By inspection, \( M_0 = F(c_j - b_k) \)

Or, \( M_0 = r \times F = (b_j + c_k) \times F_i \)

\[ = F(c_j - b_k) \]
\[ M_z = (P \cos 30^\circ) d_k \]
\[ = (6 \cos 30^\circ) (40) k \]
\[ = 208 \text{ k lbf-in.} \]
\[ M = -150(0.250 + 0.250) \hat{i} + 150(0.150) \hat{j} \]

\[ = -75 \hat{i} + 22.5 \hat{j} \text{ N\cdot m} \]
From the solution to Prob. 2/108, the force is \( \mathbf{R} = \mathbf{T} = -598\mathbf{i} + 411\mathbf{j} + 189.5\mathbf{k} \text{ N} \).

The moment associated with the couple is \( \mathbf{M}_o = \mathbf{r}_{oc} \times \mathbf{T} \), where \( \mathbf{r}_{oc} = 0.7\mathbf{j} + 1.2\mathbf{k} \text{ m} \).

Carry out the cross product to obtain
\[
\mathbf{M}_o = -361\mathbf{i} - 718\mathbf{j} + 419\mathbf{k} \text{ N\cdot m}
\]