

PILOTAGE ADVISORY COMMITTEE

Proposed Amendments to the Berthing Guidelines

Purpose

The purpose of this paper is to seek members' endorsement on the proposed amendments to the Berthing Guidelines.

Background

2. The proposed amendments are required to reflect the updated information in the Berthing Guidelines. Please see details in Annex 1.

Consultation

3. The proposed amendments were circulated and endorsed by the PAC Working Group on 2 April 2002.

Recommendation

4. Members are recommended to endorse the proposed amendments.

Presentation

5. The paper will be presented by Mr. C. N. Chung of Marine Department.

Briefing Notes on Proposed Amendments to Berthing Guidelines

<i>Item</i>	<i>Chapter</i>	<i>Heading</i>	<i>Proposed Amendment</i>
1	1	Index	Update of Index
2	5	List of Important Telephone Numbers	Update of Telephone list
3	6	Tugs Information	Update of Tugs' information
4	8	Berth/Wharf/Terminal Information	Update of Berth's telephone list
5	9	Typhoon Procedure	Update of telephone list
6	10	Miscellaneous	Update locations displaying Tropical cyclone and Monsoon signal stations. Update Naval Anchorage's information
7	11	Government Mooring Buoys	Update Government Mooring Buoys' information
8	12	Berthing Guidelines – Index	Update Index page
9	12	Berthing Guidelines – Government mooring buoy	Update berthing/unberthing window for buoys North of GI.
10	12	Berthing Guidelines – Kwai Chung berth 6-7 outer foul	Delete F&A clearance remark
11	12	Berthing Guidelines – Kwai Chung berth 9-14	Delete F&A clearance remark
12	12	Berthing Guidelines – River Trade Terminal No.2 Berth	Add "no outer-foul" to Remarks
13	13	Amendment Log Sheet	Add records since 2000

Berthing Guidelines**Chapter: 1****INDEX**

Chapter	Description	Page
1	Index	1 - 2
2	General remarks	3
3	Pilotage advisory committee	4
4	Berthing remarks	5 - 6
5	List of important telephone numbers	7
6	Tugs information	8
7	Floating docks information	9
8	Berth, wharf, terminal information	10
9	Typhoon procedure	11
10	Miscellaneous	12
11	Government mooring buoys	13
12	Berthing guideline	14 - 79
13	Amendment log sheet	80 - 81

.....

**** BERTHING GUIDELINE INDEX ****

Code	Locations	Page
BUOY	Government mooring buoy	15
CCEMENT	China Cement Company (TSK)	16
CFT	China ferry terminal	17
CLPTSK	China light power station (TSK)	18
CMKEN-N	China Merchant Kennedy Town North berth	19
CMKEN-S	China Merchant Kennedy Town South berth	20
CRC-A	China Resources T/Y main berth (A)	21
CRC-B	China Resources T/Y West berth (B)	22
CRC-C	China Resources T/Y East berth (C)	23
CRC-CW	China Resources Chai Wan berth	24
CRC3-TY	China Resources T/Y No. 3 berth	25
CTX	Caltex T/Y main berth	26
CTX-5	Caltex T/Y No. 5 berth	27
CTX-6A	Caltex T/Y No. 6A berth	28
CTX-LPG	Caltex T/Y LPG berth	29
ESSO	Esso oil terminal main berth	30
ESSO-EL	Esso oil terminal electric power wharf	31
EUROASIA	Euro-Asia wharf T/Y	32
FCEMENT	Far East cement wharf (Sok Kwu Wan)	33
HKELECT	Lamma power station wharf	34
JBA	Junk Bay anchorage	35
KC1-8	Kwai Chung berth 1-8	36
KC6-7/O-F	Kwai Chung berth 6-7 outer-foul	37
KC9-14	Kwai Chung berth 9-14	38

