$$E_U^{x:y} = \frac{\xi|\xi x^y}{\xi U = 0}$$

$$E_U^{x:y} \rtimes g = \frac{\acute{\xi}|\acute{\xi}^{x^y} g}{\acute{\xi}\overbrace{a + x^y c}^{-1} U = 0} = E^{{}^{x^y} g}_{\overbrace{a + x^y c}^{-1} U}$$

$$\acute{\xi} = \xi \underbrace{a + x^y c} \Longrightarrow \xi = \acute{\xi}\ \overbrace{a + x^y c}^{-1}$$

$$\xi|\xi\, x^y \frac{a \;\big|\; b}{c \;\big|\; d} = \xi \underbrace{a + x^y c}|\xi \underbrace{b + x^y d} = \acute{\xi}\,|\,\acute{\xi}\ \overbrace{a + x^y c}^{-1}\ \underbrace{b + x^y d} = \acute{\xi}\,|\,\acute{\xi}^{\,x^y} g$$

$$E^U = \frac{\xi|\eta}{U\vartheta = 0 \curvearrowright \underbrace{\eta - \xi x^y}\vartheta = 0}$$

$$w = \overbrace{a + zc}^{-1}\ \underbrace{b + zd} \Longrightarrow -z = \underbrace{b - aw}\ \overbrace{d - cw}^{-1}$$

$$b + zd = \underbrace{a + zc} w = aw + zcw \Longrightarrow z \underbrace{d - cw} = aw - b$$

$$E^U_{x:y} \rtimes g = \frac{\acute{\xi}|\acute{\eta}}{U\,\underbrace{d - c^{x^y} g}\,\acute{\vartheta} = 0 \curvearrowright \underbrace{\acute{\eta} - \acute{\xi}^{x^y} g}\,\acute{\vartheta} = 0} = E^{U\,\underbrace{d - c^{x^y} g}}_{{}^{x^y} g}$$

$$\vartheta = \underbrace{d - c^{x^y} g}\ \acute{\vartheta}$$

$$\xi|\eta \frac{a \;\big|\; b}{c \;\big|\; d} = \underbrace{\xi a + \eta c}\,|\,\underbrace{\xi b + \eta d}$$

$$\Longrightarrow \underbrace{\xi b + \eta d - \overbrace{\xi a + \eta c}^{x^y} g}\ \acute{\vartheta} = \overbrace{\xi \underbrace{b - a^{x^y} g} + \eta \underbrace{d - c^{x^y} g}}\ \overbrace{d - c^{x^y} g}^{-1}\ \vartheta$$

$$= \underbrace{\xi \overbrace{b - a^{x^y} g}\ \overbrace{d - c^{x^y} g}^{-1} + \eta}\,\vartheta = \underbrace{\eta - \xi x^y}\vartheta = 0$$