University of South Florida Scientific Diving Program

SCUBA EXAM

(based on information in the NOAA Diving Manual and regulations from the USF Scientific Diving Manual)

Multiple Choice – Use the answer sheet to complete.

1. When should you NOT make a dive?
   a. When you don't feel emotionally or physically fit.
   b. When the visibility is poor.
   c. When it is raining
   d. All of the above

2. A good dive buddy for "scientific diving" should be:
   a. a certified for scientific diving
   b. a competent diver
   c. familiar with your dive gear
   d. all of the above

3. A dive plan should be based on:
   a. high winds and currents
   b. ability of the weakest diver
   c. ability of the strongest diver
   d. depth and visibility

4. AAUS Scientific diver certification differs from a recreational diving certification because:
   a. medical clearance is required
   b. it requires 100 hours of training and 12 dives beyond basic scuba training
   c. it has requirements to remain active
   d. all of the above

5. What causes more drowning in diving than anything else?
   a. overestimating one's ability and exhaustion
   b. sharks
   c. poor diving conditions
   d. faulty equipment

6. What is the best procedure for diving in a strange area?
   a. Get up-to-date navigational charts for the area.
   b. Check the tides and currents in the area and seek information from local divers and dive shops.
   c. Choose a competent and knowledgeable diving partner.
   d. All of the above.

7. Tides are of importance to the diver because they:
   a. produce currents
   b. affect visibility
   c. can have a significant effect on the depth of a dive site.
   d. both a and c

8. If possible, when diving from a boat, begin the dive:
   a. Against the current.
   b. With the current.
   c. Perpendicular to the current.
   d. At the bow of the boat.

9. If you become separated from your buddy during the dive, you should:
   a. Immediately begin a search on the bottom to locate him.
   b. Pause to look around, then ascend and wait for him on the surface.
   c. Stay down as long as you can and look for him.
   d. Revert to a "one diver" dive plan.

10. In an emergency ascent, a diver should:
    a. Remove the fins.
    b. Make sure the mask is securely in place.
    c. Exhale during the ascent.
    d. Remove all heavy gear, such as tanks, knives, etc.

11. The buoyancy compensator can be used for:
    a. adjusting buoyancy underwater
    b. establishing positive buoyancy on the surface to conserve energy
    c. controlling descents and ascents
    d. all of the above

12. A properly weighted diver:
    a. adds weight until they sink
    b. is neutrally buoyant at 15 fsw with an empty (500 psi) tank
    c. puts at least 25lbs on a weight belt
    d. all of the above

13. A sharp pain around or near the eyes is probably a symptom of:
    a. nitrogen narcosis
    b. ear squeeze
    c. eye squeeze
    d. sinus squeeze

14. Squeezes can occur:
    a. when free diving
    b. when SCUBA diving
    c. in air spaces of the body
    d. all of the above

15. Blood in the mask at the end of a skin dive could be a sign of:
    a. ear squeeze
    b. mask squeeze
    c. sinus squeeze
    d. gut squeeze

16. A diver should begin to equalize the pressure in the ears when:
    a. beginning to descend
    b. the ears begin to hurt
    c. reaching a depth of about 30 feet
    d. the eustachian tube opens

17. If descending and pain is felt in the ears, the diver should:
    a. ascend until the pain stops and attempt clearing again
    b. ascend to the surface and stop diving for that day
    c. stop descending until the ears stop hurting
    d. pinch the nose and blow as hard as you can

18. The buoyancy created by a wet suit:
    a. will compensate automatically at all depths
    b. will increase with depth
    c. will decrease with depth
    d. will neutralize with depth

19. Excessive or uncontrolled hyperventilation is dangerous because it can lead to:
    a. air embolism.
    b. nitrogen narcosis.
    c. unconsciousness.
    d. emphysema.