** BERTHING GUIDELINE INDEX **

Code	Locations	Page
KYCA	Kau Yi Chau DG anchorage	39
LOP	Lok On Pai oil berth	40
MFT	Macau ferry terminal	41
MOBIL	Mobil oil terminal main berth	42
MOBIL-E	Mobil oil terminal East berth	43
MWA	Ma Wan anchorage	44
NLA	North Lamma anchorage	45
NWLA	North West Lamma anchorage	46
OTN	Ocean Terminal North outer-foul	47
OTNO	Ocean Terminal North berth	48
OTS	Ocean Terminal South outer-foul	49
OTSO	Ocean Terminal South berth	50
PSSA-E	Pun Shan Shek anchorage East	51
PSSA-W	Pun Shan Shek anchorage West	52
RDGA	Reserved dangerous goods anchorage	53
RTT-1	River Trade Terminal No.1 berth	54
RTT-2	River Trade Terminal No.2 berth	55
SEATRIAL	Sea trial, compass adjustment & DF calibration	56
SHACHAU	Sha Chau oil terminal (TSK)	57
SHELL	Shell oil terminal main berth	58
SHELL-1E	Shell No. 1 E & W berth	59
SHELL-2E	Shell No. 2 & 3 E & W berth	60
SHELL-LPG	Shell oil terminal LPG berth	61
SLA	Anchorage South of Lamma Island	62
SWSTL	Shiu Wing steel wharf (TSK)	63
THA	Tolo harbour anchorage	64
TMA	Tuen Mun cargo working anchorage	65
TOW	Ship under tow	66
TOW-BERTH	Ship under tow to/from berth	67
TPGAS	Tolo harbour Town Gas wharf	68
TSK	Transit Ma Wan other than passenger & container ship	69
TSK-C	Transit Ma Wan passenger & container ship	70
TSKA	TSK anchorage to/from berth	71
TYD	Floating docks west of T/Y Island	72
WA-1	Western anchorage No.1	73
WA-2	Western anchorage No.2	74
WA-3	Western anchorage No.3	75
WQA	Western quarantine anchorage	76
YMTA	Yau Ma Tei anchorage	77
YOD	Yam O Floating dock	78
YUENFAT	Yuen Fat wharf No.2 berth	79

Chapter 5

LIST OF IMPORTANT TELEPHONE NUMBERS

1. Marine department
 - Vessel traffic center (VTC)
 - VTC Control Room 2858 2107
 - VTC Duty Marine Officer 2858 2163
 - VTC (Fax) 2858 6646
 - VTC (Telex) 63607 MDVTS HX
 - Senior Marine Officer 2852 4539
 - Marine Officer 2852 4545 2858 4747
 - Kwai Chung Control Station (KCCS) 2743 6043 2743 8296
 - Mawan Control Station (MWCS) 2491 4292
 - Government dockyard
 - Senior Fleet Manager 2307 3614
 - Dockyard Ops. Manager 2307 3615
2. *Emergency* 999
 - Fire services department
 - Marine & Offshore Island Office 2534 7250
 - Police force
 - Marine Police Duty Control Room 2803 6267
3. Hong Kong observatory
 - Centre forecast office 2368 1944
 - Port meteorological office 2926 3113
4. Immigration department
 - Hong Kong 2543 1958
 - Tuen Mun Anchorage office (TMIA) 2180 8966
5. Port health department
 - Port Health office 2543 1702
 - Duty Port Health officer 9016 8988

Chapter: 6

TUGS INFORMATION

Name	HP.	B. pull (tonnes)	Remarks
Hong Kong Tug 2427 7477			
Chek Chau	4000	55	Grade I
Heung Kong	3000	37	Grade I
Kwai Chung	3000	37	Grade I
Lam Tong	3200	43	Grade I
Peng Chau	4000	55	Grade I
Sha Tin	3000	37	Grade I
Taikoo	4000	53	Grade I
Tai Tam	2600	35	Grade I
Tap Mun	2600	35	Grade I
Ting Kau	3000	37	Grade I
Tolo	3000	37	Grade I
Tsing Yi	3000	37	Grade I
Tung Lung	3200	43	Grade I
Waglan	2600	35	Grade I
Yiu Lian Tug 2497 0655 2497 0686			
Hai Ba	3200	35	Grade I
Hai Fa	3000	40	Grade I
Hai Qi	3200	40	Grade I
Hai Shan	2600	35	Grade I
Yiu Lian 18	3200	40	Grade I
Yiu Lian 26	2600	35	Grade I
You Da	3200	40	Grade I
You Fa	3200	40	Grade I
South China Tug 2548 5205			
Guangzhou	3000	38	Grade I
Guilin	3000	38	Grade I
Shanghai	3000	40/39	Grade I
Shantou	3600	50/45	Grade I
Shanwei	3200	40	Grade I
Shenyang	3000	38.4/34.9	Grade I
Chung Hing Tug 2549 2072 2549 0395			
Chung Hing No. 1 (忠興壹)	2 x 624	18	Grade II
Wallex 2 (華力二)	2 x 624	18	Grade II

