

$RecvHard(m) \triangleq$

$\wedge \text{CASE } m.res \neq \{-1\} \wedge m.procFlag = 1$

$\rightarrow \wedge Shared' = [Shared \text{ EXCEPT } !.medium = \{\},$   
 $!.proc = @ \cup \{m.id\}]$

$\wedge \text{UNCHANGED } ProcState$

$\square m.res \neq \{-1\} \wedge m.procFlag = 0$

$\rightarrow \wedge Shared' = [Shared \text{ EXCEPT } !.medium = \{\},$   
 $!.proc = @ \setminus \{m.id\}]$

$\wedge ProcState' =$

$[i \in (Proc \setminus Shared.proc) \cup NoRecvSet(m) \mapsto ProcState[i]] @@$

$[i \in Shared.proc \setminus NoRecvSet(m) \mapsto [ProcState[i] \text{ EXCEPT}$   
 $!.token = \text{IF } m.id = ProcState[i].token$   
 $\text{THEN } next(m.id, Shared.proc)$   
 $\text{ELSE } @]]$

$\square m.res = \{-1\}$

$\rightarrow \wedge Shared' = [Shared \text{ EXCEPT } !.medium = \{\}]$   
 $\wedge \text{UNCHANGED } ProcState$