20. The greatest rate of pressure/volume change occurs between the depths of:
    a. 0-33 feet
    b. 33-66 feet
    c. 66-99 feet
    d. the rate is the same for each range

21. A thermocline is:
    a. cold water
    b. a submersible temperature gauge
    c. the interface between two layers of water of different temperatures
    d. a gradual change in water temperature

22. When caught in a strong current, a diver should:
    a. swim as hard as you can into the current
    b. swim with the current and surface when low on air.
    c. swim along the bottom and set your heading for shore or the boat
    d. stay on the bottom and wait for the current to subside

23. Hyperthermia can progress from:
    a. heat stroke to heat exhaustion to heat cramps
    b. warm to toasty
    c. shivering to shakes to coma
    d. heat cramps to heat exhaustion to heat stroke

24. An immediate mild prickly or stinging sensation while diving would indicate contact with:
    a. a jelly fish
    b. a sea urchin
    c. barnacles
    d. an octopus

25. Most cylinder explosions occur _____, requiring _____ to safeguard the person with the high pressure cylinder.
    a. randomly, good luck
    b. during use, a cautious attitude
    c. during filling, a visual inspection
    d. when subjected to fire, no smoking

26. High pressure scuba cylinders are considered hazardous materials because:
    a. they contain oxygen
    b. they react with seawater
    c. they contain 1 million pounds of kinetic energy.
    d. all of the above

27. If the ambient pressure on a gas filled balloon is doubled, the gas inside the balloon will _____ in density and _____ in volume:
    a. double: remain constant
    b. decrease by half: double
    c. double: increase by half
    d. double: decrease by half

28. Oxygen toxicity can become problematic when breathing compressed air above _____ partial pressure which occurs at a depth of _____ fsw.
    a. 2.0, 297 fsw
    b. 1.0, 33fsw
    c. 3.7, 100 fsw
    d. 1.6, 218 fsw

29. When descending using air as the breathing medium, most divers begin to feel the effects of nitrogen narcosis when they reach a depth of:
    a. 40 – 50 feet
    b. 60 – 80 feet
    c. 80 – 100 feet
    d. 100 - 120 feet

30. What is the greatest hazard of nitrogen narcosis?
    a. It keeps the diver from caring about personal safety.
    b. It decreases the ability to work.
    c. It may cause changes in the mood of the diver.
    d. It slows down the diver's reflexes.

31. Treatment for nitrogen narcosis is:
    a. immediate recompression
    b. ascent to shallower depths
    c. CPR
    d. give oxygen

32. Breath holding on ascent can cause:
    a. air embolism, decompression sickness, pneumothorax and reverse block
    b. the bends, rapture of the deep, subcutaneous emphysema and mediastinal emphysema
    c. air embolism, pneumothorax, mediastinal emphysema and subcutaneous emphysema
    d. air embolism, the bends, pneumothorax and mediastinal emphysema

33. In general terms, air embolism is a condition brought on by:
    a. increased carbon dioxide tension in the chest
    b. excess air pressure within the lungs
    c. a decrease in the respiratory rate
    d. an increase in the respiratory rate

34. The cause of mediastinal emphysema and Arterial Gas Embolism (AGE) is:
    a. nitrogen concentration in the blood
    b. oxygen concentration in the blood
    c. expanding air (gas)
    d. all of the above

35. If making a free ascent with an inflated vest, the danger of _____ increases:
    a. suit squeeze
    b. thoracic squeeze
    c. mask squeeze
    d. over expansion injury

36. To prevent lung rupture, a SCUBA diver must:
    a. surface slower than the smallest bubbles
    b. never hold the breath during ascent
    c. exhale continuously while ascending
    d. never exhale while descending

37. If your buddy becomes unconsciousness about one minute after surfacing, what should you suspect:
    a. air embolism
    b. pneumothorax
    c. decompression sickness
    d. nitrogen narcosis

38. The most likely cause for a pneumothorax, mediastinal emphysema, and/or subcutaneous emphysema by a SCUBA divers is:
    a. staying down too long
    b. descending too rapidly without equalizing
    c. ascending while holding their breath
    d. diving too deep

39. The immediate first aid treatment for decompression illness and/or near drowning is:
    a. drink fluids and get rest
    b. 100% Oxygen
    c. give 2 aspirin
    d. get warm and dry

40. Gas in the tissues of the middle chest is called:
    a. Arterial Gas Embolism (AGE)
    b. subcutaneous emphysema
    c. icthyotoxism
    d. mediastinal emphysema

41. Assume you would breathe 1 cubic foot of air per minute at the surface. How long can you breathe from an 80 cubic foot SCUBA tank at 66 feet of water? (Assume the rate of work and energy expended to be the same at the surface and underwater.)
    a. 80 minutes
    b. 53.4 minutes
    c. 22.2 minutes
    d. 26.7 minutes

42. Drawing the index finger across the throat in a knife-like manner is the hand signal for:
    a. "I'm going to cut your throat."
    b. "I'm dead."
    c. "I'm out of air."
    d. "I'm going to do a free ascent."