Chapter: 8

BERTH /WHARF/TERMINAL INFORMATION

BERTH	Draft(m)	LOA(m)	Direction	Length	Telephone No.
CALTEX	12.6	235	162/342	90	2431 2410
CALTEX-5	3.2	80	035/215	80	2431 2410
CALTEX-6A	7.3	110	055/235	50	2431 2410
CALTEX-LPG	6.5	114	072/252	95	2431 2410
CCEMENT	14.0	240	112/292	270	2440 5111 2440 5233
CFT	7.0	153	078/258	270	2738 2906
CLPTSK	16.8	275	134/314	545	2404 8402
CMKEN-N	9.5	156	070/250	170	2816 8118 day
CMKEN-S	7.0	120	070/250	140	2816 8118 day
CRC-A	14.0	250	086/266	280	2431 3090
CRC-B	7.5	120	086/266	129	2431 3090
CRC-C	6.5	90	086/266	115	2431 3090
CRC-CW	5.0	65	172/352	70	2558 8341
CRC3-TY	7.5	120	124/304	>150	2431 3090
ESSO	14.63	274	098/278	255	2495 0115 2497 0229
ESSO-E	7.0	80	082/262	40	2495 0115 2495 0440
ESSO-EL	5.5	107	098/278	30	2497 0229
EUROASIA	8.0	300	020/200	510	2436 8220
FCEMENT	9.75	168	057/237	170	
HKELECT	13.89	262	170/350	290	2982 6270 9423 6670
HUDSW dist. from f/d 80m as per HUD			008/188	250	2495 1211
KC 1-2	12.2	350	163/343	305	2428 8934
KC 3	12.2	350	163/343	305	2489 4745
KC 4	12.2	350	163/343	305	2619 7792
KC 5	12.2	350	073/253	457	2428 8934
KC 6-7	12.2	350	073/253	564	2619 7792
KC 8	12.2	350	163/343	380	2619 7792
KC 9	13.8	350	163/343	450	2619 7792
KC 10	13.8	350	073/253	700	2619 7792
KC 11	13.8	350	073/253	338	2991 8022
KC 12	13.8	350	073/253	338	2991 8022
KC 13	13.8	350	073/253	338	2115 4211
KC 14	13.8	350	073/253	338	2115 4211
LOP	8.0	122	089/269	125	2618 0192
MFT	5.0	120	104/284	220	2547 4039
MOBIL	14.6	250	089/269	267	2436 7507 2436 7533
MOBIL-E	7.5	107	089/269	41	2436 7507 2436 7533
O/T North	8.0	230	078/258	340	2118 8951
O/T South	10.67	290	078/258	381	2118 8951
RTT-1	8.5	175	116/296	200	2122 7878
RTT-2	8.5	150	026/206	250	2122 7878
SHACHAU	7.0	120	163/343	152	2613 9127 2988 6161
SHELL	14.5	245	150/330	226	2432 8704
SHELL-LPG	8.0	135	150/330	118	2432 8704
SHELL #1E&W	6.5	100	008/188	80	2432 8704
SHELL #2&3E&W	6.5	90	008/188	75	2432 8704
SWSTL	11.5	200	125/305	215	2618 8761
TPGAS	11.0	198	120/300	300	2666 2106
YUENFAT	6.7	153	040/220	171	

Chapter: 9

TYPHOON PROCEDURE

When Tropical cyclone signal No.1 is hoisted

1. Give warning to tanker at Tolo harbour Town Gas wharf, remind the agent that tugs will required at least 5 hours notice & the danger of pilot boarding station is exposed to weather.
2. Give warning to vessel at TSK Power Station, TSK CCC and Lamma Power Station.
3. Give warning to vessel at Sok Kwu Wan cement wharf and remind the agent that shifting during the night is of high risk due to the darkness at site.
4. Give warning to all tankers at tanker berths.

