$$\mathfrak{Y} \rtimes G \xrightarrow[\text{plex}]{\rtimes} \mathfrak{Y}$$

$$\mathfrak{Y} \xrightarrow[\text{mom}]{\Phi} \overset{+}{\mathfrak{g}}$$

$$\underset{\mathfrak{h}}{\overset{+}{\Phi}}\gamma = \mathfrak{h} \rtimes \gamma$$

$${}_{\mathfrak{h} \rtimes g}\Phi = {}_{\mathfrak{h}}\Phi \rtimes g$$

$$\overbrace{\mathfrak{h} \rtimes \gamma}\, {}_{\mathfrak{h}}\underline{\Phi} = {}_{\mathfrak{h}}\Phi \rtimes \gamma$$

$$\mathrm{LHS} = \partial_{\varepsilon} \overbrace{{}_{\mathfrak{h} \rtimes g_{\varepsilon}}\Phi} = \partial_{\varepsilon} \overbrace{{}_{\mathfrak{h}}\Phi \rtimes g_{\varepsilon}} = \mathrm{RHS}$$

$$\big|_{\mathfrak{h}}\underline{\Phi} = {}_{\mathfrak{h}}\Omega \big| \overbrace{\mathfrak{h} \rtimes \mathfrak{g}}$$

$$\overbrace{\mathfrak{L}_{\mathfrak{h}}\underline{\Phi}}\gamma = \mathfrak{L}\, \underset{\mathfrak{h}}{\overset{+}{\Phi}}\gamma = \mathfrak{L}\, {}_{\mathfrak{h}}\Omega\, \underset{\mathfrak{h}}{\overset{+}{\Phi}}\gamma = \mathfrak{L}\, {}_{\mathfrak{h}}\Omega\, \overbrace{\mathfrak{h} \rtimes \gamma}$$

$$\mathfrak{L} \in \big|_{\mathfrak{h}}\underline{\Phi} \Leftrightarrow \overbrace{\mathfrak{L}_{\mathfrak{h}}\underline{\Phi}}\, \mathfrak{g} = 0 \Leftrightarrow \mathfrak{L}\, {}_{\mathfrak{h}}\Omega\, \overbrace{\mathfrak{h} \rtimes \mathfrak{g}} = 0 \Leftrightarrow \mathfrak{L} \in {}_{\mathfrak{h}}\Omega \big| \overbrace{\mathfrak{h} \rtimes \mathfrak{g}}$$