C Base Test Frames

Due to the logical complexity of the given specification it was necessary to apply the test frame generator iteratively. This was achieved by controlling which portions of the specification were treated as primitives and which were expanded according to their definitions. This section gives an account of how this iteration was performed.

In the first iteration, only the predicate `AreSeparated` was expanded. All other predicates and functions within the specification were treated as primitives. This resulted in the following expanded specification:

```
forall A.
  forall B.
    (~
       (VerticallySeparated (A , B) \/
          LaterallySeparated (A , B) \/
            LongitudinallySeparated (A , B)) \/
       "are separated" (A , B)) /\
      (~ ("are separated" (A , B)) \/
         VerticallySeparated (A , B) \/
           LaterallySeparated (A , B) \/ LongitudinallySeparated (A , B))
```

From this expansion, two test classes were generated; one for each of the responses `"are separated" (A , B)` and ¬ `("are separated" (A , B))`. An initial set of test frames was generated along with the test classes. The test frames are divided into groups depending from which test class they were derived, to which category of separation they belong, and on which iteration they were generated.

Test frames in earlier iterations may contain non-primitives (underlined). These are expanded by using the test frame as the specification for the test frame generator and allowing more of the non-primitives to be expanded for that iteration. Although a non-primitive may appear in several test frames, only one of the test frames is selected for expansion in the next iteration. This provides a means of achieving Term Coverage without generating too many test frames. The TCG tool generates test frames according to the test class version of term coverage (B.3). Using an iterative approach allows the TCG tool to be used to produce sets of test frames whose combination satisfies the specification version of term coverage (B.2).

This appendix contains base test frames. Of the 184 test frames listed below, 15 where used in subsequent iterations. Thus, 169 test frames can be used to produce test outlines. The test frames are numbered consecutively. The numbers in parentheses represent the ordinal of a test frame within the output for an iteration.

C.1 Test Frames for "Separation Exists"

–Test Frame 1(1) :

Stimuli	Response
1. VerticallySeparated (A , B)	1. "are separated" (A , B)

–Test Frame 2(2) :

Stimuli	Response
1. LaterallySeparated (A , B)	1. "are separated" (A , B)

–Test Frame 3(3) :

Stimuli	Response
1. LongitudinallySeparated (A , B)	1. "are separated" (A , B)

C.1.1 Vertical Separation

–Test Frame 4(1) :

Stimuli	Response
1. 450 < FlightLevel A 2. 450 < FlightLevel B 3. IsSupersonic A 4. 4000 < ABS (FlightLevel A – FlightLevel B)	1. "are separated" (A , B)

–Test Frame 5(2) :

Stimuli	Response
1. 280 < FlightLevel A 2. 280 < FlightLevel B 3. ¬ (IsSupersonic A) 4. ¬ (IsSupersonic B) 5. 2000 < ABS (FlightLevel A – FlightLevel B)	1. "are separated" (A , B)

–Test Frame 6(3) :

Stimuli	Response
1. FlightLevel A ≤ 280 2. 1000 < ABS (FlightLevel A – FlightLevel B)	1. "are separated" (A , B)

–Test Frame 7(4) :

Stimuli	Response
1. 1000 < ABS (FlightLevel A − FlightLevel B) 2. 280 < FlightLevel A 3. FlightLevel B ≤ 280	1. "are separated" (A , B)

–Test Frame 8(5) :

Stimuli	Response
1. 280 < FlightLevel A 2. 280 < FlightLevel B 3. FlightLevel A ≤ 450 4. 2000 < ABS (FlightLevel A − FlightLevel B)	1. "are separated" (A , B)

–Test Frame 9(6) :

Stimuli	Response
1. 280 < FlightLevel A 2. 280 < FlightLevel B 3. FlightLevel B ≤ 450 4. 2000 < ABS (FlightLevel A − FlightLevel B)	1. "are separated" (A , B)

–Test Frame 10(7) :

Stimuli	Response
1. 450 < FlightLevel A 2. 450 < FlightLevel B 3. 4000 < ABS (FlightLevel A − FlightLevel B) 4. IsSupersonic B	1. "are separated" (A , B)

C.1.2 Lateral Separation

–Test Frame 11(1):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. $\frac{\text{"LateralSeparation RequiredInMiles"}\ (A\ ,\ B)}{\text{ABS (LateralPositionInMiles A − LateralPositionInMiles B)}}$ <	1. "are separated" (A , B)

–Test Frame 12(2):

Stimuli	Response
1. 70 ≤ "RouteSegment Degrees" A 2. "RouteSegment Degrees" A ≤ 80 3. "LatChange Per10DLong LessThanOrEq1" A 4. "LatChange Per10DLong LessThanOrEq1" B 5. "LateralSeparation RequiredInDegrees" (A , B) < ABS (LateralPositionInDegrees A − LateralPositionInDegrees B)	1. "are separated" (A , B)

–Test Frame 13(3):

Stimuli	Response
1. 58 < "RouteSegment Degrees" A 2. "RouteSegment Degrees" A < 70 3. ¬ ("LatChange Per10DLong LessThanOrEq2" B) 4. 58 < "RouteSegment Degrees" B 5. "RouteSegment Degrees" B < 70 6. "LateralSeparation RequiredInMiles" (A , B) < ABS (LateralPositionInMiles A − LateralPositionInMiles B)	1. "are separated" (A , B)

–Test Frame 14(4):

Stimuli	Response
1. "RouteSegment Degrees" A ≤ 58 2. ¬ ("LatChange Per10DLong LessThanOrEq3" B) 3. "RouteSegment Degrees" B ≤ 58 4. "LateralSeparation RequiredInMiles" (A , B) < ABS (LateralPositionInMiles A − LateralPositionInMiles B)	1. "are separated" (A , B)

–Test Frame 15(5):

Stimuli	Response
1. ¬ ("LatChange Per10DLong LessThanOrEq3" A) 2. ¬ ("LatChange Per10DLong LessThanOrEq1" B) 3. "LateralSeparation RequiredInMiles" (A , B) < ABS (LateralPositionInMiles A − LateralPositionInMiles B)	1. "are separated" (A , B)

–Test Frame 16(6):

Stimuli	Response
1. "RouteSegment Degrees" A $\leq$ 58 2. "LatChange Per10DLong LessThanOrEq3" A 3. "LatChange Per10DLong LessThanOrEq3" B 4. "LateralSeparation RequiredInDegrees" (A , B) < ABS (LateralPositionInDegrees A – LateralPositionInDegrees B)	1. "are separated" (A , B)

–Test Frame 17(7):

Stimuli	Response
1. "LatChange Per10DLong LessThanOrEq1" A 2. "LatChange Per10DLong LessThanOrEq1" B 3. 70 $\leq$ "RouteSegment Degrees" B 4. "RouteSegment Degrees" B $\leq$ 80 5. "LateralSeparation RequiredInDegrees" (A , B) < ABS (LateralPositionInDegrees A – LateralPositionInDegrees B)	1. "are separated" (A , B)

–Test Frame 18(8):

Stimuli	Response
1. 58 < "RouteSegment Degrees" A 2. "RouteSegment Degrees" A < 70 3. "LatChange Per10DLong LessThanOrEq2" A 4. "LatChange Per10DLong LessThanOrEq2" B 5. "LateralSeparation RequiredInDegrees" (A , B) < ABS (LateralPositionInDegrees A – LateralPositionInDegrees B)	1. "are separated" (A , B)

–Test Frame 19(9):

Stimuli	Response
1. ¬ ("LatChange Per10DLong LessThanOrEq3" B) 2. ¬ ("LatChange Per10DLong LessThanOrEq2" A) 3. "LateralSeparation RequiredInMiles" (A , B) < ABS (LateralPositionInMiles A – LateralPositionInMiles B)	1. "are separated" (A , B)

–Test Frame 20(10):

Stimuli	Response
1. ¬ ("LatChange Per10DLong LessThanOrEq3" B) 2. ¬ ("LatChange Per10DLong LessThanOrEq1" A) 3. "LateralSeparation RequiredInMiles" (A , B) < ABS (LateralPositionInMiles A − LateralPositionInMiles B)	1. "are separated" (A , B)

–Test Frame 21(1):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. ¬ (IsOnRoute Routes1 B) 4. ¬ (IsWestOf55W B) 5. 60 < ABS (LateralPositionInMiles A − LateralPositionInMiles B) 6. FlightLevel A ≤ 275 7. MeetMNPS A 8. MeetMNPS B 9. HavePartOfRouteInMNPSAirspace A 10. HavePartOfRouteInMNPSAirspace B	1. "are separated" (A , B)

–Test Frame 22(2):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. IsOutsideMNPSAirspace A 4. IsOutsideMNPSAirspace B 5. 90 < ABS (LateralPositionInMiles A − LateralPositionInMiles B) 6. IsOnRoute Routes2 A 7. IsOnRoute Routes2 B 8. IsWestOf55W A 9. IsWestOf55W B	1. "are separated" (A , B)

–Test Frame 23(3):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. ¬ (IsOnRoute Routes1 A) 4. ¬ (IsWestOf55W A) 5. IsSupersonic A 6. IsSupersonic B 7. 275 < FlightLevel A 8. 275 < FlightLevel B 9. 60 < ABS (LateralPositionInMiles A − LateralPositionInMiles B)	1. "are separated" (A , B)

–Test Frame 24(4):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. ¬ (IsOutsideMNPSAirspace B) 4. FlightLevel B ≤ 275 5. ¬ (HavePartOfRouteInMNPSAirspace B) 6. 120 < ABS (LateralPositionInMiles A − LateralPositionInMiles B)	1. "are separated" (A , B)

–Test Frame 25(5):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. ¬ (IsOutsideMNPSAirspace A) 4. ¬ (IsSupersonic B) 5. ¬ (HavePartOfRouteInMNPSAirspace A) 6. 120 < ABS (LateralPositionInMiles A − LateralPositionInMiles B)	1. "are separated" (A , B)

–Test Frame 26(6):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. ¬ (IsOnRoute Routes1 B) 4. ¬ (IsOnRoute Routes2 B) 5. ¬ (IsSupersonic A) 6. ¬ (MeetMNPS B) 7. 120 < ABS (LateralPositionInMiles A − LateralPositionInMiles B)	1. "are separated" (A , B)

