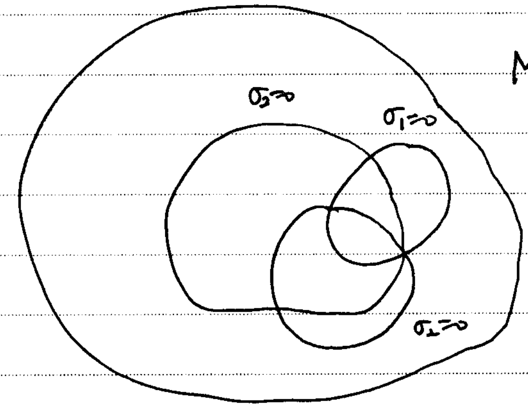
Let $\tau = a_1\sigma_1 + a_2\sigma_2$, $\forall (a_1, a_2) \in U$.

$\Rightarrow$ Again by the argument on p137 ~ p138, $\exists$ open dense subset $U' \subset \mathbb{C}$ s.t., for all $\lambda \in U'$,

$\tau + \lambda\sigma_3 = 0$ is nonsingular on $M - \{\sigma_3 = 0\} \cap \{\tau = 0\}$.



$\Rightarrow$ $\tau + \lambda\sigma_3 = 0$ is nonsingular on $M - \{\sigma_3 = 0\} \cap \{\tau = 0\}$

$\Rightarrow$ $\tau + \lambda\sigma_3 = 0$ is nonsingular on $M - \{\sigma_3 = 0\}$, and , on $\{\sigma_3 = 0\}$, it is nonsingular outside $\{\sigma_1 = 0\} \cap \{\sigma_2 = 0\}$.

$\Rightarrow$ Thus $\tau + \lambda\sigma_3 = 0$ is nonsingular on $M - \{\sigma_1 = 0\} \cap \{\sigma_2 = 0\} \cap \{\sigma_3 = 0\}$, i.e., $a_1\sigma_1 + a_2\sigma_2 + \lambda\sigma_3 = 0$ is nonsingular on $M - (B_1 \cap B_2 \cap B_3)$, where $B_i = \{\sigma_i = 0\}$.

$\Rightarrow$ By the argument above, P765.back the subset (of W) of singular sections is a proper algebraic variety of W. $\blacksquare$

Note also that if $H \subset \mathbb{P}^3$ is any hyperplane meeting S and S_0 transversely, the set V' of cubic surfaces tangent to H is again an analytic subvariety of W.