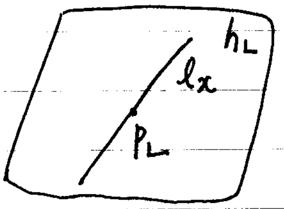
Let l_x, $x \in X$, be any line of the complex. Then for any point $p \in l_x \cap S$ of intersection of l_x with S, l_x will be an element of one or both of the pencils of lines in the complex through the point p – that is, the point $x \in X$ will lie on one or both of the lines of $X_p = \sigma(p) \cap F$; and conversely, for any line $L \subset X$ containing x, the focus p_L of the corresponding pencil of lines in $\mathbb{P}^3$ must by definition lie in $l_x \cap S$.

$\ulcorner$ $p \in l_x \cap S \Rightarrow \sigma(p) \cap F = L_1 \cup L_2$, $l_x \ni p \Rightarrow l_x \in \sigma(p) \cap X \Rightarrow x \in L_1 \cup L_2$. Conversely, $L = \sigma(p_L, h_L)$ $\Rightarrow$



$p_L \in l_x$, and since $\sigma(p_L) \cap F \supset \sigma(p_L, h_L) \cup L'$, $p_L \in S \Rightarrow p_L \in l_x \cap S$. $\lrcorner$

Now the locus
$$T_x(X) \cap X = T_x(G) \cap G \cap T_x(F) \cap F$$
of lines on X passing through the point x has degree 4.

$\ulcorner$ $\dim T_x(X) = 3$ $T_x(X) \subset T_x(G) \cap T_x(F)$ and since G intersects F transversely, $\dim(T_x(G) \cap T_x(F)) = 3$ $\Rightarrow T_x(X) = T_x(G) \cap T_x(F)$.

$\dim(T_x(X) \cap X) = 1$ see p764 $\lrcorner$