–Test Frame 27(7):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. IsOutsideMNPSAirspace A 4. IsOutsideMNPSAirspace B 5. IsOnRoute Routes1 A 6. IsOnRoute Routes1 B 7. 90 < ABS (LateralPositionInMiles A − LateralPositionInMiles B)	1. "are separated" (A , B)

–Test Frame 28(8):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. ¬ (IsOnRoute Routes1 B) 4. ¬ (IsOnRoute Routes2 A) 5. FlightLevel A ≤ 275 6. ¬ (MeetMNPS A) 7. 120 < ABS (LateralPositionInMiles A − LateralPositionInMiles B)	1. "are separated" (A , B)

–Test Frame 29(1):

Stimuli	Response
1. 70 ≤ "RouteSegment Degrees" A 2. "RouteSegment Degrees" A ≤ 80 3. "LatChange Per10DLong LessThanOrEq1" A 4. "LatChange Per10DLong LessThanOrEq1" B 5. ¬ (IsOnRoute Routes1 B) 6. ¬ (IsWestOf55W B) 7. 1 < ABS (LateralPositionInDegrees A − LateralPositionInDegrees B) 8. FlightLevel A ≤ 275 9. MeetMNPS A 10. MeetMNPS B 11. HavePartOfRouteInMNPSAirspace A 12. HavePartOfRouteInMNPSAirspace B	1. "are separated" (A , B)

–Test Frame 30(2):

Stimuli	Response
1. 70 ≤ "RouteSegment Degrees" A 2. "RouteSegment Degrees" A ≤ 80 3. "LatChange Per10DLong LessThanOrEq1" A 4. "LatChange Per10DLong LessThanOrEq1" B 5. IsOutsideMNPSAirspace A 6. IsOutsideMNPSAirspace B 7. 1.5 < ABS (LateralPositionInDegrees A − LateralPositionInDegrees B) 8. IsOnRoute Routes2 A 9. IsOnRoute Routes2 B 10. IsWestOf55W A 11. IsWestOf55W B	1. "are separated" (A , B)

–Test Frame 31(3):

Stimuli	Response
1. 70 ≤ "RouteSegment Degrees" A 2. "RouteSegment Degrees" A ≤ 80 3. "LatChange Per10DLong LessThanOrEq1" A 4. "LatChange Per10DLong LessThanOrEq1" B 5. ¬ (IsOnRoute Routes1 A) 6. ¬ (IsWestOf55W A) 7. IsSupersonic A 8. IsSupersonic B 9. 275 < FlightLevel A 10. 275 < FlightLevel B 11. 1 < ABS (LateralPositionInDegrees A – LateralPositionInDegrees B)	1. "are separated" (A , B)

–Test Frame 32(4):

Stimuli	Response
1. 70 ≤ "RouteSegment Degrees" A 2. "RouteSegment Degrees" A ≤ 80 3. "LatChange Per10DLong LessThanOrEq1" A 4. "LatChange Per10DLong LessThanOrEq1" B 5. ¬ (IsOutsideMNPSAirspace B) 6. FlightLevel B ≤ 275 7. ¬ (HavePartOfRouteInMNPSAirspace B) 8. 2 < ABS (LateralPositionInDegrees A – LateralPositionInDegrees B)	1. "are separated" (A , B)

–Test Frame 33(5):

Stimuli	Response
1. 70 ≤ "RouteSegment Degrees" A 2. "RouteSegment Degrees" A ≤ 80 3. "LatChange Per10DLong LessThanOrEq1" A 4. "LatChange Per10DLong LessThanOrEq1" B 5. ¬ (IsOutsideMNPSAirspace A) 6. ¬ (IsSupersonic B) 7. ¬ (HavePartOfRouteInMNPSAirspace A) 8. 2 < ABS (LateralPositionInDegrees A – LateralPositionInDegrees B)	1. "are separated" (A , B)

–Test Frame 34(6):

Stimuli	Response
1. 70 ≤ "RouteSegment Degrees" A 2. "RouteSegment Degrees" A ≤ 80 3. "LatChange Per10DLong LessThanOrEq1" A 4. "LatChange Per10DLong LessThanOrEq1" B 5. ¬ (IsOnRoute Routes1 B) 6. ¬ (IsOnRoute Routes2 B) 7. ¬ (IsSupersonic A) 8. ¬ (MeetMNPS B) 9. 2 < ABS (LateralPositionInDegrees A − LateralPositionInDegrees B)	1. "are separated" (A , B)

–Test Frame 35(7):

Stimuli	Response
1. 70 ≤ "RouteSegment Degrees" A 2. "RouteSegment Degrees" A ≤ 80 3. "LatChange Per10DLong LessThanOrEq1" A 4. "LatChange Per10DLong LessThanOrEq1" B 5. IsOutsideMNPSAirspace A 6. IsOutsideMNPSAirspace B 7. IsOnRoute Routes1 A 8. IsOnRoute Routes1 B 9. 1.5 < ABS (LateralPositionInDegrees A − LateralPositionInDegrees B)	1. "are separated" (A , B)

–Test Frame 36(8):

Stimuli	Response
1. 70 ≤ "RouteSegment Degrees" A 2. "RouteSegment Degrees" A ≤ 80 3. "LatChange Per10DLong LessThanOrEq1" A 4. "LatChange Per10DLong LessThanOrEq1" B 5. ¬ (IsOnRoute Routes1 B) 6. ¬ (IsOnRoute Routes2 A) 7. FlightLevel A ≤ 275 8. ¬ (MeetMNPS A) 9. 2 < ABS (LateralPositionInDegrees A − LateralPositionInDegrees B)	1. "are separated" (A , B)

–Test Frame 37(1):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. IsOutsideMNPSAirspace A 4. IsOutsideMNPSAirspace B 5. 90 < ABS (LateralPositionInMiles A − LateralPositionInMiles B) 6. RouteDeparture A = USA 7. RouteDestination A = Caribbean 8. RouteDeparture B = USA 9. RouteDestination B = Caribbean 10. IsWestOf55W A 11. IsWestOf55W B	1. "are separated" (A , B)

–Test Frame 38(2):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. IsOutsideMNPSAirspace A 4. IsOutsideMNPSAirspace B 5. 90 < ABS (LateralPositionInMiles A − LateralPositionInMiles B) 6. RouteDestination A = USA 7. RouteDeparture A = Caribbean 8. RouteDestination B = USA 9. RouteDeparture B = Caribbean 10. IsWestOf55W A 11. IsWestOf55W B	1. "are separated" (A , B)

–Test Frame 39(3):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. IsOutsideMNPSAirspace A 4. IsOutsideMNPSAirspace B 5. 90 < ABS (LateralPositionInMiles A − LateralPositionInMiles B) 6. RouteDeparture A = Caribbean 7. RouteDestination A = CAN 8. RouteDeparture B = Caribbean 9. RouteDestination B = CAN 10. IsWestOf55W A 11. IsWestOf55W B	1. "are separated" (A , B)

–Test Frame 40(4):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. IsOutsideMNPSAirspace A 4. IsOutsideMNPSAirspace B 5. 90 < ABS (LateralPositionInMiles A − LateralPositionInMiles B) 6. RouteDeparture A = Caribbean 7. RouteDestination A = BDA 8. RouteDeparture B = Caribbean 9. RouteDestination B = BDA 10. IsWestOf55W A 11. IsWestOf55W B	1. "are separated" (A , B)

–Test Frame 41(5):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. IsOutsideMNPSAirspace A 4. IsOutsideMNPSAirspace B 5. 90 < ABS (LateralPositionInMiles A − LateralPositionInMiles B) 6. RouteDestination A = Caribbean 7. RouteDeparture A = CAN 8. RouteDestination B = Caribbean 9. RouteDeparture B = CAN 10. IsWestOf55W A 11. IsWestOf55W B	1. "are separated" (A , B)

–Test Frame 42(6):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. IsOutsideMNPSAirspace A 4. IsOutsideMNPSAirspace B 5. 90 < ABS (LateralPositionInMiles A − LateralPositionInMiles B) 6. RouteDestination A = Caribbean 7. RouteDeparture A = BDA 8. RouteDestination B = Caribbean 9. RouteDeparture B = BDA 10. IsWestOf55W A 11. IsWestOf55W B	1. "are separated" (A , B)

–Test Frame 43(1):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. IsOutsideMNPSAirspace A 4. IsOutsideMNPSAirspace B 5. RouteDeparture A = IberianPeninsula 6. RouteDestination A = Azores 7. RouteDeparture B = IberianPeninsula 8. RouteDestination B = Azores 9. 90 < ABS (LateralPositionInMiles A − LateralPositionInMiles B)	1. "are separated" (A , B)

–Test Frame 44(2):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. IsOutsideMNPSAirspace A 4. IsOutsideMNPSAirspace B 5. RouteDestination A = IberianPeninsula 6. RouteDeparture A = Azores 7. RouteDestination B = IberianPeninsula 8. RouteDeparture B = Azores 9. 90 < ABS (LateralPositionInMiles A − LateralPositionInMiles B)	1. "are separated" (A , B)

–Test Frame 45(3):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. IsOutsideMNPSAirspace A 4. IsOutsideMNPSAirspace B 5. RouteDeparture A = USA 6. RouteDestination A = BDA 7. RouteDeparture B = USA 8. RouteDestination B = BDA 9. 90 < ABS (LateralPositionInMiles A − LateralPositionInMiles B)	1. "are separated" (A , B)

–Test Frame 46(4):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. IsOutsideMNPSAirspace A 4. IsOutsideMNPSAirspace B 5. RouteDeparture A = Iceland 6. RouteDestination A = Scandinavia 7. RouteDeparture B = Iceland 8. RouteDestination B = Scandinavia 9. 90 < ABS (LateralPositionInMiles A − LateralPositionInMiles B)	1. "are separated" (A , B)

–Test Frame 47(5):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. IsOutsideMNPSAirspace A 4. IsOutsideMNPSAirspace B 5. RouteDestination A = USA 6. RouteDeparture A = BDA 7. RouteDestination B = USA 8. RouteDeparture B = BDA 9. 90 < ABS (LateralPositionInMiles A − LateralPositionInMiles B)	1. "are separated" (A , B)

