

# FLIGHT THEORY



**CPL(A) ANNEXES 061**  
Rev. W

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## 061-2305 A

A20

STANDARD TIMES (Corrected to December 1976)

LIST I - PLACES FAST ON G.M.T. (mainly those EAST OF GREENWICH)

The times } given added to G.M.T. to give Standard Time,  
below should be } subtracted from Standard Time to give G.M.T.

	h	m		h	m
Admiralty Islands ... ..	10		Egypt (United Arab Republic) ... ..	02	
Afghanistan ... ..	04	30	Equatorial Guinea, Republic of ... ..	01	
Albania* ... ..	01		Estonia ... ..	03	
Amirante Islands ... ..	04		Ethiopia ... ..	03	
Andaman Islands ... ..	05	30	Fernando Poo† ... ..	01	
Angola ... ..	01		Fiji ... ..	12	
Annobon Island† ... ..	01		Finland ... ..	02	
Arabian Emirates, Federation of ... ..	04		France †* ... ..	01	
Australia			French Territory of the Afars and Issas ... ..	03	
Australian Capital Territory* ... ..	10		Friendly Islands ... ..	13	
New South Wales <sup>1</sup> * ... ..	10		Gabon ... ..	01	
Northern Territory ... ..	09	30	Germany ... ..	01	
Queensland ... ..	10		Gibraltar † ... ..	01	
South Australia* ... ..	09	30	Gilbert Islands ... ..	12	
Tasmania* ... ..	10		Greece* ... ..	02	
Victoria* ... ..	10		Guam ... ..	10	
Western Australia ... ..	08		Holland (The Netherlands) ... ..	01	
Austria ... ..	01		Hong Kong* ... ..	08	
Balearic Islands †* ... ..	01		Hungary ... ..	01	
Bangladesh ... ..	06		India ... ..	05	30
Belgium ... ..	01		Indonesia, Republic of		
Benin (Dahomey) ... ..	01		Bali, Bangka, Billiton, Java,		
Botswana, Republic of ... ..	02		Lombok, Madura, Sumatra ... ..	07	
Brunei ... ..	08		Borneo, Celebes, Flores, Sumba,		
Bulgaria ... ..	02		Sumbawa, Timor ... ..	08	
Burma ... ..	06	30	Aru, Kei, Moluccas, Tanimbar,		
Burundi ... ..	02		Irian Jaya ... ..	09	
Cambodia (Democratic Kampuchea.) ... ..	07		Iran ... ..	03	30
Cameroun Republic ... ..	01		Iraq ... ..	03	
Caroline Islands, east of long. E. 160° ... ..	12		Israel* ... ..	02	
west of long. E. 150° ... ..	10		Italy* ... ..	01	
Truk, Ponape ... ..	11		Japan ... ..	09	
Central African Republic ... ..	01		Jordan* ... ..	02	
Chad ... ..	01		Kamchatka Peninsula ... ..	12	
Chagos Archipelago ... ..	05		Kenya ... ..	03	
Chatham Islands t ... ..	12	45	Korea ... ..	09	
China <sup>2</sup> ... ..	08		Kuril Islands ... ..	11	
Christmas Island, Indian Ocean ... ..	07		Kuwait ... ..	03	
Cocos Keeling Islands ... ..	06	30	Laccadive Islands ... ..	05	30
Comoro Islands ... ..	03		Ladrone Islands ... ..	10	
Congo Republic ... ..	01		Laos ... ..	07	
Corsica †* ... ..	01		Latvia ... ..	03	
Crete* ... ..	02				
Cyprus, North* ... ..	02				
South* ... ..	02				
Czechoslovakia ... ..	01				
Denmark ... ..	01				

\* Summer time may be kept in these countries.

† The legal time may differ from that given here.

<sup>1</sup> Except Broken Hill Area, which keeps 09 h 30°.

<sup>2</sup> AU the coast, but some areas may keep summer time.

