$$(AD)^T = DA^T \tag{1}$$
$$(AD)_{ij} = A_{ij}d_j \tag{2}$$
$$(DA^T)_{ij} = d_i(A^T)_{ij} = A_{ji}d_i \tag{3}$$

Find d such that AD is symmetric where

$$A = \nabla \times \nabla \times \tag{4}$$

for a non-regular cartesian grid. In other words, find d such that

$$A_{ij}d_j = A_{ji}d_i, \quad \text{for all } i, j. \tag{5}$$

FIGURE HERE

For the figure above,

$$A_{ba} = -\frac{1}{\Delta x_b \Delta y_b} \tag{6}$$
$$A_{ab} = -\frac{1}{\Delta x_a \Delta y_a} \tag{7}$$
$$d_i \propto \frac{1}{\Delta x_i \Delta y_i} \tag{8}$$

Also, we will have

$$A_{ca} = -\frac{1}{\Delta x_b \Delta z_b} \tag{9}$$
$$A_{ac} = -\frac{1}{\Delta x_a \Delta z_a} \tag{10}$$
$$d_i \propto \frac{1}{\Delta x_i \Delta z_i} \tag{11}$$

Lastly, we already have $A_{aa'} = A_{a'a}$ for a and a' in the same direction.

The conclusion, then, is

$$d_i = \frac{1}{\Delta x_i \Delta y_i \Delta z_i} \tag{12}$$