–Test Frame 48(6):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. IsOutsideMNPSAirspace A 4. IsOutsideMNPSAirspace B 5. RouteDestination A = Iceland 6. RouteDeparture A = Scandinavia 7. RouteDestination B = Iceland 8. RouteDeparture B = Scandinavia 9. 90 < ABS (LateralPositionInMiles A − LateralPositionInMiles B)	1. "are separated" (A , B)

–Test Frame 49(7):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. IsOutsideMNPSAirspace A 4. IsOutsideMNPSAirspace B 5. RouteDeparture A = Iceland 6. RouteDestination A = UnitedKingdom 7. RouteDeparture B = Iceland 8. RouteDestination B = UnitedKingdom 9. 90 < ABS (LateralPositionInMiles A − LateralPositionInMiles B)	1. "are separated" (A , B)

–Test Frame 50(8):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. IsOutsideMNPSAirspace A 4. IsOutsideMNPSAirspace B 5. RouteDestination A = Iceland 6. RouteDeparture A = UnitedKingdom 7. RouteDestination B = Iceland 8. RouteDeparture B = UnitedKingdom 9. 90 < ABS (LateralPositionInMiles A − LateralPositionInMiles B)	1. "are separated" (A , B)

–Test Frame 51(9):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. IsOutsideMNPSAirspace A 4. IsOutsideMNPSAirspace B 5. RouteDeparture A = BDA 6. RouteDestination A = CAN 7. RouteDeparture B = BDA 8. RouteDestination B = CAN 9. 90 < ABS (LateralPositionInMiles A − LateralPositionInMiles B)	1. "are separated" (A , B)

–Test Frame 52(10):

Stimuli	Response
1. 80 < "RouteSegment Degrees" A 2. 80 < "RouteSegment Degrees" B 3. IsOutsideMNPSAirspace A 4. IsOutsideMNPSAirspace B 5. RouteDestination A = BDA 6. RouteDeparture A = CAN 7. RouteDestination B = BDA 8. RouteDeparture B = CAN 9. 90 < ABS (LateralPositionInMiles A − LateralPositionInMiles B)	1. "are separated" (A , B)

C.1.3 Longitudinal Separation

–Test Frame 53(1):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 2. IsSupersonic A 3. IsSupersonic B 4. IsLevel A 5. IsLevel B 6. SameMachNumber (A , B) 7. "SameOr Diverging Tracks" (A , B) 8. 10 < ABS (TimeAtPosition A − TimeAtPosition B) 9. "Appropriate TimeSep AtCommon Point" (A , B)	1. "are separated" (A , B)

–Test Frame 54(2):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 2. ¬ (IsSupersonic B) 3. ¬ (IsTurbojet B) 4. ¬ ("SameOr Diverging Tracks" (A , B)) 5. IsOnRoute Routes3 A 6. IsOnRoute Routes3 B 7. 20 < ABS (TimeAtPosition A − TimeAtPosition B)	1. "are separated" (A , B)

–Test Frame 55(3):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic A) 3. IsTurbojet A 4. IsTurbojet B 5. "separation check time" < StartTime ("turbojetOppDir NoLongSepPeriod" (A , B))	1. "are separated" (A , B)

–Test Frame 56(4):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 2. IsSupersonic A 3. IsSupersonic B 4. ReportedOverCommonPoint (A , B) 5. SameType (A , B) 6. InCruiseClimb A 7. InCruiseClimb B 8. "SameOr Diverging Tracks" (A , B) 9. 10 < ABS (TimeAtPosition A − TimeAtPosition B)	1. "are separated" (A , B)

–Test Frame 57(5):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. ¬ (ReportedOverCommonPoint (A , B))	
4. ¬ (IsTurbojet A)	
5. ¬ (IsOnRoute Routes3 B)	
6. 30 < ABS (TimeAtPosition A − TimeAtPosition B)	

–Test Frame 58(6):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. IsSupersonic A	
3. IsSupersonic B	
4. ¬ (SameMachNumber (A , B))	
5. ¬ (InCruiseClimb B)	
6. 15 < ABS (TimeAtPosition A − TimeAtPosition B)	

–Test Frame 59(7):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. IsSupersonic A	
3. IsSupersonic B	
4. ¬ (IsLevel B)	
5. ¬ (InCruiseClimb A)	
6. 15 < ABS (TimeAtPosition A − TimeAtPosition B)	

–Test Frame 60(8):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 2. IsSupersonic A 3. IsSupersonic B 4. ¬ (IsLevel A) 5. ¬ (SameType (A , B)) 6. 15 < ABS (TimeAtPosition A − TimeAtPosition B)	1. "are separated" (A , B)

–Test Frame 61(9):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ReportedOverCommonPoint (A , B) 3. "separation check time" < ept (A , B) 4. "separation check time" < StartTime ("turbojetOppDir NoLongSepPeriod" (A , B))	1. "are separated" (A , B)

–Test Frame 62(10):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (ReportedOverCommonPoint (A , B)) 3. "separation check time" < ept (A , B) − 15 4. "separation check time" < StartTime ("turbojetOppDir NoLongSepPeriod" (A , B))	1. "are separated" (A , B)

–Test Frame 63(11):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. EndTime ("turbojetOppDir NoLongSepPeriod" (A , B)) < "separation check time"	1. "are separated" (A , B)

–Test Frame 64(12):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ReportedOverCommonPoint (A , B) 3. ¬ (IsTurbojet B) 4. ept (A , B) + 10 < "separation check time"	1. "are separated" (A , B)

–Test Frame 65(13):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (ReportedOverCommonPoint (A , B)) 3. ¬ (IsTurbojet B) 4. ept (A , B) + 15 < "separation check time"	1. "are separated" (A , B)

–Test Frame 66(14):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. "turbojetSameDir LongSep" (A , B) < ABS (TimeAtPosition A − TimeAtPosition B)	1. "are separated" (A , B)

–Test Frame 67(15):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 2. ¬ (IsSupersonic B) 3. ¬ (IsTurbojet B) 4. ¬ ("SameOr Diverging Tracks" (A , B)) 5. ¬ (IsOnRoute Routes3 A) 6. 30 < ABS (TimeAtPosition A − TimeAtPosition B)	1. "are separated" (A , B)

–Test Frame 68(16):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. IsSupersonic A	
3. IsSupersonic B	
4. ¬ (ReportedOverCommonPoint (A , B))	
5. ¬ ("Appropriate TimeSep AtCommon Point" (A , B))	
6. 15 < ABS (TimeAtPosition A − TimeAtPosition B)	

–Test Frame 69(1):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. ¬ (IsTurbojet B)	
4. ¬ ("SameOr Diverging Tracks" (A , B))	
5. RouteDeparture A = USA	
6. RouteDestination A = Caribbean	
7. RouteDeparture B = USA	
8. RouteDestination B = Caribbean	
9. 20 < ABS (TimeAtPosition A − TimeAtPosition B)	

–Test Frame 70(2):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. ¬ (IsTurbojet B)	
4. ¬ ("SameOr Diverging Tracks" (A , B))	
5. RouteDeparture A = BDA	
6. RouteDestination A = USA	
7. RouteDeparture B = BDA	
8. RouteDestination B = USA	
9. 20 < ABS (TimeAtPosition A − TimeAtPosition B)	

–Test Frame 71(3):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 2. ¬ (IsSupersonic B) 3. ¬ (IsTurbojet B) 4. ¬ ("SameOr Diverging Tracks" (A , B)) 5. RouteDeparture A = Caribbean 6. RouteDestination A = CAN 7. RouteDeparture B = Caribbean 8. RouteDestination B = CAN 9. 20 < ABS (TimeAtPosition A − TimeAtPosition B)	1. "are separated" (A , B)

–Test Frame 72(4):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 2. ¬ (IsSupersonic B) 3. ¬ (IsTurbojet B) 4. ¬ ("SameOr Diverging Tracks" (A , B)) 5. RouteDeparture A = CAN 6. RouteDestination A = BDA 7. RouteDeparture B = CAN 8. RouteDestination B = BDA 9. 20 < ABS (TimeAtPosition A − TimeAtPosition B)	1. "are separated" (A , B)

–Test Frame 73(1):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic A) 3. IsTurbojet A 4. IsTurbojet B 5. EnterWATRSAirspaceAtSomeTime A 6. EnterWATRSAirspaceAtSomeTime B 7. IsWestOf60W A 8. IsWestOf60W B 9. MachTechniqueUsed A 10. MachTechniqueUsed B 11. OnPublishedRoute A 12. OnPublishedRoute B 13. "SameOr Diverging Tracks" (A , B) 14. ReportedOverCommonPoint (A , B) 15. StartTime ("WATRSOppDir NoLongSepPeriod" (A , B)) < ept (A , B) 16. "separation check time" < StartTime ("WATRSOppDir NoLongSepPeriod" (A , B))	1. "are separated" (A , B)

–Test Frame 74(2):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic A) 3. IsTurbojet A 4. IsTurbojet B 5. EnterWATRSAirspaceAtSomeTime A 6. EnterWATRSAirspaceAtSomeTime B 7. MachTechniqueUsed A 8. MachTechniqueUsed B 9. OnPublishedRoute A 10. OnPublishedRoute B 11. "SameOr Diverging Tracks" (A , B) 12. InWATRSAirspace A 13. InWATRSAirspace B 14. ¬ (ReportedOverCommonPoint (A , B)) 15. StartTime ("WATRSOppDir NoLongSepPeriod" (A , B)) < ept (A , B) − 15 16. "separation check time" < StartTime ("WATRSOppDir NoLongSepPeriod" (A , B))	1. "are separated" (A , B)

–Test Frame 75(3):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic A) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (IsWestOf60W B) 6. ¬ (InWATRSAirspace B) 7. ReportedOverCommonPoint (A , B) 8. "separation check time" < ept (A , B)	1. "are separated" (A , B)

–Test Frame 76(4):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic A) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (IsWestOf60W A) 6. ¬ (InWATRSAirspace A) 7. ¬ (ReportedOverCommonPoint (A , B)) 8. "separation check time" < ept (A , B) − 15	1. "are separated" (A , B)