When Typhoon signal No.3 is hoisted

Pilot office should ensure:

1. Tankers at all berths (including Tolo) should clear berth as soon as possible.
2. Bulkers at TSK PST & TSK CCC should clear berth as soon as possible.
3. Bulkers at Lamma PST & Sok Kwu Wan should clear berth as soon as possible.
4. Vessels not moored at a classified typhoon buoy or oversized vessels should clear mooring buoy as soon as possible.

If typhoon signal No.8 is likely to be hoisted or the wind speed or wave height is likely to exceed the acceptable limit try to give at least TWO hours warning to all shipping through MARDEP before pilotage service is suspended. (REMEMBER – tugs may be used for pilot transportation if pilot boats may not be operated in heavy sea.)

All repair ships at shipyards should be advised to clear docks as soon as possible especially for those vessels requiring towage to the buoy.

Avoid the acceptance of any order for ships in bound to buoy at night when typhoon signal No.3 is hoisted unless the prevailing condition is favourable.

Pilotage suspension

Guideline for pilotage service may be suspended: -

- ★ Sustained wind speed over 33 knots
- ★ Wave height over 1.5 metres

Other useful information

MARDEP VTC Duty MO	2858 2163	2858 2107
MARDEP VTC	(FAX) 2858 6646	
MARDEP VTC	(TELEX) 63607 MDVTS HX	
Hong Kong Observatory	2926 8477	2926 8478 inquiry on public weather

Berthing Guidelines

MISCELLANEOUS

Locations displaying Tropical cyclone and Monsoon signal stations

1. Aberdeen Marine Licensing Office	Tel: 2873 8362 2554 6213
2. Cheung Chau Meteorological Station	2981 1041
3. Lau Fau Shan Police Station	2472 1241 2472 7213
4. Sha Tau Kok Police Station	2674 8600
5. Sha Tau Kok Sewage Treatment Works	2674 8644
6. Tai Lam Small Boat Unit Headquarters	2452 9254

Delete

Width of Fairway

Eastern Fairway	412m
Hung Hom Fairway	370m
Central Fairway	370m
Northern Fairway	305m
Southern Fairway	220m
Sulphur Channel	280m
North Green Island Fairway	244m
Naval Anchorage	

Replaced by
"Mooring Buoys"

Delete

Replaced by
"ZA1
ZA2
ZB1
ZB2"

	Bearing & Distance of GI	Swing Radius	Location
1.	128° x 3.43 miles	500metres	22° 19.26N 114° 03.67E
2.	139° x 3.00 miles	500metres	22° 19.37N 114° 04.43E
3.	136° x 3.68 miles	320metres	22° 19.70N 114° 03.71E
4.	138° x 3.42 miles	320metres	22° 19.65N 114° 04.08E

Pilot Station

Name	Location	
1. Tathong Channel	22° 16.0N	114° 15.7E
2. Urmston Road (TSK)	22° 23.5N	113° 53.5E
3. Chik Chau	22° 29.6N	114° 19.7E
4. Ngan Chau	22° 13.0N	114° 09.7E
5. West Lamma	22° 12.0N	114° 05.3E

Replaced by
"22° 18.71'N 114° 08.45'E
22° 18.44' N 114° 08.35E
22° 18.80'N 114° 08.26'E
22° 18.61'N 114° 08.19'E"

Other Useful Location

Name	Location	
1. Ngan Chau	22° 13.0N	114° 11.0E
2. Shek Kok Tsui	22° 14.2N	114° 06.1E
3. Waglan	22° 11.0N	114° 18.0E
4. Yuen Kok	22° 11.0N	114° 08.8E
5. SW Lamma Island	22° 10.0N	114° 06.0E
6. Tuen Mun Anchorage	22° 21.3N	113° 59.2E
	22° 21.3N	113° 58.4E
	22° 21.7N	113° 58.4E

Berthing Guidelines (Proposed to PAC for endorsement)

Chapter: 11 GOVERNMENT MOORING BUOYS

(Proposed to PAC)

