

# Airman Knowledge Testing Supplement for Flight Instructor, Ground Instructor, and Sport Pilot Instructor



U.S. Department of Transportation  
Federal Aviation Administration



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# Airman Knowledge Testing Supplement for Flight Instructor, Ground Instructor, and Sport Pilot Instructor

# 2018

U.S. Department of Transportation  
**FEDERAL AVIATION ADMINISTRATION**  
Flight Standards Service



# Preface

This testing supplement supersedes FAA-CT-8080-5G, Airman Knowledge Testing Supplement for Flight Instructor, Ground Instructor, and Sport Pilot Instructor, dated 2016. This Airman Knowledge Testing Supplement is designed by the Federal Aviation Administration (FAA) Flight Standards Service. It is intended for use by Airman Knowledge Testing (AKT) Organization Designation Authorization (ODA) Holders and other entities approved and/or authorized to administer airman knowledge tests on behalf of the FAA in the following knowledge areas:

FOI Fundamentals of Instructing  
BGI Ground Instructor–Basic  
AGI Ground Instructor–Advanced  
FIA Flight Instructor–Airplane  
FRH Flight Instructor–Helicopter  
FRG Flight Instructor–Gyroplane  
FIG Flight Instructor–Glider  
AFA Flight Instructor–Airplane (Added Rating)  
HFA Flight Instructor–Helicopter (Added Rating)  
GFA Flight Instructor–Gyroplane (Added Rating)  
AFG Flight Instructor–Glider (Added Rating)  
MCI Military Competence Instructor

SIA Flight Instructor–Sport Pilot–Airplane  
SIB Flight Instructor–Sport Pilot–Balloon  
SIG Flight Instructor–Sport Pilot–Glider  
SIL Flight Instructor–Sport Pilot–Lighter-Than-Air (Airship)  
SIP Flight Instructor–Sport Pilot–Powered Parachute  
SIR Flight Instructor–Sport Pilot–Gyroplane  
SIW Flight Instructor–Sport Pilot–Weight-Shift Control

Comments regarding this supplement, or any Airman Testing publication, should be emailed to [AFS630comments@faa.gov](mailto:AFS630comments@faa.gov).



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**LESSON**

Ground reference maneuvers

**STUDENT**

**DATE**

/ /

- A** \_\_\_\_\_ To develop the student's skill in planning and following a pattern over the ground compensating for wind drift at varying angles.
- B** \_\_\_\_\_ Use of ground references to control path  
Observation and control of wind effect  
Control of airplane attitude, altitude, and heading
- C** \_\_\_\_\_ Preflight discussion :10  
Instructor demonstrations :25  
Student practice :45  
Postflight critique :10
- D** \_\_\_\_\_ Chalkboard for preflight discussion  
IFR visor for maneuvers reviewed
- E** \_\_\_\_\_ Preflight—discuss lesson objective. Diagram "S" turns, eight along a road, and rectangular course on a chalkboard.  
  
Inflight—demonstrate elements.  
Demonstrate following a road, "S" turns, eights along a road, and rectangular course, coach student practice.  
  
Postflight—critique student performance and make study assignment.
- F** \_\_\_\_\_ Preflight—discuss lesson objective and resolve questions.  
  
Inflight—review previous maneuvers including power-off stalls and flight at minimum controllable airspeed.  
Perform each new maneuver as directed.  
  
Postflight—ask pertinent questions.
- G** \_\_\_\_\_ Student should demonstrate competency in maintaining orientation, airspeed within 10 knots, altitude within 100 feet, and headings within 10 degrees, and in making proper correction for wind drift.

**Figure 1. Lesson Plan.**

# Ceiling

Caution: This product is intended to aid flight planning and is best used along with other weather products, such as METARs, AIRMETs, TAFs, and Area Forecasts.

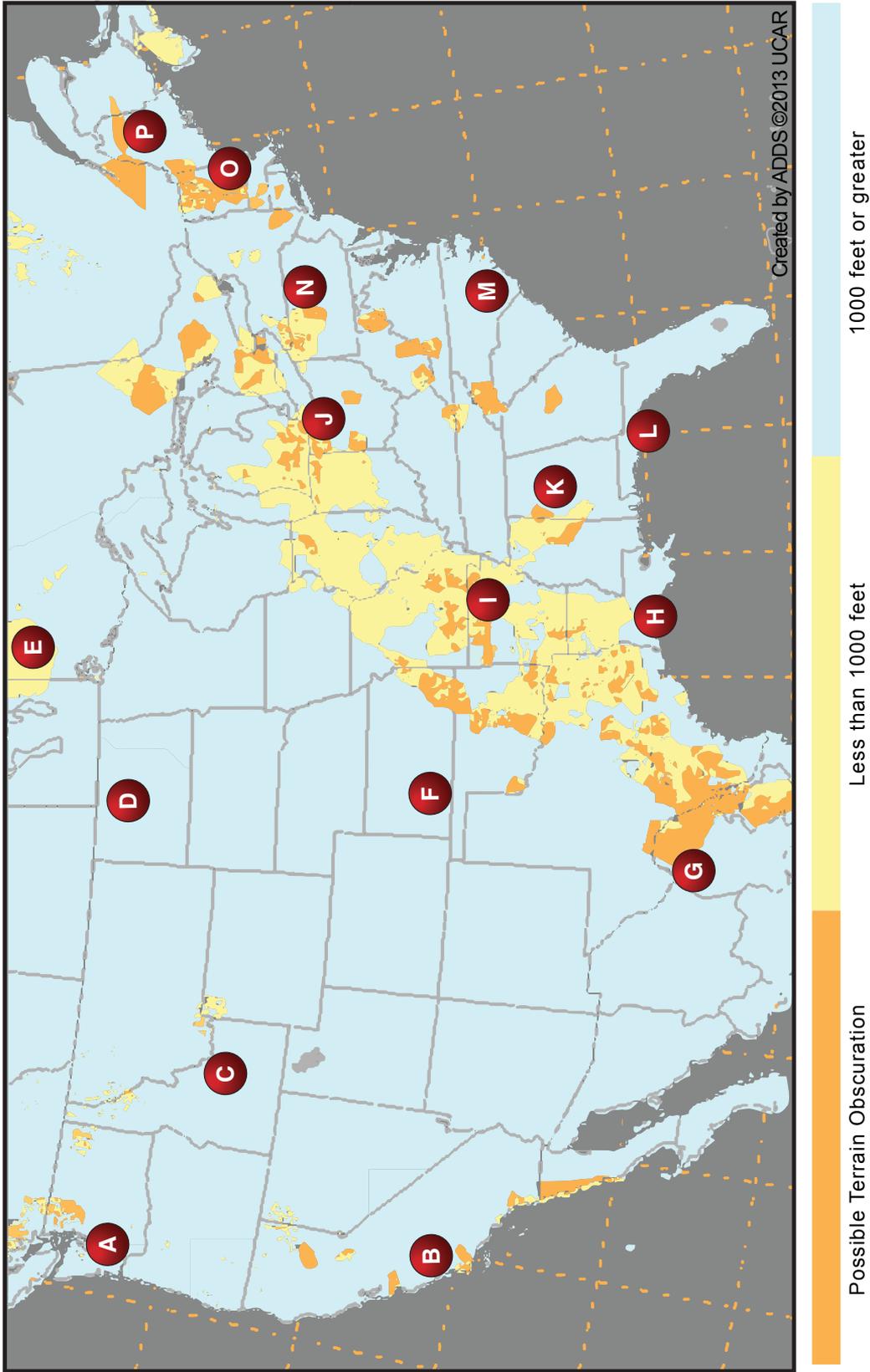
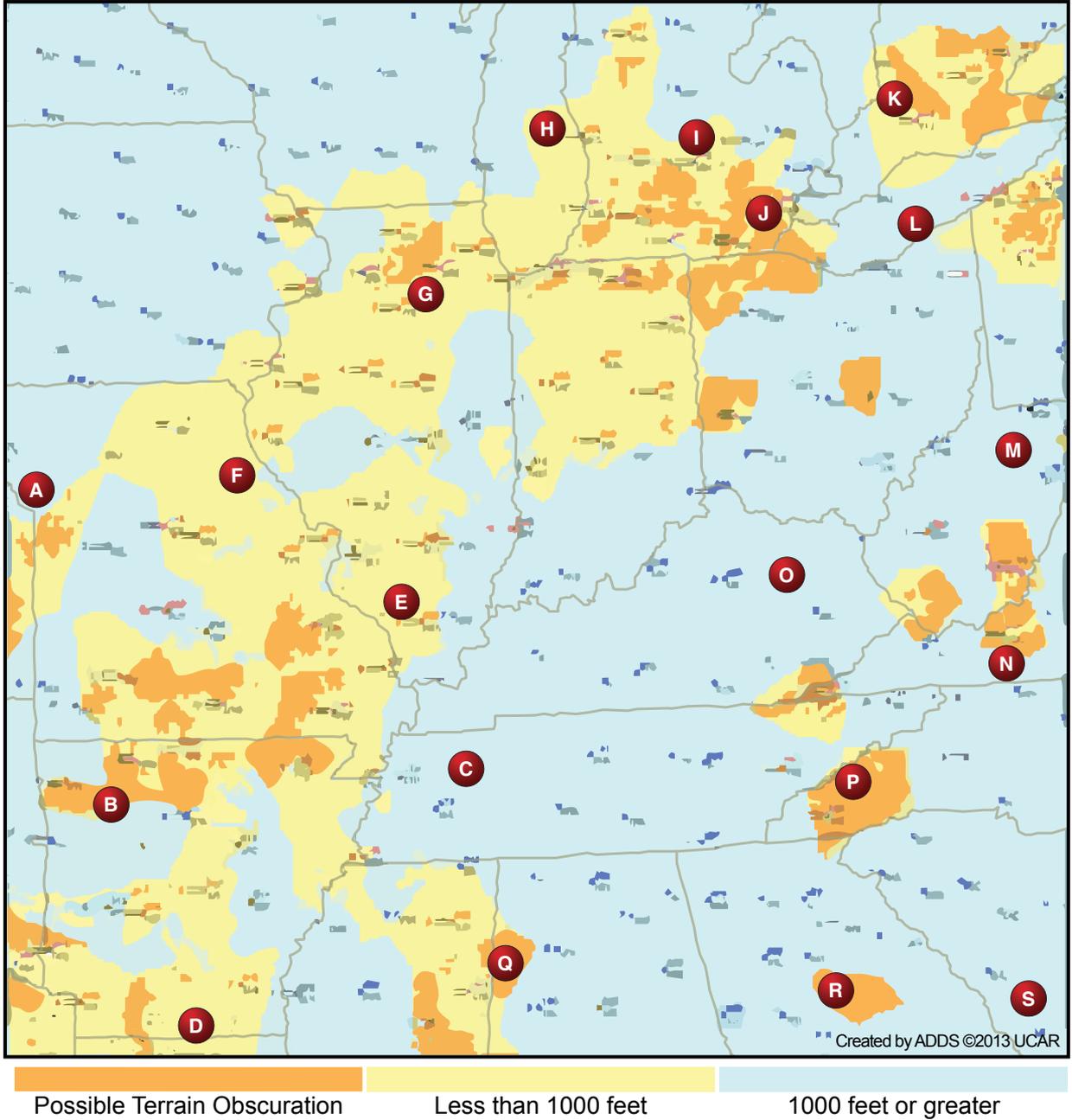


Figure 2. CONUS Display of CVA Ceiling Analysis.

# Ceiling

Caution: This product is intended to aid flight planning and is best used along with other weather products such as METARs, AIRMETs, TAFs and Area Forecasts.



**Figure 2A.** Regional Display of CVA Ceiling Analysis.

METAR KAMA 301651Z 05016KT 5/8SM R04/3000FT BR  
OVC007 11/9 A3013 RMK DZB26DZE40

METAR KAUS 301651Z 12008KT 4SM -RAHZ BKN010  
BKN023 OVC160 21/17 A3005 RMK RAB25

METAR KBRO 301655Z 15015G20KT 7SM SCT020 SCT130  
TCU OVC250 29/19 A2997 RMK RAB19RAE25

METAR KDAL 301649Z 00000KT 3SM BRHZ OVC009 22/17  
A3010

METAR KFTW 301654Z 09004KT 1/2SM HZFU VV006 21/17  
A3010

METAR KTYR 301650Z AUTO 08004KT 3SM BR SCT015  
24/19 A2999

**Figure 3.** Aviation Routine Weather Reports (METAR).

UA/OV KOKC-KTUL/TM 1800/FL120/TP BE90/SK BKN0  
18-TOP055/OVC072-TOP089/CLR ABV/TA M7/WV 08021/  
TB LGT 055-072/IC LGT-MOD RIME 072-089

**Figure 4.** Pilot Weather Report.

TAF

KMEM 121720Z 1218/1324 20012KT 5SM HZ BKN030 PROB40 2022 1SM TSRA OVC008CB  
FM2200 33015G20KT P6SM BKN015 OVC025 PROB40 2202 3SM SHRA  
FM0200 35012KT OVC008 PROB40 0205 2SM-RASN BECMG 0608 02008KT BKN012  
BECMG 1310/1312 00000KT 3SM BR SKC TEMPO 1212/1214 1/2SM FG  
FM131600 VRB06KT P6SM SKC=

KOKC 051130Z 0512/0618 14008KT 5SM BR BKN030 TEMPO 0513/0516 1 1/2SM BR  
FM051600 18010KT P6SM SKC BECMG 0522/0524 20013G20KT 4SM SHRA OVC020  
PROB40 0600/0606 2SM TSRA OVC008CB BECMG 0606/0608 21015KT P6SM SCT040=

**Figure 5.** Terminal Aerodrome Forecasts (TAF).



FB WBC 151745 DATA BASED ON 151200Z VALID 1600Z FOR USE 1800-0300Z. TEMPS NEG ABV 24000										
FT	3000	6000	9000	12000	18000	24000	30000	34000	39000	
ALS			2420	2635-08	2535-18	2444-30	245945	246755	246862	
AMA		2714	2725+00	2625-04	2531-15	2542-27	265842	256352	256762	
DEN			2321-04	2532-08	2434-19	2441-31	235347	236056	236262	
HLC		1707-01	2113-03	2219-07	2330-17	2435-30	244145	244854	245561	
MKC	0507	2006+03	2215-01	2322-06	2338-17	2348-29	236143	237252	238160	
STL	2113	2325+7	2332+02	2339-04	2356-16	2373-27	239440	730649	731960	

**Figure 7.** Winds and Temperatures Aloft Forecast (FB).

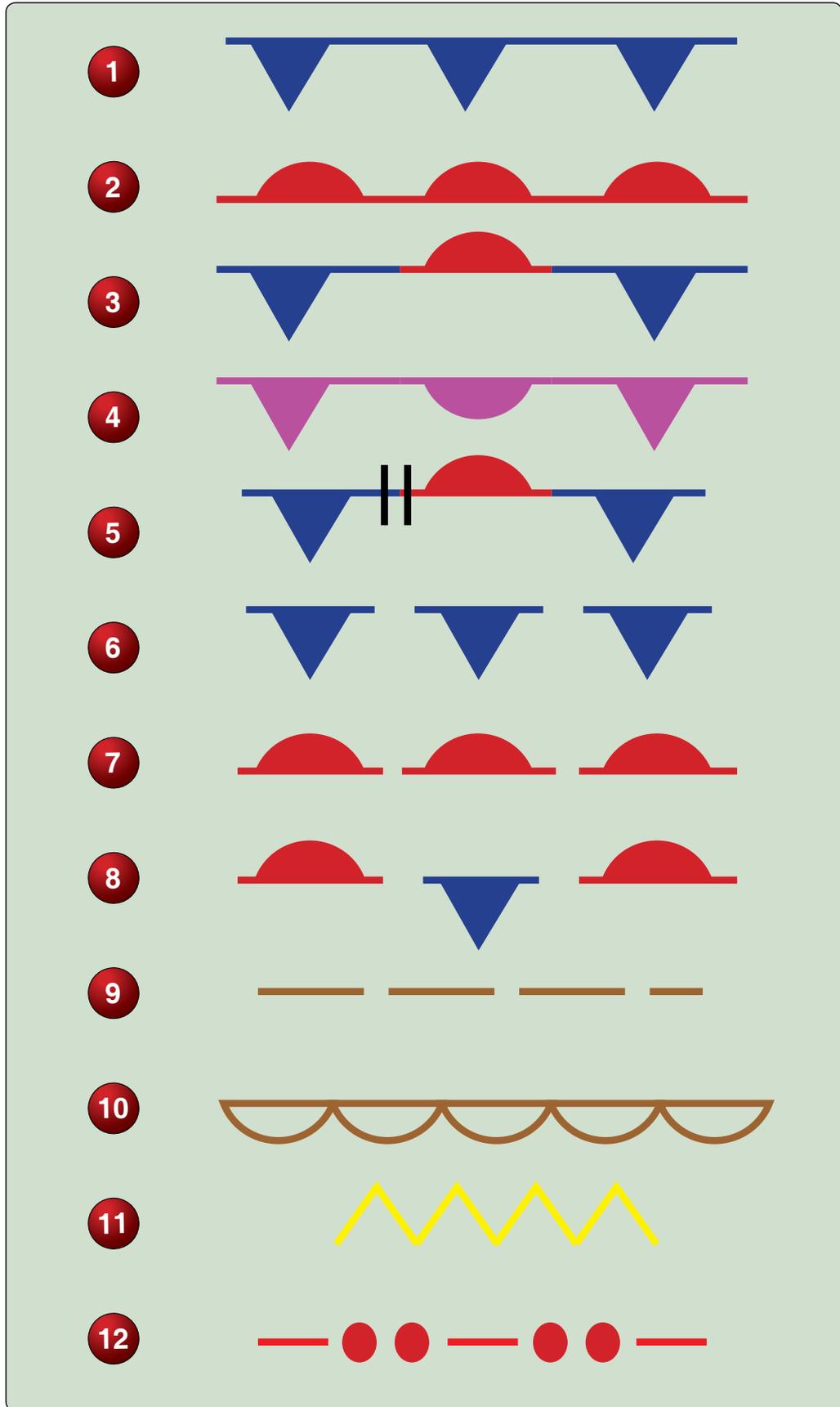


Figure 8. Surface Analysis Chart Symbols.

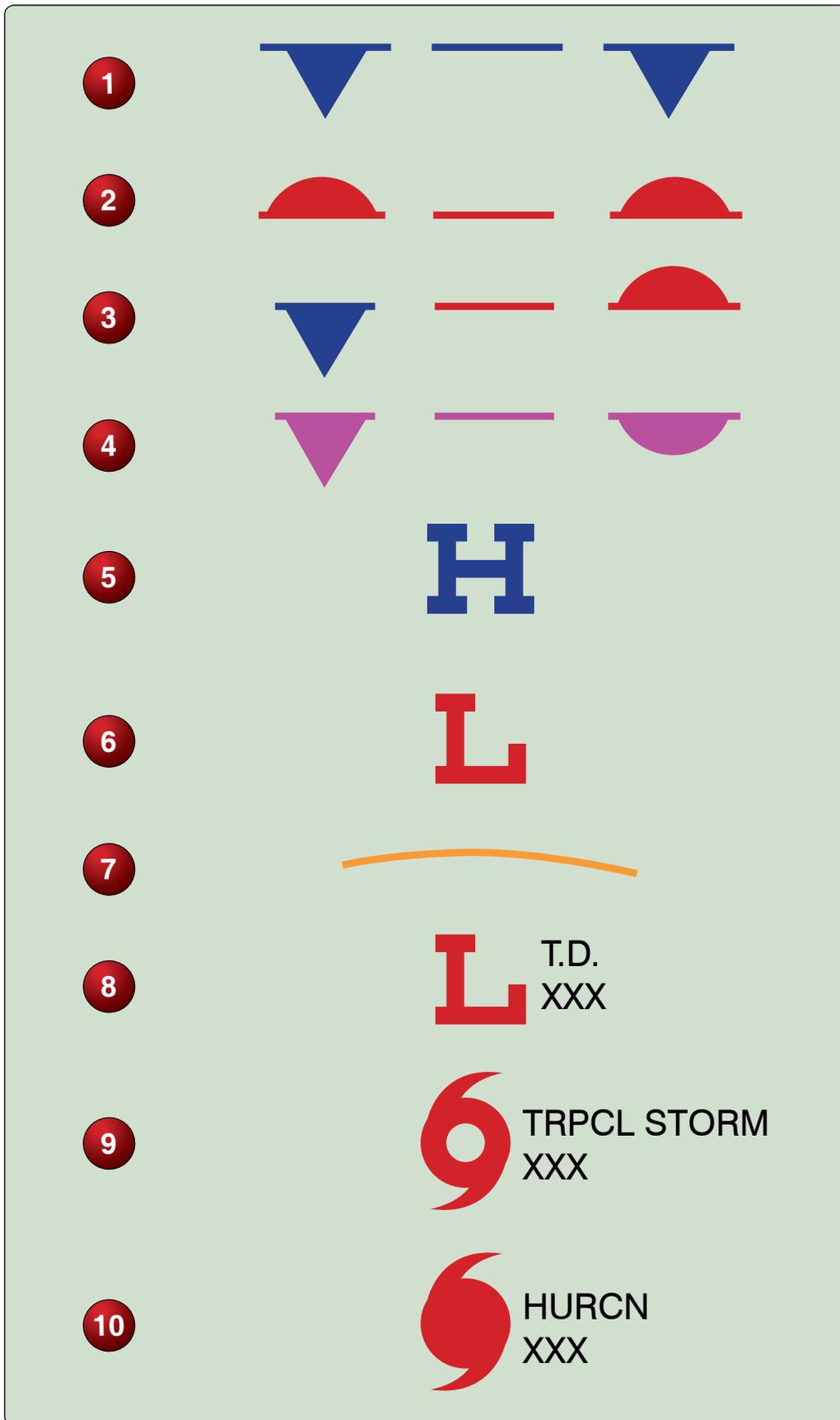


Figure 9. Surface Analysis Chart Symbols.