–Test Frame 77(5):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic A) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ ("SameOr Diverging Tracks" (A , B)) 6. ReportedOverCommonPoint (A , B) 7. "separation check time" < ept (A , B)	1. "are separated" (A , B)

–Test Frame 78(6):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic A) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (OnPublishedRoute B) 6. ReportedOverCommonPoint (A , B) 7. "separation check time" < ept (A , B)	1. "are separated" (A , B)

–Test Frame 79(7):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic A) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (OnPublishedRoute A) 6. ReportedOverCommonPoint (A , B) 7. "separation check time" < ept (A , B)	1. "are separated" (A , B)

–Test Frame 80(8):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic A) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (MachTechniqueUsed B) 6. ReportedOverCommonPoint (A , B) 7. "separation check time" < ept (A , B)	1. "are separated" (A , B)

–Test Frame 81(9):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic A) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (MachTechniqueUsed A) 6. ReportedOverCommonPoint (A , B) 7. "separation check time" < ept (A , B)	1. "are separated" (A , B)

–Test Frame 82(10):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic A) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (EnterWATRSAirspaceAtSomeTime B) 6. ReportedOverCommonPoint (A , B) 7. "separation check time" < ept (A , B)	1. "are separated" (A , B)

–Test Frame 83(11):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic A) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (EnterWATRSAirspaceAtSomeTime A) 6. ReportedOverCommonPoint (A , B) 7. "separation check time" < ept (A , B)	1. "are separated" (A , B)

–Test Frame 84(12):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic A) 3. IsTurbojet A 4. IsTurbojet B 5. ReportedOverCommonPoint (A , B) 6. ept (A , B) ≤ StartTime ("WATRSOppDir NoLongSepPeriod" (A , B)) 7. "separation check time" < ept (A , B)	1. "are separated" (A , B)

–Test Frame 85(13):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic A) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (ReportedOverCommonPoint (A , B)) 6. ept (A , B) − 15 ≤ StartTime ("WATRSOppDir NoLongSepPeriod" (A , B)) 7. "separation check time" < ept (A , B) − 15	1. "are separated" (A , B)

–Test Frame 86(14):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic A) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (HavePartOfRouteInMNPSAirspace B) 6. EnterWATRSAirspaceAtSomeTime A 7. EnterWATRSAirspaceAtSomeTime B 8. IsWestOf60W A 9. IsWestOf60W B 10. MachTechniqueUsed A 11. MachTechniqueUsed B 12. OnPublishedRoute A 13. OnPublishedRoute B 14. "SameOr Diverging Tracks" (A , B) 15. ReportedOverCommonPoint (A , B) 16. StartTime ("WATRSOppDir NoLongSepPeriod" (A , B)) < ept (A , B) 17. "separation check time" < StartTime ("WATRSOppDir NoLongSepPeriod" (A , B))	1. "are separated" (A , B)

–Test Frame 87(15):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic A) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (HavePartOfRouteInMNPSAirspace A) 6. EnterWATRSAirspaceAtSomeTime A 7. EnterWATRSAirspaceAtSomeTime B 8. IsWestOf60W A 9. IsWestOf60W B 10. MachTechniqueUsed A 11. MachTechniqueUsed B 12. OnPublishedRoute A 13. OnPublishedRoute B 14. "SameOr Diverging Tracks" (A , B) 15. ReportedOverCommonPoint (A , B) 16. StartTime ("WATRSOppDir NoLongSepPeriod" (A , B)) < ept (A , B) 17. "separation check time" < StartTime ("WATRSOppDir NoLongSepPeriod" (A , B))	1. "are separated" (A , B)

–Test Frame 88(16):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic A) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (MeetMNPS B) 6. EnterWATRSAirspaceAtSomeTime A 7. EnterWATRSAirspaceAtSomeTime B 8. IsWestOf60W A 9. IsWestOf60W B 10. MachTechniqueUsed A 11. MachTechniqueUsed B 12. OnPublishedRoute A 13. OnPublishedRoute B 14. "SameOr Diverging Tracks" (A , B) 15. ReportedOverCommonPoint (A , B) 16. StartTime ("WATRSOppDir NoLongSepPeriod" (A , B)) < ept (A , B) 17. "separation check time" < StartTime ("WATRSOppDir NoLongSepPeriod" (A , B))	1. "are separated" (A , B)

–Test Frame 89(17):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic A) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (MeetMNPS A) 6. EnterWATRSAirspaceAtSomeTime A 7. EnterWATRSAirspaceAtSomeTime B 8. IsWestOf60W A 9. IsWestOf60W B 10. MachTechniqueUsed A 11. MachTechniqueUsed B 12. OnPublishedRoute A 13. OnPublishedRoute B 14. "SameOr Diverging Tracks" (A , B) 15. ReportedOverCommonPoint (A , B) 16. StartTime ("WATRSOppDir NoLongSepPeriod" (A , B)) < ept (A , B) 17. "separation check time" < StartTime ("WATRSOppDir NoLongSepPeriod" (A , B))	1. "are separated" (A , B)

–Test Frame 90(1):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. EnterWATRSAirspaceAtSomeTime A 6. EnterWATRSAirspaceAtSomeTime B 7. IsWestOf60W A 8. IsWestOf60W B 9. MachTechniqueUsed A 10. MachTechniqueUsed B 11. OnPublishedRoute A 12. OnPublishedRoute B 13. "SameOr Diverging Tracks" (A , B) 14. ReportedOverCommonPoint (A , B) 15. ept (A , B) + 10 < EndTime ("WATRSOppDir NoLongSepPeriod" (A , B)) 16. EndTime ("WATRSOppDir NoLongSepPeriod" (A , B)) < "separation check time"	1. "are separated" (A , B)

–Test Frame 91(2):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. EnterWATRSAirspaceAtSomeTime A 6. EnterWATRSAirspaceAtSomeTime B 7. MachTechniqueUsed A 8. MachTechniqueUsed B 9. OnPublishedRoute A 10. OnPublishedRoute B 11. "SameOr Diverging Tracks" (A , B) 12. InWATRSAirspace A 13. InWATRSAirspace B 14. ¬ (ReportedOverCommonPoint (A , B)) 15. ept (A , B) + 15 < EndTime ("WATRSOppDir NoLongSepPeriod" (A , B)) 16. EndTime ("WATRSOppDir NoLongSepPeriod" (A , B)) < "separation check time"	1. "are separated" (A , B)

–Test Frame 92(3):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (IsWestOf60W B) 6. ¬ (InWATRSAirspace B) 7. ReportedOverCommonPoint (A , B) 8. ept (A , B) + 10 < "separation check time"	1. "are separated" (A , B)

–Test Frame 93(4):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (IsWestOf60W A) 6. ¬ (InWATRSAirspace A) 7. ¬ (ReportedOverCommonPoint (A , B)) 8. ept (A , B) + 15 < "separation check time"	1. "are separated" (A , B)

–Test Frame 94(5):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ ("SameOr Diverging Tracks" (A , B)) 6. ReportedOverCommonPoint (A , B) 7. ept (A , B) + 10 < "separation check time"	1. "are separated" (A , B)

–Test Frame 95(6):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (OnPublishedRoute B) 6. ReportedOverCommonPoint (A , B) 7. ept (A , B) + 10 < "separation check time"	1. "are separated" (A , B)

–Test Frame 96(7):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (OnPublishedRoute A) 6. ReportedOverCommonPoint (A , B) 7. ept (A , B) + 10 < "separation check time"	1. "are separated" (A , B)

–Test Frame 97(8):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (MachTechniqueUsed B) 6. ReportedOverCommonPoint (A , B) 7. ept (A , B) + 10 < "separation check time"	1. "are separated" (A , B)

–Test Frame 98(9):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (MachTechniqueUsed A) 6. ReportedOverCommonPoint (A , B) 7. ept (A , B) + 10 < "separation check time"	1. "are separated" (A , B)

–Test Frame 99(10):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (EnterWATRSAirspaceAtSomeTime B) 6. ReportedOverCommonPoint (A , B) 7. ept (A , B) + 10 < "separation check time"	1. "are separated" (A , B)

–Test Frame 100(11):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (EnterWATRSAirspaceAtSomeTime A) 6. ReportedOverCommonPoint (A , B) 7. ept (A , B) + 10 < "separation check time"	1. "are separated" (A , B)

–Test Frame 101(12):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. ReportedOverCommonPoint (A , B) 6. EndTime ("WATRSOppDir NoLongSepPeriod" (A , B)) ≤ ept (A , B) + 10 7. ept (A , B) + 10 < "separation check time"	1. "are separated" (A , B)

–Test Frame 102(13):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (ReportedOverCommonPoint (A , B)) 6. EndTime ("WATRSOppDir NoLongSepPeriod" (A , B)) ≤ ept (A , B) + 15 7. ept (A , B) + 15 < "separation check time"	1. "are separated" (A , B)

–Test Frame 103(14):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (HavePartOfRouteInMNPSAirspace B) 6. EnterWATRSAirspaceAtSomeTime A 7. EnterWATRSAirspaceAtSomeTime B 8. IsWestOf60W A 9. IsWestOf60W B 10. MachTechniqueUsed A 11. MachTechniqueUsed B 12. OnPublishedRoute A 13. OnPublishedRoute B 14. "SameOr Diverging Tracks" (A , B) 15. ReportedOverCommonPoint (A , B) 16. ept (A , B) + 10 < EndTime ("WATRSOppDir NoLongSepPeriod" (A , B)) 17. EndTime ("WATRSOppDir NoLongSepPeriod" (A , B)) < "separation check time"	1. "are separated" (A , B)

–Test Frame 104(15):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (HavePartOfRouteInMNPSAirspace A) 6. EnterWATRSAirspaceAtSomeTime A 7. EnterWATRSAirspaceAtSomeTime B 8. IsWestOf60W A 9. IsWestOf60W B 10. MachTechniqueUsed A 11. MachTechniqueUsed B 12. OnPublishedRoute A 13. OnPublishedRoute B 14. "SameOr Diverging Tracks" (A , B) 15. ReportedOverCommonPoint (A , B) 16. ept (A , B) + 10 < EndTime ("WATRSOppDir NoLongSepPeriod" (A , B)) 17. EndTime ("WATRSOppDir NoLongSepPeriod" (A , B)) < "separation check time"	1. "are separated" (A , B)