43. When using SCUBA equipment, if you must surface without breathing from a regulator, you should:
    a. exhale continuously
    b. watch your bubbles
    c. hold your breath
    d. exhale fully, then ascend

44. Decompression sickness is caused by:
    a. diving too deep too long
    b. diving too little too late
    c. extremely low visibility
    d. breath-holding

45. As long as a diver stays above ___ feet, the concern for decompression sickness is minimal.
    a. 30 feet
    b. 50 feet
    c. 80 feet
    d. 100 feet

46. Symptoms of decompression sickness may include:
    a. muscle and joint pain
    b. dizziness and vertigo
    c. loss of feeling in some part of the body
    d. any of the above

47. As you ascend to the surface, you should look:
    a. at your buddy
    b. for sharks
    c. up and around (360 degrees)
    d. at the smallest bubbles

48. If you find yourself exhausted and breathing hard while on the bottom, you should:
    a. swim to the surface
    b. share your buddy's air
    c. slow down, gain control of your breathing, relax and hold onto your buddy or a stationary object
    d. hold your breath to let the carbon dioxide build up

49. The first piece of equipment to be ditched in an emergency is the:
    a. tank
    b. weight
    c. BC
    d. mask

50. Rapid breathing, wide eyes, and quick, jerky movements, when observed in a diver underwater, may be signs that a diver is:
    a. suffering from the bends
    b. in repetitive dive shock
    c. developing nitrogen narcosis
    d. frightened and/or panicked

51. As the ambient pressure increases, the amount of nitrogen that will dissolve in a liquid is:
    a. two times the weight of the gas.
    b. equal to the weight of the liquid at a given pressure.
    c. directly proportional to the partial pressure of that gas.
    d. indirectly proportional to the increase in total volume.

52 A diver's ascent rate should not exceed:

    a. 20 feet per minute
    b. 30 feet per minute
    c. 60 feet per minute
    d. 90 feet per minute

53. During a dive, the body has absorbed more than the allowable amount of nitrogen and after surfacing, the excess nitrogen forms bubbles in the tissues. This describes:
    a. pneumothorax
    b. air embolism
    c. nitrogen narcosis
    d. decompression sickness

54. What does recompression in a hyperbaric chamber do for someone suffering from decompression sickness?
    a. It reduces the size of the breathing gas embolus.
    b. It forces oxygen back into solution.
    c. It eliminates the narcotic effect of nitrogen.
    d. It forces nitrogen back into solution.

55. Upon reaching an unconscious non-breathing diver at the surface, your first action should be:
    a. signal for assistance.
    b. to get the diver to the boat or shore.
    c. begin resuscitation.
    d. ditch gear and stabilize victim.

56. At a depth of 99 fsw, the absolute pressure is:
    a. 29.4 psi
    b. 44.1 psi
    c. 58.8 psi
    d. 73.5 psi

57. Dive tables and computers:
    a. are based on mathematical models of gas absorption.
    b. should never be used to their limits
    c. if used conservatively, can reduce the risk of decompression sickness
    d. all of the above

58. Safety stops:
    a. should be used to reduce the risk of decompression sickness.
    b. help eliminate silent bubbles.
    c. prevent air embolism.
    d. increase nitrogen absorption.

59. Objects appear bluish below 60 feet due to light
    a. refraction.
    b. reflection.
    c. absorption.
    d. diffusion.

60. Objects seen underwater through a face mask appear to be:
    a. larger and farther away.
    b. smaller and closer.
    c. closer and out of focus.
    d. larger and closer.

61. Sound travels _____ in water than it does in air.
    a. faster
    b. slower
    c. the same
    d. none of the above

62. When a submerged body neither rises nor sinks, it has:
    a. negative buoyancy.
    b. neutral buoyancy.
    c. positive buoyancy.
    d. none of the above.

63. A "No-Decompression" dive means:
    a. a diver can safely ascend to the surface without a required decompression stop.
    b. a diver has no nitrogen remaining in their tissues.
    c. no nitrogen was absorbed during the dive.
    d. a and b only.

