

The altitude is first rounded up to 8000 feet. For the first dive, a depth correction of +1 fsw must be added to the 82 fsw pneumofathometer reading. The divers' actual depth on the first dive is 83 fsw. Table 9-4 is entered at an actual depth of 85 fsw. The Sea Level Equivalent Depth for the first dive is 120 fsw. The repetitive group designation upon completion of the 50 minute dive is Group Z. This decays to Group N during the 2 hour 10 minute surface interval.

The actual depth of the second dive is 80 fsw (79 fsw plus a 1 fsw pneumofathometer correction factor). Table 9-4 is entered at an actual depth of 80 fsw. The Sea Level Equivalent Depth for the second dive is 110 fsw. The residual nitrogen time for Group N at 110 fsw is 42 minutes. The equivalent single dive time therefore is 60 minutes. The appropriate surface decompression schedule is 110 fsw for 60 minutes. This schedule does not require any water stops. The divers spend 60 minutes on oxygen (2 oxygen periods) at 50 and 40 fsw in the recompression chamber.

Figure 9-19 shows the filled-out Repetitive Dive at Altitude Worksheet for these two dives. Figure 9-20 and Figure 9-21 show the filled-out Diving Charts for the first and second dives.

9-14 ASCENT TO ALTITUDE AFTER DIVING / FLYING AFTER DIVING

Leaving the dive site may require temporary ascent to a higher altitude. For example, divers may drive over a mountain pass at higher altitude or leave the dive site by air. Ascent to altitude after diving increases the risk of decompression sickness because of the additional reduction in atmospheric pressure. The higher the altitude, the greater the risk. (Pressurized commercial airline flights are addressed in Note 3 of Table 9-6).

Table 9-6 gives the surface interval (hours:minutes) required before making a further ascent to altitude. The surface interval depends on the planned increase in altitude and the highest repetitive group designator obtained in the previous 24-hour period. Enter the table with the highest repetitive group designator obtained in the previous 24-hour period. Read the required surface interval from the column for the planned change in altitude.

Example: A diver surfaces from a 60 fsw for 60 minutes no-decompression dive at sea level in Repetitive Group K. After a surface interval of 6 hours 10 minutes, the diver makes a second dive to 30 fsw for 20 minutes placing him in Repetitive Group F. He plans to fly home in a commercial aircraft in which the cabin pressure is controlled at 8000 feet. What is the required interval before flying?

The planned increase in altitude is 8000 feet. Because the diver has made two dives in the previous 24-hour period, you must use the highest repetitive group designator of the two dives. Enter Table 9-6 at 8000 feet and read down to Repetitive Group K. The diver must wait 15 hours 35 minutes after completion of the second dive before flying.

Table 9-6. Required Surface Interval Before Ascent to Altitude After Diving.

Repetitive Group Designator	Increase in Altitude (feet)									
	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000
A	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00
B	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	1:42
C	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	1:48	6:23
D	0:00	0:00	0:00	0:00	0:00	0:00	0:00	1:45	5:24	9:59
E	0:00	0:00	0:00	0:00	0:00	0:00	1:37	4:39	8:18	12:54
F	0:00	0:00	0:00	0:00	0:00	1:32	4:04	7:06	10:45	15:20
G	0:00	0:00	0:00	0:00	1:19	3:38	6:10	9:13	12:52	17:27
H	0:00	0:00	0:00	1:06	3:10	5:29	8:02	11:04	14:43	19:18
I	0:00	0:00	0:56	2:45	4:50	7:09	9:41	12:44	16:22	20:58
J	0:00	0:41	2:25	4:15	6:19	8:39	11:11	14:13	17:52	22:27
K	0:30	2:03	3:47	5:37	7:41	10:00	12:33	15:35	19:14	23:49
L	1:45	3:18	5:02	6:52	8:56	11:15	13:48	16:50	20:29	25:04
M	2:54	4:28	6:12	8:01	10:06	12:25	14:57	18:00	21:38	26:14
N	3:59	5:32	7:16	9:06	11:10	13:29	16:02	19:04	22:43	27:18
O	4:59	6:33	8:17	10:06	12:11	14:30	17:02	20:05	23:43	28:19
Z	5:56	7:29	9:13	11:03	13:07	15:26	17:59	21:01	24:40	29:15

Exceptional Exposure

Wait 48 hours before ascent

NOTE 1 When using [Table 9-6](#), use the highest repetitive group designator obtained in the previous 24-hour period.

