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Joe Anderson* (jsanders@olemiss.edu), Department of Mathematics, University, MS 38677,
and **Haidong Wu**. *Minimally 3-connected Binary Matroids*.

A 3-connected matroid M is said to be *minimally 3-connected* if, for any element e of M , the matroid $M \setminus e$ is not 3-connected. Dawes (*J. Combin. Theory Ser. B* **40**, (1986), 159-168) showed that all minimally 3-connected graphs can be constructed from K_4 such that every graph in each intermediate step is also minimally 3-connected. Oxley (1981) proved a similar result by giving a characterization of minimally 2-connected matroids. In this paper we generalize Dawes' result to minimally 3-connected binary matroids. We give a constructive characterization and construction of all minimally 3-connected binary matroids starting from \mathcal{W}_3 , the 3-spoked wheel, and F_7^* , the Fano dual. (Received September 26, 2005)