1. Check the sun vector intrusion

   a. Find the eigenaxis of slew plane

$$\hat{e} = \frac{\hat{P}_i \times \hat{P}_f}{|\hat{P}_i \times \hat{P}_f|} \tag{1}$$

   b. Find the angular separation between the sun vector and the eigenaxis

$$\alpha = \frac{\pi}{2} - \cos^{-1}(\hat{S} \cdot_{\mathcal{N}} \hat{e}) \tag{2}$$

   c. IF $|\alpha| < \epsilon_p$, THEN determine the projection of the sun vector into the slew plane.

$$\vec{S}_{||} = \hat{S} \cos\alpha \tag{3}$$

2. Slew around the eigenaxis, $\hat{e}$, through angle ϕ_1:

   a. If $\cos^{-1}(\hat{P}_i \cdot_{\mathcal{G}} \hat{S}_{||}) - \epsilon_p \leq \pi$, then

$$\phi_1 = \cos^{-1}(\hat{P}_i \cdot_{\mathcal{G}} \hat{S}_{||}) - \epsilon_p \tag{4}$$

   b. If $\cos^{-1}(\hat{P}_i \cdot_{\mathcal{G}} \hat{S}_{||}) - \epsilon_p > \pi$, then

$$\phi_1 = \cos^{-1}(\hat{P}_i \cdot_{\mathcal{G}} \hat{S}_{||}) - \epsilon_p - 2\pi \tag{5}$$

3. Slew around the $\hat{S}$ via ϕ_2:

   a. If $\alpha \neq 0$, then

$$\phi_2 = 2\sin^{-1}\left(\frac{\sin\epsilon_p}{\sin\theta}\right),\ \theta = \cos^{-1}(\hat{P}_1 \cdot \hat{S}) \tag{6}$$

   b. If $\alpha = 0$, then

$$\phi_2 = \pi \tag{7}$$

4. Slew about the $\hat{e}$ through angle ϕ_3:

   a. If ${}_{\mathcal{G}}\hat{P}_f.\hat{P}_2 \geq 0$, then

$$\phi_3 = \cos^{-1}({}_{\mathcal{G}}\hat{P}_f.\hat{P}_2 \tag{8}$$

   b. If ${}_{\mathcal{G}}\hat{P}_f.\hat{P}_2 < 0$, then

$$\phi_3 = \cos^{-1}({}_{\mathcal{G}}\hat{P}_f.\hat{P}_2) - 2\pi \tag{9}$$

5. Perform the final rotation, ϕ_4, about the instrument boresight axis to adjust the attitude.