**061-2305 B**

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STANDARD TIMES (Corrected to December 1976)

LIST I — (continued)

	h m		h m
Lebanon*	02	Saudi Arabia...	03
Lesotho	02	Scbouten Islands	09
Libya †	02	Seychelles	04
Liechtenstein...	01	Sicily* ... ..	01
Lord Howe Island ...	10	Singapore ... ..	07 30
Luxembourg ...	01	Socotra	03
Macao*	08	Solomon Islands	11
Malagasy Republic ...	03	Somalia Republic	03
Malawi	02	South Africa, Republic of ...	02
Malaysia	07 30	Southern Yemen	03
Malaya	08	South West Africa (Namibia)	02
Sabah, Sarawak ...	05	Spain †*	01
Maldiv Republic ...	01	Spitsbergen (Svalbard)	01
Malta*	09	Sri Lanka	05 30
Manohuria ...	10	Sudan, Republic of ...	02
Mariana Islands	12	Swaziland	02
Marshall Islands <sup>1</sup> ...	04	Sweden	01
Mauritius ... ..	01	Switzerland ...	01
Monaco †	02	Syria* (Syrian Arab Republic)	02
Mozambique	02	Taiwan	08
Namibia (South West Africa) Nauru...	11 30	Tanzania	03
Netherlands, Tbe	01	Thailand	07
New Caledonia	11	Tonga Islands	13
New Hebrides	11	Truk ...	11
New Zealand*	12	Tunisia	01
Nicobar Islands Niger ...	05 30	Turkey*	02
Nigeria, Republic of	01	Tuvalu Islands ... .., ...	12
Norfolk Island	01	Uganda	03
Norway	11 30	Union of Soviet Socialist Republics <sup>2</sup>	
Novaya Zemlya	01	west of long. E. 40°	03
Ocean Island	05	long. E. 40° to E. 52° 30'	04
Okinawa	11 30	long. E. 52° 30' to E. 82° 30' ...	05
Oman ...	09	long. E. 67° 30' to E. 82° 30' ...	06
Pakistan	04	long. E. 82° 30' to E. 97° 30' ...	07
Papua New Guinea ...	05	long. E. 97° 30' to E. 112° 30' ...	08
Pescadores Islands ...	10	long. E. 112° 30' to E. 127° 30'...	09
Philippine Republic...	08	long. E. 127° 30' to E. 142° 30'...	10
Poland	08	long. E. 142° 30' to E. 157° 30'...	11
Reunion	01	long. E. 157° 30' to E. 172° 30'...	12
Rhodesia	04	east of long. E. 172° 30' ...	13
Romania	02	Vietnam, Northern ...	07
Rwanda	02	Southern †	07
Ryukyu Islands	02	Wrangell Island	13
Sakhalin	09	Yugoslavia ...	01
Santa Cruz Islands ...	11	Zaire	
Sardinia*	11	Kinshasa, Mbandaka	01
	01	Orientale, Kivu, Katanga, Kasar	02
		Zambia, Republic of	02

Summer time may be kept in these countries.

†The legal time may differ from that given here.

<sup>1</sup> Except the islands of Kwajalein and Eniwetok which keep a time 24h slow on that of the rest of the islands.

<sup>2</sup> The boundaries between the zones are irregular; the longitudes given are approximate only.

**061-2325 A, 061-2326 A**

**A20**

STANDARD TIMES (Corrected to September 1993)

LIST I — PLACES FAST ON UTC (mainly those EAST OF GREENWICH)

