Reference to "Practical Regression and Anova using R", Jullian Faraway, July 2002 The goodness of fit is measured by coefficient of determination.

$R^2 = 1 - \frac{\sum(\widehat{y_i} - y_i)^2}{\sum(y_i - \bar{y})^2}$

For Model 1:

$R^2_{y_1} = 1 - \frac{\sum(\widehat{y_{1i}} - y_i)^2}{\sum(y_i - \bar{y})^2}$

For Model 2:

$R^2_{y_2} = 1 - \frac{\sum(\widehat{y_{2i}} - y_i)^2}{\sum(y_i - \bar{y})^2}$

$R^2_{\frac{y_2+y_1}{2}} = 1 - \frac{\sum(\frac{\widehat{y_{1i}}+\widehat{y_{2i}}}{2} - y_i)^2}{\sum(y_i - \bar{y})^2} = 1 - \frac{A}{\sum(y_i - \bar{y})^2}$

$\frac{R^2_{y_1} + R^2_{y_2}}{2} = 1 - \frac{1}{2}\frac{\sum(\widehat{y_{1i}} - y_i)^2 + \sum(\widehat{y_{2i}} - y_i)^2}{\sum(y_i - \bar{y})^2} = 1 - \frac{B}{\sum(y_i - \bar{y})^2}$

Where,

$A = \sum(\frac{\widehat{y_{1i}}+\widehat{y_{2i}}}{2} - y_i)^2 = \frac{1}{4}\sum(2\widehat{y_{1i}}\widehat{y_{2i}} + \widehat{y_{1i}}^2 + \widehat{y_{2i}}^2 - 4(\widehat{y_{1i}} + \widehat{y_{2i}})y_i + 4y_i^2) = \frac{1}{4}\sum(a + c)$

$B = \frac{1}{2}(\sum(\widehat{y_{1i}} - y_i)^2 + \sum(\widehat{y_{2i}} - y_i)^2) = \frac{1}{4}\sum(\widehat{y_{1i}}^2 + \widehat{y_{2i}}^2 + \widehat{y_{1i}}^2 + \widehat{y_{2i}}^2 - 4(\widehat{y_{1i}} + \widehat{y_{2i}})y_i + 4y_i^2) = \frac{1}{4}\sum(b + c)$

$a = 2\widehat{y_{1i}}\widehat{y_{2i}}$, $b = \widehat{y_{1i}}^2 + \widehat{y_{2i}}^2$

$b \geq a$ is always hold

So
$B \geq A$ is always hold, therefore

$R^2_{\frac{y_2+y_1}{2}} \geq \frac{R^2_{y_1} + R^2_{y_2}}{2}$