Selection Rules for M1 and Gamow Teller transitions with a J=0 T=1 pairing interaction MATTHEW HARPER, LARRY ZAMICK, Rutgers Univ — We consider selection rules for M1 transitions in a single j shell with a J=0 T=1 pairing interaction. We use J=1+ to J=2+ in 46Ti as an example. The states are classified as (v,T,t)-seniority- isospin and reduced isospin. We obtain vanishing B(M1)’s for 3 reasons. a. ΔT=2 b. Δv=4 or 6 c. The final state differs from the initial state in both v and t. The first case a. is obvious because the M1 operator is of rank 1 in isospin. For case b. we note that the M1 operator acting on a J=0 v=0 pair can only change v by 2 units. In c. the M1 operator cannot change both v and t at the same time. Examples of a. are (411) to (231), (213). Examples of b. are (611) to (221), (211) Examples of c. are (611) to (412), (422); (220) to (412), (411),(422), (421). Transitions in which the seniority changes by 2 units and the reduced isospin does not change are allowed. These selection rules also apply to corresponding Gamow-Teller transitions.