	The times given below should be	added to UTC to give Standard Time subtracted from Standard Time to give UTC.	
	h m		h m
Admiralty Islands ... ..	10	Egypt, Arab Republic of * ... ..	02
Afghanistan ... ..	04 30	Equatorial Guinea, Republic of	01
Albania* ... ..	01	Estonia* ... ..	02
Algeria ... ..	01	Ethiopia ... ..	03
Amirante Islands ... ..	04		
Andaman Islands ... ..	05 30	Fiji ... ..	12
Angola ... ..	01	Finland* ... ..	02
Armenia ... ..	04	France* ... ..	01
Australia			
Australian Capital Territory* ...	10	Gabon ... ..	01
New South Wales <sup>1</sup> * ... ..	10	Georgia* ... ..	03
Northern Territory ... ..	09 30	Germany* ... ..	01
Queensland ... ..	10	Gibraltar* ... ..	01
South Australia* ... ..	09 30	Greece* ... ..	02
Tasmania* ... ..	10	Guam ... ..	10
Victoria* ... ..	10		
Western Australia ... ..	08	Holland (The Netherlands)* ... ..	01
Whitsunday Islands* ... ..	10	Hong Kong ... ..	08
Austria* ... ..	01	Hungary* ... ..	01
Azerbaijan ... ..	04		
		India ... ..	05 30
Bahrain ... ..	03	Indonesia, Republic of	
Balearic Islands* ... ..	01	Bangka, Billiton, Java, West and	
Bangladesh ... ..	06	Central Kalimantan, Madura, Sumatra	07
Belgium* ... ..	01	Bali, Flores, South and East	
Belorussia* ... ..	02	Kalimantan, Lombok, Sulawesi,	
Benin ... ..	01	Sumba, Sumbawa, Timor ... ..	08
Bosnia and Herzegovina* ... ..	01	Aru, Irian Jaya, Kai, Moluccas,	09
Botswana, Republic of ... ..	02	Tanimbar ... ..	03 30
Brunei ... ..	08	Iran* ... ..	03
Bulgaria* ... ..	02	Iraq* ... ..	02
Burma (Myanmar) ... ..	06 30	Israel* ... ..	01
Burundi ... ..	02	Italy* ... ..	09
		Japan ... ..	02
Cambodia ... ..	07	Jordan* ... ..	
Cameroon Republic ... ..	01		
Central African Republic ... ..	01	Kazakhstan* ... ..	06
Chad ... ..	01	Kenya ... ..	03
Chagos Archipelago... ..	05	Kiribati Republic <sup>2</sup> ... ..	12
Diego Garcia ... ..	06	Korea, North ... ..	09
Chatham Islands* ... ..	12 45	Republic of (South) ... ..	09
China ... ..	08	Kuril Islands ... ..	11
Christmas Island, Indian Ocean ... ..	07	Kuwait ... ..	03
Cocos Keeling Islands ... ..	06 30	Kyrgyzstan* ... ..	05
Comoro Islands (Comoros) ... ..	03		
Congo Republic ... ..	01	Laccadive Islands ... ..	05 30
Corsica* ... ..	01	Laos ... ..	07
Crete* ... ..	02	Latvia* ... ..	02
Croatia* ... ..	01	Lebanon* ... ..	02
Cyprus, Ercan* ... ..	02	Lesotho ... ..	02
Larnaca* ... ..	02	Libya ... ..	02
Czech Republic* ... ..	01	Liechtenstein* ... ..	01
		Lithuania* ... ..	02
Denmark* ... ..	01	Lord Howe Island* ... ..	10 30
Djibouti ... ..	03	Luxembourg* ... ..	01

\* Summer time may be kept in these countries.

<sup>1</sup> Except Broken Hill Area which keeps 09h 30m.

<sup>2</sup> Except Kiritimati Island and the Phoenix Islands which keep 10h and 11h slow on UTC.

