7642	12.3894	2.48	0.1267
3	runpulse	3	0.0468	0.8111	6.9596	6.70	0.0154
4	maxpulse	4	0.0257	0.8368	4.8800	4.10	0.0533

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: oxy




Residual by Regressors for oxy
Residual
4
2
0
-2
-4
40
45
50
55
age
8
10
12
14
runtime
150
160
170
180
runpulse
160
170
180
190
maxpulse

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: oxy

Number of Observations Read	31
Number of Observations Used	31

Backward Elimination: Step 0

All Variables Entered: R-Square = 0.8487 and C(p) = 7.0000

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	6	722.54361	120.42393	22.43	<.0001
Error	24	128.83794	5.36825		
Corrected Total	30	851.38154			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	102.93448	12.40326	369.72831	68.87	<.0001
age	-0.22697	0.09984	27.74577	5.17	0.0322
weight	-0.07418	0.05459	9.91059	1.85	0.1869
runtime	-2.62865	0.38456	250.82210	46.72	<.0001
rstpulse	-0.02153	0.06605	0.57051	0.11	0.7473
runpulse	-0.36963	0.11985	51.05806	9.51	0.0051
maxpulse	0.30322	0.13650	26.49142	4.93	0.0360

Bounds on condition number: 8.7438, 137.13

Backward Elimination: Step 1

Variable rstpulse Removed: R-Square = 0.8480 and C(p) = 5.1063

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	721.97309	144.39462	27.90	<.0001
Error	25	129.40845	5.17634		
Corrected Total	30	851.38154			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	102.20428	11.97929	376.78935	72.79	<.0001
age	-0.21962	0.09550	27.37429	5.29	0.0301
weight	-0.07230	0.05331	9.52157	1.84	0.1871
runtime	-2.68252	0.34099	320.35968	61.89	<.0001
runpulse	-0.37340	0.11714	52.59624	10.16	0.0038
maxpulse	0.30491	0.13394	26.82640	5.18	0.0316

Bounds on condition number: 8.7312, 104.83

Backward Elimination: Step 2

Variable weight Removed: R-Square = 0.8368 and C(p) = 4.8800

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	712.45153	178.11288	33.33	<.0001
Error	26	138.93002	5.34346		
Corrected Total	30	851.38154			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	98.14789	11.78569	370.57373	69.35	<.0001
age	-0.19773	0.09564	22.84231	4.27	0.0488
runtime	-2.76758	0.34054	352.93570	66.05	<.0001
runpulse	-0.34811	0.11750	46.90089	8.78	0.0064
maxpulse	0.27051	0.13362	21.90067	4.10	0.0533

