PROOF. Let $K \in \operatorname{GR} \bigsqcap \left\{ \frac{\uparrow^{\mathsf{RLD}(\operatorname{Base}(\mathcal{A});\operatorname{Base}(\mathcal{A}))} \operatorname{id}_A}{A \in \mathcal{A}} \right\}$, then there exists $A \in \mathcal{A}$ such that $K \supseteq \operatorname{id}_A$. Then

$$\begin{aligned} &\operatorname{id}^{\mathsf{RLD}}_{\mathcal{A}} \sqsubseteq \\ &\uparrow^{\mathsf{RLD}(\operatorname{Base}(\mathcal{A});\operatorname{Base}(\mathcal{A}))} \operatorname{id}_{\operatorname{Base}(\mathcal{A})} \sqcap (\mathcal{A} \times^{\mathsf{RLD}} \top^{\mathfrak{F}(\operatorname{Dst} f)}) \sqsubseteq \\ &\uparrow^{\mathsf{RLD}(\operatorname{Base}(\mathcal{A});\operatorname{Base}(\mathcal{A}))} \operatorname{id}_{\operatorname{Base}(\mathcal{A})} \sqcap (\uparrow^{\operatorname{Base}(\mathcal{A})} A \times^{\mathsf{RLD}} \top^{\mathfrak{F}(\operatorname{Dst} f)}) = \\ &\uparrow^{\mathsf{RLD}(\operatorname{Base}(\mathcal{A});\operatorname{Base}(\mathcal{A}))} \operatorname{id}_{\operatorname{Base}(\mathcal{A})} \sqcap \uparrow^{\mathsf{RLD}(\operatorname{Base}(\mathcal{A});\operatorname{Base}(\mathcal{A}))} (A \times \operatorname{Base}(\mathcal{A})) = \\ &\uparrow^{\mathsf{RLD}(\operatorname{Base}(\mathcal{A});\operatorname{Base}(\mathcal{A}))} (\operatorname{id}_{\operatorname{Base}(\mathcal{A})} \cap (A \times \operatorname{Base}(\mathcal{A}))) = \\ &\uparrow^{\mathsf{RLD}(\operatorname{Base}(\mathcal{A});\operatorname{Base}(\mathcal{A}))} \operatorname{id}_A \sqsubseteq \\ &\uparrow^{\mathsf{RLD}(\operatorname{Base}(\mathcal{A});\operatorname{Base}(\mathcal{A}))} K. \end{aligned}$$

Thus $K \in \operatorname{GR} \operatorname{id}^{\mathsf{RLD}}_{\mathcal{A}}$.

Reversely let $K \in \operatorname{GR} \operatorname{id}^{\mathsf{RLD}}_{\mathcal{A}} = \operatorname{GR}(\operatorname{id}^{\mathsf{RLD}(\operatorname{Base}(\mathcal{A}))} \sqcap (\mathcal{A} \times^{\mathsf{RLD}} \top^{\mathfrak{F}(\operatorname{Dst} f)}))$, then there exists $A \in \mathcal{A}$ such that

$$\begin{aligned} K \in \operatorname{GR} \uparrow^{\mathsf{RLD}(\operatorname{Base}(\mathcal{A});\operatorname{Base}(\mathcal{A}))} (\operatorname{id}_{\operatorname{Base}(\mathcal{A})} \cap (A \times \operatorname{Base}(\mathcal{A}))) = \\ \operatorname{GR} \uparrow^{\mathsf{RLD}(\operatorname{Base}(\mathcal{A});\operatorname{Base}(\mathcal{A}))} \operatorname{id}_A \supseteq \\ \operatorname{GR} \bigsqcap \left\{ \frac{\uparrow^{\mathsf{RLD}(\operatorname{Base}(\mathcal{A});\operatorname{Base}(\mathcal{A}))} \operatorname{id}_A}{A \in \mathcal{A}} \right\}. \end{aligned}$$

□

COROLLARY 763. $(\operatorname{id}^{\mathsf{RLD}}_{\mathcal{A}})^{-1} = \operatorname{id}^{\mathsf{RLD}}_{\mathcal{A}}$.

THEOREM 764. $f|_{\mathcal{A}} = f \circ \operatorname{id}^{\mathsf{RLD}}_{\mathcal{A}}$ for every reloid f and $\mathcal{A} \in \mathfrak{F}(\operatorname{Src} f)$.

PROOF. We need to prove that $f \sqcap (\mathcal{A} \times^{\mathsf{RLD}} \top^{\mathfrak{F}(\operatorname{Dst} f)}) = f \circ \bigsqcap \left\{ \frac{\uparrow^{\mathsf{RLD}(\operatorname{Src} f;\operatorname{Src} f)} \operatorname{id}_A}{A \in \mathcal{A}} \right\}$. We have

$$\begin{aligned} f \circ \bigsqcap \left\{ \frac{\uparrow^{\mathsf{RLD}(\operatorname{Src} f;\operatorname{Src} f)} \operatorname{id}_A}{A \in \mathcal{A}} \right\} = \\ \bigsqcap \left\{ \frac{\uparrow^{\mathsf{RLD}(\operatorname{Src} f;\operatorname{Src} f)} (F \circ \operatorname{id}_A)}{F \in \operatorname{GR} f, A \in \mathcal{A}} \right\} = \\ \bigsqcap \left\{ \frac{\uparrow^{\mathsf{RLD}(\operatorname{Src} f;\operatorname{Src} f)} (F|_A)}{F \in \operatorname{GR} f, A \in \mathcal{A}} \right\} = \\ \bigsqcap \left\{ \frac{\uparrow^{\mathsf{RLD}(\operatorname{Src} f;\operatorname{Src} f)} (F \cap (A \times \operatorname{Dst} f))}{F \in \operatorname{GR} f, A \in \mathcal{A}} \right\} = \\ \bigsqcap \left\{ \frac{\uparrow^{\mathsf{RLD}(\operatorname{Src} f;\operatorname{Src} f)} F}{F \in \operatorname{GR} f} \right\} \sqcap \bigsqcap \left\{ \frac{\uparrow^{\mathsf{RLD}(\operatorname{Src} f;\operatorname{Src} f)} (A \times \operatorname{Dst} f)}{A \in \mathcal{A}} \right\} = \\ f \sqcap (\mathcal{A} \times^{\mathsf{RLD}} \top^{\mathfrak{F}(\operatorname{Dst} f)}). \end{aligned}$$

□

THEOREM 765. $(g \circ f)|_{\mathcal{A}} = g \circ (f|_{\mathcal{A}})$ for every composable reloids f and g and $\mathcal{A} \in \mathfrak{F}(\operatorname{Src} f)$.

PROOF. $(g \circ f)|_{\mathcal{A}} = (g \circ f) \circ \operatorname{id}^{\mathsf{RLD}}_{\mathcal{A}} = g \circ (f \circ \operatorname{id}^{\mathsf{RLD}}_{\mathcal{A}}) = g \circ (f|_{\mathcal{A}})$. □

THEOREM 766. $f \sqcap (\mathcal{A} \times^{\mathsf{RLD}} \mathcal{B}) = \operatorname{id}^{\mathsf{RLD}}_{\mathcal{B}} \circ f \circ \operatorname{id}^{\mathsf{RLD}}_{\mathcal{A}}$ for every reloid f and $\mathcal{A} \in \mathfrak{F}(\operatorname{Src} f)$, $\mathcal{B} \in \mathfrak{F}(\operatorname{Dst} f)$.