BUOY	LOA(m).....	Draft(m).....	BUOY	LOA(m).....	Draft(m).....
'A' Buoys:					
A06	183	6.4	A39*	183	7.4
A08	183	7.8	A41*	183	10.2
A09	183	7.4	A43*	183	9.0
A10	183	8.8	A45*	183	10.9
A11	183	8.5	A46*	183	10.8
A12	183	8.8	A60	183	7.8
A13	183	7.2	A62	198	10.2
A14	183	8.4	A70	170	9.7
A15	180	7.9	A71	183	8.8
A17*	183	8.5	A72	183	8.8
A18	183	7.0	A73	183	9.5
A19	183	6.7	A74	183	9.0
A29*	160	9.0	A76	170	9.1
A35*	160	9.5	A77	183	9.1
A36	160	8.1	A78	183	9.5
A38	183	6.4			
'B' Buoys:					
B01	120	4.8	B19	137	6.1
B02*	137	6.4	B20	137	7.2
B03*	137	6.7	B21	137	6.8
B04*	137	9.1	B22	137	5.9
B05	137	7.5	B23	137	6.0
B06	137	9.0	B24	137	5.0
B11	137	7.0	B25	110	5.7
B12	137	7.3	B26	137	9.3
B13	137	6.6	B27	137	5.3
B14	137	6.8	B28	137	6.2
B15	137	7.0	B29	137	8.1
B16	137	5.9	B30	137	8.5
B17	137	6.6	B31	137	9.3
B18	137	4.8			

* - Classified as Non typhoon mooring buoy

Remarks:

.....	'A' buoy	'B' buoy
Normal weather max. length	183m	138m
Typhoon class max. length	183m	113m
Swinging radius	214m	168m
Buoy link diameter	146mm	146mm

*** The location and sounding of the GMBs are subject to change without notice. Agents/Operators are cautioned to check with Mardep for updated information when booking GMB.**

Chapter: 12

BEERTHING GUIDELINES**** INDEX ****

Locations	Page	Locations	Page
Government mooring buoy	15	Ocean Terminal North berth	48
China Cement Company (TSK)	16	Ocean Terminal South outer-foul	49
China ferry terminal	17	Ocean Terminal South berth	50
China light power station (TSK)	18	Pun Shan Shek anchorage East	51
China Merchant Kennedy Town North berth	19	Pun Shan Shek anchorage West	52
China Merchant Kennedy Town South berth	20	Reserved dangerous goods anchorage	53
China Resources T/Y main berth (A)	21	River Trade Terminal No.1 berth	54
China Resources T/Y West berth (B)	22	River Trade Terminal No.2 berth	55
China Resources T/Y East berth (C)	23	Sea trial, compass adjustment & DF calibration	56
China Resources Chai Wan berth	24	Sha Chau oil terminal (TSK)	57
China Resources T/Y No. 3 berth	25	Shell oil terminal main berth	58
Caltex T/Y main berth	26	Shell No. 1 E & W berth	59
Caltex T/Y No. 5 berth	27	Shell No. 2 & 3 E & W berth	60
Caltex T/Y No. 6A berth	28	Shell oil terminal LPG berth	61
Caltex T/Y LPG berth	29	Anchorage South of Lamma Island	62
Esso oil terminal main berth	30	Shiu Wing steel wharf (TSK)	63
Esso oil terminal electric power wharf	31	Tolo harbour anchorage	64
Euro-Asia wharf T/Y	32	Tuen Mun cargo working anchorage	65
Far East cement wharf (Sok Kwu Wan)	33	Ship under tow	66
Lamma power station wharf	34	Ship under tow to/from berth	67
Junk Bay anchorage	35	Tolo harbour Town Gas wharf	68
Kwai Chung berth 1-8	36	Transit Ma Wan other than passenger & container ship	69
Kwai Chung berth 6-7 outer-foul	37	Transit Ma Wan passenger & container ship	70
Kwai Chung berth 9-14	38	TSK anchorage to/from berth	71
Kau Yi Chau DG anchorage	39	Floating docks west of T/Y Island	72
Lok On Pai oil berth	40	Western anchorage No.1	73
Macau ferry terminal	41	Western anchorage No.2	74
Mobil oil terminal main berth	42	Western anchorage No.3	75
Mobil oil terminal East berth	43	Western quarantine anchorage	76
Ma Wan anchorage	44	Yau Ma Tei anchorage	77
North Lamma anchorage	45	Yam O Floating dock	78
North West Lamma anchorage	46	Yuen Fat wharf No.2 berth	79
Ocean Terminal North outer-foul	47		

Location : BUOY

Government mooring buoy

010 Berthing LOA: Max 183m
Draft: Subject to individual buoy's draft
(min 10% UKC)
Time: 24 hrs.
Tags: See remarks
Remarks:

011 Unberthing LOA: Max 183m
Draft: Subject to individual buoy's draft
(min 10% UKC)
Time: 24 hrs.
Tags: See remarks
Remarks:

1. Draft refer to depth of the buoy.
2. Additional tugs may be required if adverse weather or high waves prevail.
3. Mooring and/or unmooring operations may be suspended if the pilots consider such operations to be dangerous.
4. If mooring and/or unmooring operations are suspended, every effort will be made to unmoor departing vessels before services are suspended.
5. Additional requirements:

For all buoys if:

D>9.15m 1 tug at the buoy.