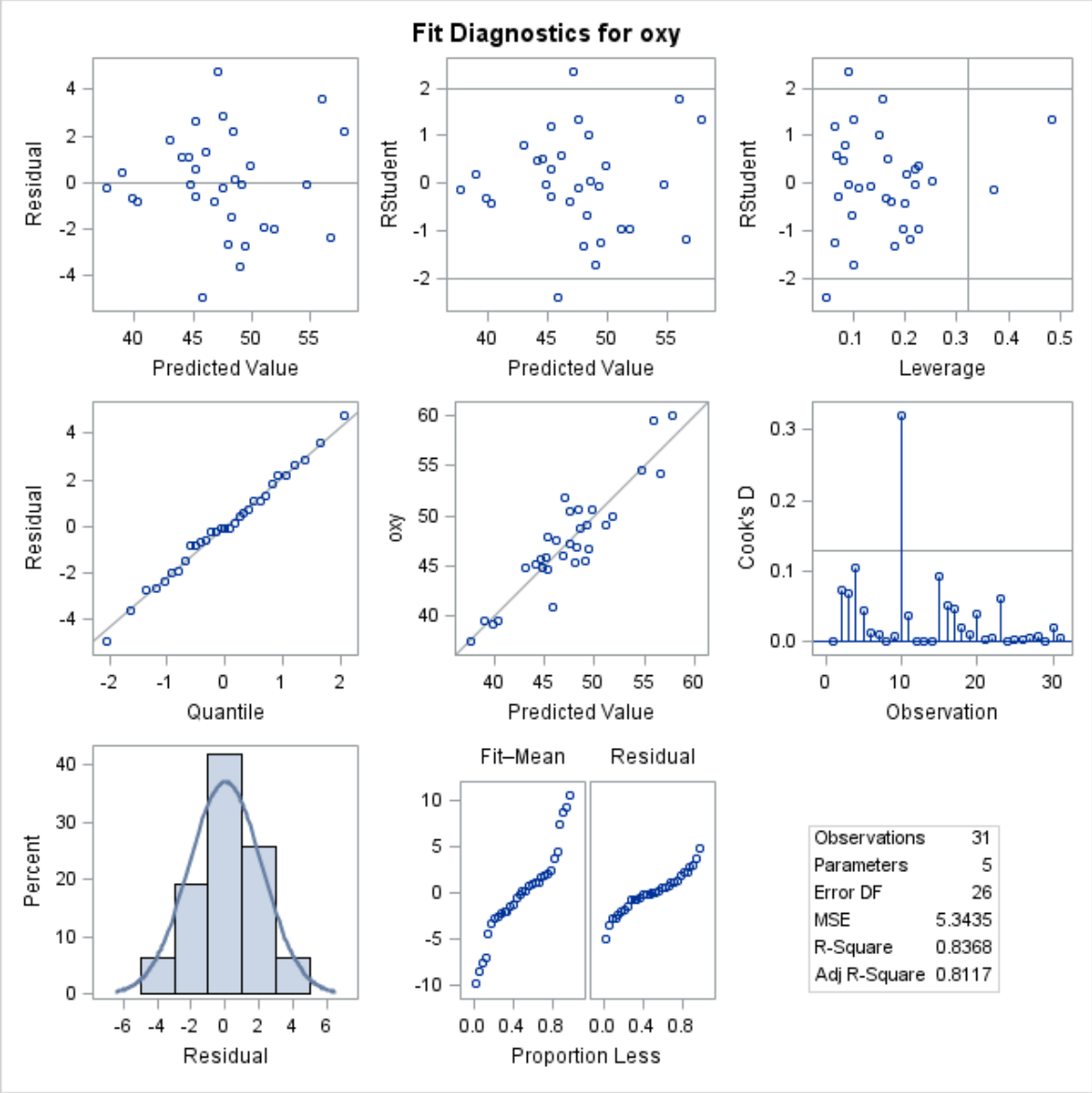
Bounds on condition number: 8.4182, 76.851

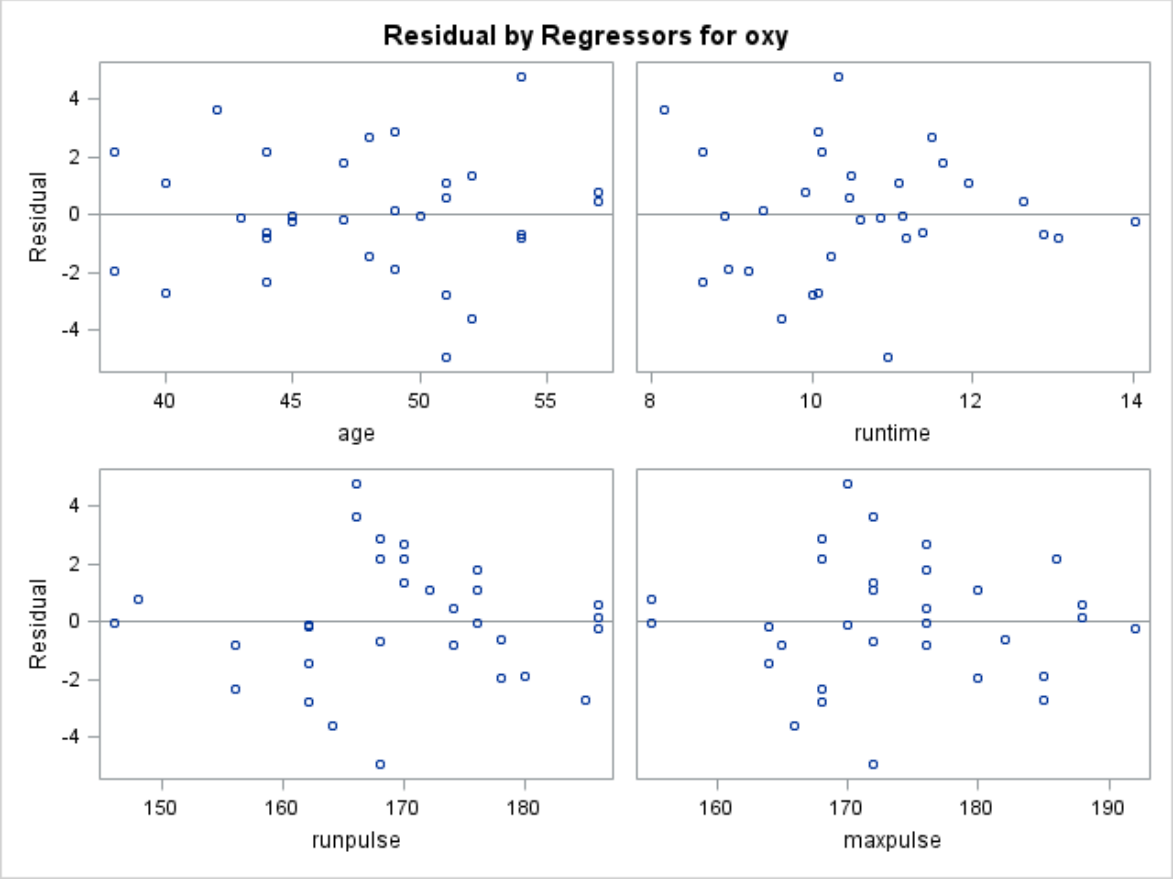
All variables left in the model are significant at the 0.1000 level.