## LIST I — (continued)

	h	m		h	m
Macau ... ..	08		Russia (continued)		
Macias Nguema (Fernando Pöo)	01		Zone 8 Khabarovsk, Vladivostok	10	
Madagascar, Democratic Republic of	03		Zone 9 Magadan, Sakhalin I	11	
Malawi ... ..	02		Zone 10 Petropavlovsk-Kamchatsky	12	
Malaysia, Malaya, Sabah, Sarawak ...	08		Rwanda ... ..	02	
Maldives, Republic of The ... ..	05		Ryukyu Islands ... ..	09	
Malta* ... ..	01		Sakhalin ... ..	11	
Mariana Islands ... ..	10		Santa Cruz Islands ... ..	11	
Marshall Islands ' ... ..	12		Sardinia * ... ..	01	
Mauritius ... ..	04		Saudi Arabia ... ..	03	
Micronesia	10		Scheuten Islands ... ..	10	
General (Caroline Islands) ... ..			Serbia* ... ..	02	
Pohnpei and Kosrae ... ..	11		Seychelles ... ..	04	
Rest	12		Sicily* ... ..	01	
Moldavia* ... ..	02		Singapore ... ..	08	
Monaco* ... ..	01		Slovakia* ... ..	01	
Mongolia* ... ..	08		Slovenia* ... ..	01	
Mozambique ... ..	02		Socotra ... ..	03	
			Solomon Islands ... ..	11	
Namibia ... ..	02				
			Somalia Republic ... ..	03	
Nauru ... ..	12		South Africa, Republic of ... ..	02	
Nepal ... ..	05	45	Spain* ... ..	01	
Netherlands, The* ... ..	01		Spanish Possessions in North Africa		
New Caledonia ... ..	11		(Ceuta, Melilla)* ... ..	01	
New Zealand* ... ..	12		Spitsbergen (Svalbard) ... ..	01	
Nicobar Islands ... ..	05	30	Sri Lanka ... ..	05	30
Niger ... ..	01		Sudan, Republic of ... ..	02	
Nigeria, Republic of ... ..	01		Swaziland ... ..	02	
Norfolk Island ... ..	11	30	Sweden* ... ..	01	
Norway* ... ..	01		Switzerland* ... ..	01	
Novaya Zemlya ... ..	03		Syria (Syrian Arab Republic)* ... ..	02	
Okinawa ... ..	09		Taiwan ... ..	08	
Oman ... ..	04		Tajikistan ... ..	05	
			Tanzania ... ..	03	
Pagalu (Annobon Islands) ... ..	01		Thailand ... ..	07	
Pakistan... ..	05		Tonga ... ..	13	
Palau Islands ... ..	09		Tunisia ... ..	01	
Papua New Guinea ... ..	10		Turkey* ... ..	02	
Pescadores Islands ... ..	08		Turkmenistan ... ..	05	
Philippine Republic ... ..	08		Tuvalu ... ..	12	
Poland* ... ..	01				
Portugal* ... ..	01		Uganda ... ..	03	
			Ukraine* ... ..	02	
Qatar ... ..	03		United Arab Emirates ... ..	04	
Reunion ... ..	04		Uzbekistan ... ..	05	
Romania* ... ..	02				

Russia <sup>2*</sup>		Vanuatu, Republic of ... ..	11
Zone 0 Kaliningrad ... ..	02	Vietnam, Socialist Republic of ...	07
Zone 1 Arkhangelsk, Moscow, St Petersburg, Astrakhan ...	03	Yemen ... ..	03
Zone 2 Izhevsk, Samara ... ..	04	Yugoslavia* ... ..	01
Zone 3 Novyy Port, Perm ... ..	05	Zaire	
Zone 4 Omsk ... ..	06	Kinshasa, Mbandaka ... ..	01
Zone 5 Dikson, Novosibirsk ... ..	07	Haut-Zaire, Kasai, Kivu, Shaba	02
Zone 6 Bratsk, Irkutsk, Ulan Ude	08	Zambia, Republic of ... ..	02
Zone 7 Yakutsk, Tiksi ... ..	09	Zimbabwe ... ..	02

\* Summer time may be kept in these countries.

<sup>1</sup> Except the Ebon Atol which keeps time 24<sup>h</sup> slow on that of the rest of the islands.

<sup>2</sup> The boundaries between the zones are irregular; listed are chief towns and republics in each zone.

