$$D_2 \rtimes f_2 = \frac{df \boxtimes 1_R \;\Big|\; \Gamma\,(\overset{*}{\varepsilon} F - f \overset{*}{\varepsilon})\,\underset{\nwarrow}{\boxtimes}\overset{*}{e}}{(\varepsilon f - F\varepsilon)\,\Gamma \boxtimes e \;\Big|\; dF \boxtimes 1_L}$$

$$D_2\, f_2 = \frac{\curlywedge \boxtimes 1_R \;\Big|\; \Gamma \overset{*}{\varepsilon}\underset{\nwarrow}{\boxtimes}\overset{*}{e}}{\varepsilon\Gamma \boxtimes e \;\Big|\; \curlywedge \boxtimes 1_L} \; \frac{f \boxtimes 1_R \;\Big|\; 0}{0 \;\Big|\; F \boxtimes 1_L} = \frac{\curlywedge f \boxtimes 1_R \;\Big|\; \Gamma \overset{*}{\varepsilon} F \underset{\nwarrow}{\boxtimes}\overset{*}{e}}{\varepsilon f \Gamma \boxtimes e \;\Big|\; \curlywedge F \boxtimes 1_L}$$

$$f_2\, D_2 = \frac{f \boxtimes 1_R \;\Big|\; 0}{0 \;\Big|\; F \boxtimes 1_L} \; \frac{\curlywedge \boxtimes 1_R \;\Big|\; \Gamma \overset{*}{\varepsilon}\underset{\nwarrow}{\boxtimes}\overset{*}{e}}{\varepsilon\Gamma \boxtimes e \;\Big|\; \curlywedge \boxtimes 1_L} = \frac{f \curlywedge \boxtimes 1_R \;\Big|\; \Gamma f \overset{*}{\varepsilon}\underset{\nwarrow}{\boxtimes}\overset{*}{e}}{F\varepsilon\Gamma \boxtimes e \;\Big|\; F \curlywedge \boxtimes 1_L}$$

$$\curlywedge f - f \curlywedge = df\colon \quad \curlywedge F - F \curlywedge = dF$$

$$\Gamma f = f \Gamma$$

$$\frac{\curlywedge \boxtimes 1_R \;\Big|\; \Gamma \underset{\nwarrow}{\boxtimes}\overset{*}{e}}{\Gamma \boxtimes e \;\Big|\; \curlywedge \boxtimes 1_L} \; \frac{f_R \boxtimes 1_R \;\Big|\; 0}{0 \;\Big|\; f_L \boxtimes 1_L} - \frac{f_R \boxtimes 1_R \;\Big|\; 0}{0 \;\Big|\; f_L \boxtimes 1_L} \; \frac{\curlywedge \boxtimes 1_R \;\Big|\; \Gamma \underset{\nwarrow}{\boxtimes}\overset{*}{e}}{\Gamma \boxtimes e \;\Big|\; \curlywedge \boxtimes 1_L} =$$

$$\frac{\curlywedge f_R \boxtimes 1_R \;\Big|\; \Gamma f_L \underset{\nwarrow}{\boxtimes}\overset{*}{e}}{\Gamma f_R \boxtimes e \;\Big|\; \curlywedge f_L \boxtimes 1_L} - \frac{f_R \curlywedge \boxtimes 1_R \;\Big|\; f_R \Gamma \underset{\nwarrow}{\boxtimes}\overset{*}{e}}{f_L \Gamma \boxtimes e \;\Big|\; f_L \curlywedge \boxtimes 1_L} = \frac{df_R \boxtimes 1_R \;\Big|\; \Gamma f_{LR} \underset{\nwarrow}{\boxtimes}\overset{*}{e}}{f_{RL} \Gamma \boxtimes e \;\Big|\; df_L \boxtimes 1_L}$$

$$dp = \frac{\curlywedge \boxtimes 1_R \;\Big|\; \Gamma \underset{\nwarrow}{\boxtimes}\overset{*}{e}}{\Gamma \boxtimes e \;\Big|\; \curlywedge \boxtimes 1_L} \; \frac{0 \;\Big|\; 0}{0 \;\Big|\; I \boxtimes 1_L} - \frac{0 \;\Big|\; 0}{0 \;\Big|\; I \boxtimes 1_L} \; \frac{\curlywedge \boxtimes 1_R \;\Big|\; \Gamma \underset{\nwarrow}{\boxtimes}\overset{*}{e}}{\Gamma \boxtimes e \;\Big|\; \curlywedge \boxtimes 1_L} = \frac{0 \;\Big|\; \Gamma \underset{\nwarrow}{\boxtimes}\overset{*}{e}}{-\Gamma \boxtimes e \;\Big|\; 0}$$