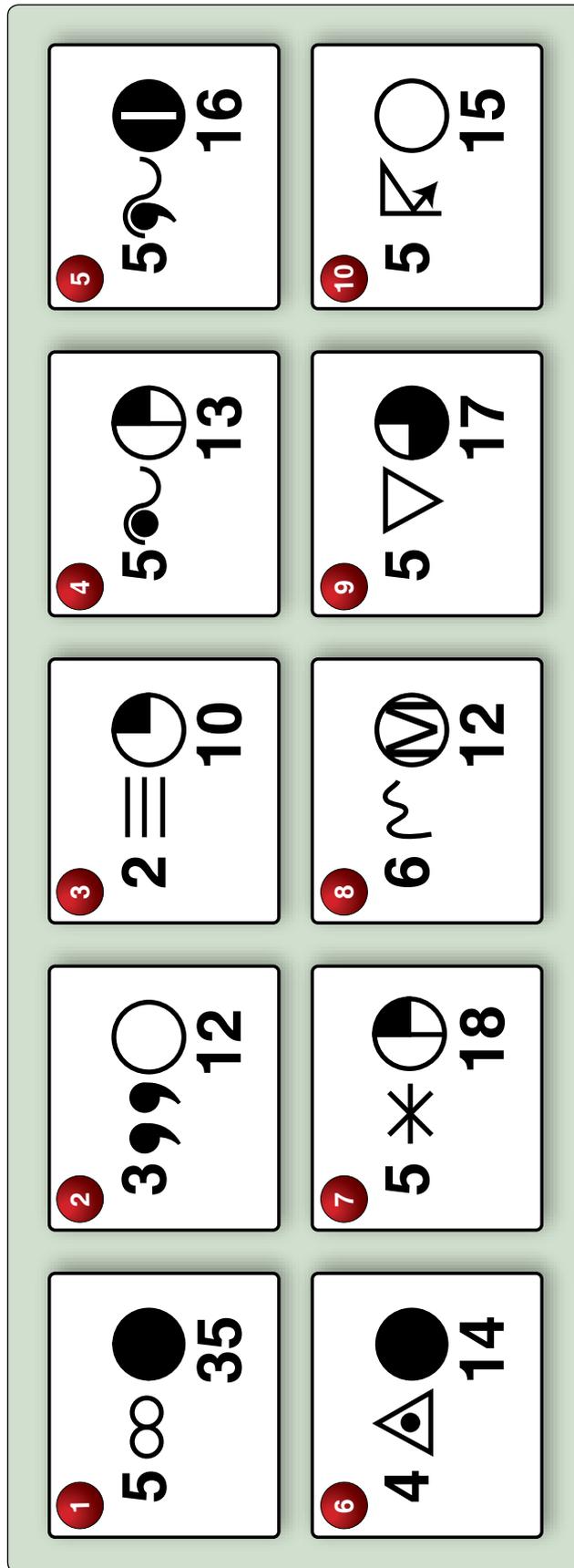


Figure 10. Weather Depiction Chart Symbols.

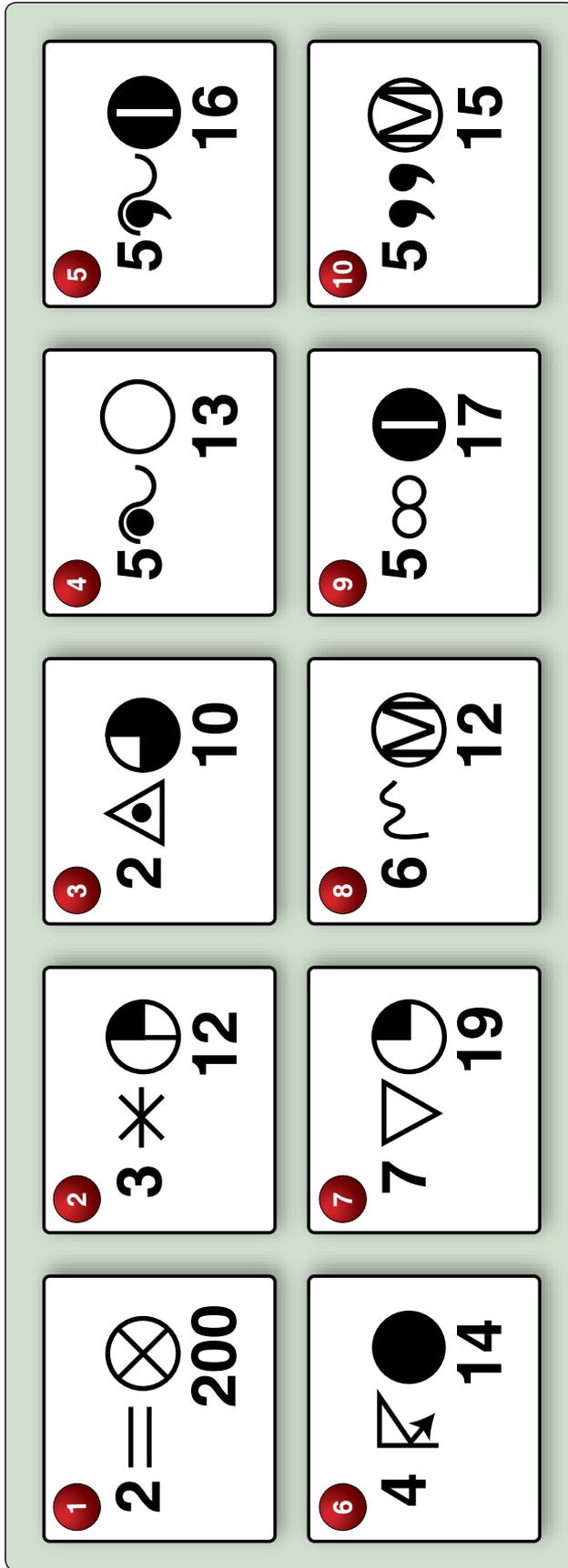


Figure 11. Weather Depiction Chart Symbols.

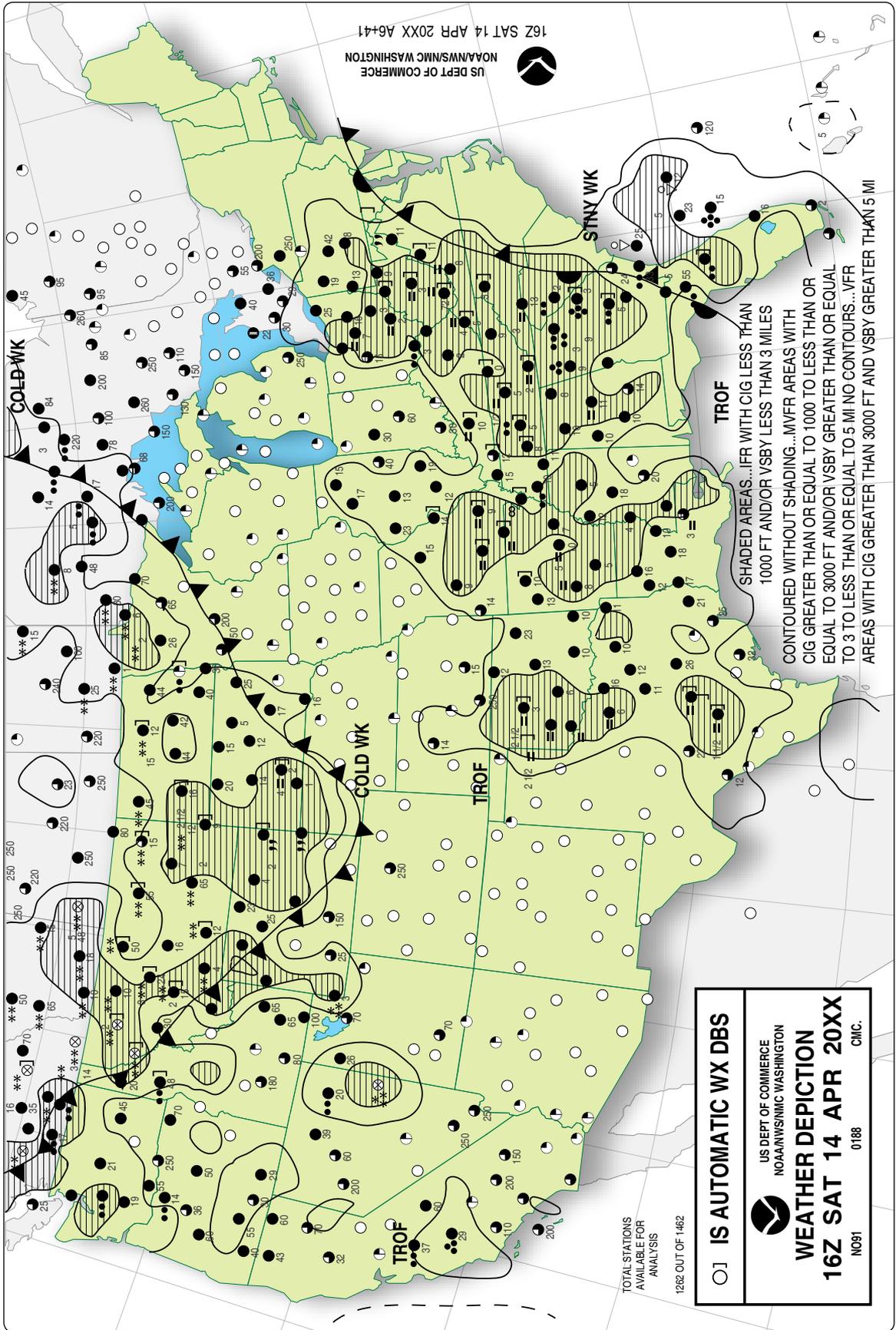
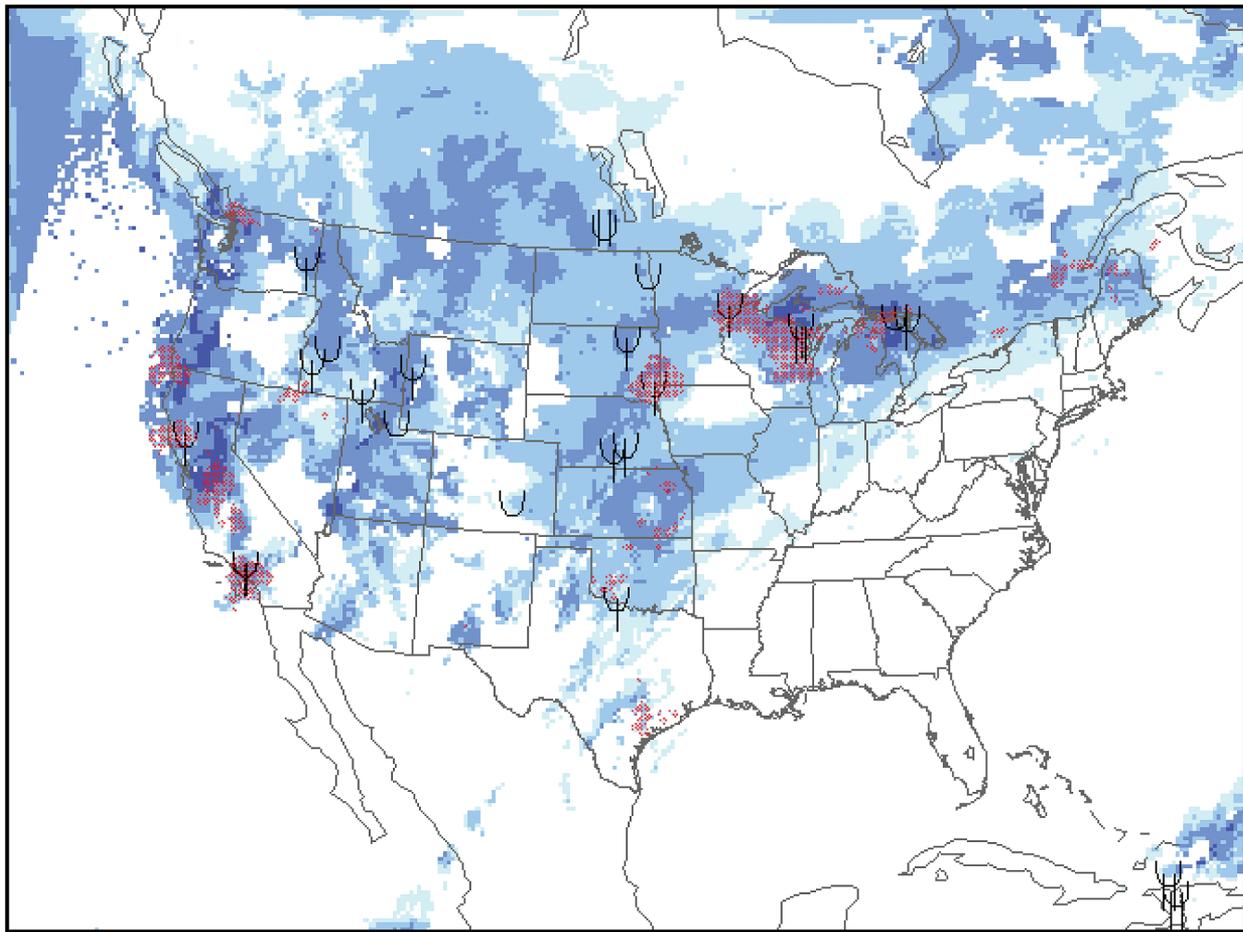


Figure 12. Weather Depiction Chart.

# Maximum icing severity (1000 ft. MSL to FL300)



SLD threat

None Trace Light Moderate Heavy

Trace-Light Light-Moderate Moderate-Severe

Icing PIREP Symbols

Trace

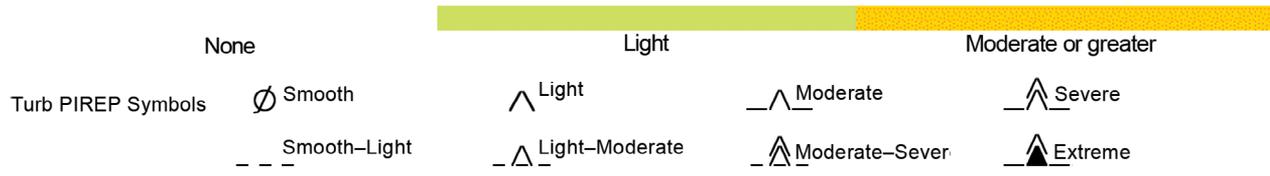
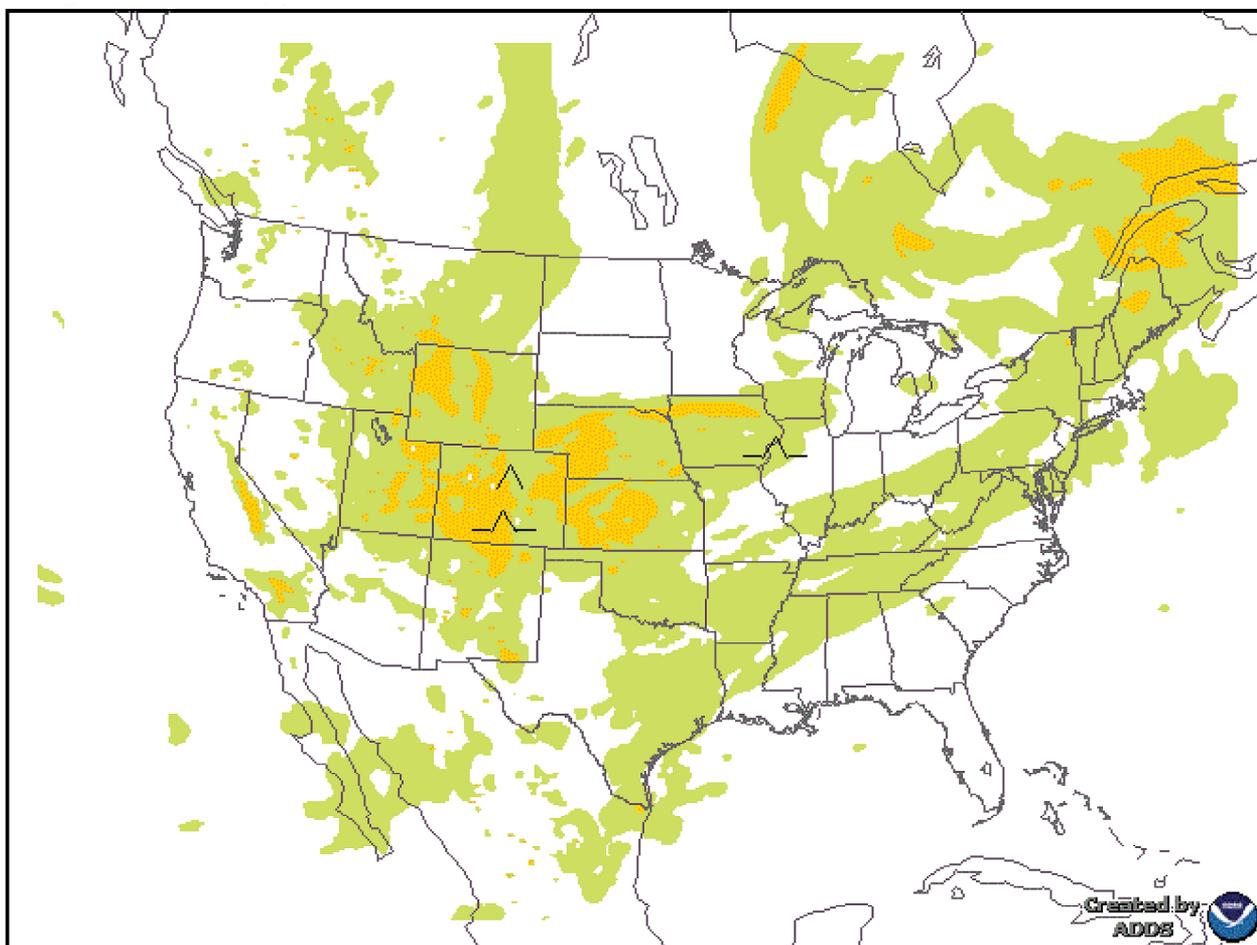
Light

Moderate

Severe

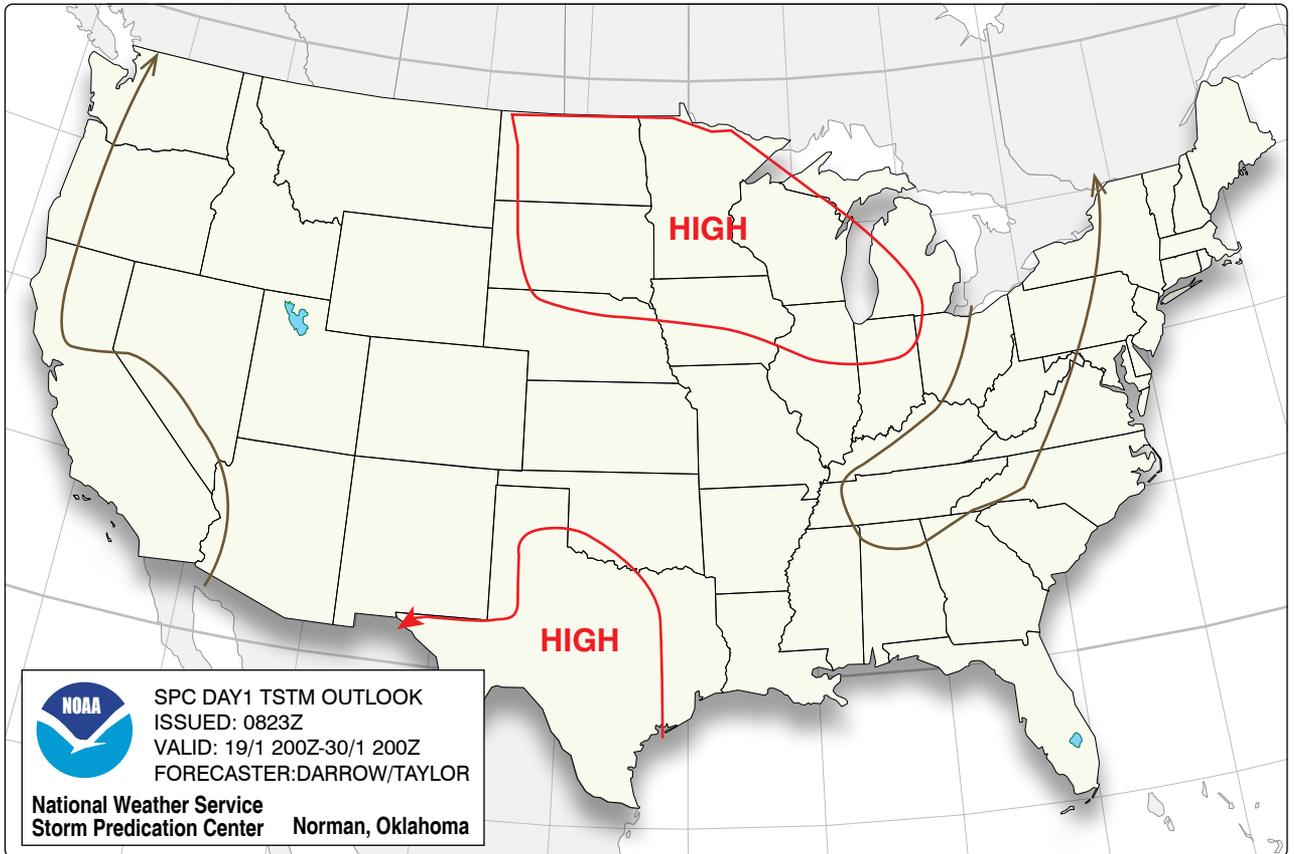
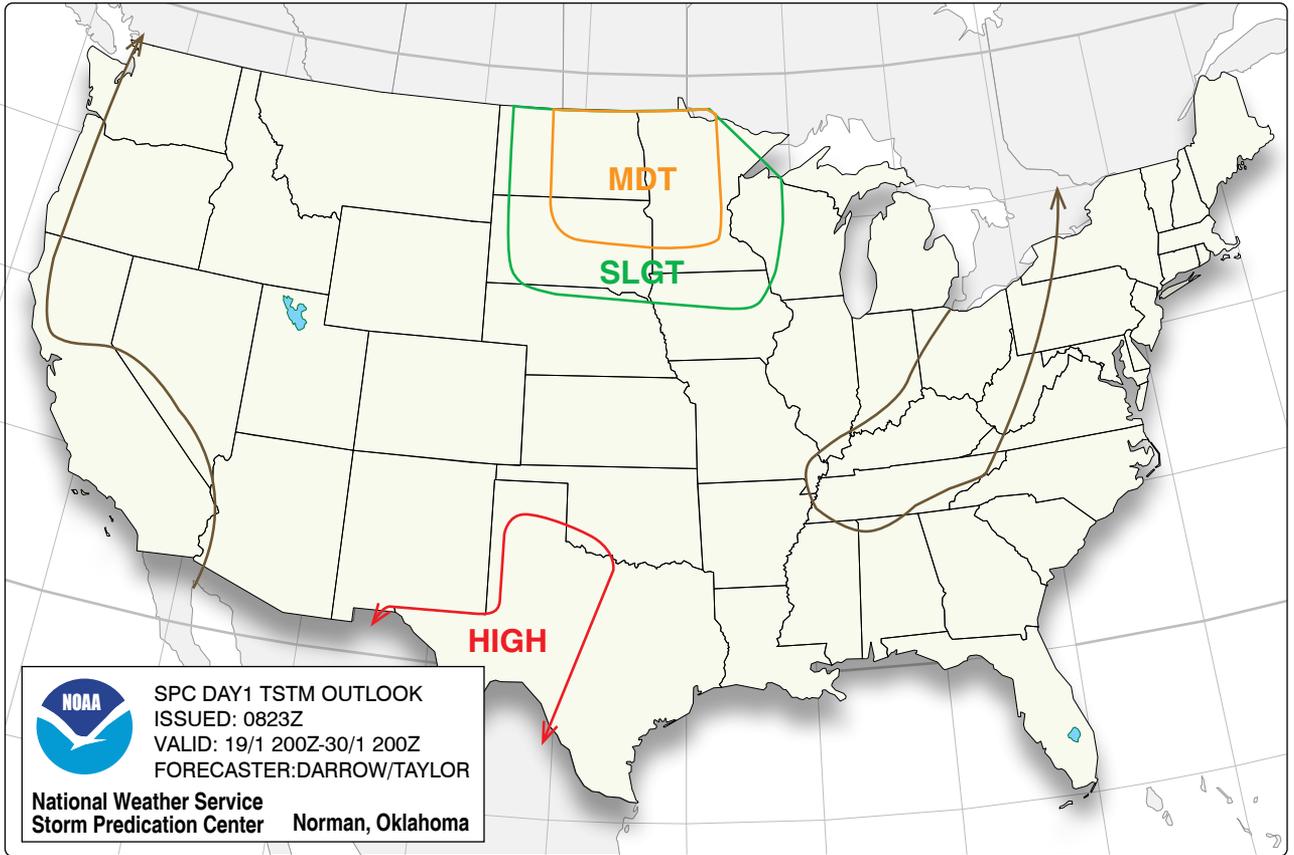
**Figure 13.** CIP/FIP Icing Severity Plus Supercooled Large Droplets (SLD)–Max Example.

