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| 11-2  An angular-contact, inner ring rotating, **02-series ball bearing** is required for an application in which the life requirement is **40 kh at 520 rev/min**. The design radial load is **725 lbf.** The **application factor is 1.4.** The **reliability** **goal is 0.90**. Find the multiple of **rating life *xD***required and the **catalog rating *C*10** with which to **enter Table 11–2.** Choose a bearing and estimate the existing reliability in service.      kh  “The single-row deep-groove bearing will **take radial load** as well as some thrust load.” |  |

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| 11-3  The other bearing on the shaft of Prob. 11–2 is to be **a 03-series** cylindrical **roller bearing** with inner ring rotating. For a **2235-lbf** **radial load**, find the catalog rating *C*10 with which to enter **Table 11–3**. The **reliability goal is 0.90**. Choose a bearing and estimate its reliability in use. |  |

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| 11-4  Problems 11–2 and 11–3 raise the question of the reliability of the bearing pair on the shaft. Since the combined reliabilities *R* is *R*1*R*2, what is the reliability of the two bearings (probabil- ity that either or both will not fail) as a result of your decisions in Probs. 11–2 and 11–3? What does this mean in setting reliability goals for each of the bearings of the pair on the shaft? |  |