$$\begin{Bmatrix} \dot{\theta}_m \\ \dot{x}_1 \\ \dot{x}_2 \\ \ddot{\theta}_m \\ \ddot{x}_1 \\ \ddot{x}_2 \end{Bmatrix} = \begin{bmatrix} 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ -\frac{k_1 r_1^2}{J_1} & \frac{2k_1 r_1}{J_1} & 0 & -\frac{c_1}{J_1} & 0 & 0 \\ \frac{2k_1 r_1}{m_1} & -\frac{4k_1}{m_1} & 0 & 0 & -\frac{c_2}{m_1} & \frac{c_2}{m_1} \\ 0 & 0 & -\frac{k_2}{m_2} & 0 & \frac{c_2}{m_2} & -\frac{c_2}{m_2} \end{bmatrix} \begin{Bmatrix} \theta_m \\ x_1 \\ x_2 \\ \dot{\theta}_m \\ \dot{x}_1 \\ \dot{x}_2 \end{Bmatrix} + \begin{bmatrix} 0 \\ 0 \\ 0 \\ \frac{1}{J_1} \\ 0 \\ 0 \end{bmatrix} T$$

$$\begin{Bmatrix} \theta_m \\ x_1 \\ x_2 \end{Bmatrix} = \begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 \end{bmatrix} \begin{Bmatrix} \theta_m \\ x_1 \\ x_2 \\ \dot{\theta}_m \\ \dot{x}_1 \\ \dot{x}_2 \end{Bmatrix} + \begin{bmatrix} 0 \\ 0 \\ 0 \end{bmatrix} T$$