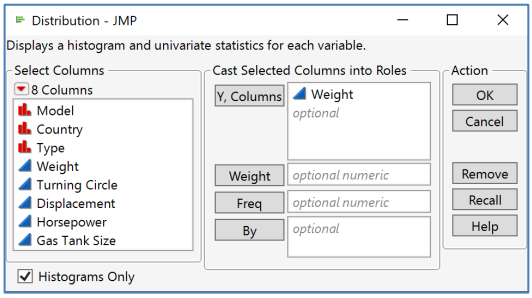
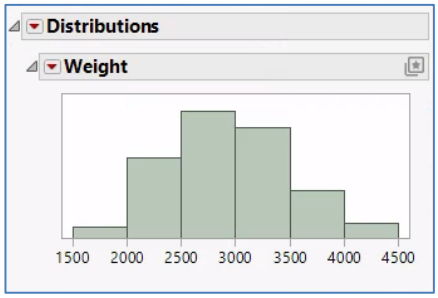
Assessing Normality

This guide provides some ways to assess the fit of a normal distribution to a continuous variable. See options for fitting and assessing the fit of other non-normal distributions in the **Fitting Distributions** guide.

1. From an open JMP® data table, select **Analyze > Distribution**.
2. Select one or more continuous variables from **Select Columns** and click **Y, Columns**.
3. Click **OK** to generate a histogram (Histogram Only was selected in this example).

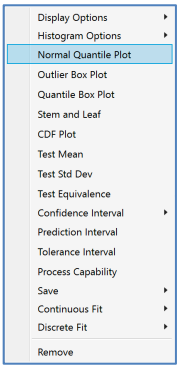
Car Physical Data.jmp
(Help > Sample Data Folder)

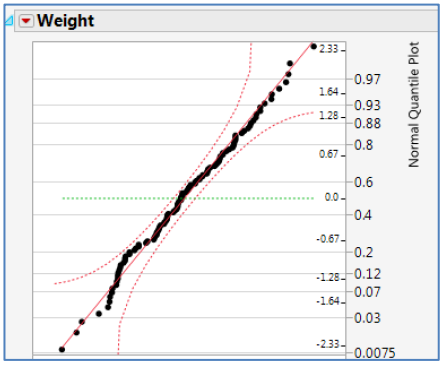




Normal Quantile Plot

Click on the **red triangle** for the variable, and select **Normal Quantile Plot**.



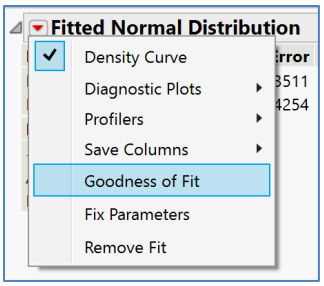


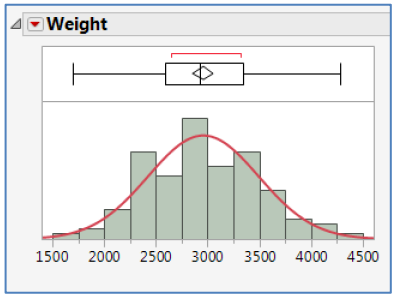
If the data more or less follow a straight line (fat pen test), we can conclude that the data are reasonably approximated by a normal distribution.

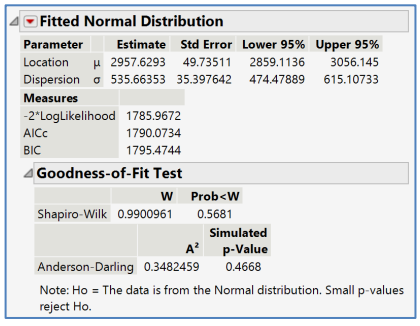
For this example, we would conclude the distribution is approximately normal.

Fitting a Normal Distribution

1. Select **Continuous Fit > Fit Normal** from the **lower red triangle** for the variable.
2. In the resulting output, click on the **red triangle** for **Fitted Normal Distribution** and select **Goodness of Fit**.







Two Goodness of Fit tests are performed to evaluate if the normal distribution is a good fit to the data (Shapiro-Wilk and Anderson Darling).

Both have large p-values indicating that there is no statistical evidence suggesting the normal distribution is not a good fit to these data.

Visit **Basic Analysis > Distributions > Options for Continuous Variables > Normal Quantile Plot** and **Basic Analysis > Distributions > Options for Continuous Variables > Fit Distributions** in **JMP Help** to learn more.