–Test Frame 105(16):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (MeetMNPS B) 6. EnterWATRSAirspaceAtSomeTime A 7. EnterWATRSAirspaceAtSomeTime B 8. IsWestOf60W A 9. IsWestOf60W B 10. MachTechniqueUsed A 11. MachTechniqueUsed B 12. OnPublishedRoute A 13. OnPublishedRoute B 14. "SameOr Diverging Tracks" (A , B) 15. ReportedOverCommonPoint (A , B) 16. ept (A , B) + 10 < EndTime ("WATRSOppDir NoLongSepPeriod" (A , B)) 17. EndTime ("WATRSOppDir NoLongSepPeriod" (A , B)) < "separation check time"	1. "are separated" (A , B)

–Test Frame 106(17):

Stimuli	Response
1. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (MeetMNPS A) 6. EnterWATRSAirspaceAtSomeTime A 7. EnterWATRSAirspaceAtSomeTime B 8. IsWestOf60W A 9. IsWestOf60W B 10. MachTechniqueUsed A 11. MachTechniqueUsed B 12. OnPublishedRoute A 13. OnPublishedRoute B 14. "SameOr Diverging Tracks" (A , B) 15. ReportedOverCommonPoint (A , B) 16. ept (A , B) + 10 < EndTime ("WATRSOppDir NoLongSepPeriod" (A , B)) 17. EndTime ("WATRSOppDir NoLongSepPeriod" (A , B)) < "separation check time"	1. "are separated" (A , B)

–Test Frame 107(1):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. ¬ (HavePartOfRouteInMNPSAirspace B)	
6. EnterWATRSAirspaceAtSomeTime A	
7. EnterWATRSAirspaceAtSomeTime B	
8. IsWestOf60W A	
9. IsWestOf60W B	
10. MachTechniqueUsed A	
11. MachTechniqueUsed B	
12. OnPublishedRoute A	
13. OnPublishedRoute B	
14. "SameOr Diverging Tracks" (A , B)	
15. ¬ (InCruiseClimb A)	
16. ¬ (InCruiseClimb B)	
17. "Appropriate TimeSep AtCommon Point" (A , B)	
18. Mach (FirstAircraft (A , B)) − Mach (SecondAircraft (A , B)) $\leq$ 0.6	
19. 0.3 < Mach (FirstAircraft (A , B)) − Mach (SecondAircraft (A , B))	
20. "WATRSSameDir LongSep" (A , B) < 10	
21. "WATRSSameDir LongSep" (A , B) < ABS (TimeAtPosition A − TimeAtPosition B)	

–Test Frame 108(2):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. MeetMNPS A 6. MeetMNPS B 7. HavePartOfRouteInMNPSAirspace A 8. HavePartOfRouteInMNPSAirspace B 9. ¬ (IsWestOf60W B) 10. ¬ (InWATRSAirspace B) 11. InCruiseClimb A 12. 10 < ABS (TimeAtPosition A − TimeAtPosition B) 13. Mach (FirstAircraft (A , B)) − Mach (SecondAircraft (A , B)) ≤ 0.02	1. "are separated" (A , B)

–Test Frame 109(3):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. ¬ (IsWestOf60W A)	
10. "SameOr Diverging Tracks" (A , B)	
11. ¬ (InWATRSAirspace A)	
12. InCruiseClimb B	
13. "Appropriate TimeSep AtCommon Point" (A , B)	
14. Mach (FirstAircraft (A , B)) − Mach (SecondAircraft (A , B)) $\leq$ 0.03	
15. 0.02 $<$ Mach (FirstAircraft (A , B)) − Mach (SecondAircraft (A , B))	
16. 9 $<$ ABS (TimeAtPosition A − TimeAtPosition B)	

–Test Frame 110(4):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. ¬ (OnPublishedRoute B)	
10. "SameOr Diverging Tracks" (A , B)	
11. "Appropriate TimeSep AtCommon Point" (A , B)	
12. Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B)) $\leq$ 0.04	
13. 0.03 $<$ Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B))	
14. 8 $<$ ABS (TimeAtPosition A – TimeAtPosition B)	

–Test Frame 111(5):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. ¬ (OnPublishedRoute A)	
10. "SameOr Diverging Tracks" (A , B)	
11. "Appropriate TimeSep AtCommon Point" (A , B)	
12. Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B)) $\leq$ 0.05	
13. 0.04 < Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B))	
14. 7 < ABS (TimeAtPosition A – TimeAtPosition B)	

–Test Frame 112(6):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. ¬ (HavePartOfRouteInMNPSAirspace A)	
6. EnterWATRSAirspaceAtSomeTime A	
7. EnterWATRSAirspaceAtSomeTime B	
8. MachTechniqueUsed A	
9. MachTechniqueUsed B	
10. OnPublishedRoute A	
11. OnPublishedRoute B	
12. "SameOr Diverging Tracks" (A , B)	
13. InWATRSAirspace A	
14. InWATRSAirspace B	
15. ¬ ("Appropriate TimeSep AtCommon Point" (A , B))	
16. "WATRSSameDir LongSep" (A , B) < 20	
17. "WATRSSameDir LongSep" (A , B) < ABS (TimeAtPosition A – TimeAtPosition B)	

–Test Frame 113(7):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. ¬ (EnterWATRSAirspaceAtSomeTime B)	
10. "SameOr Diverging Tracks" (A , B)	
11. "Appropriate TimeSep AtCommon Point" (A , B)	
12. Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B)) $\leq$ 0.06	
13. 0.05 < Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B))	
14. 6 < ABS (TimeAtPosition A – TimeAtPosition B)	

–Test Frame 114(8):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. ¬ (MeetMNPS B)	
6. ¬ (MachTechniqueUsed B)	
7. ¬ (ReportedOverCommonPoint (A , B))	
8. 20 < ABS (TimeAtPosition A – TimeAtPosition B)	

–Test Frame 115(9):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. ¬ (MeetMNPS A)	
6. ¬ (MachTechniqueUsed A)	
7. "SameOr Diverging Tracks" (A , B)	
8. ¬ (InCruiseClimb A)	
9. ¬ (InCruiseClimb B)	
10. ReportedOverCommonPoint (A , B)	
11. 15 < ABS (TimeAtPosition A − TimeAtPosition B)	

–Test Frame 116(10):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. ¬ (EnterWATRSAirspaceAtSomeTime A)	
10. "SameOr Diverging Tracks" (A , B)	
11. "Appropriate TimeSep AtCommon Point" (A , B)	
12. 0.6 < Mach (FirstAircraft (A , B)) − Mach (SecondAircraft (A , B))	
13. 5 < ABS (TimeAtPosition A − TimeAtPosition B)	

–Test Frame 117(11):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (HavePartOfRouteInMNPSAirspace B) 6. MachTechniqueUsed A 7. MachTechniqueUsed B 8. Mach (FirstAircraft (A , B)) − Mach (SecondAircraft (A , B)) ≤ 0.3 9. 20 ≤ "WATRSSameDir LongSep" (A , B) 10. 20 < ABS (TimeAtPosition A − TimeAtPosition B)	1. "are separated" (A , B)

–Test Frame 118(12):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 2. ¬ (IsSupersonic B) 3. IsTurbojet A 4. IsTurbojet B 5. ¬ (HavePartOfRouteInMNPSAirspace B) 6. ¬ ("SameOr Diverging Tracks" (A , B)) 7. 20 < ABS (TimeAtPosition A − TimeAtPosition B)	1. "are separated" (A , B)

–Test Frame 119(13):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. ¬ (HavePartOfRouteInMNPSAirspace B)	
6. MachTechniqueUsed A	
7. MachTechniqueUsed B	
8. "SameOr Diverging Tracks" (A , B)	
9. ¬ (InCruiseClimb A)	
10. ¬ (InCruiseClimb B)	
11. "Appropriate TimeSep AtCommon Point" (A , B)	
12. 0.6 < Mach (FirstAircraft (A , B)) − Mach (SecondAircraft (A , B))	
13. 5 ≤ "WATRSSameDir LongSep" (A , B)	
14. 5 < ABS (TimeAtPosition A − TimeAtPosition B)	

–Test Frame 120(14):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. ¬ (HavePartOfRouteInMNPSAirspace B)	
6. EnterWATRSAirspaceAtSomeTime A	
7. EnterWATRSAirspaceAtSomeTime B	
8. IsWestOf60W A	
9. IsWestOf60W B	
10. MachTechniqueUsed A	
11. MachTechniqueUsed B	
12. OnPublishedRoute A	
13. OnPublishedRoute B	
14. "SameOr Diverging Tracks" (A , B)	
15. ¬ (InCruiseClimb A)	
16. ¬ (InCruiseClimb B)	
17. "Appropriate TimeSep AtCommon Point" (A , B)	
18. 0.6 < Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B))	
19. "WATRSSameDir LongSep" (A , B) < 5	
20. "WATRSSameDir LongSep" (A , B) < ABS (TimeAtPosition A – TimeAtPosition B)	

–Test Frame 121(15):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. ¬ (HavePartOfRouteInMNPSAirspace B)	
6. MachTechniqueUsed A	
7. MachTechniqueUsed B	
8. "SameOr Diverging Tracks" (A , B)	
9. ¬ (InCruiseClimb A)	
10. ¬ (InCruiseClimb B)	
11. "Appropriate TimeSep AtCommon Point" (A , B)	
12. Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B)) $\leq$ 0.6	
13. 0.3 $<$ Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B))	
14. 10 $\leq$ "WATRSSameDir LongSep" (A , B)	
15. 10 $<$ ABS (TimeAtPosition A – TimeAtPosition B)	

–Test Frame 122(16):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. EnterWATRSAirspaceAtSomeTime A	
10. EnterWATRSAirspaceAtSomeTime B	
11. IsWestOf60W A	
12. IsWestOf60W B	
13. MachTechniqueUsed A	
14. MachTechniqueUsed B	
15. OnPublishedRoute A	
16. OnPublishedRoute B	
17. "SameOr Diverging Tracks" (A , B)	
18. MinAll (A , B) < ABS (TimeAtPosition A – TimeAtPosition B)	