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### STANDARD TIMES (Corrected to September 1993)

#### LIST II — PLACES NORMALLY KEEPING UTC

Ascension Island	Ghana	Irish Republic*	Morocco	Togo Republic
Burkina-Faso	Great Britain <sup>1</sup>	Ivory Coast	Principe	Tristan da Cunha
Canary Islands*	Guinea Bissau	Liberia	St. Helena	
Channel Islands <sup>1</sup>	Guinea Republic	Madeira*	São Tome	
Faeroes*, The	Iceland	Mali	Senegal	
Gambia	Ireland, Northern <sup>1</sup>	Mauritania	Sierra Leone	

\* Summer time may be kept in these countries.

<sup>1</sup> Summer time, one hour in advance of UTC, is kept from March 26d Olh to October 29d Olh UTC, subject to confirmation.

LIST III — PLACES SLOW ON UTC (WEST OF GREENWICH)

The times given } subtracted from UTC to give Standard Time  
below should be } added to Standard Time to give UTC.

	h	m		h	m
Argentina			Canada (continued)		
Buenos Aires, Santa Cruz,			Prince Edward Island*	...	04
Tierra del Fuego* ... ..	03		Quebec, east of long. W. 63° ... ..	04	
Other states ... ..	03		west of long. W. 63°*	05	
Austral Islands <sup>1</sup> ... ..	10		Saskatchewan ... ..	06	
Azores* ... ..	01		Yukon* ... ..	08	
			Cape Verde Islands ... ..	01	
Bahamas* ... ..	05		Cayman Islands ... ..	05	
Barbados ... ..	04		Chile* ... ..	04	
Belize ... ..	06		Colombia ... ..	05	
Bermuda* ... ..	04		Cook Islands ... ..	10	
Bolivia ... ..	04		Costa Rica ... ..	06	
Brazil			Cuba* ... ..	05	
SE coast, Bahia, Goias, Brasilia*	03		Curacao Island ... ..	04	
NE coastal states and E of Para	03				
Mato Grosso, Mato Grosso do Sul*	04		Dominican Republic ... ..	04	
Amapa, Amazonas, W of Para	04				
Territory of Acre ... ..	05		Easter Island (I. de Pascua)* ... ..	06	
British Antarctic Territory <sup>2</sup> ... ..	03		Ecuador ... ..	05	
Canada	07		Falkland Islands* ... ..	04	
Alberta* ... ..	08		Fanning Island ... ..	10	
British Columbia* ... ..	04		Fernando de Noronha Island ... ..	02	
Labrador* ... ..	06		French Guiana ... ..	03	
Manitoba* ... ..	04				
New Brunswick* ... ..	03 30		Galapagos Islands ... ..	06	
Newfoundland* ... ..			Greenland <sup>3</sup>		
Northwest Territories*			General* ... ..	03	
east of long. W. 68° ... ..	04		Scoresby Sound and Danmarkshavn*	01	
long. W. 68° to W. 85° ... ..	05		Thule area * ... ..	04	
long. W. 85° to W. 102° ... ..	06		Grenada ... ..	04	
west of long. W. 102° ... ..	07		Guadeloupe ... ..	04	
Nova Scotia* ... ..	04		Guatemala ... ..	06	
Ontario, eastern* ... ..	05		Guyana, Republic of ... ..	04	
western ... ..	05				
			Haiti* ... ..	05	
			Honduras ... ..	06	

\* Summer time may be kept in these countries.

<sup>1</sup>This is the legal Standard time, but local mean time is generally used.

<sup>2</sup>Some stations adopt another time zone.

<sup>3</sup>Mesters Vig keeps UTC.



