



32. $xy''_{xx} = f(x^n e^{ay})y'_x.$

The transformation $z = x^n e^{ay}$, $w = xy'_x$ leads to a first-order separable equation: $z(aw + n)w'_z = [f(z) + 1]w.$

Reference

Polyanin, A. D. and Zaitsev, V. F., *Handbook of Exact Solutions for Ordinary Differential Equations, 2nd Edition*, Chapman & Hall/CRC, Boca Raton, 2003.