# GTG2 - Maximum turbulence intensity (10000 ft. MSL to FL450)

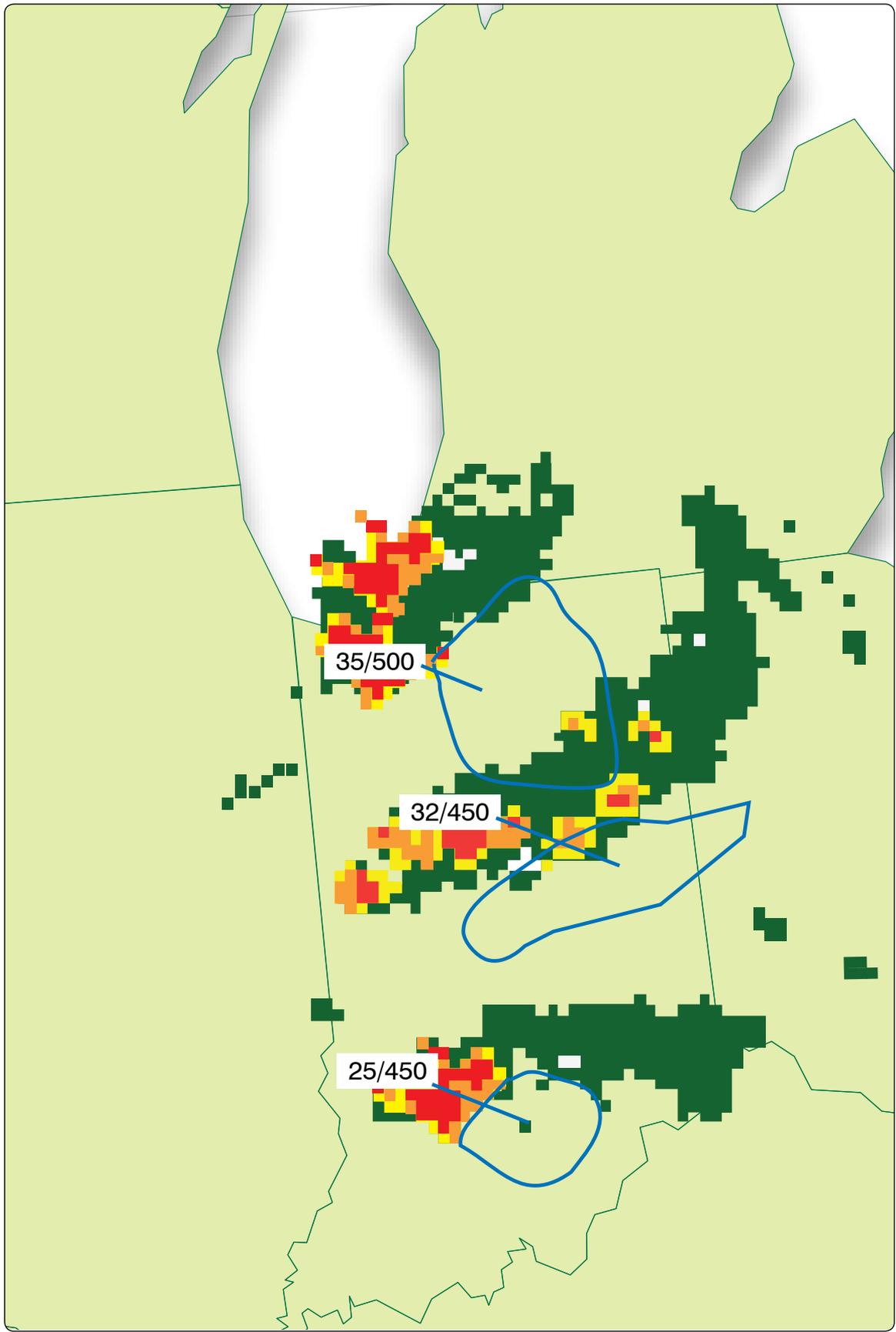


**Figure 13A.** GTG Composite Example.





**Figure 15.** Day 1 Categorical Convective Outlook.



**Figure 16.** Convective Weather Forecast.

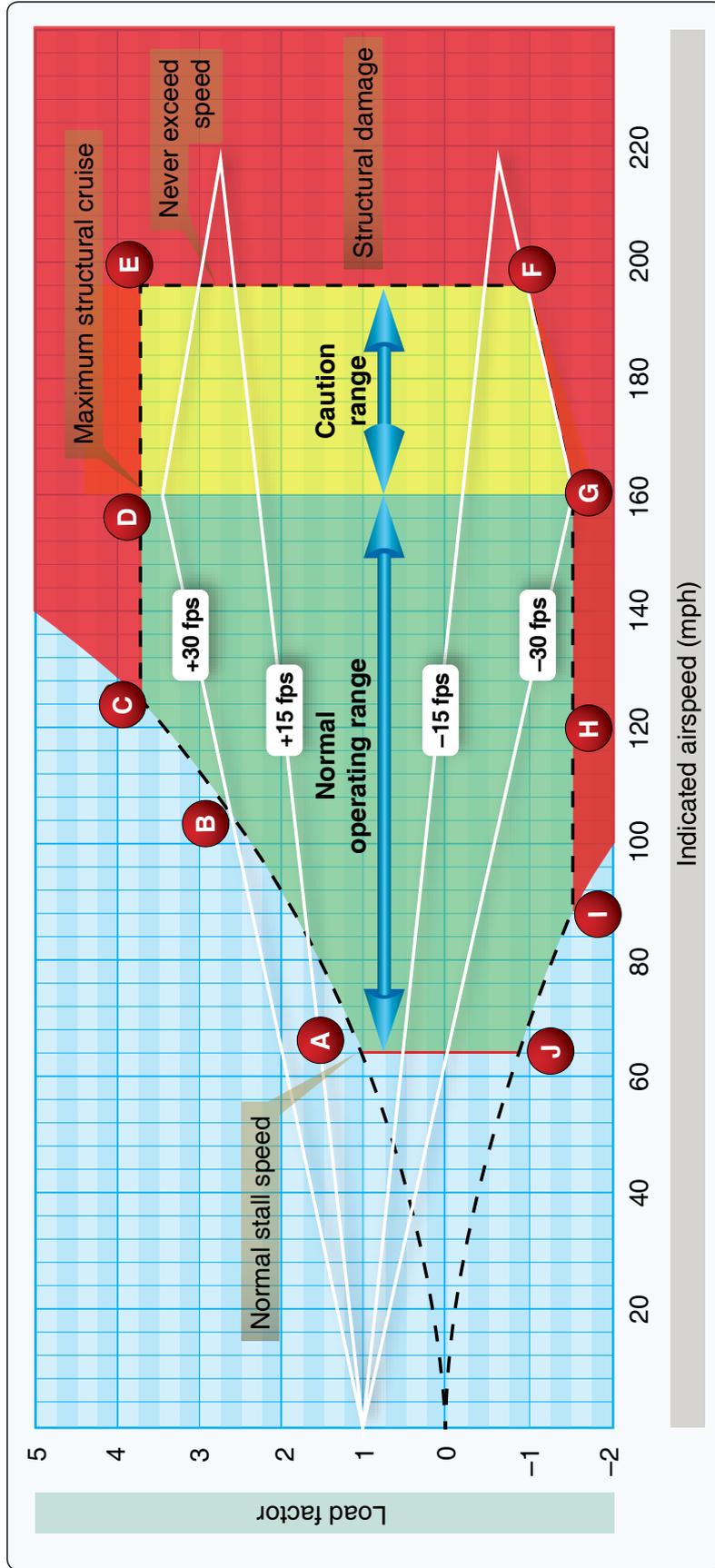
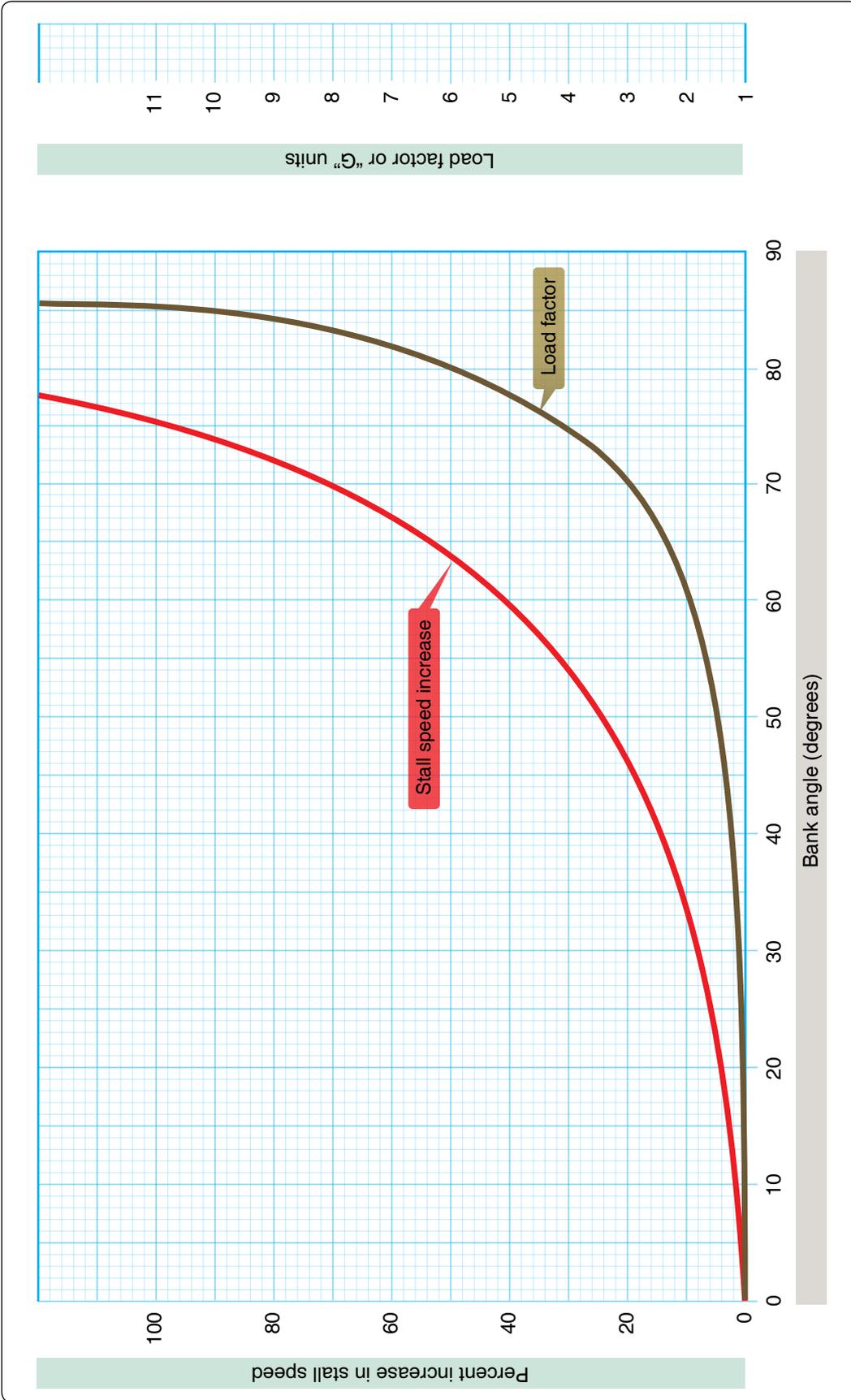


Figure 17. Velocity/Load Factor Chart.



**Figure 18.** Stall Speed vs. Load Factor.

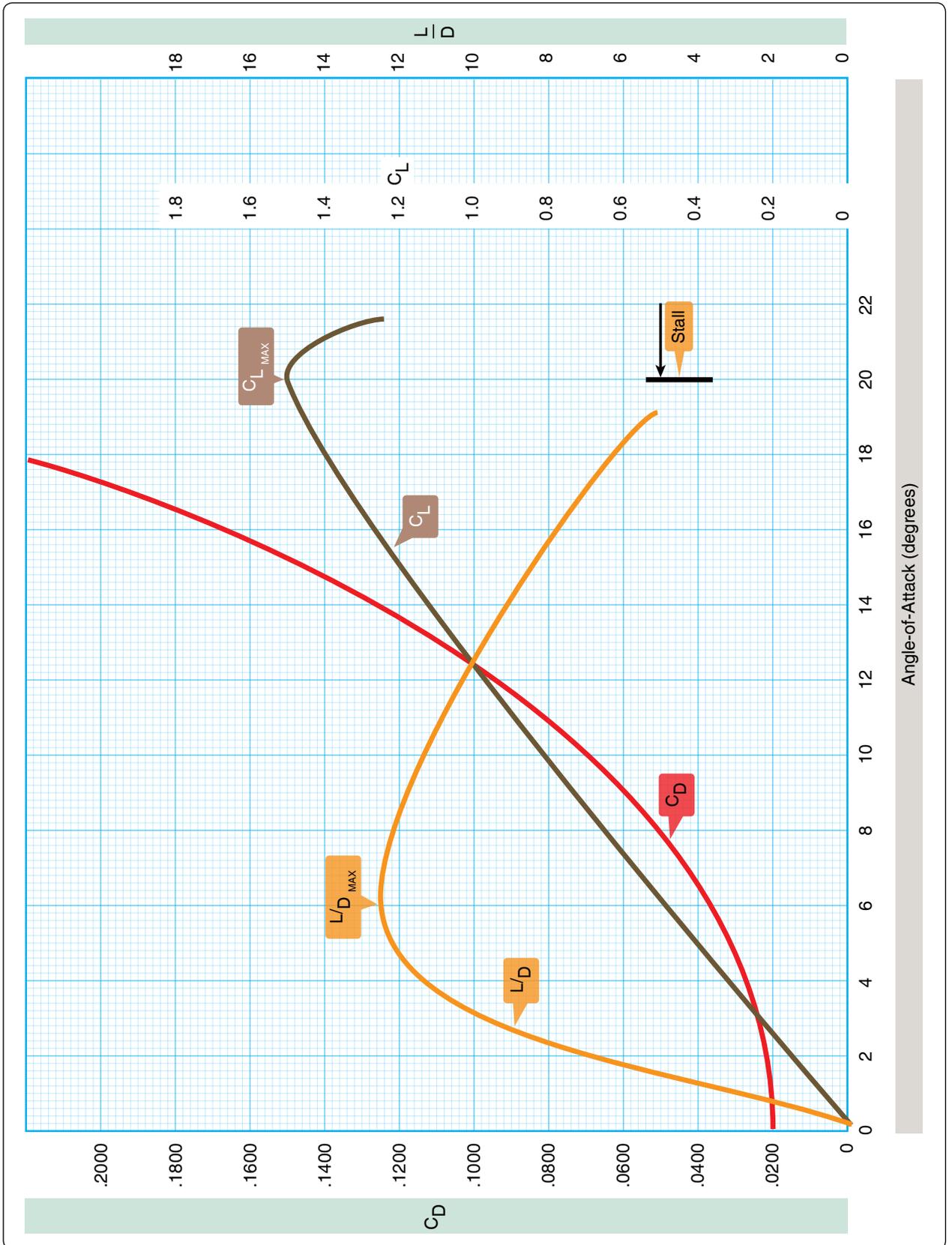


Figure 19. Angle-of-Attack vs. Lift

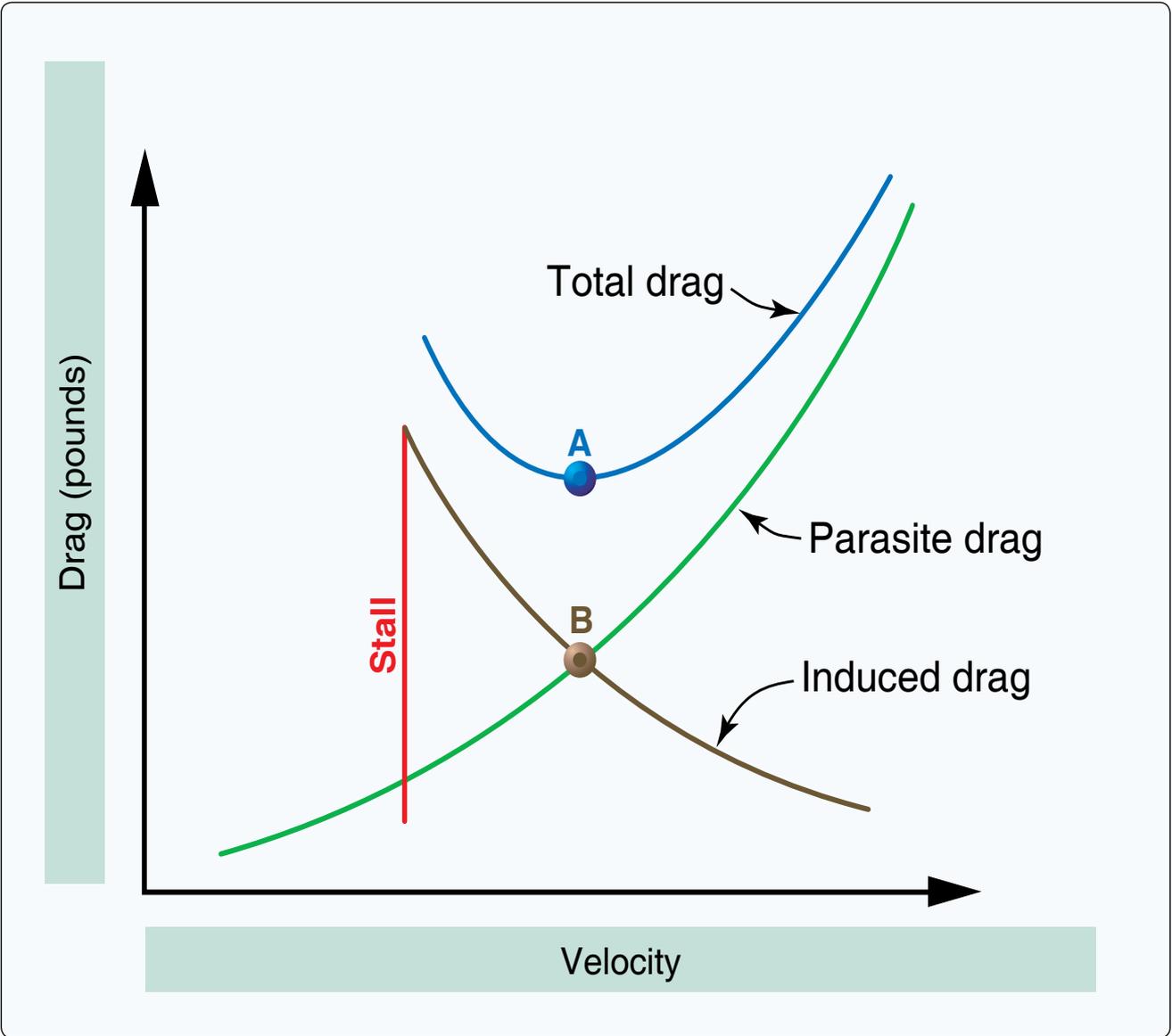
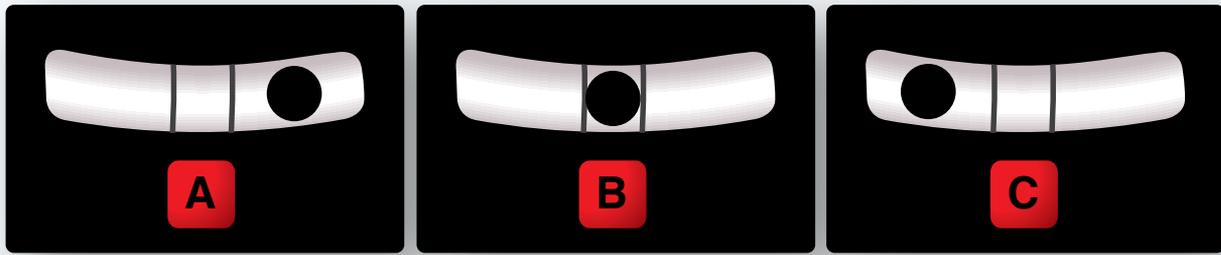


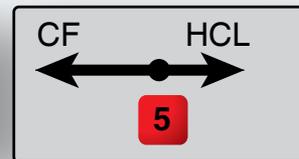
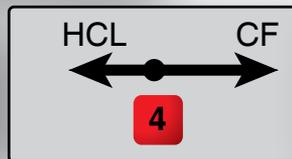
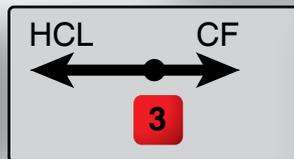
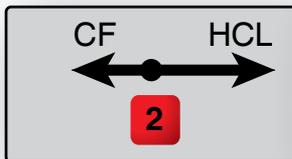
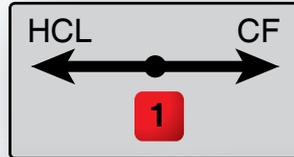
Figure 20. Drag Chart.

