

# American Flight Airways

## Aircraft Reference Manual

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### **Raytheon 1900D**

Takeoff Spec:  $V_1 = 105$  KIAS,  $V_r = 110$  KIAS, Pitch 10-15 degrees,  $V_2 = 115$  KIAS

Climb Rate: 160 KIAS, 80 Torque, 1500 fpm.

Descent Rate: 180 KIAS, 10 Torque, -1500 fpm.

Approach Rate: 150 KIAS, 25 Torque, Flaps Set Appr.

Final Spec: 130 KIAS, 35 Torque, Flaps Set Full

Touch Down: 110 KIAS, 20 Torque, Flaps Set Full

### **Bombardier Dash 8**

Takeoff Spec: De-Ice Off, Flaps 15,  $V_1/V_r = 99$ ,  $V_2 = 106$

Climb Rate: 2000 FPM, Flaps Up

Descent Rate: Flaps As Required, 2500 FPM, Power Set as Required

Approach Rate: Flaps 15,  $V_{Ref} = 105$  KIAS

Final Spec: Flaps 35,  $V_{Ref} = 97$  KIAS

Touch Down: Flaps 35, 92 KIAS, Full Reverse

### **Embraer 170**

Takeoff Spec: Flaps 1-2,  $V_1 = 140$  KIAS,  $V_r = 150$  KIAS, Pitch 10,  $V_2 = 160$  KIAS

Climb Rate: 1000 AGL Flaps 1, 210 KIAS Flaps up, 250 KIAS 1700 fpm, 280 KIAS

Descent Rate: FL 240 0.75M, FL180 0.65, FL 120 280 KIAS, FL100 250 KIAS

Approach Rate: 210 KIAS Flaps 1-2, 180 KIAS 3-4, 160 KIAS Flaps Down

Final Spec: 145 KIAS Flaps Down Full

Touch Down: 140 KIAS

### **Bombardier CRJ200**

Takeoff Spec: Flaps 20, Vr 135-147

Climb Rate: 200 KIAS, Speed Mode Selected

Descent Rate: 300 slowing to 250 KIAS, Thrust Set Flight Idle

Approach Rate: Flaps 8 upon receiving vectors for approach, Flaps 20 & bugs set at Glideslope Intercept

Final Spec: Flaps Full, 140 KIAS is VRef, Arm Spoilers

Touch Down: 134-138 KIAS, Flaps Full, N1 As Required

### **Boeing B717**

Takeoff Spec: Flaps 13, V1 = 118, Vr = 129, V2 = 136

Climb Rate: ~2000 FPM, VS Mode, Flaps up passing 200 KIAS.

Descent Rate: 320 KIAS above 10000', Flight Idle Thrust, 250 KIAS at 12000'.

Approach Rate: 200 KIAS Flaps 13, 155 KIAS Flaps 40

Final Spec: 145 KIAS, Flaps 40

Touch Down: 138-142 KIAS

### **Airbus A320**

Takeoff Spec: Flaps 10, V1 =145 KIAS, Vr =150 KIAS, Pitch 10, V2 =155 KIAS

Climb Rate: 180 KIAS Flaps 2, 210 KIAS Flaps up, FL100 250 KIAS, 280 KIAS

Descent Rate: FL 240 0.75M, FL180 0.65M, FL120 300 KIAS, FL100, 240

Approach Rate: 210 KIAS Flaps 2-10, 180 KIAS 20, 160 KIAS Flaps Down

Final Spec: 150 KIAS Flaps Down Full

Touch Rate: 145 KIAS

**Boeing 737-700/800**

Takeoff Spec: Flaps 5, V1 =145 KIAS, Vr =150 KIAS, Pitch 10 deg, V2 =160 KIAS

Climb Rate: 1000 AGL Flaps 1, 210 KIAS Flaps up, 250 KIAS 1800 fpm, 280 KIAS

Descent Rate: FL240 0.75M, FL180 0.65M, FL120 280 KIAS, FL100, 250 KIAS

Approach Rate: 210 KIAS Flaps 5-10, 180 KIAS Flaps 15-20, 160 KIAS Flaps Down

Final Spec: 145 KIAS Flaps Down Full

Touch Down: 140 KIAS

**Boeing 757-200**

Takeoff Spec: Flaps 5, V1 =150 KIAS, Vr =155 KIAS, Pitch 10 deg, V2=160 KIAS

Climb Rate: 170 KIAS Flaps 1, 210 KIAS Flaps up, 250 KIAS 1800 FPM.

Descent Rate: FL240 0.75M, FL180 0.70M, FL120 300KIAS, FL100 250 KIAS

Approach Rate: 210 KIAS, Flaps 5-10, 180 KIAS, Flaps 15-20, 160 KIAS Flaps Down

Final Spec: 155 KIAS, Flaps Down Full

Touch Down: 145 KIAS

**Boeing 767-300ER**

Takeoff Spec: Flaps 5, V1 = 135 KIAS, Vr = 143 KIAS, Pitch 10 deg, V2 = 156 KIAS

Climb Rate: 190 KIAS Flaps 1, 210 KIAS Flaps up, 250 KIAS 1200-1500 FPM

Descent Rate: 1500-2000 FPM at Flight Idle Power, FL100 250 KIAS

Approach Rate: 215 KIAS Flaps 5-15, 200 KIAS Flaps 15-20, 190 KIAS Flaps 20-25

Final Rate: 180 KIAS Flaps Down Full

Touch Down: 140-150 KIAS

### **Airbus A330-200**

Takeoff Spec:  $V_1 = 145$  KIAS,  $V_r = 150$  KIAS, Pitch 10-15,  $V_2 = 160$  KIAS

Climb Rate: 250 KIAS,

Descent Rate: FL240 0.75 M, FL180 0.68M, FL120 300 KIAS, FL100 250 KIAS

Approach Rate: 210 KIAS Flaps 1, 180 KIAS Flaps 2, 160 KIAS Flaps Down

Final Rate: 155 KIAS Flaps Down Full

Touch Down: 145 KIAS

### **Boeing 747-400**

Takeoff Spec: Flaps 10,  $V_1 = 165$  KIAS,  $V_r = 175$  KIAS, 10 deg. Up,  $V_2 = 185$  KIAS

Climb Rate: 200 KIAS Flaps 1, 220 KIAS Flaps up, 250 KIAS below FL100, 300 KIAS

Descent Rate: FL240 0.75M, FL180 0.65M, FL120 300 KIAS, FL100 240 KIAS

Approach Rate: 220 KIAS Flaps 5-10, 200 KIAS Flaps 20, 180 KIAS Flaps down

Final Spec: 170 KIAS Flaps down Full

Touch Down: 160 KIAS

### **Boeing 777-200**

Takeoff Spec: Flaps 5,  $V_1 = 155$  KIAS,  $V_r = 160$  KIAS, Pitch 10,  $V_2 = 165$  KIAS

Climb Rate: 190 KIAS Flaps 1, 210 KIAS Flaps up, 250 KIAS to FL100, 280 KIAS

Descent Rate: FL240 0.75M, FL180 0.65M, FL 120 300 KIAS, FL100 240 KIAS

Approach Rate: 210 KIAS Flaps 5-10, 180 KIAS Flaps 20, 160 KIAS Flaps Down

Final Spec: 155 KIAS Flaps Down Full

Touch Down: 150 KIAS