

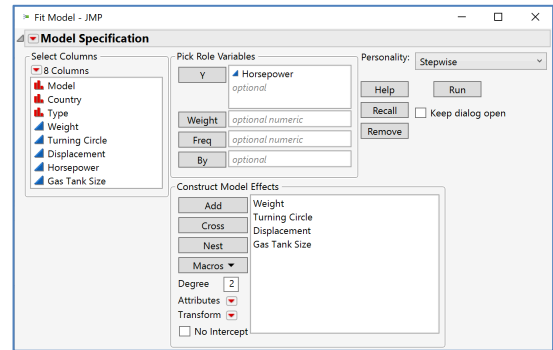
# Stepwise Regression

Use to perform automated variable selection in multiple linear or logistic regression models. The method is particularly useful when there is a large number of candidate explanatory variables.

## Stepwise Regression

1. From an open table, select **Analyze > Fit Model**.
2. Select a response variable from **Select Columns** and click **Y**.
3. Select predictor variables and click **Add**.
4. If desired, select a validation column (**JMP® Pro only**).
5. Select **Stepwise** from the **Personality** drop-down menu.
6. In the resulting **Stepwise Fit** window (shown below):
  - Select a **Stopping Rule**.
  - Select the step **Direction** (forward, backward or mixed).
  - To run the regression automatically, click **Go**. To proceed manually, click **Step**.

Car Physical Data.jmp (Help > Sample Data Library)



Click the **red triangle** for cross-validation, all subsets regression, model averaging and other options.

Choose **Stopping Rule** and **Direction** of adding/removing terms.

Results for current model.

Check/uncheck **Entered** terms to change the model. **Locked** terms are used (or **not**) in later steps.

Each time the model is changed, a new line is added to the **Step History** panel.

	SSE	DFE	RMSE	RSquare	RSquare Adj	Cp	p	AICc	BIC
	65814.642	112	24.241096	0.6391	0.6294	5.3348455	4	1075.296	1088.519

Lock	Entered	Parameter	Estimate	nDF	SS	"F Ratio"	"Prob>F"
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Intercept	115.855797	1	0	0.000	1
<input type="checkbox"/>	<input type="checkbox"/>	Weight	0	1	1355.867	2.335	0.12935
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Turning Circle	-3.1946147	1	4936.571	8.401	0.00451
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Displacement	0.49332276	1	34241.53	58.270	8.2e-12
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Gas Tank Size	3.66502637	1	6841.931	11.643	0.0009

Step	Parameter	Action	"Sig Prob"	Seq SS	RSquare	Cp	p	AICc	BIC
1	Displacement	Entered	0.0000	106510.7	0.5840	18.633	2	1087.44	1095.49
2	Gas Tank Size	Entered	0.0051	5108.552	0.6120	11.836	3	1081.5	1092.15
3	Turning Circle	Entered	0.0045	4936.571	0.6391	5.3348	4	1075.3	1088.52

Use **arrows** to step forward/backward one term at a time.

Select **Go** to run the full stepwise routine according to the chosen **Direction** and **Stopping Rule**.

**P-values** are displayed under **Prob>F**.

- For **Forward** regression, remove all terms, then click **Step** or **Go**.
- For **Backward** regression, enter all terms, then click **Step** or **Go**.
- The **Mixed** direction is only available with the p-value stopping rule.
- To run the model shown in the Current Estimates table, click **Run Model**. JMP generates the Fit Model report.
- See the **Multiple Linear Regression** or **Multiple Logistic Regression** one-page guides for more details.

Visit **Fitting Linear Models > Stepwise Regression Models** in **JMP Help** to learn more.