Odd-J Pairing Interaction LARRY ZAMICK, ALBERRTO ESCUDERO, Rutgers University — We consider in the g9/2 shell an interaction which acts only when a neutron and proton act in a state with J=Jmax=2j =9. We use the abbreviated notation for a unitary 9j-symbol U(Jx Jp Jn J)= <(jj)9 (jj)Jx — (jj)Jp (jj)Jn >J . The Pauli principle demands that Jp and Jn are both even. The matrix element of the Hamiltonian is E(9) * SJx U(Jx, Jp Jn J) U(Jx Jp' Jn' J). For J=0 and 1 the Hamiltonian is a single separable term and the lowest eigenfunctions are the components of unitary 9j symbols, √2 U(9 Jp Jn 0) for J=0 and 2 U(8 Jp Jn 1) for J=1. These states have isospin T=0. For J=2 and higher the Hamiltonian is no longer separable but there still some simple states. For J=2 there is a T=1 state 2U(8 Jp Jn 2) and for J=3 T=0, 2U(7 Jp Jn 3). For all these Jx serves as a good quantum number. The 2 lowest J=2 T=0 states are admixtures of √2 U(9 Jp Jn 2) and 2 U(7 Jp Jn 2) but the coupling is so weak that these are almost separate eigenstates with quantum numbers Jx=9 and Jx=7 respectively. The coupling matrix element is -1/2 U(9 9 7 2)= 0.00009113. The normalizations of the 2 admixed states are respectively such that N-2 =1/2- U(9 9 9 2) = 0.499993950935 and 1/4- 1/2 U(7 9 7 2)= 0.250376267385.