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| 8-4 ) A single-threaded power screw is **25 mm** in diameter with a pitch of **5 mm**. A vertical load on the screw reaches a maximum of **5 kN**. The **coefficients** of **friction** are **0.06** for the collar and **0.09** for the threads. The frictional **diameter of the collar is 45 mm**. Find the overall **efficiency** and the torque to **“raise”** and **“lower”** the load. |  |

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| 8-6, The press shown for Prob. 8–5 has a rated load of **5000 lbf.** The twin screws have Acme threads, a diameter of **2 in**, and a pitch of **1 in**. Coefficients of friction are **0.05** for the threads and **0.08**  4 for the collar bearings. Collar diameters are **3.5 in.** The gears have an **efficiency of 95 percent**  and a speed ratio of **60:1**. A slip clutch, on the motor shaft, prevents overloading. The full-load motor speed is **1720 rev/min**.  (*a*) When the motor is turned on, how fast will the press head move? | (*b*) What should be the horsepower rating of the motor? |

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| 8-8 |  |

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| 7-41) |  |