Aircraft	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Wing span	40'	35'	48'	30'	33'	36'	36'	36'	52'	57'	51'	75'	59'	49'	117'	32'
Average wing chord	6'	5'	6'	6'	4'	4'	4'	4'	10.5'	4.5'	5'	3'	4'	2' 7"	13'	5'

**Figure 21.** Aspect Ratio.



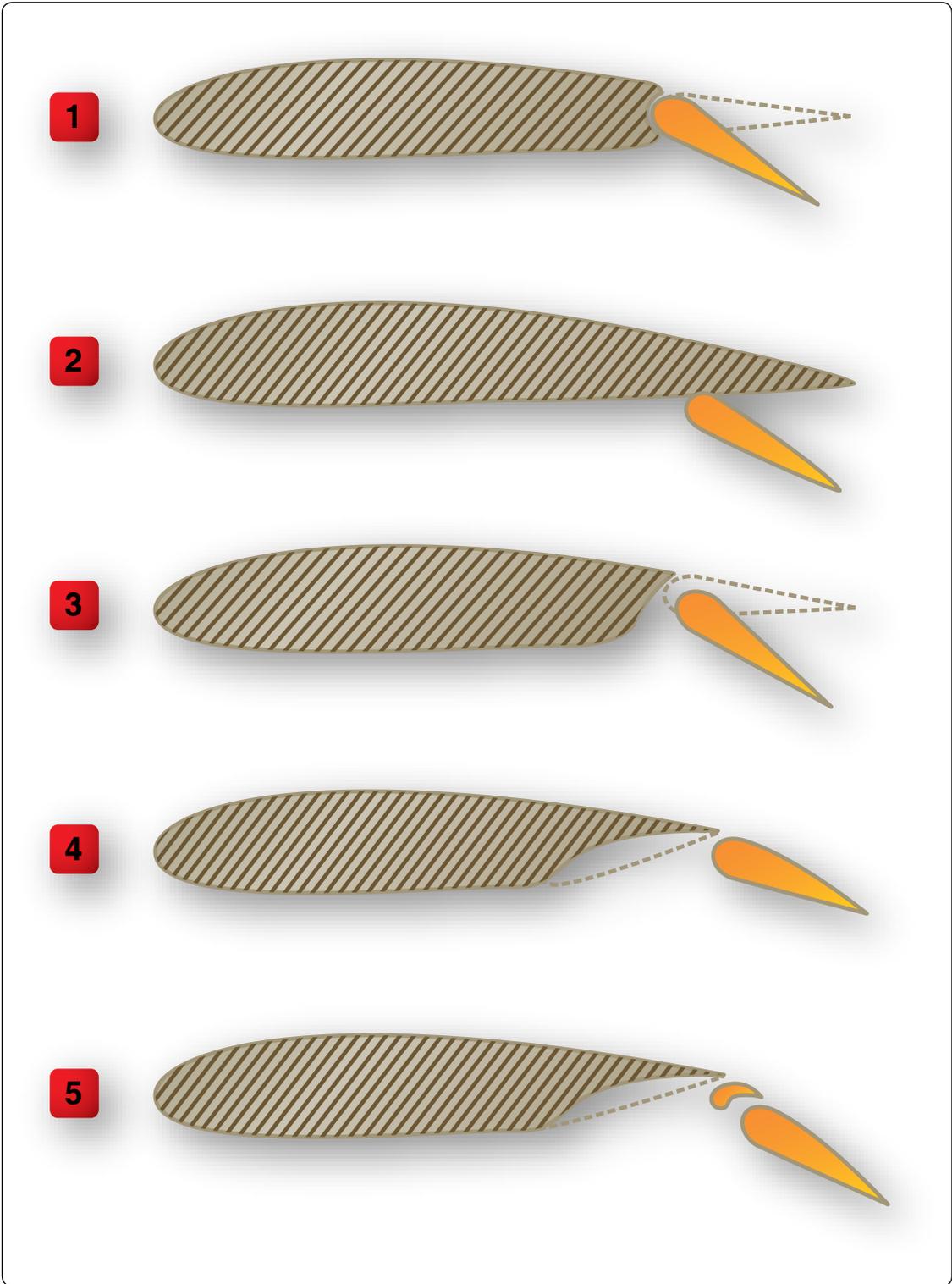
Inclinometer



Force vectors

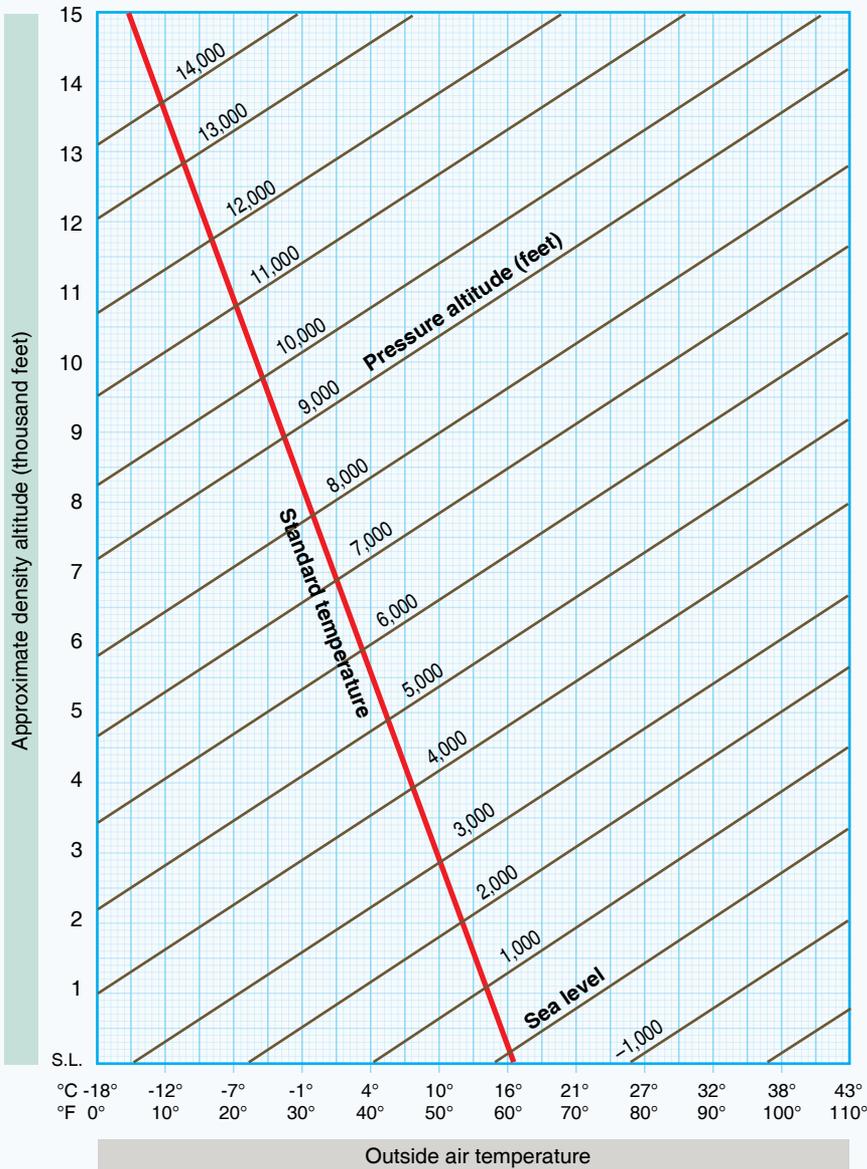
Note: CF denotes centrifugal force.  
 HCL denotes horizontal component of lift  
 Length of arrows denotes magnitude of force

Figure 22. Force Vectors.



**Figure 23.** Wing Flap Diagrams.

## DENSITY ALTITUDE CHART



Altimeter setting ("Hg)	Pressure altitude conversion factor
28.0	1,824
28.1	1,727
28.2	1,630
28.3	1,533
28.4	1,436
28.5	1,340
28.6	1,244
28.7	1,148
28.8	1,053
28.9	957
29.0	863
29.1	768
29.2	673
29.3	579
29.4	485
29.5	392
29.6	298
29.7	205
29.8	112
29.9	20
29.92	0
30.0	-73
30.1	-165
30.2	-257
30.3	-348
30.4	-440
30.5	-531
30.6	-622
30.7	-712
30.8	-803
30.9	-893
31.0	-983

**Figure 24.** Density Altitude Chart.

## Airspeed calibration—Normal system

Flaps 0°		Flaps 15°		Flaps 45°	
CIAS	KCAS	CIAS	KCAS	CIAS	KCAS
80	84	70	79	70	76
100	102	80	86	80	84
120	122	90	94	90	93
140	141	100	103	100	102
160	161	110	112	110	111
180	181	120	121	120	120
200	201	130	131	130	129
220	221	140	141	140	138
240	242	150	151		

CIAS—indicated airspeed in knots  
 KCAS—calibrated airspeed in knots

## Stall speeds—KCAS

4,600 lb gross weight

Configuration	Angle of bank			
	0°	20°	40°	60°
Gear and flaps up	84	87	97	119
Gear down and flaps 15°	80	83	92	113
Gear down and flaps 45°	76	79	87	108

**Figure 25.** Airspeed Calibration Stalls/Speeds Chart.

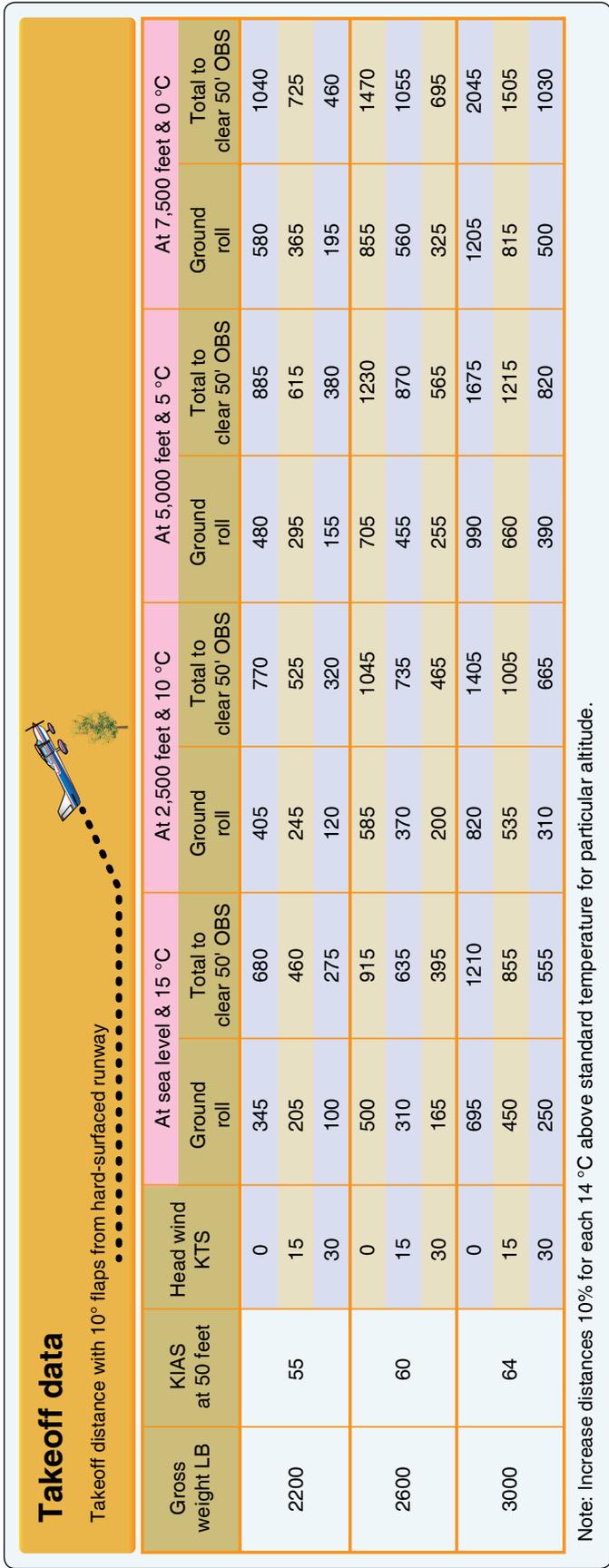


Figure 26. Takeoff Data Chart.

# Maximum climb (climb speed)

## Conditions:

Maximum continuous power  
3400 pounds  
gear up  
flaps up

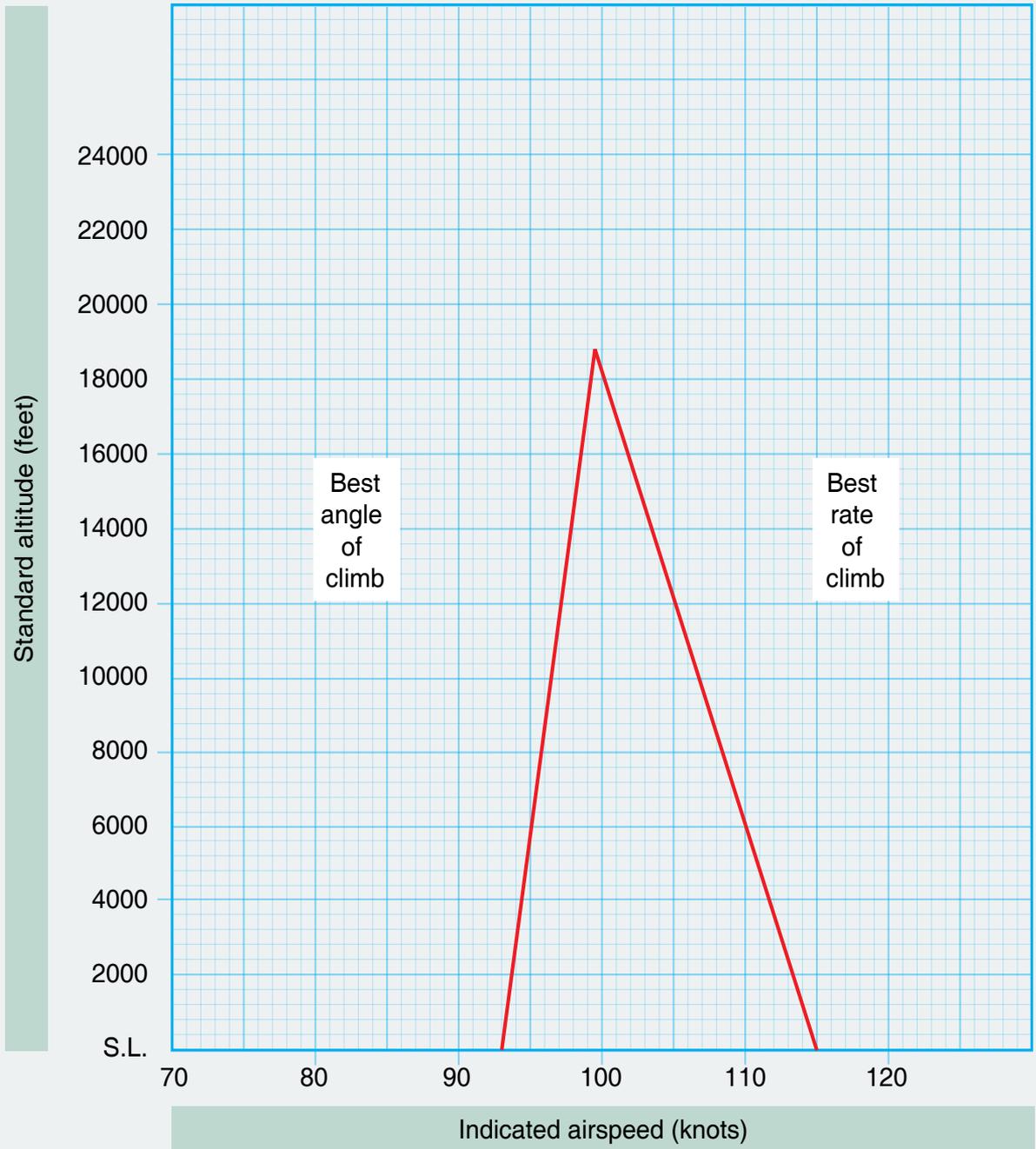


Figure 27. Maximum Climb Chart.

### Short-field takeoff distance

**Conditions:**

1. Power—FULL THROTTLE and 2700 rpm before releasing breaks.
2. Mixtures—LEAN for field elevation.
3. Cow flaps—OPEN.
4. Wing flaps—UP.
5. Level, dry, hard-surface runway.

**Note:**

1. Increase total distance 8% for operation on dry, sod runway.
2. Decrease total distance 7% for each 10 knots of headwind.
3. Increase total distance 5% for each 2 knots of tailwind.

Weight LB	Takeoff to 50 foot obstacle speed KIAS	Pressure altitude feet	20 °C		30 °C		40 °C	
			Ground roll feet	Total distance to clear 50' OBS	Ground roll feet	Total distance to clear 50' OBS	Ground roll feet	Total distance to clear 50' OBS
5500	82	Sea level	1390	1760	1490	1890	1590	2020
		1,000	1530	1950	1640	2080	1760	2230
		2,000	1680	2150	1810	2300	1940	2470
		3,000	1860	2380	2000	2550	2150	2750
		4,000	2060	2650	2220	2850	2380	3070
		5,000	2280	2950	2460	3190	2640	3450
		6,000	2530	3310	2730	3590	2950	3900
		7,000	2830	3750	3160	4190	3410	4570
		8,000	3280	4420	3540	4840	3830	5330
		9,000	3690	5170	4000	5730	4330	6420
		10,000	4150	6140	4500	6980	4880	8130
5100	78	Sea level	1160	1470	1240	1570	1330	1680
		1,000	1280	1620	1370	1730	1470	1850
		2,000	1400	1780	1500	1910	1610	2040
		3,000	1550	1960	1660	2100	1780	2260
		4,000	1710	2180	1840	2340	1970	2510
		5,000	1890	2410	2030	2590	2180	2790
		6,000	2090	2690	2250	2890	2420	3120
		7,000	2330	3010	2510	3250	2700	3520
		8,000	2600	3400	2800	3690	3030	4010
		9,000	2920	3890	3270	4360	3530	4760
		10,000	3390	4580	3660	5030	3960	5560
4700	75	Sea level	960	1220	1020	1300	1090	1380
		1,000	1050	1340	1120	1430	1200	1520
		2,000	1150	1460	1230	1560	1320	1670
		3,000	1270	1610	1360	1720	1460	1840
		4,000	1400	1770	1500	1900	1610	2030
		5,000	1540	1960	1650	2100	1780	2250
		6,000	1700	2170	1830	2330	1970	2500
		7,000	1890	2410	2030	2590	2190	2790
		8,000	2100	2700	2260	2910	2440	3140
		9,000	2350	3040	2540	3290	2730	3570
		10,000	2620	3430	2830	3730	3060	4060

**Figure 28.** Short-Field Takeoff Distance Chart.

## Glide distance

### Conditions:

Gear	UP
Flaps	UP
Cowl flaps	CLOSED
Propeller	FULL HIGH PITCH (low rpm)
Glide speed	122 KIAS

- Notes:**
1. Increase glide distance approximately 10% for each 10 knots of tailwind
  2. Decrease glide distance approximately 10% for each 10 knots of headwind

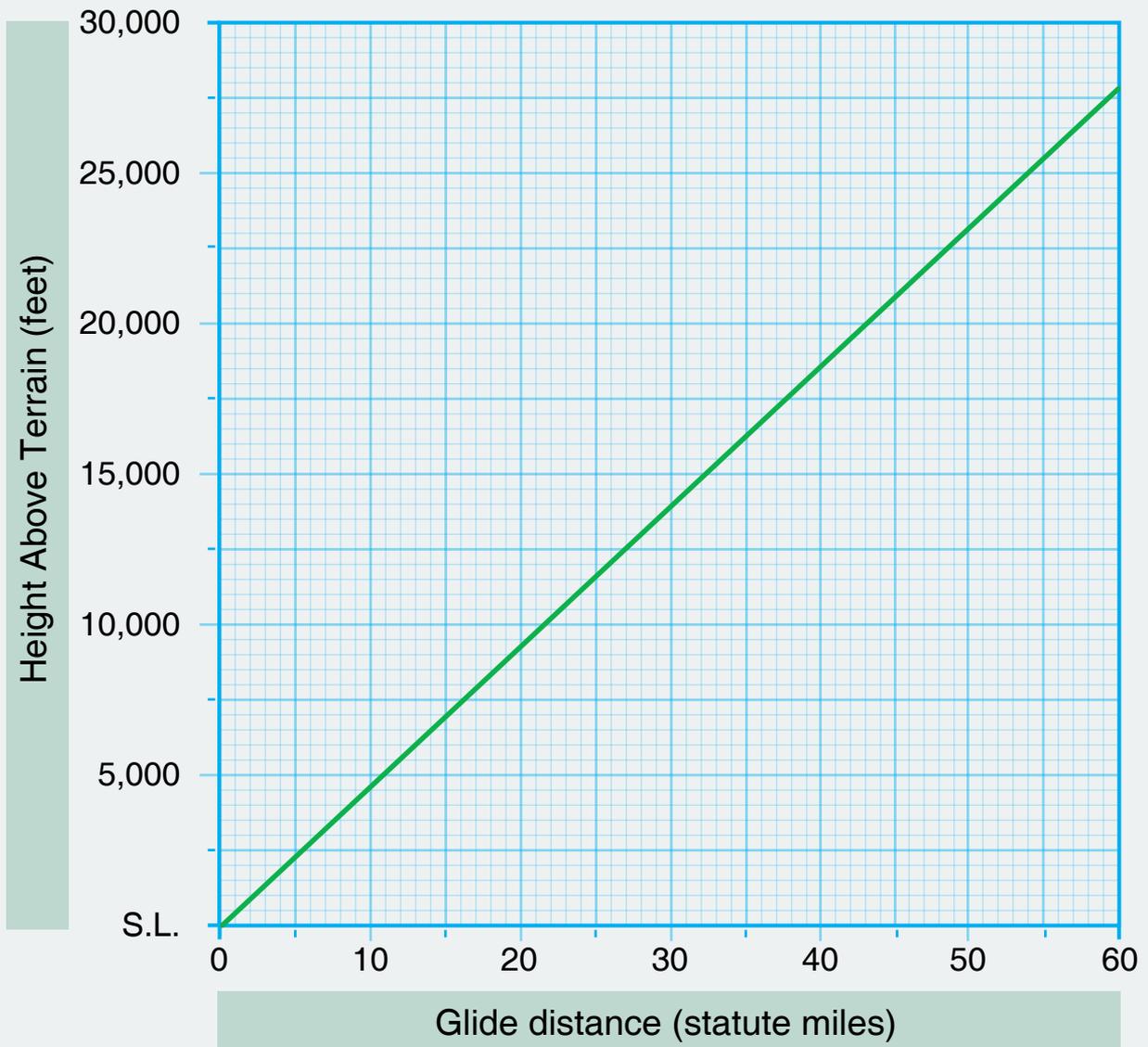


Figure 29. Glide Distance Chart.