NOTE 2 [Table 9-6](#) may only be used when the maximum altitude achieved is 10,000 feet or less. For ascents above 10,000 feet, consult NAVSEA 00C for guidance.

NOTE 3 The cabin pressure in commercial aircraft is maintained at a constant value regardless of the actual altitude of the flight. Though cabin pressure varies somewhat with aircraft type, the nominal value is 8,000 feet. For commercial flights, use a final altitude of 8,000 feet to compute the required surface interval before flying.

NOTE 4 No surface interval is required before taking a commercial flight if the dive site is at 8,000 feet or higher. In this case, flying results in an increase in atmospheric pressure rather than a decrease.

NOTE 5 For ascent to altitude following a non-saturation helium-oxygen dive, wait 12 hours if the dive was a no-decompression dive. Wait 24 hours if the dive was a decompression dive.

Table 9-7. No-Decompression Limits and Repetitive Group Designators for No-Decompression Air Dives.

Depth (fsw)	No-Stop Limit	Repetitive Group Designation															
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
10	Unlimited	57	101	158	245	426	*										
15	Unlimited	36	60	88	121	163	217	297	449	*							
20	Unlimited	26	43	61	82	106	133	165	205	256	330	461	*				
25	595	20	33	47	62	78	97	117	140	166	198	236	285	354	469	595	
30	371	17	27	38	50	62	76	91	107	125	145	167	193	223	260	307	371
35	232	14	23	32	42	52	63	74	87	100	115	131	148	168	190	215	232
40	163	12	20	27	36	44	53	63	73	84	95	108	121	135	151	163	
45	125	11	17	24	31	39	46	55	63	72	82	92	102	114	125		
50	92	9	15	21	28	34	41	48	56	63	71	80	89	92			
55	74	8	14	19	25	31	37	43	50	56	63	71	74				
60	60	7	12	17	22	28	33	39	45	51	57	60					
70	48	6	10	14	19	23	28	32	37	42	47	48					
80	39	5	9	12	16	20	24	28	32	36	39						
90	30	4	7	11	14	17	21	24	28	30							
100	25	4	6	9	12	15	18	21	25								
110	20	3	6	8	11	14	16	19	20								
120	15	3	5	7	10	12	15										
130	10	2	4	6	9	10											
140	10	2	4	6	8	10											
150	5	2	3	5													
160	5		3	5													
170	5			4	5												
180	5			4	5												
190	5			3	5												

* Highest repetitive group that can be achieved at this depth regardless of bottom time.

Table 9-8. Residual Nitrogen Time Table for Repetitive Air Dives.

Locate the diver's repetitive group designation from his previous dive along the diagonal line above the table. Read horizontally to the interval in which the diver's surface interval lies.

Next, read vertically downward to the new repetitive group designation. Continue downward in this same column to the row that represents the depth of the repetitive dive. The time given at the intersection is residual nitrogen time, in minutes, to be applied to the repetitive dive.

* Dives following surface intervals longer than this are not repetitive dives. Use actual bottom times in the Air Decompression Tables to compute decompression for such dives.