64. The time of a tide cycle producing the least currents is:
    a. half falling
    b. half rising
    c. slack
    d. all of the above

65. Which of the following variables can affect gas absorption, increasing the risk for decompression sickness:
    a. fatigue, dehydration, age, multiple repetitive dives, cold water, strenuous exercise
    b. fatigue, dehydration, sex, multiple repetitive dives, warm water, lack of exercise
    c. fatigue, dehydration, age, single dives
    d. none of the above

66. Before being allowed to dive under the auspices of the USF Scientific Diving Program the diver must:
    a. have completed all the necessary requirements as outlined by the USF Diving Safety Office and obtained clearance to dive from the USF Scientific Diving Office
    b. have had a dive plan submitted for the planned dives with each participating diver being listed on the plan
    c. have had the dive plan reviewed for content, diving profiles, skills necessary and personnel with a letter of approval being sent to the Lead Diver who submitted the Dive Plan by the USF Scientific Diving Office
    d. All of the above

67. A diver enters the USF Scientific Diving Program as a Diver-in-training (DIT) and remains a DIT until all qualifications are met. All the items listed below are required except:
    a. 12 logged research or proficiency dives while a DIT
    b. Automatic External Defibrillator (AED) Certification
    c. Oxygen Provider Certification
    d. First Aid and Cardio Pulmonary Resuscitation (CPR) Certification

68. When diving under the auspices of USF in most cases, dive plans must be submitted at least _____ day(s) prior to the expedition and post project reports must be submitted no later than _____ day(s) after the expedition unless prior arrangements are made.
    a. 10,5
    b. 1,1
    c. 10,10
    d. 1,5

69. All USF scientific divers are required to submit and electronic (Excel) monthly diving log to the Diving Safety Office.
    a. True
    b. False

70. It is the responsibility of each scientific diver to remain current with all required qualifications. All expiration dates will be outlined in a yearly audit sent out by the diving office.
    a. True
    b. False

71. Dive plans should include all pertinent information regarding the diving operation as well as:
    a. Emergency contact information for each diver
    b. Depths, Times, surface intervals and gas mixtures
    c. Emergency management contact information
    d. All of the above

72. New scientific divers entering the program will remain a diver-in-training until _____research dives have been completed. Each diver-in-training will have a _____maximum depth rating.
    a. 6, 60'
    b. 6, 100'
    c. 12, 130'
    d. 12, 60'

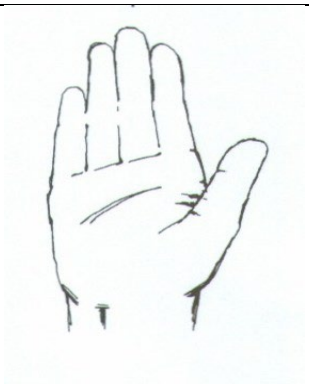
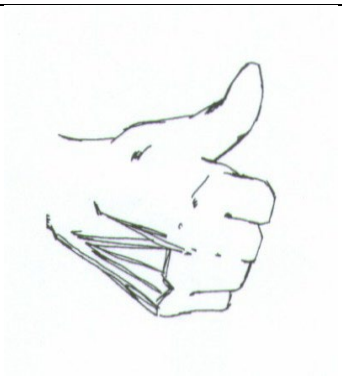
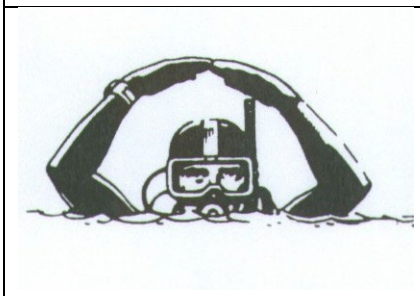
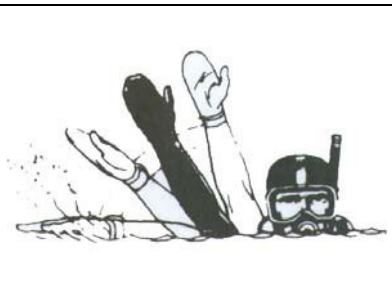
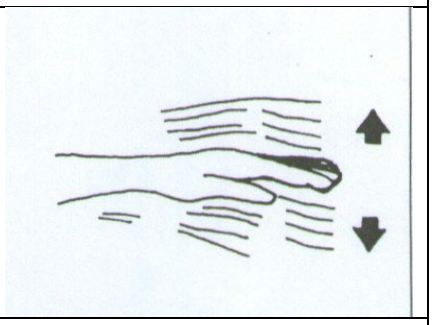
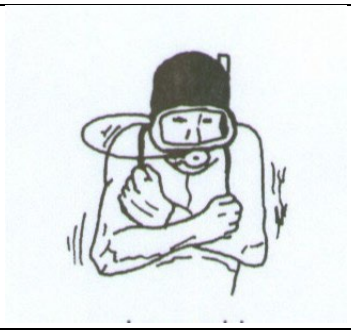
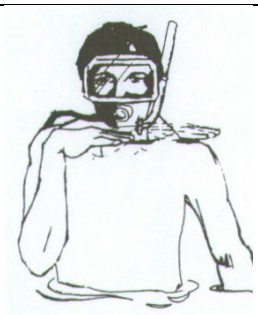
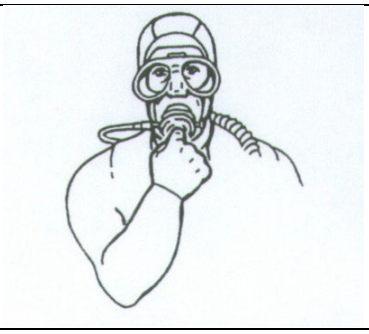
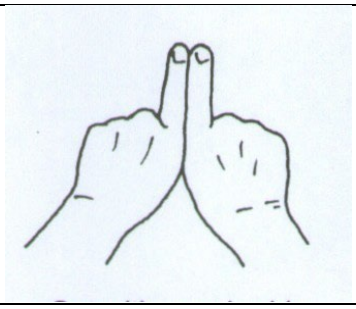
73. In order to remain a USF scientific diver, one must make at least _____ dives in any 12 month period.
    a. 6
    b. 3 per month
    c. 12
    d. 24

