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any correct expression will work. Now, using an argument of Humphries [9], for $1 \leq i \leq g-2$ we can express $T_{\delta_{i+2}}$ as a complicated product of elements in

$$\{T_{\alpha_i}, T_{\alpha_{i+1}}, T_{\alpha_{i+2}}, T_{\beta_i}, T_{\beta_{i+1}}, T_{\delta_i}, T_{\delta_{i+1}}\}^{\pm 1}.$$

This allows us eliminate T_{δ_i} from S for $i \geq 3$ by adding relations which do not involve both $T_{\beta_1}^{\pm 1}$ and $T_{\beta_{g-1}}^{\pm 1}$. Our final relation is $[h, T_{\delta_g}] = 1$; since this does not involve either T_{β_1} or $T_{\beta_{g-1}}$, we are done. □

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