–Test Frame 123(17):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. ¬ (MachTechniqueUsed B)	
10. "SameOr Diverging Tracks" (A , B)	
11. "Appropriate TimeSep AtCommon Point" (A , B)	
12. 5 < ABS (TimeAtPosition A − TimeAtPosition B)	
13. 0.06 < Mach (FirstAircraft (A , B)) − Mach (SecondAircraft (A , B))	

–Test Frame 124(1):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. EnterWATRSAirspaceAtSomeTime A	
10. EnterWATRSAirspaceAtSomeTime B	
11. IsWestOf60W A	
12. IsWestOf60W B	
13. MachTechniqueUsed A	
14. MachTechniqueUsed B	
15. OnPublishedRoute A	
16. OnPublishedRoute B	
17. "SameOr Diverging Tracks" (A , B)	
18. "Appropriate TimeSep AtCommon Point" (A , B)	
19. Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B)) $\leq$ 0.03	
20. 0.02 $<$ Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B))	
21. "WATRSSameDir LongSep" (A , B) $\leq$ 9	
22. "WATRSSameDir LongSep" (A , B) $<$ ABS (TimeAtPosition A – TimeAtPosition B)	

–Test Frame 125(2):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. EnterWATRSAirspaceAtSomeTime A	
10. EnterWATRSAirspaceAtSomeTime B	
11. IsWestOf60W A	
12. IsWestOf60W B	
13. MachTechniqueUsed A	
14. MachTechniqueUsed B	
15. OnPublishedRoute A	
16. OnPublishedRoute B	
17. "SameOr Diverging Tracks" (A , B)	
18. Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B)) $\leq$ 0.02	
19. 10 < "WATRSSameDir LongSep" (A , B)	
20. 10 < ABS (TimeAtPosition A – TimeAtPosition B)	

–Test Frame 126(3):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. EnterWATRSAirspaceAtSomeTime A	
10. EnterWATRSAirspaceAtSomeTime B	
11. IsWestOf60W A	
12. IsWestOf60W B	
13. MachTechniqueUsed A	
14. MachTechniqueUsed B	
15. OnPublishedRoute A	
16. OnPublishedRoute B	
17. "SameOr Diverging Tracks" (A , B)	
18. "Appropriate TimeSep AtCommon Point" (A , B)	
19. Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B)) $\leq$ 0.04	
20. 0.03 $<$ Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B))	
21. 8 $<$ "WATRSSameDir LongSep" (A , B)	
22. 8 $<$ ABS (TimeAtPosition A – TimeAtPosition B)	

–Test Frame 127(4):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. EnterWATRSAirspaceAtSomeTime A	
10. EnterWATRSAirspaceAtSomeTime B	
11. IsWestOf60W A	
12. IsWestOf60W B	
13. MachTechniqueUsed A	
14. MachTechniqueUsed B	
15. OnPublishedRoute A	
16. OnPublishedRoute B	
17. "SameOr Diverging Tracks" (A , B)	
18. "Appropriate TimeSep AtCommon Point" (A , B)	
19. ¬ (InCruiseClimb A)	
20. ¬ (InCruiseClimb B)	
21. 0.6 < Mach (FirstAircraft (A , B)) − Mach (SecondAircraft (A , B))	
22. 5 < ABS (TimeAtPosition A − TimeAtPosition B)	
23. "WATRSSameDir LongSep" (A , B) ≤ 5	
24. 5 ≤ "WATRSSameDir LongSep" (A , B)	

–Test Frame 128(5):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. EnterWATRSAirspaceAtSomeTime A	
10. EnterWATRSAirspaceAtSomeTime B	
11. IsWestOf60W A	
12. IsWestOf60W B	
13. MachTechniqueUsed A	
14. MachTechniqueUsed B	
15. OnPublishedRoute A	
16. OnPublishedRoute B	
17. "SameOr Diverging Tracks" (A , B)	
18. "Appropriate TimeSep AtCommon Point" (A , B)	
19. Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B)) $\leq$ 0.05	
20. 0.04 $<$ Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B))	
21. 7 $<$ "WATRSSameDir LongSep" (A , B)	
22. 7 $<$ ABS (TimeAtPosition A – TimeAtPosition B)	

–Test Frame 129(6):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. EnterWATRSAirspaceAtSomeTime A	
10. EnterWATRSAirspaceAtSomeTime B	
11. IsWestOf60W A	
12. IsWestOf60W B	
13. MachTechniqueUsed A	
14. MachTechniqueUsed B	
15. OnPublishedRoute A	
16. OnPublishedRoute B	
17. "SameOr Diverging Tracks" (A , B)	
18. "Appropriate TimeSep AtCommon Point" (A , B)	
19. Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B)) $\leq$ 0.06	
20. 0.05 $<$ Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B))	
21. 6 $<$ "WATRSSameDir LongSep" (A , B)	
22. 6 $<$ ABS (TimeAtPosition A – TimeAtPosition B)	

–Test Frame 130(7):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. EnterWATRSAirspaceAtSomeTime A	
10. EnterWATRSAirspaceAtSomeTime B	
11. IsWestOf60W A	
12. IsWestOf60W B	
13. MachTechniqueUsed A	
14. MachTechniqueUsed B	
15. OnPublishedRoute A	
16. OnPublishedRoute B	
17. "SameOr Diverging Tracks" (A , B)	
18. "Appropriate TimeSep AtCommon Point" (A , B)	
19. 0.06 < Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B))	
20. 5 < "WATRSSameDir LongSep" (A , B)	
21. Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B)) ≤ 0.3	
22. 5 < ABS (TimeAtPosition A – TimeAtPosition B)	

–Test Frame 131(8):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. EnterWATRSAirspaceAtSomeTime A	
10. EnterWATRSAirspaceAtSomeTime B	
11. IsWestOf60W A	
12. IsWestOf60W B	
13. MachTechniqueUsed A	
14. MachTechniqueUsed B	
15. OnPublishedRoute A	
16. OnPublishedRoute B	
17. "SameOr Diverging Tracks" (A , B)	
18. ¬ ("Appropriate TimeSep AtCommon Point" (A , B))	
19. "WATRSSameDir LongSep" (A , B) $\leq$ 10	
20. "WATRSSameDir LongSep" (A , B) $<$ ABS (TimeAtPosition A – TimeAtPosition B)	

–Test Frame 132(9):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. EnterWATRSAirspaceAtSomeTime A	
10. EnterWATRSAirspaceAtSomeTime B	
11. IsWestOf60W A	
12. IsWestOf60W B	
13. MachTechniqueUsed A	
14. MachTechniqueUsed B	
15. OnPublishedRoute A	
16. OnPublishedRoute B	
17. "SameOr Diverging Tracks" (A , B)	
18. "Appropriate TimeSep AtCommon Point" (A , B)	
19. Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B)) $\leq$ 0.06	
20. 0.05 $<$ Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B))	
21. InCruiseClimb A	
22. "WATRSSameDir LongSep" (A , B) $\leq$ 6	
23. "WATRSSameDir LongSep" (A , B) $<$ ABS (TimeAtPosition A – TimeAtPosition B)	

–Test Frame 133(10):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. EnterWATRSAirspaceAtSomeTime A	
10. EnterWATRSAirspaceAtSomeTime B	
11. IsWestOf60W A	
12. IsWestOf60W B	
13. MachTechniqueUsed A	
14. MachTechniqueUsed B	
15. OnPublishedRoute A	
16. OnPublishedRoute B	
17. "SameOr Diverging Tracks" (A , B)	
18. "Appropriate TimeSep AtCommon Point" (A , B)	
19. Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B)) $\leq$ 0.05	
20. 0.04 $<$ Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B))	
21. InCruiseClimb B	
22. "WATRSSameDir LongSep" (A , B) $\leq$ 7	
23. "WATRSSameDir LongSep" (A , B) $<$ ABS (TimeAtPosition A – TimeAtPosition B)	

–Test Frame 134(11):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. EnterWATRSAirspaceAtSomeTime A	
10. EnterWATRSAirspaceAtSomeTime B	
11. IsWestOf60W A	
12. IsWestOf60W B	
13. MachTechniqueUsed A	
14. MachTechniqueUsed B	
15. OnPublishedRoute A	
16. OnPublishedRoute B	
17. "SameOr Diverging Tracks" (A , B)	
18. "Appropriate TimeSep AtCommon Point" (A , B)	
19. ¬ (InCruiseClimb A)	
20. ¬ (InCruiseClimb B)	
21. Mach (FirstAircraft (A , B)) − Mach (SecondAircraft (A , B)) $\leq$ 0.6	
22. 0.3 $<$ Mach (FirstAircraft (A , B)) − Mach (SecondAircraft (A , B))	
23. "WATRSSameDir LongSep" (A , B) $\leq$ 5	
24. "WATRSSameDir LongSep" (A , B) $<$ ABS (TimeAtPosition A − TimeAtPosition B)	

–Test Frame 135(12):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. EnterWATRSAirspaceAtSomeTime A	
10. EnterWATRSAirspaceAtSomeTime B	
11. IsWestOf60W A	
12. IsWestOf60W B	
13. MachTechniqueUsed A	
14. MachTechniqueUsed B	
15. OnPublishedRoute A	
16. OnPublishedRoute B	
17. "SameOr Diverging Tracks" (A , B)	
18. "Appropriate TimeSep AtCommon Point" (A , B)	
19. Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B)) $\leq$ 0.04	
20. 0.03 $<$ Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B))	
21. InCruiseClimb A	
22. "WATRSSameDir LongSep" (A , B) $\leq$ 8	
23. "WATRSSameDir LongSep" (A , B) $<$ ABS (TimeAtPosition A – TimeAtPosition B)	

–Test Frame 136(13):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. EnterWATRSAirspaceAtSomeTime A	
10. EnterWATRSAirspaceAtSomeTime B	
11. IsWestOf60W A	
12. IsWestOf60W B	
13. MachTechniqueUsed A	
14. MachTechniqueUsed B	
15. OnPublishedRoute A	
16. OnPublishedRoute B	
17. "SameOr Diverging Tracks" (A , B)	
18. "Appropriate TimeSep AtCommon Point" (A , B)	
19. Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B)) $\leq$ 0.03	
20. 0.02 $<$ Mach (FirstAircraft (A , B)) – Mach (SecondAircraft (A , B))	
21. 9 $<$ "WATRSSameDir LongSep" (A , B)	
22. InCruiseClimb A	
23. 9 $<$ ABS (TimeAtPosition A – TimeAtPosition B)	