74. In order to advance to the next deeper depth certification, divers must be:
    a. Certified as an Advanced diver
    b. Qualified as a full status scientific diver
    c. Have logged at least 4 dives in that depth range with another diver certified at that specific depth rating.
    d. Both B and C.

75. The Lead Diver must be a fully qualified scientific diver as well as:
    a. Have experience leading and organizing dives
    b. Be proficient with the use of dive tables and dive planning
    c. Any scientific diver is allowed to act as the Lead Diver
    d. Both A and B

Identify the following hand signals

(insert the meaning of the hand signal below the illustration)

DIVE TABLE PROBLEMS (25 points)

List dive profiles including group designations using the NOAA Tables.

1. A repetitive dive is made to a depth of 67' for an estimated bottom time of 23 minutes. The previous dive was to a depth of 84' for 17 minutes. The time between dives (SI) was 4 hours and 10 minutes (4:10).

a. First dive group letter _____
b. Group letter after surface interval _____
c. Repetitive No decompression Dive Time for second dive _____
d. Residual Nitrogen Time from first dive _____
e. Equivalent Single Dive Time for second dive _____
f. Repetitive group letter _____

2. As an H diver you wish to return to find your camera, left on a previous dive. Your camera is in 70' of water and it will take you 15 minutes to find it. A storm is developing and you must dive immediately. What would you do? List your options.

3. Your first dive is to 90' for 20 minutes. How long must you stay on the surface before you could make a no decompression dive to 80' for 15 minutes?

4. Two divers make a dive to 97 feet for 15 minutes. After spending 2 hours, 45 minutes on the surface, they make another dive to 37 feet for 55 minutes.

a. First dive group letter _____
b. Group letter after surface interval _____
c. Repetitive No decompression Dive Time for second dive _____
d. Residual Nitrogen Time from first dive _____
e. Equivalent Single Dive Time for second dive _____
f. Repetitive group after second dive _____
g. Is it possible to make a third dive not requiring decompression? _____

5. A dive is made to 60 ft for 37 minutes. The divers get out of the water and change tanks. They enter the water for a second dive after a surface interval of 7 minutes. The second dive is to 60 ft for 30 minutes.

a. What is the bottom time for this dive profile? _____
b. Will decompression be necessary? _____

USF SCIENTIFIC DIVER EXAM ANSWER SHEET

Name: _____ Date: _____

Instructions: Fill in the ovals completely. If you change your mind, erase your answer completely.