Summary of Backward Elimination							
Step	Variable Removed	Number Vars In	Partial R-Square	Model R-Square	C(p)	F Value	Pr > F
1	rstpulse	5	0.0007	0.8480	5.1063	0.11	0.7473
2	weight	4	0.0112	0.8368	4.8800	1.84	0.1871

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: oxy




Residual by Regressors for oxy
Residual
4
2
0
-2
-4
40
45
50
55
age
8
10
12
14
runtime
150
160
170
180
runpulse
160
170
180
190
maxpulse

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: oxy

Number of Observations Read	31
Number of Observations Used	31

Stepwise Selection: Step 1

Variable runtime Entered: R-Square = 0.7434 and C(p) = 13.6988

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	632.90010	632.90010	84.01	<.0001
Error	29	218.48144	7.53384		
Corrected Total	30	851.38154			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	82.42177	3.85530	3443.36654	457.05	<.0001
runtime	-3.31056	0.36119	632.90010	84.01	<.0001

Bounds on condition number: 1, 1

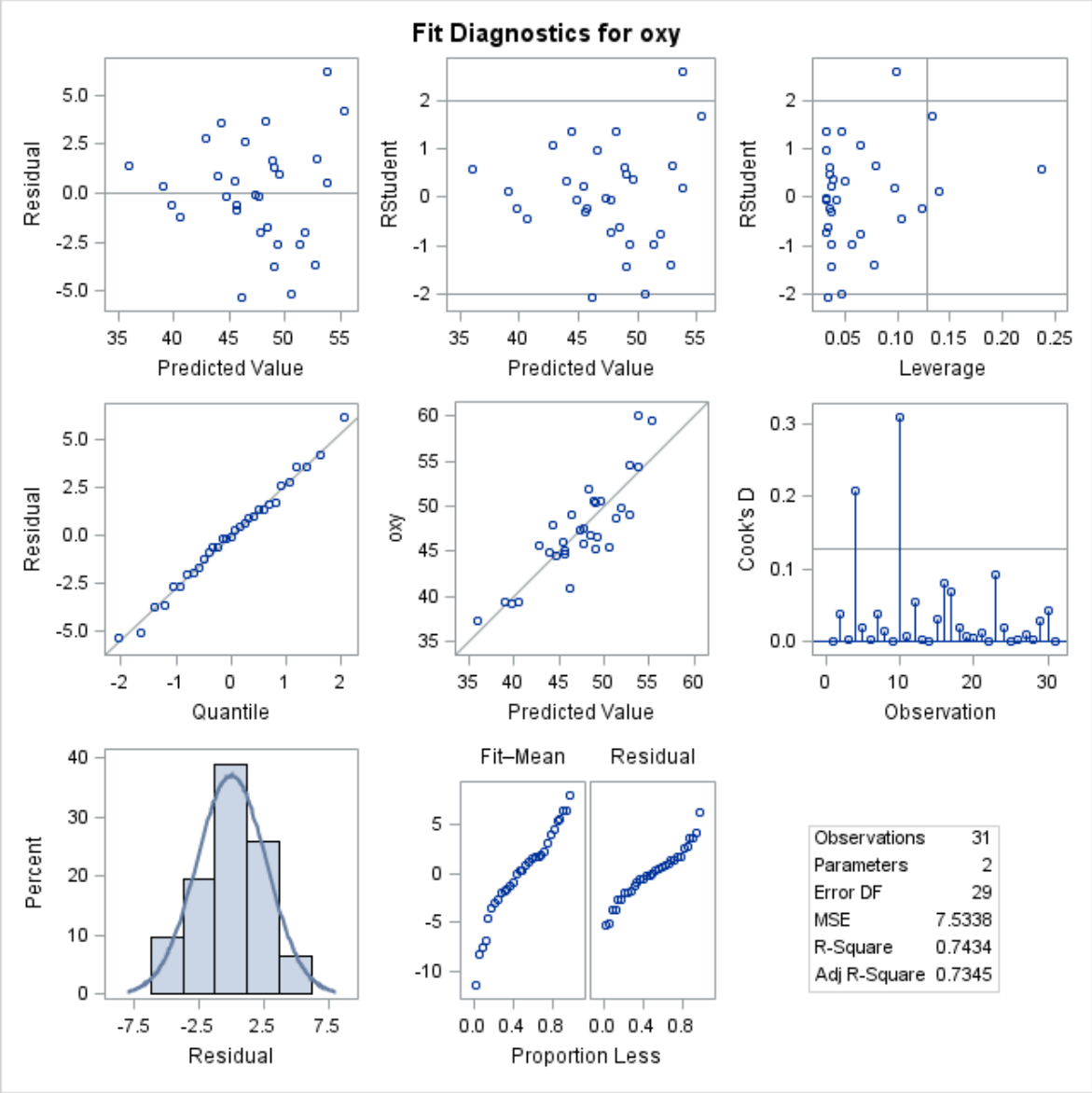
All variables left in the model are significant at the 0.1000 level.

