Symbolic Tools in ECSK Theory[1] JOSHUA LEITER[2], Utah State University — Einstein-Cartan-Sciama-Kibble (ECSK) theory incorporates spin into General Relativity (GR) by allowing for torsion. The motivation of this theory comes from how elementary particles are categorized by their mass and spin. The inclusion of torsion changes the calculation of the connection, and it also makes the constraint of metric compatibility come out differently. I will explain the method to calculate the connection, and how to come up with the ECSK field equations. The code used for these computations utilizes "DifferentialGeometry," a package in Maple.

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