	T A	F B	C	D
1.	O	O	O	O
2.	O	O	O	O
3.	O	O	O	O
4.	O	O	O	O
5.	O	O	O	O
6.	O	O	O	O
7.	O	O	O	O
8.	O	O	O	O
9.	O	O	O	O
10.	O	O	O	O
11.	O	O	O	O
12.	O	O	O	O
13.	O	O	O	O
14.	O	O	O	O
15.	O	O	O	O
16.	O	O	O	O
17.	O	O	O	O
18.	O	O	O	O
19.	O	O	O	O
20.	O	O	O	O
21.	O	O	O	O
22.	O	O	O	O
23.	O	O	O	O
24.	O	O	O	O
25.	O	O	O	O
26.	O	O	O	O
27.	O	O	O	O
28.	O	O	O	O
29.	O	O	O	O
30.	O	O	O	O
31.	O	O	O	O
32.	O	O	O	O
33.	O	O	O	O
34.	O	O	O	O

	T A	F B	C	D
35.	O	O	O	O
36.	O	O	O	O
37.	O	O	O	O
38.	O	O	O	O
39.	O	O	O	O
40.	O	O	O	O
41.	O	O	O	O
42.	O	O	O	O
43.	O	O	O	O
44.	O	O	O	O
45.	O	O	O	O
46.	O	O	O	O
47.	O	O	O	O
48.	O	O	O	O
49.	O	O	O	O
50.	O	O	O	O
51.	O	O	O	O
52.	O	O	O	O
53.	O	O	O	O
54.	O	O	O	O
55.	O	O	O	O
56.	O	O	O	O
57.	O	O	O	O
58.	O	O	O	O
59.	O	O	O	O
60.	O	O	O	O
61.	O	O	O	O
62.	O	O	O	O
63.	O	O	O	O
64.	O	O	O	O
65.	O	O	O	O
66.	O	O	O	O
67.	O	O	O	O
68.	O	O	O	O

	T A	F B	C	D
69.	O	O	O	O
70.	O	O	O	O
71.	O	O	O	O
72.	O	O	O	O
73.	O	O	O	O
74.	O	O	O	O
75.	O	O	O	O

HAND SIGNALS

1._____

2._____

3._____

4._____

5._____

6._____

7._____

8._____

9._____

10._____

11._____

12._____

DIVE TABLES - State tables used if other than the NOAA Air Tables.

1. (a) _____ (b) _____ (c) _____ (d) _____ (e) _____ (f) _____

2. _____

3. _____

4. (a)_____ (b)_____ (c)_____ (d)_____ (e)_____ (f)_____(g) _____

5. (a)_____ (b)_____

NOAA NO-DECOMPRESSION TABLE
MULTIPLE AIR DIVES

WARNING: EVEN STRICT COMPLIANCE WITH THESE CHARTS WILL NOT GUARANTEE AVOIDANCE OF DECOMPRESSION SICKNESS. CONSERVATIVE USAGE IS STRONGLY RECOMMENDED.

RNT RESIDUAL NITROGEN TIME
+ ABT ACTUAL BOTTOM TIME
ESDT EQUIVALENT SINGLE DIVE TIME

(USE ESDT TO DETERMINE END-OF-DIVE LETTER GROUP)

THESE CHARTS ARE BASED ON THE U.S. NAVY AIR DECOMPRESSION TABLES 7, 8, & 9 REV. 6

CHART 1 — DIVE TIMES WITH END-OF-DIVE GROUP LETTER

(00) MAXIMUM NO-STOP TIME

DIVE TIME REQUIRING DECOMPRESSION STOP
MINUTES REQUIRED AT 20 fsw (6.1 msw)
00
00

DEPTH msw	DEPTH fsw	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
12.2	40	12	20	27	36	44	53	63	73	84	95	108	121	135	151	(163)	180 14
13.7	45	11	17	24	31	39	46	55	63	72	82	92	102	114	(125)	130 2	150 25
15.2	50	9	15	21	28	34	41	48	56	63	71	80	89	(92)	100 4	110 8	130 34
16.8	55	8	14	19	25	31	37	43	50	56	63	71	(74)	80 4	90 10	100 17	
18.3	60	7	12	17	22	28	33	39	45	51	57	(60)	65 2		80 14	90 23	
21.3	70	6	10	14	19	23	28	32	37	42	47	(48)	55 9	60 14	70 24		
24.4	80	5	9	12	16	20	24	28	32	36	(39)	45 10		50 17	60 30		
27.4	90	4	7	11	14	17	21	24	28	(30)	35 4		40 14	45 23			
30.5	100	4	6	9	12	15	18	21	(25)		30 3		35 15	40 26			
33.5	110	3	6	8	11	14	16	19	(20)	25 3		30 14		35 27			
36.6	120	3	5	7	10	12	(15)		20 2		25 8		30 24				
39.6	130	2	4	6	9	(10)		15 1		20 4		25 17					

