```
\A rmi \in RM : \A rmj \in RM : \sim([type |-> "Prepared", rm |-> rmi] \in msgs) \/ (\sim(rmState[rmi] = "working"))
            \A rmi \in RM : \A rmj \in RM : \sim([type |-> "Commit"] \in msgs) \/ (\sim(tmState = "init"))
            \A rmi \in RM : \A rmj \in RM : ~([type |-> "Abort"] \in msgs) \/ (~(tmState = "init"))
\A rmi \in RM : \A rmj \in RM : ([type |-> "Prepared", rm |-> rmi] \in msgs) \/ (~([type |-> "Commit"] \in msgs))
      \A rmi \in RM : \A rmj \in RM : ([type |-> "Prepared", rm |-> rmj] \in msgs) \/ (~(tmPrepared = RM))
       \A rmi \in RM : \A rmj \in RM : \sim([type |-> "Abort"] \in msgs) \/ (\sim(rmState[rmi] = "committed"))
             \A rmi \in RM : \A rmj \in RM : ~(rmState[rmi] = "committed") \/ (~(tmState = "init"))
```

```
\A rmi \in RM : \A rmj \in RM : ([type |-> "Prepared", rm |-> rmi] \in msgs) \/ (~(tmPrepared = tmPrepared \cup {rmi}))
                \A rmi \in RM : \A rmj \in RM : (tmPrepared = RM) \ / (\sim([type | -> "Commit"] \ in msgs))
          \A rmi \in RM : \A rmj \in RM : ([type |-> "Commit"] \in msgs) \/ (~(rmState[rmi] = "committed"))
                                                                                                                                                   TCConsistent
                 \A rmi \in RM : \A rmj \in RM : ~(rmState[rmi] = "working") \/ (~(tmPrepared = RM))
          \A rmi \in RM : \A rmj \in RM : ~([type |-> "Abort"] \in msgs) \/ (~([type |-> "Commit"] \in msgs))
           \A rmi \in RM : \A rmj \in RM : \sim([type |-> "Commit"] \in msgs) \/ (\sim(rmState[rmi] = "aborted"))
```