																A		:10 2:20 *
																B		:10 1:17 1:16 3:36 *
																C		:10 :56 2:12 :55 2:11 4:31 *
																D		:10 :53 1:48 3:04 :52 1:47 3:03 5:23 *
																E		:10 :53 1:45 2:40 3:56 :52 1:44 2:39 3:55 6:15 *
																F		:10 :53 1:45 2:38 3:32 4:49 :52 1:44 2:37 3:31 4:48 7:08 *
																G		:10 :53 1:45 2:38 3:30 4:24 5:41 :52 1:44 2:37 3:29 4:23 5:40 8:00 *
																H		:10 :53 1:45 2:38 3:30 4:22 5:17 6:33 :52 1:44 2:37 3:29 4:21 5:16 6:32 8:52 *
																I		:10 :53 1:45 2:38 3:30 4:22 5:14 6:09 7:25 :52 1:44 2:37 3:29 4:21 5:13 6:08 7:24 9:44 *
																J		:10 :53 1:45 2:38 3:30 4:22 5:14 6:07 7:01 8:17 :52 1:44 2:37 3:29 4:21 5:13 6:06 7:00 8:16 10:36 *
																K		:10 :53 1:45 2:38 3:30 4:22 5:14 6:07 6:59 7:53 9:10 :52 1:44 2:37 3:29 4:21 5:13 6:06 6:58 7:52 9:09 11:29 *
																L		:10 :53 1:45 2:38 3:30 4:22 5:14 6:07 6:59 7:51 8:45 10:02 :52 1:44 2:37 3:29 4:21 5:13 6:06 6:58 7:50 8:44 10:01 12:21 *
																M		:10 :53 1:45 2:38 3:30 4:22 5:14 6:07 6:59 7:51 8:43 10:01 10:54 :52 1:44 2:37 3:29 4:21 5:13 6:06 6:58 7:50 8:42 9:37 10:53 13:13 *
																N		:10 :53 1:45 2:38 3:30 4:22 5:14 6:07 6:59 7:51 8:43 9:35 10:30 11:46 :52 1:44 2:37 3:29 4:21 5:13 6:06 6:58 7:50 8:42 9:34 10:29 11:45 14:05 *
																O		:10 :53 1:45 2:38 3:30 4:22 5:14 6:07 6:59 7:51 8:43 9:35 10:28 11:22 12:38 :52 1:44 2:37 3:29 4:21 5:13 6:06 6:58 7:50 8:42 9:34 10:27 11:21 12:37 14:58 *
																Z		:10 :53 1:45 2:38 3:30 4:22 5:14 6:07 6:59 7:51 8:43 9:35 10:28 11:20 12:14 13:31 :52 1:44 2:37 3:29 4:21 5:13 6:06 6:58 7:50 8:42 9:34 10:27 11:19 12:13 13:30 15:50 *
Dive Depth	Z	O	N	M	L	K	J	I	H	G	F	E	D	C	B	A		
	Repetitive Group at the End of the Surface Interval																	
10	**	**	**	**	**	**	**	**	**	**	**	**	427	246	159	101	58	
15	**	**	**	**	**	**	**	**	**	450	298	218	164	122	89	61	37	
20	**	**	**	**	**	**	462	331	257	206	166	134	106	83	62	44	27	
25	†	†	470	354	286	237	198	167	141	118	98	79	63	48	34	21		
30	372	308	261	224	194	168	146	126	108	92	77	63	51	39	28	18		
35	245	216	191	169	149	132	116	101	88	75	64	53	43	33	24	15		
40	188	169	152	136	122	109	97	85	74	64	55	45	37	29	21	13		
45	154	140	127	115	104	93	83	73	64	56	48	40	32	25	18	12		
50	131	120	109	99	90	81	73	65	57	49	42	35	29	23	17	11		
55	114	105	96	88	80	72	65	58	51	44	38	32	26	20	15	10		
60	101	93	86	79	72	65	58	52	46	40	35	29	24	19	14	9		
70	83	77	71	65	59	54	49	44	39	34	29	25	20	16	12	8		
80	70	65	60	55	51	46	42	38	33	29	25	22	18	14	10	7		
90	61	57	52	48	44	41	37	33	29	26	22	19	16	12	9	6		
100	54	50	47	43	40	36	33	30	26	23	20	17	14	11	8	5		
110	48	45	42	39	36	33	30	27	24	21	18	16	13	10	8	5		
120	44	41	38	35	32	30	27	24	22	19	17	14	12	9	7	5		
130	40	37	35	32	30	27	25	22	20	18	15	13	11	9	6	4		
140	37	34	32	30	27	25	23	21	19	16	14	12	10	8	6	4		
150	34	32	30	28	26	23	21	19	17	15	13	11	9	8	6	4		
160	32	30	28	26	24	22	20	18	16	14	13	11	9	7	5	4		
170	30	28	26	24	22	21	19	17	15	14	12	10	8	7	5	3		
180	28	26	25	23	21	19	18	16	14	13	11	10	8	6	5	3		
190	26	25	23	22	20	18	17	15	14	12	11	9	8	6	5	3		
Residual Nitrogen Times (Minutes)																		

** Residual Nitrogen Time cannot be determined using this table (see paragraph 9-9.1 subparagraph 8 for instructions).

† Read vertically downward to the 30 fsw repetitive dive depth. Use the corresponding residual nitrogen times to compute the equivalent single dive time. Decompress using the 30 fsw air decompression table.