# Wind component

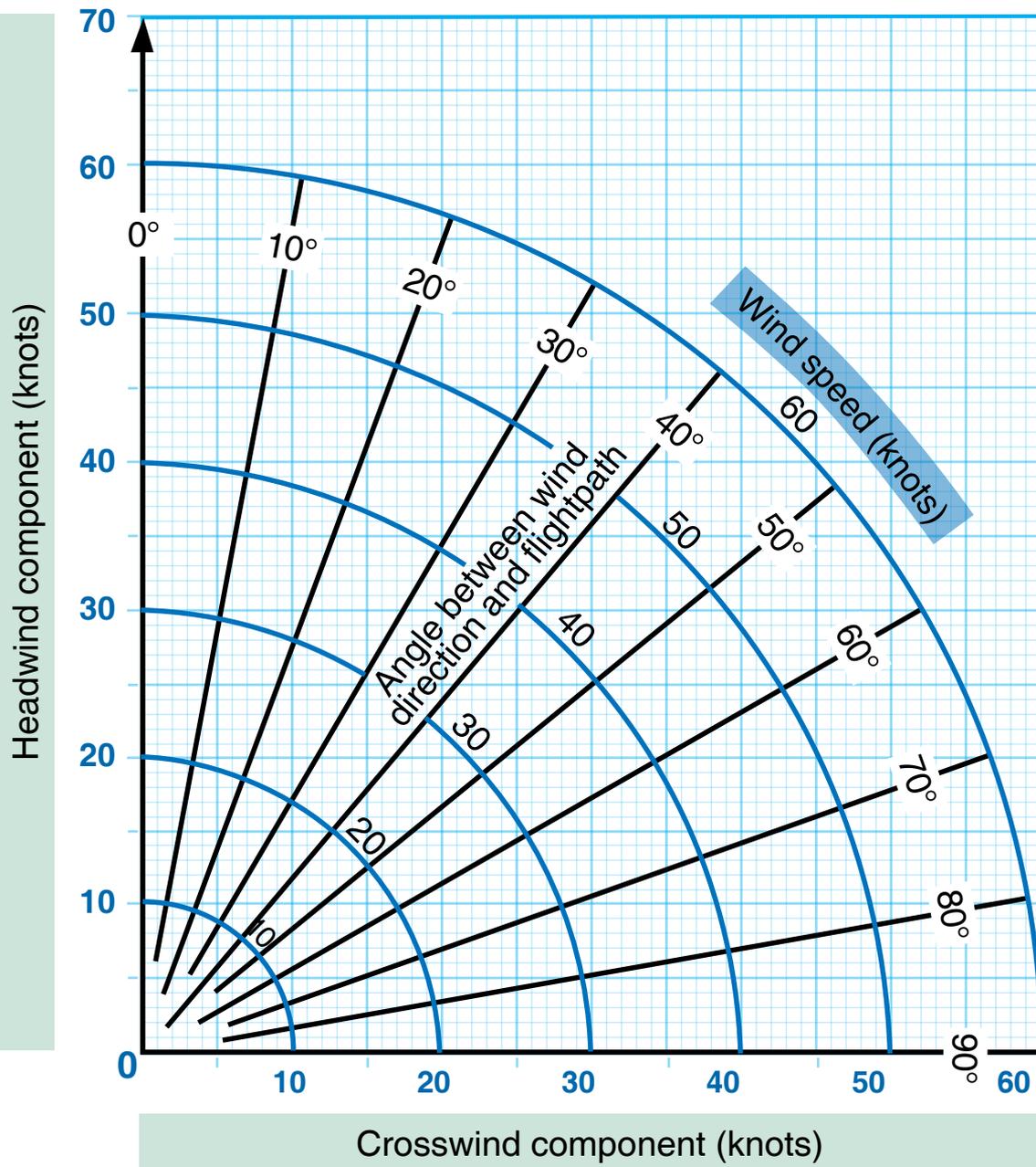


Figure 30. Wind Component Chart.

### Landing distance

**Conditions:**

Power As required to maintain 800 ft/min descent on approach  
 Flaps DOWN  
 Runway PAVED, LEVEL, DRY SURFACE  
 Approach speed IAS as TABULATED

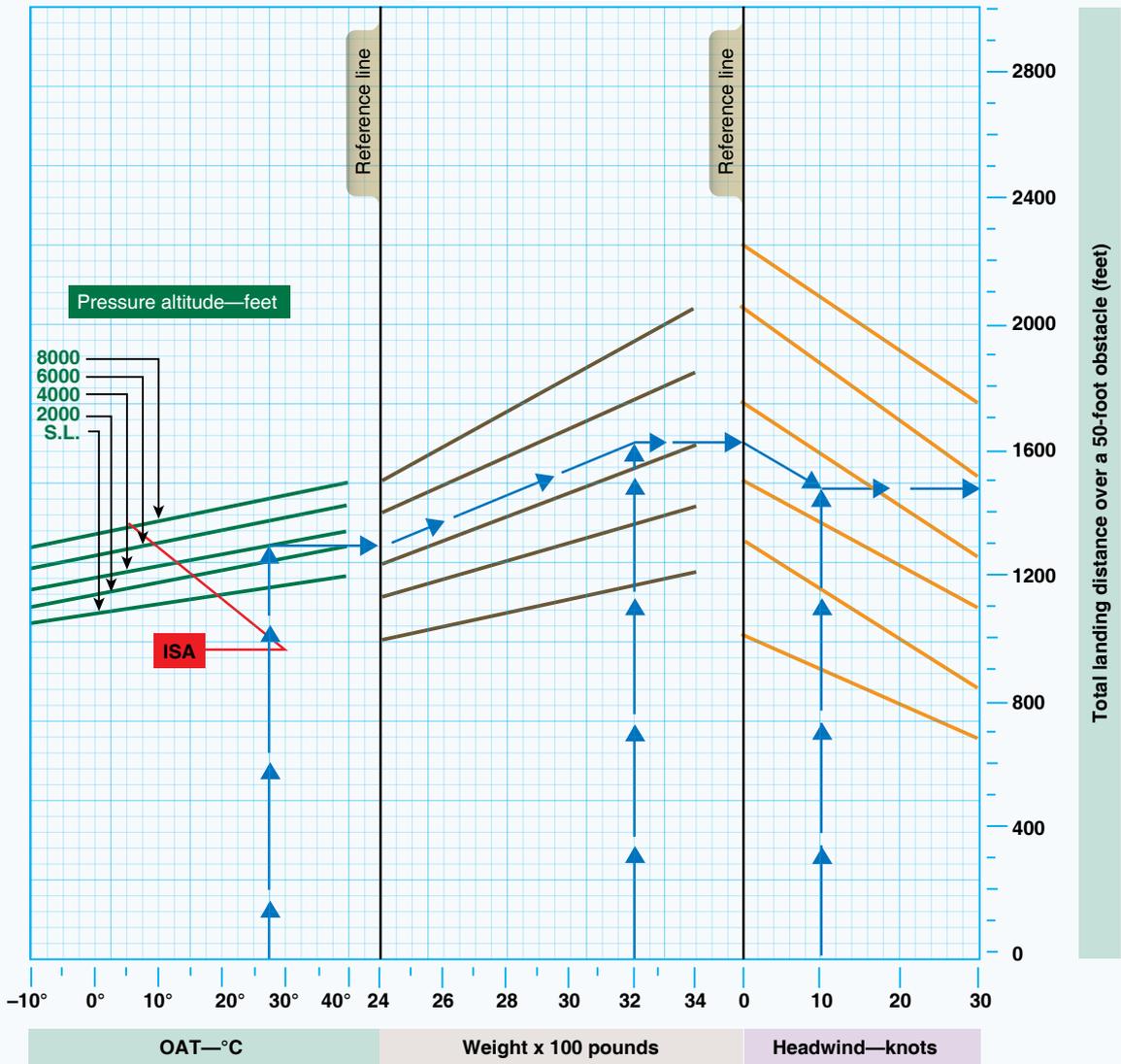
**Note:** Ground roll is approximately 53% of total landing distance over a 50-foot obstacle.

**Example:**

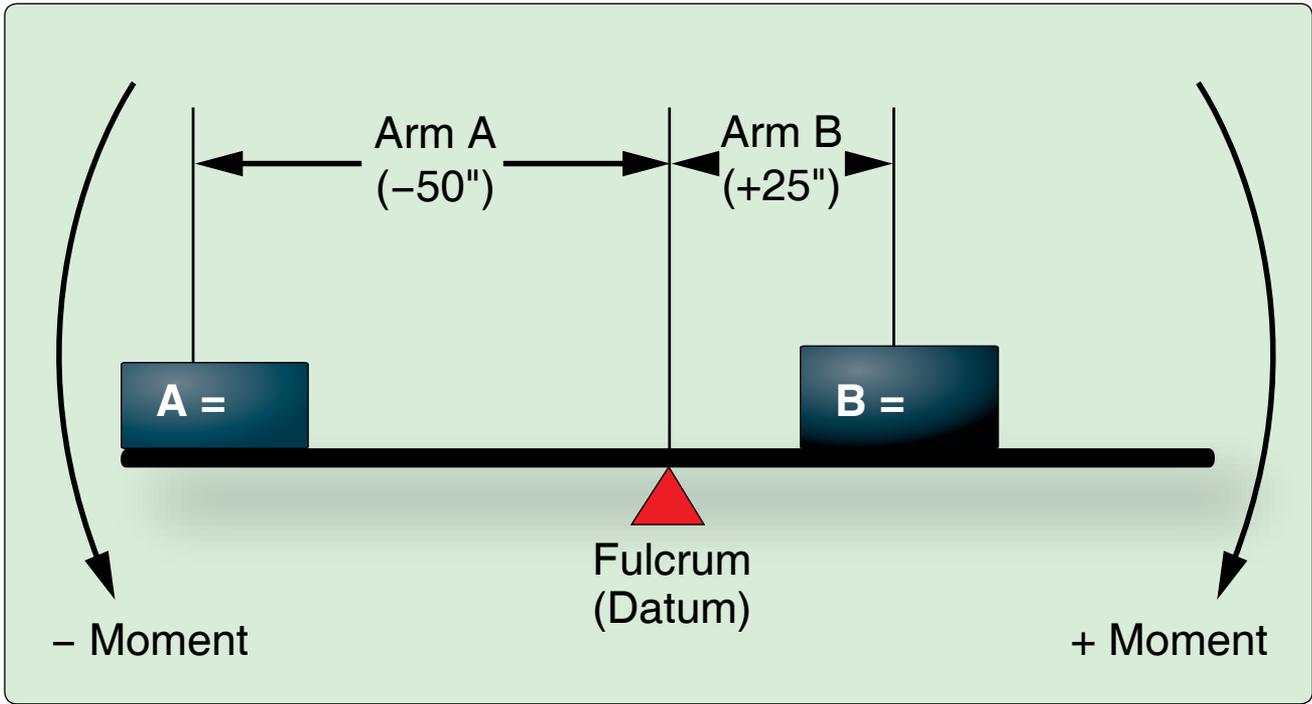
OAT ..... 27 °C  
 Pressure altitude ..... 4000 feet  
 Landing weight ..... 3200 pounds  
 headwind ..... 10 knots

Total landing distance over a 50-foot obstacle ..... 1475 feet  
 Ground roll (53% of 1475) ..... 782 feet  
 IAS approach speed ..... 87 mph IAS

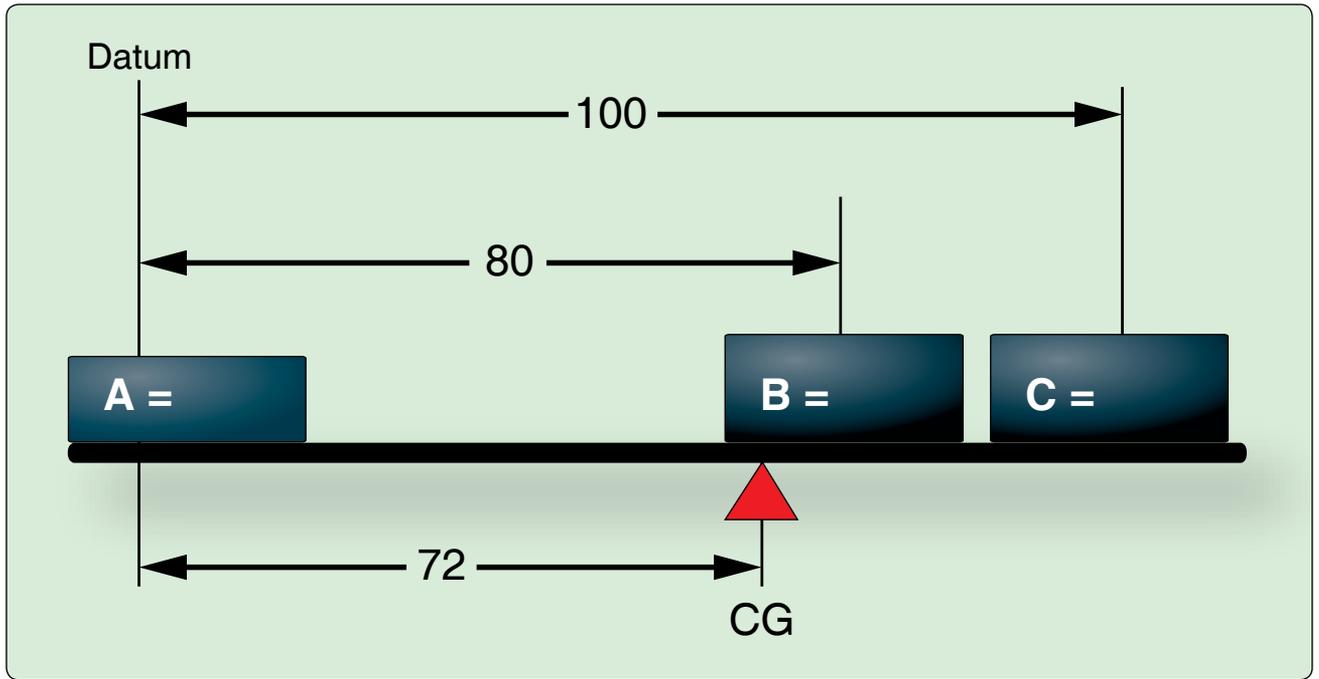
Weight pounds	IAS approach speed (assumes zero instr. error)	
	mph	knots
3400	90	78
3200	87	76
3000	84	73
2800	81	70
2600	78	68
2400	75	65



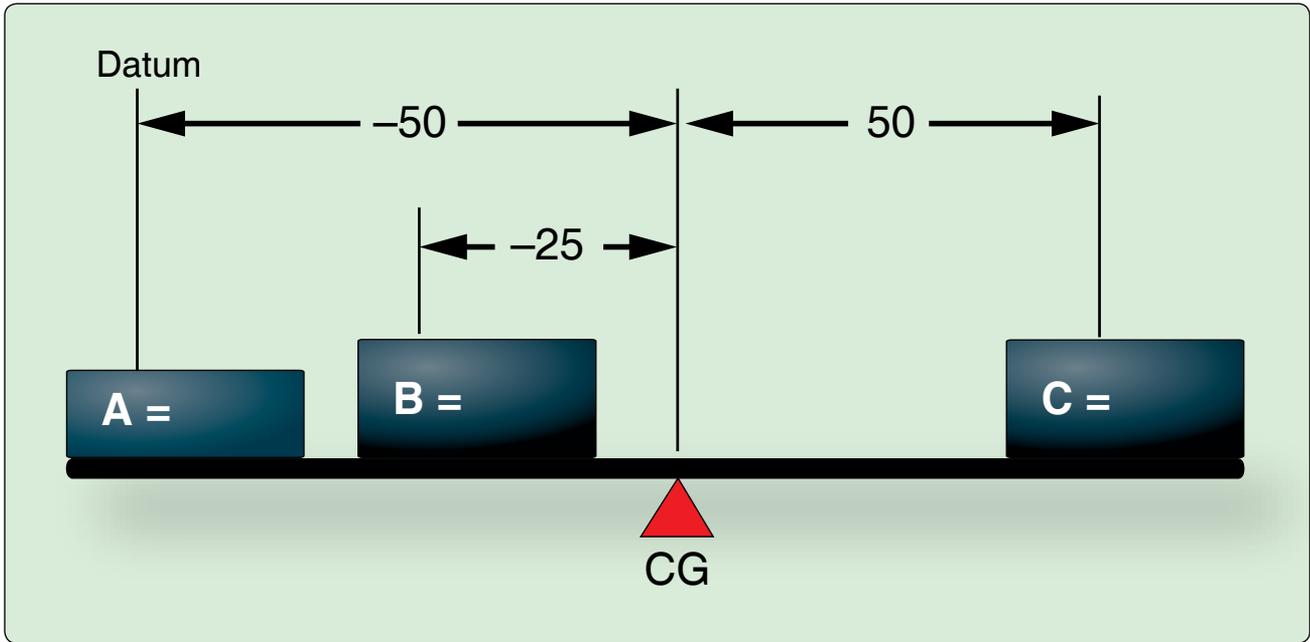
**Figure 31.** Landing Distance Chart.



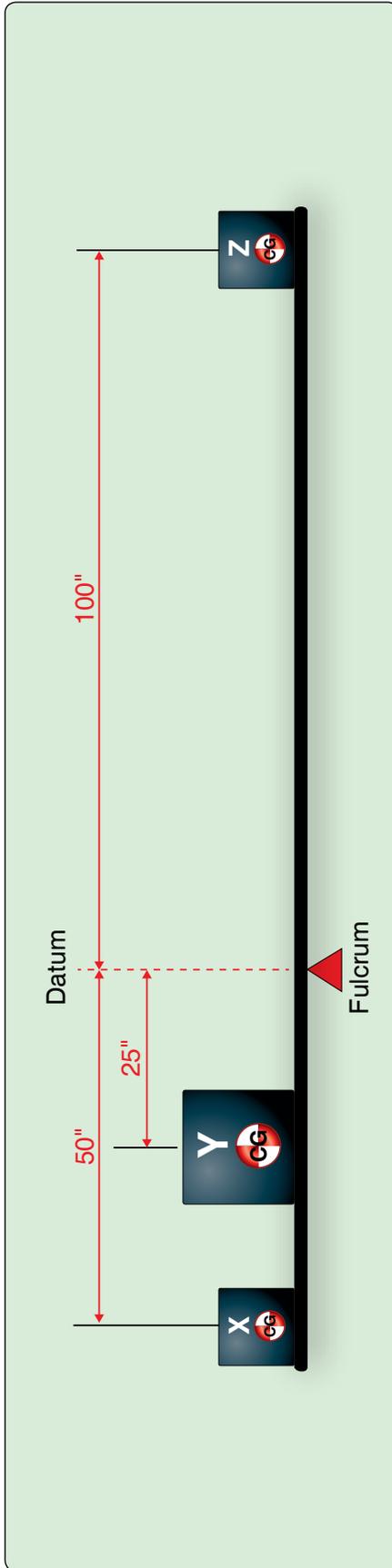
**Figure 32.** The Law of the Lever.



**Figure 33.** Moving the CG of a Board by Shifting the Weights.



**Figure 34.** Placement of Weight B to Cause the Board to Balance About Its Center.



**Figure 35.** Weight and Balance Diagram.

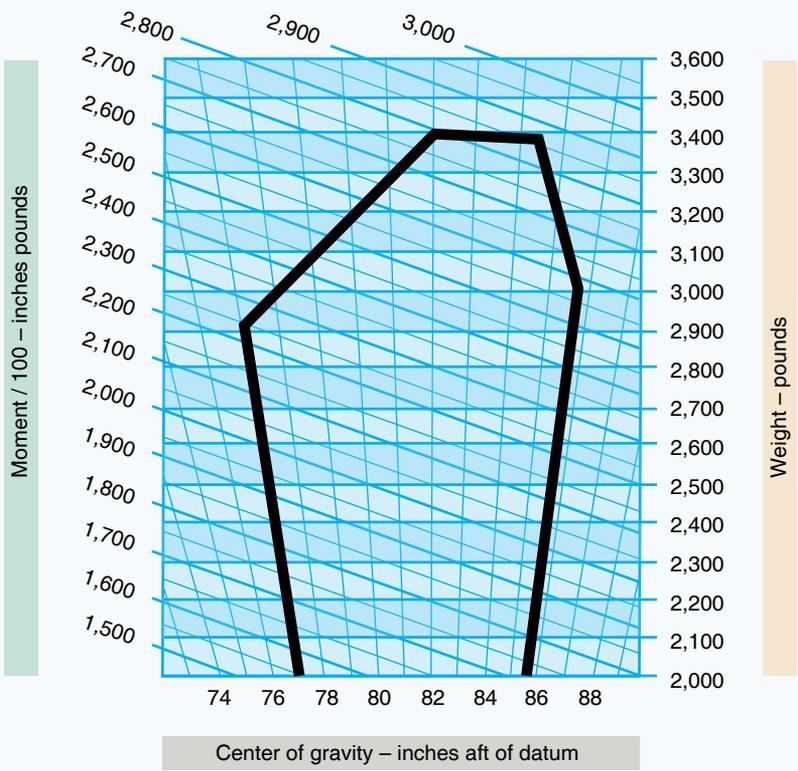
Empty Weight Data		
*Oil is included in empty weight	Empty Weight (pounds)	Empty Weight Moment (/100)
Certificated Weight	2110	1652

Fuel					
ARM 75 inches					
Gallons	Weight (pounds)	Moment (in-lb)	Gallons	Weight (pounds)	Moment (in-lb)
5	30	23	45	270	203
10	60	45	49	294	221
15	90	68	55	330	248
20	120	90	60	360	270
25	150	113	65	390	293
30	180	135	70	420	315
35	210	158	75	450	338
40	240	180	80	480	360

Occupants				
Front seats		Rear seats		
ARM 85 inches		Fwd Position ARM 111 inches		Aft Position ARM 136 inches
Weight (pounds)	Moment (in-lb)	Weight (pounds)	Moment (in-lb)	Moment (in-lb)
120	102	120	133	163
130	111	130	144	177
140	119	140	155	190
150	128	150	167	204
160	136	160	178	218
170	145	170	189	231
180	153	180	200	245
190	162	190	211	258
200	170	200	222	273

Baggage	
ARM 150	
Weight (pounds)	Moment (in-lb)
10	15
20	30
30	45
40	60
50	75
60	90
70	105
80	120
90	135
100	150
110	165
120	180
130	195
140	210
150	225
160	240
170	255
180	270
190	285
200	300
210	315
220	330
230	345
240	360
250	375
260	390
270	405

