$$B^{-1}A_4 = \begin{bmatrix} 1/2 & 0 & -1/2 \\ -1/2 & 1 & -3/2 \\ 0 & 0 & 1 \end{bmatrix} * \begin{bmatrix} 4 \\ 1 \\ 0 \end{bmatrix} = \begin{bmatrix} 2 \\ -1 \\ 0 \end{bmatrix}$$

$$C_B B^{-1}A_4 - C_4 = \begin{bmatrix} 5 & 0 & 15 \end{bmatrix} * \begin{bmatrix} 4 \\ 1 \\ 0 \end{bmatrix} - \begin{bmatrix} 25 \end{bmatrix} = -5$$

$$C_B B^{-1}A_4 - C_4 = \overset{x_e\ S_2\ x_s}{\begin{bmatrix} 10 & 0 & 20 \end{bmatrix}} * \begin{bmatrix} 2 \\ -1 \\ 0 \end{bmatrix} - \begin{bmatrix} 25 \end{bmatrix} = -5$$

	x_s	x_e	S_1	S_2	S_3	x_4	
x_e	0	1	1/2	0	-1/2	(2)	100
S_2	0	0	-1/2	1	-3/2	-1	100
x_s	1	0	0	0	1	0	200
	0	0	5	0	15	-5	5000

	x_s	x_e	S_1	S_2	S_3	x_4	
x_4	0	1/2	1/4	0	-1/4	1	·50
S_2	0	1/2	-1/4	1	-7/4	0	50
x_s	1	0	0	0	1	0	200
	0	5/2	25/4	0	65/4	0	5250

$$\begin{bmatrix} 1/4 & 0 & -1/4 \\ -1/4 & 1 & -7/4 \\ 0 & 0 & 1 \end{bmatrix} * \begin{bmatrix} 400+\gamma \\ 600 \\ 200 \end{bmatrix} \begin{matrix} HM \\ HH \\ Merc \end{matrix} = \begin{bmatrix} 100+1/4\gamma-50 \\ -100-1/4\gamma+600-350 \\ 200 \end{bmatrix}$$

$$= \begin{bmatrix} 50+1/4\gamma \\ 150-1/4\gamma \\ 200 \end{bmatrix}$$

$$150 = 1/4\gamma$$

$$\boxed{\gamma = 600}$$

$$\frac{\Delta \gamma}{\Delta s_1} = 25/4$$

700 Hrs — 2000 U.M.

$$\frac{2000}{700} = \frac{20}{7} < \frac{25}{4}$$