

```

MutexTest(Aid, req_a, test_a) ==
  /\ Aid \in Actors
  /\ pc[Aid] \in MtestIns
  /\ test_a \in Addr
  /\ \E req \in Requests[Aid]: req = memory[Aid][req_a]/\
    (* If the actor is the owner then return true *)
    \/\ /\ isHead(Aid, waitingQueue[req])
      /\ memory' = [memory EXCEPT ![Aid][test_a] = ValTrue]
    (*else if it is not the owner then return false *)
    \/\ /\ ~isHead(Aid, waitingQueue[req])
      /\ memory' = [memory EXCEPT ![Aid][test_a] = ValFalse]

  /\ \E ins \in Instr : pc' = [pc EXCEPT ![Aid] = ins]
  /\ UNCHANGED <<waitingQueue, Requests, Communications>>

```