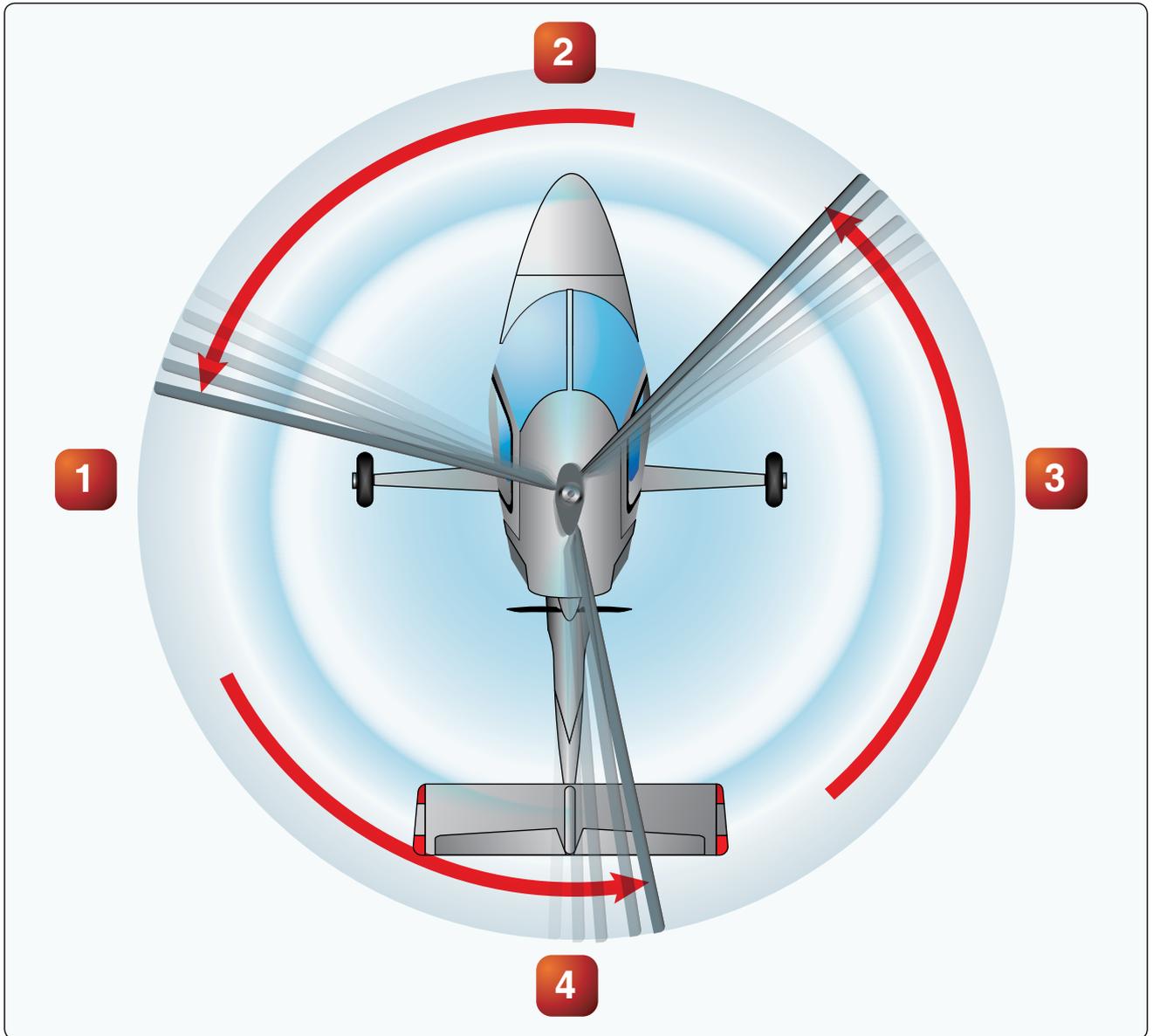
**Gross Weight Moment Limits**



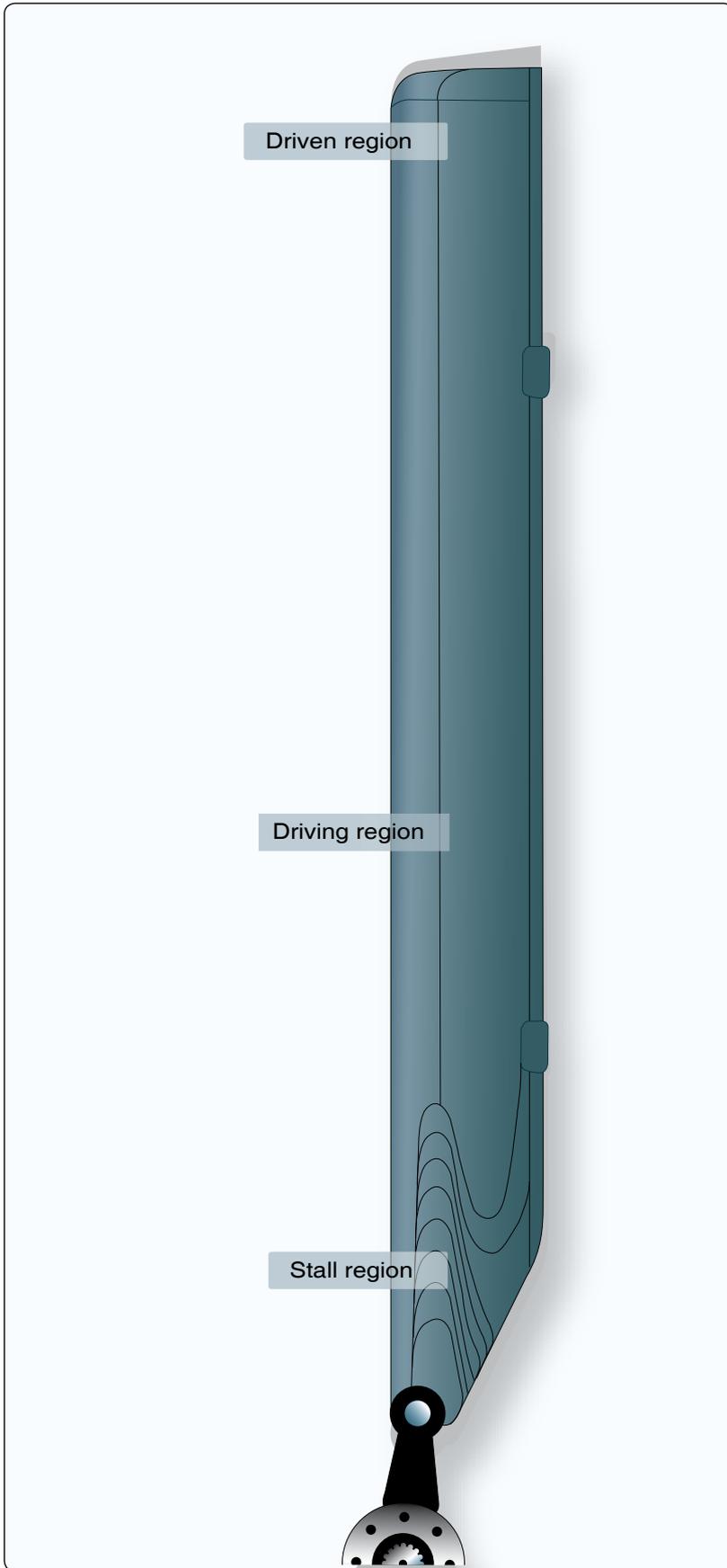
NOTE: All moments are equal to

$$\frac{\text{weight} \times \text{arm}}{100}$$

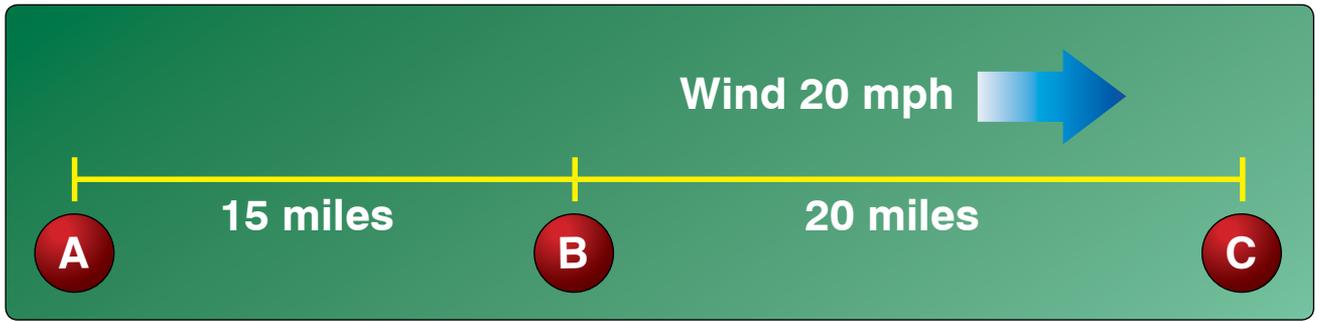
**Figure 36. Weight and Balance Chart.**



**Figure 37.** Rotor Blade Positions.



**Figure 37A.** Rotor Blade.



**Figure 38.** Cross-Country.

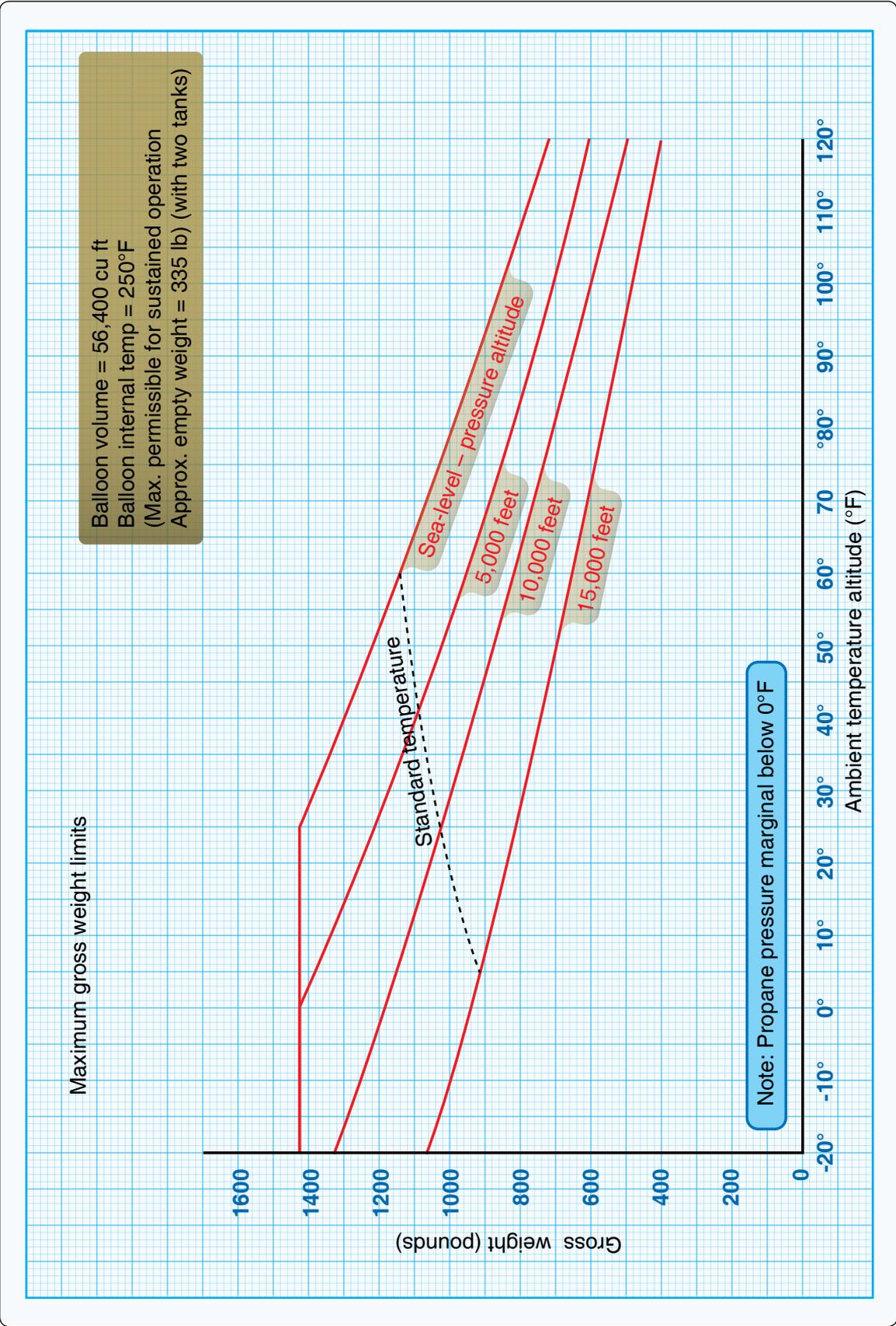


Figure 39. Balloon Performance Graph.

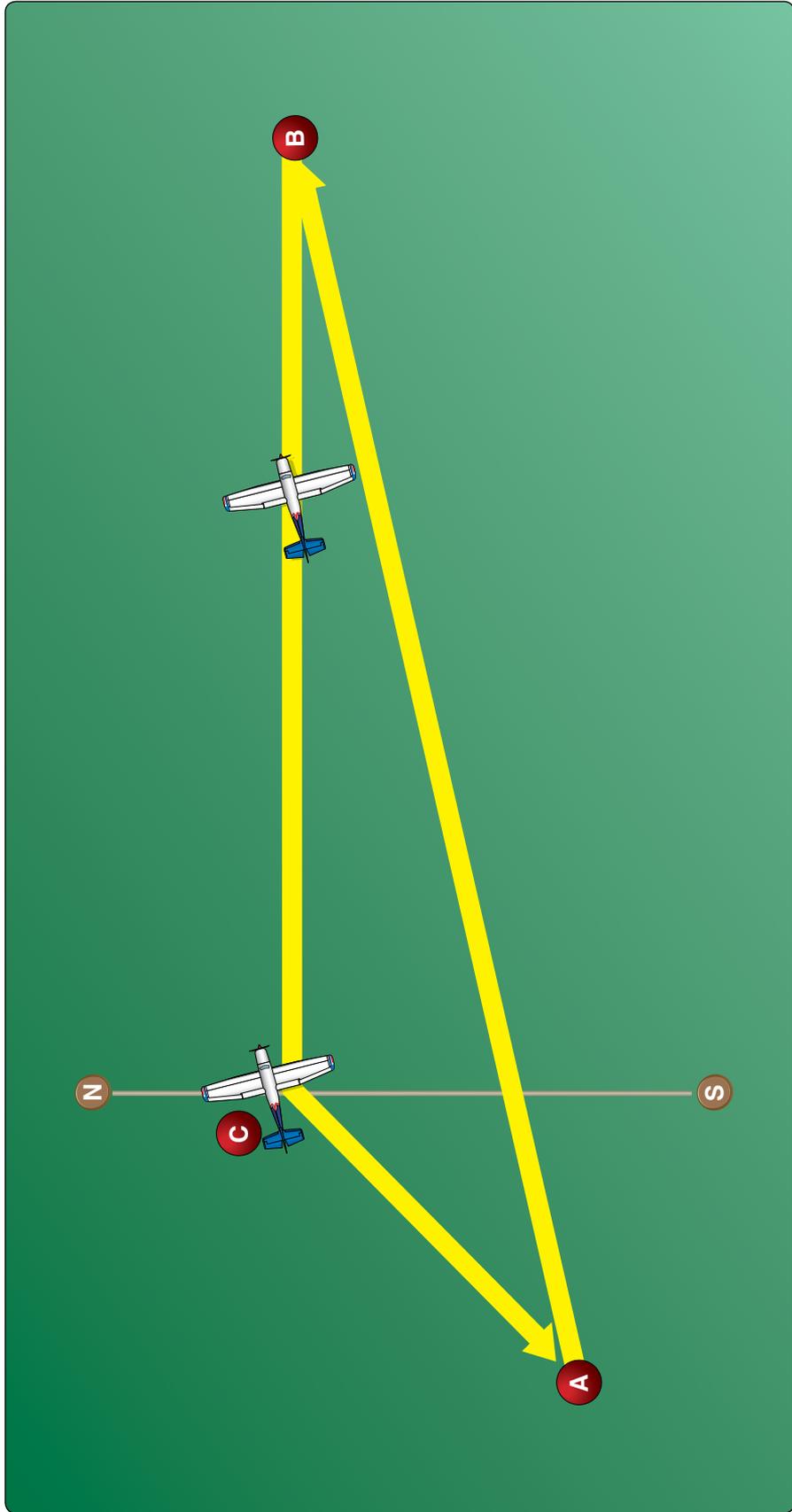


Figure 40. Wind Triangle.

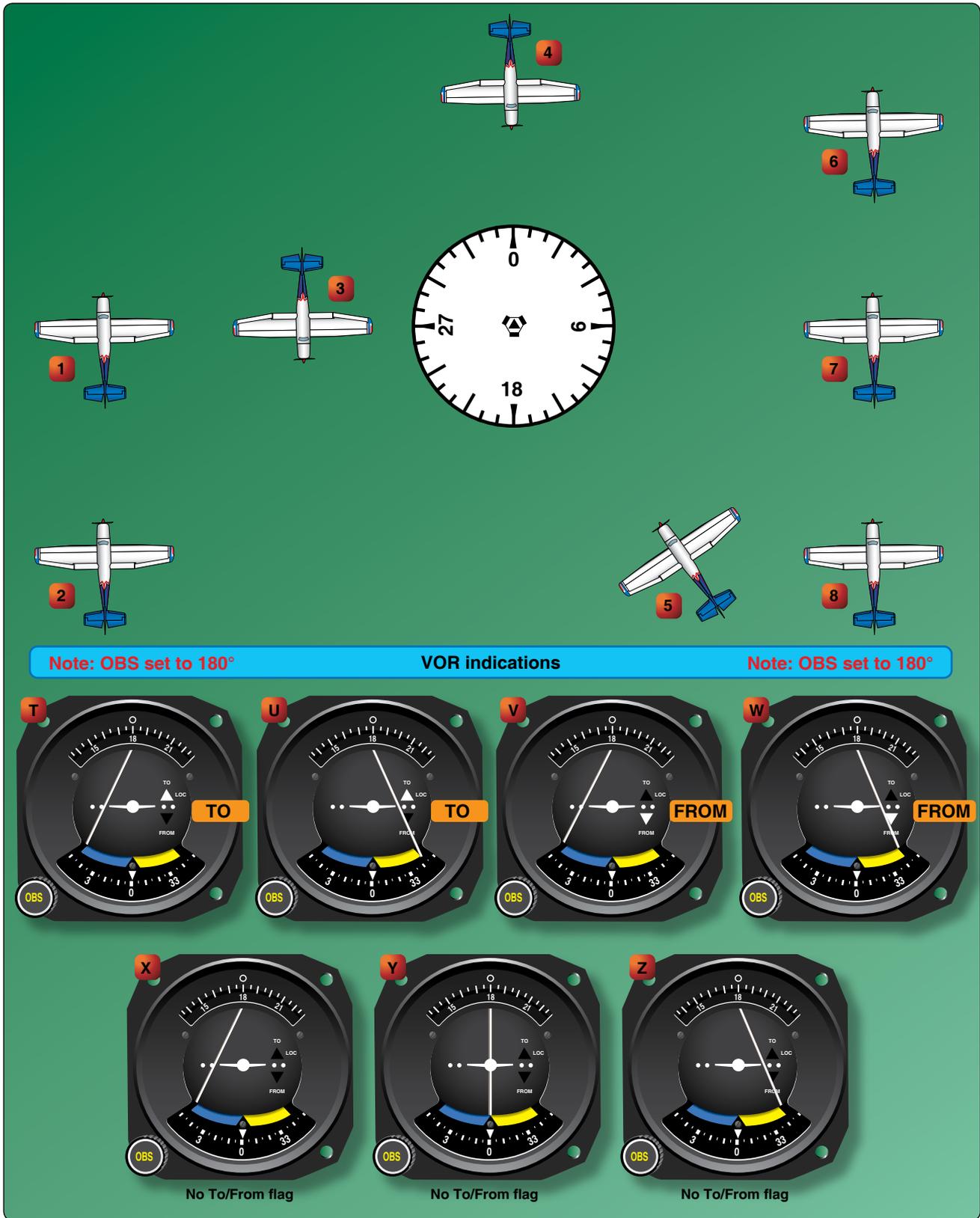


Figure 42. VOR Indicators.



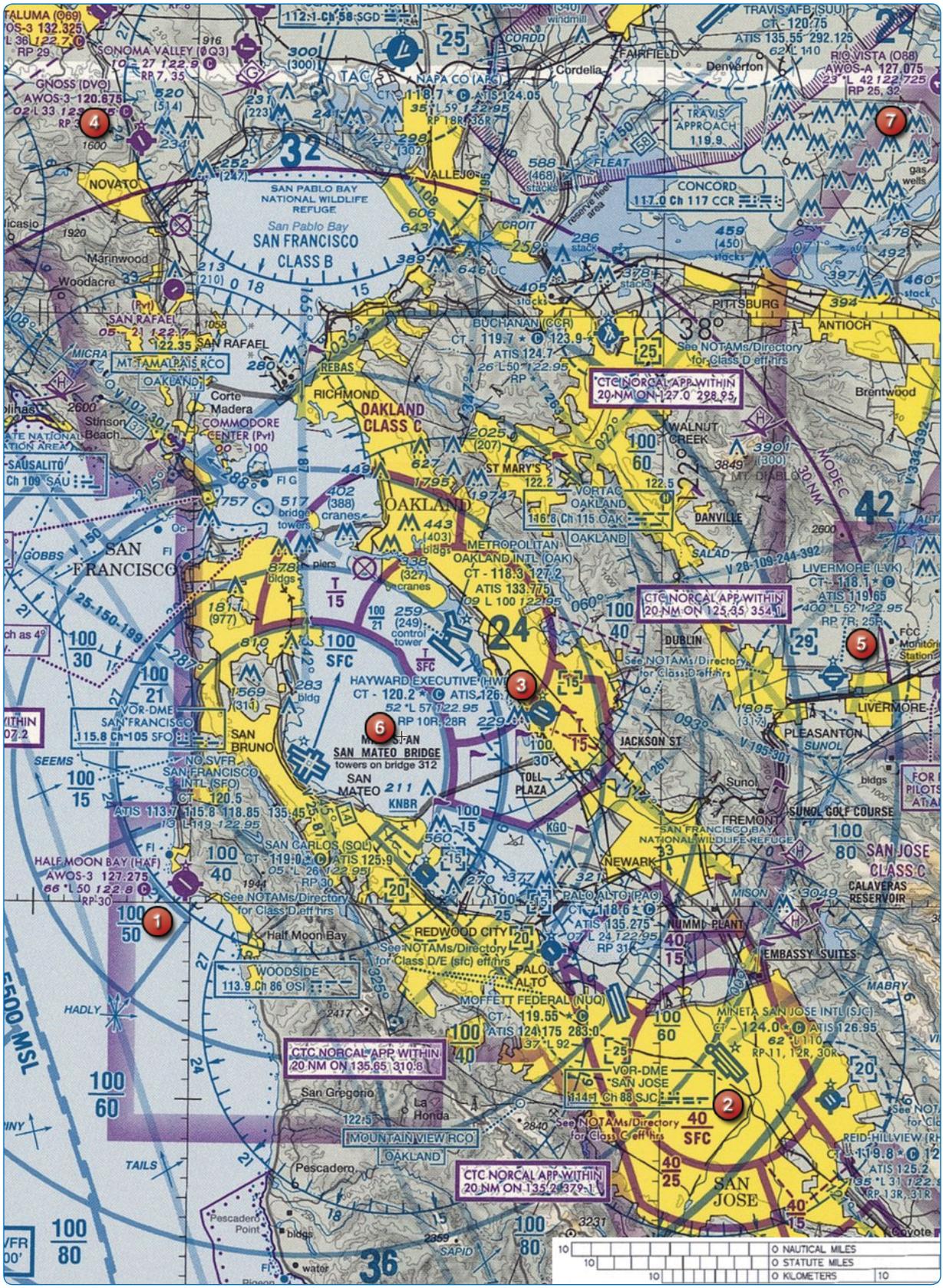
**Figure 44.** Sectional Chart Excerpt.

