Thus all lines in Q pass through $[0,0,0,1]$.
$\Rightarrow$ But $L_1 \cap L_1' = \phi$ $\Rightarrow$ Contradiction to the fact that $L_1 \cap L_1' \ni [0,0,0,1]$.
(iii) Q rank 2.
$\Rightarrow$ $Q = X_0^2 + X_1^2$ $\Rightarrow$ $X_0 + iX_1 = 0 \cup X_0 - iX_1 = 0$
$\Rightarrow$ Q is the union of two planes in $V_3 = \mathbb{P}^3$.
$\Rightarrow$ $Q = V_2 \cup V_2'$, V_2, V_2' are $\sigma_2(p)$ or $\sigma_{1,1}(h)$ by the result on P757 $\Rightarrow$ By the results on P759, any hyperplane containing $\sigma(p)$ or $\sigma(h)$ is tangent to G
$\Rightarrow$ Since $H \cap G = T_x(G) \cap G$, for some $x \in G$, is singular, this is impossible ($\because$ $H \cap G$ is nonsingular).
(iv) Q rank 1 $\Rightarrow$ $Q = X_0^2$, which is impossible since $Q = G \cap V_3 = (G \cap H) \cap H = (X_0^2 + X_1^2 + X_2^2 + X_3^2 + X_4^2) \cap H$.
$\Rightarrow$ $(X_0^2 + \cdots + X_4^2 = 0) \cap (a_0X_0 + \cdots + a_4X_4 = 0)$
$\Rightarrow$ Assume $a_4 \neq 0$. $\Rightarrow$ $a_0X_0 + \cdots + a_3X_3 = X_4$
$\Rightarrow$ $X_0^2 + \cdots + (a_0X_0 + \cdots + a_3X_3)^2 = 0 \Leftrightarrow (b_0X_0 + \cdots + b_3X_3)^2 = 0$
$\Rightarrow$ $1 + a_i^2 = b_i^2$ & $a_ia_j = b_ib_j$ $\Rightarrow$ $a_i^2 = -\frac{1}{2}, b_i^2 = \frac{1}{2}$
$\Rightarrow$ $(X_0 \pm X_1 \pm X_2 \pm X_3)^2 + (X_0 \pm X_1 \pm X_2 \pm X_3)^2 = 2X_0^2 + 2X_1^2 + 2X_2^2 + 2X_3^2$ which is impossible.

Thus $\{L_i\}$ & $\{L_i'\}$ span a 4-plane.
Second, if $\{L_i\}$ & $\{L_i'\}$ span another 4-plane H', then $\{L_i\}$ & $\{L_i'\}$ lie in $H \cap H' = \mathbb{P}^3$. $\Rightarrow$ It is impossible by the arguments above.