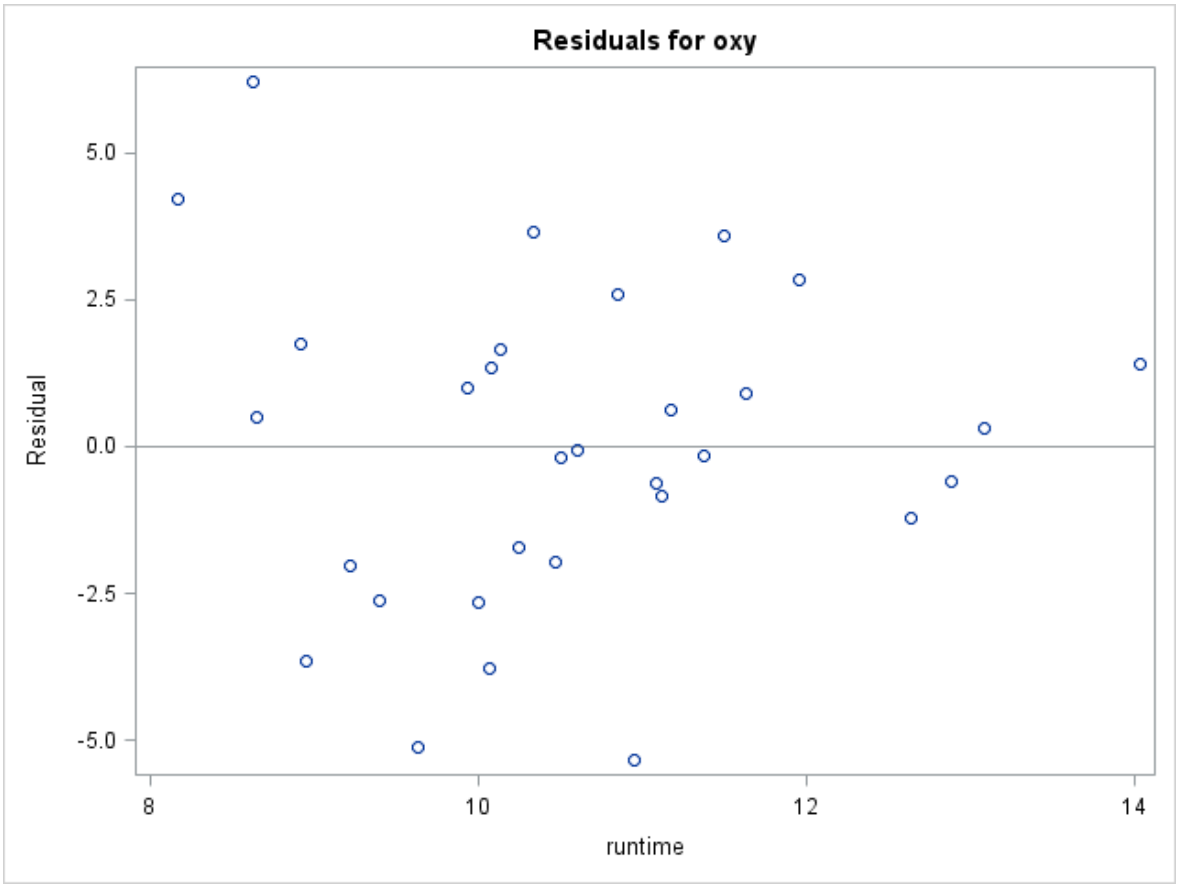
No other variable met the 0.1000 significance level for entry into the model.