*Note: Chart is not to scale and should not be used for navigation. Use associated scale.*



**Figure 45.** Sectional Chart Excerpt.

**Note:** Chart is not to scale and should not be used for navigation. Use associated scale.



**Figure 46.** Sectional Chart Excerpt.

**Note:** Chart is not to scale and should not be used for navigation. Use associated scale.

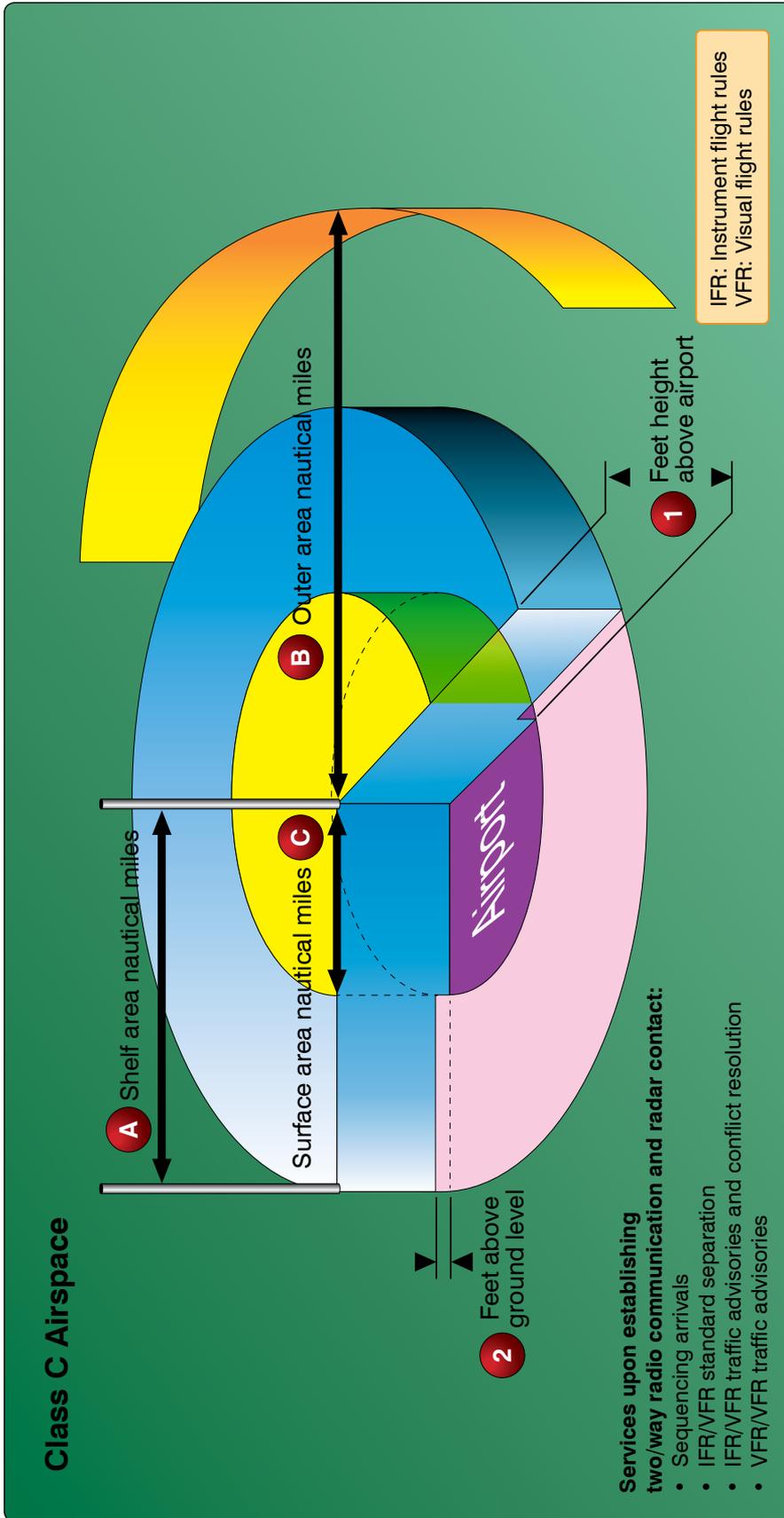
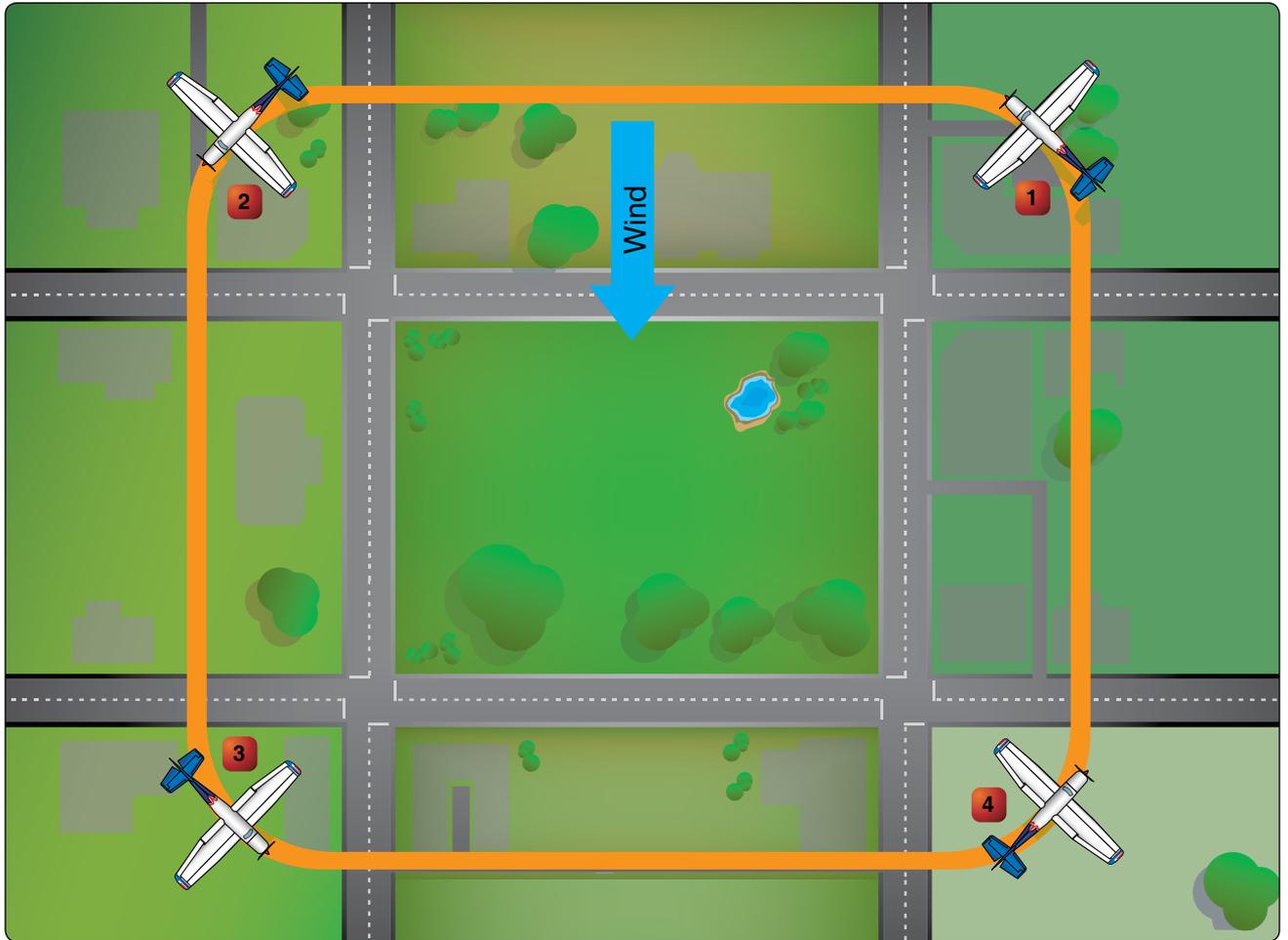
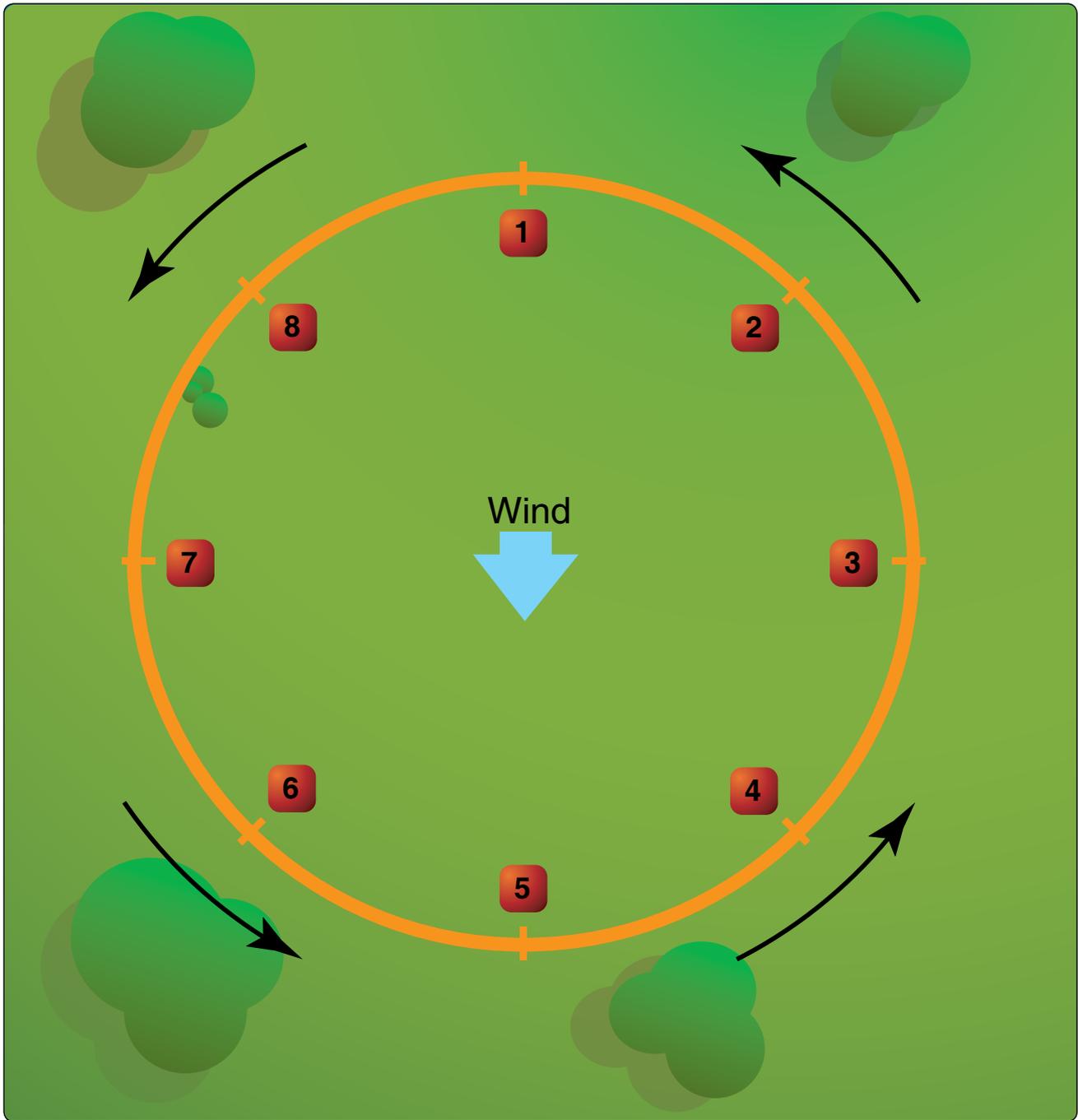


Figure 47. Class C Airspace Diagram.



**Figure 48.** Rectangular Course.



**Figure 49.** Ground Track Maneuver Diagram.

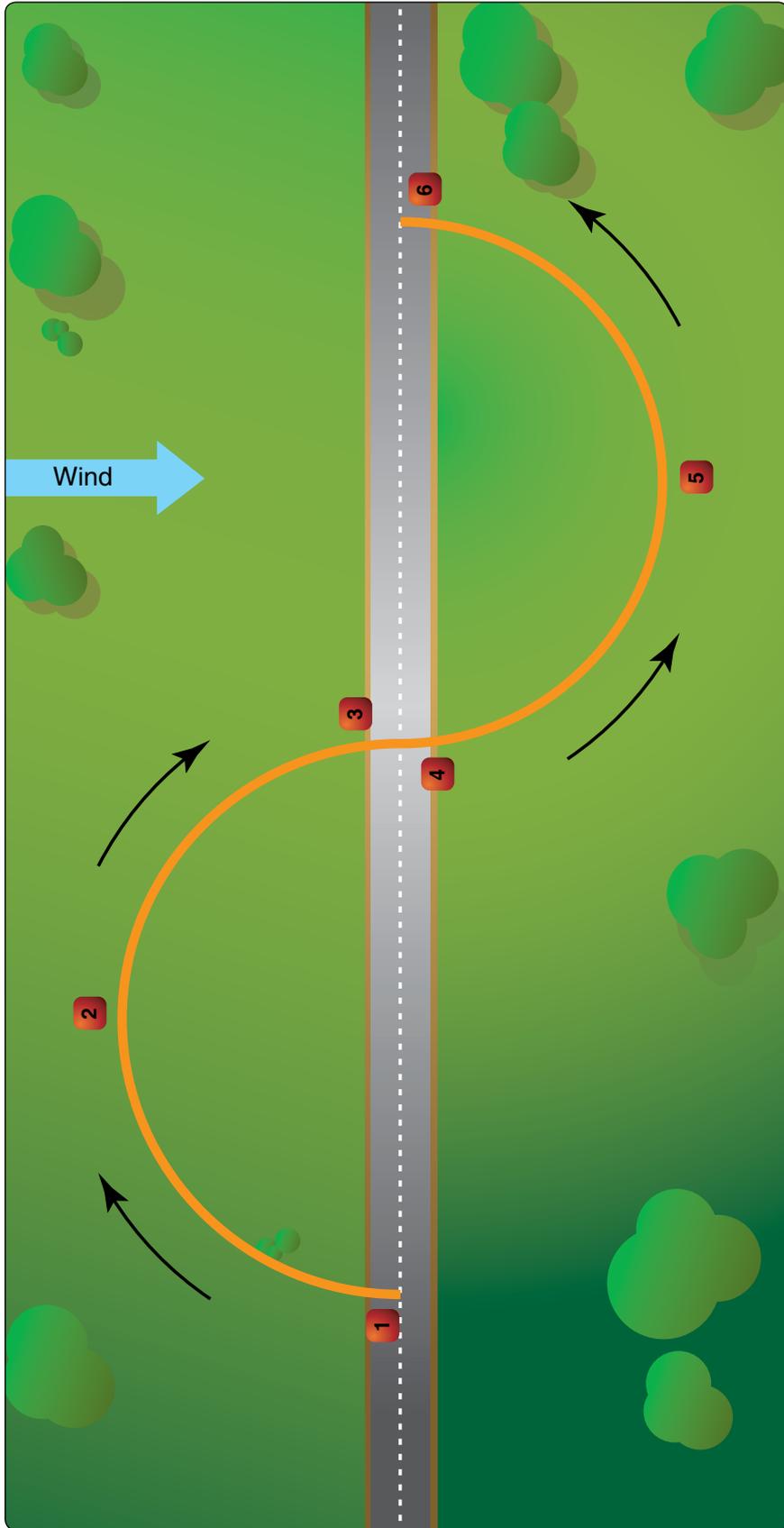


Figure 50. S-Turn Diagram.

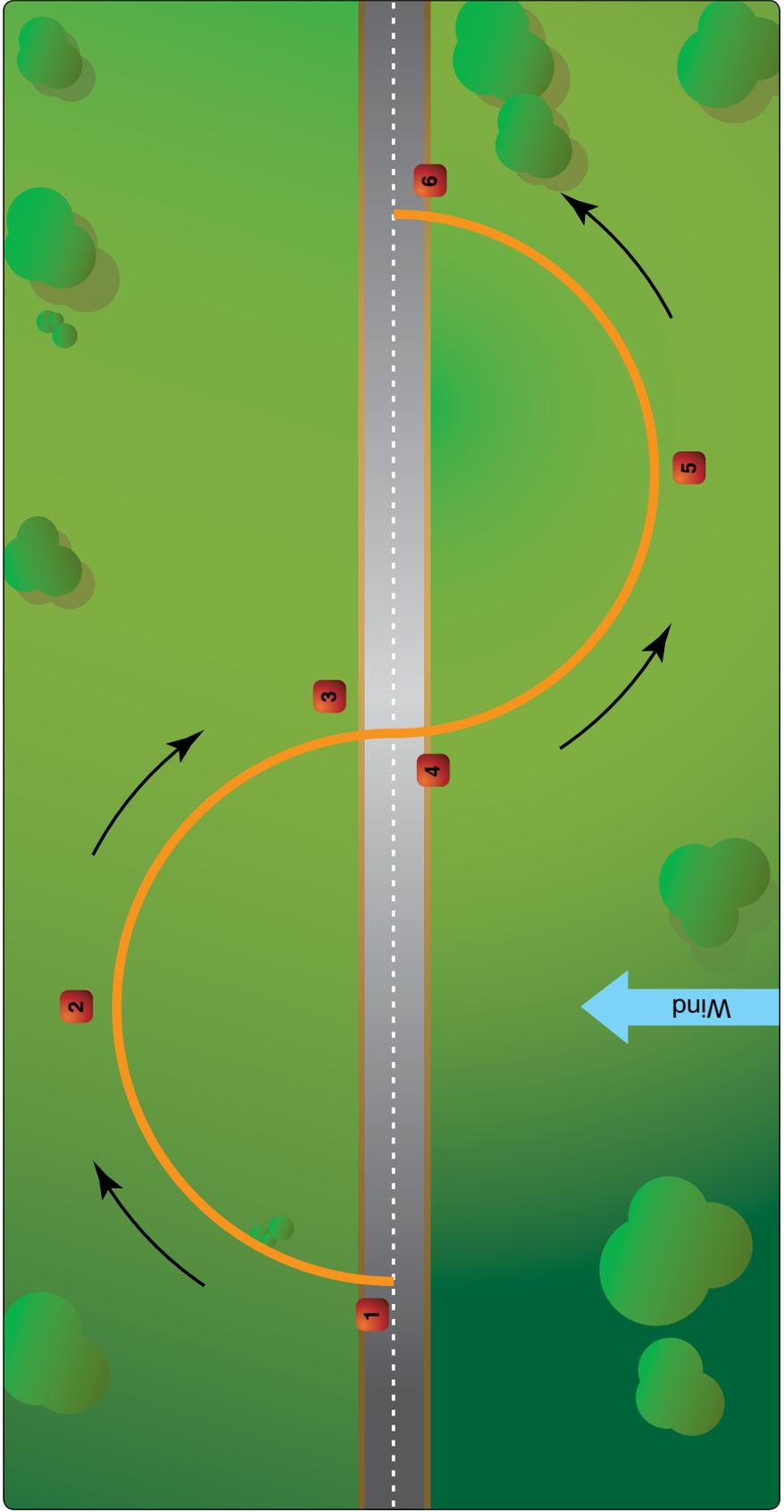
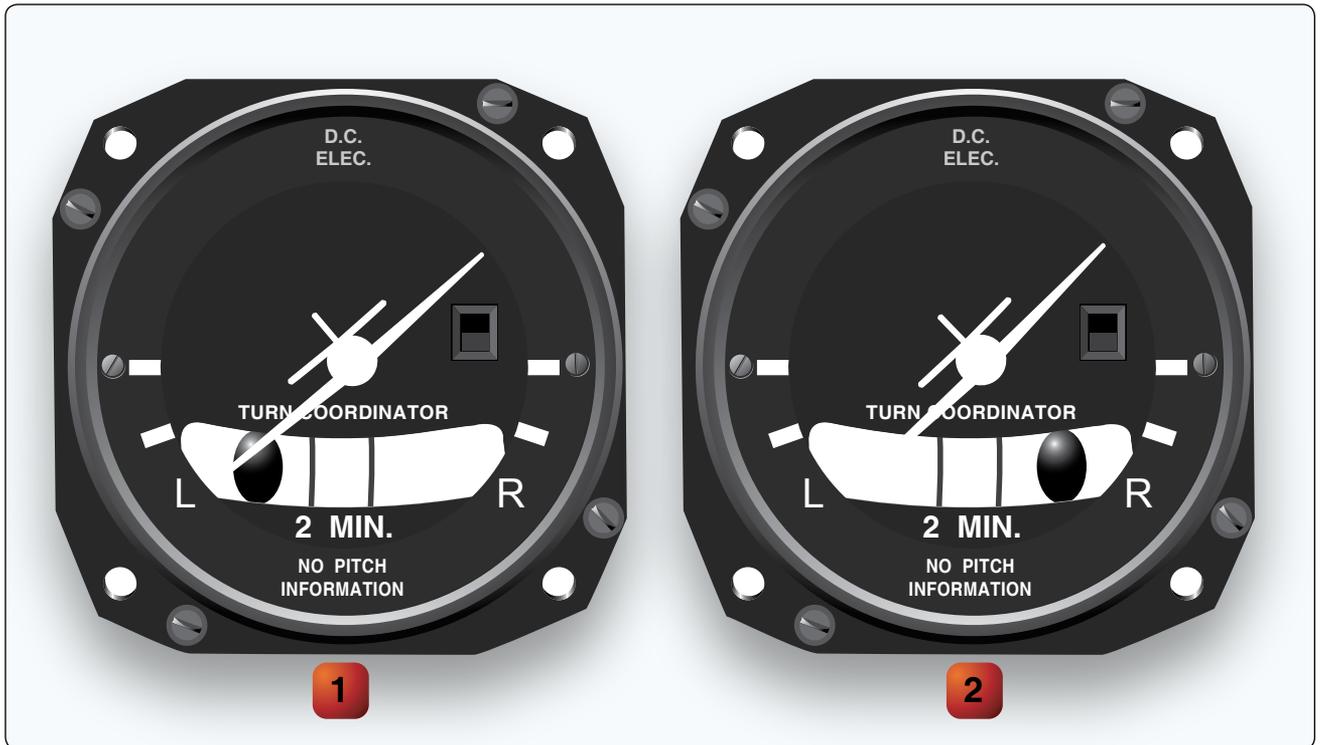


Figure 51. S-Turn Diagram.