## LIST III — (continued)

	h m		h m
Jamaica ... ..	05	United States of America (continued)	
Jan Mayen Island ... ..	01	Illinois <sup>2</sup> ... ..	06
Johnston Island ... ..	10	Indiana <sup>3</sup> ... ..	05
Juan Fernandez Islands* ... ..	04	Iowa <sup>2</sup> ... ..	06
Leeward Islands ... ..	04	Kansas <sup>2,3</sup> ... ..	06
Marquesas Islands ... ..	09 30	Kentucky <sup>2</sup> , eastern part ... ..	05
Martinique ... ..	04	western part ... ..	06
Mexico <sup>1</sup> ... ..	06	Louisiana <sup>2</sup> ... ..	06
Midway Islands ... ..	11	Maine <sup>2</sup> ... ..	05
Nicaragua ... ..	05	Maryland <sup>2</sup> ... ..	05
Niue ... ..	11	Massachusetts <sup>2</sup> ... ..	05
Panama, Republic of ... ..	05	Michigan <sup>2,3</sup> ... ..	05
Paraguay* ... ..	04	Minnesota <sup>2</sup> ... ..	06
"Peru" ... ..	05	Mississippi <sup>2</sup> ... ..	06
Puerto Rico ... ..	04	Missouri <sup>2</sup> ... ..	06
St Pierre and Miquelon* ... ..	03	Montana <sup>2</sup> ... ..	07
Salvador, El ... ..	06	Nebraska <sup>2,3</sup> ... ..	06
Samoa ... ..	11	Nevada <sup>2,3</sup> ... ..	08
Society Islands ... ..	10	New Hampshire <sup>2</sup> ... ..	05
South Georgia ... ..	02	New Jersey <sup>2</sup> ... ..	05
Suriname ... ..	03	New Mexico <sup>2</sup> ... ..	07
Trinidad and Tobago ... ..	04	New York <sup>2</sup> ... ..	05
Trindade Island, South Atlantic ... ..	02	North Carolina <sup>2</sup> ... ..	05
Tuamotu Archipelago ... ..	10	North Dakota <sup>2,3</sup> ... ..	06
Tubuai Islands ... ..	10	Ohio <sup>2</sup> ... ..	05
Turks and Caicos Islands* ... ..	05	Oklahoma <sup>2,3</sup> ... ..	06
United States of America		Oregon <sup>2,3</sup> ... ..	08
Alabama <sup>2</sup> ... ..	06	Pennsylvania <sup>2</sup> ... ..	05
Alaska <sup>2</sup> , east of W. 169° 30' ... ..	09	Rhode Island <sup>2</sup> ... ..	05
Aleutian Islands <sup>2</sup> , west of W. 169° 30' ... ..	10	South Carolina <sup>2</sup> ... ..	05
Arizona ... ..	07	South Dakota <sup>2</sup> , eastern part ... ..	06
Arkansas <sup>2</sup> ... ..	06	western part ... ..	07
California <sup>2</sup> ... ..	08	Tennessee <sup>2,3</sup> ... ..	06
Colorado <sup>2</sup> ... ..	07	Texas <sup>2,3</sup> ... ..	06
Connecticut <sup>2</sup> ... ..	05	Utah <sup>2</sup> ... ..	07
Delaware <sup>2</sup> ... ..	05	Vermont <sup>2</sup> ... ..	05
District of Columbia <sup>2</sup> ... ..	05	Virginia <sup>2</sup> ... ..	05
Florida <sup>2,3</sup> ... ..	05	Washington D.C. <sup>2</sup> ... ..	05
Georgia <sup>2</sup> ... ..	05	Washington <sup>2</sup> ... ..	08
Hawaii ... ..	10	West Virginia <sup>2</sup> ... ..	05
Idaho <sup>2,3</sup> ... ..	07	Wisconsin <sup>2</sup> ... ..	06
		Wyoming <sup>2</sup> ... ..	07
		Uruguay* ... ..	03
		Venezuela ... ..	04
		Virgin Islands ... ..	04
		Windward Islands ... ..	04

\* Summer time may be kept in these countries.

Except the states of Sonora, Sinaloa, Nayarit and the Southern District of Lower California which keep 07<sup>h</sup>, and the Northern District\* of Lower California which keeps 08<sup>h</sup>.

<sup>2</sup>Summer (daylight-saving) time, one hour fast on the time given, is kept in these states from the first Sunday in April to the last Sunday in October, changing at 02<sup>h</sup> 00<sup>m</sup> local clock time.