CHART 3 — REPETITIVE DIVE TIME

fsw	40	45	50	55	60	70	80	90	100	110	120	130	GROUP LETTER
msw	12.2	13.7	15.2	16.8	18.3	21.3	24.4	27.4	30.5	33.5	36.6	39.6	
REPETITIVE DIVES SHALLOWER THAN 40 FSW (12.2 MSW) ARE TO USE THE 40 FSW (12.2 MSW) REPETITIVE SCHEDULE	13 150	12 113	11 81	10 64	9 51	8 40	7 32	6 24	5 20	5 15	5 10	4 6	A
	21 142	18 107	17 75	15 59	14 46	12 36	10 29	9 21	8 17	8 12	7 8	6 4	B
	29 134	25 100	23 69	20 54	19 41	16 32	14 25	12 18	11 14	10 10	9 6	9 1	C
	37 126	32 93	29 63	26 48	24 36	20 28	18 21	16 14	14 11	13 7	12 3		D
	45 118	40 85	35 57	32 42	29 31	25 23	22 17	19 11	17 8	16 4	14 1		E
	55 108	48 77	42 50	38 36	35 25	29 19	25 14	22 8	20 5	18 2			F
	64 99	56 69	49 43	44 30	40 20	34 14	29 10	26 4	23 2				G
	74 89	64 61	57 35	51 23	46 14	39 9	33 6	29 1					H
	85 78	73 52	65 27	58 16	52 8	44 4	38 1						I
	97 66	83 42	73 19	65 9	58 2								J
	109 54	93 32	81 11	72 2									K
	122 41	104 21	90 2										L
	136 27	115 10											M
	152 11												N
													O
													Z

00
00 RED NUMBERS (TOP) ARE RESIDUAL NITROGEN TIMES (RNT)
BLACK NUMBERS (BOTTOM) ARE ADJUSTED NO-STOP REPETITIVE DIVE TIMES
ACTUAL DIVE TIME SHOULD NOT EXCEED THIS NUMBER

CHART 2 — SURFACE INTERVAL TIME

Time Ranges in hours: minutes
Enter Chart 2 from the top,
move down to find surface interval time,
move left to find the next repetitive group letter.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
2:20 :10	3:36 1:17	4:31 2:12	5:23 3:04	6:15 3:56	7:08 4:49	8:00 5:41	8:52 6:33	9:44 7:25	10:36 8:17	11:29 9:10	12:21 10:02	13:13 10:54	14:05 11:46	14:58 12:38	15:50 13:31
	1:16 :10	2:11 :56	3:03 1:48	3:55 2:40	4:48 3:32	5:40 4:24	6:32 5:17	7:24 6:09	8:16 7:01	9:09 7:53	10:01 8:45	10:53 9:38	11:45 10:30	12:37 11:22	13:30 12:14
		:56 :10	1:47 :53	2:39 1:45	3:31 2:38	4:23 3:30	5:16 4:22	6:08 5:14	7:00 6:07	7:52 6:59	8:44 7:51	9:37 8:43	10:29 9:35	11:21 10:28	12:13 11:20
			:52 :10	1:44 :53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59	8:42 7:51	9:34 8:43	10:27 9:35	11:19 10:28
				:52 :10	1:44 :53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59	8:42 7:51	9:34 8:43	10:27 9:35
					:52 :10	1:44 :53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59	8:42 7:51	9:34 8:43
						:52 :10	1:44 :53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59	8:42 7:51
							:52 :10	1:44 :53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59
								:52 :10	1:44 :53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07
									:52 :10	1:44 :53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14
										:52 :10	1:44 :53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22
											:52 :10	1:44 :53	2:37 1:45	3:29 2:38	4:21 3:30
												:52 :10	1:44 :53	2:37 1:45	3:29 2:38
													:52 :10	1:44 :53	2:37 1:45
														:52 :10	1:44 :53
															:52 :10