$$\mathbf{FGG1FDdt} = -\frac{\left(k\left(6+H^2k^2\right)U\,w\right)dt^2}{2\left(3+H^2k^2\right)}$$

$$\mathbf{FGG1FDdxdt} = -\frac{1}{2}\left(\sqrt{g\,H}\;k^2\right)dt*dx$$

$$\mathbf{FGG1FDdx} = 0$$

$$-\frac{dt^2\,k\left(6+H^2\,k^2\right)U\,w}{2\left(3+H^2\,k^2\right)}$$

$$-\frac{1}{2}\,dt\,dx\,\sqrt{g\,H}\;k^2$$

0

$$\mathbf{FGG2FDdt} = -\frac{\left(k\left(6+H^2k^2\right)U\,w\right)dt^2}{2\left(3+H^2k^2\right)}$$

$$\mathbf{FGG2FDdxdt} = -\frac{i\left(-9k^3U+3H^2k^5U+H^4k^7U\right)dt}{12\left(3+H^2k^2\right)^2}dx^2$$

$$\mathbf{FGG2FDdx} = 0$$

$$-\frac{dt^2\,k\left(6+H^2\,k^2\right)U\,w}{2\left(3+H^2\,k^2\right)}$$

$$-\frac{i\,dt\,dx^2\left(-9\,k^3\,U+3\,H^2\,k^5\,U+H^4\,k^7\,U\right)}{12\left(3+H^2\,k^2\right)^2}$$

0

$$\mathbf{FGG2FEMdt} = -\frac{\left(k\left(6+H^2k^2\right)U\,w\right)dt^2}{2\left(3+H^2k^2\right)}$$

$$\mathbf{FGG2FEMdxdt} = -\frac{i\left(126k^3U+75H^2k^5U+10H^4k^7U\right)dt}{120\left(3+H^2k^2\right)^2}dx^2$$

$$\mathbf{FGG2FEMdx} = 0$$

$$-\frac{dt^2\,k\left(6+H^2\,k^2\right)U\,w}{2\left(3+H^2\,k^2\right)}$$

$$-\frac{i\,dt\,dx^2\left(126\,k^3\,U+75\,H^2\,k^5\,U+10\,H^4\,k^7\,U\right)}{120\left(3+H^2\,k^2\right)^2}$$

0

$$\mathbf{FGG3FDdt = -\frac{\left(k\left(6+H^2k^2\right)U\,w\right)dt^2}{2\left(3+H^2k^2\right)}}$$

$$\mathbf{FGG3FDdxdt = -\frac{1}{12}\left(\sqrt{g\,H}\;k^4\right)dt*dx^3}$$

$$\mathbf{FGG3FDdx = 0}$$

$$-\frac{dt^2\,k\left(6+H^2\,k^2\right)U\,w}{2\left(3+H^2\,k^2\right)}$$

$$-\frac{1}{12}\,dt\,dx^3\sqrt{g\,H}\;k^4$$

$$0$$