–Test Frame 137(14):

Stimuli	Response
1. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B))	1. "are separated" (A , B)
2. ¬ (IsSupersonic B)	
3. IsTurbojet A	
4. IsTurbojet B	
5. MeetMNPS A	
6. MeetMNPS B	
7. HavePartOfRouteInMNPSAirspace A	
8. HavePartOfRouteInMNPSAirspace B	
9. EnterWATRSAirspaceAtSomeTime A	
10. EnterWATRSAirspaceAtSomeTime B	
11. IsWestOf60W A	
12. IsWestOf60W B	
13. MachTechniqueUsed A	
14. MachTechniqueUsed B	
15. OnPublishedRoute A	
16. OnPublishedRoute B	
17. "SameOr Diverging Tracks" (A , B)	
18. "Appropriate TimeSep AtCommon Point" (A , B)	
19. ¬ (InCruiseClimb A)	
20. ¬ (InCruiseClimb B)	
21. 0.6 < Mach (FirstAircraft (A , B)) − Mach (SecondAircraft (A , B))	
22. "WATRSSameDir LongSep" (A , B) < 5	
23. "WATRSSameDir LongSep" (A , B) < ABS (TimeAtPosition A − TimeAtPosition B)	

C.2 Test Frames for "Separation Does Not Exist"

–Test Frame 138(1) :

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. ¬ (LaterallySeparated (A , B)) 3. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

C.2.1 Vertical Separation

–Test Frame 139(1):

Stimuli	Response
1. 450 < FlightLevel A 2. 450 < FlightLevel B 3. IsSupersonic A 4. ABS (FlightLevel A − FlightLevel B) ≤ 4000 5. ¬ (LaterallySeparated (A , B)) 6. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 140(2):

Stimuli	Response
1. 280 < FlightLevel A 2. 280 < FlightLevel B 3. ¬ (IsSupersonic A) 4. ¬ (IsSupersonic B) 5. ABS (FlightLevel A − FlightLevel B) ≤ 2000 6. ¬ (LaterallySeparated (A , B)) 7. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 141(3):

Stimuli	Response
1. FlightLevel A ≤ 280 2. ABS (FlightLevel A − FlightLevel B) ≤ 1000 3. ¬ (LaterallySeparated (A , B)) 4. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 142(4):

Stimuli	Response
1. ABS (FlightLevel A − FlightLevel B) ≤ 1000 2. 280 < FlightLevel A 3. FlightLevel B ≤ 280 4. ¬ (LaterallySeparated (A , B)) 5. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 143(5):

Stimuli	Response
1. 280 < FlightLevel A 2. 280 < FlightLevel B 3. FlightLevel A ≤ 450 4. ABS (FlightLevel A − FlightLevel B) ≤ 2000 5. ¬ (LaterallySeparated (A , B)) 6. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 144(6):

Stimuli	Response
1. 280 < FlightLevel A 2. 280 < FlightLevel B 3. FlightLevel B ≤ 450 4. ABS (FlightLevel A − FlightLevel B) ≤ 2000 5. ¬ (LaterallySeparated (A , B)) 6. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 145(7):

Stimuli	Response
1. 450 < FlightLevel A 2. 450 < FlightLevel B 3. ABS (FlightLevel A − FlightLevel B) ≤ 4000 4. IsSupersonic B 5. ¬ (LaterallySeparated (A , B)) 6. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

C.2.2 Lateral Separation

–Test Frame 146(1):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. 80 < "RouteSegment Degrees" A 3. 80 < "RouteSegment Degrees" B 4. ABS (LateralPositionInMiles A − LateralPositionInMiles B) ≤ "LateralSeparation RequiredInMiles" (A , B) 5. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 147(2):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. 70 ≤ "RouteSegment Degrees" A 3. "RouteSegment Degrees" A ≤ 80 4. "LatChange Per10DLong LessThanOrEq1" A 5. "LatChange Per10DLong LessThanOrEq1" B 6. ABS (LateralPositionInDegrees A − LateralPositionInDegrees B) ≤ "LateralSeparation RequiredInDegrees" (A , B) 7. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 148(3):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. 58 < "RouteSegment Degrees" A 3. "RouteSegment Degrees" A < 70 4. ¬ ("LatChange Per10DLong LessThanOrEq2" B) 5. 58 < "RouteSegment Degrees" B 6. "RouteSegment Degrees" B < 70 7. ABS (LateralPositionInMiles A − LateralPositionInMiles B) ≤ "LateralSeparation RequiredInMiles" (A , B) 8. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 149(4):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. "RouteSegment Degrees" A ≤ 58 3. ¬ ("LatChange Per10DLong LessThanOrEq3" B) 4. "RouteSegment Degrees" B ≤ 58 5. ABS (LateralPositionInMiles A – LateralPositionInMiles B) ≤ "LateralSeparation RequiredInMiles" (A , B) 6. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 150(5):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. ¬ ("LatChange Per10DLong LessThanOrEq3" A) 3. ¬ ("LatChange Per10DLong LessThanOrEq1" B) 4. ABS (LateralPositionInMiles A – LateralPositionInMiles B) ≤ "LateralSeparation RequiredInMiles" (A , B) 5. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 151(6):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. "RouteSegment Degrees" A ≤ 58 3. "LatChange Per10DLong LessThanOrEq3" A 4. "LatChange Per10DLong LessThanOrEq3" B 5. ABS (LateralPositionInDegrees A – LateralPositionInDegrees B) ≤ "LateralSeparation RequiredInDegrees" (A , B) 6. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 152(7):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. "LatChange Per10DLong LessThanOrEq1" A 3. "LatChange Per10DLong LessThanOrEq1" B 4. 70 ≤ "RouteSegment Degrees" B 5. "RouteSegment Degrees" B ≤ 80 6. ABS (LateralPositionInDegrees A − LateralPositionInDegrees B) ≤ "LateralSeparation RequiredInDegrees" (A , B) 7. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 153(8):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. 58 < "RouteSegment Degrees" A 3. "RouteSegment Degrees" A < 70 4. "LatChange Per10DLong LessThanOrEq2" A 5. "LatChange Per10DLong LessThanOrEq2" B 6. ABS (LateralPositionInDegrees A − LateralPositionInDegrees B) ≤ "LateralSeparation RequiredInDegrees" (A , B) 7. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 154(9):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. ¬ ("LatChange Per10DLong LessThanOrEq3" B) 3. ¬ ("LatChange Per10DLong LessThanOrEq2" A) 4. ABS (LateralPositionInMiles A − LateralPositionInMiles B) ≤ "LateralSeparation RequiredInMiles" (A , B) 5. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 155(10):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. ¬ ("LatChange Per10DLong LessThanOrEq3" B) 3. ¬ ("LatChange Per10DLong LessThanOrEq1" A) 4. ABS (LateralPositionInMiles A − LateralPositionInMiles B) ≤ "LateralSeparation RequiredInMiles" (A , B) 5. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 156(1):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. 80 < "RouteSegment Degrees" A 3. 80 < "RouteSegment Degrees" B 4. ¬ (IsOnRoute Routes1 B) 5. ¬ (IsWestOf55W B) 6. ABS (LateralPositionInMiles A − LateralPositionInMiles B) ≤ 60 7. FlightLevel A ≤ 275 8. MeetMNPS A 9. MeetMNPS B 10. HavePartOfRouteInMNPSAirspace A 11. HavePartOfRouteInMNPSAirspace B 12. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 157(2):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. 80 < "RouteSegment Degrees" A 3. 80 < "RouteSegment Degrees" B 4. IsOutsideMNPSAirspace A 5. IsOutsideMNPSAirspace B 6. ABS (LateralPositionInMiles A − LateralPositionInMiles B) ≤ 90 7. IsOnRoute Routes2 A 8. IsOnRoute Routes2 B 9. IsWestOf55W A 10. IsWestOf55W B 11. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 158(3):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. 80 < "RouteSegment Degrees" A 3. 80 < "RouteSegment Degrees" B 4. ¬ (IsOnRoute Routes1 A) 5. ¬ (IsWestOf55W A) 6. IsSupersonic A 7. IsSupersonic B 8. 275 < FlightLevel A 9. 275 < FlightLevel B 10. ABS (LateralPositionInMiles A − LateralPositionInMiles B) ≤ 60 11. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 159(4):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. 80 < "RouteSegment Degrees" A 3. 80 < "RouteSegment Degrees" B 4. ¬ (IsOutsideMNPSAirspace B) 5. FlightLevel B ≤ 275 6. ¬ (HavePartOfRouteInMNPSAirspace B) 7. ABS (LateralPositionInMiles A – LateralPositionInMiles B) ≤ 120 8. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 160(5):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. 80 < "RouteSegment Degrees" A 3. 80 < "RouteSegment Degrees" B 4. ¬ (IsOutsideMNPSAirspace A) 5. ¬ (IsSupersonic B) 6. ¬ (HavePartOfRouteInMNPSAirspace A) 7. ABS (LateralPositionInMiles A – LateralPositionInMiles B) ≤ 120 8. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 161(6):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. 80 < "RouteSegment Degrees" A 3. 80 < "RouteSegment Degrees" B 4. ¬ (IsOnRoute Routes1 B) 5. ¬ (IsOnRoute Routes2 B) 6. ¬ (IsSupersonic A) 7. ¬ (MeetMNPS B) 8. ABS (LateralPositionInMiles A – LateralPositionInMiles B) ≤ 120 9. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 162(7):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. 80 < "RouteSegment Degrees" A 3. 80 < "RouteSegment Degrees" B 4. IsOutsideMNPSAirspace A 5. IsOutsideMNPSAirspace B 6. IsOnRoute Routes1 A 7. IsOnRoute Routes1 B 8. ABS (LateralPositionInMiles A – LateralPositionInMiles B) ≤ 90 9. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 163(8):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. 80 < "RouteSegment Degrees" A 3. 80 < "RouteSegment Degrees" B 4. ¬ (IsOnRoute Routes1 B) 5. ¬ (IsOnRoute Routes2 A) 6. FlightLevel A ≤ 275 7. ¬ (MeetMNPS A) 8. ABS (LateralPositionInMiles A – LateralPositionInMiles B) ≤ 120 9. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 164(1):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. 70 ≤ "RouteSegment Degrees" A 3. "RouteSegment Degrees" A ≤ 80 4. "LatChange Per10DLong LessThanOrEq1" A 5. "LatChange Per10DLong LessThanOrEq1" B 6. ¬ (IsOnRoute Routes1 B) 7. ¬ (IsWestOf55W B) 8. ABS (LateralPositionInDegrees A − LateralPositionInDegrees B) ≤ 1 9. FlightLevel A ≤ 275 10. MeetMNPS A 11. MeetMNPS B 12. HavePartOfRouteInMNPSAirspace A 13. HavePartOfRouteInMNPSAirspace B 14. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 165(2):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. 70 ≤ "RouteSegment Degrees" A 3. "RouteSegment Degrees" A ≤ 80 4. "LatChange Per10DLong LessThanOrEq1" A 5. "LatChange Per10DLong LessThanOrEq1" B 6. IsOutsideMNPSAirspace A 7. IsOutsideMNPSAirspace B 8. ABS (LateralPositionInDegrees A − LateralPositionInDegrees B) ≤ 1.5 9. IsOnRoute Routes2 A 10. IsOnRoute Routes2 B 11. IsWestOf55W A 12. IsWestOf55W B 13. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 166(3):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. 70 ≤ "RouteSegment Degrees" A 3. "RouteSegment Degrees" A ≤ 80 4. "LatChange Per10DLong LessThanOrEq1" A 5. "LatChange Per10DLong LessThanOrEq1" B 6. ¬ (IsOnRoute Routes1 A) 7. ¬ (IsWestOf55W A) 8. IsSupersonic A 9. IsSupersonic B 10. 275 < FlightLevel A 11. 275 < FlightLevel B 12. ABS (LateralPositionInDegrees A − LateralPositionInDegrees B) ≤ 1 13. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 167(4):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. 70 ≤ "RouteSegment Degrees" A 3. "RouteSegment Degrees" A ≤ 80 4. "LatChange Per10DLong LessThanOrEq1" A 5. "LatChange Per10DLong LessThanOrEq1" B 6. ¬ (IsOutsideMNPSAirspace B) 7. FlightLevel B ≤ 275 8. ¬ (HavePartOfRouteInMNPSAirspace B) 9. ABS (LateralPositionInDegrees A − LateralPositionInDegrees B) ≤ 2 10. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 168(5):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. 70 ≤ "RouteSegment Degrees" A 3. "RouteSegment Degrees" A ≤ 80 4. "LatChange Per10DLong LessThanOrEq1" A 5. "LatChange Per10DLong LessThanOrEq1" B 6. ¬ (IsOutsideMNPSAirspace A) 7. ¬ (IsSupersonic B) 8. ¬ (HavePartOfRouteInMNPSAirspace A) 9. ABS (LateralPositionInDegrees A − LateralPositionInDegrees B) ≤ 2 10. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 169(6):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. 70 ≤ "RouteSegment Degrees" A 3. "RouteSegment Degrees" A ≤ 80 4. "LatChange Per10DLong LessThanOrEq1" A 5. "LatChange Per10DLong LessThanOrEq1" B 6. ¬ (IsOnRoute Routes1 B) 7. ¬ (IsOnRoute Routes2 B) 8. ¬ (IsSupersonic A) 9. ¬ (MeetMNPS B) 10. ABS (LateralPositionInDegrees A − LateralPositionInDegrees B) ≤ 2 11. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 170(7):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. 70 ≤ "RouteSegment Degrees" A 3. "RouteSegment Degrees" A ≤ 80 4. "LatChange Per10DLong LessThanOrEq1" A 5. "LatChange Per10DLong LessThanOrEq1" B 6. IsOutsideMNPSAirspace A 7. IsOutsideMNPSAirspace B 8. IsOnRoute Routes1 A 9. IsOnRoute Routes1 B 10. ABS (LateralPositionInDegrees A − LateralPositionInDegrees B) ≤ 1.5 11. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 171(8):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. 70 ≤ "RouteSegment Degrees" A 3. "RouteSegment Degrees" A ≤ 80 4. "LatChange Per10DLong LessThanOrEq1" A 5. "LatChange Per10DLong LessThanOrEq1" B 6. ¬ (IsOnRoute Routes1 B) 7. ¬ (IsOnRoute Routes2 A) 8. FlightLevel A ≤ 275 9. ¬ (MeetMNPS A) 10. ABS (LateralPositionInDegrees A − LateralPositionInDegrees B) ≤ 2 11. ¬ (LongitudinallySeparated (A , B))	1. ¬ ("are separated" (A , B))