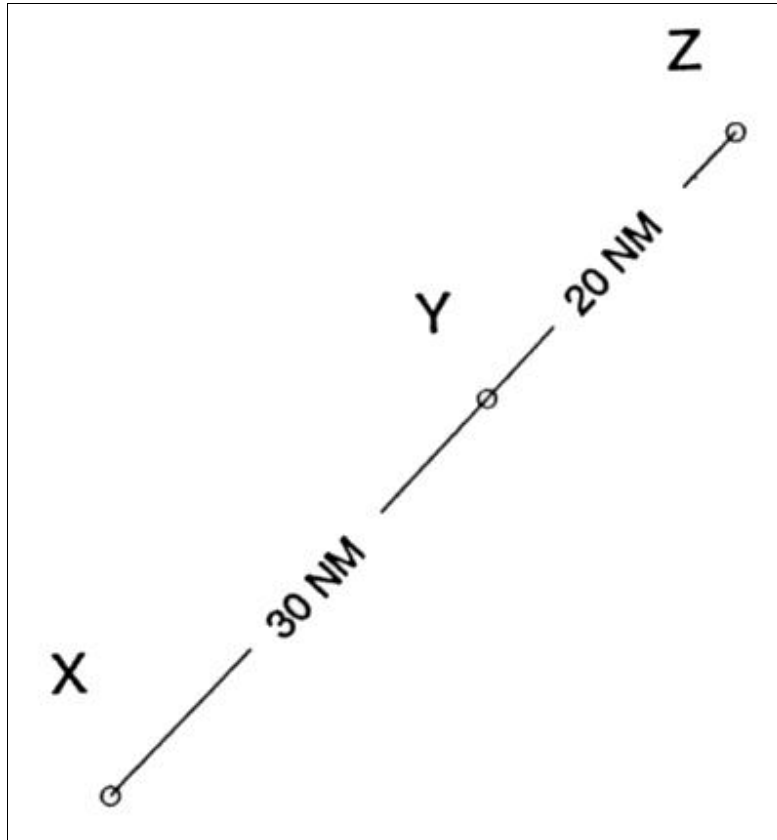
<sup>3</sup>A small portion of the state is in another time zone.

**061-9437 A, 061-9438 A, 061-9439 A, 061-9440 A, 061-9441 A, 061-9442 A**

Line No.	Time	Course/Track (T)	W/V	HDG (T)	VAR	HDG (M)	POSITION FROM TO	CAS/MACH	FL OAT	TAS	GS	DIST	TIME	ETA
1	1015	270	050/40		7E		A B	210	180 -20			300		
2	1050	180	320/50		5W		C D	175	160 -10			480		
3	1125	090	140/60		10W		E F	M 0.82	350 -40			300		
4	1210	360	315/70		10E		G H	M 0.78	310 -35			600		
5	1245	330	240/30		17W		J K	150	100 -10			275		
6	1355	070	020/60		11W		L M	M 0.84	390 -55			495		

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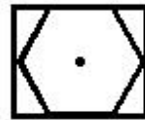




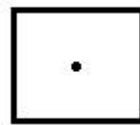
## ICAO AERONAUTICAL CHART SYMBOLOGY

### RADIO NAVIGATION AIDS

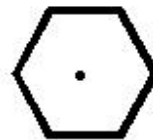
1



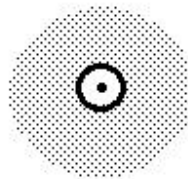
2



3



4



5



6











7



## ICAO AERONAUTICAL CHART SYMBOLOGY

### AIR TRAFFIC SERVICES

- |  |  |
|--|--|
| 1.    | 5.   |
| 2.    | 6.    |
| 3.    | 7.    |
| 4.  | 8.  |

### OBSTACLES

- |   |   |
|---|---|
| 9.   | 12.  |
| 10.  | 13.  |
| 11.  | 14.  |

### VISUAL AIDS

- |   |   |
|---|---|
| 15.  | 16.  |
|---|---|