$$\dot{\mathbf{R}}_{WB} = \mathbf{R}_{WB} \, {}_B\boldsymbol{\omega}_{WB}^{\wedge}$$
$$_W\dot{\mathbf{v}} = {}_W\mathbf{a}$$
$$_W\dot{\mathbf{p}} = {}_W\mathbf{v} \qquad\qquad\qquad (1)$$