D>9.7m HW slack only.

D>10m 1 tug escort at the GI

L>183m 1 tug at the buoy.

For buoys North of GI (on trial):

A41, A45, A46 - Mooring: At day light - unrestricted

At night - Slack water only

Unmooring: 24 Hrs.

Kwai Chung berth 6-7 outer-foul

Location :	KC6-7/O-F		Kwai Chung berth 6-7 outer-foul
010	Berthing LOA: Max 250m Draft: Max. 12.2m (min 10% UKC) Time: 24 hrs. Tugs: 2 Remarks:	011	Unberthing LOA: Max 250m Draft: Max. 12.2m (min 10% UKC) Time: 24 hrs. Tugs: 2 Remarks:
020	Berthing LOA: Max 290m Draft: Max. 12.2m (min 10% UKC) Time: 24 hrs. Tugs: 3 Remarks: Full length of opposite berth must be clear.	021	Unberthing LOA: Max 290m Draft: Max. 12.2m (min 10% UKC) Time: 24 hrs. Tugs: 2 Remarks:

~~No stern in. 25m F&A
clearance.~~

delete

Location : RTT-2

River Trade Terminal No.2 berth

010 Berthing LOA: Max 130m
Draft: Max. 8.5m (min 10% UKC)
Time: 24 hrs.
Tugs: 2 (grade II)
Remarks: Starboard side to only and no
outer-foul.

011 Unberthing LOA: Max 130m
Draft: Max. 8.5m (min 10% UKC)
Time: 24 hrs.
Tugs: 2 (grade II)
Remarks: No outer-foul.

020 Berthing LOA: Max 150m
Draft: Max. 8.5m (min 10% UKC)
Time: 24 hrs.
Tugs: 2
Remarks: Starboard side to only and no
outer-foul.

021 Unberthing LOA: Max 150m
Draft: Max. 8.5m (min 10% UKC)
Time: 24 hrs.
Tugs: 2
Remarks: No outer-foul.

Amendments which were endorsed by PAC after July 1999:

Description	Edition (July 1999) Page no.	New Amendment	Date of PAC Endorsement	Remarks
Location: OTNO	48 of 81	48 of 81	26 Jan. 2000	
Chapter: 11 GMB	13 of 81	13 of 81	16 Mar. 2000	
Location: SHACHAU	57 of 81	57 of 81	16 Mar. 2000	
Location: SHACHAU	57 of 81	57 of 81	23 Feb. 2001	
Location: SHACHAU	57 of 81	57	25 Sep. 2001	
Location: YMTA	77 of 81	77	25 Sep. 2001	
Chapter: 4 BERTHING REMARKS	5-6 of 81	5-6	25 Sep. 2001	
Location: HKELECT(N)	34 of 81	34a	Pending 4 Dec. 2001	
Location: HKELECT(S)	--	34b	Pending 4 Dec. 2001	
Chapter: 5 LIST OF IMPORMTANT TELEPHONE NUMBERS	7 of 81	7		
Chapter: 6 TUGS INFORMATION	8 of 81	8		
Chapter: 7 FLOATING DOCKS INFORMATION	9 of 81	9		
Chapter: 8 BERTH, WHARF, TERMINAL INFORMATION	10 of 81	10		
Chapter: 9 TYPHOON PROCEDURE	11 of 81	11		
Chapter: 10 MISCELLANEOUS	12 of 81	12		

Amendments which were endorsed by PAC after July 1999:

Chapter: 11 GOV'T MOORING BUOYS	13 of 81	13		
Location: BUOY	15 of 81	15		
Location: RTT-2	55 of 81	55		
Chapter: 1 BERTHING GUIDELINES MAIN INDEX	1 -2 of 81	1-2		
Chapter: 12 INDEX	14 of 81	14		