$$\left.\begin{aligned}
\hat{S}^+ &= \left(\sqrt{2S - \hat{a}^\dagger \hat{a}}\right)\hat{a}, \\
\hat{S}^- &= \hat{a}\sqrt{2S - \hat{a}^\dagger \hat{a}}, \\
\hat{S}^z &= S - \hat{a}^\dagger \hat{a},
\end{aligned}\right\}$$