C.2.3 Longitudinal Separation

–Test Frame 172(1):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. ¬ (LaterallySeparated (A , B)) 3. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 4. IsSupersonic A 5. IsSupersonic B 6. IsLevel A 7. IsLevel B 8. SameMachNumber (A , B) 9. "SameOr Diverging Tracks" (A , B) 10. ABS (TimeAtPosition A − TimeAtPosition B) ≤ 10 11. "Appropriate TimeSep AtCommon Point" (A , B)	1. ¬ ("are separated" (A , B))

–Test Frame 173(2):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. ¬ (LaterallySeparated (A , B)) 3. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 4. ¬ (IsSupersonic B) 5. IsTurbojet A 6. IsTurbojet B 7. StartTime ("turbojetOppDir NoLongSepPeriod" (A , B)) ≤ "separation check time" 8. "separation check time" ≤ EndTime ("turbojetOppDir NoLongSepPeriod" (A , B))	1. ¬ ("are separated" (A , B))

–Test Frame 174(3):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. ¬ (LaterallySeparated (A , B)) 3. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 4. ¬ (IsSupersonic A) 5. ¬ (IsTurbojet B) 6. ¬ ("SameOr Diverging Tracks" (A , B)) 7. IsOnRoute Routes3 A 8. IsOnRoute Routes3 B 9. ABS (TimeAtPosition A − TimeAtPosition B) ≤ 20	1. ¬ ("are separated" (A , B))

–Test Frame 175(4):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. ¬ (LaterallySeparated (A , B)) 3. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 4. ReportedOverCommonPoint (A , B) 5. ept (A , B) ≤ "separation check time" 6. ¬ (IsTurbojet A) 7. "separation check time" ≤ ept (A , B) + 10	1. ¬ ("are separated" (A , B))

–Test Frame 176(5):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. ¬ (LaterallySeparated (A , B)) 3. AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B) 4. ¬ (ReportedOverCommonPoint (A , B)) 5. ept (A , B) − 15 ≤ "separation check time" 6. ¬ (IsTurbojet B) 7. "separation check time" ≤ ept (A , B) + 15	1. ¬ ("are separated" (A , B))

–Test Frame 177(6):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. ¬ (LaterallySeparated (A , B)) 3. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 4. IsSupersonic A 5. IsSupersonic B 6. SameType (A , B) 7. InCruiseClimb A 8. InCruiseClimb B 9. "SameOr Diverging Tracks" (A , B) 10. ABS (TimeAtPosition A − TimeAtPosition B) $\leq$ 10 11. "Appropriate TimeSep AtCommon Point" (A , B)	1. ¬ ("are separated" (A , B))

–Test Frame 178(7):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. ¬ (LaterallySeparated (A , B)) 3. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 4. IsSupersonic A 5. IsSupersonic B 6. ¬ (SameMachNumber (A , B)) 7. ¬ (InCruiseClimb B) 8. ABS (TimeAtPosition A − TimeAtPosition B) $\leq$ 15	1. ¬ ("are separated" (A , B))

–Test Frame 179(8):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. ¬ (LaterallySeparated (A , B)) 3. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 4. IsSupersonic A 5. IsSupersonic B 6. ¬ (IsLevel B) 7. ¬ (InCruiseClimb A) 8. ABS (TimeAtPosition A − TimeAtPosition B) ≤ 15	1. ¬ ("are separated" (A , B))

–Test Frame 180(9):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. ¬ (LaterallySeparated (A , B)) 3. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 4. IsSupersonic A 5. IsSupersonic B 6. ¬ (IsLevel A) 7. ¬ (SameType (A , B)) 8. ABS (TimeAtPosition A − TimeAtPosition B) ≤ 15	1. ¬ ("are separated" (A , B))

–Test Frame 181(10):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. ¬ (LaterallySeparated (A , B)) 3. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 4. ¬ (IsSupersonic B) 5. ¬ (IsTurbojet B) 6. ¬ ("SameOr Diverging Tracks" (A , B)) 7. ¬ (IsOnRoute Routes3 B) 8. ABS (TimeAtPosition A − TimeAtPosition B) ≤ 30	1. ¬ ("are separated" (A , B))

–Test Frame 182(11):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. ¬ (LaterallySeparated (A , B)) 3. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 4. ¬ (IsSupersonic B) 5. IsTurbojet A 6. IsTurbojet B 7. ABS (TimeAtPosition A − TimeAtPosition B) ≤ "turbojetSameDir LongSep" (A , B)	1. ¬ ("are separated" (A , B))

–Test Frame 183(12):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. ¬ (LaterallySeparated (A , B)) 3. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 4. ¬ (IsSupersonic B) 5. ¬ (IsTurbojet B) 6. ¬ ("SameOr Diverging Tracks" (A , B)) 7. ¬ (IsOnRoute Routes3 A) 8. ABS (TimeAtPosition A − TimeAtPosition B) ≤ 30	1. ¬ ("are separated" (A , B))

–Test Frame 184(13):

Stimuli	Response
1. ¬ (VerticallySeparated (A , B)) 2. ¬ (LaterallySeparated (A , B)) 3. ¬ (AngularDifferenceGreaterThan90Degrees (RouteSegment A , RouteSegment B)) 4. IsSupersonic A 5. IsSupersonic B 6. ¬ (ReportedOverCommonPoint (A , B)) 7. ¬ ("Appropriate TimeSep AtCommon Point" (A , B)) 8. ABS (TimeAtPosition A − TimeAtPosition B) ≤ 15	1. ¬ ("are separated" (A , B))