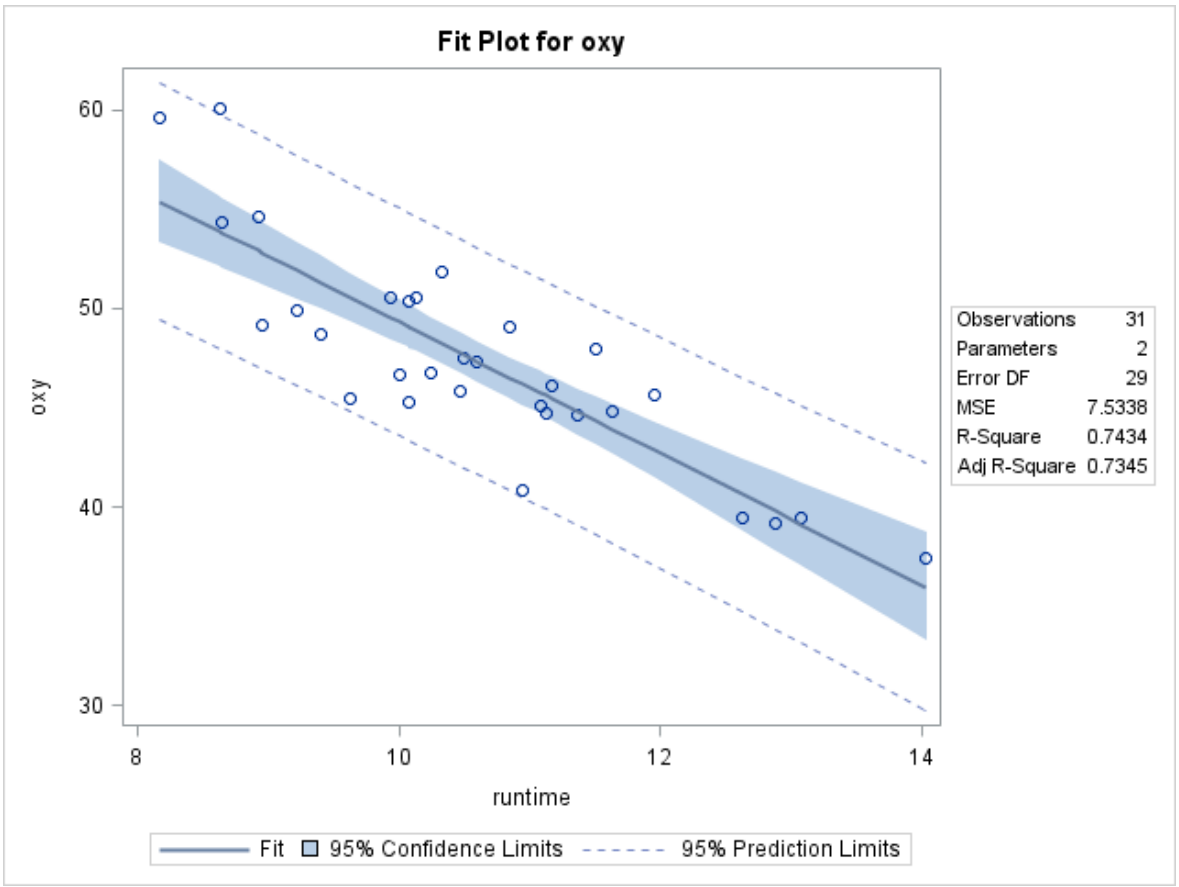
Summary of Stepwise Selection								
Step	Variable Entered	Variable Removed	Number Vars In	Partial R-Square	Model R-Square	C(p)	F Value	Pr > F
1	runtime		1	0.7434	0.7434	13.6988	84.01	<.0001

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: oxy




Residuals for oxy
Residual
5.0
2.5
0.0
-2.5
-5.0
8
10
12
14
runtime


Fit Plot for oxy
oxy
60
50
40
30
8
10
12
14
runtime
Observations 31
Parameters 2
Error DF 29
MSE 7.5338
R-Square 0.7434
Adj R-Square 0.7345
Fit
95% Confidence Limits
95% Prediction Limits