**Figure 52.** Turn-and-Slip Indicators.

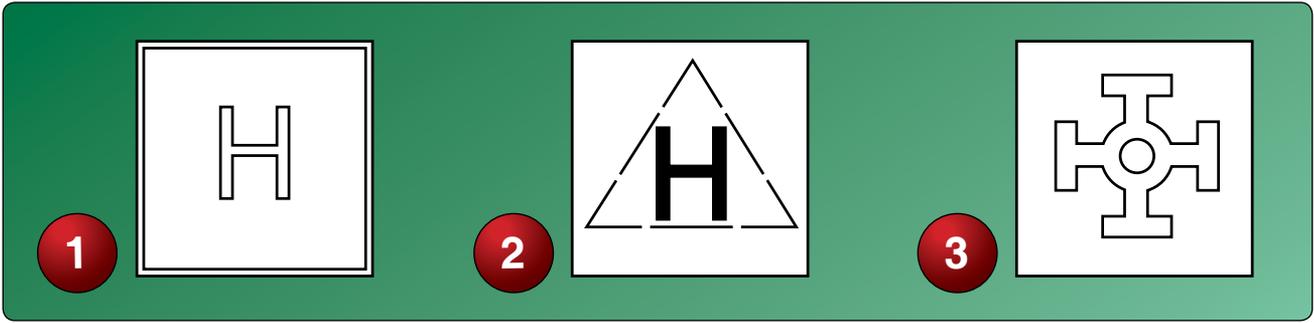


Figure 53. Heliport Markings.

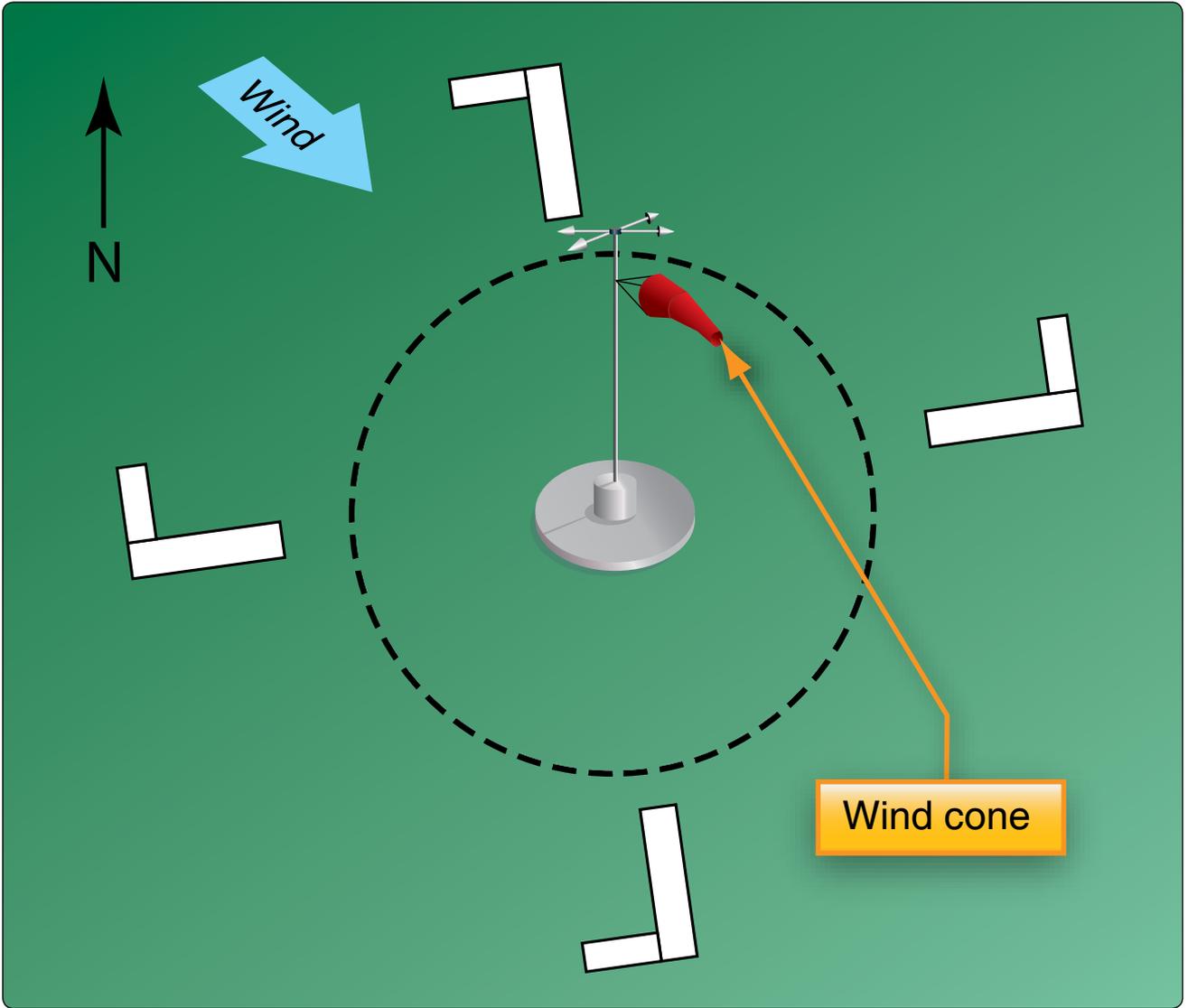


Figure 54. Traffic Pattern Indicator.

**DALLAS LOVE FLD** (DAL) 5 NW UTC-6(-5DT) N32°50.83' W96°51.11'

**DALLAS-FT. WORTH**

487 B S4 FUEL 100LL, JET A OX 1, 2, 3, 4 LRA Class I, ARFF Index B

**COPTER**

NOTAM FILE DAL

H-6H, L-17C, A

RWY 13R-31L: H8800X150 (CONC-GRVD) S-100, D-200, 2S-175, 2D-350 HIRL CL

IAP, AD

RWY 13R: PAPI(P4R)—GA 3.0° TCH 52'. Thld dspcd 490'. Rgt tfc.

RWY 31L: MALSR. TDZL. Building.

RWY 13L-31R: H7752X150 (CONC-GRVD) S-100, D-200, 2S-175, 2D-350 HIRL CL

RWY 13L: MALSR. TDZL.

RWY 31R: MALSR. PAPI(P4L)—GA 3.0° TCH 49'. Pole. Rgt tfc.

RWY 18-36: H6147X150 (ASPH) S-50, D-74, 2S-93, 2D-138 HIRL

RWY 18: VASI(V4L)—GA 3.0° TCH 52'. Tree. Rgt tfc.

RWY 36: VASI(V4L)—GA 3.0° TCH 52'. REIL. Rgt tfc.

**RUNWAY DECLARED DISTANCE INFORMATION**

RWY 13L: TORA-7752 TODA-7752 ASDA-7752 LDA-7752

RWY 13R: TORA-8800 TODA-8800 ASDA-8800 LDA-8310

RWY 18: TORA-6147 TODA-6147 ASDA-6147 LDA-6147

RWY 31L: TORA-8800 TODA-8800 ASDA-8000 LDA-8000

RWY 31R: TORA-7752 TODA-7752 ASDA-7752 LDA-7752

RWY 36: TORA-6147 TODA-6147 ASDA-6147 LDA-6147

**AIRPORT REMARKS:** Attended continuously. Birds on and in/ovf arpt. Ldg

Rwy 18 & takeoff Rwy 36 not authorized to acft over 60,000 lbs gross weight unless crosswind NW-SE rwys exceed acft safe operating capability. Rwy 13R, 13L, 31L and Rwy 31R runway visual range touchdown avbl. Noise sensitive areas all quadrants, noise abatement procedures in effect for fixed and rotary wing tfc, for information call arpt ops 214-670-6610. Private pilot certificate or better required to takeoff or land. No student solo flights permitted. Twy K clsd thru traffic. Twy L clsd indef. PAPI Rwy 31R unusable byd 7° either side of centerline. Flight Notification Service (ADCUS) available.

**WEATHER DATA SOURCES:** ASOS (214) 904-0251.

**COMMUNICATIONS:** D-ATIS 120.15 (214) 358-5355 UNICOM 122.95

DALLAS RCO 122.3 (FORT WORTH RADIO)

Ⓡ RGNL APP CON 125.2 (South) 124.3 (North)

LOVE TOWER 123.7 118.7 GND CON 121.75 CLNC DEL 127.9

Ⓡ RGNL DEP CON 124.3 (North Props) 125.2 (South Props) 125.125 118.55 (Turbojets)

**AIRSPACE:** CLASS B See VFR Terminal Area Chart.

**RADIO AIDS TO NAVIGATION:** NOTAM FILE FTW.

COWBOY (H) VORW/DME 116.2 CVE Chan 109 N32°53.42' W96°54.24' 128° 3.7 NM to fld. 450/6E.

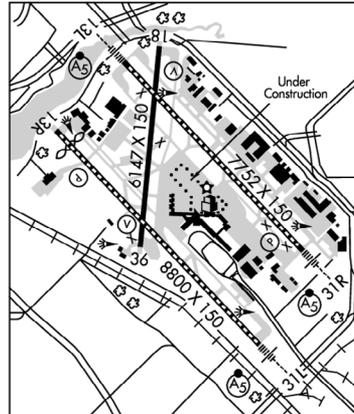
ILS/DME 111.5 I-DAL Chan 52 Rwy 13L. Class IT. LOC unusable byd 20° right of centerline.

ILS/DME 111.1 I-DPX Chan 48 Rwy 13R. Class IT. LOC unusable beyond 25° right side of course.

ILS/DME 111.1 I-LVF Chan 48 Rwy 31L. Class IB. LOC unusable byd 20° right of course.

ILS/DME 111.5 I-OVW Chan 52 Rwy 31R. Class IE. Glide slope unusable for coupled apchs blo

636' MSL.



**DALLAS EXECUTIVE** (RBD) 6 SW UTC-6(-5DT) N32°40.85' W96°52.09'

**DALLAS-FT. WORTH**

660 B S4 FUEL 100LL, JET A OX 1, 2 NOTAM FILE RBD

**COPTER**

RWY 13-31: H6451X150 (ASPH-CONC) S-35, D-60, 2D-110 MIRL

H-6H, L-17C, A

RWY 13: REIL. VASI(V4L)—GA 3.0° TCH 50'. Trees.

IAP, AD

RWY 31: LDIN. VASI(V4L)—GA 3.0° TCH 47'. Road.

RWY 17-35: H3800X150 (ASPH-CONC) S-35, D-60, 2D-110 MIRL

RWY 17: REIL. PAPI(P4R)—GA 3.0° TCH 43'. Tree.

RWY 35: REIL. Tree.

**AIRPORT REMARKS:** Attended 1400-2300Z±. 24 hr FBO. Fuel avbl 24 hr with major credit card. Birds on and in/ovf arpt. Asphalt at rwy intersection. When twr closed ACTIVATE LDIN Rwy 31 and VASI Rwy 13 and Rwy 31-CTAF. PAPI Rwy 17 opr continuously.

**WEATHER DATA SOURCES:** ASOS (214) 330-5317. LAWRS.

**COMMUNICATIONS:** CTAF 127.25 ATIS 126.35 UNICOM 122.95

Ⓡ RGNL APP/DEP CON 125.2

EXECUTIVE TOWER 127.25 (1300-0300Z±) GND CON 119.475

CLNC DEL 118.625

**AIRSPACE:** CLASS D svc 1300-0300Z± other times CLASS G.

**RADIO AIDS TO NAVIGATION:** NOTAM FILE FTW.

MAVERICK (H) VORW/DME 113.1 TTT Chan 78 N32°52.15'

W97°02.43' 136° 14.3 NM to fld. 540/6E.

ILS 108.5 I-RBD Rwy 31. Class IE. Unmonitored when tower closed.

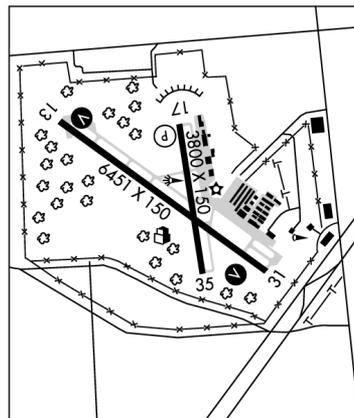
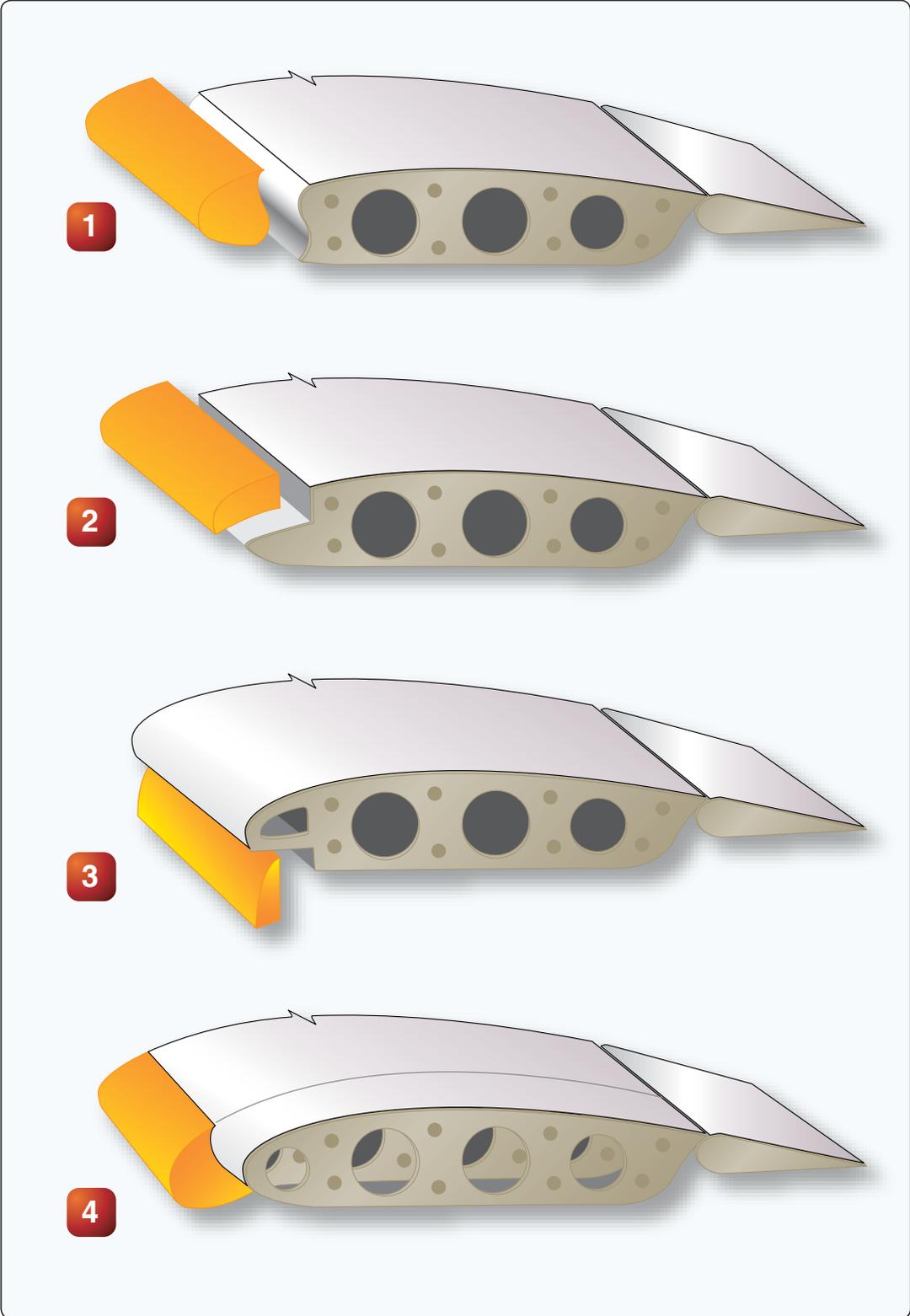


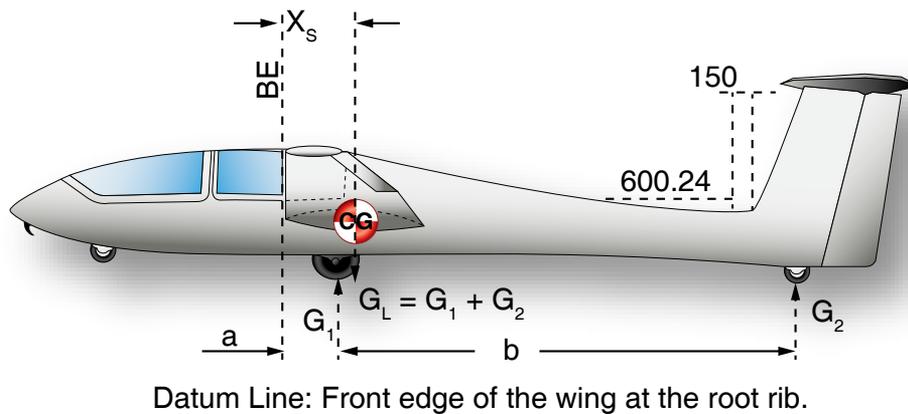
Figure 55. Chart Supplement U.S.



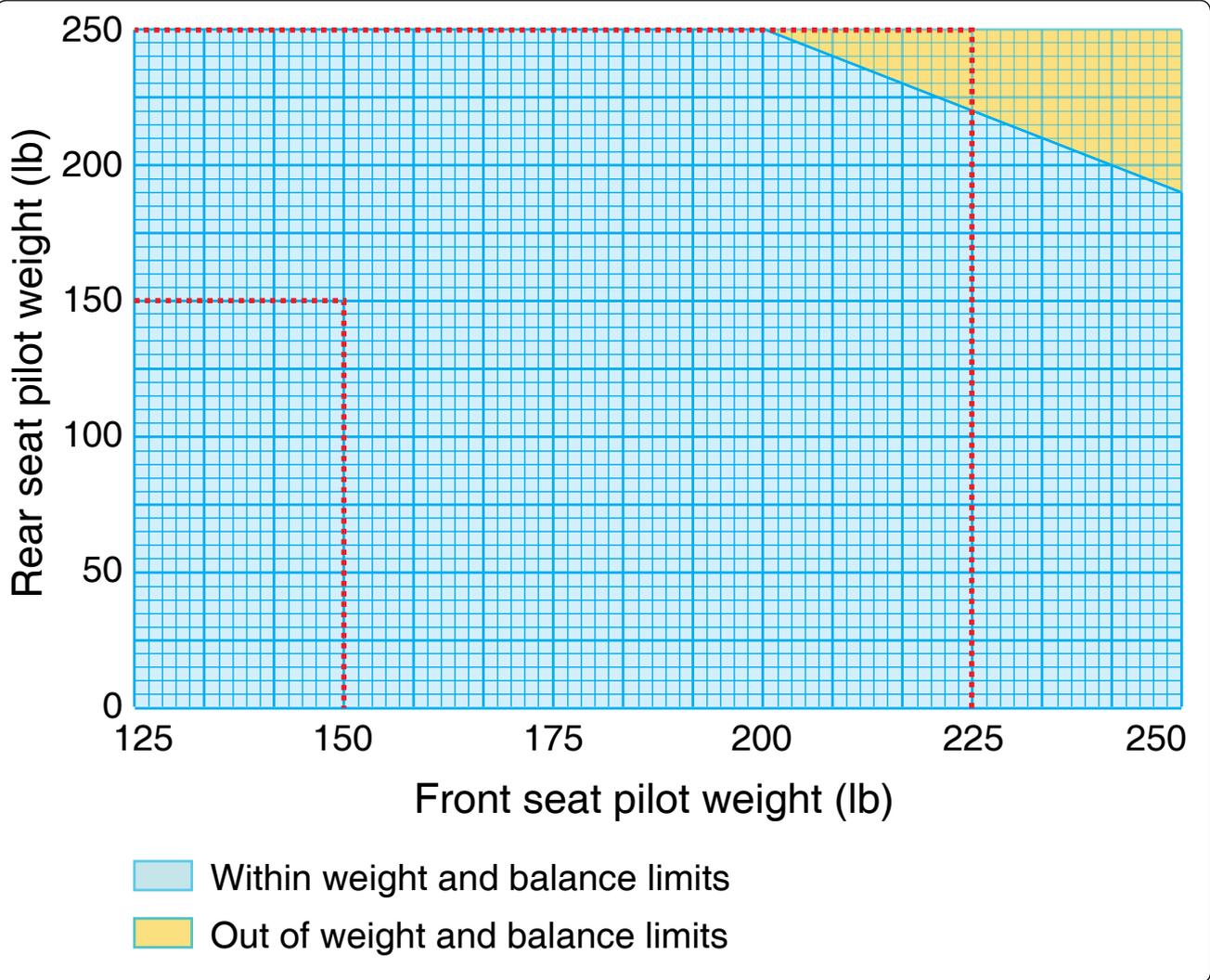
**Figure 56.** Leading Edge High Lift Devices.

Empty Weight		Range of CG behind Datum			
		Forward		Aft	
kg	lbs	mm	inches	mm	inches
360	794	758	29.84	773	30.43
365	805	748	29.45	769	30.28
370	816	739	29.09	765	30.12
375	827	729	28.70	761	29.96
380	838	720	28.35	757	29.80
385	849	711	27.99	753	29.65
390	860	703	27.68	749	29.49
395	871	694	27.32	745	29.33
400	882	686	27.01	742	29.21

The weight of the non-lifting parts is the sum of the fuselage, tailplane, and maximum load in the fuselage and must not exceed 400 kgs (882 lbs). Otherwise, the maximum load permitted in the fuselage must be correspondingly decreased.



**Figure 57.** Glider Center of Gravity.



**Figure 58.** Weight and Balance Envelope.

