

$$= \theta(x^-)\theta(-x^+)\frac{1}{ig}V_P(\mathbf{x}_\perp)\partial^iV_P^\dagger(\mathbf{x}_\perp) + \theta(x^+)\theta(-x^-)\frac{1}{ig}V_T(\mathbf{x}_\perp)\partial^iV_T^\dagger(\mathbf{x}_\perp)$$